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How vouchers harm public schools

Calculating the cost of voucher programs to public school districts

Report • By Hilary Wething • December 19, 2024

Overview

What this report is about

Voucher programs for schools are rapidly expanding across the country. Under these programs, public budgets provide funding to parents to either send their children to private school or homeschool them.

These programs' growing popularity raises the question of whether letting public money leave the public school system and subsidize private forms of schooling is a way to improve children's access to an excellent education. EPI's analysis shows that vouchers harm public schools.

To illustrate the damage, EPI has developed a tool that estimates fiscal externalities—the dollar costs to school districts from students leaving public schools with a voucher. An externality produces an outcome for those who aren't responsible for the decision at hand. In this case, the fiscal externality is the negative effect that voucher programs will have on public school systems: Voucher programs redirect money away from traditional public schools.

Users of the tool can try out different scenarios to see how much money students will lose out on. The fiscal externality helps to put a number to the reality that children who don't participate in voucher programs will still bear the cost for educational choices that others make. The fiscal externality does not quantify the entire cost of voucher programs. It represents a piece of those costs, but an important, and often hidden, cost.

Some factors affecting the impact of voucher programs on public schools

- How many children will go to private schools or be homeschooled in a given year?
- How quickly will enrollment numbers in public schools fall?
- How many of the school district's costs are fixed and can't be changed in response to lower enrollment numbers? (For example, heating and cooling costs for school buildings will remain the same regardless of enrollment.)
- How many of the school district's costs are variable and can be changed in response to the drop in enrollment numbers?

Summary

Universal voucher programs for schools are rapidly expanding across the country. Under these programs, states give parents stipends to either homeschool their children or send them to private school.

The growing popularity of vouchers raises a host of crucial questions and concerns. Key to informing the debate are questions of public finance and education quality. Is allowing public money to leave the public school system and follow kids to private schools the most effective or equitable way to make sure every child has access to an excellent education? Our view is that it's not. Public dollars allocated to education should go to boosting spending in public systems, not subsidizing private education.

Proponents of vouchers try to claim that expanding them would not harm public resources for education. Their argument hinges on the fact that public school spending is generally determined by governments setting a per-pupil allocation and then multiplying this allocation by projected enrollment. This funding model allows voucher proponents to claim that if vouchers pull children out of public schools, it still leaves per-pupil spending untouched, even though vouchers might reduce overall spending. In effect, proponents are arguing that vouchers would not degrade public schools' ability to provide educational services.

But there are many flaws in this argument. Most obviously, introducing any new demand on public expenditures will lead to some pressure throughout public budgets—including school budgets—even if it does not immediately come directly from public school allocations. Many vouchers end up going to students who have never been in public schools, so funding these students' private school expenses introduces new pressures on public budgets.

This report focuses on another often underrecognized, but extremely important, source of stress that voucher programs can impose on the ability to provide an excellent public education for all. This is the fiscal externality imposed on school districts, students, and their families when declines in student enrollment numbers intersect with the fixed nature of many school costs. An externality produces an outcome for those who, otherwise, aren't responsible for the decision at hand. In this case, the fiscal externality is the negative effect that voucher programs will have on public school systems that will now receive less money from the government.

The key contribution of this report is the introduction of a calculator for policymakers, researchers, and advocates to assess the quantitative impact of this fiscal externality for every school district in the country. In what follows, we walk through the general nature of the fiscal externality and then explain how it is operationalized in our tool.

We offer an example in Ohio, a state with one of the oldest active voucher programs in the

country and where vouchers have grown substantially. We calculate the fiscal externality for a 5% decline in enrollment for the Cleveland Metropolitan School District, which has its own voucher program that works in conjunction with several state voucher programs.[1] The results show that Cleveland public school students stand to lose between $364–$927 per pupil in education spending, which adds up to $12–$31 million in a total fiscal externality.

Background on vouchers

As a policy tool, school vouchers have a long and questionable history. Following the *Brown v. Board of Education* ruling in 1954, several Southern states used vouchers as a tool to undermine school integration efforts, with states offering voucher programs to enable parents of white children to afford segregated private schools (Ford, Johnson, and Partelow 2017). Starting in the 1990s, states have enacted "modern" voucher programs with the claim of supporting students with special needs or students in low-income districts, offering a small number of these students pathways to private school. The number of students using vouchers stood at just 11,000 in 2000 but has increased to over 600,000 in 2021 (Welner, Orfield, and Huerta 2023).

More recently, legislation has broadened the applicant pool for vouchers by creating universal programs in which any student can use public funds to pay for private education. Eight states have enacted universal voucher legislation in the past three years, bringing the total number of states with universal voucher programs to 11 (EdChoice 2024).

Figure A shows the 31 states with voucher programs and highlights the 11 states with universal programs. A program is considered universal when nearly all students are eligible for the benefit. Voucher programs are dominant in the Southeastern and Midwestern parts of the country, places that are also less likely to have robust public education budgets in the first place.

