

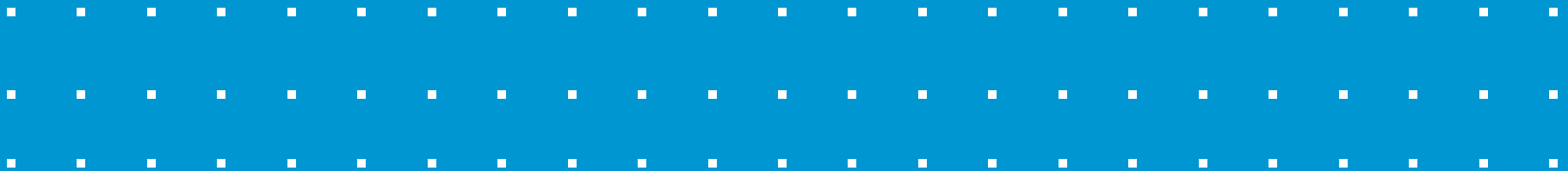


School Funding and Student Achievement: How Does Arizona Compare?

Kristin Blagg

Urban Institute

110th Arizona Town Hall: *Funding PreK-12 Education*

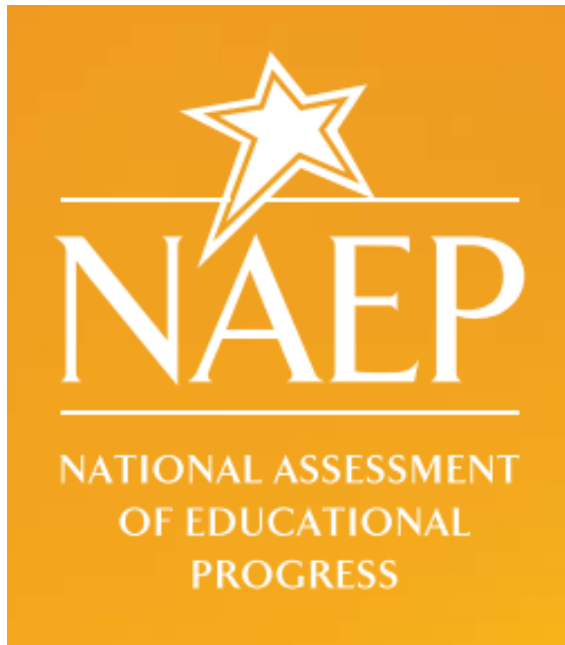


School Funding and Student Achievement: How Does Arizona Compare?

Academic Performance
Funding Levels
Funding Progressivity
Funding Considerations

Academic Performance

How does Arizona stack up against other states on academic performance?



Scores Adjusted For:

Age

Race/ethnicity

Frequency of English spoken at home

Special education status

Free- and reduced-price lunch eligibility

English language learner status

State Performance on 2015 NAEP, 8th Grade Reading

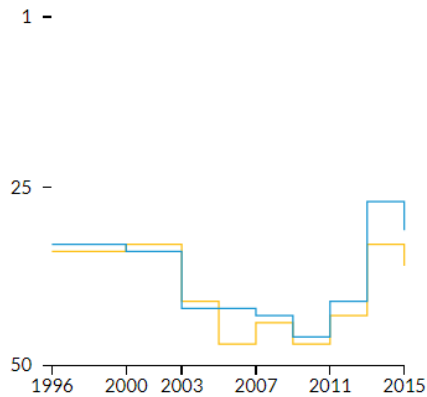


How does Arizona stack up against other states on academic performance?

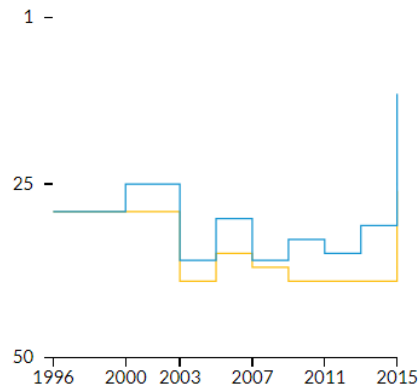
Subject and Grade	State Rank	Adj. State Rank
4 th Grade Math	36 th	27 th
4 th Grade Reading	44 th	41 st
8 th Grade Math	26 th	7 th
8 th Grade Reading	34 th	22 nd

How does Arizona stack up against other states on academic performance?

