

How do Private School Choice Policies Impact Private Schools and Private School Students?:
An Econometric Analysis, 2000-2018

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Abstract: This paper follows the methodology of Hungerman & Rinz (2016) and analyzes the effects of private school choice policies implemented in several US state between the years 2006-2014 on private school revenues and enrollment. Using data from tax returns and the Private School Survey, the analysis examines trends in private school program revenue and revenue per student before and after policies like vouchers, tax scholarships, and tax deductions took effect in several states. Visual analysis shows an increase of around \$500,000 in average private school revenue following policy implementation. However, fixed-effect regression models controlling for school-level trends and state-level demographic factors reveal more nuanced impacts. Tax credit scholarships aimed at increasing access for lower-income families lead to higher overall revenue coupled with lower revenue per student and increased enrollment numbers, implying they worked as intended in creating “switchers” who transition from public to private schools. Surprisingly, however, unrestricted tax deduction policies are associated with *lower* overall revenue and revenue per student without impacting student numbers generally. This paper’s findings have implications for evaluating the fiscal impacts of recent expansion in universal private school choice policies across several states.

Introduction

One of the major education debates in modern times revolves around education quality and equality. Many public schools are underfunded, and the success of public-school districts can vary wildly even within states – and often, it is heavily influenced by the racial and economic makeup of the school, leading to de facto class and racial segregation in the quality of education.

Wealthy individuals, however, are able to send their children to private schools, which put them around wealthier peers, more highly-paid teachers, and generally may increase the likelihood of success for their children. This gap in education access is in part what spurs conversations around private school choice policies – that is, states providing financial aid to families in support of private school tuition and fees.

Milwaukee, Wisconsin spurred the creation of vouchers and tax credits. In the early 1990s, the city created a voucher system for low-income students to attend private schools within Milwaukee city limits without charge (DiMarco & Cohen, 2023). In the thirty years following, school choice has expanded and now exists in 32 states. As of the end of 2023, roughly 850,000 students use some form of private school choice (Friedman Foundation, 2023). Within just the last three years, states have rapidly increased eligibility across all incomes and prior school backgrounds, creating so-called “universal” school choice. Today, roughly a third of students within the US – 20 million – can participate in some private school choice program, an increase of 60% within the last 3 years (Friedman Foundation, 2023).

Increases in eligibility – i.e., universal school choice policies passed by states like Oklahoma, in which individuals of any income can apply for monetary benefits – within the past two years indicate a strong shift in the scope of this legislation which could result in large fiscal impacts for both state governments and private schools. Though the effects of this recent

legislation won't be visible for several years, the monetary impacts of school choice legislation passed in the 2010s have not been heavily researched and could provide insight into the potential impacts of recent legislation. One of the primary controversies of school choice is determining who fiscally benefits: families who would otherwise not attend private school, or families who are already wealthy enough to choose private school.

As Hungerman & Rinz (2016) investigate, private schools themselves – not just families – are potential beneficiaries of the public funds dedicated to private school choice. This paper analyzes trends and changes in private school revenue following the implementation of various school choice mechanisms by examining both private school program revenue gathered from tax returns as well as information on the student population from the biannual Private School Survey. Following the methodology of Hungerman & Rinz (2016), I will focus on legislation passed in six states: Iowa, Louisiana, Georgia, Indiana, Arizona, and Wisconsin.

Though visual analysis indicated an average overall increase in private school revenue following the launching of a school choice policy, fixed effects regressions reveal that tax deductions are negatively correlated with private school revenue, reducing average revenue by about \$400,000 dollars ($p < 0.05$). On the other hand, tax credit scholarships result in statistically significant positive impacts on both revenue and student enrollment. When the policies are combined, there is a negative but nonsignificant impact on overall school revenue. This ultimately implies that tax credit scholarships are effective in providing more pathways for students to attend private schools, but individual tax deductions have a counterintuitive negative effect. These results, however, are not strongly applicable to predicting the impacts of more recent universal school choice policies spreading throughout the US.

Literature Review

Since the initial implementation of private school choice, economists and researchers have conducted extensive research in a variety of areas related to school choice, including the performance of students who receive vouchers as well as the impacts on student performance in public schools vulnerable to vouchers (Egalite & Wolf, 2016; Gray et al., 2016; Shakeel et al., 2016). However, the fiscal impacts of school choice have not been as thoroughly explored in economic research.

