

# TEXAS PUBLIC POLICY FOUNDATION

## Should Texas Adopt a School Choice Program? *An Evaluation of the Horizon Scholarship Program in San Antonio*

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March 2007



By John W. Diamond

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# Should Texas Adopt a School Choice Program?

*An Evaluation of the Horizon Scholarship Program in San Antonio*

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# Should Texas Adopt a School Choice Program?

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By John W. Diamond

Kelly Fellow in Tax Policy, Baker Institute, Rice University

### Executive Summary

Research from Milwaukee, Cleveland, Washington, DC, and elsewhere around the country has demonstrated the positive effects of school choice on public and private school students alike. But many Texans may not realize that a private school choice program exists right here in our own state.

That program—the Horizon Scholarship Program in San Antonio, Texas—is the focus of this study. The Horizon program is a privately-funded scholarship program that, beginning in the 1998-99 school year, enabled *any student* in Edgewood Independent School District (EISD) to attend the public or private school of his or her choice.

In this study, Dr. John Diamond communicates the following findings regarding the Horizon program:

- Despite spending less per student than public schools, Horizon boasts a 93 percent college-going rate
- Parents of Horizon participants reported higher satisfaction with their choice school

Clearly, Horizon participants and their families seemed to benefit from the program. Diamond also found that EISD did not suffer as a result of the school choice program:

- Per-student spending in EISD increased after school choice was introduced
- Private schools did not siphon off the best and brightest students from EISD
- EISD did not face an immediate or drastic dip in enrollment as a result of the Horizon program

In fact, Diamond found that students choosing to remain in EISD actually benefited as a result of the Horizon program:

- The percentage of EISD students who passed the TAAS/TAKS exam increased more rapidly after school choice was introduced
- The graduation rate for EISD students increased at a faster rate relative to all other state students since school choice was introduced

In an effort to put these findings in perspective, Diamond has also included a substantial review of school choice research from around the country.

His conclusion: “A well-designed school voucher program targeted to low and middle-income families would be likely to increase achievement of both students who participate in school voucher programs and students who remain in public schools.... School vouchers, in conjunction with other potential reforms, would almost certainly improve the educational outcomes of many Texas school children.”

## Introduction

During the 80th Texas Legislature in 2007, legislators will likely once again be confronted with the contentious debate on adopting a school voucher program. In this paper, I focus on this issue—that is, the question of whether Texas should adopt a school voucher program and, if so, how it should be designed. In particular, I examine the impact of the Horizon Scholarship Program (a privately-funded, district-wide voucher program in the Edgewood Independent School District in San Antonio, Texas) and review the existing literature on school vouchers in an effort to inform the debate on the use of school vouchers in Texas.

The issue of education reform, and more specifically the potential for school vouchers to play a role in any reform plan, is of utmost importance, especially given the effects of globalization on the labor market and the distribution of wealth, ongoing demographic changes in the Texas population, and what some observers have described as a graduation rate crisis in Texas.<sup>1</sup> Proponents of school vouchers argue that increased competition in education will lead to a more efficient use of resources in the public sector, and thus should be considered in any discussion of how to improve the provision of education in Texas. In contrast, opponents argue that school vouchers would undermine the public school system by reducing resources and support for public schools.

In this paper, I will address the following three concerns often cited by legislators when considering the implementation of a school voucher program: (1) that there is no benefit to adopting a school voucher program; (2) that school vouchers allow private schools to select high-achieving students from public schools and leave behind low-achieving students in failing schools; and (3) that school vouchers siphon resources and public support away from public schools, thus hampering the ability of public schools to educate the students who remain.

The paper is organized as follows. The next section describes Edgewood Independent School District and the Horizon Scholarship Program. The third section examines the effects of the Horizon program on the ability of the Edgewood Independent School District to educate children in its schools. The fourth section summarizes the impact of the Horizon program on students who chose to participate in the program. The fifth section reviews the existing literature on school choice in an attempt to shed light on the concerns of legislators that were mentioned above. The final section draws out the implications of the recent experience with school vouchers in other states and the Horizon program.

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<sup>1</sup> See Losen, Orfield, and Balfanz (2006), Swanson (2006), and Gottlob (2007) for more information on graduation rates in Texas.

## The Horizon Scholarship Program

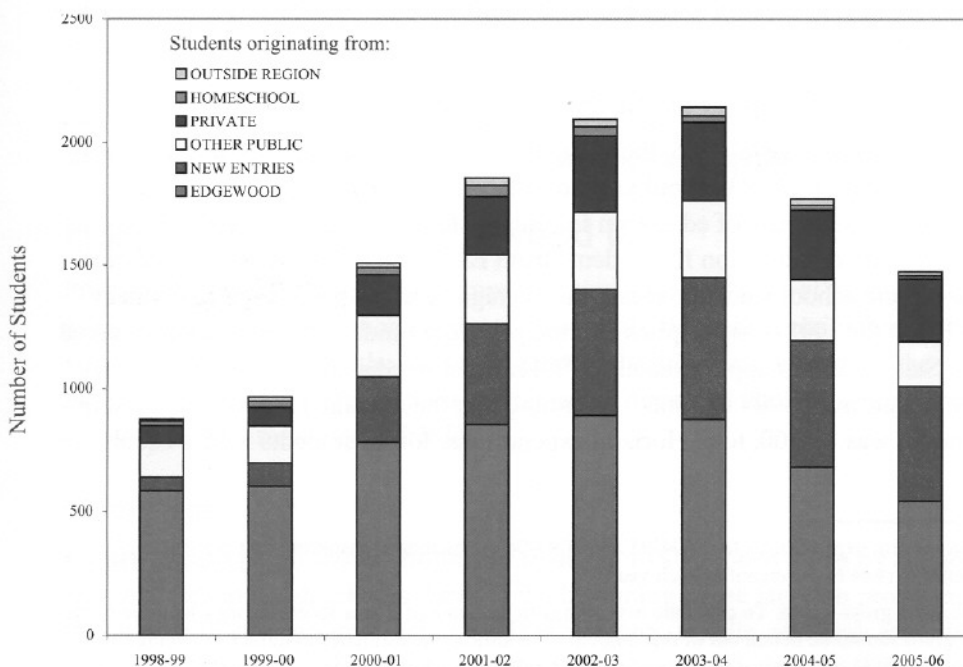
In the 1998-99 school year, the Children's Educational Opportunity Foundation began the Horizon Scholarship Program, a 10-year, \$50 million program to provide privately funded scholarships to students in the Edgewood Independent School District (EISD). Participating students can use the scholarship to attend the public or private school of their choice. To qualify, students must reside in EISD and meet the income test for the federal free or reduced price lunch program. For students in pre-K through 8th grade the scholarship amount is up to \$3,600 and for students in 9th through 12th grade the scholarship amount is up to \$4,000.

EISD is a particularly interesting district to examine given the makeup of the student population. EISD students are overwhelmingly economically disadvantaged and almost entirely Hispanic. In 2005-06, the Texas Education Agency reports that 92.1 percent of the student population was economically disadvantaged and 97.3 percent was Hispanic. More than 20 percent of the student population was not proficient in English. In addition, 74.4 percent of the student population was regarded as at-risk by the Texas Education Agency. Thus the Horizon program provides a great opportunity to examine the effects of school vouchers on low-income, at-risk students.

### Participation in the Horizon Program

Figure 1 shows how participation in Horizon has varied since the program began. In its initial year, Horizon provided scholarships to 584 EISD students, 140

Figure 1: Participation in Horizon Scholarship Program



Source: Dr. Timothy Gronberg & Dr. Lori Taylor, Texas A&M University; Data provided by Horizon program.

students from other public schools, 74 students who were entering school for the first time, 71 private school students (primarily private preschool and kindergarten), and 19 students who were home schooled the previous year. Participation in the Horizon program more than doubled between 1998-99 and 2003-04, increasing from 877 to 2,144 students. However, by the 2005-06 school year, participation in the Horizon program declined to 1,475 students because budget forecasts required restricting the number of new entrants into the program. (Specifically, the program would have outgrown its \$50 million budget before the end of its 10-year commitment. Accordingly, program administrators began reducing the number of applicants through attrition.)

The percentage of Horizon scholarships given to current EISD students has decreased steadily from 67 percent in the initial year of the program to 37 percent in 2005-06, while the percentage of students not in school the previous year increased steadily from 6 to 32 percent. This pattern shows that growth in the program was driven by new entrants into elementary school after the first year. In fact, from 1998-99 to the present, over one third of the new participants in the Horizon program were drawn from elementary grade levels, especially pre-kindergarten and kindergarten. In addition, the large number of participants who lived in EISD but attended other public schools demonstrates that parents will go to great lengths to ensure a better education for their children. These students were either misrepresenting their address, or living with another family member, in order to gain access to another school district. Students from outside the region moved to EISD prior to enrolling in Horizon, in many cases specifically for the program. (In fact, some real estate and apartment agents began using Horizon as a marketing tool.) **Figure 2** (next page) shows that the average age of Horizon participants began increasing after the 2000-01 school year.

