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The Long-Run Payoff of Universal ESAs in Texas

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Education prepares young people for success later in life. But because we tend to only be able to measure short term inputs and outputs (like per pupil funding and student test scores) we often fail to estimate how much a program costs or benefits over the long term.

Admittedly, the longer into the future one looks, the more uncertain the facts are. But with appropriate cautions in place, we can make some informed assumptions as to what will happen to students who participate in choice programs over the long term.

Private school choice programs have been repeatedly found to increase both high school graduation, college matriculation, and college graduation rates, for both participating students and for students who remain in public schools. All three of those are associated with higher lifetime earnings (and thus higher tax payments), and a host of other positive outcomes from longer, healthier life expectancies to decreased risks of either committing or being the victim of a crime.

Economists have put dollar amounts on those benefits, and thus if we can estimate how many more high school students will attain education at a higher level than they would have absent the program, we can project the long-term benefit of the program. Taking this into account, and erring on the side of conservative estimates, we can reasonably estimate **a positive long-term impact of a universal private educational choice program of between $1.3 billion and $19.8 billion in steady state** (once the program has been in place long enough for the full pipeline of participating cohorts across all grades K-12 to be represented). We also estimate systemic effects (benefits to changes in college outcomes for public school students) that we do not include in the topline estimates, thus providing another layer of caution to the analysis.

What we mean by "steady state." When we report results for "steady state," we mean the impact associated with all ESA students in K-12 in a given year, or the total benefit generated once the program has been in place long enough that participating students span all K–12 grade-level cohorts (roughly 13 cohorts moving through the pipeline at once). Readers who want an estimate for a single graduating cohort (one year's graduating class) can approximate it by dividing the steady-state totals by the number of grades in K-12 (i.e., 13).

In this sense, this brief takes a long view and makes a good-faith effort to estimate the benefits that accumulate over cohorts of students as they move through grades K through 12, based on empirical research on choice programs and benefits associated with educational attainment outcomes.

Choice's Long-Term Impacts

The term we use for indicators like high school graduation, college enrollment, and college graduation is "attainment." Different studies measure different things. Some look at high school graduation, others college graduation, but taken together, there have been nine studies of the attainment results of private school choice programs. Five of those studies found positive results for all participants, two studies found no visible effect, and one study found positive results for some subsets of students but no overall treatment effect.

Table 1 presents the studies and their results.

TABLE 1 Private School Choice Attainment Study Results

PROGRAM	YEAR	FINDING
Attainment of Program Participants		
Ohio EdChoice	2025	+15 pct pts College Enrollment, +9 pct pts College Graduation
Indiana Choice Scholarship	2021	+3 pct pts HS graduation, +8 pct pts College Attendance
Louisiana Scholarship Program	2021	No Impact on College Enrollment
D.C. Opportunity Scholarship Program	2023	No Impact on College Enrollment
Milwaukee Parental Choice Program	2019	+5 pct pts College Enrollment, 3 pct pt College Graduation (4 year)
D.C. Opportunity Scholarship Program	2013	+12 pct pts HS graduation
Florida Tax Credit Scholarship	2019	+6-10 pct pts College Enrollment, 1-5 pct pts increase in College Graduation (growing with more years in program)
New York Scholarship Program	2020	+8% College Enrollment, 7% College Graduation for minority students
Milwaukee Parental Choice Program	2013	+7 pct pts High School Graduation; +4 pct pts College Enrollment (4 year)
Attainment of Non-Participants in Public Schools		
Ohio EdChoice	2025	+3 pct pts College Enrollment, +6 pct pts College Graduation

For high school graduation, the range of results spans zero to 12 percentage points. For college enrollment, the range of results spans from 0 to 15 percentage points. For college graduation, the range of results spans from 1 to 9 percentage points.

The effects noted above apply to students participating in choice programs. A recent study also estimated positive attainment effects for non-participating students attending public schools. This represents the first-time researchers estimated attainment effects on public school students affected by choice competition. Students from public schools eligible for the choice program were estimated to have college enrollment rates 3 percentage points higher and bachelor's degree attainment rates 6 percentage points higher than their peers at non-eligible schools.

The Value of Increased Education Attainment

In 2005, the economist Cecilia Rouse (who is now the President of the Brookings Institution and was the chair of President Biden's Council of Economic Advisors) found that taken over the course of a working life, a high school diploma had a net present value of $260,000 in increased earnings (after taxes). She found that high school graduates tended to work more hours and earn more per hour than

those who had not completed high school. She then calculated that high school graduates' increased earnings would lead to around $60,000 in state and federal tax payments.[1]

But it isn't just more income. More highly educated people live longer, healthier lives. In raw terms, according to research published in *The Lancet*:

> "individuals who had completed a college degree had higher life expectancy compared with those who had completed some college education (by 0.3 to 2.0 years over the study period), those who had completed some college had higher life expectancy than the high-school graduate population (by 4.1 to 4.9 years over the study period), and those who had graduated high school had higher life expectancy than those with less than a high-school education (by 3.4 to 5.1 years over the study period)."[2]

This means that a person with a person with a bachelor's degree is expected to live between 7.8 and 12 years longer than a high school dropout.