Background on Vouchers and Tax Credits

There are five types of school choice: traditional vouchers, education savings accounts, tax credit education savings accounts, tax credit scholarships, and individual tax credits and deductions. All five ultimately serve to subsidize private school tuition, though function in slightly different ways. Whereas education savings accounts (ESAs) and vouchers are sums of money to which families have direct access, tax credit scholarships and tax credit ESAs benefit individuals or corporations who donate to nonprofits (scholarship granting organizations, or SGOs) which then provide scholarships for private school tuition (Friedman Foundation, 2023). Finally, individual tax credits and deductions provide credits/deductions to families for tuition, textbooks, or other alternative education, varying dependent on the policy. Tax credits and vouchers are similar enough to one another that some experts have referred to tax credits as “neo-vouchers” (Welner, 2008). The benefit of school choice to both families and private schools varies greatly depending on the cap on funding per student/family as well as the cap on state-level funding. Deductions, on the other hand, are frequently unrestricted (i.e., have no means-testing), and notably, they only reduce taxable income. Unlike credits, they do not result in a government refund when tax liability

is reduced below zero (Manzi, 2017). They therefore may have a lower impact on both private school behavior and family behavior, though I found no prior economic literature to examine this; these types of programs were not examined in Hungerman & Rinz (2016).

School choice laws have historically prioritized disadvantaged students – students who come from low-income families, who attend failing public schools, or who have disabilities or special needs that require additional or alternative support than their public schools can provide. The argument advocating for school choice policies was equity: if wealthy families can afford to send their children to private schools, providing them with advantages for future academic success, yet poor families cannot, the educational inequity borne of income differences will continue.

However, the recent push to universalize these laws is, in part, why they have become highly controversial in recent years. Public school advocates argue that school choice policies funnel funding away from public schools and primarily benefit students who can already afford to attend private school (National Education Association, 2021).

Fiscal Impacts of School Choice: State Spending and Private School Responses

The majority of research surrounding the effects of school choice policy on both public school spending and the larger state and taxpayer spending is produced by foundations with agendas advocating either for or against school choice. The methodology of determining the short-term and long-term savings for state budgets relies on a critical assumption that is the primary dividing line between the “sides” of the school choice debate: the assumption around “switchers.”

Switchers are individuals who, were it not for private school choice policies, would attend public schools. These individuals represent savings, as the cost of school choice programs per student is less than for K-12 public schools. Non-switchers, however, are students who would

attend private school regardless; these students only *cost* government spending, since without subsidies their education would be entirely unfunded by public spending. In an analysis by Lueken (2021), he assumed a 100% switcher rate for any school choice program that requires public school enrollment in the prior year, and an 85% switcher rate for school choice policies without this requirement based on a random assignment study that assessed switcher rates (2021). He thus concludes that these programs save the state money since the cost per public school student is \$14,000 and the cost per subsidy for private schools is, on average, \$5,000. He found that this held for ESAs, vouchers, and tax-credit scholarships, though analysis of individual tax credits or deduction was not included. (I note that Lueken (2021) was funded and produced by EdChoice, a nonprofit “dedicated to advancing full and unencumbered educational choice” (Lueken, 2021, p. 2). This does not mean the calculations or conclusion is unsound but demonstrates the complications of parsing through much of the research about this topic.)

When the assumption about the switcher rate changes, so does the conclusion about the costs to the state. According to Indiana Department of Education's 2015-2016 analysis of its 2011 Choice Scholarship Program (a voucher program analyzed within this paper), 52% of recipients had no record of ever attending an Indiana Public School. The Department thus concluded that the program resulted in not savings to the state, but rather a \$53 million deficit. In this calculation, the Department assumed that recipients without a public school record would have attended private school regardless and *could* have cost the state nothing. The proportion of recipients without a record of ever attending an Indiana public school has grown to over 60% as of 2022-2023, though this report did not estimate a deficit or savings. Importantly, students who are entering kindergarten are included in this number, further complicating the “switcher” analysis; though these students have no history in public school, they were not in private school either, creating an unknowable

counterfactual. School choice advocates objected to the \$53 million estimation by making the opposite assumption: without vouchers, all recipients would be in public school, and thus the voucher program must be saving the state money (Cook, 2016). The answer likely lies in-between these extremes – but there is not a clear-cut answer, and with the highly politicized nature of the topic, unbiased answers are challenging to find. Though this paper will not analyze the impacts of school choice policy on state budgets, the question of how these policies increase student populations and revenue per student implicitly addresses the question of “switchers.”

Another way to determine the fiscal impacts of school choice policy is to assess the other potential recipient of funds: private schools. As Crothers (2014) points out, school choice policy directs funds not only to the families who qualify but to the private schools themselves. Hungerman & Rinz (2016) use tax revenue data from 1991 to 2009 from the National Center of Charitable Statistics (NCCS) and the Private School Survey (PSS) conducted by the National Center for Education Statistics. By tracking both the average revenue as well as the revenue per student before and after large-scale school choice programs are implemented, they assess the relationship between the “subsidies” (i.e., the total public spending on school choice programs) and the resulting revenue for private schools. By examining both restricted (means-tested) and unrestricted school choice programs, they found that a dollar in public school choice spending increased private school revenue – which captures tuition but also items such as school supplies sold by the school – by at least a dollar in their conservative estimates. Further, by examining revenue per student changes alongside the gross revenue averages, they found that the type of school choice altered the assumed cause of the revenue increase. For means-restricted programs, revenue per student did not change while revenue increased – implying that the revenue increase is a result of an increased student population (i.e., the aforementioned switchers). Meanwhile, for unrestricted programs, the revenue

per student *increases*. Hungerman & Rinz interpret this to mean that for unrestricted programs, private schools could be the primary beneficiaries of school choice programs as they increase tuition or other fees in response to the fact that many of their students now have public funding via tax credits or otherwise to subsidize their education.

