



The Takeaway

Policy Briefs from the Mosbacher Institute for Trade, Economics, and Public Policy

When Equal is Not Equitable:

Adjusting for Geographic Differences in Education Costs

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An educational dollar doesn't stretch as far in some parts of the country as it does in others. School districts in high cost areas need additional dollars just to be able to purchase the same resources and hire the same quality teachers as other districts. Ignoring these differences in the price of labor leads to real differences in school district purchasing power and undermines the equity and adequacy goals of any school finance formula.

Texas was one of the first states to incorporate regional cost differences into its school funding formula. In 1991, Texas adopted the Cost of Education Index (CEI) as a tool to adjust state aid to compensate for variations in labor costs that are beyond

the control of school districts.¹ The CEI increases the amount of state aid received by school districts in high cost areas and reduces the amount recaptured from high cost areas and redistributed through a process informally known as Robin Hood.



WHAT'S THE TAKEAWAY?

Regional cost adjustments are needed to ensure that all school districts are able to purchase the same amount of real educational resources.

The pattern of costs has shifted dramatically since the Texas CEI was created 25 years ago.

Texas school districts face substantial and uncontrollable differences in labor costs which have been growing over time.

Updating the Texas CEI is both desirable and feasible.

Unfortunately, the Texas CEI has not been updated since its inception. Thus, today's CEI is based on 25-year-old values for five school district characteristics—district size, district type, the percentage of low income students, the average beginning teacher salary in surrounding districts, and whether or not the county population was below 40,000. Over the last 25 years, much has changed in Texas. Enrollment has grown from 1,419 to nearly 46,000 in Frisco Independent School District (ISD); the share of low income students has increased by 30 percentage points in Houston ISD; and average beginning teacher salaries have more than doubled in the districts surrounding San Antonio ISD, for example. One cannot help but conclude that the CEI has become outdated.

There are a number of strategies that could be used to update the Texas CEI.

On the other hand, the need for a CEI has never been greater. According to the most-recent estimates from the National Center for Education Statistics, labor costs within Texas differ by more than 60% from the lowest-cost school district to the highest-cost school district.² Housing costs—the primary determinants of cost-of-living differences—differ by nearly 70%.³

STRATEGIES FOR UPDATING THE CEI

Fortunately, there are a number of strategies that could be used to update the Texas CEI.

One method is to use a comparable wage index (CWI) based on the prevailing wage for non-educators in each labor market. Since teachers are not the only workers who are

sensitive to cost of living and amenity differences, regional variations in the salaries of comparable professionals who are not teachers should be similar to the price variations that school districts must pay to attract high quality teachers. Six states—Florida, Massachusetts, Missouri, New Jersey, New York and Virginia—use a CWI to adjust their school finance formula.⁴

Another way is to use a cost-of-living index (CLI), which would be constructed at the local level using the same strategy the US Bureau of Labor Statistics uses to construct the Consumer Price Index. For each location, researchers would tabulate the price of a basket of consumer goods and services. The assumption is that districts in areas with a high cost of living will need to pay higher salaries to attract school employees and, therefore, will need more funding than other districts just to be able to provide the same level of services. Colorado and Wyoming use a CLI in their school finance formulas.

A third popular strategy is to use a teacher cost index (TCI). A TCI is based on a regression analysis of existing teacher salaries. Researchers use statistical technique to divide the observed variation in teacher salaries into that which is explained by controllable factors and that which is explained by uncontrollable factors. Only factors outside of school district control represent cost differences that should be accounted for in funding formulas, so researchers construct a TCI assuming that all districts had the same values for the controllable cost factors. The Texas CEI is a TCI. Alaska and Wyoming also use a TCI in the labor components of their school finance formulas.

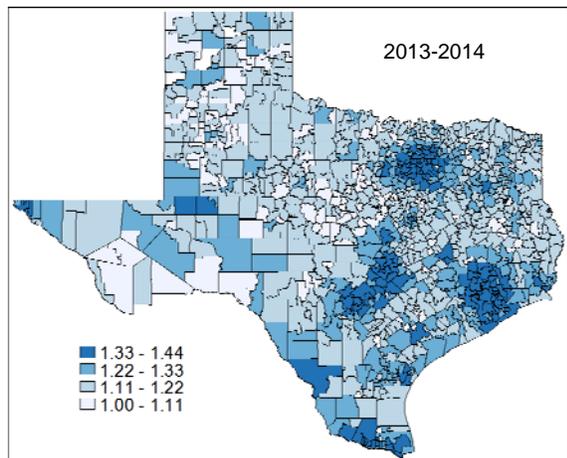
Each method has its advantages and disadvantages. Either a CWI or a CLI will provide

cost adjustments that are clearly outside of school district influence, but they are both market-level measures. They cannot detect specific cost differences at the school or district levels. A TCI can reflect fine-grained differences in labor cost, but must rely on researcher judgment and statistical technique to avoid mislabeling high spending districts as high cost ones. A CLI tends to overstate the cost of hiring in locations with a lot of attractive amenities, while a CWI is only reliable if the comparable workers have the same sensitivity to amenities and living costs as teachers.

