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THE FISCAL EFFECTS OF PRIVATE K–12 EDUCATION CHOICE PROGRAMS IN THE UNITED STATES

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The contents of this publication are intended to provide empirical information and should not be construed as lobbying for any position related to any legislation.

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Executive Summary

From an analysis of 40 private educational choice programs in 19 states plus D.C., this report summarizes the facts and the evidence on the fiscal effects of educational choice programs across the United States. The programs in the analysis include 3 education savings accounts programs, 19 school voucher programs, and 18 tax-credit scholarship programs.

This study estimates the combined net fiscal effects of each educational choice program on state and local taxpayers through FY 2018—in both the short run and the long run. It uses short-run and long-run variable cost estimates to generate lower bounds and upper bounds of the fiscal effects of educational choice program on taxpayers through FY 2018. The longer that a program operates, then the closer the savings approach the upper bound (long-run) estimates. The shorter a program is in place, the closer its fiscal effects to the lower bound (short-run) estimate. Of the 40 programs in the analysis, four programs in this study were in operation for less than 5 years while the remaining 36 programs were in operation for at least 5 years through FY 2018. Thus, for these 36 programs open for five years or more, the fiscal effects of these programs will likely be at or very close to the high-end estimates.

The report also provides context by presenting basic facts about the size and scope of each program, in terms of participation and funding, relative to each state's public school system. It presents the facts on taxpayer funding disparities between students using the choice programs and their peers in public schools.

Most revenue for K–12 public schools come from state and local sources, and K–12 expenditures comprise a significant share (35.5 percent) of the general fund for all state governments and are a substantial expense for local taxpayers as well.[1] Given the significant state and local taxpayer funding devoted to children's education, both citizens and policymakers need to know how school choice programs affect their states' budgets and the budgets of local public school districts.

Key Findings

Fiscal Effects Estimates

- Through FY 2018, the 40 educational choice programs under study generated an estimated $12.1 billion to $27.8 billion in cumulative net fiscal savings for state and local taxpayers. This range represents $3,200 to $7,400 per student participant. Given that 36 of the 40 programs included in the analysis were in operation for at least 5 years through FY 2018, the overall cumulative fiscal impact is likely closer to the upper bound estimate of $27.8 billion. (Table ES-1)

- Educational choice programs generated between $1.80 to $2.80 in estimated fiscal savings, on average, for each dollar spent on the programs. These savings result from many of the students who exercised choice would have been enrolled in a public school if these choice programs did not exist—and enrolled in public schools at a much larger taxpayer cost.

- On average, if at least 50 percent of choice program students switched from public to private schools, these programs saved taxpayer dollars overall. For programs that have been in operation a long time, this break-even rate may be as low as 32 percent. These break-even switcher rates are significantly lower than switcher rates observed in random assignment studies (85 percent to 90 percent, on average) which implies significant savings from choice programs through FY 2018.

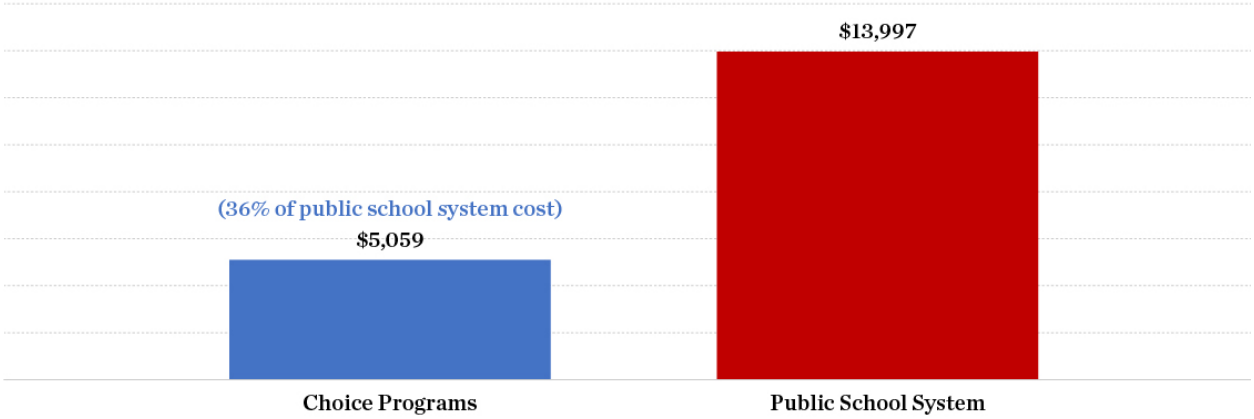
[1] National Association of State Budget Officers (2020). *2020 State Expenditure Report: Fiscal Years 2018-2020*, retrieved from: https://www.nasbo.org/reports-data/state-expenditure-report

Cost Comparisons

Significant public funding disparities exist between public funding for students using educational choice programs and their peers in nearby public school systems.

- In FY 2018, the average per-student public cost to support educational choice programs was about $5,000 compared to $14,000 for public K–12 in states where choice programs operate. Thus, students using educational choice programs only received around one-third of the average per-pupil funding amount that their peers received in nearby public school systems in FY 2018. (Figure ES-1)

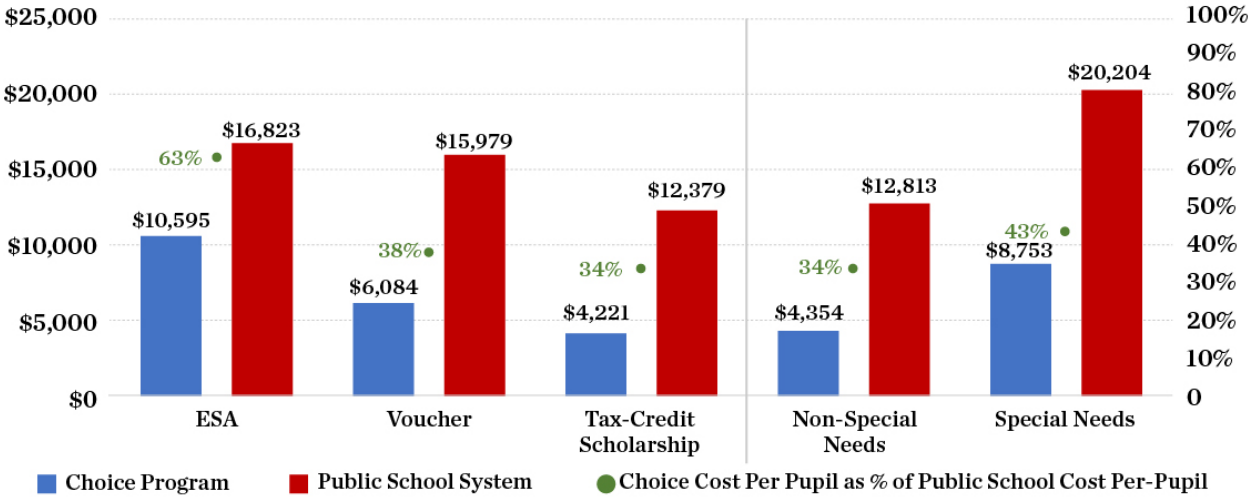
Figure ES-1: Per-pupil funding for educational choice programs and public K–12 school systems in 19 states plus DC, FY 2018



- These funding gaps appear smaller for special needs programs compared to programs for students without special needs. Average per-pupil funding for special needs programs is 57 percent less than average per-pupil funding for public schools while average per-pupil funding for non-special needs programs is 66 percent less than average per-pupil funding for public schools

- Compared to voucher and tax-credit scholarship programs, these funding gaps are also smaller for ESA programs, which serve mostly students with special needs. (Figure ES-2)

Figure ES-2: Per-pupil cost of educational choice programs vs. per pupil cost of public school systems in choice participants' states, by program type, FY 2018



- For 11 of the 19 states plus D.C. in the analysis, students in choice programs received less than one-third of revenue they would generate for their states' public schools. For example, students using the D.C. OSP received about 30 percent of the amount that their peers received in nearby public schools.

- For four-fifths of the states plus D.C., students in choice programs received less than half the per-student funding they would generate for public schools. These states enrolled more than 60 percent of students participating in the 40 programs considered during FY 2018. (Figure ES-3)

Figure ES-3: Average per-student funding for educational choice programs as a percentage of average per-student funding for public schools in FY 2018, by state

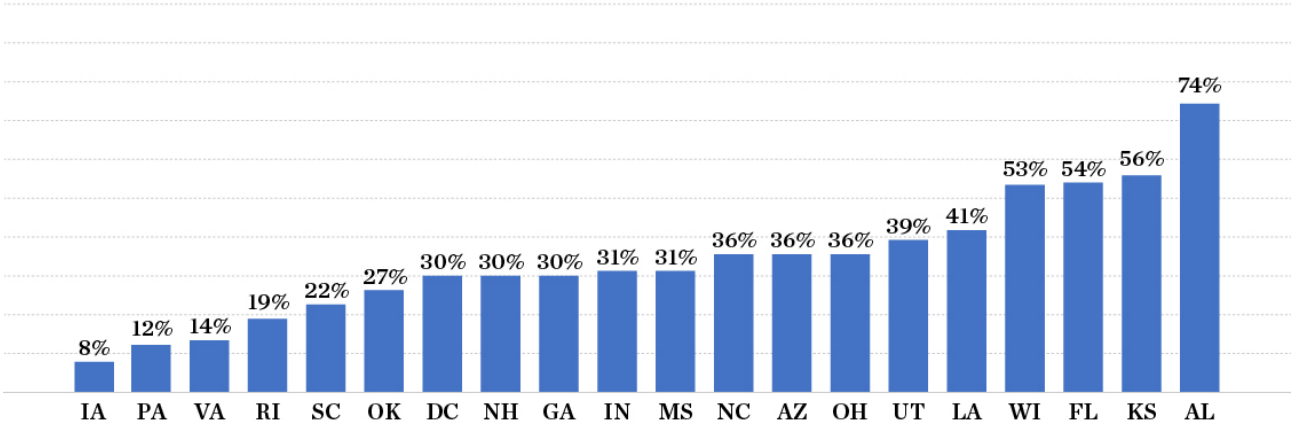


Table ES-1: Summary of Cumulative Savings (Cost) for 40 Private Educational Choice Programs through FY 2018

			Lower Bound (Short Run) Fiscal Effects		Upper Bound (Long Run) Fiscal Effects	
Program Name	State	Program Type	Short Run Cumulative Savings from Inception though FY 2018	Short Run Cumulative Savings Per Student from Inception though FY 2018	Long Run Cumulative Savings from Inception though FY 2018	Long Run Cumulative Savings Per Student from Inception though FY 2018
Empowerment Scholarship Accounts§	AZ	AZ	($13,704,620)	($1,001)	$41,146,197	$3,005
Gardiner Scholarships*†	FL	FL	$87,002,637	$3,525	$146,787,331	$5,948
Equal Opportunity for Students with Special Needs Program*†	MS	MS	$5,602,351	$6,359	$8,551,487	$9,707
Opportunity Scholarship Program†	DC	DC	$54,630,046	$2,598	$292,724,815	$13,923
John M. McKay Scholarships for Students with Disabilities Program*§	FL	FL	$2,388,536,792	$6,506	$3,531,098,791	$9,619
Georgia Special Needs Scholarship Program*	GA	GA	$310,763,396	$9,282	$418,085,143	$12,488
Choice Scholarship Program‡	IN	IN	$287,836,402	$1,750	$1,016,748,740	$6,183
Louisiana Scholarship Program†	LA	LA	$52,474,369	$1,164	$249,151,491	$5,527
School Choice Program for Certain Students with Exceptionalities*†	LA	LA	$25,458,212	$12,634	$33,985,278	$16,866
Mississippi Dyslexia Therapy Scholarship for Students with Dyslexia Program*	MS	MS	$6,054,765	$8,105	$8,777,074	$11,750
Special Education Scholarship Grants for Children with Disabilities*§	NC	NC	$30,547,305	$7,487	$44,810,086	$10,983
Opportunity Scholarships†§	NC	NC	$43,564,185	$2,435	$109,487,078	$6,119
Cleveland Scholarship Program‡	OH	OH	$445,142,569	$3,991	$1,049,620,723	$9,410
Autism Scholarship*†	OH	OH	$142,462,598	$5,083	$344,813,352	$12,302
Educational Choice Scholarship Program†§	OH	OH	$692,024,359	$3,887	$1,693,820,543	$9,514
Jon Peterson Special Needs Scholarship Program*	OH	OH	$194,572,777	$8,821	$311,432,413	$14,118
Income-Based Scholarship Program†	OH	OH	$97,339,674	$3,560	$235,802,821	$8,624
Lindsey Nicole Henry Scholarships for Students with Disabilities*	OK	OK	$12,643,730	$4,725	$22,123,415	$8,267
Carson Smith Special Needs Scholarship*†	UT	UT	$31,688,365	$3,706	$55,009,394	$6,434
Milwaukee Parental Choice†	WI	WI	$376,443,804	$1,111	$2,061,291,407	$6,083
Parental Private School Choice Program (Racine)†§	WI	WI	$10,256,795	$1,280	$55,476,387	$6,924
Parental Choice Program (Statewide)†	WI	WI	($5,251,690)	($464)	$49,832,909	$4,405
Education Scholarship Program‡	AL	AL	($24,103,806)	($1,299)	$39,480,889	$2,127
Original Individual Income Tax Credit Scholarship Program†	AZ	AZ	$878,856,528	$2,018	$2,130,625,946	$4,892
Low-Income Corporate Income Tax Credit Scholarship Program†§	AZ	AZ	$204,824,882	$1,583	$596,464,824	$4,611
Lexie's Law for Disabled and Displaced Students Tax Credit Scholarship Program*†	AZ	AZ	$23,590,080	$4,643	$39,029,285	$7,681
"Switcher" Individual Income Tax Credit Scholarship Program†§	AZ	AZ	$132,790,449	$1,760	$361,772,618	$4,796
Florida Tax Credit Scholarship Program‡	FL	FL	$329,407,043	$479	$2,510,903,760	$3,653
Qualified Education Expense Tax Credit†§	GA	GA	$294,744,977	$2,792	$696,131,097	$6,594
School Scholarship Tax Credit†	IN	IN	$267,059,664	$4,669	$506,118,892	$8,849
School Tuition Organization Tax Credit†	IA	IA	$656,782,961	$5,402	$1,188,724,016	$9,777
Tax Credit for Low Income Students Scholarship Program	KS	KS	($1,607,429)	($2,593)	$1,872,854	$3,021
Tuition Donation Rebate Program‡	LA	LA	$19,778,625	$4,445	$39,522,481	$8,881
Education Tax Credit Program‡	NH	NH	$9,179,326	$7,688	$15,210,097	$12,739
Equal Opportunity Education Scholarships†	OK	OK	$12,453,486	$1,992	$32,578,556	$5,210
Educational Improvement Tax Credit Program†	PA	PA	$3,712,375,976	$6,396	$7,230,839,092	$12,458
Opportunity Scholarship Tax Credit Program†	PA	PA	$390,782,812	$6,078	$827,345,903	$12,868
Tax Credits for Contributions to Scholarship Organizations†	RI	RI	$33,535,500	$6,903	$54,019,290	$11,120
Educational Credit for Exceptional Needs Children*†	SC	SC	$62,073,008	$7,823	$99,843,294	$12,583
Education Improvement Scholarships Tax Credits Program†§	VA	VA	$77,873,780	$6,444	$131,596,063	$10,889
All Programs			**$12,356,486,685**	**$3,296**	**$28,282,655,830**	**$7,544**