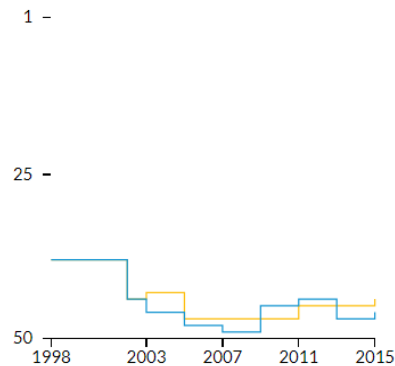
4th Grade Math



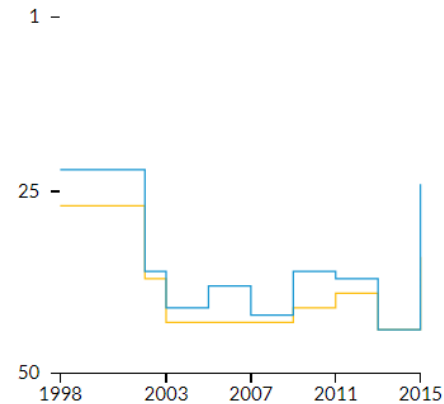
8th Grade Math



4th Grade Reading



8th Grade Reading



Funding Levels

How does school funding affect student achievement and other outcomes?

Research on the link between school resources and student outcomes has historically been mixed ([Hanushek 2003](#), [Krueger 2002](#), [Hedges et al 2016](#)). Recent studies have found **positive impacts**, particularly for subgroups and on long-term outcomes:

The implementation of finance reforms is associated with a **increase in student performance on the NAEP** ([Lafortune, Rothstein and Schanzenbach 2016](#))

Seven years after state funding reforms, districts in the highest poverty quartile experienced a **6-11 percentage point increase in graduation rates** ([Candelaria and Shores 2017](#)).

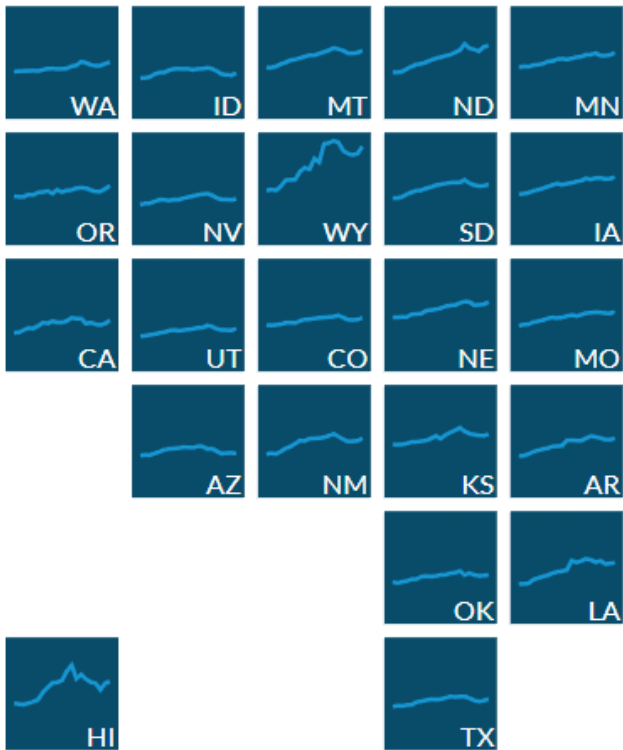
\$1,000 of additional per-pupil spending from 4th to 7th grade leads to a **3.3 percentage point increase in post-secondary enrollment** ([Hyman 2014](#)).

A **20 percent increase** in per-pupil spending over all years of schooling results in a **0.9 additional years of education** and **25 percent higher earnings** among children from poor families ([Jackson, Johnson, and Persico 2014](#)).