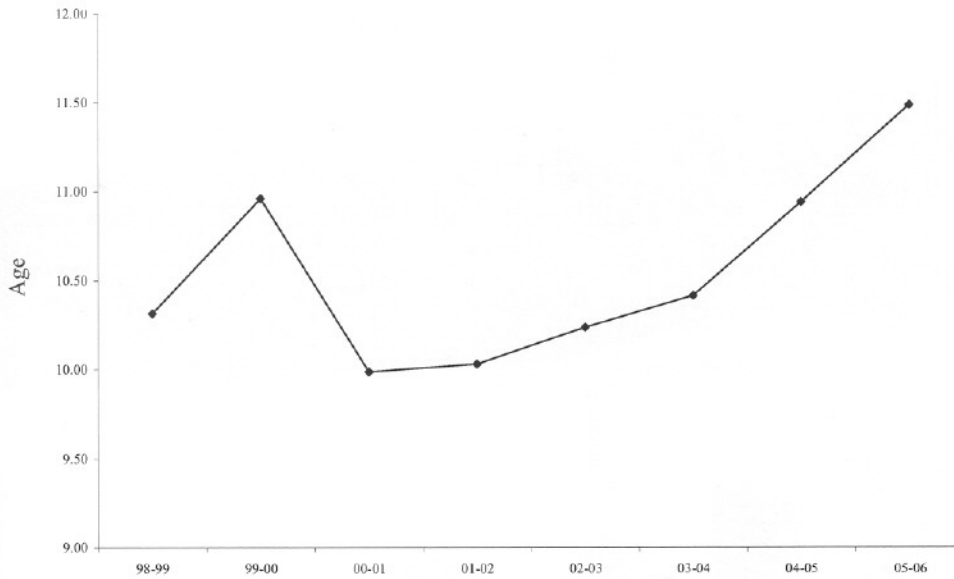
### The Financial Impact of the Horizon Program

Over the period 1998-2006, the Horizon scholarship program has provided students a total of 12,693 school years of education. Horizon has privately financed 10,980 years of education for public school students, which includes 8,883 years of education for students from EISD, and 1,713 years of education for private school students. Using the average actual expenditures per student<sup>2</sup> in EISD for 1998-2006 implies that the privately funded Horizon program saved the State of Texas approximately \$77.4 million in education expenditures over the period from 1998 to 2006.<sup>3</sup> Assuming that the average Horizon scholarship amount was \$3,800, total Horizon expenditures for all students would equal

<sup>2</sup>Per student expenditures for 2004-05 and 2005-06 are estimated assuming that per student spending rises by 3 percent in each year.

<sup>3</sup>This is a gross figure. To calculate net savings to the State of Texas federal money lost due to the program should be netted out of this amount. In addition, the estimates assume that average students in EISD (in terms of the cost of providing for their education) are the ones that left to participate in the Horizon program.

Figure 2: Average Age of Horizon Participants by Year



Source: Author's calculations based on data provided by Horizon program.

\$48.2 million. Since Horizon covered roughly 95 percent of all tuition, participants in the program would have paid the remaining 5 percent, or \$2.4 million. Thus, total expenditures on private schools under the Horizon program were \$50.6 million. This is \$26.8 million less than it would have cost to educate these students in EISD. Under a state financed voucher program, the difference between the public and private cost of educating students could be used to assure that public school resources per student were held constant, or even increased. In this case, if the State of Texas had financed the vouchers for the Horizon participants, a portion of the difference would have been available to ensure that public schools that lost students to private schools maintained a constant per-student spending level.

### Horizon's Impact on Edgewood ISD

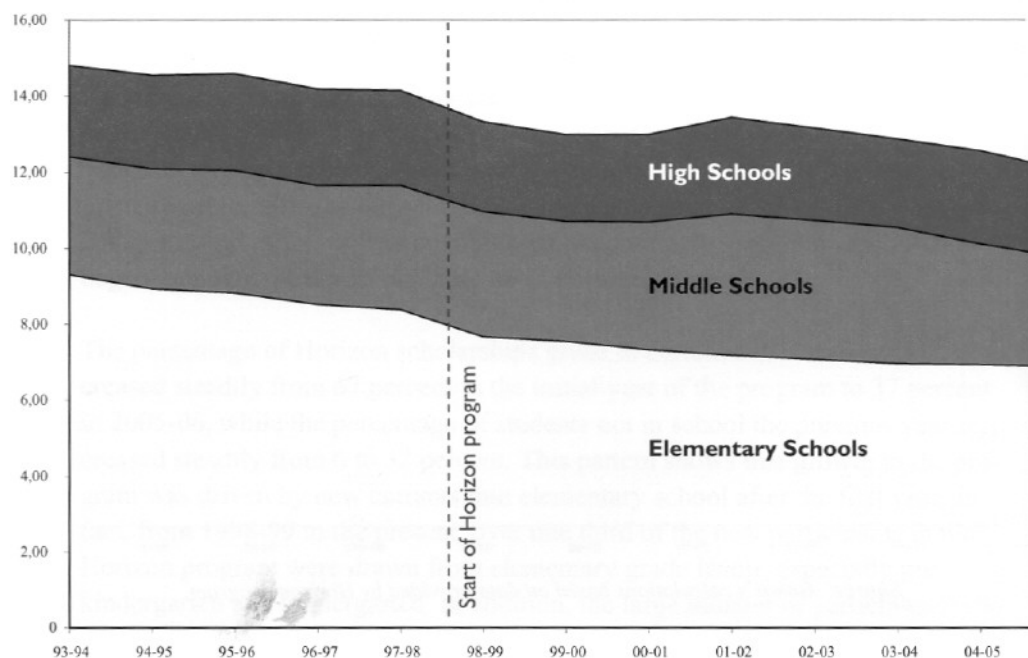
Proponents argue that increased competition would raise the level of academic achievement for public school students. In contrast, opponents claim that school vouchers would decrease the quality of public education and undermine the public school system. This section examines the impact of the Horizon program on students who remained in EISD.

#### Enrollment

Figure 3 (next page) shows enrollment trends in EISD broken down by elementary, middle, and high schools. Prior to the beginning of the Horizon program, the number of students enrolled in EISD elementary, middle, and high schools had been declining. In the first year of the horizon program, the rate of decline



Figure 3: Edgewood ISD Enrollment



Source: Author's calculations based on TEA AEIS data.

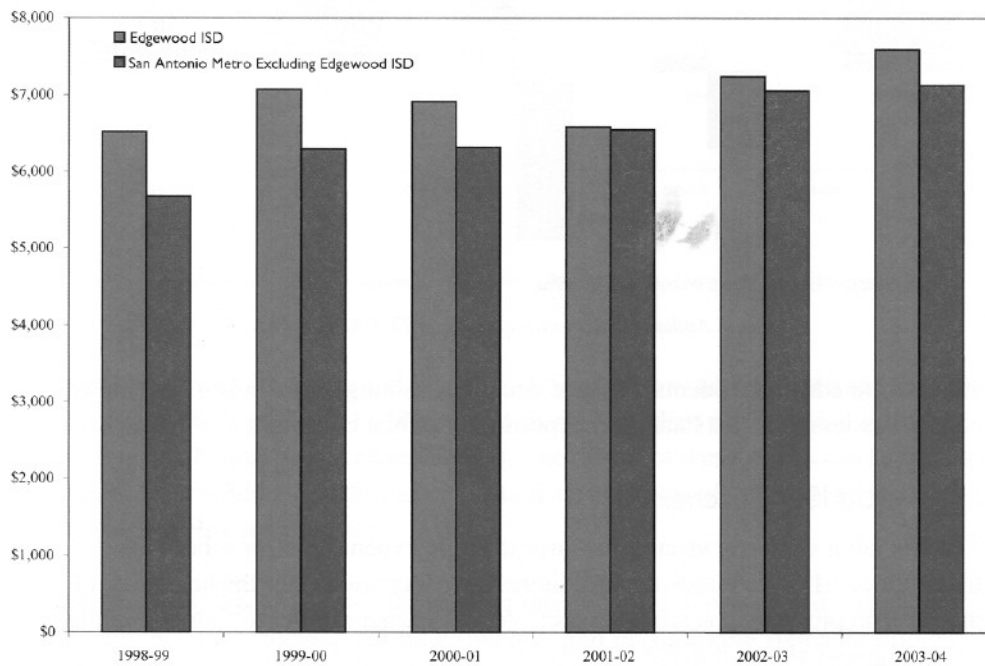
increased further, due to both the beginning of the Horizon program, as well as the closure of a large public housing development located in EISD. In the 1998-99 school year, 584 students who were previously enrolled in EISD schools left for the Horizon program and 55 students zoned to EISD who were not in school the previous year chose to participate in the Horizon program. Thus, the Horizon program decreased EISD enrollment in 1998-99 by 639 students—less than 5 percent of EISD enrollment. However, actual enrollment in EISD fell by 819, a decrease of 180 students more than the number of students who left EISD for the Horizon program. Total EISD enrollment increased in 2000-01 and 2001-02 even though an additional 567 students who had been enrolled in EISD the previous year left for the Horizon program. Horizon enrollment as a percentage of EISD enrollment peaked at 11 percent in 2001-02. Since then, enrollment in EISD has continued to decline, even as enrollment in the Horizon program has declined due to budgetary restrictions.

There is no doubt that the Horizon program affected enrollment in EISD, but, gloomy predictions that Horizon would have a detrimental effect on EISD did not come to pass. The argument made by the opponents of school vouchers that public schools will be adversely affected by a mass exodus of students is undermined by the relatively modest participation in the Horizon program and in a number of other school voucher programs nationwide.

### Edgewood ISD Expenditures

From 1998 to 2006, the Horizon program reduced EISD enrollment by 8,883 student years (or about 1,100 students per year on average), and thus also reduced the financial resources available to EISD. However, per-student spending actually increased in EISD after the start of Horizon. **Figure 4** illustrates that actual operating expenditures per pupil in EISD have remained above the level in the surrounding metropolitan area. While the gap narrowed for the 2000-01 and 2001-02 school years, it has since started to rebound in the 2002-03 and 2003-04 school years.