Voucher programs are passing at record rates across the U.S.

Legend:
- Universal (11)
- Limited (20 + DC)
- None (19)
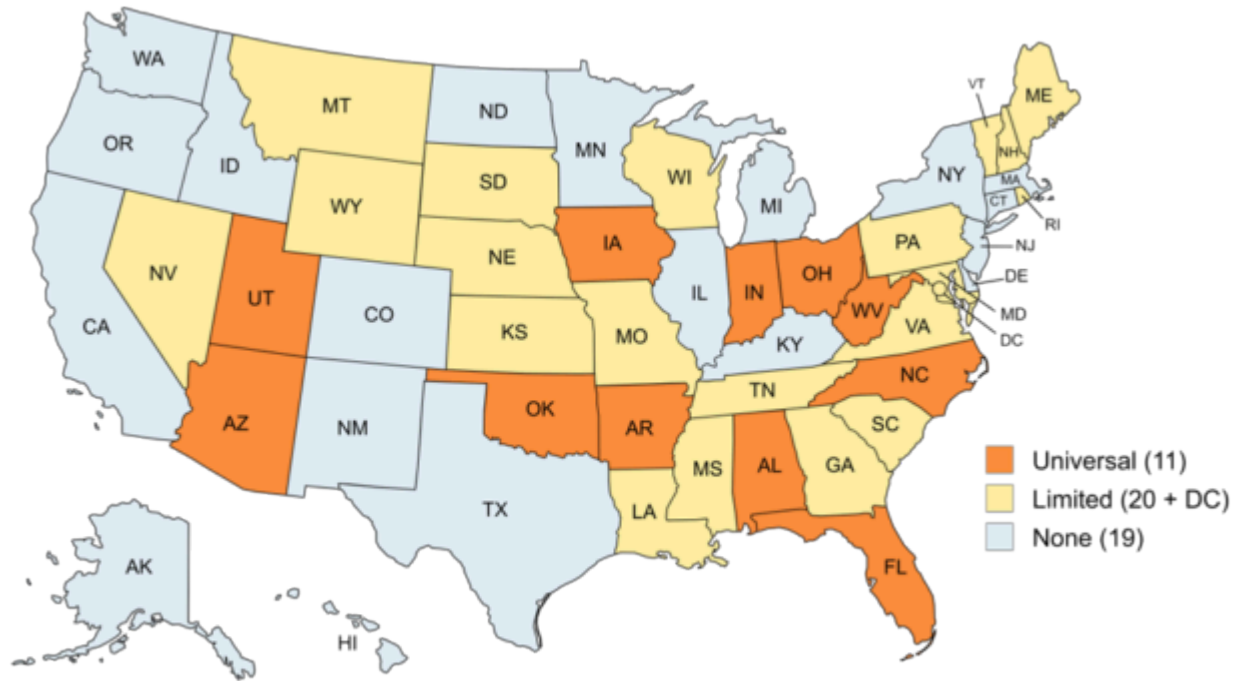
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While additional costs to provide quality education are not a problem in itself, (and we at EPI are huge advocates of increasing funding for public schools), study after study has found that voucher programs do not improve student achievement and, hence, are not a cost-effective way to spend any additional dollars that states or localities are willing to commit to K–12 education. In three states that enacted voucher programs —Louisiana, Indiana, and Ohio, researchers assessed student test scores in periods following program enactment and found that academic performance worsened.[2]

Students in Louisiana's Scholarship voucher program experienced declining achievement in both language arts and mathematics during their first two years in the program (Mills and Wolf 2023). Similarly, Waddington and Berends (2018) found that voucher students in the Indiana Choice Scholarship voucher program experienced declining achievement in mathematics one year after attending private school. Under the Ed Choice Program in Ohio, voucher students who previously attended high-performing public schools performed worse than they would have had they remained in public school (Figlio and Karbownick 2016).

Instead of boosting student achievement in equitable and cost-effective ways, voucher programs generally end up putting large new demands on state and local budgets and increase the cost of educating students who remain in public school. In Arizona for example, where 75% of voucher program users are already in private school (SOS 2024), legislators grossly underestimated the cost of voucher programs—by tenfold. The voucher program was initially projected to cost $65 million in 2023 but actually cost upwards of $708 million. Because of these overruns, Arizona's voucher policy is now leading to a state budget crisis (Hager 2024).

The intuition behind the fiscal externality

Public schools—like nearly every other economic entity in the modern economy—require a mix of inputs, some of which are *variable* and some of which are *fixed*. Variable inputs are those that are needed to produce any extra increment of a good or service. Fixed inputs are those that are needed to produce even a single increment, but whose costs don't rise in lockstep with how much is produced. Take the example of a gas station. The fixed costs of the gas station are the pumps and the land. The owners must have secured these before they can sell a single gallon of gas to customers. And once the owners have bought the pumps, owners won't need to buy them again as more gas is pumped. The variable costs of the gas station include the gas that is dispensed. Owners need to purchase each new gallon from suppliers before selling the gas to customers.