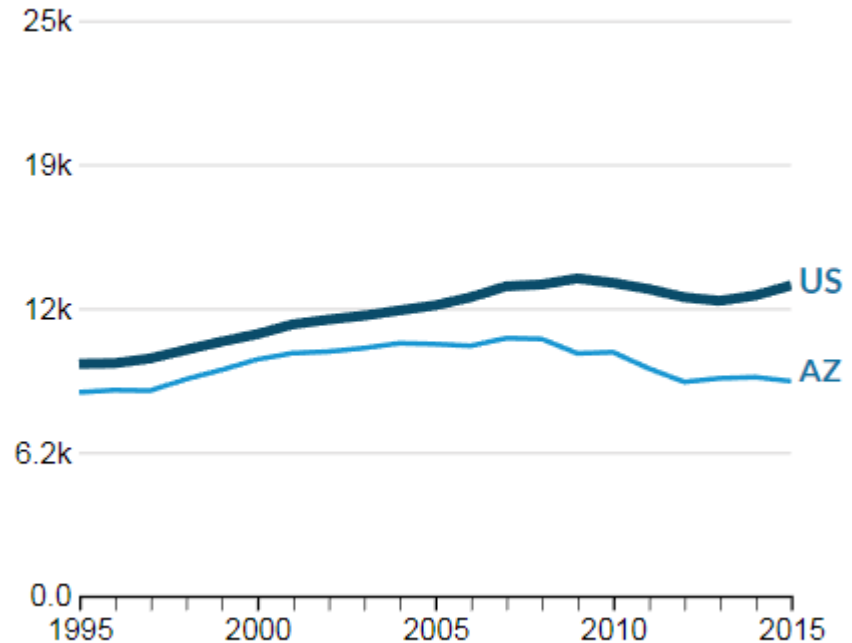
What does spending in Arizona look like?



Overall Cost-Adjusted Per-Pupil Spending



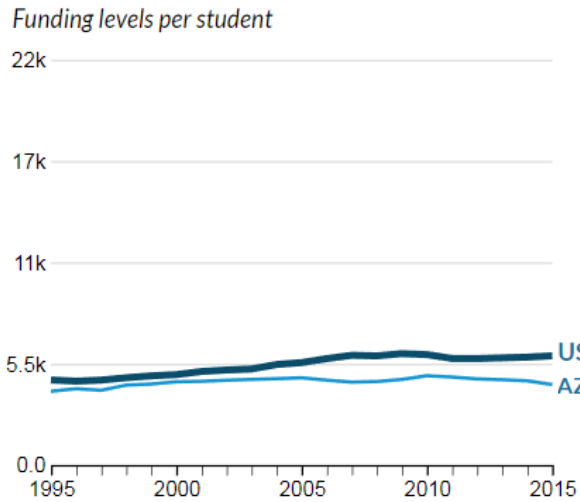
Funding levels per student



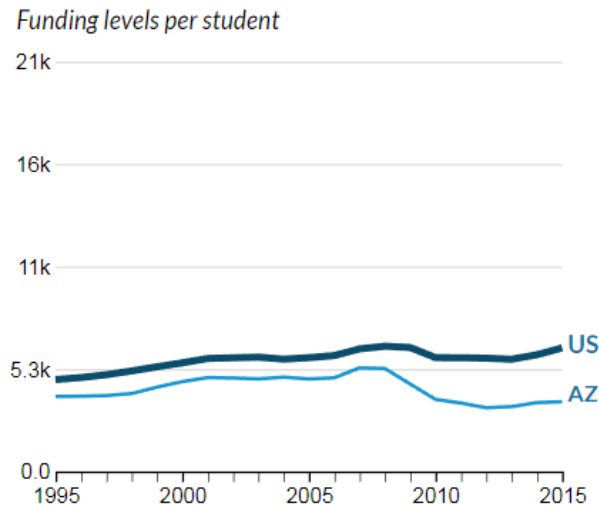
Note: All statistics exclude charter-only districts and other districts not tied to geography.

What does spending in Arizona look like?

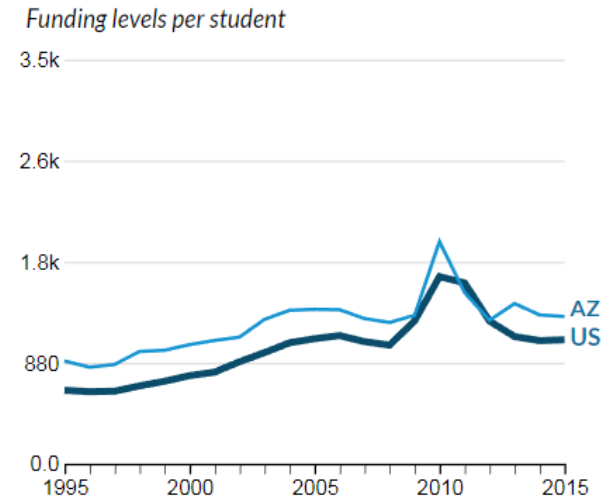
Local Cost-Adjusted Spending



State Cost-Adjusted Spending



Federal Cost-Adjusted Spending



Funding

Progressivity

How progressive is spending in Arizona?