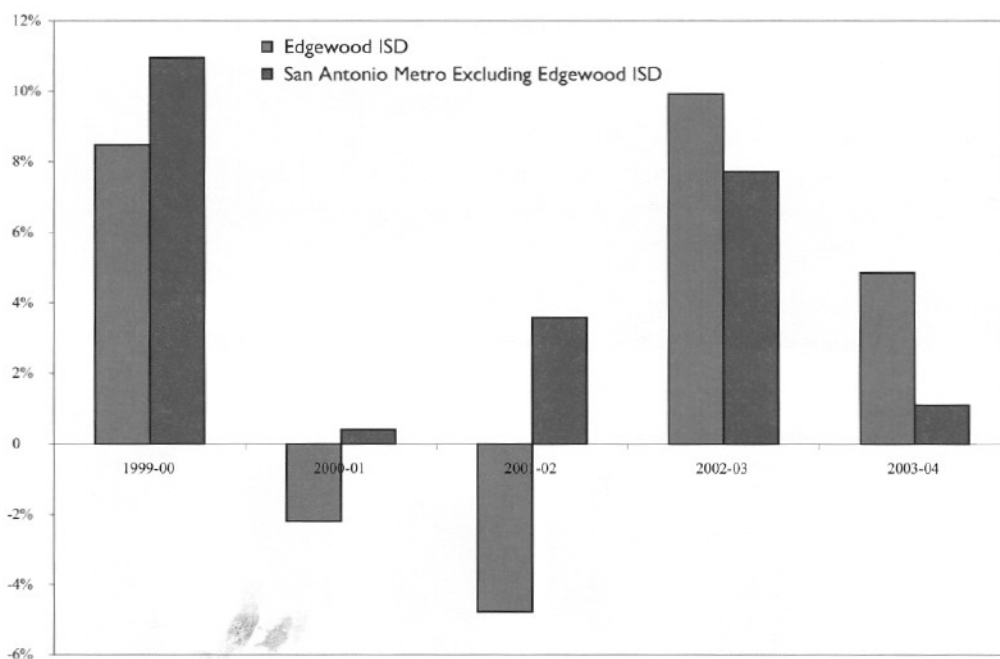
Figure 4: Actual Operating Expenditures Per Pupil



Source: Dr. Timothy Gronberg & Dr. Lori Taylor, Texas A&M University; TEA AEIS data.

**Figure 5** (next page) shows the growth rates in actual operating expenditures per pupil for EISD and the surrounding metropolitan area excluding EISD. During the peak years of the Horizon program (school years 2002-03 and 2003-04), the growth rate of actual operating expenditures per pupil for EISD was much larger than for the surrounding metropolitan areas. This suggests that the Horizon scholarship program did not negatively impact the financial health of EISD, at least in terms of per pupil expenditures, as is often argued by opponents of school vouchers. Furthermore, if a school district loses a student for any reason (moving, dropping out, or transferring to a private school) it currently loses all of the funds allocated to educate that student. It is possible, however, to design a voucher program that allows school districts to keep a fraction of the funds

Figure 5: Growth Rate of Actual Operating Expenditures Per Pupil



Source: Author's calculations based on TEA AEIS data.

Specifically, average teacher salaries in EISD have increased by 30 percent since the beginning of Horizon, compared to 21.8 percent in surrounding districts.

allocated to educate students who use vouchers, as long as the cost of private education was less than the state funded portion of public education.

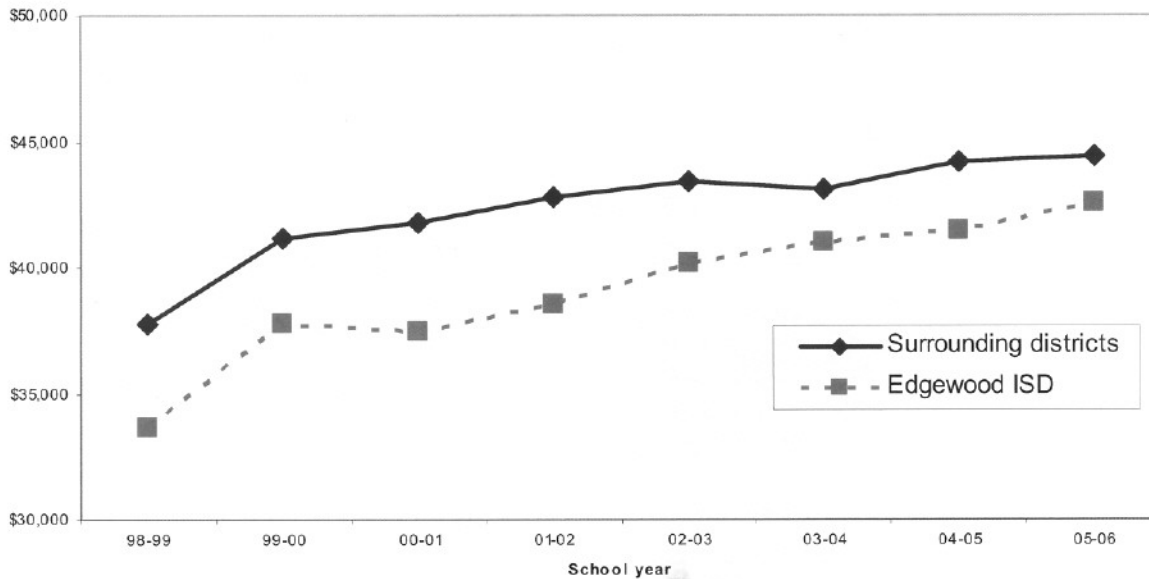
### Edgewood ISD Teacher Pay

Teacher labor costs are usually the largest single expenditure for school districts. Since EISD per-student expenditures have increased since the beginning of the Horizon program, one would expect average teacher salaries to follow a similar trend. **Figure 6** shows that EISD teacher salaries have, in fact, increased faster than those of surrounding districts. Specifically, average teacher salaries in EISD have increased by 30 percent since the beginning of Horizon, compared to 21.8 percent in surrounding districts. This pattern is consistent with research from Vedder and Hall (1999) finding that increased competition between public and private schools results in higher salaries for public school teachers.

### Edgewood ISD Standardized Test Scores

Standardized test results are another source of information that can be used to determine the impact of the Horizon program on students in EISD. The Texas accountability system requires school districts to administer exams to its students and make the information available to parents and the Texas Education Agency. Prior to 2003, the Texas Assessment of Academic Skills (TAAS) exam was administered to all non-exempt students in grades 3-8 and in the 10th grade. Starting in 2003, the Texas

Figure 6: Teacher Salaries in Edgewood ISD  
Compared to Surrounding Districts

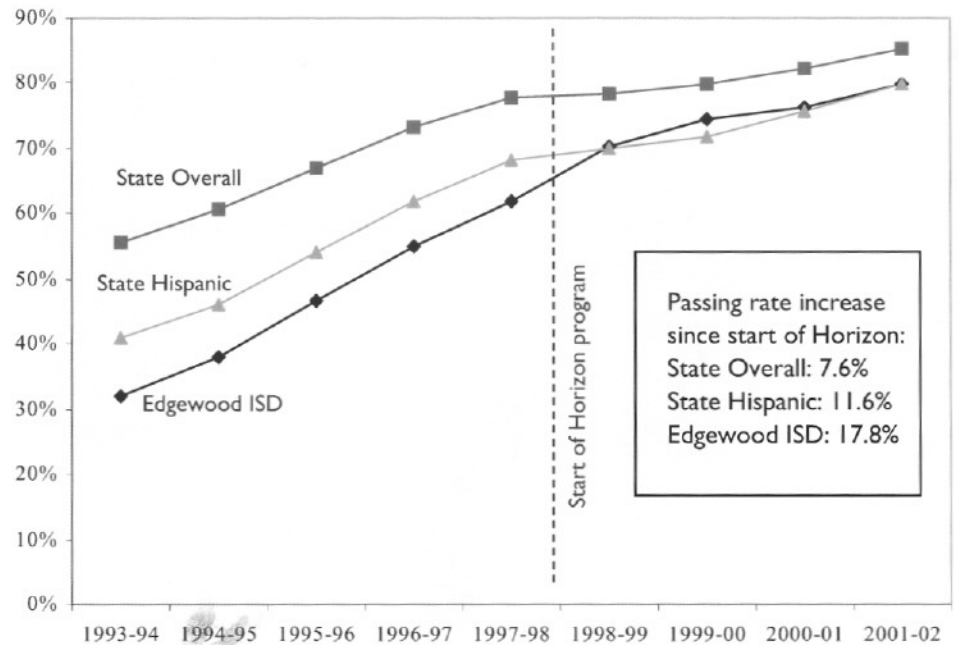


Source: Author's calculations based on TEA AEIS data.

Assessment of Knowledge and Skills (TAKS) exam was administered to all nonexempt students in grades 3-11. The exams measure student performance in reading, writing, mathematics, and other subjects. The results of these exams can be used to examine the academic performance of students in EISD before and after the beginning of the Horizon program.

Figure 7 (next page) shows the passing rates on state administered standardized exams for EISD students, all state students, and all statewide Hispanic students from 1994 to 2006. From 1994 to 2002 student results on the TAAS exam are reported, and after 2002 student results on the TAKS exam are reported. The period from 1994 to 1998 is the pre-Horizon period and the period from 1999 to 2006 is the post-Horizon period. In 1994, the TAAS exam passing rate for all state students was 23.7 percentage points higher than the passing rate for EISD students. From 1994 to 1998, the four year period prior to the beginning of the Horizon program, EISD closed the gap by 8 percentage points. From 1999 to 2002, the four year period after the beginning of the Horizon program, EISD closed the gap by 10.2 percentage points. On average, EISD closed the gap in the passing rate (relative to the state rate) by 2 percentage points in the four year period prior to Horizon and by 2.6 percentage points in the four year period after Horizon. By 2002, the gap between the overall state passing rate and the EISD passing rate on the TAAS exam was only 5.5 percentage points, with EISD outperforming the state averages for Hispanic and low-income students.