ESA = Education Savings Account, V = Voucher, TCS = Tax-Credit Scholarship

* Program serves students with special needs exclusively

† Analysis for this program used data from random assignment studies of educational choice programs to calculate or inform assumptions about switcher rates

‡ Analysis for this program calculated switcher rate based on data publicly reported or directly obtained from administrative agency

§ Analysis applies adjustment for potential non-switchers who are exempt from public school prior enrollment requirements

Introduction

Critics of private educational choice programs argue that these programs drain resources from public schools and therefore harm students who remain in them.[1] Policymakers are tasked with balancing their states' budgets and ensuring that their public schools are adequately equipped to meet educational provisions in their states' constitutions.[2] Thus, policymakers must be concerned with the fiscal effects of these programs.

More than two dozen studies have examined educational choice programs' effects on students enrolling in nearby public schools. Researchers have conducted a handful of systematic reviews of competitive effects research and, more recently, a meta-analysis of this body of research.[3] In each of these reviews, researchers conclude that students who remain in district schools after exposure to educational choice programs tend to experience modest educational benefits.[4] But the question remains whether educational choice programs lead to higher costs for taxpayers or fewer resources for students who remain in public schools. This report aims to inform conversations about these fiscal issues.

This report summarizes information on the fiscal effects of educational choice programs across the United States. It analyzes 40 educational choice programs in 19 states plus D.C. The programs in the analysis include three education savings accounts programs, 19 school voucher programs, and 18 tax-credit scholarship programs.

Education savings accounts (ESAs) allow parents to receive a deposit of public funds into government-authorized savings accounts with restricted, but multiple, uses such as private school tuition and fees,

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[1] Lueken, M. F., & Scafidi, B. (2020). Myth: School choice siphons money from public schools and harms taxpayers. In C. A. DeAngelis & N. McCluskey (Eds.), *School choice myths: Setting the record straight on education freedom* (pp. 79-96). Washington, DC: Cato Institute.

[2] All states except North Dakota and Wyoming have balanced budget requirements. While these requirements vary by strength, most states have strong requirements.
Urban Institute and Brookings Institution, "What are state balanced budget requirements and how do they work?" in *Briefing Book: A Citizen's Guide to the Fascinating (Though Often Complex) Elements of the US Tax System*, Tax Policy Center, updated May 2020. Retrieved from: https://www.taxpolicycenter.org/briefing-book/what-are-state-balanced-budget-requirements-and-how-do-they-work

[3] Huriya Jabbar, Carlton J. Fong, Emily Germain, Dongmei Li, Joanna Sanchez, Wei-Ling Sun, and Michelle Devall (2019). The competitive effects of school choice on student achievement: A systematic review. *Educational Policy*, https://doi.org/10.1177/0895904819874756; Dennis Epple, Richard E. Romano, and Miguel Urquiola (2017). School Vouchers: A Survey of the Economics Literature. *Journal of Economic Literature*, 55(2), 441–92. http://dx.doi.org/10.1257/jel.20150679; Anna J. Egalite and Patrick J. Wolf (2016). A Review of the Empirical Research on Private School Choice. Peabody *Journal of Education*, 91(4), 441–454. http://dx.doi.org/10.1080/0161956X.2016.1207436; Anna J. Egalite (2013). Measuring Competitive Effects from School Voucher Programs: A Systematic Review. *Journal of School Choice*, 7(4), 443–464. http://dx.doi.org/10.1080/15582159.2013.837759

[4] Twenty-seven empirical studies have examined the competitive effects of private school choice programs. Of these, 25 detected that private school choice programs improved the performance of nearby schools, one study estimated a negative effect, and one study could not detect any effect.
EdChoice (2020), *The 123s of School Choice: What the Research Says about Private School Choice Programs in America, 2020 edition*, retrieved from: https://www.edchoice.org/wp-content/uploads/2020/04/123s-of-SchoolChoice-2020.pdf

online learning programs, private tutoring, community college costs, higher education expenses and other approved customized learning services and materials. School vouchers give parents the ability to choose a private school for their children, using all or part of the public funding set aside for their children's education. Tax-credit scholarships allow individual and business taxpayers to receive full or partial tax credits when they donate to nonprofits that provide private school scholarships.[5]

The analysis estimates the combined fiscal effects of each educational choice program on state and local taxpayers through FY 2018, including lower bound and upper bound fiscal effects. The information contained in this report provides information to help understand whether educational choice programs have positive, negative, or neutral fiscal effects overall on taxpayers.

The report also presents basic facts about the size and scope of each program, in terms of participation and funding, relative to each state's public school system. It also presents the facts on public funding disparities between the choice programs and public schools.

This report proceeds as follows: the next section discusses the educational choice programs included in the analysis. Then the paper provides important context about funding for educational choice programs and describes the overall fiscal effects of education choice programs. Next is the literature review, followed by a discussion on educational costs and then explanation of the methods used to analyze each choice program. The paper then presents results, provides discussion, and concludes.

Educational Choice Programs Included in Fiscal Analysis

This study uses short-run and long-run variable cost estimates to generate lower bounds and upper bounds on the fiscal effects of educational choice program on taxpayers through FY 2018. The longer that a program operates, then the closer the savings approaches the upper bound estimates. The shorter a program is in place, the closer its fiscal effects to the lower-bound. Of the 40 programs in the analysis, four programs in this study were in operation for less than five years while the remaining 36 programs were in operation for at least five years through FY 2018.

Today there are 67 educational choice programs currently operating in 28 states plus Washington, D.C. and Puerto Rico.[6]. The present analysis examines 40 educational savings account (ESA), school voucher, and tax-credit scholarship programs covering 19 states and D.C from 1990 through 2018. The analysis excludes individual tax credit and tax deduction programs and town-tuitioning programs. As the full impact of educational choice programs usually takes time to materialize, the analysis includes programs

[5] EdChoice, "School Choice: Types of School Choice," accessed January 5, 2021 at https://www.edchoice.org/school-choice/types-of-school-choice/

[6] Of the 67 programs, 58 consist of education savings account programs, school voucher programs, and tax-credit scholarship programs operating in the 28 states plus D.C. and Puerto Rico. The 67 programs include 9 individual tax credit and tax deduction programs and 3 town-tuitioning programs that are not considered in the analysis.
"School Choice in America Dashboard," EdChoice, last modified February 4, 2020 http://www.edchoice.org/school-choice/school-choice-in-america.

with at least three years of data available.[7] One-third of programs in the analysis (13) exclusively serve students with special needs. Additionally, more than half of students participating in Arizona's ESA program include special needs students.

The programs studied include:

1. Alabama's Education Scholarship Program
2. Arizona's Empowerment Scholarship Accounts
3. Arizona's "Switcher" Individual Income Tax Credit Scholarship Program
4. Arizona's Lexie's Law for Disabled and Displaced Students Tax Credit Scholarship Program
5. Arizona's Low-Income Corporate Income Tax Credit Scholarship Program
6. Arizona's Original Individual Income Tax Credit Scholarship Program
7. D.C.'s Opportunity Scholarship Program
8. Florida Tax Credit Scholarship Program
9. Florida's Gardiner Scholarships
10. Florida's John M. McKay Scholarships for Students with Disabilities Program
11. Georgia Special Needs Scholarship Program
12. Georgia's Qualified Education Expense Tax Credit
13. Indiana's Choice Scholarship Program
14. Indiana's School Scholarship Tax Credit
15. Iowa's School Tuition Organization Tax Credit
16. Kansas's Tax Credit for Low Income Students Scholarship Program
17. Louisiana Scholarship Program
18. Louisiana's School Choice Program for Certain Students with Exceptionalities
19. Louisiana's Tuition Donation Rebate Program
20. Mississippi Dyslexia Therapy Scholarship for Students with Dyslexia Program
21. Mississippi's Equal Opportunity for Students with Special Needs Program
22. New Hampshire's Education Tax Credit Program
23. North Carolina's Opportunity Scholarships
24. North Carolina's Special Education Scholarship Grants for Children with Disabilities
25. Ohio's Autism Scholarship
26. Ohio's Cleveland Scholarship Program
27. Ohio's Educational Choice Scholarship Program
28. Ohio's Income-Based Scholarship Program
29. Ohio's Jon Peterson Special Needs Scholarship Program
30. Oklahoma's Equal Opportunity Education Scholarships
31. Oklahoma's Lindsey Nicole Henry Scholarships for Students with Disabilities
32. Pennsylvania's Educational Improvement Tax Credit Program
33. Pennsylvania's Opportunity Scholarship Tax Credit Program
34. Rhode Island's Tax Credits for Contributions to Scholarship Organizations
35. South Carolina's Educational Credit for Exceptional Needs Children
36. Utah's Carson Smith Special Needs Scholarship

[7] The analysis does not include the Florida A+ Opportunity Scholarships program, which was ruled unconstitutional by the Florida Supreme Court and was discontinued in 2006. The analysis also excludes town tuitioning programs (Maine, New Hampshire, and Vermont), which allows students in towns without district schools at a student's grade level to use public funds to attend any public or approved private school. Finally, the analysis excludes Nevada's tax-credit scholarship program. In this program's third year (FY 2018), the state legislature provided a one-time infusion of $20 million into the program. As only half of available scholarship funds were disbursed that year, this atypical infusion of scholarship funds does not permit a comprehensive analysis of the fiscal effects of the program.

37. Virginia's Education Improvement Scholarships Tax Credits Program
38. Wisconsin's Milwaukee Parental Choice
39. Wisconsin's Parental Choice Program (Statewide)
40. Wisconsin's Parental Private School Choice Program (Racine)

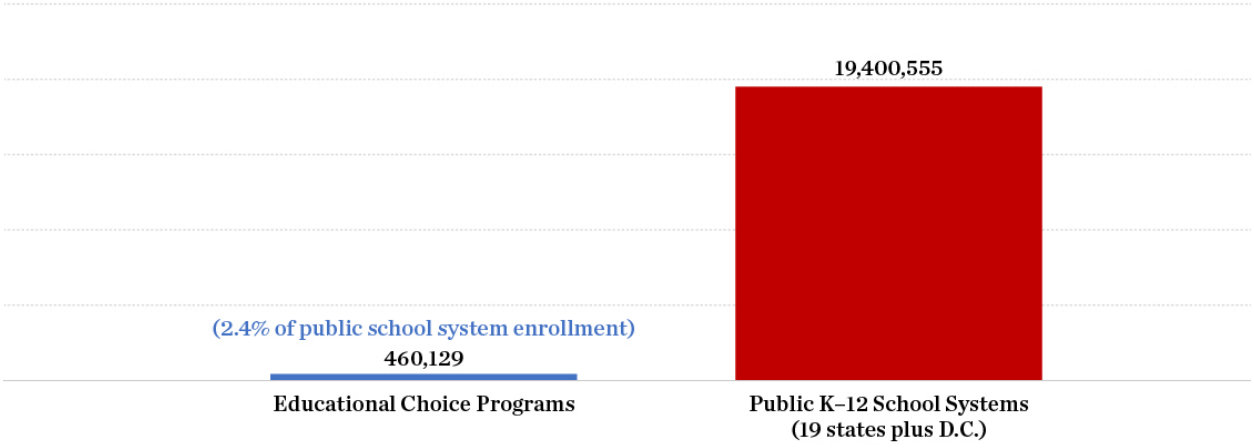
Funding Educational Choice Programs in Context

A chief concern by educational choice opponents and skeptics is that these programs will lead to a mass exodus of students from public schools, consequently harming public schools fiscally and leaving students who choose to stay in them worse off. Where choice programs currently operate, have these concerns materialized? At least at the state level, it appears they haven't. This section examines take-up of choice programs as a share of public school systems' enrollments and the share of public funding for public K–12 education devoted to supporting choice programs.

Enrollment Share

Through FY 2018, the cumulative number education savings accounts, school vouchers, and tax-credit scholarships disbursed to K–12 students to attend private schools and access other educational services exceeded 3.7 million. In FY 2018 alone, 460,000 students participated in educational choice programs. This number may seem large, but it represents just 2.3 percent of the nearly 19.4 million students enrolled in public K–12 schools in states with choice programs (Figure 1).

Figure 1: Total number of students enrolled in educational choice programs and public K–12 school systems in 19 states plus DC, FY 2018



The first panel in Table 1 shows the total number of students participating in educational choice programs, each state's total enrollment in public schools, and choice share for each state in FY 2018 (program participants as a percentage of enrollment in public schools plus choice programs). For example, Arizona, which has one of the most vibrant educational choice ecosystems nationally, has the largest share of K–12 students participating in private choice programs (5.5%). The corresponding shares

for Florida and Indiana, home to two of the largest choice programs in the nation, are 5.0 percent and 4.1 percent, respectively. The number of students participating in choice programs in half the states in the analysis (10) represent less than 1 percent of all students enrolled in public and private schools. Thus, even in the states with the most vibrant choice ecosystems, the percent of students exercising choice is modest.