Progressivity Measure: average revenue per-pupil on all poor students, relative to nonpoor students.

District A
\$10,000 per student
10 poor
90 non-poor

$$\frac{\$10,000 \times 10 + \$12,000 \times 30}{10+30}$$

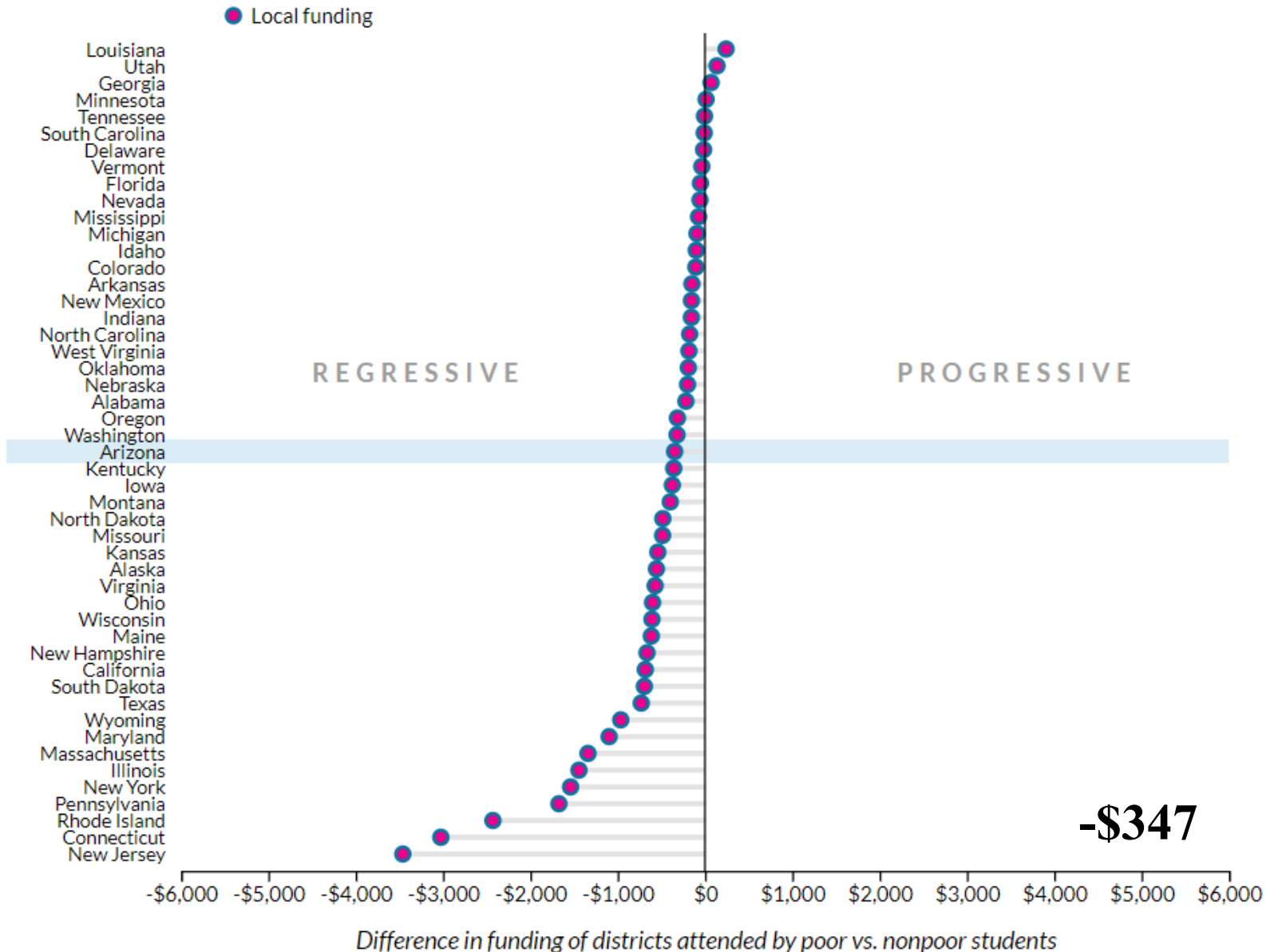
$$\frac{\$10,000 \times 90 + \$12,000 \times 70}{90+70}$$