Figure 7: TAAS Passing Rates in EISD and Texas

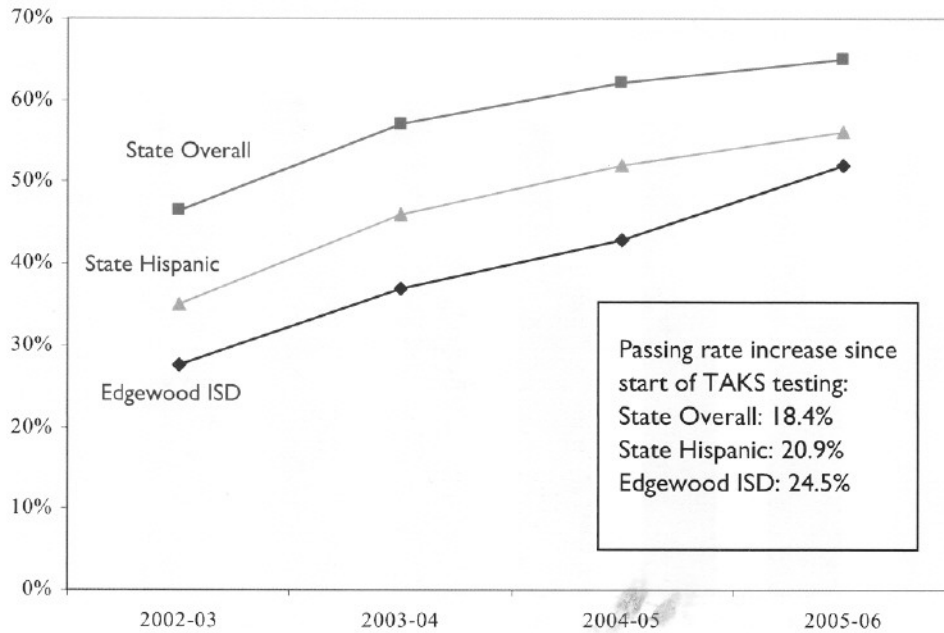


Source: Author's calculations based on TEA AEIS data.

Beginning in 2003, the State of Texas switched from the TAAS to the TAKS exam. The TAKS is a more academically challenging exam than the TAAS, which accounts for much of the decline in passing rates shown in **Figure 8**. It is apparent that the passing rate in EISD, as well as for Hispanic students state-wide, decreased by more than the state passing rate after the switch to the new exam. In 2004 and 2005, the passing rate increased for the state as a whole and EISD and at the same time the gap in the state and EISD passing rates remained constant, which implies that the passing rate in EISD was growing more rapidly than the state average overall. In 2006, the EISD passing rate increased by 6 percentage points more than the state passing rate. From 2003 to 2006, the percentage of EISD students passing the TAKS grew at an average annual rate of 24 percent in relation to an average annual rate of growth of 12 percent for the state average overall.

This provides more evidence that the Horizon program did not negatively impact the academic achievement of students in EISD. Moreover, this evidence is inconsistent with the notion that private schools would only accept the "best and brightest" students from EISD, which is the next topic of discussion.

Figure 8: TAKS Passing Rates in EISD and Texas



Source: Author's calculations based on TEA AEIS data.

### Did Edgewood ISD Lose Its Best Students?

Opponents of school vouchers claim that vouchers would allow private schools to attract the “best and brightest” students away from public schools—often referred to as “cream skimming.” For example, on April 23, 1998, the Abilene Reporter-News reported that an official of the Texas Federation of Teachers said school vouchers “shorten the honor roll” in public schools and allow private schools to “cherry-pick” students from public schools. However, an evaluation of the first year of the Horizon program by Peterson, Myers and Howell (1999),<sup>4</sup> shows that Horizon participants were generally very similar to the EISD student population. Their evaluation of the program showed that test scores for students in the first year were generally similar across Horizon participants and EISD public school students. In fact, Horizon students only scored in the 37<sup>th</sup> percentile in math and 35<sup>th</sup> percentile in reading—far below average on the Iowa Test of Basic Skills. In contrast to the “best and brightest” argument put forth by opponents of school vouchers, they report that 29 percent of public school students had been in programs for gifted students compared to 23 percent of voucher students. In the initial year of the program, Horizon partici-

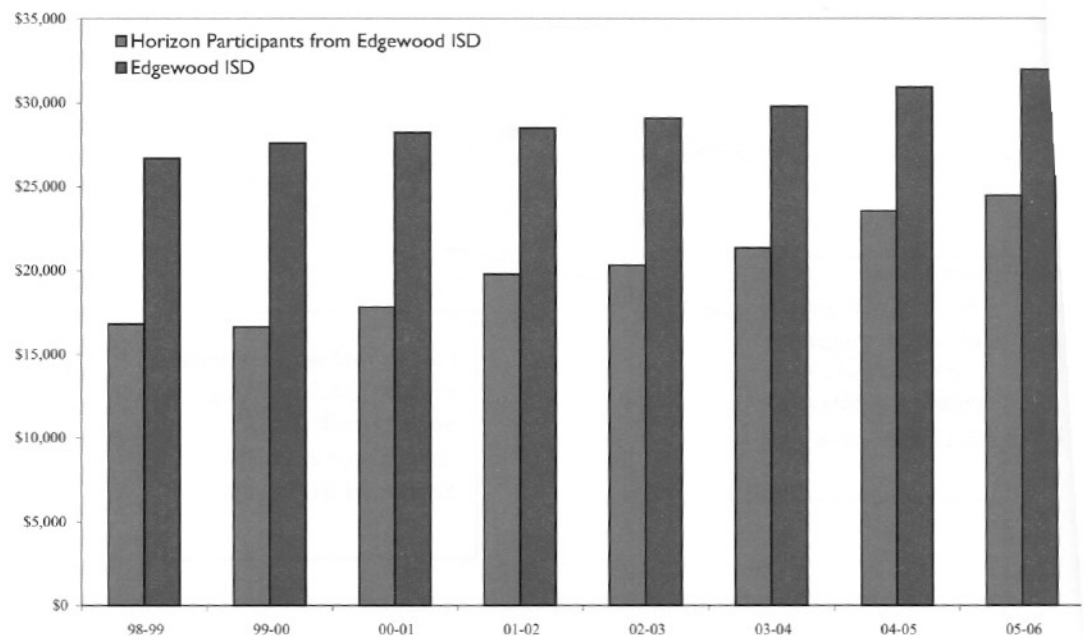
<sup>4</sup>This research was sponsored by the Harvard Program on Education Policy and Governance and Mathematica Policy Research.

### Annual Percent Change in TAKS Passing Rates Since Horizon Began

Year	Edgewood	Statewide
1999	13%	1%
2000	6%	2%
2001	2%	3%
2002	5%	4%
2003*	N/A	N/A
2004	35%	22%
2005	16%	9%
2006	21%	5%

\*Transition from TAAS to TAKS

Figure 9: Median Annual Income for Families with Children



Median Edgewood income adjusted for inflation using the South Urban CPI-U; the 2006 CPI-U is an estimate extrapolated from data for the first 10 months of the year.

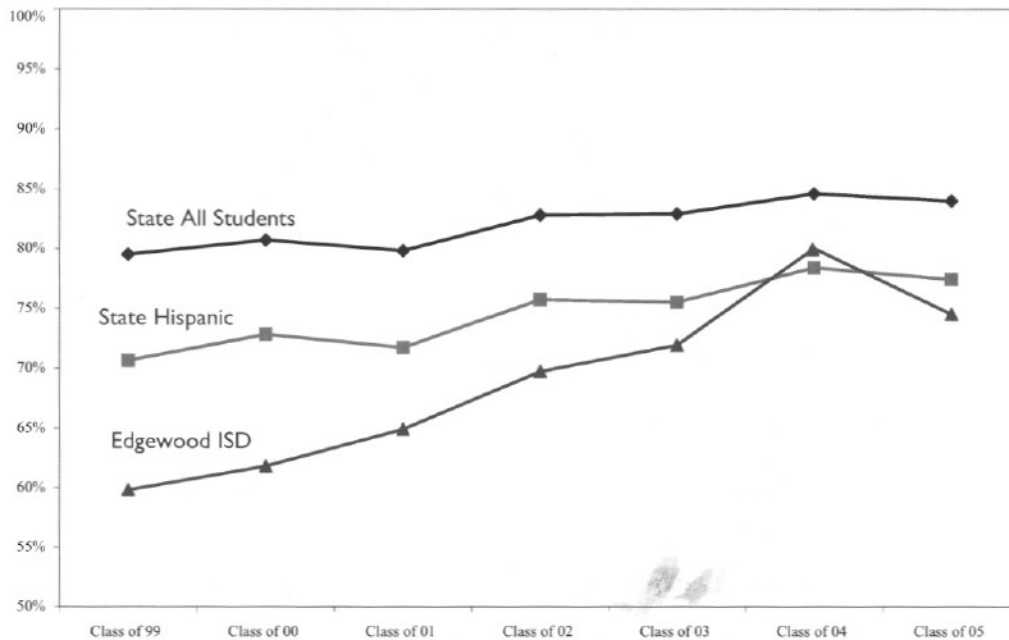
*Source:* Dr. Timothy Gronberg & Dr. Lori Taylor, Texas A&M University; Data provided by Horizon program.

pants and non-participants were no different in terms of scores on standardized exams. In addition, 8 percent of the Horizon participants were identified by their parents as having learning disabilities.