Though Hungerman & Rinz limit their data from 1991 to 2009, a multitude of school choice programs were passed either shortly before the end of the data or shortly after, in the early 2010s. This paper will thus construct a similar data set and preliminary analysis as Hungerman & Rinz (2016) using significant school choice programs passed beyond the data they explored.

Research Question and School Choice Laws Overview

The goal of this paper is to extend Hungerman & Rinz and assess if legislation passed following the time frame of their research causes private school revenues to increase. I selected 7 laws across 6 states. These were selected primarily due to having reasonably large use (at least 10,000 students in the time frame studied) and capture a multitude of types of school choice policies to allow for a variety of impacts, including tax credit scholarships, tax deductions (previously unstudied), and vouchers. The three tax deductions passed in Indiana, Wisconsin, and Louisiana are specifically called out in Hungerman & Rinz.

These laws were selected to have a post-period long enough to conduct at least four-year averages before and after the law passed; 2014 is therefore the latest year a school choice policy was launched in my analysis. Notably, there are no other refundable education tax credits in this list like that Oklahoma recently launched; the first of this kind, launched by Alabama in 2013, had

minimal participation (it peaked at 180 students in 2016) (EdChoice, 2023a). This set of laws thus represents a variety of school choice policies passed within the late 2000s and early 2010s.

Table 1: Overview of School Choice Programs Analyzed

State	Type of Program	Launched year	Restricted	Details on Restriction
Iowa	Tax Credit Scholarship	2006	Yes	Family income must not exceed 400% of federal poverty guidelines
Louisiana	Tax deduction	2008	No	-
Georgia	Tax Credit Scholarship	2008	Mixed	No financial cap, but students must be enrolled in public school prior
Indiana	Tax deduction	2011	No	\$1000 cap per child, which is relatively low
Indiana	Voucher	2011	Mixed	Family income must not exceed 400% of the amount required for an individual to qualify for free/reduced lunch (98% of families in Indiana)
Arizona	Tax Credit Scholarship	2012	Mixed	This is the “switcher” program; students must have been in public school beforehand.
Wisconsin	Tax deduction	2014	No	Cap of \$4000 (k-8) and \$10,000 (9-12) per child

All data taken from EdChoice (2023c).

A previous version of this paper included a slightly different collection of laws; this change is primarily due to a stricter threshold on the number of students required to participate to be analyzed.

Data

Following Hungerman & Rinz (2016), I am using two data sets: the National Center for Charitable Statistics (NCCS), and the Private School Survey (PSS). The NCCS compiles

incredibly detailed lists of tax forms, called Form 990s, that not-for-profit institutions are required to file each year. Private schools may also file these forms, making their financial information publicly available. The Private School Survey is conducted every other year by the National Center for Education Statistics and contains critical information about the school such as religious affiliation, number of teachers, and number of students. By combining these data sets, I can create a rich set of data with institution-level information on revenue and revenue per student.

The key variable of interest in the NCCS data is program revenue, which is an item on the Form 990 that captures revenue generated by programs the not-for-profit institution may implement (such as selling items at a store or paid art classes, for example). For private schools, figures captured in this value include tuition and fees as well as other items such as uniforms sold. Thus, this variable most accurately captures revenue generated via students rather than through means such as investments or donations.

To merge these data sets, I performed a matching process based on school name and address, keeping observations that were within 20% similarity by name and 30% similarity by address. I also allowed name similarity to vary above 20% if the address similarity was below 7%. Then, I removed any many-to-many matches – i.e., data in the NCCS set that matched with multiple PSS schools and vice versa. I further filtered to remove any institutions with names such as “endowment”, “club”, etc., to remove foundations focused on fundraising for the school rather than schools themselves. The school year and tax year align well, with the school year operating between August – May and the tax year typically operating between July 1 and June 30th; thus, in matching years, I take the year to be the end of the year (i.e., 2008 represents the 2007-2008 school year *and* tax year).

This process is possible for even years between the years 2008 and 2018. From 2000 to 2006, address and name variables are nonexistent in the PSS data, prohibiting the matching process. Once these years are constructed, I create a list of the pairs of school-identifying variables (the EIN from the NCCS, which is the unique tax identifier, and the PPIN from the PSS). I then filter the years 2000 – 2007 for those schools whose EIN or PPIN are in the set of pairs I constructed.

Lastly, I convert program revenue to 2020 dollars to account for inflation and construct a revenue-per-student variable for all years which are matched. I set up a process in which, if a school has the number of students available in the year before and after, I average the two for a given year it is missing. I finally remove any observations that have a revenue-per-student that is greater than \$100,000 per student, following Hungerman & Rinz; as they note, that is likely to be the result of a school that is part of a larger structure such as a hospital and not reflective of most private schools.