LIKELY CONSEQUENCES OF UPDATING

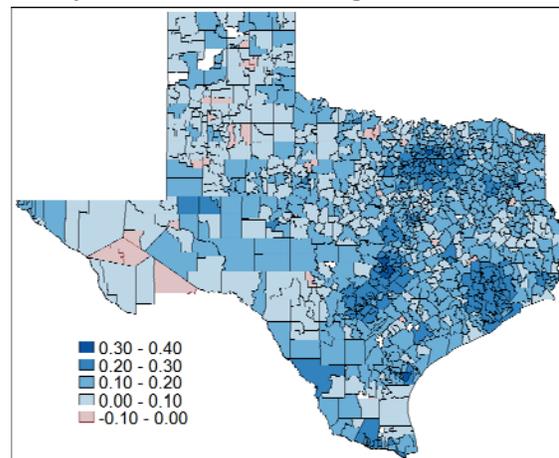
Texas has explored updating the CEI many times. In 2000, the Charles A. Dana Center published a study that presented four alternative strategies for updating the CEI.⁵ In 2003 and 2004, I led a research team that explored strategies for updating the CEI on behalf of the Joint Select Committee on Public School Finance (JSC).⁶ Each study found that there were substantial cost differences from one Texas district to another, and that the CEI had become outdated.

Figure 1: Teacher-Fixed-Effects Salary Index



Source: Texas Public Education Information Management System (PEIMS) data and author's calculations

Figure 2: Differences in the Updated Teacher Salary Index and the Existing Texas CEI



Source: PEIMS data and author's calculations

One option explored in each of those prior analyses was to estimate a new TCI using more recent data and improved statistical methods. Following the modeling strategy in the JSC report, I have extended the analyses through 2013-14 using the teacher-fixed-effects methodology described in the earlier report. The resulting Teacher Salary Index reflects uncontrollable cost factors, including average daily attendance; distance to the nearest teacher certifying institution; distance to the center of the nearest metropolitan area; the percent of students who are limited English proficient (LEP); average fair market rent for a two-bedroom apartment; average cooling degree days; the unemployment rate; and population density.

Figure 1 maps the updated Teacher Salary Index for Texas unified school districts. As the figure illustrates, teacher salaries are highest in major metropolitan areas. Index values range from less than 1.02 in a handful of small, rural districts to 1.44 in the Lamar Consolidated and Conroe ISDs.

Figure 2 compares the updated Teacher Salary Index with the existing CEI. Darker shades

indicate school districts where updating the CEI with the Teacher Salary Index would increase the index value; the light maroon indicates school districts where updating the CEI would lower the index value. As the figure illustrates, most Texas school districts would have higher CEI values if the index were updated. Only 33 districts (14 urban and 19 rural) would experience declines in the CEI. The biggest beneficiaries of updating would be fast growth districts like Frisco, and districts in the Austin metropolitan area.

CONSEQUENCES OF NOT UPDATING

The goal of the CEI is to ensure that all districts are able to purchase the same amount of real educational resources. Without a regional cost adjustment, school districts in high cost areas like Dallas and Houston would be unable to provide the same real educational resources (teachers, administrators, software) as districts elsewhere in the state. In other words, when labor costs vary, equalized funding implies highly unequal schooling.

Analysis strongly suggests that Texas school districts face substantial and uncontrollable

differences in labor costs. Furthermore, the differences in labor cost have been growing over time. Updated measures imply that geographic variations in the price of teachers are more than double those reflected in the existing CEI. Whatever method is chosen, one cannot help but conclude that the pattern of costs has shifted and the Texas CEI needs to be revised.

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Notes:

¹ Taylor, Lori L. March 2004. "Adjusting for Geographic Variations in Teacher Compensation: Updating the Texas Cost-of-Education Index." A report prepared for the Texas Legislature Joint Committee on Public School Finance. <http://bush.tamu.edu/research/faculty/TXSchoolFinance/>

² National Center for Education Statistics. <http://nces.ed.gov/edfin/adjustments.asp>

³ US Dept. of Housing and Urban Development. <http://www.huduser.org/portal/datasets/fmr.html>

⁴ Education Law Center. 2013. *Funding, Formulas and Fairness: What Pennsylvania Can Learn from Other States' Education Funding Formulas*.

⁵ <http://www.utdanacenter.org/downloads/products/cei/ceireport.pdf>

⁶ Taylor, 2004.

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