District B
\$12,000 per student
30 poor
70 non-poor

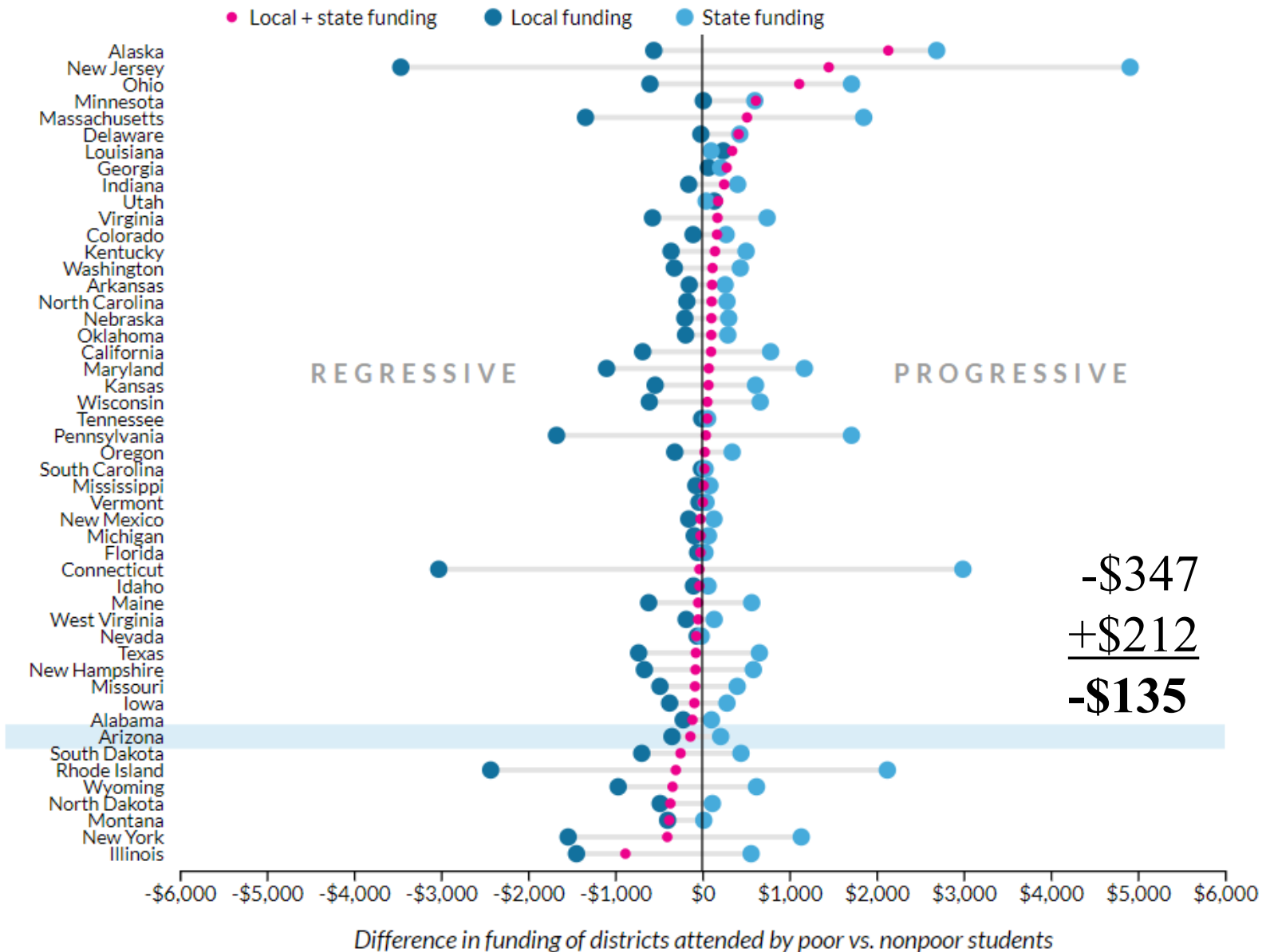
$$\frac{\$11,500}{\$10,875} = 1.057$$