The revenue brought in by each new provision of the good or service must be sufficient to cover both variable and fixed costs. Otherwise, problems will arise. Say that a gas station rents its pumps and land for $10,000 per month and pays $2.00 per gallon to suppliers for each gallon of gas it sells. With the gas it sells each month, the gas station must earn not

just enough to pay suppliers for the variable costs, but also the $10,000 to cover fixed costs. If the gas station doesn't earn this much, it will eventually go bankrupt.

Unlike gas stations, schools don't go bankrupt, but if they lose revenue and have a significant share of total costs accounted for by inputs that are not adjustable in the short run, then deep problems can result. Take the case of revenue loss driven by uptake of vouchers. *Total* revenue for public school systems is generally based on enrollment, with a per-pupil allocation of total spending being multiplied by the school district enrollment to determine total funding. At first, it would seem that reducing enrollment would reduce both total revenue and the number of students needing educational services proportionately, which should leave the schools' ability to provide education unaffected.

But if any significant share of school costs is *fixed*, this is not true. Fixed costs, such as building electricity or utilities, do not automatically fall when student enrollment declines. As a result, when total revenue declines, districts are stuck paying *more* per pupil for costs they can't adjust. All the downward adjustment that occurs when enrollment is reduced must be absorbed by variable costs, which fall *even on a per-pupil basis*. The fiscal externality is the per-pupil funds each district would require to maintain the same level of variable cost spending for remaining public school students due to voucher programs. This cost is entirely borne by state and local education budgets and leaves districts unable to deliver the same level of instruction to the remaining public school pupils.

What exactly would it mean for schools if variable costs per pupil fell? There would be fewer resources available on a daily basis to educate kids—fewer teachers and other staff members and fewer curriculum and education supplies. Education quality would suffer. To the degree that daily services provided to students by schools require all inputs—variable and fixed—it is fair to say that this reduction in variable inputs per pupil translates 1-for-1 into reduced services for students.

The key pieces of information for assessing how much stress this fiscal externality would place on public schools' ability to provide high-quality education are these: how large and how quickly an enrollment decline could be triggered by the introduction of vouchers and what share of public schools' costs are fixed.

To illustrate the fiscal externality, let's take the example of a hypothetical school district of 30,000 students. The colored bars in **Figures B and C** show a stylized breakdown of aggregate expenditures (Figure B) and per-pupil expenditures (Figure C) before and after a decline in student enrollment for this school district. The navy bar on the far left in Figures B and C shows the aggregate spending and per-pupil spending before a decline in enrollment. This hypothetical district's total expenditures are $500 million and, when divided by 30,000 students, yield a per-pupil spending of $16,667. The light blue bar illustrates the change to aggregate and per-pupil spending after a decline in enrollment by 10%. When enrollment declines by 10%, total spending reduces by 10% to $450 million, but per-pupil spending stays the same.

If schools were able to reduce all expenditures in direct proportion with declines in enrollment, then the fiscal externality of voucher programs would be zero. For example, schools might be able to reduce instruction costs by not renewing teacher contracts.

Aggregate spending reductions fall exclusively on variable costs

Aggregate spending for a hypothetical district before and after 10% reduction in enrollment
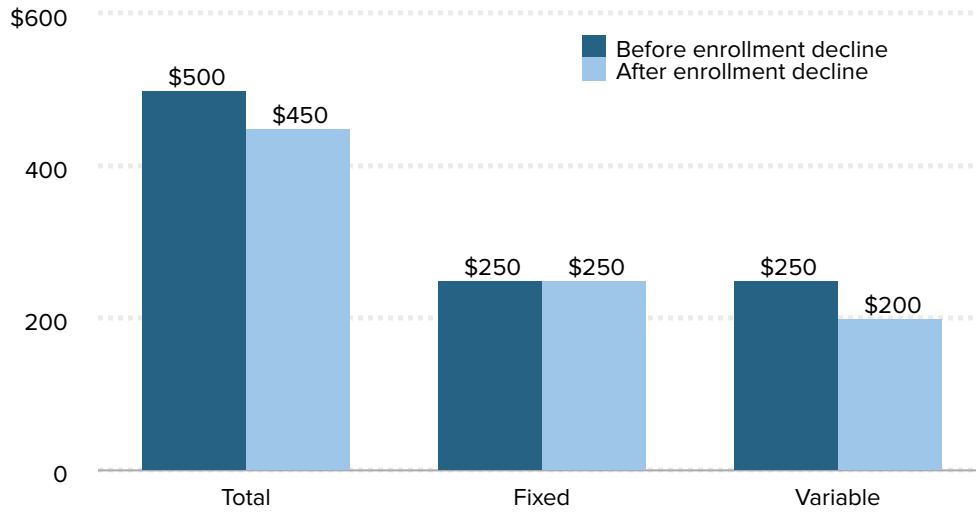
Note: This is a stylistic example of a hypothetical district that spends $500 million each year on students in year 1. In this hypothetical example, the district loses 10% of their students in year 2 due to vouchers, and as a result, gets 10% less ($50 million) to spend in the district. Fixed and variable costs sum to total.