With this process complete, I have a dataset with 48,041 observations across the years 2000-2018 and all 50 states. This represents 6,146 unique schools, or about 18% of all private schools within the US. As Hungerman & Rinz note, Catholic schools are particularly likely to be absent from this pool. Below is a table showing the religious affiliation of most schools in my set as well as their locations.

Table 1: Distribution of Religiosity Among Private Schools, in Sample and Nation-Wide

Religious Affiliation	<i>Catholic</i>	<i>Other Religious</i>	<i>Nonsectarian</i>	<i>NA</i>
% of Total Sample	3.6% (<i>N</i> = 223)	45.5% (<i>N</i> = 2801)	49% (<i>N</i> = 3041)	0.013 (<i>N</i> = 81)
% of Private Schools (2021-2022)	22.5%	44%	33.5%	-

As is evident, Catholic schools are severely underrepresented relative to their nation-wide prevalence. On the flip side, nonsectarian schools are overrepresented, perhaps because they are more likely to file tax returns.

Below is the number of unique schools observed in each state as well as the rough percentage of total schools represented per state (based on 2018-2019 counts of private schools/state).

Table 2: Number of Unique Schools, States of Interest

State	<i>Arizona</i>	<i>Indiana</i>	<i>Louisiana</i>	<i>Iowa</i>	<i>Georgia</i>	<i>Wisconsin</i>
Number of Schools in Data Set	18.9% (N = 76)	8.6% (N = 75)	12.3% (N = 50)	19.3% (N = 42)	24.9% (N = 214)	13.7% (N = 122)

Note: not each school is present in every year. Data from Private School Universe Survey (PSS) (n.d.).

For the states with school choice policies that I am studying, I have between 8-25% of schools. Indiana has the lowest percentage relative to the number of schools (approximately 869 total), whereas nearly a quarter of Georgia's schools are captured.

Methodology

To examine how school choice policy affects a variety of school-level outcomes, I construct 6 models. The first three use the binary treatment variable “treat” to indicate the year and state when one of the school choice policies occurs. The second three use a categorical treatment variable that represents the different types of school choice policies: 1 for tax deductions (existing in Wisconsin, Indiana, and Louisiana); 2 for tax credit scholarships (existing in Arizona, Iowa, and Georgia); and 3 for multiple programs, which was true in Indiana in 2011 when it passed both its tax deduction and voucher program simultaneously and Louisiana when it added a voucher

program in 2011. Note that this factor does not include previously passed laws (such as Arizona's in the 1990s) and solely applies to the laws examined in this paper. Each model further examines a differing outcome variable: total program revenue, revenue per student, and the number of students.

Model 1: Binary Treatment, Program Revenue

$$\text{Program Revenue} = \beta_1 \text{Treat1} + \beta_2 X_{SY} + \beta_3 Y + \varepsilon$$

Model 2: Binary Treatment, Revenue per Student

$$\text{Revenue per Student} = \beta_1 \text{Treat1} + \beta_2 X_{SY} + \beta_3 Y + \varepsilon$$

Model 3: Binary Treatment, Number of Students

$$\text{Number of Students} = \beta_1 \text{Treat1} + \beta_2 X_{SY} + \beta_3 Y + \varepsilon$$

Model 4: Categorical Treatment, Program Revenue

$$\text{Program Revenue} = \beta_1 \text{Treat2} + \beta_2 X_{SY} + \beta_3 Y + \varepsilon$$

Model 5: Categorical Treatment, Revenue per Student

$$\text{Revenue per Student} = \beta_1 \text{Treat2} + \beta_2 X_{SY} + \beta_3 Y + \varepsilon$$

Model 6: Categorical Treatment, Number of Students

$$\text{Number of Students} = \beta_1 \text{Treat2} + \beta_2 X_{SY} + \beta_3 Y + \varepsilon$$

Each of these models uses a fixed-effects method and a vector of state- and year-level covariates represented by X: population, median income (adjusted to 2020 dollars), the unemployment rate, the number of white children, the number of nonwhite children, the population

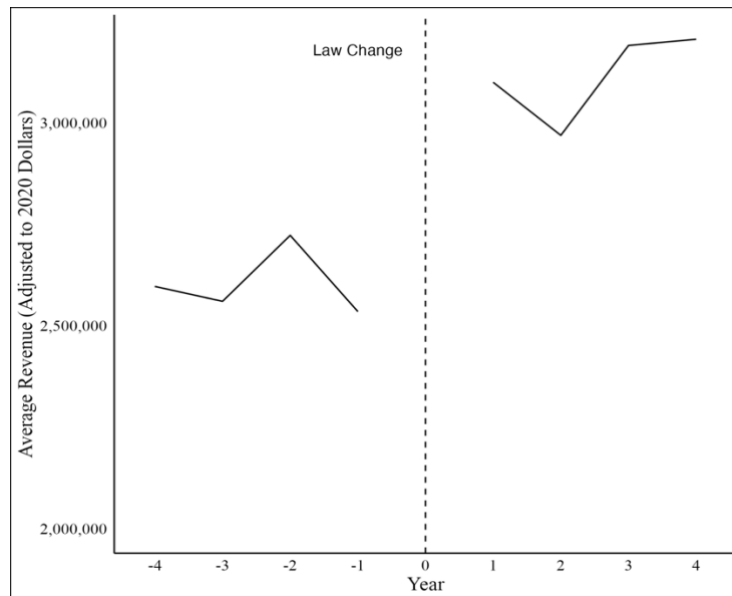
density (in population per square mile). Y is a set of year dummies. These controls are gathered from the American Community Survey, the FRED, and the Census Bureau.

