

Technical Notes

The following technical note provides information that describes calculations in the data visualization. The visualization draws upon publicly available information from the U.S. Department of Education's Office of Civil Rights. The information was obtained from the State Plans' websites of the U.S. Department of Education's Equitable Access to Excellent Educators.¹ The information used in this visualization was current as of October 30, 2015.

Overarching Considerations

Data from the visualization reflect conditions in the 2011/12 school year.

Only elementary schools at traditional public schools (non-charter) were used in this analysis. The criteria was modified from NCEES's primary school definition (lowest grade less than or equal to third grade, high grade up to 8th grade). We also required that they have a grade higher than Kindergarten (to remove early childhood centers). Schools where the highest grade was 6th grade or lower were also included. This included schools that were served only combinations of grades 4, 5, and 6 (classified as middle school by NCEES).

Per student amounts presented in this visualization are in reference to the total salary spending at each school divided by the student count from the Civil Rights Data Collection source (CRDC). Where CRDC student counts were missing, they were imputed from the Common Core of Data source. Outliers in per pupil spending amounts were removed. They were defined as those less than half the first percentile amount or more than the 99th percentile plus 2 times the interquartile range (remaining data includes values between \$963 and \$29,286 of total salary spending per student).

The percentage of students enrolled in the free or reduced price lunch program was calculated using both the count of students and free or reduced price lunch students from the Common Core of Data sources (CRDC lacks free or reduced price lunch data). Where data was missing, the percentage was imputed using 2010/11 data.

The within school districts relationship between per student spending and the percentage enrolled in the free or reduced price lunch program was determined using ordinary least squares regression. Total salary spending per student served as the dependent variable and the percentage of free or reduced price lunch students served as the independent variable. A critical value of 0.10 was used to define statistically significant results. In school districts where the range in the percentage of free or reduced price lunch students was less than ten percentage points, the relationship was defined as statistically insignificant.

¹ <http://www2.ed.gov/programs/titleiparta/resources.html>, State Plans webpage, Equity Profiles Data

Values on scatterplots are displayed as relative per student spending and percent free or reduced price lunch. That is, each school displays the difference between the amount and the district average (school spending – district average spending and school %FRL – district average %FRL).

State-level relationships between per student spending and the percentage enrolled in the free or reduced price lunch program was determined using ordinary least squares regression. In this case, relative total salary spending per student and the relative percentage of free or reduced price lunch students were used in order to control for differences in spending or relative poverty between districts (school spending – district spending and average school %FRL – district average %FRL). At the state-level, a critical values of 0.05 was used to define statistically significant results. Districts were only included if there were at least three schools with spending and free or reduced price lunch data.

For the percentage of districts in each state that were funded progressively/regressively, only districts that contained three schools with spending and free or reduced price lunch data were included. Districts were considered to be funded progressively/regressively based on the district-level analysis, using a critical value of 0.10. As before, districts where the range of the percentage of free or reduced price lunch students was less than ten percentage points were not considered to be statistically significant (that is, they were considered neither progressively nor regressively funded).

District level data reflects the number of schools, percentage of students receiving free or reduced price lunch, and average salary spending per pupil for elementary schools (as defined above).

The finance data (salary spending per pupil) excludes employee benefits, expenditures from federal program funds, special education funds, and those not associated with regular K-12 instruction and administration (e.g., preschool, school nutrition programs). Full details may be found at the U.S. Department of Education's Office of Civil Rights, <http://ocrdata.ed.gov/SurveyDocuments>.