

Oh Lord, [when will they ever learn?](#)

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To support the [Texas Commission on Texas School Finance](#), TEA made available to both the Commission and the public an [analysis of school finance](#). The TEA analysis parallels analysis by the [Legislative Budget Board](#) (LBB), [Texas Public Policy Foundation](#), and [Center for Public Policy Priorities](#). All these analyses show public education revenue by source (state, local, federal) and/or expenditures by function. These analyses also usually show revenue and expenditures in both current dollars and also in inflation-adjusted dollars.

Unfortunately, all the analysis cited above tend to understate the impact inflation has had on public education since they use Consumer Price Index (CPI) and not the more appropriate Bureau of Economic Analysis [State and Local](#) (implicit price deflator). Using the less precise price index results in overstating the value of variables adjusted for inflation. In the TEA analysis of revenue per ADA, using the Texas CPI overstates real revenue per ADA in 2017 by almost \$600 per ADA, a not insignificant amount.

In the studies noted above a Consumer Price Index (CPI) prepared monthly by the Bureau of Labor Statistics is used to compute inflation-adjusted dollars, i.e., real dollars. One divides the current or nominal value of the variable, e.g., Revenue per ADA, by the CPI and then multiplies by 100. The mathematics seem pretty easy.

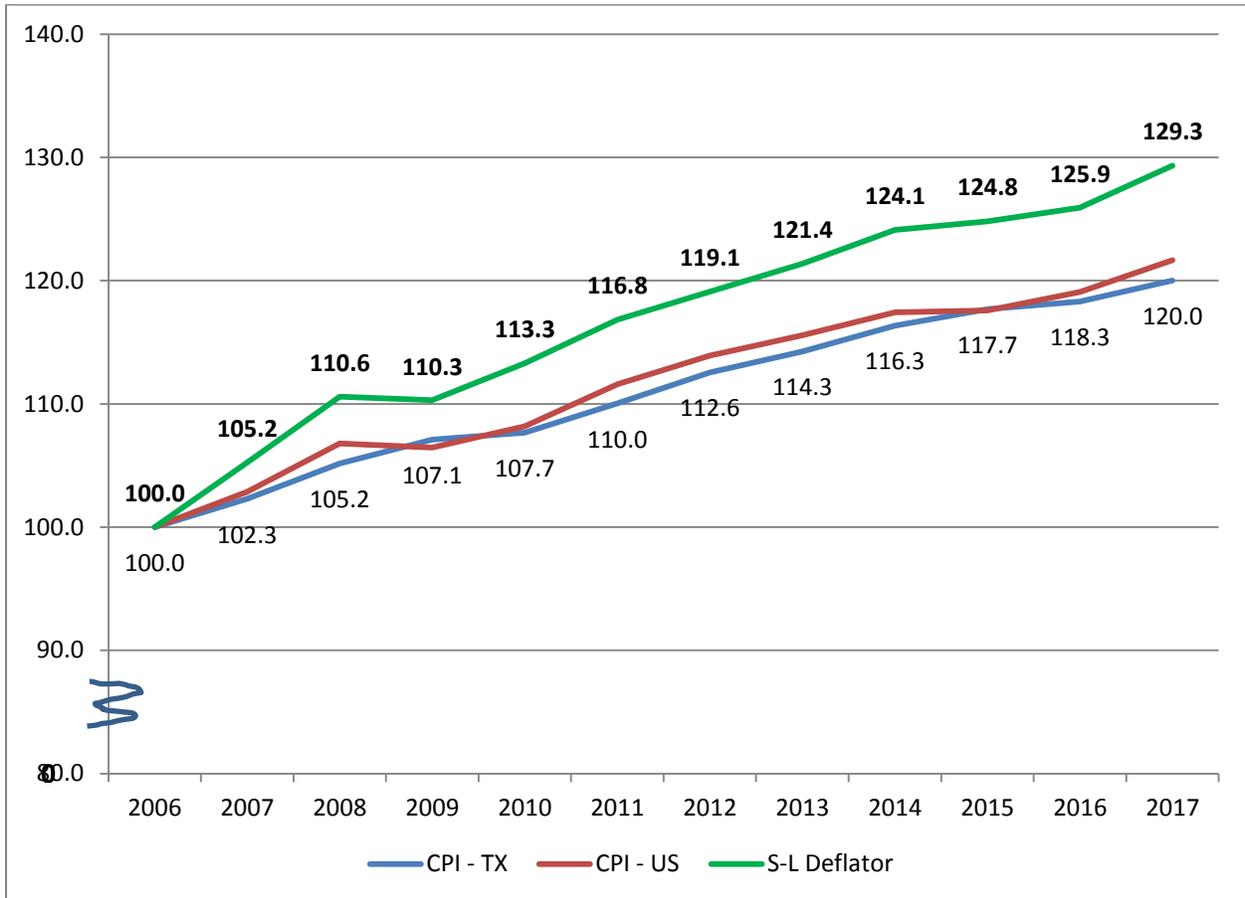
However, it appears that using the CPI is not an appropriate inflation index to use when analyzing expenditures by a state-local government. The CPI is a measure of the average monthly change in the price for goods and services paid by urban consumers between any two time periods. While the overwhelming majority of students in Texas schools are in urban areas, the market basket of goods purchased by consumers, e.g., food, clothing, shelter, charges for doctors' and dentists' services, drugs, and sales taxes, differ markedly from the market basket of items that a local school district purchases. The major purchase that schools engage in is the hiring of human capital, i.e., teachers, administrators, and support personnel.