The “treat” variable becomes nonzero in the year following the passing of legislation because of the way my years are coded: i.e., a year in my data represents a school year. Therefore, for legislation passed in 2008, the first school year this would be evident is 2009. I gathered in-depth information for the “launch” of each program in this paper from the School Choice in America dashboard (EdChoice, 2023b).

Results

I first conducted some visual analysis to understand the average trends for each state. State-by-state trends for private school revenue and revenue per student can be found in Appendix A and B; in Figure 1, the averages for all 6 states in the four years before and after a law change are visualized. (State-by-state trends are much fuzzier than the average.) This is a two-year average to create a smoother trend line. As is immediately evident, there is a notable jump of about \$500,000

Figure 1: Average Program Revenue, All Selected States, Pre-Post Law



dollars, indicating that in the post-period, schools experience a significant revenue jump, implying that private schools are benefiting from the private school choice laws financially.

However, greater econometric analysis yields a different story. Table 3 shows the results of the binary treatment variable with the relevant controls. This model reveals that following the passing of a private school choice policy, program revenue actually *decreases* (though the decrease in program revenue is not significant). Revenue per student decreases significantly – by about \$1000 per student – and the average number of total students increases by about 9 students per school. This seems to indicate that the selected private school choice policies are having their intended effect: increasing the number of students who are attending private school. However, this decrease in overall revenue is an unexpected sign. Other notable covariates include an increase in revenue associated with higher population but, oddly, decreased revenue the more children are within a state. This might be due to states with higher numbers of children also having a more robust public school system, but that is just speculation.

Table 3: Models 1-3 - Binary Treatment Variable (Selected Covariates)

	Program Revenue (in 2020 USD)	Revenue per Student (in 2020 USD)	Total Number of Students per School
Treatment	-45341.747 (53891.106)	-1363.910*** (237.017)	9.414*** (1.960)
Population	0.190*** (0.021)	-0.001*** (0.000)	0.000*** (0.000)
# White Children	-1.425*** (0.094)	-0.003*** (0.000)	0.000*** (0.000)
# Nonwhite Children	-1.022***	-0.001*	0.000**

	Program Revenue (in 2020 USD)	Revenue per Student (in 2020 USD)	Total Number of Students per School
	(0.095)	(0.000)	(0.000)
Unemployment Rate	51766.953***	-1.968	-0.126
	(11240.420)	(49.436)	(0.409)
Median Income (2020 Dollars)	58.952***	0.186***	0.000**
	(3.866)	(0.017)	(0.000)
Pop per Mi^2	12005.883***	44.691***	-0.029
	(1016.241)	(4.469)	(0.037)
Num.Obs.	48041	48041	48041
R2	0.211	0.131	0.010
R2 Adj.	0.098	0.007	-0.132
AIC	1493098.5	971700.9	510988.4
BIC	1493326.8	971929.2	511216.7
RMSE	1356415.90	5965.61	49.34

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

However, I also ran the additional three models. These additional models were critical to run because each of the types of school choice function slightly differently in terms of how they are awarded/benefit students; the tax deduction is perhaps the least financially impactful as it only reduces taxable income and is not tangibly put toward private school tuition, as tax credit scholarships and vouchers are. There are further varying levels of restrictions – for example, all of the tax deduction programs are completely nonrestricted.

Table 4: Models 4-6 - Categorical Treatment Variable (Selected Covariates)

	Program Revenue (in 2020 USD)	Revenue per Student (in 2020 USD)	Total Number of Students per School
Tax Deductions (Treat = 1)	-436471.415*** (101812.835)	-1785.922*** (447.935)	-5.429 (3.704)
Tax Credit Scholarships (Treat = 2)	189900.788** (68622.787)	-1331.154*** (301.912)	16.231*** (2.496)
Tax Deduction + Voucher Program (Treat = 3)	-302283.728* (134241.155)	-747.825 (590.607)	8.193+ (4.884)
Population	0.187*** (0.021)	-0.001*** (0.000)	0.000*** (0.000)
Median Income (2020 Dollars)	59.427*** (3.867)	0.187*** (0.017)	0.000** (0.000)
Unemployment Rate	45725.115*** (11290.885)	-2.297 (49.675)	-0.297 (0.411)
# White Children	-1.456*** (0.094)	-0.004*** (0.000)	0.000*** (0.000)
# Nonwhite Children	-1.036*** (0.095)	-0.001** (0.000)	0.000** (0.000)
Pop per Mi^2	11852.464*** (1016.606)	44.484*** (4.473)	-0.035 (0.037)
Num.Obs.	48041	48041	48041
R2	0.211	0.131	0.011
R2 Adj.	0.098	0.007	-0.131
AIC	1493066.8	971702.5	510964.5