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These expenditures would be considered variable, in that they can adjust to enrollment changes.

In the short run, however, schools will still have to continue heating buildings and conducting basic maintenance and paying interest on accumulated debt regardless of enrollment changes. These fixed costs cannot be reduced commensurate with enrollment. The middle bars in Figure B and C show the changes in total and per-pupil fixed costs when enrollment is reduced by 10%. Because schools cannot reduce their fixed costs regardless of a change in enrollment, their total fixed costs stay the same, even if they receive less money to pay their costs.

That leaves schools no other option but to reduce their spending on variable costs *more* than proportionally to the decline in enrollment. The far-right bars in Figures B and C show the change in variable costs due to a 10% enrollment decline. In Figure B, the school district has to reduce total variable spending *more than in direct proportion with enrollment declines* because they cannot change their fixed costs when enrollment is reduced. As a result, when enrollment declines by 10%, total fixed costs remain at $250 million, while total variable costs drop by $50 million to $200 million.

Figure C shows per-pupil spending on fixed and variable costs if both spending categories could adjust to changes in enrollment in the middle and far-right bars. Like overall spending, if fixed and variable costs were both adjustable, per-pupil spending would stay

Figure C

When enrollment declines, districts spend more on fixed costs and less on variable costs (per pupil)

Per-pupil spending for a hypothetical district before and after 10% reduction in enrollment
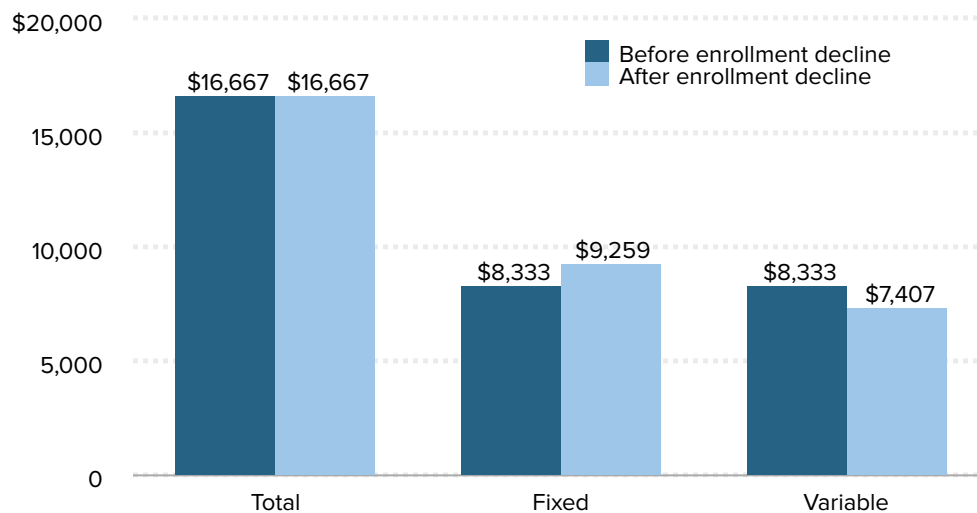
Note: This is a stylistic example of a hypothetical district that spends $500 million each year on students in year 1. In this hypothetical example, the district loses 10% of their students in year 2 due to vouchers, and as a result, gets 10% less ($50 million) to spend in the district. Fixed and variable costs sum to total.

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the same at $8,333 for both categories. However, because total fixed costs cannot be reduced in the short run, per-pupil fixed costs increase, and variables costs decline by more than in direct proportion with enrollment change, from $8,333 to $7,407.

We can calculate the fiscal externality by taking the difference between the per-pupil variable costs before and after the enrollment decline. It doesn't take a substantial drop in public school enrollment for these costs to be significant. In this hypothetical example, the externality is $926 per pupil or $25 million overall.

Considerations in calculating the fiscal externality

The stylized example in Figures B and C illustrates the potential impact of a decline in enrollment due to a voucher program that draws students away from public schools toward private schools. Turning these illustrations into policy-relevant magnitudes for specific school districts requires some careful considerations around the change in enrollment rate and their unique combination of fixed and variable costs. In the following sections, we describe some considerations users should take when using our accompanying calculator to project the fiscal externality of voucher programs for their own district.

Changes in public school enrollment

The fiscal externality will be proportional to the fraction of public school students that transition to voucher programs in a given year. Using the 2021–2022 National Center for Education Statistics (NCES) data, we provide enrollment for every district, and the user can choose the projected rate of enrollment loss they believe might occur in a district.