For three voucher programs in the analysis that operate at a city district level rather the state level, participation as a percentage of district enrollment is higher. Students participating in the Racine voucher program represent 13 percent of the district's total student enrollment. For Cleveland and Milwaukee, which are the oldest modern-day school voucher programs, these shares are 21 percent and 36 percent, respectively—which means the public school district where these programs operate remain dominant providers of education for K–12 students.

Table 1: Total Cost and Participation of Currently Operating Educational Choice Programs as Shares of Total Public School Revenue and Enrollment, FY 2018 By State (2018 USD; $ in Millions)

		Participation			Cost		
Program Name	State / Jurisdiction	Number of Program Participants	Statewide Public School Enrollment	Choice Share as % of Students in Public Schools and Choice Programs	"Total Cost of All Choice Programs within State ($ in Millions)"	State's Total K-12 Public School Revenue, All Sources ($ in Millions)	Choice Share as % of Total Costs for Public Schools and Choice Programs
Education Scholarship Program	Alabama	3,668	742,444	0.5%	$30.0 M	$8,068.7 M	0.4%
Empowerment Scholarship Accounts Original Individual Income Tax Credit Scholarship Program Low-Income Corporate Income Tax Credit Scholarship Program Lexie's Law for Disabled and Displaced Students Tax Credit Scholarship Program* Arizona "Switcher" Individual Income Tax Credit Scholarship Program	Arizona	65,253	1,110,834	5.5%	$235.1 M	$8,861.6 M	2.6%
Opportunity Scholarship Program	District of Columbia	1,660	87,315	1.9%	$15.8 M	$2,526.1 M	0.6%
Gardiner Scholarships* McKay Scholarships for Students with Disabilities* Florida Tax Credit Scholarship Program	Florida	149,397	2,833,094	5.0%	$1,024.7 M	$30,134.7 M	3.3%
Georgia Special Needs Scholarship Program* Qualified Education Expense Tax Credit	Georgia	18,559	1,768,642	1.0%	$80.6 M	$21,325.7 M	0.4%
Choice Scholarship Program School Scholarship Tax Credit	Indiana	45,201	1,054,187	4.1%	$166.4 M	$12,901.4 M	1.3%
School Tuition Organization Tax Credit	Iowa	10,791	511,850	2.1%	$11.9 M	$7,050.0 M	0.2%
Low Income Students Scholarship	Kansas	307	497,088	0.1%	$2.4 M	$6,660.2 M	0.04%
Louisiana Scholarship Program School Choice Program for Students with Exceptionalities* Tuition Donation Rebate Program	Louisiana	9,218	715,135	1.3%	$49.2 M	$8,460.9 M	0.6%
Equal Opportunity for Students with Special Needs Program* Mississippi Dyslexia Therapy Scholarship for Students with Dyslexia Program*	Mississippi	577	478,321	0.1%	$3.1 M	$4,767.5 M	0.1%
Education Tax Credit Program	New Hampshire	413	180,888	0.2%	$2.3 M	$3,194.8 M	0.1%
Special Education Scholarship Grants for Children with Disabilities* Opportunity Scholarships	North Carolina	8,633	1,553,513	0.6%	$36.6 M	$14,422.0 M	0.3%
Cleveland Scholarship & Tutoring Program (Ohio) Autism Scholarship Program* Educational Choice Scholarships Income-Based Scholarship Program Jon Peterson Special Needs Scholarship Program*	Ohio	49,406	1,704,399	2.8%	$323.6 M	$24,321.8 M	1.3%
Lindsey Nicole Henry Scholarships for Students with Disabilities* Equal Opportunity Education Scholarships	Oklahoma	3,173	695,092	0.5%	$9.1 M	$6,357.2 M	0.1%
Educational Improvement Tax Credit Program Opportunity Scholarship Tax Credit Program	Pennsylvania	52,144	1,726,809	2.9%	$125.3 M	$32,084.3 M	0.4%
Tax Credits for Contributions to Scholarship Organizations	Rhode Island	397	142,949	0.3%	$1.4 M	$2,483.0 M	0.1%
Educational Credit for Exceptional Needs Children*	South Carolina	2,327	777,507	0.3%	$11.0 M	$10,079.0 M	0.1%
Carson Smith Special Needs Scholarships*	Utah	978	668,274	0.1%	$5.7 M	$5,426.8 M	0.1%
Education Improvement Scholarships Tax Credits Program	Virginia	4,335	1,291,462	0.3%	$7.9 M	$17,004.9 M	0.05%
Milwaukee Parental Choice Program Racine Parental Choice Program (Wisconsin) Parental Choice Program (Statewide)	Wisconsin	33,692	860,752	3.8%	$253.6 M	$11,892.2 M	2.1%
Total Nationwide		460,129	19,400,555	2.3%	$2,395.7 M	$238,022.7 M	1.0%

Data Sources: Author's calculations; U.S. Department of Education, National Center for Education Statistics, Private School Universe Survey (PSS), 2017–18; Common Core of Data (CCD), "Local Education Agency (School District) Universe Survey", 2017-18 v.1a; "State Nonfiscal Public Elementary/Secondary Education Survey", 2018-19 v.1a.; U.S. Census Bureau, 2018 Annual Survey of School System Finances; EdChoice National Program Data.

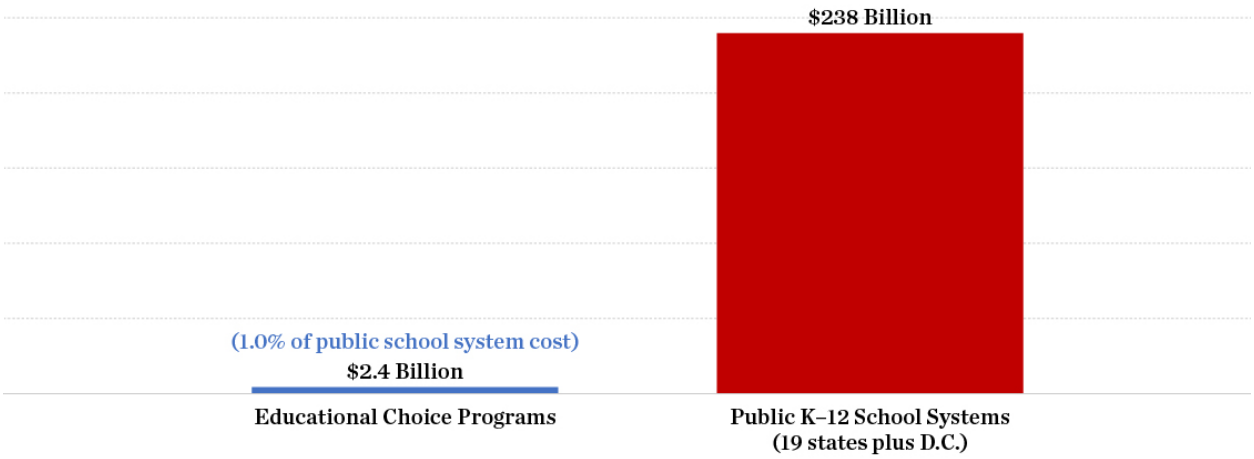
Notes: An asterisk (*) denotes a program that is open exclusively to students with special needs. FY 2017 data are used for the Cleveland, Milwaukee, and Racine programs as FY 2018 district-level data were unavailable at time of analysis.

Total Cost Share

The right panel in Table 1 shows the total cost to taxpayers to support each state's educational choice programs; the amount of revenue from local, state, and federal sources that flows to each state's public K-12 school system; and the choice share for each state in FY 2018 (expressed as a percentage of total costs for public schools plus choice programs). Data reflect states with educational choice programs included in the present study's analysis.

The total cost to taxpayers to support the 40 educational choice programs considered here was $2.4 billion in FY 2018. This cost represents a very small share (just 1 percent) of the $238.0 billion paid by taxpayers to fund these 19 states plus DC states' public K–12 school systems (Figure 2). Educational choice programs in Florida enjoyed the largest share (3.3 percent). In no other state does the share of public school costs exceed 3 percent. Rather, the share of public school costs lies below 1 percent for 15 of the 20 states in the analysis.

Figure 2: Total funding for educational choice programs and public K–12 school systems in 19 states plus DC, FY 2018



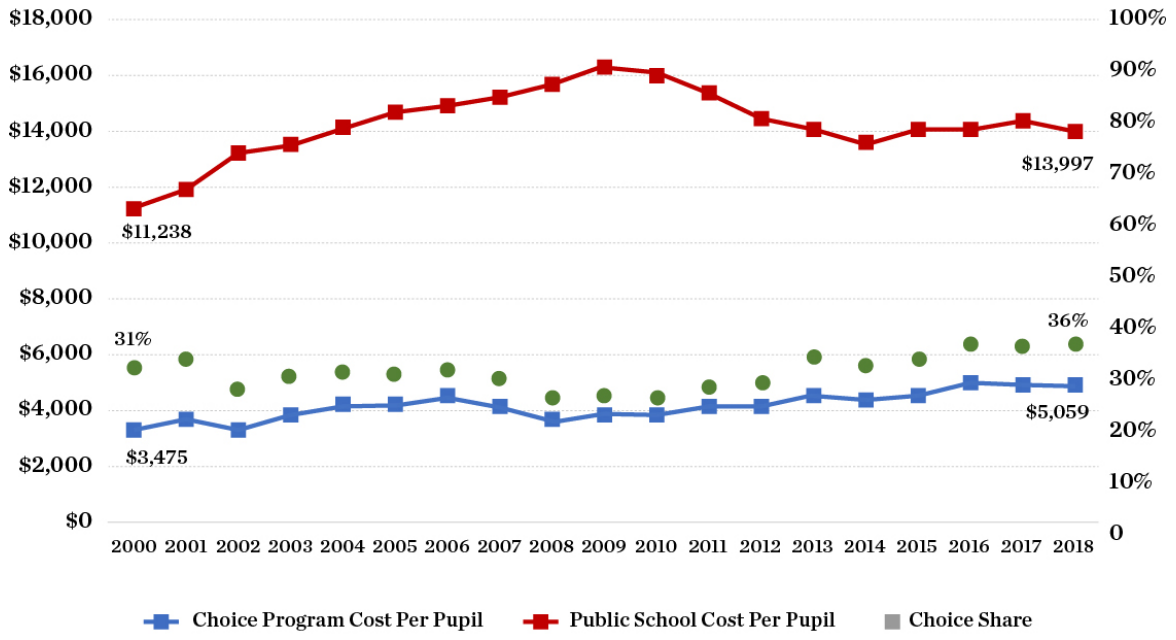
Overall, students participating in educational choice programs comprise 2.3 percent of publicly funded K-12 students but represent just 1.0 percent of total public spending. Thus, educational choice programs are funded at lower public expense than public school systems.

These basic facts provide important background for evaluating claims that educational choice programs will harm students who remain in district schools. In light of this context, it may be difficult to see how expanding educational opportunities for families via educational choice programs might harm public school systems. To be sure, many studies have examined educational choice programs' effects on students enrolling in nearby public schools. A handful of systematic reviews of competitive effects research and, more recently, one meta-analysis has been conducted by researchers. All of these reviews conclude that students who remain in district schools, after exposure to increased competition from choice programs, experience modest and positive gains in learning. Contrary to claims that students in district schools are harmed by increasing educational choice, the evidence suggests otherwise.

Student Funding Gaps

Figure 3 displays the substantial per-student funding differences between educational choice programs and public K–12 school system between FY 2000 and FY 2018. Between FY 2000 and FY 2018, the per-pupil cost of educational choice programs as a percentage of per-pupil public school funding slightly increased from 31 percent to 36 percent. In FY 2018, the average per-student public cost of funding the choice programs was about $5,000 compared to $14,000 per student for public K–12 in states where choice programs operate (Figure 3).[9] In other words, average per-pupil funding for educational choice programs was 64 percent less than average per-pupil funding for public schools in FY 2018.

Figure 3: Per-pupil funding for educational choice programs and public K–12 school systems in 19 states plus DC, FY 2000 to FY 2018 ($ adjusted for inflation to 2018 USD)



We observe smaller per-student funding gaps with the three ESA programs in the analysis (Figure 4). The average cost of ESAs per student ($10,595) is almost two-thirds of the estimated average cost per student of the ESA students enrolling in their respective public school systems ($16,823). These costs are higher than the overall average cost of all choice programs and public K–12 because two of these ESA programs (FL and MS) exclusively serve children with special needs while more than half the students participating in Arizona's ESA program have special needs.

The funding gaps for voucher and tax-credit scholarship programs are substantially greater, where the average funding per student in voucher and tax-credit scholarship programs is only about one-third of the average cost per student for the public school system. Average per-pupil funding for voucher and tax-credit scholarship programs are 62–66 percent less than average per-pupil funding for public schools.

[9] Estimates for public schools reflect the higher cost of serving students with special needs. The analysis assumes that total per-pupil costs for students with special needs is 1.91 times the average per-pupil cost for students without special needs. The Methods section contains further details.

We observe some overall funding differences between special needs programs and non-special needs programs. After making an adjustment for the higher cost of serving students with special needs, the per-student cost of special needs choice programs is 43 percent of the estimated cost to educate them in public schools. The gap between non-special needs choice programs and public schools is slightly larger, where the per-student cost of these programs is 34 percent of the per-student cost for public schools. In other words, average per-pupil funding for special needs programs is 57 percent less than average per-pupil funding for public schools while average per-pupil funding for non-special needs programs is 66 percent less than average per-pupil funding for public schools.