	Program Revenue (in 2020 USD)	Revenue per Student (in 2020 USD)	Total Number of Students per School
BIC	1493312.7	971948.4	511210.3
RMSE	1355911.88	5965.46	49.33

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

When dividing the treatment variable by types of school choice, a much more in-depth story is revealed. Tax deductions seem to be highly correlated with a reduction in both revenue and revenue per student (though the decrease in revenue per student seems to be merely driven by the decrease in revenue and lack of resulting decrease in student body on average). Though this had high significance, I am skeptical that tax deductions had causal impact on the decrease in overall revenue, but rather is merely highly correlated. Deductions by their nature are not nearly as impactful to individuals as tax credits, scholarships, or vouchers, since they decrease liability rather than offer money directly.

Tax credit scholarship programs, on the other hand, increase revenue in a school by about \$180,000, decrease revenue per student, and increase students (approximately 16 additional students, which is logical when aligned with the increase in revenue if we assume a roughly \$10,000/year tuition on average). This implies that the increase in revenue is driven by an increase in students, not schools reacting to greater government subsidies by increasing their program fees for current students. This result indicates that tax credit scholarship programs are effectively creating “switchers.” This makes sense, since these programs are majority-restricted and thus don’t benefit students already in private schools.

Lastly, I looked at combined vouchers and tax deductions. These results were very similar to the tax deductions on their own, though the decrease in program revenue was of smaller magnitude, perhaps indicating that the vouchers alone would slightly increase revenue.

These results can be squared with the visual mean analysis indicating a jump in revenue by understanding the inclusion of the “year” variable as a factor. The increase in revenue overall was merely a part of a larger yearly trend; when controlled for, these treatments are correlated with a decrease in revenue. This is a rather unexpected results and begs the question: are states who pass certain laws (such as tax deductions) motivated by certain trends in private schools, thus creating a negative correlation that is not caused by the treatment but rather *results* in the law being passed? This paper will not seek to examine that further, but future research might.

Conclusion

In sum, by analyzing relatively large private school choice programs in the mid-2010s, I sought to understand the impacts of these policies on private school revenue and revenue per student. By examining these schools directly, we can glean an estimate of how these policies are working: are they contributing to more access to private schools, or merely encouraging private school to increase their fees by the amount of the financial benefit? I used Hungerman & Rinz (2016) as a model to develop this analysis.

However, my paper had a notable difference: I studied not just tax credit scholarships and vouchers but also tax deductions, which are typically unrestricted by income and have relatively higher usage rates. This policy had an unexpected impact: program revenue in states that passed this program was significantly lower following the policy. Ultimately, this is unlikely to be a causal relationship given the relatively smaller impact of deductions on families as well as a lack of

inherent intuition. Instead, I hypothesize that this decrease is perhaps correlated with these deductions in the opposite direction – private schools, seeing a decrease in revenue generally, might lobby for a policy such as tax deductions to help motivate individuals to stay or switch from public school. Ultimately, this paper cannot prove this hypothesis.

My other significant finding was the impact of the tax credit scholarship programs. I found that these programs result in higher overall revenue, but lower revenue per student and increased students. That implies that these programs are working the way policymakers intend: individuals who would not be going to a private school are gaining access to private education. Notably, all three of these programs are restrictive either through an income or a public school attendance requirement. Thus, these programs target “switcher” students.

The policy implications of my findings are not ultimately clear. The universal tax credit programs that Oklahoma and other states have passed are structured differently than the tax credit scholarships (since they are claimed by individuals, rather than credits on a donation to a scholarship-granting organization) and, of course, have the notable impact of being universal. Further, my findings from tax deduction policies are likely not applicable to these policies since deductions also operate differently than credits.

