



Are Charters the Best Alternative? A Cost Frontier Analysis

Previous research suggests that charter schools produce educational outcomes at lower cost than traditional public schools. However, that analysis focused exclusively on schools which serve a general student population. In many states, charter schools have been designed specifically to serve students who are at risk of dropping out of school. These “alternative education campuses” may have very different cost and efficiency profiles than schools designed to serve students in regular education programs.

Texas has been part of the charter school movement since 1995, when the 74th Texas Legislature authorized the State Board of Education to establish open enrollment (OE) charter schools in the state. OE schools are completely independent local education agencies. Although legally referred to as public schools, they function as school districts. Like traditional public school districts, OE charter districts are monitored and accredited under

the statewide testing and accountability system. However, OE charters are less heavily regulated, may operate in more than one metropolitan area, may serve only a subset of grades, and may limit the number of children allowed to enroll.

“Despite the growing role of these alternative schools in the U.S. educational system, they are seldom studied.”

According to the Texas Education Agency, in 2010-11 there were 199 OE charter districts operating 482 campuses in Texas, serving 133,697 students—nearly 3% of public school students in the state. Despite the growing role of these alternative schools in the U.S. educational system, they are seldom studied. In *PERC’s Working Paper 1606*, Professor of Economics and

Department Head Timothy J. Gronberg, Jordan Professor of Economics Dennis W. Jansen, and Associate Professor at the Bush School of Government and Public Service Lori L. Taylor, provide the first careful empirical study of the costs of alternative education.

OE charter districts operate 127 alternative education campuses (AECs), while traditional public school districts run 216 AECs. AECs are campuses that offer nontraditional programs and accelerated instructional services to students designated as at risk of dropping out of school. Students are designated at-risk based on several criteria, including poor performance on standardized tests, a history of being held back in schools, limited English proficiency, pregnancy, and homelessness.

In this paper, the authors estimate a translog stochastic cost frontier model using panel data for alternative public high school campuses in Texas over the five year

period 2007-2011. For the analysis, they limit the data to metropolitan high schools, drawing comparisons between the per pupil school expenditures of charter alternative education campuses (C-AECs), and alternative education campuses operated by traditional public school districts (T-AECs). The analysis takes into consideration expenditures on facilities and supplies, and teacher salaries and benefits. The number of students enrolled, the annual dropout rate of students, and Texas Assessment of Knowledge and Skills (TAKS) test scores are used to measure quantity and quality.

“The authors’ model suggests a significant positive relationship between cost and increases in the student retention rate.”

Over the five-year period from 2007 to 2011, the authors find that C-AECs are systematically more efficient than T-AECs.

The results show that school and district size have an important relationship with cost for AECs: holding all other characteristics constant,

cost falls with campus size. The predicted cost of operating an average quality campus is \$9,142 per student when there are 140 enrolled (the T-AEC average), but falls by 13 percent to \$7,950 per student when there are 229 enrolled (the C-AEC average).

The predicted cost of an average quality education has a U-shaped relationship with school district size, with cost minimized at a district enrollment of 570 students. The authors find that C-AECs operate closer to optimal size and closer to the cost frontier than T-AECs, suggesting that charter schools may be the most cost-effective provider of educational services to students at-risk of dropping out. The model also suggests a significant positive relationship between cost and increases in the student retention rate, making this the first peer-reviewed paper to point out this relationship.

Gronberg, Jansen, and Taylor also find a generally insignificant relationship between the TAKS test score performance and cost, and a positive significant relationship between increases in retention and cost. This finding, that costs are a function of retention rates, but not of academic gains, is consistent with the overarching dropout-prevention mission of AECs. Additionally,

state funding ties school district revenues to average daily attendance, and Texas holds AECs accountable for their dropout rates but not for test score gains. Thus, it would be natural for school administrators to focus their resources on boosting retention rates.

Overall, results show OE charters are on average more efficient at providing alternative education than traditional schools at the high school level. The authors hypothesize that T-AECs may be relatively less cost efficient as a result of hiring teachers with more certifications and higher salary requirements, and potentially operating in older and costlier facilities. However, some differences may arise from differences in student and family inputs, or some schools could be producing other outputs that are costly and uncorrelated to the basic academic outcomes measured in this study.

The authors’ findings in are in contrast to their 2012 findings that charter schools at the elementary level are less efficient than traditional public schools in operating “standard accountability campuses.” They reconcile the results by noting that technology of charter operators and TPS operators was different at standard accountability campuses, at least for elementary schools.

Illegal Immigration, State Law, and Deterrence

Can state and federal policies deter undocumented workers from entering the U.S.? In *PERC’s Working Paper 1604*, *PERC’s* Rex Grey Professor of Economics Mark Hoekstra, and Mississippi State University’s Assistant Professor of Economics

Sandra Orozco-Aleman, address this timely and critical immigration policy question. Focusing on Arizona SB 1070, arguably the most restrictive and controversial immigration bill ever passed by a state, the authors examine whether the law deterred

unauthorized entry into Arizona.