EISD and Horizon students also exhibited similar demographic characteristics. Peterson, Myers and Howell report that 96 percent of voucher students were Latino in comparison to 93 percent of EISD students. **Figure 9** shows the median income of families with students in the Horizon program and for families of EISD students. The 2000 U.S. Census reports that annual median income for families with children in EISD was \$26,865 in 1999. By comparison, the median income of families that participate in the Horizon program and did not previously attend a private school, other public schools in the area, or a home school was \$16,807. In other words, the average income of families who left the public schools was 37 percent lower than the typical Edgewood ISD family income. This indicates that private schools are not picking students based on family income, which has been correlated with academic success.

Altogether, this evidence refutes the claim that private schools selected Horizon participants based on income or prior academic success as suggested by the opponents of school vouchers.

Figure 10: Graduation Rates



Source: Author's calculations based on TEA AEIS data.

### Graduation and Drop-Out Rates

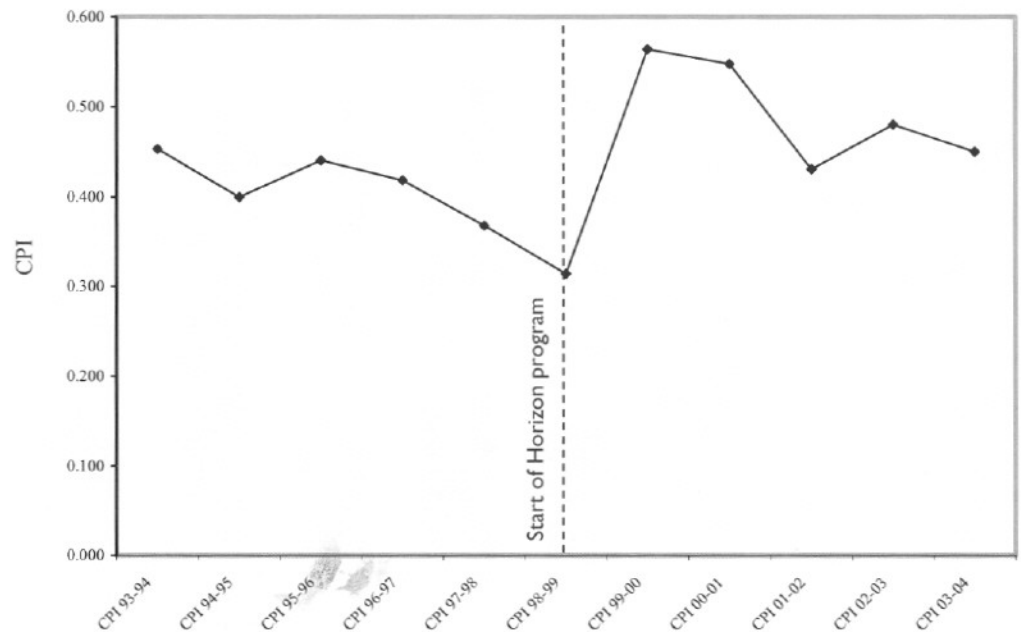
Given the current graduation and drop-out rate crisis in Texas, an important question is how school vouchers affect the graduation rate of students who participate in voucher programs and students who remain behind in public schools. The evidence, reviewed in a later section, clearly suggests students who participate in voucher programs are more likely to graduate and go to college; this is especially true for low-income students and minorities. It also suggests that increased competition from school vouchers will tend to increase graduation rates in the public school system.

**Figure 10** illustrates that graduation rates in EISD, as reported by the Texas Education Agency (TEA), have increased at a much faster rate in relation to the graduation rate for all state students since the beginning of the Horizon program. From 1999 to 2005, the graduation rate for all EISD students increased by 25 percent, or 15 basis points. Similarly, the graduation rate for Hispanic students in EISD increased by 26 percent. The graduation rate for all state students increased by 5.7 percent, or 4.5 basis points. In other words, the graduation rate of EISD increased more than four times faster than the statewide graduation rate. However, TEA graduation rates have been heavily criticized because they grossly inflate the graduation rate. An alternative measure of the graduation rate outlined in Swanson (2006), called the Cumulative Promotion Index (CPI), is a more accurate measure of the graduation rate. This measure shows the graduation rate for a specific year rather than a specific graduating class.

The graduation rate of EISD increased more than four times faster than the statewide graduation rate.



Figure 11: Edgewood Graduation Rate Under the Cumulative Promotion Index



Source: Author's calculations based on TEA AEIS data.

**Figure 11** shows the EISD graduation rate using the CPI method. Prior to Horizon, the EISD graduation rate was declining and dipped as low as 31 percent. However, the graduation rate in EISD began to increase in the 1998-99 school year, which not surprisingly is the year the Horizon program began. While it cannot be proven that Horizon led directly to this increase, it supports the view that the Horizon program did not negatively impact EISD students who opted to stay in the public school system. Moreover, such a large increase in the graduation rate is inconsistent with the view that private schools under the Horizon program were cherry-picking the best and brightest students away from EISD, which if it were true would likely imply a declining graduation rate after the Horizon program began.

The rather low graduation rate calculated for EISD is a sobering statistic that is consistent with estimates of graduation rates for low-income and minority students in schools that have a high degree of socioeconomic segregation. Coleman et al. (1966) found that other than the influence of the family the socioeconomic status of a school is the single most important determinant of student achievement. This finding has been affirmed repeatedly in the literature.<sup>5</sup> Contrary to socioeconomic quotas, which would force otherwise productive students into

<sup>5</sup>See Kahlenberg (2001, pp.25-35) and R.W. Rumberger and G.J. Palardy (2005).

failing schools and create much political dissension, only a well-designed school choice program offers a viable solution to this problem, which is of paramount importance in determining the productivity of the future workforce in the State of Texas.

## The Impact on Horizon Participants

There are numerous studies examining whether students who participated in school choice programs benefited from doing so. As discussed in a later section, the general conclusion of these studies is that student achievement gains as a result of school choice are likely, especially in programs targeted towards low-income children.

The design of the Horizon program, which took all comers in its first several years, precluded the random selection of a control group. Therefore, it is difficult to statistically estimate the impact of the Horizon program on the standardized test scores of participating students. In addition, there is insufficient data on graduation rates for Horizon students, since Horizon was too often unable to locate students if they left the Horizon program, other than to note if they returned to the public school system. Furthermore, an increase in the number of students leaving the program in the higher grade levels should be somewhat expected since the proportion of high school students that received reimbursement for the full cost of tuition was declining for every year after 2000. This makes it impossible to calculate the graduation rate of students in the Horizon program with the current data.

However, Horizon was able to track the post-secondary activities of its graduates. In 2005, the college attendance rate of Horizon graduates was 91 percent. In 2006, the college attendance rate of Horizon graduates was 93 percent.<sup>6</sup> The vast majority of the college-bound students were Hispanic and, as mentioned earlier, their average family income was less than \$25,000—22 percent less than the average EISD family income. This is important given the findings of Tienda et al. (2003) that only 62 percent of Hispanic high school seniors reported they were college bound in 2002. Tienda et al. (2003) also found that nearly 90 percent of Asian seniors, 75 percent of whites, and 75 percent of blacks reported they were college bound. Given that only 54 percent of Edgewood students took the SAT or ACT, as compared to 66 percent statewide, the college-going rates for Edgewood are likely much lower than these numbers suggest. Thus, school choice may be a useful policy tool to increase college attendance rates.

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In 2005, the college attendance rate of Horizon graduates was 91 percent. In 2006, the college attendance rate of Horizon graduates was 93 percent.

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<sup>6</sup>Given that income may have been a factor in Horizon's attrition, the college-going rates for 2005 and 2006 may be biased.

As noted by Witte, Stern, and Thorn (1995), parents of students who participated in voucher programs tended to view school choice very positively, and parents' attitudes were more positive toward their current private school relative to their old public school. A survey of participants in the Horizon program by Peterson, Myers, and Howell (1999) reported that 61 percent of voucher parents were satisfied with the quality of their child's school relative to 35 percent of public school parents. This is no surprise; one would expect parents to be more satisfied when given the opportunity to positively affect the educational opportunities their children receive.

In as much as the Horizon program precluded the selection of a control group, there is little statistical evidence of the effect of Horizon on students who chose to participate in the program. But the available evidence suggests, similar to the findings of other studies of school voucher programs across the U.S., that Horizon participants did benefit from the opportunity to choose their school.

### Profiles of Students from the Horizon Scholarship Program

**Rebecca and Robert Sanchez** are the children of a 30-year public school teacher who wanted more opportunity for her children. With help from the Horizon Program, she enrolled Rebecca in a different school where she excelled. Rebecca then went on to graduate from the University of Texas at San Antonio. She is now working on a master's degree in higher education administration at UTSA.

Robert Sanchez used his Horizon Scholarship to enroll in Texas Military Institute in San Antonio and is currently a junior at Yale University with plans to enter medical school. Mr. and Mrs. Sanchez are ecstatic that their children have realized their dreams, and that both discuss coming back to their community to help make a difference in the lives of others.

**Pearl Romo** is the first in her family to enroll in college. The Horizon Program helped her enroll in the school that her mother thought was best for her daughter. Upon graduation, Pearl enrolled in a local community college's criminal justice program. She is well on her way to an associate's degree and has now submitted her application to the San Antonio Policy Department. Pearl hopes to work for the FBI after continuing her education at a local university.

**Gabriel Gutierrez**, one of the first Horizon scholarship recipients, now attends Law School at Loyola University in Chicago—quite a

feat in itself, but hardly a surprise for a young man who graduated from Purdue University and aced the Illinois State CPA Exam on his first try. Gabriel has worked at several large accounting firms in Illinois and Texas, and attributes his top-quality education to his success.