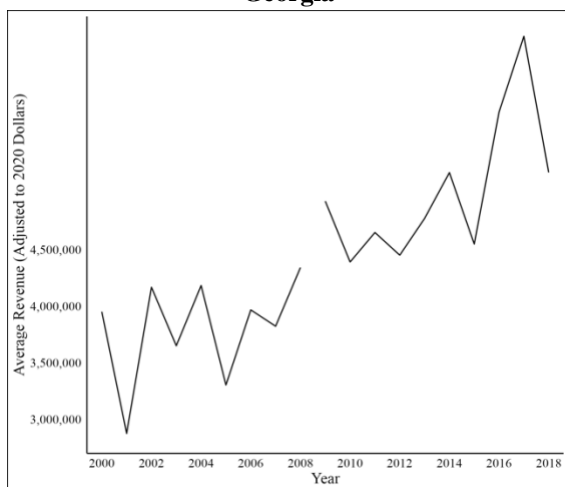
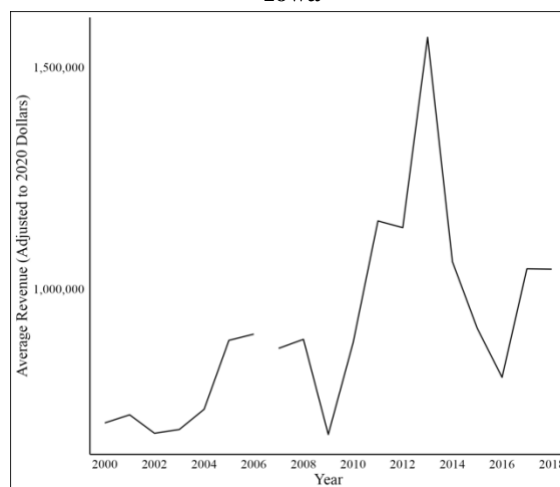
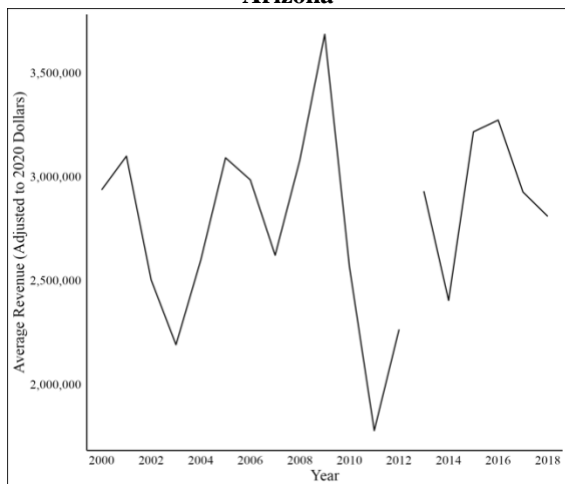
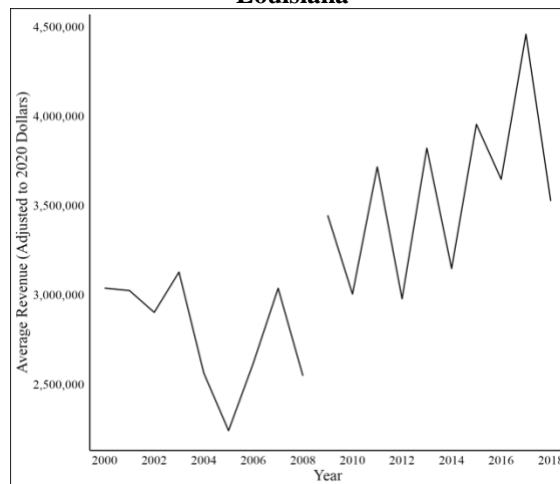
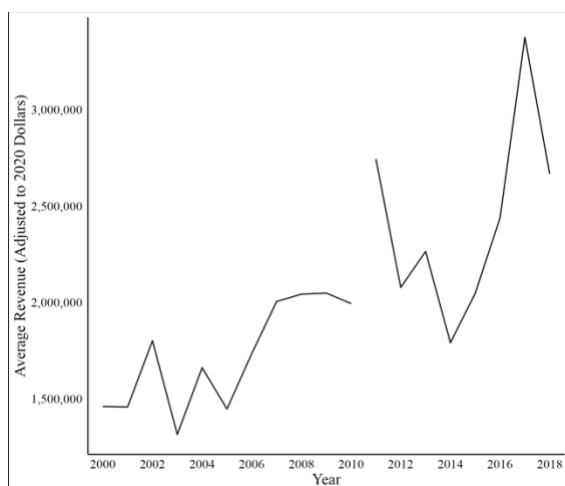
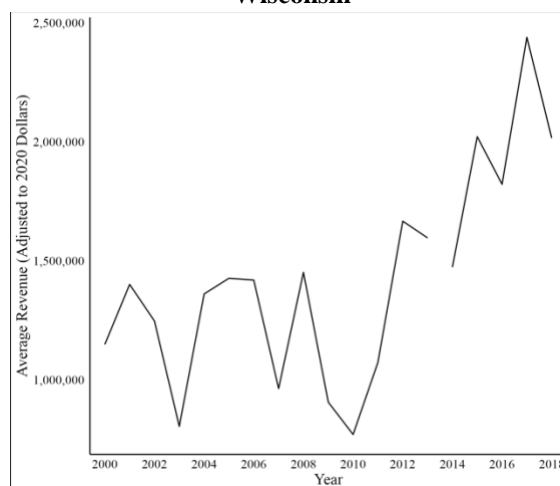
Only time will tell how these more recent universal policies will affect private schools and students.