At present, the share of public school students that use voucher programs to transition to private schools is small. A large share of students that use voucher funding is already enrolled in private school. For example, in Wisconsin, over 80,000 students are enrolled in voucher programs, and research shows only 25% of these students are coming from public schools, suggesting the total loss in public school enrollment to vouchers is only 2% of public school enrollment in the state.[3] In the accompanying calculator, users need to input the *decline in public student enrollment* to calculate the fiscal externality, not the share of total students enrolled in voucher programs, which is likely significantly larger than the decline in enrollment from public school.

In our calculation of the fiscal externality, we assume that the composition of public school students leaving the district to take up voucher programs is the same as the composition of public school students remaining in the district. This is more likely to be true when the voucher program is universal in nature, allowing all students to participate. However, if the voucher program targets a specific group—for example, students below a certain income threshold or those with disabilities—the composition of students leaving and those staying will be different, and results should be interpreted with caution.

For example, if a voucher program exclusively targets students with disabilities and these students take up the program, the resulting composition of public schools will have fewer students with disabilities, and the composition of private schools will have more of these students. This changing composition would alter the types of resources required for public schools, and districts would need to plan accordingly. Similarly, we don't make assumptions about the grade level a student might be coming from in a transition away from public school to private school, which might have implications for the types of cost-cutting strategies districts can take. In reality, the choices a school has for cost reduction would be different if all the students came from a single grade, compared with if they were spread out across several grades.

How do schools adjust to less funding? An explainer on fixed and variable costs

The lost revenue of students transitioning away from public school should be blunted if public schools are able to commensurately reduce expenditures in proportion to the reduction in enrollment. However, as described in our hypothetical example in the previous section, only certain costs can likely be adjusted in the short run. Many educational costs, such as ongoing construction contracts, heating and utilities, curriculum development and principals' offices, cannot be changed in the first several years of an

enrollment decline. These costs are fixed.

Using district-level data from the National Center for Education Statistics, we categorize education costs into three major categories: instruction, service, and capital. In this section, we describe these categories in detail and provide some context for determining what share of each cost category might be considered fixed or variable. Ultimately, users can rely on their context-specific knowledge to identify the share of each category that is fixed or variable.

Instruction costs: The first major cost category for districts is instruction, which includes teacher salaries, benefits, and non-personnel costs (supplies and materials) for regular, special, and vocational programs. Prior literature has categorized the vast majority of instruction cost as variable: When enrollment declines, districts can reduce the number of teachers much faster than they can halt a building being constructed (Ladd and Singleton 2020; Bifulco and Reback 2014).

Yet, there may be several instances when not all instruction costs can be reduced commensurately with enrollment even over a year or two. First, not all teachers are subject to annual contract renewals, so even if a district decided to lay off some teachers, it might not be possible to do so in the time frame being estimated. Second, many teachers are spread out across grade level, subjects, and even schools, which makes reductions in teachers hard to justify. If, for example, fourth graders were exclusively targeted by voucher programs, school districts could reduce the number of fourth grade teachers in response, but often the decline in enrollment is much more diffuse, making the choice to let go of any one teacher difficult. Third, non-personnel costs like materials and supplies may be bought in bulk and can't be changed in the short run in response to enrollment declines. Fourth, districts of different sizes may have different abilities to adjust instruction costs (Lapp et al. 2017). Rural districts, which are smaller in population, may make different choices in adapting to enrollment reductions than large urban districts, which may have greater ease in moving resources around.

Service costs: Service costs include the costs a district incurs to support instruction, student development, and achievement. These costs include pupil services (expenditures for attendance recordkeeping; social work; student accounting; counseling; student appraisal; record maintenance and placement services; medical, dental, nursing, psychological, and speech services), instructional staff services (supervision and instruction service improvements; curriculum development; instructional staff training; and instructional support services, such as libraries, multimedia centers, and computer stations for students outside the classroom), costs associated with general and school administration, and food services. Service costs also include any nonelementary and secondary services provided by the district such as adult education and English-language learning,

Prior literature has categorized at least some service costs as variable, while categorizing other service costs as fixed (Bifulco and Reback 2014). While some districts may view all services as nonadjustable in the very short run, other districts may be able to cut certain types of services, such as nursing or mental health services, in an effort to protect

resources that directly support student learning in the short run. Users looking to identify a longer time horizon to estimate a projected change in district expenditures may decide that a larger share of service costs is variable, while users looking to identify a fiscal externality in the short run may decide to categorize a majority of service costs as fixed.

Capital costs: The final category of district costs is the cost of capital and debt service: school buildings, operations and maintenance, and outstanding payments that a district owes. Prior literature has often categorized these costs as rigidly fixed over the short and even medium run because the time horizon for schools to make such large cost-cutting changes (closing a building, for example) is much longer than the time horizon needed for districts to make changes to instruction or other services. However, if a researcher is looking to project the medium- to long-run effects of voucher programs, capital costs may very well be adjustable, as schools decide to take increasingly drastic measures to respond to enrollment reductions.