Parents Alfred and Diana Gutierrez applied for a Horizon scholarship and were able to choose a different school for their son. He entered Holy Cross in seventh grade and excelled, prompting numerous colleges to recruit him during high school. His parents' hard work and a second job for Mr. Gutierrez helped the family provide for their five daughters and one son, but they are eternally grateful for the freedom they were given to choose the best school for their children.

**Cassandra Juarez** was labeled as having a learning disability—dyslexia. The public school she attended believed special education was the only option for her. Her mother struggled for answers, hoping things would eventually get better for her daughter at school, but they never did. Cassandra was lost in a system that could not give her the individual attention she needed—until her mother discovered school choice through the Horizon program. Cassandra enrolled in a local private school in seventh grade. She is now a senior in high school, where she loves her classes and all sports, including basketball. Cassandra will attend college in the fall, armed with the confidence and skills she needs to succeed.

## The Effects of Competition on Student Achievement

This section examines the potential effects of instituting a voucher system on two broad groups of students: those who use school vouchers to attend private schools and those who remain in traditional public schools. Proponents claim school vouchers would raise the level of academic achievement of both groups of students by increasing productivity and competition in the public school system. In contrast, opponents claim that school vouchers would not yield improvements in the productivity of education and would undermine the public school system. Any increase in student achievement depends on the relative productivity of private and public schools. There are two major branches of research analyzing the potential for increased student achievement for those students who use vouchers to attend private schools.

### The Effects of Vouchers on Student Achievement

The first branch of research investigates the effect of vouchers on students who participate in voucher programs and students who remain in traditional public schools, by examining recent voucher programs in various metropolitan areas.

### Students Who Participate in Voucher Programs

There are three notable studies of the publicly-funded Milwaukee school voucher program. Witte, Stern, and Thorn (1995) reported on the first five years of the Milwaukee program, concluding that the academic achievement of choice and public school students was "not much different." However, they noted that "parental attitudes toward choice schools, opinions of the Choice Program, and parental involvement were very positive over the first five years" and that "parents' attitudes toward choice schools and the education of their children were much more positive than their evaluations of their prior public schools." The Witte, Stern, and Thorn (1995) study was widely criticized because the students in the comparison group were from substantially more advantaged backgrounds relative to the students who participated in the voucher program. Greene, Peterson, and Du (1998) estimated that students who participated in the voucher program for four years exhibited significant increases in math and reading (an 11 percentile point gain in math and a 6 percentile point gain in reading) in comparison to applicants who were not accepted to the program because of the legislative limitation of the number of students who could participate. Using the same data but an improved methodology for selecting the control group, a reputable study by Rouse (1998) reported a gain of 6 to 8 percentage points in math after four years, but no gain in reading.

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Greene noted that "choice parents were also nearly twice as likely to report being 'very satisfied' with virtually all aspects of their children's school."

Other school voucher programs that have been studied include programs in Charlotte, NC, Dayton, OH, New York, NY, and Washington, DC. In Charlotte, NC, Greene (2000) estimated that low-income students who participated in the voucher program scored 5.9 percentage points better in math and 6.5 percentage points better in reading after one year. In addition, Greene noted that "choice parents were also nearly twice as likely to report being 'very satisfied' with virtually all aspects of their children's school." In Dayton, OH, Howell and Peterson (2002) estimated that African-American students gained 6.5 percentage points after 2 years; however, there was no difference in the educational achievement of white or Hispanic students under this program.

Howell and Peterson (2002) also found favorable results in New York City, with the largest gains for African American students. Using the same data as Howell and Peterson for the New York City school voucher program, Krueger and Zhu (2003) estimated small but statistically insignificant achievement gains for African-American students after three years in the program. However, Krueger and Zhu (2003) classified ethnicity by the father's ethnic background rather than the mother's, used all students regardless if baseline test scores were available, and ignored information provided by baseline test scores. A group of statisticians also weighed in on this issue using the same data set as both of the above studies. Barnard et al. (2003)

estimated that math scores increased for children who applied to the New York City voucher program from schools with test scores below the city-wide average, with especially strong effects for children who applied in the first grade and for African-American children.

While this evidence can not be extrapolated to support a universal voucher program because of the small size of the voucher programs analyzed in these studies, the estimates indicate that student achievement gains for targeted voucher programs are likely, and thus provide support for implementing a targeted school voucher program in Texas.

### Students Who Remain in Public Schools

The second group of students who must be considered are those students who choose to remain in the traditional public school system. Opponents argue that school vouchers siphon resources and support away from public schools to the detriment of students who remain in the public school system.

Belfield and Levin (2002) provide a thorough review of the literature from 1972 to 2001 and conclude that the "majority of these studies report beneficial effects of competition across all outcomes." A number of studies since 2001 have confirmed these results. Greene and Winters (2004) suggest that the schools facing voucher competition in Florida exhibited larger gains in math scores than public schools whose students were not eligible for vouchers. West and Peterson (2006) confirm the positive effects of competition but caution that program design is a crucial issue. Chakrabarti (2004) also noted that program design is an important factor in determining the effect of competition on public schools by comparing the effects of the Milwaukee and Florida school choice programs. Hoxby (2001) reported that Milwaukee schools that were most exposed to competition from vouchers posted larger gains in math scores than did other Milwaukee schools. Hoxby (2001) also reported that schools in Arizona and Michigan facing the most competition from charter schools had larger gains in test scores than schools not forced to compete with charter schools.

Hanushek and Rivkin (2002) is a particularly interesting study since they focus on estimating the links between competition, average school quality, and teacher quality in Texas. They employ the Texas Schools Project data to estimate the correlation between quality differences across metropolitan statistical areas (MSAs) with the degree of school competition. In addition, they examine the effect of competition on teacher quality across MSAs. Hanushek and Rivkin (2002) conclude that competition increases school quality in the largest MSAs. Furthermore, their results suggest that competition tends to increase teacher quality, especially for schools that provide educational services to a majority of low-income students.

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Milwaukee schools that were most exposed to competition from vouchers posted larger gains in math scores than did other Milwaukee schools.

In February 2007, the Milton and Rose D. Friedman Foundation released a study explaining that competition between public and private schools increases public school graduation rates. According to the study authored by Brian Gottlob (2007), even a small school choice program—one that increased private school enrollment by fewer than 5 percentage points—would reduce the number of Texas public school dropouts by 8,720 to 17,440 students per year. The total savings in tax revenue, Medicaid costs, and incarceration costs over a 50 year lifespan for each dropout that stayed in school under the program would be \$74,307 in present value terms. Thus, the total public savings would range from \$0.6 to \$1.3 billion in present value terms per graduating class. While this result is only suggestive since it is sensitive to a number of uncertain parameter assumptions, it suggests that a school voucher program would lead to a substantial reduction in other public expenditures over time.

While the results in the literature do not unanimously support the view that competition increases school quality, the majority of studies indicate a positive correlation between competition and public school quality. This suggests that enacting a well-designed voucher program in Texas would be likely to improve the educational services offered to students who choose to remain in public schools.

#### Racial and Socioeconomic Integration

Swanson (2006) finds a strong correlation between graduation rates and the racial and socioeconomic composition of a school in Texas. Opponents often claim that school choice would exacerbate racial and socioeconomic segregation. An important question is whether a well-designed, targeted voucher program would be a viable policy option for reducing racial and socioeconomic segregation.

While there is very little direct evidence of the effect of school vouchers on segregation, some studies examine segregation across private and public schools and in general report mixed results. For example, Greene (1998) estimated that 37 percent of private school students were in integrated classrooms, but that only 18 percent of public school students were in integrated classrooms. Fuller and Mitchell (1999) reported that 58 percent of Milwaukee public elementary school students attend racially homogenous schools compared to 38 percent of Catholic elementary school students. Ritter, Rush, and Rush (2002) draw into question the implications of the results presented by Greene (1998) and Fuller and Mitchell (1999).

However, Ritter, Rush, and Rush (2002) note that “if a school choice plan resulted in a large number of minority students leaving public schools with

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Even a small school choice program—one that increased private school enrollment by fewer than 5 percentage points—would reduce the number of Texas public school dropouts by up to 17,440 students per year.

high percentages of minority students and entering private schools with low percentages of minority students, then both sectors would become more integrated." They write that "the safest conclusion that can be drawn is that the impact of school choice on racial integration will differ based on the specific details of the choice plan." Thus a properly designed school choice plan could be an effective tool in reducing segregation. The implication is that policymakers should be mindful that program design is critical to achieving policy goals as it ultimately determines many of the effects of school voucher programs.

#### Vouchers and Public School Resources

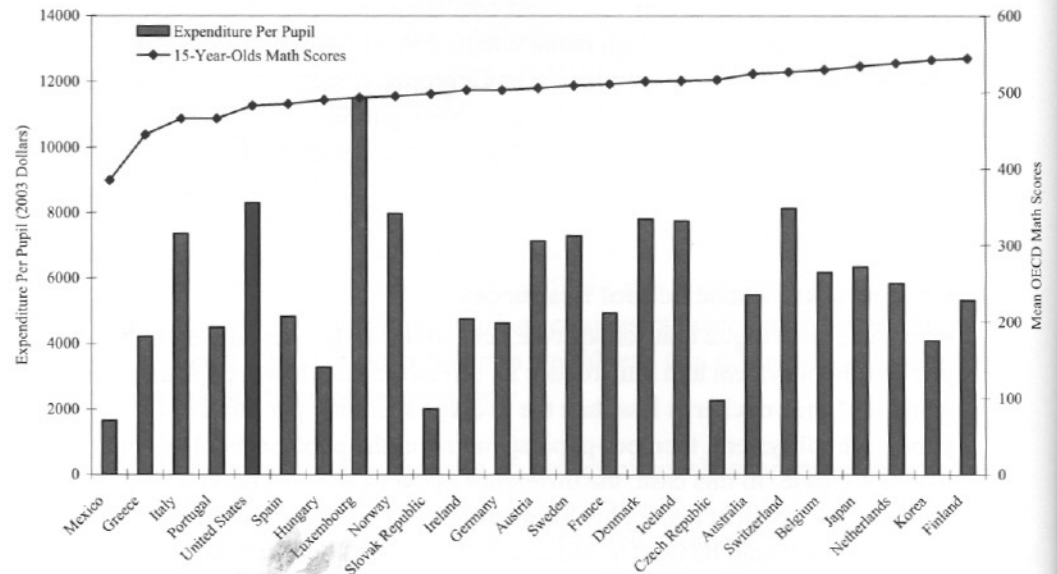
Opponents also argue that school vouchers would siphon resources from the public school system and thus reduce its effectiveness. However, if the amount of the voucher is less than the average spending per pupil in the public school system, then per-pupil spending in the public school system would increase. In this case, the difference between the cost of educating a public school student (state plus local costs) and the amount of the voucher is money that could be used to increase public school expenditures per pupil for all remaining public school students, or for students in a particular school district.