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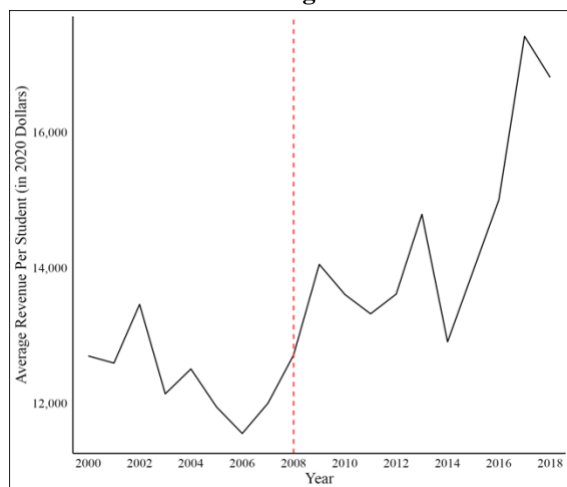
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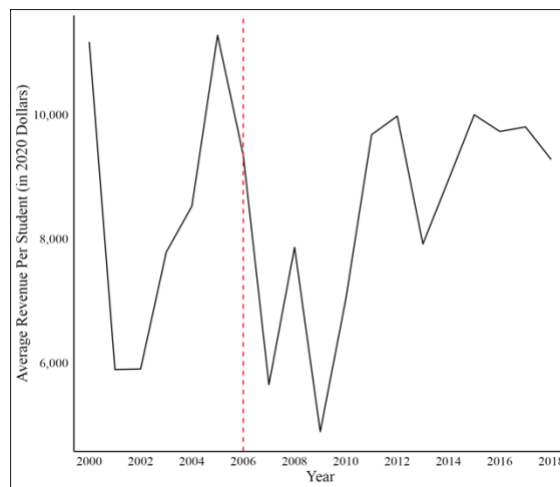
Appendix A: State-by-State Pre-Post Policy Analysis, Average Revenue**Georgia****Iowa****Arizona****Louisiana****Indiana****Wisconsin**

Appendix B: State-by-State Pre-Post Policy Analysis, Revenue Per Student

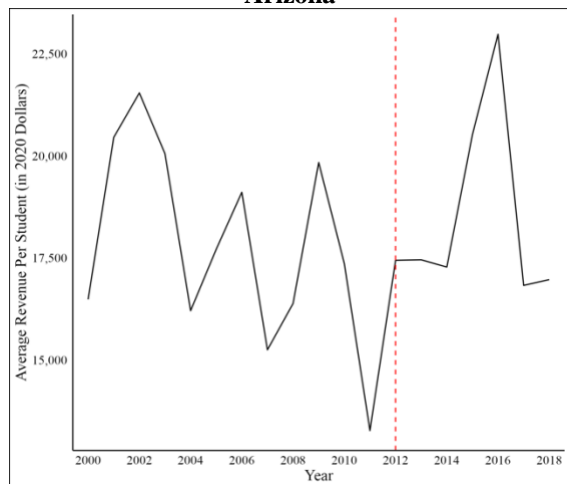
Georgia



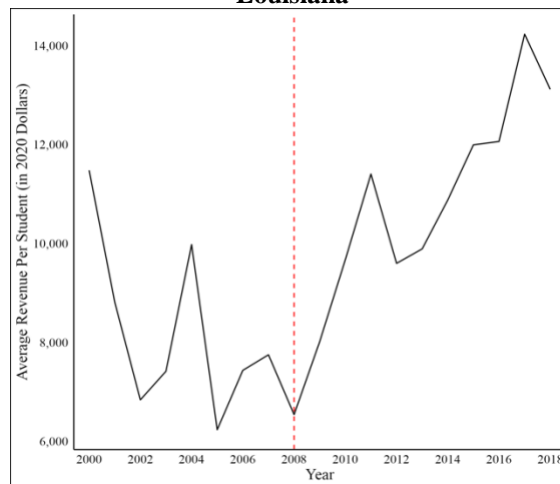
Iowa



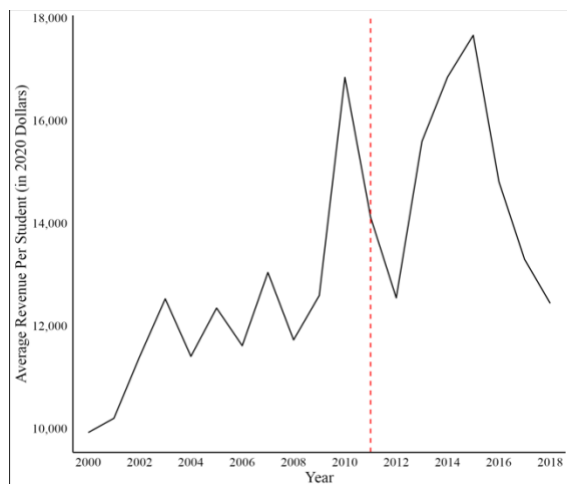
Arizona



Louisiana



Indiana



Wisconsin