TEA in its prepared analysis used the [Texas CPI](#) to adjust financial factors. The Texas CPI is issued bi-monthly in alternate months for the Dallas-Fort Worth MSA and the Houston-The Woodlands-Sugar Land MSA. Like the U.S. CPI, the Texas CPI measures the change in the prices of a market basket of goods purchased by urban consumers in Texas. Again, the market basket of goods and services purchased by urban consumers differ dramatically from the goods and services purchased by one's local school.

Is there an inflation index that reflects the market basket of goods and service purchase by school districts? The answer is YES, it is the [U.S. Bureau of Economic Analysis](#), Government consumption expenditures and gross investment: State and local (implicit price deflator). This price index measures the change in the prices for the goods and services, i.e., labor, equipment, utilities, that state-local entities purchase.

Figure 1 shows the index for the U.S. CPI, Texas CPI, and S-L IPD. One should note, that while each of the indices has increased from 2006 through 2017, the S-L IPD increased at a faster rate. Between 2006 and 2017, the Texas and U.S. CPIs increased at an average annual rate of 1.7 percent and 1.8 percent, respectively. The S-L IPD increased at an annual rate of 2.4 percent over this period. The greater rate of increase in the S-L IPD resulted in the S-L index being 7.8 percent more than the Texas CPI in 2017.

Figure 1: CPI-TX, CPI-US, and State-Local GDP Deflator Indices, 2006-2017 (2006 = 100)

