**A Right not Granted[[1]](#footnote-1). A Wrong not Righted.**

*Spending and performance in Texan Public Schools*

By Vincent Carse

Abstract

I use two novel identification strategies to estimate educational production functions using data from Texan public schools, aggregated at the grade-level within each campus. I find a significant effect of spending, class size and teacher salary on educational performance using a value-added fixed effects model with standard errors clustered at the campus level. I also find limited evidence to suggest competition-effects between neighbouring districts, but find insufficient evidence to suggest district-level resource-shocks impact student performance.

Intro

This paper estimates the educational return to spending in Texan public schools using two methods, which to my knowledge are previously unexplored. Arbitrary restrictions on tax rates due to the unconstitutionality of state-wide taxes induced some cash-starved districts to max out their tax rates, presenting windows in which their revenue was completely dependent on property values and state aid. Thus changes in revenue may have been exogenous to changes in school performance. Further to this, random fluctuations in the oil price provided positive and negative revenue shocks which may constitute a viable instrument for district revenue, allowing for a more plausible estimate of the causal impact of spending on school performance. These combined with the time-series, campus-level nature of the data allows for estimates which plausibly address some endogeneity concerns which plague other educational production function estimates. Many remain, and are addressed in due course, as are the assumptions on which these estimates rest. The most salient elements of Texas' "byzantine"[10] school finance system are now described, followed by a brief literature review, an introduction of the data and then the formal results.

Texas is partitioned into 1026\* independent school districts (ISDs), each a kind of local government with the power to tax property and allocate funds between the schools within it. Districts are run by school boards; panels of trustees who are elected by the citizens of each community. [TEA school boards]. Some districts are vast, sprawling entities. Dallas ISD for instance educated over 150,000 students in 2018/19 with an operating budget of over $1.8b [TEA Dallas]. Others are small. Cayuga ISD is home to just three schools: an elementary, middle and high school, and under 600 students [TEA Cayuga]. While some districts cater to non-public schools like charter, orphanage or prison schools, these are not the subject of this paper.

The system as a whole is coordinated by the Texas Educational Agency (TEA) which sets the curriculum and funding formulas which all districts are governed by. Texas’ curriculum is standardised across all public schools according to the Texas Essential Knowledge and Skills (TEKS) curriculum, which was established in 1998. Between grades 3-11 students are required to complete standardised testing to pass to the next grade, which are also identical across the state. This testing existed as the TAAS from ‘91/’92-‘01/’02, TAKS from ‘02/’03-‘11/’12 and as the STAAR since ‘12/’13. Testing is compulsory for students in public schools.

Districts are funded through a combination of local, state and federal revenue. School boards decide a tax rate between the TEA-mandated maximum and minimum thresholds and then tax the property wealth of their districts at this rate. There is enormous variation in the per-pupil tax bases of each district[[2]](#footnote-2), leading to vastly different local revenue collection. State revenue exists in large part to correct for these inequalities, reallocating revenue across districts to ensure similar resources for all districts.

Funding is then allocated across districts via the Foundation School Program (FSP), a series of formulas which calculates what level of state aid a district should receive. Districts with tax-bases over a certain value can have also funds taken from them, or ‘recaptured’ [comptroller]. Funding is allocated in three ‘tiers’. Tier 1 is allocated for operating costs, Tier 2 for optional costs and an interest and sinking tier for paying down debt.

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This paper borrows from a range of authors, but two stand out in their influence. Hoxby ’04 studies the stability of the recapture system in Texas, in particular its effects on housing valuation. Hanushek and Rivkin ‘05 use a matched panel to compare the importance of teacher-level variation in Texan schools on student performance to the effects of commonly observed variables like class size and teacher salary.

Data

The data used come primarily from the TEA’s Public Education Information Management System (PEIMS). The

Estimation Strategy

I begin

Results

1. 1. The United States' constitution does not directly protect the right to education, nor does it imply any such right. This was the decision reached in San Antonio Independent School District v. Rodriguez (1973), a case which centred on the inequalities which natural result from a school financing system based on local property taxation. In particular it centred around the vastly different tax bases in two neighbouring Texan public school districts and the effect this had on the resources available to students in each district. The decision has stood ever since.

   [↑](#footnote-ref-1)
2. In Edgewood Independent School District v. Kirby (Tex 1989) it was found that the "[the] wealthiest district [have] over $ 14,000,000 of property wealth per student, while the poorest [have] approximately $ 20,000; this disparity reflects a 700 to 1 ratio". The solution forged by the wrestle between parents, lawmakers and judges which followed was finance-equalisation legislation passed in 1993 and taken into effect in the 1993/94 school year. Though nicknamed 'Robin Hood' by the press, the nickname belied the widespread ire the legislation would draw from economists, lawmakers and parents (rich and poor alike), and the two further rounds of lawsuits it would face. [↑](#footnote-ref-2)