Figure 4: Per-pupil cost of educational choice programs vs. per pupil cost of public school systems in choice participants' states, by program type, FY 2018

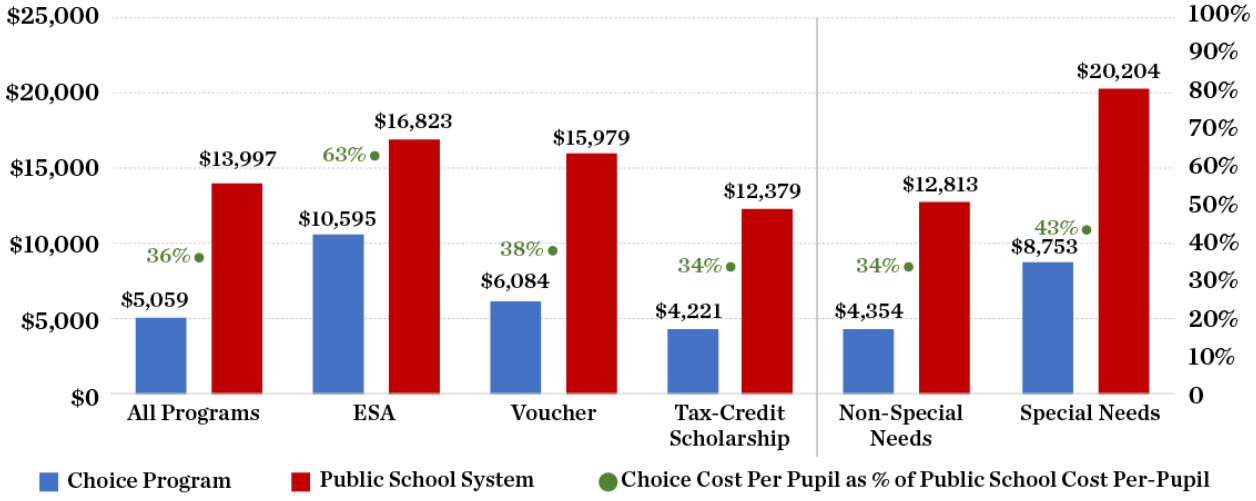


Figure 5 displays for each state funding per student directed to educational choice programs as a percentage of per-student funding for public schools. Average per-student funding for students in Iowa's tax-credit scholarship program is 92 percent less than average per-student funding for Iowa public schools. At the other end of the distribution, average per-student funding for students in Alabama's tax-credit scholarship program is 26 percent less than average per-student funding for Alabama public schools.

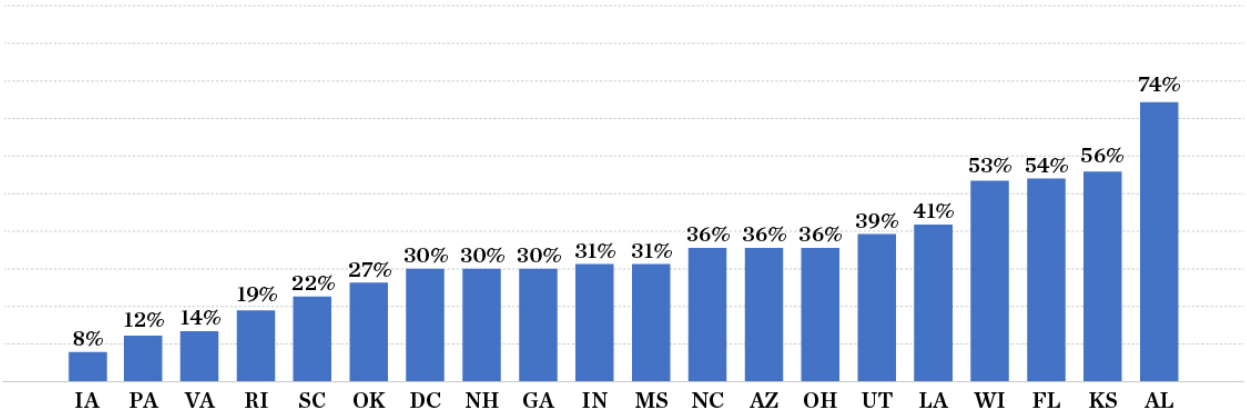
For over half the states (11 of 20 states in the analysis), students in choice programs received less than one-third of revenue they would receive in public schools. For four-fifths of the states, students in choice programs received less than half the per-student funding they would have in public schools. These states enrolled more than 60 percent of students participating in the 40 programs considered during FY 2018.

These gaps imply that choice programs generate significant fiscal benefits for taxpayers and school districts when students are redirected from the public school system via these programs. Furthermore, because funding systems for public schools are not completely based on student enrollment, districts benefit fiscally because they often keep a significant portion of the per-pupil funding for students who leave. For instance, districts in some states such as Georgia keep all local revenue – only state revenue is tied directly to enrollment.

Most states also have either declining enrollment provisions or "hold harmless" funding provisions baked into their funding systems. Strictly speaking, hold harmless provisions guarantee districts all or most of the basic education funding they received for the prior year or some other year in the past, even if

enrollment is decreasing. Declining enrollment provisions represent a weaker form of hold harmless – they are designed to mitigate the fiscal impact of declining enrollment.[10]

Figure 5: Average per-student funding for educational choice programs as a percentage of average per-student funding for public schools in FY 2018, by state



These funding policies often produce a happy fiscal by-product for district schools – these schools end up with more resources on a per-student basis, all else equal. Such arrangements, however, raise questions about funding equity and how governments fund different groups of students.

Ultimately, the large funding gaps we observe between the public cost of educational choice programs and public school systems imply substantial fiscal benefits accrue to taxpayers when students switch from public to private schools as a result of the program.

Literature Review

This section reviews studies that previously have examined the fiscal effects of private educational choice programs on state and local public school district budgets. It first considers national studies of school choice programs that are national in scope, followed by analyses of individual school voucher programs, and then a discussion of previous fiscal work on tax-credit scholarship programs.

National Studies

Susan Aud's fiscal analysis of 6 voucher and 3 tax-credit scholarship programs between 1990 to 2006 reported an estimated $444 million in taxpayer savings, or about $4,100 per student participant.[11] The six

[10] As of FY 2014, 34 states have some form of hold harmless or declining enrollment funding arrangement. Michelle J. Atherton and Meghan E. Rubado (2014), *Hold Harmless Education Finance Policies in the U.S.: A Survey*, Center on Regional Politics, Policy Brief, December, retrieved from: https://williampennfoundation.org/sites/default/files/reports/Hold%20Harmless.pdf

[11] Susan L. Aud (2007), *Education by the Numbers: The Fiscal Effect of School Choice Programs, 1990-2006* (School Choice Issues in Depth), Milton & Rose D. Friedman Foundation, retrieved from EdChoice website: http://www.edchoice.org/wp-content/uploads/2015/09/Education-by-the-Numbers-Fiscal-Effect-of-School-Choice-Programs.pdf

school voucher programs generated an estimated $240 million in taxpayer savings, or $1,250 per voucher recipient while the tax-credit scholarship programs saved taxpayers $633 per scholarship.

Jeff Spalding estimated the net fiscal effects of 10 school voucher programs on state governments, taxpayers, and public school districts combined.[12] He estimated that these programs generated $1.7 billion, or about $3,400 per voucher awarded, in taxpayer savings from these programs' respective inception to FY 2014.

Lueken (2018) updated and extended Spalding's analysis by analyzing 16 voucher programs in 10 states plus D.C. through FY 2015.[13] He estimated that these programs generated $3,400 in net savings per voucher, or $3.2 billion cumulatively since these programs' inceptions.

Aud's study differs from the present study and other two reports in several ways. First, Aud included only direct instruction in variable costs, whereas the present analysis defines variable costs a bit more broadly by including pupil and instructional staff support services in addition to expenditures for direct instruction. Second, Aud used public school spending data obtained from each state's education agency while the present analysis primarily uses financial data from the National Center for Education Statistics (NCES) to facilitate comparisons across states. Third, Aud attempted to disaggregate fiscal effects into effects on the state's budget and on public schools, whereas the other reports and the present report do not.

The present report also differs from each of the other prior studies in a couple ways. First, it estimates long-run fiscal effects as well as short-run effects. Second, it attempts to account for the higher cost of potential student non-switchers in any choice program that allows exemptions to requirements for enrolling in public schools, including special needs programs. Aud did not account for students participating in choice programs who did not switch from public school systems (non-switchers). Although the Spalding and Lueken studies make adjustments for non-switchers, they did not do so for some special needs programs which had exemptions to public school prior enrollment requirements.

Studies of Individual School Voucher Programs

Julie Trivitt and Corey DeAngelis conducted two fiscal analyses of the Louisiana Scholarship Program (LSP) by estimating the fiscal impact of removing the LSP on the state and school districts. After considering both expected costs from students who enroll in district schools per the state's funding formula and savings from no longer funding vouchers, Trivitt and DeAngelis (2020) estimated that eliminating the program would have a negative fiscal impact on the state unless at least 21 percent of voucher students continued to enroll in private schools without program funding.[14]

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[12] Jeffrey Spalding (2014), *The School Voucher Audit: Do Publicly Funded Private School Choice Programs Save Money?* (Indianapolis: Friedman Foundation for Educational Choice, 2014), http://www.edchoice.org/wp-content/uploads/2015/07/The-School-Voucher-Audit-DoPublicly-Funded-Private-School-Choice-Programs-Save-Money.pdf

[13] Martin F. Lueken (2018). *Fiscal Effects of School Vouchers: Examining the Savings and Costs of America's Private School Voucher Programs,* EdChoice, retrieved from EdChoice website: https://www.edchoice.org/wp-content/uploads/2018/09/Fiscal-Effects-of-School-Vouchers-by-Martin-Lueken.pdf

[14] Julie R. Trivitt and Corey A. DeAngelis (2020), Dollars and Sense: Calculating the Fiscal Effects of the Louisiana Scholarship Program, *Journal of School Choice,* 14(*3*), pp. 349-370, https://www.tandfonline.com/doi/abs/10.1080/15582159.2020.1726704

DeAngelis and Trivitt (2016) examined the fiscal impact of removing the LSP from individual school districts and estimated that between 62 and 67 Louisiana school districts would incur a negative fiscal impact if the state's legislature were to remove the program.[15] Thus, just two to seven school districts would incur a net fiscal benefit if the state's legislature were to remove the LSP. The analysis used financial data from the Louisiana Department of Education to estimate variable costs (costs that vary directly with student enrollment) for each district. The mean estimated variable cost was 65.2 percent of total costs, which is close to estimates generated by other economists estimated for Louisiana.[16]

In their fiscal analysis of the District of Columbia Opportunity Scholarship Program (DCOSP), Patrick Wolf and Michael McShane (2013) estimated that the program generated $2.62 worth of social benefits for each dollar of expenditure on the program.[17] Wolf and McShane accounted for the fiscal effects on social welfare by monetizing benefits associated with high school graduation whereas the present report estimates the fiscal effects of educational choice programs on state and local taxpayers combined.

Robert Costrell (2010) documented the uneven distribution of fiscal effects of the Milwaukee Parental Choice Program (MPCP) across different taxpayers.[18] Costrell estimated overall net fiscal benefits for taxpayers worth $46.7 million in FY 2010. State taxpayers incurred an estimated $55.3 million in net fiscal benefits. Local taxpayers outside Milwaukee experienced an estimated net fiscal benefit worth $32.2 million while Milwaukee taxpayers incurred an estimated $40.8 million in net fiscal costs.

Fiscal Analyses of Individual Tax-Credit Scholarship Programs

[15] Corey A. DeAngelis and Julie R. Trivitt (2016), *Squeezing the Public School Districts: The Fiscal Effects of Eliminating the Louisiana Scholarship Program*, (EDRE Working Paper 2016-10). Retrieved from http://www.uaedreform.org/downloads/2016/08/squeezing-the-public-school-districts-the-fiscal-effects-of-eliminating-the-louisiana-scholarship-program.pdf

[16] Scafidi used data from the U.S. Department of Education and estimated that the average variable cost rate was 64.6 percent for Louisiana.
Benjamin Scafidi (2012), *The Fiscal Effects of School Choice Programs on Public School Districts,* Friedman Foundation for Educational Choice, retrieved from EdChoice website: https://www.edchoice.org/research/the-fiscal-effects-of-school-choice-programs-on-public-school-districts

[17] The authors used previous research that monetized the impact of high school graduation on income, criminal behavior, and health. See Patrick J. Wolf and Michael Q. McShane (2013), Is the Juice Worth the Squeeze? A Benefit/Cost Analysis of the District of Columbia Opportunity Scholarship Program, *Education Finance and Policy*, *8*(1), pp. 74–99. http://dx.doi.org/10.1162/EDFP_a_00083

[18] Costrell estimated the fiscal impact on Wisconsin taxpayers only and did not examine the fiscal effects of the MPCP on district schools.
Robert M. Costrell (2010), *The Fiscal Impact of the Milwaukee Parental Choice Program: 2010-2011 Update and Policy Options* (Report #22, School Choice Demonstration Project), SCDP Milwaukee Evaluation, retrieved from: http://www.uaedreform.org/downloads/2011/03/report-22-the-fiscal-impact-of-the-milwaukee-parental-choice-program-2010-2011-update-and-policy-options.pdf.

In their fiscal analysis of Arizona's Original Individual Tax Credit Program from 1998 to 2000, Lips and Jacoby (2001) found a fiscally neutral impact during the initial few years of the program.[19] Because this program did not have any prior enrollment requirements, they made efforts to account for switchers. Switchers are students who would have enrolled in public school if they did not receive financial assistance from the choice program and represent both a cost and savings from the choice program. They asked Scholarship Granting Organizations (SGOs) what portion of scholarship students were previously enrolled in public school or how likely students would have to leave their current private school if they did not receive a scholarship. [20]

The Florida legislature's Office of Program Policy Analysis and Government Accountability conducted two fiscal analyses of the Florida Tax Credit Scholarship Program (OPPAGA, 2010).[21] OPPAGA estimated the program generated net fiscal benefits for state taxpayers worth $36.2 million in FY 2009, or about $1,700 per scholarship. These estimates represent $1.44 in savings for Florida taxpayers for each dollar of forgone revenue. An earlier OPPAGA report estimated that state taxpayers saved $1.49 for each dollar of tax credit disbursed (OPPAGA, 2008).

A series of fiscal analyses debated the fiscal effects of Georgia's Qualified Education Expense Tax Credit program. Buschman and Sjoquist (2014) used their professional judgement to ascertain the break-even switcher rate as they did not have data to inform switcher rates.[22] They derived estimates for different average scholarship amounts and different values of the state grant. After including local spending, they estimated that the break-even switcher rate was 66 percent scholarship recipients who switched from public schools.