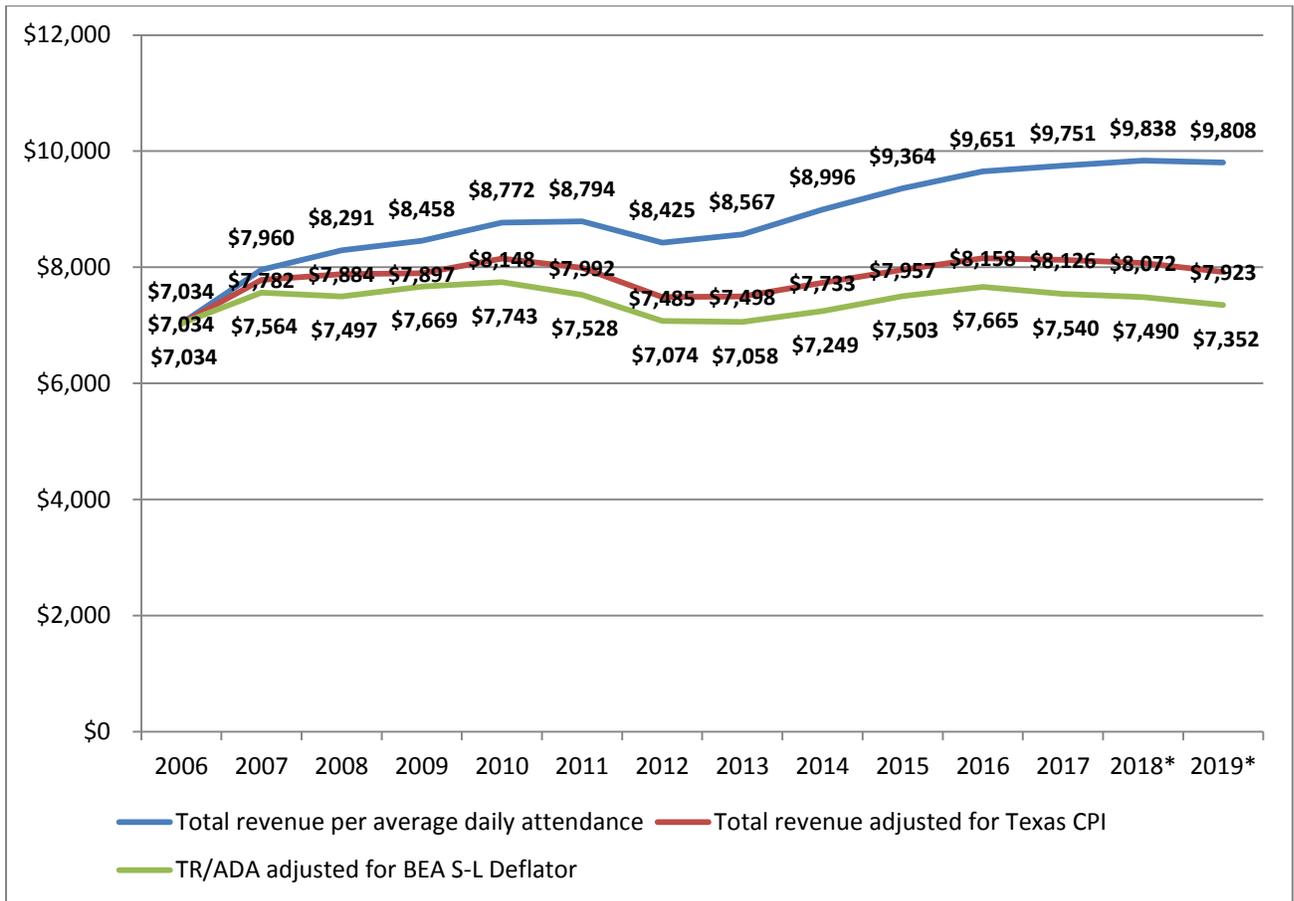


Source: Retrieved from FRED, https://fred.stlouisfed.org/graph/?graph_id=460661 and TEA, <https://tea.texas.gov/WorkArea/DownloadAsset.aspx?id=51539620147>

The difference between the Texas CPI and the S-L Deflator means that the market basket of goods and services purchased by State-Local governments in 2017 was 7.8 more expensive than the market basket of goods and services purchased by urban consumers. This greater increase in the cost of their market basket results in the purchasing power of a dollar spent by a school district being less.

What does using the more appropriate S-L price index mean for real public school spending? As shown in Figure 2, using the S-L IPD instead of the Texas CPI in 2017 results in a \$586 (7.8 percent) reduction in real revenue per ADA. I would hope that no one finds an almost \$600 decrease in real revenue per ADA a trivial amount.

Figure 2: Revenue per ADA, actual dollars and dollars adjusted for inflation, 2006-19



Source: TEA, <https://tea.texas.gov/WorkArea/DownloadAsset.aspx?id=51539620056>

So while real revenue per ADA has increased using either the Texas CPI or the S-L Deflator, the rates of increase differ significantly. Using the Texas CPI resulted in a 12.6 percent increase in real revenue per ADA while using the S-L Deflator increased real revenue per ADA by 4.5 percent. This 64.3 percent reduction in the rate of increase in real revenue per ADA may not seem to be a sufficient reduction to some, but every school district in the state would surely benefit from having an additional \$600 per student.

Why do I advocate using the S-L IPD instead of the CPI to adjust state-local economic activity? The reason is that 42 percent of the market basket used in the CPI is housing related. I doubt very much that school districts are spending 42 percent of their budget on housing. In fact, except for institutions of higher education, I'm not aware of any district spending anything for housing. In fact, according to TEA's School Finance Trends, payroll and benefits account for [60 percent](#) of public education expenditures.

So men and women, and analysts of all ages in the future when adjusting government revenue or expenditures to account for price increases, please use the [appropriate index](#), the State and local (implicit price deflator) and not the CPI. You can obtain quarterly or annual data on the S-L IPD at [FRED](#), a site providing a plethora of up-to-date economic data for Texas, the U.S. and the world.

TX CPI - Measures the average change over a reference base period of time, currently set between 1982-1984, of the prices paid by urban consumers for a market basket of goods and services in TX. Source: U.S. Bureau of Labor Statistics, <https://data.texas.gov/Business-and-Economy/Key-Economic-Indicators/karz-jr5v>

Weights



CPI Expenditure Category	December 2015		
	PCE Weights	CPI Weights	PCE less CPI
All items	100.0	100.0	--
Food and beverages	12.9	15.0	-2.1
Housing	23.6	42.2	-18.6
Shelter	16.4	33.2	-16.8
Other housing	7.2	9.0	-1.8
Apparel	3.8	3.1	0.7
Transportation	10.4	15.3	-4.9
Medical care	22.0	8.4	13.6
Recreation	7.6	5.7	1.9
Education and communication	6.2	7.1	-0.9
Other goods and services	13.4	3.2	10.2

Me thinks that schools aren't spending 42.2 percent of their budget on housing, NO, their largest expenditure is for wages and salaries. That's why using the S-L Deflator is a better way to adjust public education expenditures.

Ch 41 update, <https://tea.texas.gov/WorkArea/DownloadAsset.aspx?id=51539620146>

TEA, State Finance Reports,

https://tea.texas.gov/Finance_and_Grants/State_Funding/State_Funding_Reports_and_Data/State_Funding_Reports_and_Data/

Texas Commission on Public School Finance, <https://tea.texas.gov/schoolfinancecommission/>

PDI, <http://tea.texas.gov/WorkArea/DownloadAsset.aspx?id=25769819123> and <http://www.utdanacenter.org/downloads/products/cej/ceipt3.pdf>