Peterson (2006) reports that for the 1999–2000 school year the average private school tuition in the United States was \$4,689 and per pupil expenditures in public schools averaged \$8,149. However, public schools incur higher levels of certain costs than private schools, such as the cost associated with educating children with disabilities. This makes it difficult to compare public and private school expenditure levels.

Howell and Peterson, with Wolf and Campbell (2006) examine this issue for a number of public and private schools in New York City and find that public school per-student expenditures were significantly larger than the amount spent by Catholic schools even after accounting for costs not incurred by private schools. They deducted all expenditures on transportation, special education, school lunches, other services not related directly to education, and the administrative costs of managing the public schools at the district level and higher. They obtained similar results in Washington, D.C., and Dayton, Ohio. In addition, McEwan and Carnoy (2000) report that under the school choice program in Chile, for-profit private schools provide an equivalent education at a much lower cost. This suggests that there is no reason to expect a well designed, targeted school voucher program to reduce per student expenditures in public schools, and that it may increase per-student expenditures if administered efficiently.



Figure 12: Primary School Spending Per Pupil and 15-Year-Olds Mean Performance on the OECD PISA Mathematics Scale (2003)



Source: Organisation for Economic Co-operation and Development 2006 *Education at a Glance*. Per pupil spending is from Table B1.1a and OECD math scores are from Table A4.2.

Moreover, Hanushek (2003) suggests that there is no consistent correlation between school resources and student achievement. For example, **Figure 12** (next page) shows primary school spending per pupil and 15-year-olds' mean performance on the OECD PISA mathematics assessment for 2003. There is no correlation between per-student spending and student achievement across countries in this figure.<sup>7</sup> This is inconsistent with the argument made by opponents of school vouchers that lower expenditures will lead to a decrease in the quality of education provided by public schools. In addition, the opposing argument is also at odds with evidence supporting the claim that increased competition increases the productivity of public schools.

### Private Verses Public School Productivity

The second branch of research compares student achievement across private and public schools after attempting to control for other factors that affect educational achievement. A seminal study by Coleman, Hoffer, and Kilgore (1982) estimated that students in private schools outperformed students in public schools. However, critics argued that the data and the methodology used in this study were flawed, with the most legitimate critique centering on use of data at a single point in time to estimate the effects of schooling over time. This prompted

<sup>7</sup>This result is the same if spending on secondary school or spending on primary plus secondary school is used as the measure of school expenditure.

Coleman and Hoffer and others to estimate the performance of private versus public schools using longitudinal data. However, subsequent analyses of this issue continued to find mixed results. Hoffer, Greeley and Coleman (1985) and Coleman and Hoffer (1987) confirmed that private schooling had large positive effects on student test scores, while Rouse (2000) estimated that the overall impact of private schools on student test scores was either negligible or small. In contrast, Willms (1985) and Alexander and Pallas (1985) reported that private schooling had miniscule effects on student test scores. In a balanced assessment of the issue, Jencks (1985) suggested that increases in student test scores fell in the middle of these conflicting results. Jencks concluded that an uneasy consensus on this issue suggests that the effect of private schooling on student test scores is positive but smaller than the original estimates by Coleman and others.<sup>8</sup>

However, the reported gains in student achievement were not the same across all racial and socioeconomic classes, and the majority of studies reported that students in low-income and racially segregated schools fared better in private schools. For example, Rouse (2000) and Grogger and Neal (2000) report that minorities in urban schools fare much better in private schools in terms of test scores.

A widely publicized study by Braun, Jenkins, and Grigg (2006), of the U.S. Department of Education's National Center for Education Statistics, and a similar study by Lubienski and Lubienski (2006) estimated that public schools were outperforming private schools in math at the 4<sup>th</sup> grade level after attempting to control for student characteristics. The estimates in both studies were based on information collected from public and private school students in National Assessment of Educational Progress data for 2003.

However, Peterson and Llaudet (2006) point out similar flaws that significantly biased the estimates in both of these papers. In particular, they note that statistical adjustments for student characteristics were inconsistent across public and private schools and that the variables used to measure student background characteristics were influenced by the school. For example, Peterson and Llaudet argue that the incentives to report and encourage student participation in Title I programs is very different across public and private schools and thus is a poor measure of differences in student characteristics across schools. Peterson and Llaudet also claim that student characteristics such as absentee rates, the number of books at home, and computer availability are likely to be influenced by the student's school and thus suggest that they are not suitable measures to statistically account for student background. Using the same data but more reliable control variables for student characteristics, Peterson and Llaudet (2006) estimated that a private school advantage was evident in almost every comparison.<sup>9</sup>

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<sup>8</sup>Most of the early evidence was based on studies of Catholic schools.

<sup>9</sup>They note, however, that this does not imply that private schools outperform public schools since no information on baseline student achievement was available. The same cautionary note applies to the studies by Braun, Jenkins, and Grigg (2006) and Lubienski and Lubienski (2006).

It is important to note that student test scores are not the only important measure of student achievement. Other important measures include graduation rates and college attendance rates. Several observers have argued that a greater emphasis on graduation rates is merited for a number of reasons, but most important is the potential for social savings from a reduction in crime and its related costs. For example, Lochner and Moretti (2002) estimate that a one percent increase in male high school graduation rates would save the nation as much as \$1.4 billion. Swanson (2006) reports that the overall graduation rate in Texas in the 2002-2003 school year was approximately 66.8 percent, which was below the national average of 69.6 percent, and the graduation rate for African-American and Hispanic students was less than 60 percent. Given this information and the changing demographics in Texas, these issues will have to be addressed. There is much evidence that suggests school vouchers could play a partial role in solving these problems. Most recently, Figlio and Stone (1999), Evans and Schwab (1995), Neal (1997), and Grogger and Neal (2000) reported that students who attended Catholic schools were more likely to graduate from high school and attend college. This was especially true for African-American students. In addition, Greene (2004) reported that the graduation rate of voucher recipients was higher than the rate at six high-achieving and selective public high schools, whose students are likely to be more advantaged in terms of educational inputs. This suggests that educational achievement in terms of longer schooling and increased rates of attending post-secondary education could be increased for low and middle-income students by implementing a well designed targeted school voucher program.

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The graduation rate of voucher recipients was higher than the rate at six high-achieving and selective public high schools, whose students are likely to be more advantaged in terms of educational inputs.

## Conclusion

The evidence presented in this paper supports the view that Texas should adopt a targeted school voucher program. Examination of the Horizon program shows that:

- Per student spending in EISD increased after vouchers were introduced;
- The percentage of EISD students that passed the TAAS/TAKS exam increased after vouchers were introduced, indicating that students who remained in EISD were not adversely affected;
- The evidence suggested that private schools did not siphon off the best and brightest students from EISD;
- The graduation rate for EISD students increased at a faster rate relative to all other state students since vouchers were introduced; and
- Similar to the findings of other studies of school voucher programs across the U.S., Horizon participants seemed to benefit from the opportunity to choose their school, especially in terms of graduation and college attendance rates.

The review of the literature suggests that a well-designed school voucher program targeted to low and middle-income families would be likely to increase achievement of both students who participate in school voucher programs and students who remain in public schools. More importantly, the implementation of a targeted voucher program for low and middle-income students would likely increase graduation rates, which is of particular importance given the current crisis in high school graduation rates among urban minorities in Texas. As suggested by Lochner and Moretti (2002), an increase in high school graduation rates would likely be associated with substantial national savings in the form of a decrease in costly or destructive social activities, such as incarceration or dependence on public welfare.

While school vouchers are not a panacea to the problems confronting primary and secondary education, they should be an integral part of reforming the education system. School vouchers, in conjunction with other potential reforms, would almost certainly improve the educational outcomes of many Texas school children. However, it is clear that ultimately the successfulness of a school voucher program will depend critically on design of the program.

One of the most important issues in implementing a school voucher program is determining whether it will be a universal program or limited to a targeted population of students. I suggest that a targeted school voucher program is the most reasonable policy reform to pilot. The evidence in support of a universal voucher program is not as strong as the case for a targeted low and middle-income voucher program, especially since a majority of the studies in the literature suggest that the largest gains from a school voucher program would accrue to students living in economically disadvantaged school districts. For example, McEwan and Carnoy (2000) tentatively conclude that the case for a universal voucher program, such as the one adopted in Chile in 1980, is mixed and that a more comprehensive evaluation is required.