Table 1 shows the average cost of instruction, service, and capital costs across all public school districts in the U.S in the 2021–2022 school year. Overall instruction costs average to $9,237 per pupil or about 51% of total costs. Service costs made up 27% of a district's overall spending, costing $4,845 per pupil. Total pupil services ($1,012 per pupil), total instructional staff services ($756 per pupil), and school administration ($836 per pupil) comprised the majority of service costs. Capital costs make up the remaining 22% of the budget, and construction costs and operation and maintenance costs were the largest costs in this category.

Table 1

Education costs, by major cost category, FY2022

	Total cost	Per-pupil cost
Total instruction costs	$34,440,486	$9,237
Total service costs	$18,065,948	$4,845
Total capital costs	$14,407,211	$3,864
Total instruction		
Salaries	$21,164,423	$5,676
Benefits	$9,225,453	$2,474
Non-personnel	$4,050,610	$1,086
Services		
Pupil services		
Salaries and benefits	$3,236,530	$868
Non-personnel	$537,884	$144
Instructional staff		
Salaries and benefits	$2,186,213	$586
Non-personnel	$634,418	$170
General administration	$1,054,019	$283
School administration	$3,117,633	$836
Transportation	$2,323,044	$623
Food services	$2,091,928	$561
Business/Central	$2,207,804	$592
Other	$69,765	$19
Non-elementary/Secondary	$606,711	$163
Capital		
Capital	$1,612,723	$433
Construction	$5,295,790	$1,420
Operation/Maintenance	$5,348,020	$1,434
Interest payments	$1,767,507	$474
Payments to state and local government	$383,171	$103

Note: Average district enrollment is 3,728 in FY 2022.

Source: Author's analysis of National Center for Education Statistics, F33 (FY 2022).

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Categorizing costs as fixed and variable through adjustment rates

The accompanying calculator lets users determine the share of each cost category that is variable and the share that is fixed. These choices are formally defined as picking an adjustment rate.

The adjustment rate identifies the rate at which costs can be reduced in relation to enrollment changes, and ranges from 0 to 1. When costs can be reduced exactly proportionally to enrollment changes, they are considered variable. When costs cannot be reduced at all, they are considered fixed, and the adjustment rate is 0, meaning that enrollment declines do not reduce costs at all. When costs are fully adjustable, the adjustment rate is 1, meaning that *each percentage decline in enrollment reduces costs by 1%.*

For example, if the adjustment rate for instruction costs is equal to 1, then 100% of instruction costs can decline commensurate with changing enrollment. If the user chooses an adjustment rate of less than 1, say 0.5 for example, spending is thought to be "stickier," or less adjustable. In the case of instruction, given that not all teacher contracts can be halted when there is a change in enrollment, it's likely that instruction costs are not fully adjustable in the short run. In such an instance, the adjustment rate might be closer to 0.8. In effect, 80% of their costs might be adjustable in the short run, but 20% are fixed.

Service costs are likely to have a lower adjustment rate than instruction since many functions of education in this category are required to run and maintain a school district regardless of how many students are enrolled. For example, school districts will always need nurses, guidance counselors and social workers, food prep workers and staff professionals to develop curriculum materials for students. These needs imply that service costs are likely a bit stickier than instruction costs. In the short run, service costs might have an adjustment rate of 0–0.5, meaning that each percentage point decline in enrollment can only reduce service costs by 0–0.5 percent—the rest remain fixed. In the longer run, these costs will likely become more adjustable, districts will have time to respond to declines in enrollment, and the adjustment rate should increase commensurately.

Capital costs likely have the lowest rate of adjustment for districts in the short run. This is because districts must continue to pay for construction, operation and building maintenance costs, and to make payments on debt, regardless of small- or even medium-sized enrollment changes. In the longer term, it's possible these costs will be more adjustable. Prior literature generally categorizes 100% of capital costs as fixed, or as having an adjustment rate of 0 in the short run. However, users looking to make longer-term estimates can decide whether to raise the adjustment rate of capital costs.

When using the calculator, users considering an analysis in their district should think carefully about which costs are adjustable in the time horizon they choose and alter the

adjustment rates accordingly.

Outside the scope of this report and calculator is how each voucher program is financed or how it interacts, in an accounting sense, with K–12 budgets. We assume that public K–12 schools are essentially funded on a per-pupil basis, so a 10% reduction in enrollment will lead directly to a 10% reduction in total state/local funding. We don't describe how vouchers are financed or how they might compete with other educational resources.