When looking at what health economists call "Quality-Adjusted Life Years" (QALYs), or the years of additional life adjusted for how healthy the person is, researchers have estimated that each additional year of education results in 0.2-0.38 QALYs, which when this paper was published represented a monetary value of $8,322-$18,624 of health.[3]

But it isn't just income and health. There is evidence both that increased levels of education in general and private school choice program participation in particular lead to lower levels of crime. In a paper in the prestigious American Economic Review, two researchers found that additional education, and particularly a high school diploma "significantly reduces the probability of incarceration and arrest."[4] Each additional high school graduate led to $1,170 to $2,100 in benefits.

TABLE 2 **Positive Results of High School Completion**

STUDY	OUTCOME	FINDING
Rouse (2005)	Income and Tax	High school graduates earn on average $260,000 more and pay $60,000 more in state and federal taxes than non-completers.
Hirth and Lance (2010)	Health and Longevity	Each year of education leads to an increase of 0.2 to 0.38 Quality-Adjusted Life Years, worth $8,322 to $18,624
Lochner and Moretti (2002)	Crime	High school completion is associated with lower rates of both committing and being victims of crimes, set at a value of $1,170 to $2,100 in benefits

With respect to private school choice, DeAngelis & Wolf find that exposure to Milwaukee's voucher program in 8th/9th grade is associated with 53% fewer drug convictions, 86% fewer property-damage convictions, and 38% fewer paternity suits by ages 25–28 (relative to similar public-school peers) with effects largest for males and lower-achieving students.[5]

Summing up all of these findings in a 2013 paper in the journal Education Finance and Policy, Patrick Wolf and Michael McShane estimated that each additional high school graduate led to $347,519 in private benefit (increased earning and longer, healthier lifespan) and $87,240 in public benefit (from tax payments and decreased cost to crime).[6]

If we add those numbers together we get **$434,759**. Bringing that to 2025 dollars that means each additional high school graduate represents **$716,000** in benefits over a lifetime.

Participation in a universal ESA Program

To derive projected benefits from increases in long-run outcomes, we first estimate the number of students who will participate in the ESA program. The take-up rate is the percentage of eligible students who participate in the program. We generate a range of benefits based on 1.6% and 5% take-up rates.

We use a 1.6% rate for our lower-end estimates because it corresponds to the expected number of students that can be funded under the program's $1 billion funding limit.

This 1.6% to 5% range for ESA take-up rates is in line with participation in other states with universal ESA programs. For example, West Virginia's Hope Scholarship Program enrolled almost 1% of all K-12 students in the state during its first year, 2.3% in year 2, and 4.3% in year 3.

Arkansas launched a universal program with a participation cap for its first two years and will open the program to all K-12 students in its third year. Based on approved applications, the program is projected to enroll 9.8% of the state's K-12 students during this year.

For most states with choice programs with universal eligibility, including states that have had choice programs for multiple decades, the take-up rates fall within the 1% to 5% range.

Table 3 shows the projected number of students that would enroll in a universal ESA program in Texas under different take-up rates. A 1.6% take-up rate represents the 90,000 ESA students that can be funded with the $1 billion cap and 5% represents 277,213 ESA students. For simplicity, the estimates are based on public school counts only and exclude non-public school students. Including non-public school students would raise the participation numbers slightly.

TABLE 3 Participation in universal TX ESA program

TAKE-UP RATE	NUMBER OF ESA STUDENTS
1.6%	90,000
5%	277,213

Estimated Benefits for Students Who Participate in a Choice Program In Texas

According to the federal *Digest of Education Statistics*, Texas posts a 88.7% public high school averaged freshman graduation rate (AFGR), the gold standard for estimating the high school graduation rate.[7] It is worth noting that seeing nearly 90% of students graduate does raise some red flags. On the most recent Texas STAAR end-of-course tests, only 47% of students met state standards in Algebra I, only 51% met state standards in English I, and only 56% met standards in English II. Biology and US History both saw scores cross 60% (62% in Biology and 68% in US History), but even these numbers are a far cry from 88.7%.

It is possible, albeit unlikely, that students are making up a lot of ground between the end of Freshman or Sophomore year and the end of Senior year. The more likely explanation is that students are being

granted diplomas that are not truly qualified to receive them. We should expect a hit to the labor market outcome of such students, as their diploma does not actually mean what it purports to.