With respect to reducing illegal immigration, there are two general types of policies. The first is improving border security directly through increased use of fencing, border patrol, and other measures. The sec-



ond uses policy to lower the expected benefits from being in the U.S. illegally, thereby deterring entry. Some of these policies target labor demand by imposing penalties on employers of undocumented workers, while others target labor supply by imposing penalties on undocumented workers themselves.

Arizona SB 1070, which was passed in April of 2010 and was scheduled to take effect on July 29 of that year, targeted labor supply by making applying for or holding a job in Arizona without legal authorization a crime. It also required police officers to check the immigration status of anyone they believed may be in the country illegally, and allowed them to stop and arrest anyone they had reason to believe lacked proper immigration papers, or may have committed a crime. The law substantially increased the expected costs of being an unauthorized immigrant in Arizona.

One day before the law was scheduled to go into effect, a federal judge issued a temporary injunction blocking much of the law pending the outcome of a legal challenge by the federal government. Two years later, the U.S. Supreme Court struck down several components of the law. As a result, the primary way to evaluate the impact of the law is to study the announcement effect of the law from April through July.

Hoekstra and Orozco-Aleman examine a unique data set from a survey conducted by Mexican authorities of undocumented workers passing through Mexican border towns on their way to the U.S. The survey is conducted with the objective of measuring a representative sample of the migrant flow across

the U.S.-Mexico border. It is conducted on a monthly basis in 8 border cities and 5 Mexican airports. Individuals are surveyed at bus and train stations, international bridges, and customs inspection points.

“...undocumented workers from Mexico are responsive to changes in state immigration policy.”

The authors focus on data from two questionnaires used by the survey. Responses came from a total of 16,122 adults born in Mexico who reported an intention to cross the border in the next 30 days to work in the U.S., but do not have documentation to work there legally. A total of 4,005 migrants were surveyed returning to Mexico from working in the United States without legal authorization.

To identify effects of SB 1070 on immigration flows into Arizona from Mexico, Hoekstra and Orozco-Aleman looked at whether undocumented immigrants headed for the U.S. were less likely to go to Arizona once the law was passed. They also examine whether the law induced undocumented immigrants to return to Mexico from Arizona.

Their research shows a steep decline in the number of undocumented immigrants headed for Arizona beginning in the month the bill was passed, continuing to when the federal injunction was issued. While the proportion of undocumented immigrants going to Arizona had

previously fluctuated between 15 and 20 percent, it steadily declined from April through July, reaching a low of just below 5 percent. After the federal injunction was issued at the end of July, the proportion of immigrants headed to Arizona increased to around 12 percent.

The study indicates the passage and announcement of Arizona SB 1070 significantly reduced the flow of undocumented workers into Arizona (relative to other states) from Mexico by 30 to 70 percent, suggesting that undocumented workers from Mexico are responsive to changes in state immigration policy.

Unsurprisingly, this deterrent effect was diminished when a federal judge blocked much of the bill, which likely reflects reduced certainty that the law would end up going into effect. On the other hand, the authors find no evidence that the passage of the law induced undocumented immigrants already residing in Arizona to return to Mexico.

While the large deterrent effect documented here does not mean that laws like Arizona SB 1070 are socially desirable—much less constitutional—it does suggest that laws like this will continue to appeal to states attempting to reduce the inflow of unauthorized immigrants. A national policy could be expected to be even more effective at reducing overall migration into the U.S. due to reduced displacement effects.





PRIVATE ENTERPRISE
RESEARCH CENTER

Texas A&M University
4231 TAMU
College Station, TX 77843-4231

NONPROFIT ORG.
U.S. POSTAGE
PAID
COLLEGE STATION,
TEXAS 77843
PERMIT NO. 215



**PRIVATE ENTERPRISE
RESEARCH CENTER**
TEXAS A&M UNIVERSITY

PERCspectives on RESEARCH

Visit our website for current and archived copies of all of PERC's publications and information about donating to PERC.

perc.tamu.edu

Fall 2016

Private Enterprise Research Center
Texas A&M University
4231 TAMU
College Station, TX 77843-4231
(979) 845-7722
perc@tamu.edu

The Private Enterprise Research Center was founded in 1977 as a research organization at Texas A&M University. The mission of the Center is to raise economic understanding and to increase awareness of the importance of individual freedom to the strength and vitality of our economy. The Center supports academic research and produces newsletters and studies that address important public policy issues.

PERCspectives on Research are not copyrighted and may be reproduced freely with appropriate attribution of source. Please provide the PERC office with copies of anything reproduced.

The opinions expressed in PERCspectives on Research are those of the authors and not necessarily those of Texas A&M University.