Case study: Calculating fiscal externality for Cleveland's public school district

Among states offering school voucher programs, Ohio currently has five distinct programs. Ohio currently ranks sixth in the country for voucher enrollment (NCES 2024) with 4.1% of its students receiving voucher payments. Three of the programs have expanded eligibility over the past 10 years and are now universal. One such program, the Cleveland Scholarship, is Ohio's oldest voucher initiative and the second oldest in the nation. Established in the 1995–1996 school year, the Cleveland Scholarship provides between $6,000 and $9,000 in tuition assistance. All students within the Cleveland Metropolitan School District are eligible, with 20% of spots reserved for families earning less than 200% of the federal poverty level. As of 2022, 7,889 students were enrolled in the Cleveland Scholarship, a significant increase from 5,525 in 2010 and 1,994 in 1997 (Fleeter 2023).

Table 2 provides a breakdown of Cleveland Metropolitan School District's costs in the 2021–2022 school year. In 2022, 35,319 students were enrolled in Cleveland Metropolitan School District, and 51.2% of the district's costs went to instruction. Salaries comprise 32% of the total budget and 63% of instruction costs. Benefits comprise 13% of the total costs and 26% of instruction costs. Service costs make up 32% of the overall budget and were comprised of business/central costs (payroll and accounting services, and development and evaluation services), school administration costs, and pupil service costs. The remaining 16% of the budget are made up of capital costs, a majority of which were operation and maintenance costs for buildings and facilities (9.4% of the overall budget and 58% of capital costs).

Calculating the fiscal externality for an enrollment change in the Cleveland Metropolitan School District requires users to identify the adjustment rate for each of the three major cost categories: instruction, service, and capital expenditures. **Table 3** shows how different choices of adjustment rates for each category would translate into fixed and variable costs for the Cleveland Metropolitan School District.

Table 2

Education costs for Cleveland, by major cost category, FY2022

	Total cost	Per-pupil cost
Total instruction costs	$431,698,000	$12,223
Total service costs	$270,300,000	$7,653
Total capital costs	$136,223,000	$3,857
### Total instruction		
Salaries	$271,448,000	$7,686
Benefits	$112,729,000	$3,192
Non-personnel	$47,521,000	$1,345
### Services		
Pupil services		
Salaries and benefits	$46,274,000	$1,310
Non-personnel	$10,957,000	$310
Instructional staff		
Salaries and benefits	$18,031,000	$511
Non-personnel	$6,857,000	$194
General administration	$19,088,000	$540
School administration	$41,054,000	$1,162
Transportation	$23,794,000	$674
Food services	$21,284,000	$603
Business/Central	$67,208,000	$1,903
Other	$0	$0
Non-elementary/Secondary	$15,753,000	$446
### Capital		
Capital	$31,613,000	$895
Construction	$3,340,000	$95
Operation/Maintenance	$78,803,000	$2,231
Interest payments	$12,431,000	$352
Payments to state and local government	$10,036,000	$284

Source: Author's analysis of National Center for Education Statistics, F33 (FY 2022).

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Table 3

Adjustment rates for major cost categories of Cleveland Metropolitan School district, FY2022

		Adjustment rate									
		1		0.8		0.5		0.2		0	
Education cost	Total	Variable	Fixed	Variable	Fixed	Variable	Fixed	Variable	Fixed	Variable	Fixed
Instruction	$12,223	$12,223	$0	$9,778	$2,445	$6,111	$6,111	$2,445	$9,778	$0	$12,223
Service	$7,653	$7,653	$0	$6,122	$1,531	$3,827	$3,827	$1,531	$6,122	$0	$7,653
Capital	$3,857	$3,857	$0	$3,086	$771	$1,928	$1,928	$771	$3,086	$0	$3,857

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Table 4

Fiscal externality for Cleveland Metropolitan School District with a 5% decline in enrollment (2022$)

	Instruction adjustment rate		
Services adjustment rate	1	0.8	0.5
Adjustment rate for capital: 0			
0	$606	$734	$927
0.2	$525	$654	$847
0.5	$404	$533	$726
Adjustment rate for capital: 0.2			
0	$565	$694	$887
0.2	$485	$613	$806
0.5	$364	$492	$685

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The far-left columns provide the per-pupil cost of instruction, service, and capital costs. The subsequent columns move from a completely variable adjustment rate (1) on the left side of the table to a fixed adjustment rate (0) on the right side of the table. When the adjustment rate is 1, 100% of the costs can be reduced proportionately with changes in enrollment—costs are effectively characterized as variable costs. On the far right, when the adjustment rate is 0, 0% of the costs can be reduced proportionately with changes in enrollment—they are all set to be fixed costs. The middle columns show how adjustment rates between 0 and 1 would lead to different shares of each cost category being categorized as fixed or variable. Adjustment rates closer to 1 lead to a larger share of the cost category varying with changes in enrollment. Adjustment rates closer to 0 will have a smaller share of the cost category varying with changes in enrollment.