Scafidi (not dated) argued that Buschman and Sjoquist's estimates significantly understated savings estimates from the program for at least two reasons.[23] First, Buschman and Sjoquist's estimate of state

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[19] Carrie Lips and Jennifer Jacoby (2001), *The Arizona Scholarship Tax Credit: Giving Parents Choices, Savings Taxpayers Money*, Policy Analysis 414 (Washington, DC: Cato Institute), https://object.cato.org/sites/cato.org/files/pubs/pdf/pa414.pdf.

[20] Of scholarships awarded by SGOs who could answer these questions, 36 percent went to former public school students, although these SGOs represented just 13 percent of the total number of scholarships awarded through the program. Based on their conversations with SGOs, Lips and Jacoby assumed a 20 percent switcher rate. They noted some reasons why this estimate was cautious. For instance, most SGOs indicated that limited administrative resources and a desire to keep overhead low so a higher share of donations can be used for scholarships limited their efforts to attract new students. Furthermore, because many SGOs at the time were run by individuals in their spare time, they likely didn't have the time nor resources to extensively market themselves to attract new students. As the tax-credit scholarship program expanded and SGOs matured, more scholarships were eventually awarded to new students.

[21] Office of Program Policy Analysis and Government Accountability, *Florida Tax Credit Scholarship Program Fiscal Year 2008-09 Fiscal Impact* (Tallahassee: Fla. Legislature, Office of Program Policy Analysis and Government Accountability, 2010), https://www.stepupforstudents.org/wp-content/uploads/2015/09/2010-oppagaresearch-memo.pdf; Office of Program Policy Analysis and Government Accountability, *The Corporate Income Tax Credit Scholarship Program Saves State Dollars*, Report 08-68 (Tallahassee: Fla. Legislature, Office of Program Policy Analysis and Government Accountability, 2008), http://www.oppaga.state.fl.us/reports/pdf/0868rpt.pdf

[22] Robert Buschman and David L. Sjoquist (2014). *Georgia's Tax Credit Scholarship Program, FRC Report 268* (Atlanta: Ga. State Univ., Andrew Young School of Policy Studies, Fiscal Research Center), http://frc.gsu.edu/files/2014/06/Georgia-Tax-Credit-Scholarship_Nov2014.pdf.

[23] Benjamin Scafidi (n.d.). Fiscal Analysis of Popular School Choice Program Underestimates Savings to Georgia Taxpayers and Needs to Be Fixed (Atlanta: Ga. Public Policy Foundation, n.d.),

and local public school spending per student was lower than the same figure reported by the Georgia Department of Education. Second, Scafidi argued that the switcher rate in the Buschman and Sjoquist report was much lower than the actual switcher rate because Georgia law requires scholarship students above kindergarten to be previously enrolled in public schools. Consequently, the analysis significantly understated the fiscal impact estimates.

Educational Costs

Debates about the fiscal effects of educational choice programs tend to be about short-run costs facing public school districts. In the long run, all costs are variable—this fundamental economics principle seems lost in these discussions. Long run may be used as a temporal concept. If a school gains or loses students, its options are somewhat limited in the immediate term—from one year to the next. Over time, however, public school districts can take more actions to adapt. For instance, districts might find more cost-effective ways to deliver a curriculum or program.

Even over a long time period, however, options to reduce costs may be limited or not make sense. It would usually make little sense to hire an additional full-time teacher for an additional student enrolls. Therefore, long run may also be used to describe large changes in student enrollment. The larger the change in enrollment, the more opportunities districts will have to adjust costs. For example, a district may open or close classrooms, or it may open or consolidate buildings.

Similarly, short run may refer to a short period (say 0–3 years) or small changes in student enrollment. In the short run, some costs are fixed while other costs are variable. Public officials often voice concern about the fiscal effects of these programs on district schools. One common line is that schools "need to keep the lights on," and they argue that because of high fixed costs, educational choice programs will cause harm.

If it was true that schools have high fixed costs, and by extension there are no savings from enrollment declines, then it follows that there would be little to no added costs when enrollment increases. Of course, this is not the case. To be sure, it is common for public school officials to testify in front of appropriations committees to request more funding because they anticipate enrollment growth—thus, they do not truly believe that all of their costs are fixed costs.

In reality, both revenues and costs change with enrollment, though not in perfect unison. Figure 6 illustrates this reality. Over a broad range of enrollment, costs and revenue correspond to enrollment changes. Over a small range of enrollment change, a school may incur a reduction or increase in revenue while most of its costs remain flat. This corresponds to the horizontal portion of each step. If a school gains or loses a few students, it wouldn't necessarily be in the best interest of the school to add or remove a teacher based on small fluctuations in student enrollment. Staffing is not easily changed on a per-student basis.

It's also notable that the change in revenue associated with small changes in enrollment represents a relatively small portion of a large budget. Enrollment fluctuations are a reality that districts have long dealt with, and changes in demand for services is not unique to schools. All kinds of enterprises face this reality (e.g., prekindergarten, colleges and universities, hospitals, law firms, and grocery stores).

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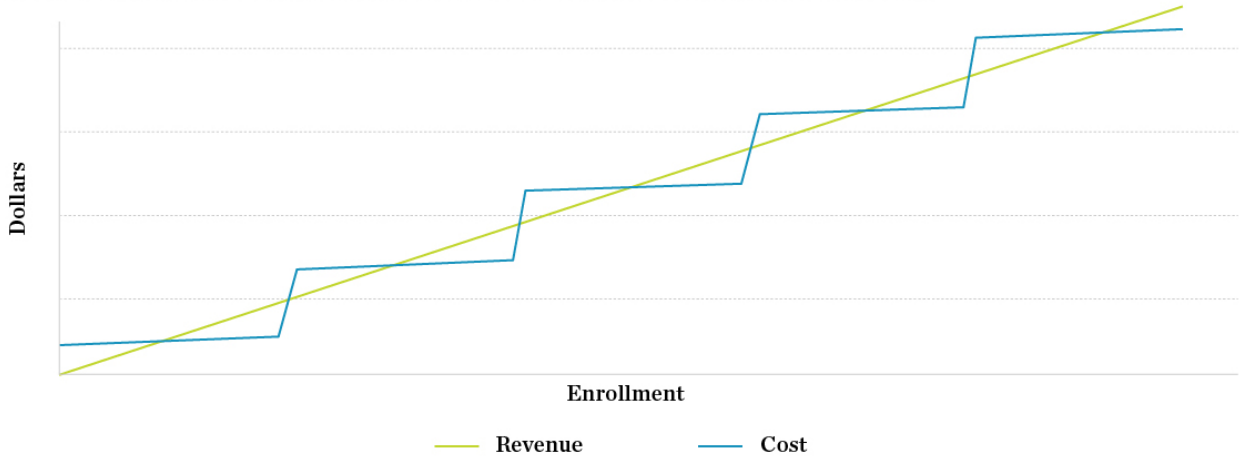
http://coles.kennesaw.edu/coles-overview/centers-and-institutes/education-economicscenter/docs/Critique-of-FRC-Fiscal-Analysis-document-2.pdf.

Financial management is a standard part of the educational landscape that officials handle on a routine basis. To be sure, school officials face real challenges when revenue declines, and those challenges shouldn't be dismissed. The point here is that facing challenges when revenue declines is not a problem uniquely tied to educational choice. Rather, it is a natural part of the education landscape that school officials: families move in and out of districts and schools for all kinds of reasons. The fiscal effect on school districts from students leaving choice programs is usually the same as the fiscal effects from students who leave for other reasons. If one's opposition to a choice program stems from effects on finances, then it follows that he/she would also oppose families moving among districts and support policies that prohibit such movement.

Figure 6: Relationship Between School Enrollment, Variable Costs, and Variable Revenue



The purpose of this report is to provide policymakers with information about the overall fiscal effects of educational choice programs. To be clear, it does not describe what financial decisions were made by school officials when students left to participate in educational choice programs. The analysis describes what costs can be adjusted in the short run, rather than what costs were adjusted or will be adjusted.[24]

Measuring the Fiscal Effects of Educational Choice Programs

There is a direct cost to taxpayers from educational choice programs (education savings account (ESA) programs, school voucher programs, and tax-credit scholarship programs) because taxpayers pay for

[24] Scafidi (2012) found that some school districts in Georgia that lost students for non-school choice reasons were able to reduce significant costs more than commensurate with their decline in students. However, he observed that some of these districts actually increased administrative costs when they lost students for non-school choice reasons. Benjamin Scafidi, *The Fiscal Effects of School Choice Programs on Public School Districts* s, Friedman Foundation for Educational Choice, retrieved from EdChoice website: https://www.edchoice.org/research/the-fiscal-effects-of-school-choice-programs-on-publicschool-districts

ESAs and vouchers, and tax credit disbursements reduce the amount of tax revenues received. In addition, there is a direct fiscal benefit from students who choose to not enroll in public schools because of the receipt of a scholarship.

The net fiscal impact of educational choice programs can be explained by the following relationship:

Net Fiscal Effect = [Cost Reduction from Switchers] — [Cost of the Choice Program]

where switchers refer to students who would enroll in a public school without financial assistance from an educational choice program. Measuring the fiscal effects of educational choice programs is complex because school funding comes from different sources (federal, state, and local governments), and complex school funding formulas determine the allocation of these revenues.

Isolating the fiscal effects of a choice program to a single group of taxpayers, such as state taxpayers, would require more granular data and applying each individual state's school funding formula. Doing so for just one program would necessitate a significant undertaking. For this reason, the present report estimates the short run and long run fiscal effects of educational choice programs that accrue to state and local taxpayers combined. This approach is appropriate for a fiscal analysis of educational choice programs that is national in scope—and because taxpayers in each state pay both state and local taxes. The analysis that follows provides a fiscal picture for each program that is useful for examining the extent to which these programs generate net fiscal benefits or net costs overall.

Short run net fiscal effect (NFEs)

The analysis uses estimates of short-run variable costs to estimate the short-term net fiscal effect (NFE^S) of educational choice programs.

Formally, the net fiscal effect by a given program on the state budget is estimated by the following equation:

$$NFE^S = [R^S \times E \times s] — [C \times E] \quad (1)$$

where R^S denotes average school revenue per pupil retained by the state when a student leaves a district by participating in the choice program; E equals the total number of students in the choice program; s denotes the percent of program participants who are switchers; and C is the average cost per student to provide ESAs, vouchers, or tax credits. The last term (C x E) represents the total cost of a choice program. For tax-credit scholarship programs, the analysis uses tax credit disbursements, which can differ from the amount of scholarships awarded if the tax credit rate is not 100 percent or if a program allows SGOs to use a portion of donations for administrative costs. The term ($R^S \times E \times s$) represents the offset to these costs from students leaving the public school system and represents relief from the fiscal burden by state taxpayers supporting the education of these students in the public school system.

The net fiscal impact to local taxpayers and public schools (NFE^L) is:

$$NFE^L = [AVC \times E \times s] — [R^S \times E \times s] \quad (2)$$

where AVC denotes estimated short-run average variable cost per student in public schools and the other terms were defined previously. Note that we characterize R^S as a cost to public school districts and local taxpayers – it is the reduction in state revenue associated with students who leave a public school. R^S is determined by a state's school funding formula and can vary significantly by school district. Notice that

this term appears in equations (1) and (2). When a student leaves a public school via an educational choice program, that student simultaneously generates savings for the state and a reduction in state revenue for their school district.[25]

It follows from adding (1) and (2) that the combined net fiscal impact on state and local taxpayers (NFE) in the short run is:

$$NFE = NFE^S + NFE^L = [AVC \times E \times s] — [C \times E] \quad (3)$$

The term [R^S x E x s] from equations (1) and (2) cancels in equation (3). It simultaneously represents a savings for the state and a reduction in state revenue for public schools. Because each student who previously enrolled in private schools absent financial assistance is an additional cost to taxpayers, a greater migration of students from public schools into a choice program implies greater savings from the state's point of view and a greater reduction in state revenue that public schools receive, all else equal.[26]

Long run net fiscal effect (NFE*)

A fundamental economic and accounting principle holds that all costs are variable in the long run. To estimate the long run fiscal effect (NFE*) of educational choice programs, the analysis compares the total per-student cost of educating students in the public school system (denoted *TC*) with the public cost of supporting those students in educational choice programs.

$$NFE^* = [TC \times E \times s] — [C \times E] \quad (4)$$

Equation (4) says that the long run net fiscal effect (NFE*) is the total cost to educate students in the public school system minus the total cost of the choice program. As discussed in an earlier section, the economic concept of the long run time horizon, which applies to all organizations, including public K-12 education, describes the relationship time and the ability of organizations to reduce costs in response to changes in their workload (in this case, the ability of public schools to reduce costs when they have a new lower enrollment level). This estimate places an upper bound on estimates for the fiscal effects of choice programs whereas estimates from equation (3) represent a lower bound. A few years after the creation of

[25] These fiscal benefits for local taxpayers may or may not materialize as direct reductions in their tax bills. Local public school districts could choose to reduce taxes, but this is often not the case (Hines and Thaler, 1995). If school districts do not reduce local property taxes when costs for delivering education decrease, then school districts will end up with more resources for the (fewer) students remaining in its public schools.
James R. Hines and Richard H. Thaler (1995), The Flypaper Effect, *Journal of Economic Perspectives*, 9(4), pp. 217-226, https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.9.4.217

[26] Some states, such as Massachusetts and Pennsylvania, provide "hold harmless" funding intended to protect school districts against large fluctuations in school funding. Michelle J. Atherton and Meghan E. Rubado (2014), *Hold Harmless Education Finance Policies in the U.S.: A Survey*, Center on Regional Politics, Temple University, policy brief, December, retrieved from:
https://sites.temple.edu/corparchives/files/2019/08/HH-Policies-Policy-Brief.pdf
In the context of financing educational choice programs, "hold harmless" provisions will generate a fiscal cost for the state and a fiscal benefit for public schools when a shift in enrollment triggers this funding. This funding source is included in R^S and drops out of equation (3).

a new school choice program, when enrollment patterns become apparent and local public school district leaders have time to adjust, these long run estimates of savings may be realized.[27]

Estimating Short Run Variable Costs

To estimate variable costs, the analysis employs school finance data from the National Center for Education Statistics and uses the same accounting methods from Lueken (2018).[28] Variable cost estimates are based on three categorical expenditures: Instruction, Instructional Support Services, and Student Support Services. The fiscal analysis assumes that all other categorical expenditures are fixed (e.g. capital outlay, maintenance, debt service, school and district administration, transportation, food service, enterprise operations, and numerous other categorical expenditures, some of which may be variable or quasi-variable in the short run). Notably, this approach is more cautious than methods used by some economists, meaning that it will generally produce smaller estimates of savings.[29] In addition, the analysis below applies an adjustment to variable cost estimates for students with special needs, discussed in more detail below.