All of those caveats having been said, we will use the stated AFGR as a baseline. If there was no choice program, we assume that the graduation rate will be unchanged. If there is a choice program, it should change the graduation rate. For a 1.6% take-up rate for an ESA program, the number of students participating in the ESA program is 90,000. Multiplying these two numbers together, we would expect 79,830 of those ESA students to eventually graduate and 10,170 not to (in a world without choice). For a 5% ESA take-up rate, we would expect around 277,213 ESA students to eventually graduate and 31,325 not to.

For every one percentage point increase in the graduation rate, **900 additional students** will graduate in steady state.

If we multiply those 900 students by the $716,000 in benefits that come from high school graduation, that means **each additional percentage point gain in high school attainment leads to $644.4 million in steady state benefits**. Table 4 presents a range of potential benefits, based on changes in the graduation rate, for different ESA take-up rates.

Given this range, we can reasonably estimate **a positive long-term impact of between $1.3 billion and $19.8 billion in steady state**.

TABLE 4 Steady State Returns to Increased High School Graduation Rate for ESA Program Participants

GRADUATION RATE INCREASE	INCREASED NUMBER OF GRADUATES (SINGLE COHORT)	TOTAL BENEFIT (SINGLE COHORT)	INCREASED NUMBER OF GRADUATES (STEADY STATE)	TOTAL BENEFIT (STEADY STATE)
		1.6% ESA take-up rate		
2%	138	$99,138,462	1,800	$1,288,800,000
5%	346	$247,846,154	4,500	$3,222,000,000
10%	692	$495,692,308	9,000	$6,444,000,000
		5% ESA take-up rate		
2%	426	$305,346,462	5,544	$3,969,504,000
5%	1,066	$763,421,231	13,861	$9,924,476,000
10%	2,132	$1,526,787,385	27,721	$19,848,236,000

What's more, we can be confident that these are conservative estimates because choice programs are not just associated with increasing high school graduation rates. Choice program participants are more likely to enroll in college and graduate from college, both of which are associated with financial benefits, both higher incomes (and higher tax payments) and longer, healthier lives. To be on the safe side, the only hard numbers we are using in our estimates come from the paper published in the prestigious, peer-reviewed journal brought up to 2025 dollars. We are not adding any of these additional benefits.

Estimated Benefits for Public School Students

The numbers above are what we have included in our top-line forecast of the potential program impacts. But we know from other research that choice programs offer benefits not only to those who participate, but also to those students who remain in public schools from competitive effects. We are being conservative by not including them in our main findings, but it is worth walking through

some of the other ways in which a choice program could yield positive fiscal results. Perhaps the most substantial comes in increasing the college-going and college-completing rates of public school students.

According to the Texas Higher Education Coordinating Board (THECB), 377,367 students graduated from high school in SY 2022-23 (the most recent year the THECB reports outcomes for high school graduates). It also reports that 40.8% of these high school graduates enrolled in a Texas college or university in Fall 2023 (153,997 college attendees).[8]

Based on the most recent data reported by the THECB, 46.2% of students enrolling in college from the 2017, 2018, and 2019 high school graduating cohorts earned an associate degree, certificate, or bachelor's degree or higher.[9] Applying this rate to the 2022-23 high school graduating cohort implies that 174,185 students from that cohort graduated from college. We use these numbers as a baseline for projecting benefits from increased college enrollment and graduation.

As noted above, a study of the Ohio EdChoice program found the program increased college attendance among public school students by 3 percentage points and increased college graduation by 6 percentage points. Applying these increases to the baseline numbers above implies 11,321 more college attendees and 22,642 more college graduates.

Economists value the benefits from some college at $215,000 and benefits from graduating college at $1.1 million over a lifetime. (See the appendix for details about these estimates.) In real terms (2025 USD), these benefits from attending and graduating college are worth $322,000 and $1.65 million, respectively.

As table 5 shows, a 3 percentage point increase in college attendance for a single cohort of TX public school students implies lifetime benefits worth $3.6 billion while a 6 percentage point increase in college graduation implies benefits worth $37.4 billion. In terms of steady state cohort benefits over a lifetime, these improvements in college attendance and college graduation are worth an estimated $47.4 billion and $485.7 billion, respectively.