Other design issues will also be important in the successful implementation of a school voucher program. In general, the government must refrain from placing overbearing restrictions and regulations on private schools. As much as possible, market-based solutions and incentives, not mandates, should govern the actions of these schools. However, it is certainly the case that schools participating in a voucher program must not discriminate based on race, nationality, or ethnicity. Legislators may also consider including some form of accountability testing, so that parents have adequate information available to them when choosing where to send their child to school. However, this test should not be limited to the minimum standards TAKS, but instead should include more rigorous options such as the Iowa Test of Basic Skills, or even the ACT or SAT at the high school level. These issues and others, especially the lessons from existing school voucher programs in other cities and states, should be considered carefully by those who make and influence public policy. ★

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The implementation of a targeted voucher program for low and middle-income students would likely increase graduation rates, which is of particular importance given the current crisis in high school graduation rates among urban minorities in Texas.

## References

- Alexander, Karl, and Aaron Pallas, "School Sector and Cognitive Performance: When is a Little a Little?" *Sociology of Education* 58, (1985) 115-128.
- Barnard, John, Constantine E. Frangakis, Jennifer L. Hill, and Donald B. Rubin, "Principal Stratification Approach to Broken Randomized Experiments: A Case Study of School Choice Vouchers in New York City," *Journal of the American Statistical Association*, Vol. 98, No. 462 (June 2003).
- Belfield, Clive R., and Henry M. Levin, "The Effects of Competition on Educational Outcomes: A Review of US Evidence," National Center for the Study of Privatization in Education (Mar. 2002).
- Braun, Henry, Frank Jenkins, and Wendy Grigg, "Comparing Private Schools and Public Schools Using Hierarchical Linear Modeling," U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, NCES (2006) 461.
- Chakrabarti, Rajashri, "Impact of Voucher Design on Public School Performance: Evidence from Florida and Milwaukee Voucher Programs," *Econometric Society 2004 North American Summer Meetings* (2004) 221.
- Coleman, James S., Thomas Hoffer, and Sally Kilgore, *High School Achievement* (New York: Basic Books, 1982).
- Coleman, James S., and Thomas Hoffer, *Public and Private High Schools: The Impact of Communities* (New York: Basic Books, 1987).
- Coleman, J. S., Campbell, E., Hobson, C., McPartland, J., Mood, F., Weinfeld, F., & York, R, *Equality of Educational Opportunity* (Washington, DC: U.S. Government Printing Office, 1966).
- Evans, William N., and Robert M. Schwab, "Finishing High School and Starting College: Do Catholic Schools Make a Difference?" *Quarterly Journal of Economics* 110, (Nov. 1995) 941-974.
- Figlio, David N., and Joe A. Stone, "Are Private Schools Really Better?" *Research in Labor Economics* 18 (1999) 115-140.
- Fuller, Howard, and George Mitchell, "The Impact of School Choice on Racial and Ethnic Enrollment in Milwaukee Private Schools," *Current Education Issue*, no. 99-5 (Dec. 1999).
- Gottlob, Brian J., "The High Cost of Failing to Reform Public Education in Texas," *School Choice Issues in the State* (Feb. 2007).
- Greene, J.P., "Civic Values in Public and Private Schools," in Peterson and Hassel (eds.), *Learning from School Choice* (Washington, DC: Brookings Institution Press, 1998).
- Greene, Jay P., "Graduation Rates for Choice and Public School Students in Milwaukee," *School Choice Wisconsin* (Sep. 28, 2004).
- Greene, Jay P., "The Effect of School Choice: An Evaluation of the Charlotte Children's Scholarship Fund Program," *Manhattan Institute Civic Report* No. 12 (2000).
- Greene, Jay P. and Marcus A. Winters "Competition Passes the Test," *Education Next* (Summer 2004) 66-71.
- Greene, Jay P., Paul E. Peterson, and Jiangtao Du, "Effectiveness of School Choice: The Milwaukee Experiment," *Education and Urban Society* (Feb. 1998).
- Grogger, Jeffrey, and Derek Neal, "Further Evidence on the Effects of Catholic Secondary Schooling," in *Brookings-Wharton Papers on Urban Affairs* (Washington, DC: Brookings Institution Press, 2000).
- Hanushek, Eric A., "The Failure of Input-Based Schooling Policies," *Economic Journal* 113, no. 485 (Feb. 2003) F64-F98.
- Hanushek, E.A. and S.G. Rivkin, "Does Public School Competition Affect Teacher Quality?," in C.M. Hoxby (ed.) *The Economics of School Choice* (Chicago: University of Chicago Press, 2002).
- Hoffer, Thomas, Andrew Greeley, and James Coleman, "Achievement Growth in Public and Catholic Schools," *Sociology of Education* 58 (Apr. 1985) 74-97.
- Howell, William G., Paul E. Peterson, *The Education Gap*, Revised edition (Washington, DC: Brookings Institution Press, 2002).
- Howell, William G., Paul E. Peterson, with Patrick J. Wolf and David Campbell, *The Education Gap*, Revised edition (Washington, DC: Brookings Institution Press, 2006).

- Hoxby, Caroline Minter, "The Rising Tide," *Education Next* (Winter 2001).
- Jencks, Christopher, "How Much Do High School Students Learn?" *Sociology of Education*, 58 (Apr. 1985) 128-35.
- Kahlenberg, Richard D., *All Together Now: Creating Middle-Class Schools through Public School Choice* (Washington, DC: Brookings Institution Press, 2001).
- Krueger, Alan B., and Pei Zhu, "Another Look at the New York City School Voucher Experiment," NBER Working Paper No. 9418 (Jan. 2003).
- Lochner, Lance and Enrico Moretti, "The Social Savings from Reducing Crime through Education, Joint Center for Poverty Research," *Policy Brief* Vol. 4, No.5 (2002).
- Losen, D., Orfield, G., and Balfanz, R., *Confronting the Graduation Rate Crisis in Texas* (Cambridge, MA: The Civil Rights Project at Harvard University, 2006).
- Lubienski, Christopher, and Sarah Theule Lubienski, "Charter, Private, Public Schools, and Academic Achievement: New Evidence from NAEP Mathematics Data," National Center for the Study of Privatization in Education, Teachers College, Columbia University (Jan. 2006).
- McEwan, P. J., and Carnoy, M., "The effectiveness and efficiency of private schools in Chile's voucher system," *Educational Evaluation and Policy Analysis* (2000).
- Neal, Derek, "The Effects of Catholic Secondary Schooling on Educational Achievement," *Journal of Labor Economics*, Vol. 15 (Jan. 1997) 98-123.
- Organisation for Economic Co-operation and Development *Education at a Glance* (2006) [http://www.oecd.org/statsportal/0,2639,en\\_2825\\_293564\\_1\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/statsportal/0,2639,en_2825_293564_1_1_1_1_1,00.html).
- Peterson, Paul E., David Myers, and William G. Howell, "An Evaluation of the Horizon Scholarship Program in the Edgewood Independent School District, San Antonio, Texas: The First Year," paper presented at a conference on entitled "Program on Education Policy and Governance, Harvard University (1999).
- Peterson, Paul E., "Thorough and Efficient Private and Public Schools," in Eric Hanushek (ed.), *Courting Failure: How School Finance Lawsuits Exploit Judges' Good Intentions and Harm our Children* (Stanford, CA: Hoover Press, 2006).
- Peterson, Paul E., and Elena Llaudet, "On the Public-Private School Achievement Debate," paper presented before the annual meetings of the American Political Science Association (2006).
- Ritter, Gary W., Alison Rush, and Joel Rush, "How Might School Choice Affect Racial Integration in Schools? New Evidence from the ECLS-K," *Georgetown Public Policy Review* 7, 2 (2002) 125-136.
- Rouse, Cecilia, "Schools and Student Achievement: More Evidence from the Milwaukee Parental Choice Program," Federal Reserve Bank of New York, *Economic Policy Review* 4, No. 1 (1998).
- Rouse, Cecilia, "Private School Vouchers and Student Achievement: An Evaluation of the Milwaukee Parental Choice Program," *The Quarterly Journal of Economics* 113, No. 2 (2000).
- Rumberger, R. W. and G. J. Palardy, "Does Segregation Still Matter? The Impact of Student Composition on Academic Achievement in High School," *Teachers College Record* 107, no. 9 (2005) 1999-2045.
- Swanson, Christopher B., "High School Graduation in Texas: Independent Research to Understand and Combat the Graduation Crisis," Bethesda, MD: Editorial Projects in Education (Oct. 2006).
- Tienda, M., K. Cortes, and S. Niu, "College attendance and the Texas top 10 percent law: Permanent contagion or transitory promise?" Woodrow Wilson School of Public and International Affairs, Princeton, NJ Princeton University, 2003.
- Vedder, Richard and Joshua Hall, *Private School Competition and Public School Teacher Salaries* (Athens, Ohio: Ohio University, Feb. 1999).
- West, Martin R. and Peterson, Paul E., "The Efficacy of Choice Threats within School Accountability Systems: Results from Legislatively Induced Experiments," *Economic Journal* 116, No. 510 (2006) C46-C62.
- Willms, J. Douglas, "Catholic-School Effects on Academic Achievement: New Evidence from the High School and Beyond Follow-Up Study," *Sociology of Education* vol. 58, No. 2 (Apr. 1985) 98-114.
- Witte, John F., Troy D. Stern, and Christopher A. Thorn, "Fifth-year report: Milwaukee Parental Choice Program," Mimeo, University of Wisconsin, (Dec. 1995).

## About this Report

Research from Milwaukee, Cleveland, Washington, DC, and elsewhere around the country has demonstrated the positive effects of school choice on public and private school students alike. But many Texans may not realize that a private school choice program exists right here in our own state.

That program—the Horizon Scholarship Program in San Antonio, Texas—is the focus of this study. The Horizon program is a privately-funded scholarship program that enables any student in Edgewood Independent School District to attend the public or private school of their choice.

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