Switcher rates

A student who switches from a public school, only because they received a scholarship, will generate savings overall if the short run variable cost exceeds the program cost for that student. Students who are

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[27] Long run estimates, i.e., total public K-12 costs, reflect all costs such as capital and maintenance costs. There are at least two reasons that these savings could be achieved in the context of a choice program. First, students who leave public schools via choice programs would reduce need for school building expansions or creation of new school buildings. Second, choice programs may help avoid some private school closures, therefore avoiding a scenario where the public school system would need additional capital to absorb students from closed schools. Even if these scenarios do not play out in full with all programs, the long run fiscal effects will likely be close to the upper bound estimates.

[28] Martin F. Lueken (2018), The Fiscal Effects of Tax-Credit Scholarship Programs in the United States, *Journal of School Choice*, 12(2), pp.181–215, https://dx.doi.org/1 0.1080/15582159.2018.1447725

[29] Benjamin Scafidi generated statewide average short run fixed and variable cost estimates of public schools in each state. These estimates were based on the experiences of school districts in Georgia that had enrollment declines from one year to the next. He found that these districts were able to reduce expenditures in the following categories from one year to the next that was more than commensurate with their decrease in enrollment: instruction, instructional staff support, student support, enterprise operations, and food service. Variable cost estimates in the present analysis are lower than Scafidi's, who also includes costs for enterprise operations and food service in addition to the costs that comprise my variable cost estimates. Estimates are also below or within the range of what Bifulco and Reback estimate as variable costs for public schools in Albany and Buffalo, and below variable cost estimates used by DeAngelis and Trivitt for Louisiana school districts. Benjamin Scafidi, *The Fiscal Effects of School Choice Programs on Public School Districts* s, Friedman Foundation for Educational Choice, retrieved from EdChoice website: https://www.edchoice.org/research/the-fiscal-effects-of-school-choice-programs-on-publicschool-districts; Robert Bifulco and Randall Reback (2014), Fiscal Impacts of Charter Schools: Lessons from New York, *Education Finance and Policy* 9(1), pp. 86–107, http://dx.doi.org/10.1162/EDFP_a_00121; Corey A. DeAngelis and Julie R. Trivitt (2016). *Squeezing the Public School Districts: The Fiscal Effects of Eliminating the Louisiana Scholarship Program* (EDRE Working Paper 2016-10). Retrieved from University of Arkansas Department of Education Reform website: http://www.uaedreform.org/downloads/2016/08/squeezing-the-public-school-districts-the-fiscal-effects-of-eliminating-the-louisiana-scholarship-program.pdf

non-switchers (i.e. would have enrolled in a nonpublic school setting anyway even without a choice program in place) represent a fiscal cost equal to the program cost without any offset. As such, two main factors drive the estimates of the fiscal effects of educational choice programs:

1. The number of students who would have attended public schools without the financial assistance from the educational choice program (switchers), and

2. The education costs directly associated with the switching student that will no longer be spent by the school district (variable costs).

I contacted state government agencies and nonprofit organizations involved in the administration of these programs to request information pertaining to where students were enrolled prior to participating in the program. Some programs require all eligible students to have been enrolled in public schools during the previous year while some programs with public school prior-enrollment requirements allow exceptions to these rules. Examples of students exempt from public school prior-enrollment requirements may include kindergarten, students in foster care, and students from families whose parents are active duty military.

The appendix table summarizes public school prior-enrollment requirements and assumptions for switcher rates used in the analysis. For programs with public school prior-enrollment requirements for eligibility without any exceptions, the analysis assumes all students who use a voucher are switchers. For programs with exceptions to these rules, as discussed in the next paragraph, the analysis assumes 85 percent to 90 percent of exempt students are switchers, where the 85 percent adjustment is applied to non-special needs programs and 90 percent is used for special needs programs.[30]

For programs with no prior enrollment requirements or exceptions to these requirements and where prior enrollment data were not available, the analysis uses assumptions based on a survey of random assignment studies. Lueken (2020) analyzed information from random assignment studies of private school voucher programs to infer switcher rates.[31] Lower bound and upper bound weighted average switcher rate estimates were about 85 percent and 90 percent, respectively. The upper-bound estimates are based on students who enrolled in a public school after they applied for an oversubscribed program and lost the lottery. The lower bound estimates made statistical adjustments for potential bias from lottery winners who did not use the voucher (Costrell, 2008).[32] For programs where data for estimating switcher rates were not available, the analysis exercises caution by assuming an 85 percent switcher rate.

Break-even switcher rate

It is possible to estimate the overall break-even switcher rate (*BER*) by setting *NFE* in equation (3) to zero and solving for *s*. NFE equal to zero means that savings from the choice program balances its costs. In

[30] For some programs, participation data weren't available for certain groups such as students from military families and students in foster care. Given that these population are unique and likely to be very small, the analysis does not make an adjustment for these students potentially being non-switchers when data were unavailable. This treatment is unlikely to significantly affect the results.
[31] Lueken, Martin F. (2020). The Fiscal Impact of K-12 Educational Choice: Using Random Assignment Studies of Private School Choice Programs to Infer Student Switcher Rates, *Journal of School Choice*, published online at https://www.tandfonline.com/doi/abs/10.1080/15582159.2020.1735863.
[32] Robert M. Costrell (2008), The Fiscal Impact of the Milwaukee Parental Choice Program in Milwaukee and Wisconsin, 1993-2008 (Report #2, School Choice Demonstration Project), SCDP Milwaukee Evaluation, https://cpb-us-e1.wpmucdn.com/wordpressua.uark.edu/dist/9/544/files/2018/10/report-2-the-fiscal-impact-of-the-milwaukee-parental-choice-program-in-milwaukee-and-wisconsin-1993-2008-1tq6aii.pdf.

other words, the program is fiscally neutral. The BER statistic, therefore, conveys the percent of students participating in an educational choice program who must be switchers for the program to be fiscally neutral (i.e., the rate that balances the program's costs with savings).[33] By setting NFE equal to zero in (3), the break-even switcher rate is simply the ratio of the average cost of the program to the average variable cost per student:

$$BER = C / AVC$$

If the switcher rate is greater than *BER*, then the program will be fiscally beneficial. If it is less than *BER*, then the program results in a net cost. For example, if the average voucher amount is $10,000 and the average variable cost to educate a student in public schools is $15,000, the break-even switcher rate is 67 percent. If over two-thirds of students using the program switched from public schools then the program would save taxpayer money."

Students with Special Needs

Some educational choice programs are open exclusively to students with special needs. For special needs choice programs that do not have prior public school enrollment requirements, the present analysis applies another layer of caution by assuming that 90 percent of students participating in educational choice programs for students with special needs are switchers. Although it is possible that some students participating in some these programs would have enrolled in a non-public school setting without financial assistance from the program, this number is likely to be very small given their disadvantaged background and higher education costs. The present study's assumption of 90 percent is lower than other analyses which assumed that all students participating in special needs choice programs are switchers.[34] Given that 90 percent lies within the range of switcher rates observed in lottery-based studies of programs serving non-special needs student populations, this assumption is likely very cautious.

Educational choice programs that serve students with special needs presents a unique challenge to estimating their fiscal effects because, relative to the general student body, the costs for serving students with special needs can vary dramatically depending on the severity of their disabilities. Thus, the average variable cost per student for any group of students using special needs vouchers is unique to that group. While this amount will be higher than the overall statewide average variable cost for all students, it can also vary significantly among students with special needs.

To estimate average total per-pupil costs for students with special needs, the analysis applies a factor of 1.91 to the per-pupil current expenditures for all students in the public K–12 school system.[35] To estimate

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[33] From the state's perspective, the break-even switcher rate (BER^S) can be estimated by:

$$BER^S = C / R^S$$

[34] For instance: Martin F. Lueken (2018), The Fiscal Effects of Tax-Credit Scholarship Programs in the United States, *Journal of School Choice*, 12(2), pp. 181–215, https://dx.doi.org/10.1080/15582159.2018.1447725; Jeffrey Spalding (2014), *The School Voucher Audit: Do Publicly Funded Private School Choice Programs Save Money?* Friedman Foundation for Educational Choice, retrieved from EdChoice website: http://www.edchoice.org/wp-content/uploads/2015/07/The-School-VoucherAudit-Do-Publicly-Funded-Private-School-Choice-Programs-SaveMoney.pdf

[35] If the real costs to educate program participants in the public school system is higher than 1.91 times the per-pupil current expenditures for all students in the public K–12 school system, then the present analysis would underestimate any taxpayer savings. If the real cost is lower, then the analysis would overestimate savings.

per-pupil costs for children with autism or multiple disabilities, a factor of three is applied to the state's average per-pupil current expenditures.[36]

Variable costs will also be higher for special needs students than variable costs for students without special needs. The variable cost *rate* for students with special needs is likely higher than the variable cost rate for students without special needs, evidenced by staffing for special education.

The U.S. Department of Education reports state-level data about the number of children that receive, and total personnel that help provide, special education services under Part B of the Individuals with Disabilities Education Act (IDEA). Based on these data, the child-to-staff ratio for students with special needs in school year 2017–18 was 6.0— versus the overall ratio of 7.7 pupils per public school employee.[37] The lower students-to-personnel ratio for students with special needs is indicative of the resources required to provide an adequate education for this population of children and implies that students with special needs have 30 percent more personnel than the typical student in the public school system.

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[36] These factors are based on a study of educational costs for students with special needs, funded by the U.S. Department of Education. The study was mandated in the 1997 reauthorization of the Individuals with Disabilities Education Act (IDEA). For more information about the project, see American Institutes for Research, Center for Special Education Finance, The Special Education Expenditure Project, accessed July 31, 2018, retrieved from http://www.csef-air.org
For the fiscal analysis of the Ohio Autism Scholarship Program, a cost differential factor of three is used to estimate the reduction in variable costs associated with students with autism. This is based on part of the SEEP study which estimated separate cost differential factors by disability type. Education costs for students with autism were on average three times the cost of students without disabilities.
While this estimated cost may differ from the state's cost, it likely reflects the total cost for special education services for students with autism. The estimates used in the present analysis are somewhat lower than cost estimates for autistic children ages 6–17 reported by Buescher et al. (2014), who estimated that the average annual per capita cost of special education for children with autism in 2011 was £27,961 (British pounds-sterling). After converting to 2018 U.S. dollars, this cost becomes $49,944 per child.
Jay G. Chambers, Jamie Shkolnik, and Maria Perez (2003), *Total Expenditures for Students with Disabilities, 1999-2000: Spending Variation by Disability* [Special Education Expenditure Project (SEEP), Report 5]: retrieved from American Institutes for Research website: https://www.air.org/sites/default/files/SEEP5-Total-Expenditures.pdf.
Ariane V. S. Buescher, Zuleyha Cidav, Martin Knapp, and David S. Mandell (2014). Costs of Autism Spectrum Disorders in the United Kingdom and the United States. *JAMA Pediatrics*, 168(8):721–728, https://jamanetwork.com/journals/jamapediatrics/article-abstract/1879723.

[37] A total of about 6.9 million children ages 3–21 nationwide received services in FY 2018 under Part B of the IDEA from about 1.2 million personnel that included special education teachers and professionals, audiologists, counselors and rehabilitation counselors, interpreters, medical/nursing service staff, occupational therapists, orientation and mobility specialists, physical education teachers and recreation and therapeutic recreation specialists, physical therapists, psychologists, and social workers. Author's estimates based on data from the U.S. Department of Education, EDFacts Data Warehouse (EDW): "IDEA Part B Child Count and Educational Environments Collection," 2017-18, retrieved from https://www2.ed.gov/programs/osepidea/618-data/state-level-data-files/index.html
The overall pupil/staff ratio of 7.7 is based on data from U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency (School District) Universe Survey", 2017-18 v.1a; "State Nonfiscal Public Elementary/Secondary Education Survey", 2017-18 v.1a.

To estimate variable costs for students with special needs, the analysis adjusts the overall variable cost rate upwards by 30 percent. For example, if 60 percent of total costs are variable in the short run for a state's public school system, the present analysis assumes that short run variable costs for special education is 78 percent (1.3 x 60 percent = 78 percent). This rate is then applied to the total per-student costs to derive an estimate for per-student short run variable costs.

Students who participate in educational choice programs represent a diverse group of children with significantly varying needs for instructional and related services. One limitation of the analysis is its reliance on state averages to estimate educational costs. It follows that if the distribution of disabilities of students with special needs participating in an educational choice program skews toward more severe disabilities, then savings may be underestimated. Conversely, if the group of students using special needs vouchers are on average less disabled than the statewide distribution, then savings may be overestimated.

Overall Results

Table 2 summarizes the lower bound and upper bound estimates of the fiscal effects of the 40 educational choice programs studied. Lower bound estimates indicate that through FY 2018, the 40 private educational choice programs under study generated at least $12.1 billion ($3,200 per student) in cumulative net fiscal benefits for state and local taxpayers. Put another way, each dollar spent on educational choice programs generated at least $1.79 in net fiscal benefits. On average, at least 56 percent of students would need to be switchers for programs to produce net fiscal savings.

Upper bound estimates suggest that educational choice programs that have been in operation through FY 2018 generated up to $27.8 billion in cumulative net fiscal benefits for state and local taxpayers (or up to $7,400 per student). For each dollar spent on choice programs, up to $2.81 in fiscal benefits accrued to state and local taxpayers. On average, at least 36 percent of students would need to be switchers for programs to generate net savings.