Once the adjustment rates are determined for the cost categories, the calculator provides an estimate for the fiscal externality. **Table 4** shows a range of estimates for a hypothetical fiscal externality in the Cleveland Metropolitan School District, under a scenario of a 5% enrollment drop due to voucher programs. The table shows a range of adjustment rates for instruction, service costs, and capital costs. The top panel provides estimates when the adjustment rate for capital costs is set to equal 0, and the bottom panel provides estimates when the adjustment rate is set to equal 0.2. We chose these scenarios to reflect the fact that, in the short term, capital costs will likely not change in response to changes in enrollment and so the vast majority of this category is considered fixed.

Under each capital adjustment rate scenario, we provide a range of adjustment rates for instruction and service costs, reflecting different possibilities that school districts like Cleveland Metropolitan may face in the wake of an enrollment drop. The columns indicate different adjustment rates for instruction. The left-most column assumes all instruction is

fully adjustable to changes in enrollment, and the right-most column assumes an adjustment rate of 0.5, which means that instruction costs can only be cut by 5% for every 10% reduction in enrollment. The rows indicate different adjustment rates for services. We pick adjustment rates that are smaller to reflect the fact that many cost functions categorized as a service cost are functions required to maintain basic education regardless of enrollment size.

In the top left of the table, when the adjustment rate of the instruction cost is 1 and the adjustment rate of service and capital costs is 0, the fiscal externality is $606 per pupil. In the short run, it's likely that not all instruction costs are variable. In the middle column in which the adjustment rate for instruction is 0.8, the fiscal externality ranges from $533–$734. In the last column, instruction costs are much less adjustable (the adjustment rate is 0.5), and the fiscal externality ranges from $726–$927. A plausible scenario for the school district might be one where the adjustment rate for instructions costs is 0.8 (80% of instruction costs are variable) and an adjustment rate for service costs is 0.2 (20% of service costs are variable). In this case, voucher policies that reduce enrollment by 5% mean that the Cleveland Metropolitan School District must reduce services by $654 for each public school student. This decline translates to a total fiscal externality of $22 million a year (in 2022 dollars).

The results show considerable fiscal externalities associated with declines in enrollment from voucher programs. A 5% decline in enrollment is just an example, but given that 4.1% of Cleveland's students are already enrolled in voucher programs and these overall program costs often grow quickly (Abrams and Koutsavlis 2023), it's not impossible to see a scenario where large voucher programs could lead to sizable fiscal externalities.

These externalities are not just a problem for public budgets. Students stand to lose out on their potential educational achievement when funding to schools is cut (LaFortune, Rothstein, and Schanzenbach 2018). When that funding is reduced, students, particularly in high-poverty neighborhoods, are likely to have worse outcomes than they would have had if their schools had retained the previous level of education funding.

Conclusion

Vouchers undermine efforts to make excellent public education available to all children by pressuring fiscal resources available to public schools along many different dimensions. In this report we provide a tool that can help interested parties put estimated dollar amounts on one particular channel of this pressure that is often underrecognized: the fiscal externality of voucher programs on public education. While this report focuses on reductions in enrollment that can occur from voucher programs, the fiscal externality can also be calculated for any program that puts downward pressure on public school enrollment, such as charter schools.

Building on approaches that examine the fiscal impacts of charter schools (Bifulco and Reback 2014; Ladd and Singleton 2020), we provide a method and accompanying calculator for stakeholders all over the country to estimate the fiscal externality of

vouchers in their home districts. We use the prior literature as a guide to categorize spending into categories that are likely adjustable in response to declines in enrollment (variable costs) and costs that are likely nonadjustable to changes in enrollment (fixed costs). However, we provide the opportunity for users to define what share of each of these costs is actually adjustable when they do their own calculations. Users should use their discretion in determining the share of variable and fixed costs that are adjustable in their given district.

In the example we gave with Cleveland, we find that the fiscal externality of a 5% decline in public school enrollment from a voucher policy could be very large, ranging from $12 million to as high as $31 million when a large share of a district's cost functions is considered to be fixed. We stress that these calculations are mere projections based on a *possible* decline in public school enrollment. Users will have to provide their best guess as to how much enrollment will actually decline in order to calculate the fiscal externality in their home districts.

Finally, we stress that these are just some of the costs of voucher programs, not the only costs. There are many other costs of subsidizing private education with public funds. The fiscal externality is a key part of measuring the cost of vouchers and of deep importance if we care about the quality of public schooling in our country. Good public education requires strong funding and stable enrollment numbers. Voucher policies threaten to destabilize public education funding and student learning, in part, by introducing an element of uncertainty. If school administrators don't know what their future enrollment numbers will look like, this will prevent them from being able to make plans. The one certainty is that student achievement will suffer as a result.

Notes

1. Cleveland Metropolitan School District was previously named Cleveland Municipal School District. In the National Center for Education Statistics, the district is named Cleveland Municipal School District.

2. Critically, these studies were conducted prior to the COVID-19 pandemic and, thus, do not reflect changes in education achievement due to the pandemic.

3. The commitment of public dollars to students who have never been in public schools is an additional source of fiscal stress for states; however, it is not the fiscal stress documented in this report and tool.

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