TABLE 5 **Returns to Increased College Enrollment and Graduation Among TX Public School Students**

	INCREASED NUMBER OF COLLEGE ATTENDEES	LIFETIME BENEFITS (SINGLE COHORT)	LIFETIME BENEFITS (STEADY STATE COHORT)*
Increased college attendance rate by 3%	11,321	$3,645,362,000	$47,389,706,000
Increased college graduation rate by 6%	22,642	$37,359,300,000	$485,670,900,000

** To derive estimated benefits on a steady state basis for all cohorts moving through K-12, we multiply the estimated benefits for a single cohort by 13.*

Because the returns to college are so substantial, even small changes in the college going rate can yield large dividends. Also, because competition from the choice program affects the entire (and thus much larger) public school system, we are multiplying a larger number by a larger number, and thus seeing substantial returns.

Conclusion

While there are a lot of numbers to process here, the logic couldn't be more straightforward. Higher levels of educational attainment lead to better life outcomes. Private school choice increases levels of attainment. Therefore creating a private school choice program should generate the benefits that come from those better life outcomes.

If Texas wants to have citizens who make more money (and thus pay more in taxes), live longer and healthier lives, and are both less likely to commit crimes and be the victims of them, increasing educational attainment is a prime route to accomplish it. Private school choice programs are a tool to increase educational attainment.

After that, we're just trying to estimate how much. It is challenging to do so, as the program is not static, with new students enrolling and graduating each year. It is difficult to decide what point in time to pick to say "this is the forecasted benefit." To make the best effort we can at finding that result, this brief focuses on estimating steady-state benefits, i.e., the impact once the program has matured and participating students span the full K–12 pipeline. This is also why we report ranges and model different potential outcomes, because the future is uncertain and there are multiple plausible scenarios of what could happen. That said, because the size of cohorts of students are likely to grow as the program grows, and because we chose not to include every possible benefit that could accrue as a result of the program, the results presented in this brief will likely understate the estimated total benefits.

Appendix: Additional potential benefits for choice participants

As stated above, we stuck to the high school graduation benefits for program participants because the estimates of the value of a high school diploma are close to unassailable. But here, we will make some more probationary estimates of the positive fiscal effects of increased college enrollment and graduation.

According to the Georgetown Center on Education and the Workforce,

> "a high school dropout can expect to earn $973,000 over a lifetime. Someone with a high school diploma can expect to earn $1.3 million over a lifetime. A worker with some college but no degree earns $1.5 million over a lifetime. An associate's degree-holder earns $1.7 million over a lifetime. A worker with a bachelor's degree will earn $2.3 million over a lifetime."[10]

This means that the average high school graduate will earn $327,000 more than the average high school dropout. The average student who attends some college will earn around $200,000 more than the average student with only a high school diploma. The average student with an associate's degree will earn $400,000 more than a student with only a high school diploma over the course of their working life. A student who earns a bachelor's degree will earn roughly a million dollars more than a student with only a high school diploma. If we use an estimate of a 20% tax rate across federal, state, and local that means anywhere from $80,000 to $200,000 in additional tax revenue.

Taken from the Georgetown statistics above, someone with some college will make around $200,000 more over a lifetime than someone with just a high school diploma, and someone who graduates from college will make around $1 million more than someone with just a high school diploma. Take that with the health benefits of the additional years of education from the papers cited above and we see that adding between 2-6 years of additional education results in $16,644 to $111,744 in health benefits per student.

Given the size of the benefits, it is clear to see that even small changes in the percentage of students who attend and graduate from college can lead to large benefits. A range of potential results, reported in lifetime steady state cohort terms, are displayed in Appendix Table 1.

APPENDIX TABLE 1 STEADY STATE BENEFITS TO INCREASED COLLEGE ENROLLMENT AND GRADUATION AMONG CHOICE PROGRAM PARTICIPANTS

INCREASED COLLEGE ATTENDANCE RATE	INCREASED NUMBER OF COLLEGE ATTENDEES	LIFETIME BENEFITS (STEADY STATE COHORT)	INCREASED NUMBER OF COLLEGE ATTENDEES	LIFETIME BENEFITS (STEADY STATE COHORT)
no change	0	$0	0	$0
5%	3,992	$1,285,424,000	12,294	$3,958,668,000
10%	7,983	$2,570,526,000	24,589	$7,917,658,000
15%	11,975	$3,855,950,000	36,883	$11,876,326,000

INCREASED COLLEGE GRADUATION RATE	INCREASED NUMBER OF COLLEGE GRADUATES	LIFETIME BENEFITS (STEADY STATE COHORT)	INCREASED NUMBER OF COLLEGE ATTENDEES	LIFETIME BENEFITS (STEADY STATE COHORT)
1%	798	$1,316,700,000	2,459	$4,057,350,000
5%	3,992	$6,586,800,000	12,294	$20,285,100,000
10%	7,983	$13,171,950,000	24,589	$40,571,850,000

Note: steady state cohort refers to all cohorts (grades) moving through K-12 in a given year.

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