Programs vary considerably by design. Eligibility requirements, how states fund these programs, and accountability requirements that affect decisions by private schools and education service providers about whether to participate in these programs impact fiscal outcomes. Thus, it is not surprising that the fiscal effects from educational choice programs differ across states.

Lower bound estimates for four programs suggest estimated net cumulative costs in the short run. Three of these programs (Alabama's program, Arizona's ESA program, and Wisconsin's statewide voucher program), however, have also been in operation for at least 5 years, respectively, suggesting that the actual fiscal effects are actually closer to the upper bound estimates.[38]

[38] In the first year of Alabama's tax-credit scholarship program, the state disbursed more than $24 million in tax credits for contributions to SGOs by taxpayers. At the same time, only 20 students signed up for the program. Such an enormous imbalance is unusual for tax-credit scholarship programs and has not smoothed out yet over subsequent years of Alabama's program.

Table 2: Summary of Cumulative Savings (Cost) for 40 Private Educational Choice Programs through FY 2018

						Lower Bound (Short Run) Fiscal Effects				Upper Bound (Long Run) Fiscal Effects			
Program Name	State	Program Type	Started	Years in operation through FY 2018	Total scholarship distributions since program's inception	Short Run Cumulative Savings from Inception though FY 2018	Short Run Cumulative Savings Per Student from Inception though FY 2018	Short Run Savings For Each Dollar Spent	Short Run Break-Even Switcher Rate	Long Run Cumulative Savings from Inception though FY 2018	Long Run Cumulative Savings Per Student from Inception though FY 2018	Long Run Savings For Each Dollar Spent	Long Run Overall Break-Even Switcher Rate
Empowerment Scholarship Accounts§	AZ	ESA	2011-12	7	13,693	($13,704,620)	($1,001)	$0.92	n/a	$41,146,197	$3,005	$1.25	75%
Gardiner Scholarships*†	FL	ESA	2014-15	4	24,680	$87,002,637	$3,525	$1.36	66%	$146,787,331	$5,948	$1.60	56%
Equal Opportunity for Students with Special Needs Program*†	MS	ESA	2015-16	3	881	$5,602,351	$6,359	$2.16	42%	$8,551,487	$9,707	$2.77	32%
Opportunity Scholarship Program†	DC	V	2004-05	14	21,025	$54,630,046	$2,598	$1.31	67%	$292,724,815	$13,923	$2.68	33%
John M. McKay Scholarships for Students with Disabilities Program*§	FL	V	1999-00	19	367,112	$2,388,536,792	$6,506	$1.98	51%	$3,531,098,791	$9,619	$2.45	41%
Georgia Special Needs Scholarship Program*	GA	V	2007-08	11	33,480	$310,763,396	$9,282	$2.55	39%	$418,085,143	$12,488	$3.09	32%
Choice Scholarship Program‡	IN	V	2011-12	7	164,450	$287,836,402	$1,750	$1.43	63%	$1,016,748,740	$6,183	$2.52	36%
Louisiana Scholarship Program†	LA	V	2008-09	10	45,081	$52,474,369	$1,164	$1.21	73%	$249,151,491	$5,527	$2.01	45%
School Choice Program for Certain Students with Exceptionalities*†	LA	V	2011-12	7	2,015	$25,458,212	$12,634	$6.66	14%	$33,985,278	$16,866	$8.56	11%
Mississippi Dyslexia Therapy Scholarship for Students with Dyslexia Program*	MS	V	2012-13	6	747	$6,054,765	$8,105	$2.68	37%	$8,777,074	$11,750	$3.43	29%
Special Education Scholarship Grants for Children with Disabilities*§	NC	V	2013-14	5	4,080	$30,547,305	$7,487	$2.28	43%	$44,810,086	$10,983	$2.88	34%
Opportunity Scholarships†§	NC	V	2014-15	4	17,893	$43,564,185	$2,435	$1.64	58%	$109,487,078	$6,119	$2.62	37%
Cleveland Scholarship Program‡	OH	V	1996-97	22	111,546	$445,142,569	$3,991	$2.32	34%	$1,049,620,723	$9,410	$4.10	19%
Autism Scholarship*†	OH	V	2004-05	14	28,030	$142,462,598	$5,083	$1.27	71%	$344,813,352	$12,302	$1.64	58%
Educational Choice Scholarship Program†§	OH	V	2006-07	12	178,027	$692,024,359	$3,887	$1.92	52%	$1,693,820,543	$9,514	$3.24	31%
Jon Peterson Special Needs Scholarship Program*	OH	V	2012-13	6	22,059	$194,572,777	$8,821	$1.94	52%	$311,432,413	$14,118	$2.50	40%
Income-Based Scholarship Program†	OH	V	2013-14	5	27,344	$97,339,674	$3,560	$1.89	45%	$235,802,821	$8,624	$3.16	27%
Lindsey Nicole Henry Scholarships for Students with Disabilities*	OK	V	2010-11	8	2,676	$12,643,730	$4,725	$1.68	60%	$22,123,415	$8,267	$2.18	46%
Carson Smith Special Needs Scholarship*†	UT	V	2005-06	13	8,550	$31,688,365	$3,706	$1.76	51%	$55,009,394	$6,434	$2.32	39%
Milwaukee Parental Choice†	WI	V	1990-91	28	338,888	$376,443,804	$1,111	$1.17	77%	$2,061,291,407	$6,083	$1.94	45%
Parental Private School Choice Program (Racine)†§	WI	V	2011-12	7	8,012	$10,256,795	$1,280	$1.18	80%	$55,476,387	$6,924	$1.97	48%
Parental Choice Program (Statewide)†	WI	V	2013-14	5	11,312	($5,251,690)	($464)	$0.94	91%	$49,832,909	$4,405	$1.59	54%
Education Scholarship Program‡	AL	TCS	2012-13	6	18,561	($24,103,806)	($1,299)	$0.79	n/a	$39,480,889	$2,127	$1.34	60%
Original Individual Income Tax Credit Scholarship Program†	AZ	TCS	1997-98	21	435,521	$878,856,528	$2,018	$1.96	43%	$2,130,625,946	$4,892	$3.32	26%
Low-Income Corporate Income Tax Credit Scholarship Program†§	AZ	TCS	2005-06	13	129,369	$204,824,882	$1,583	$1.55	55%	$596,464,824	$4,611	$2.13	33%
Lexie's Law for Disabled and Displaced Students Tax Credit Scholarship Program*†	AZ	TCS	2008-09	10	5,081	$23,590,080	$4,643	$1.81	50%	$39,029,285	$7,681	$2.33	39%
"Switcher" Individual Income Tax Credit Scholarship Program†§	AZ	TCS	2011-12	7	75,439	$132,790,449	$1,760	$1.65	51%	$361,772,618	$4,796	$2.78	31%
Florida Tax Credit Scholarship Program‡	FL	TCS	2002-03	16	687,260	$329,407,043	$479	$1.10	79%	$2,510,903,760	$3,653	$1.72	50%
Qualified Education Expense Tax Credit†§	GA	TCS	2008-09	10	105,570	$294,744,977	$2,792	$1.71	56%	$696,131,097	$6,594	$2.69	36%
School Scholarship Tax Credit†	IN	TCS	2009-10	9	57,196	$267,059,664	$4,669	$6.62	13%	$506,118,892	$8,849	$11.65	7%
School Tuition Organization Tax Credit†	IA	TCS	2006-07	12	121,583	$656,782,961	$5,402	$6.79	13%	$1,188,724,016	$9,777	$11.48	7%
Tax Credit for Low Income Students Scholarship Program	KS	TCS	2015-16	3	620	($1,607,429)	($2,593)	$0.75	n/a	$1,872,854	$3,021	$1.29	77%
Tuition Donation Rebate Program‡	LA	TCS	2013-14	5	4,450	$19,778,625	$4,445	$2.93	30%	$39,522,481	$8,881	$4.85	18%
Education Tax Credit Program‡	NH	TCS	2012-13	6	1,194	$9,179,326	$7,688	$3.43	27%	$15,210,097	$12,739	$5.03	18%
Equal Opportunity Education Scholarships†	OK	TCS	2012-13	6	6,253	$12,453,486	$1,992	$1.77	48%	$32,578,556	$5,210	$3.02	28%
Educational Improvement Tax Credit Program†	PA	TCS	2001-02	17	580,414	$3,712,375,976	$6,396	$6.03	14%	$7,230,839,092	$12,458	$10.80	8%
Opportunity Scholarship Tax Credit Program†	PA	TCS	2012-13	6	64,295	$390,782,812	$6,078	$2.82	30%	$827,345,903	$12,868	$4.86	17%
Tax Credits for Contributions to Scholarship Organizations†	RI	TCS	2006-07	12	4,858	$33,535,500	$6,903	$3.33	25%	$54,019,290	$11,120	$4.76	18%
Educational Credit for Exceptional Needs Children*†	SC	TCS	2013-14	5	7,935	$62,073,008	$7,823	$2.46	37%	$99,843,294	$12,583	$3.34	27%
Education Improvement Scholarships Tax Credits Program†§	VA	TCS	2012-13	6	12,085	$77,873,780	$6,444	$4.49	22%	$131,596,063	$10,889	$6.90	14%
All Programs					**3,749,265**	**$12,356,486,685**	**$3,296**	**$1.81**	**50%**	**$28,282,655,830**	**$7,544**	**$2.85**	**32%**

ESA = Education Savings Account, V = Voucher, TCS = Tax-Credit Scholarship
* Program serves students with special needs exclusively
† Analysis for this program used data from random assignment studies of educational choice programs to calculate or inform assumptions about switcher rates
‡ Analysis for this program calculated switcher rate based on data publicly reported or directly obtained from administrative agency
§ Analysis applies adjustment for potential non-switchers who are exempt from public school prior enrollment requirements

Kansas's tax-credit scholarship program, which was in operation for 3 years through FY 2018, generated an estimated small net cost for taxpayers through FY 2018. Upper bound estimates, however, suggest that the program will generate savings for Kansas taxpayers the longer the program operates.[39] A separate analysis of the program suggests that some programs may need more than 3 years to generate positive returns.[40] Using school finance data from the Kansas Department of Education and similar methodology as the present paper, short-run fiscal effects estimates indicate that the program broke even by Year 4 and generated cumulative short-run net fiscal savings for taxpayers by Year 5 worth $1.7 million, or $1,150 per scholarship student.

Notably, Arizona's ESA program and Wisconsin's statewide program operate in states with multiple educational choice programs (the analysis includes 5 programs in Arizona and 3 in Wisconsin).[41] Within each of these states, lower bound estimates indicate that the combined net cumulative fiscal effects of all programs operating are positive, suggesting that education choice programs overall are generating net savings for taxpayers even in the short run.

Table 3 reports fiscal effects estimates by state, where 11 of the 20 states in the study operate multiple educational choice programs. Educational choice programs overall generated cumulative fiscal benefits for 18 of the 20 states in the study. Alabama and Kansas, where each has one tax-credit scholarship program, incurred small cumulative net costs overall in the short run from their programs through FY 2018.

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[39] In the first three years of Kansas's program (through 2018), almost $2.2 million in scholarships were awarded to 620 students while the state disbursed $6.4 million in tax credits for $9.2 million in taxpayer donations to SGOs. Thus, participation in the program during this period has been low relative to many other programs while scholarship donations were frontloaded, leading to the program generating a cumulative net fiscal cost for taxpayers over this period.

[40] Martin Lueken (2021), "The Fiscal Effects of the Kansas Tax Credit for Low Income Students," Kansas Policy Institute, March 1, https://kansaspolicy.org/the-fiscal-effects-of-the-kansas-tax-credit-for-low-income-students-scholarship-program/.

[41] Wisconsin's statewide voucher program has a short-run break-even switcher rate of 91% overall. This rate is significantly higher than most programs and reflects the average per-pupil cost of school vouchers being close to the overall short-run variable cost per student for public schools. The assumed switcher rate for this program (85%) is lower than the break-even switcher rate and therefore indicates short-run costs for the program. In the long run, the program generates savings for state and local taxpayers.

For Arizona's ESA program, I obtained data on the distribution of special needs students' disabilities for FY 2016 and FY 2018. This information allows me to generate more precise estimates for the educational costs for this group of students. For years with missing data, the analysis uses FY 2016 weights for FY 2012-2015, and FY 2018 weights for FY 2017. It's likely that the percentages of students with and without disabilities, and the distribution of students' disabilities, were different during missing years than assumed. If ESA students during years with missing data had a higher percentage of students with special needs than assumed, and if those students skewed towards having more-severe disabilities than assumed, then the savings would be underestimated. If ESA students during years with missing data had a lower percentage of students with special needs, and if those students skewed towards having less-severe disabilities than assumed, then the savings would be overestimated. This approach is cautious because only students with special needs were eligible for the program in the first two years, and the percentages of ESA students with special needs during FY 2014 and 2015 were likely higher than in FY 2016.

Table 3: Summary of Cumulative Savings (Cost) for 40 Educational Choice Programs through FY 2018, By State

		Lower Bound (Short Run) Fiscal Effects			Upper Bound (Long Run) Fiscal Effects		
Program Name	Total scholarship distributions since program's inception	Short Run Cumulative Savings from Inception though 2017-18	Short Run Cumulative Savings Per Student from Inception though 2017-18	Short Run Savings For Each Dollar Spent	Long Run Cumulative Savings from Inception though 2017-18	Long Run Cumulative Savings Per Student from Inception though 2017-18	Long Run Savings For Each Dollar Spent
Alabama	18,561	($24,103,806)	($1,299)	$0.79	$39,480,889	$2,127	$1.34
Arizona	659,103	$1,226,357,318	$1,861	$1.73	$3,169,038,870	$4,808	$2.88
District of Columbia	21,025	$54,630,046	$2,598	$1.31	$292,724,815	$13,923	$2.68
Florida	1,079,052	$2,804,946,472	$2,599	$1.46	$6,188,789,882	$5,735	$2.01
Georgia	139,050	$605,508,373	$4,355	$1.99	$1,114,216,241	$8,013	$2.82
Indiana	221,646	$554,896,066	$2,504	$1.77	$1,522,867,632	$6,871	$3.12
Iowa	121,583	$656,782,961	$5,402	$6.79	$1,188,724,016	$9,777	$11.48
Kansas	620	($1,607,429)	($2,593)	$0.75	$1,872,854	$3,021	$1.29
Louisiana	51,546	$97,711,206	$1,896	$1.37	$322,659,250	$6,260	$2.23
Mississippi	1,628	$11,657,116	$7,160	$2.38	$17,328,561	$10,644	$3.05
New Hampshire	1,194	$9,179,326	$7,688	$3.43	$15,210,097	$12,739	$5.03
North Carolina	21,973	$74,111,490	$3,373	$1.81	$154,297,163	$7,022	$2.69
Ohio	367,006	$1,571,541,977	$4,282	$1.81	$3,635,489,851	$9,906	$2.87
Oklahoma	8,929	$25,097,216	$2,811	$1.72	$54,701,971	$6,126	$2.57
Pennsylvania	644,709	$4,103,158,789	$6,364	$5.31	$8,058,184,995	$12,499	$9.46
Rhode Island	4,858	$33,535,500	$6,903	$3.33	$54,019,290	$11,120	$4.76
South Carolina	7,935	$62,073,008	$7,823	$2.46	$99,843,294	$12,583	$3.34
Utah	8,550	$31,688,365	$3,706	$1.76	$55,009,394	$6,434	$2.32
Virginia	12,085	$77,873,780	$6,444	$4.49	$131,596,063	$10,889	$6.90
Wisconsin	358,212	$381,448,909	$1,065	$1.16	$2,166,600,702	$6,048	$1.93
All Programs	**3,749,265**	**$12,356,486,685**	**$3,296**	**$1.81**	**$28,282,655,830**	**$7,544**	**$2.85**

Discussion

How the fiscal effects of education choice programs are distributed across different taxpayers and school districts is a complex question and beyond the scope of this analysis.[42] In a world where every public dollar follows all children to his or her educational setting of their family's choosing, an educational choice program will be fiscally neutral for public schools and taxpayers in the long run overall. In reality, however, most public school systems allow districts to retain some funding for students they no longer educate, and all students using educational choice programs receive less funding than they would've gotten in their residentially assigned public school. Because the public cost per student of educational choice programs is set significantly below the per-student cost of states' public school systems, the programs will generate net fiscal benefits overall when students choose to switch from public schools into the program.

[42] The analysis does not isolate the fiscal impact on state taxpayers – such an analysis would require incorporating each state's school funding formula, a Herculean task for an analysis that is national in scope. Education choice programs interact with state funding formulas in highly complex ways, and the fiscal impact of switchers can vary significantly across districts because the impact on revenue can vary significantly.

While this paper focuses on the direct fiscal effects of choice program on taxpayers, there may be potential indirect fiscal effects as well. Some research suggests that choice programs lead to reductions in crime and teen pregnancy (DeAngelis & Wolf, 2019) and reductions in adolescent suicide rates and mental health issues as adults (DeAngeslis & Dills, 2020).[43] Thus, estimates reported in this paper may understate the total fiscal savings for taxpayers given these social benefits. In addition, choice programs may be keeping some private schools open. To the extent that some private schools would close without choice programs, many of those students (who are mostly private pay) would likely migrate to the public schools—at a significant taxpayer cost. In addition, students who participate in choice programs and students who remain in public schools also accrue benefits such as improvements in academic achievement, gains in learning, improved civic outcomes.[44] The present analysis would not capture these savings to taxpayers.

Conclusion

The information contained in this report provides information to help understand whether educational choice programs have positive, negative, or neutral fiscal effects on state and local taxpayers. Of course, taxpayers in each state pay both state and local taxes.

This study uses short-run and long-run variable cost formulas to generate lower bound and upper bound estimates of the fiscal effects of educational choice program on taxpayers through FY 2018. Overall, education choice programs generated an estimated net fiscal savings for taxpayers between $12.4 billion and $28.3 billion through FY 2018 (or between $3,200 and $7,400 per student participant). For each dollar spent on school choice, these programs generated between $1.80 and $2.80 in fiscal benefits.

The results from this fiscal analysis are not surprising given that educational choice programs are funded at a significantly lower public expense than public school systems. Overall, students participating in educational choice programs comprise 2.3 percent of publicly funded K-12 students but represent just 1.0 percent of total public spending. These basic facts provide important background for evaluating claims that private educational choice programs will harm the resource levels for students who remain in district schools.

Given this context, it may be difficult to see how expanding educational opportunities for families via educational choice programs could possibly harm public school systems fiscally. To be sure, many studies have examined educational choice programs' effects on students enrolling in nearby public

[43] Corey A. DeAngelis and Patrick J. Wolf (2019), Private School Choice and Crime: Evidence from Milwaukee, *Social Science Quarterly*, 100(6), pp. 2302–2315, https://doi.org/10.1111/ssqu.12698; Corey DeAngelis and Angela K. Dills (2020), The effects of school choice on mental health, *School Effectiveness and School Improvement*, published online December 3, 2020, https://doi.org/10.1080/09243453.2020.1846569

[44] M. Danish Shakeel, Kaitlin P. Anderson, and Patrick J. Wolf (2016). *The Participant Effects of Private School Vouchers across the Globe: A Meta-Analytic and Systematic Review* (EDRE Working Paper 2016-07), https://dx.doi.org/10.2139/ssrn.2777633; Leesa M. Foreman (2017), Educational Attainment Effects of Public and Private School Choice, *Journal of School Choice*, 11(4), pp. 642–654, https://dx.doi.org/10.1080/15582159.2017.1395619; Dennis Epple, Richard E. Romano, and Miguel Urquiola (2017), School Vouchers: A Survey of the Economics Literature, *Journal of Economic Literature*, 55(2), p. 441, https://dx.doi.org/10.1257/jel.20150679; Corey A. DeAngelis (2017), Do Self-Interested Schooling Selections Improve Society? A Review of the Evidence, *Journal of School Choice*, 11(4), pp. 546–558, https://dx.doi.org/10.1080/15582159.2017.1395615

schools. Nearly all find that students who remain in district schools experience modest and positive gains in learning. Contrary to claims that students in district schools are harmed by increasing educational choice, the evidence suggests otherwise.

Appendix Table: Summary of prior public school enrollment requirements and switcher rates used for fiscal analysis

Program	Type	Special Needs	Prior public school enrollment requirement?	Exemptions from public school prior enrollment requirements	Switcher Rates	Source Used to Inform Switcher Rates
Arizona's Empowerment Scholarship Accounts*	ESA		Yes, with exemptions	entering kindergarten, foster care, resides on Native American reservation, from active duty military families	85% of exempt students	RCT
Florida's Gardiner Scholarships†	ESA	X	None	n/a	90% of all students	RCT
Mississippi's Equal Opportunity for Students with Special Needs Program†	ESA	X	None	n/a	90% of all students	RCT
D.C.'s Opportunity Scholarship Program†	V		None	n/a	varies by year	RCT
Florida's John M. McKay Scholarships for Students with Disabilities Program*	V	X	Yes, with exemptions	none prior to FY 2018; from FY 2018, kindergarten students who received specialized services in PK	100% up to FY 2017, 90% of exempt students from FY 2018	RCT, data from govt. agency
Georgia Special Needs Scholarship Program	V	X	Yes	none	100% of all students	n/a
Indiana's Choice Scholarship Program‡	V		Yes, with exemptions	numerous pathways	varies by year	Estimates reported by other researchers
Louisiana Scholarship Program†	V		Yes, with exemptions	entering kindergarten	varies by year	RCT
Louisiana's School Choice Program for Certain Students with Exceptionalities†	V	X	None	n/a	90% of all students	RCT
Mississippi's Dyslexia Therapy Scholarship for Students with Dyslexia Program	V	X	Yes, with exemptions	state-approved private school that emphasizes dyslexia intervention	100% of all students	data not available
North Carolina's Special Education Scholarship Grants for Children with Disabilities*	V	X	Yes, with exemptions	received special services in PK, K, G1, military	90% of exempt students	RCT
North Carolina's Opportunity Scholarships†*	V		Yes, with exemptions	K, G1, foster, military, adopted	85% of exempt students	RCT, data from govt. agency
Ohio's Cleveland Scholarship Program‡	V		None	n/a	varies by year	data from govt. agency
Ohio's Autism Scholarship†	V	X	None	n/a	90% of all students	RCT
Ohio's Educational Choice Scholarship Program†*	V		Yes, with exemptions	enrolled in private school and entering HS but would o/w attend D/F school; enrolled in K-12 for first time and would be assigned to qualifying school	85% of exempt students	RCT, data from govt. agency
Ohio's Jon Peterson Special Needs Scholarship Program	V	X	Yes	none	100% of all students	n/a
Ohio's Income-Based Scholarship Program†	V		None	n/a	85% of all students	RCT
Oklahoma's Lindsey Nicole Henry Scholarships for Students with Disabilities	V	X	Yes, with exemptions	military, adopted, out-of-home placement	100% of all students	data not available
Utah's Carson Smith Special Needs Scholarship†	V	X	None	n/a	90% of all students	RCT
Wisconsin's Milwaukee Parental Choice†	V		None	n/a	90% of all students	Costrell (2010), RCT
Wisconsin's Parental Private School Choice Program (Racine)†*	V		Yes, with exemptions	not enrolled in a school previous year, K, G1, G9	85% of exempt students	RCT, data from govt. agency
Wisconsin's Parental Choice Program (Statewide)†	V		None	n/a	85% of all students	RCT
Alabama's Education Scholarship Program‡	S		Yes, with exemptions	attending school in failing district	varies by year	data from govt. agency
Arizona's Original Individual Income Tax Credit Scholarship Program†	S		None	n/a	85% of all students	RCT
Arizona's Low-Income Corporate Income Tax Credit Scholarship Program†*	S		Yes, with exemptions	Kindergarten, SwD, military dependent	85% of all students	RCT
Arizona's Lexie's Law for Disabled and Displaced Students Tax Credit Scholarship Program†	S	X	None	n/a	90% of all students	RCT
Arizona's "Switcher" Individual Income Tax Credit Scholarship Program†*	S		Yes, with exemptions	Kindergarten, PK SwD, military dependent	85% of all students	RCT
Florida Tax Credit Scholarship Program‡	S		None	n/a	varies by year	data from administrative agency
Georgia's Qualified Education Expense Tax Credit†*	S		Yes, with exemptions	PK, K, G1	85% of exempt students	RCT
Indiana's School Scholarship Tax Credit†	S		None	n/a	85% of all students	RCT
Iowa's School Tuition Organization Tax Credit†	S		None	n/a	85% of all students	RCT
Kansas's Low Income Students Scholarship	S		Yes	none	100% of all students	n/a
Louisiana's Tuition Donation Rebate Program‡	S		Yes, with exemptions	Kindergarten and participated in in LSP in prior year	varies by year	data from govt. agency
New Hampshire's Education Tax Credit Program‡	S		None	In 2019-20, program will require 40% switchers	varies by year	data from govt. agency
Oklahoma's Equal Opportunity Education Scholarships†	S		None	n/a	85% of all students	RCT
Pennsylvania's Educational Improvement Tax Credit Program†	S		None	n/a	85% of all students	RCT
Pennsylvania's Opportunity Scholarship Tax Credit Program†	S		None	n/a	85% of all students	RCT
Rhode Island's Tax Credits for Contributions to Scholarship Organizations†	S		None	n/a	85% of all students	RCT
South Carolina's Educational Credit for Exceptional Needs Children†	S	X	None	n/a	90% of all students	RCT
Virginia's Education Improvement Scholarships Tax Credits Program†*	S		Yes, with exemptions	Kindergarten, G1, PK at-risk 4-year olds	85% of exempt students	RCT

ESA - Education Savings Account Program, V - Voucher Program, S - Tax-Credit Scholarship Program
* Analysis applies adjustment for potential non-switchers who are exempt from public school prior enrollment requirements
† Analysis for this program used data from random assignment studies of educational choice programs to calculate or inform assumptions about switcher rates
‡ Analysis for this program calculated switcher rate based on data publicly reported or directly obtained from administrative agency

Notes: For programs that do not have exemptions to prior public enrollment requirements, the analysis assumes all students are switchers. Participation data were usually not available for certain groups of students such as students from active duty-military families, students in foster care, and adopted students. For cases where these data are unavailable, the analysis assumes all these students are switchers. For programs that allow exemptions to prior public enrollment requirements for certain grade level students, the analysis assumes a uniform distribution of students across grades when grade-level enrollment data were not available.

Appendix Table 2: Summary of Cumulative Savings (Cost) for 40 Private Educational Choice Programs through FY 2018, By Years in Operation

Years in Operation	Number of Programs	Number of Students	Short Run Cumulative Savings from Inception though FY 2018	Short Run Cumulative Savings Per Student from Inception though FY 2018	Long Run Cumulative Savings from Inception though FY 2018	Long Run Cumulative Savings Per Student from Inception though FY 2018
3-5 years	9	99,195	$339,048,667	$3,418	$736,510,339	$7,425
6-9 years	14	448,675	$1,389,153,773	$3,096	$3,403,792,522	$7,586
10+ years	17	3,201,394	$10,628,284,245	$3,320	$24,142,352,969	$7,541

Appendix Table 3: Summary of Cumulative Savings (Cost) for 40 Private Educational Choice Programs through FY 2018, By Program Type

Program Type	Number of Programs	Number of Students	Short Run Cumulative Savings from Inception though FY 2018	Short Run Cumulative Savings Per Student from Inception though FY 2018	Long Run Cumulative Savings from Inception though FY 2018	Long Run Cumulative Savings Per Student from Inception though FY 2018
ESA	3	39,254	$78,900,368	$2,010	$196,485,016	$5,005
Voucher	19	1,392,327	$5,197,188,453	$3,733	$11,584,091,858	$8,320
Tax-Credit Scholarship	18	2,317,684	$7,080,397,864	$3,055	$16,502,078,956	$7,120

About the Author(s)

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