or **\$625 difference**

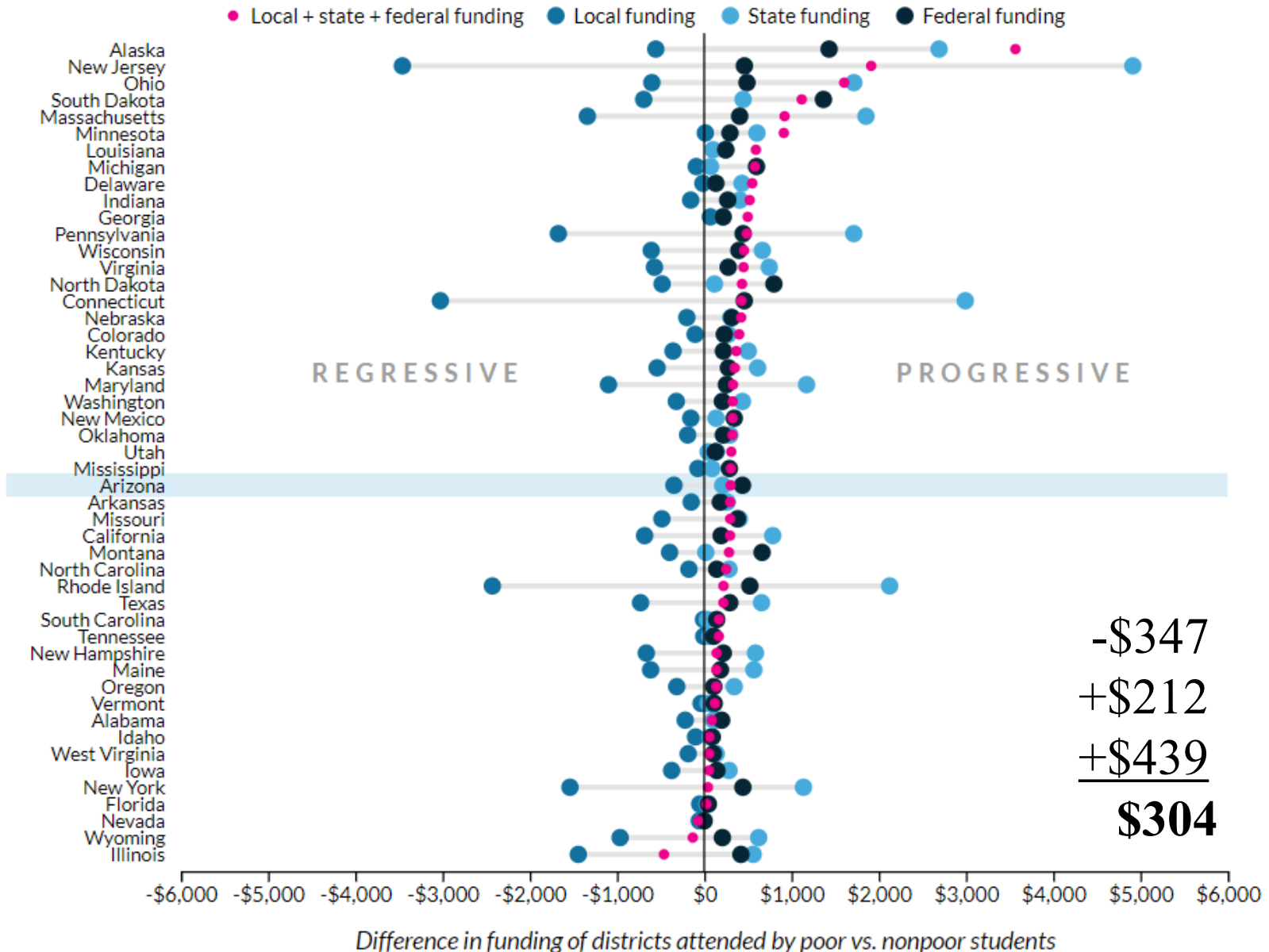
Local Revenue Progressivity



State and Local Progressivity



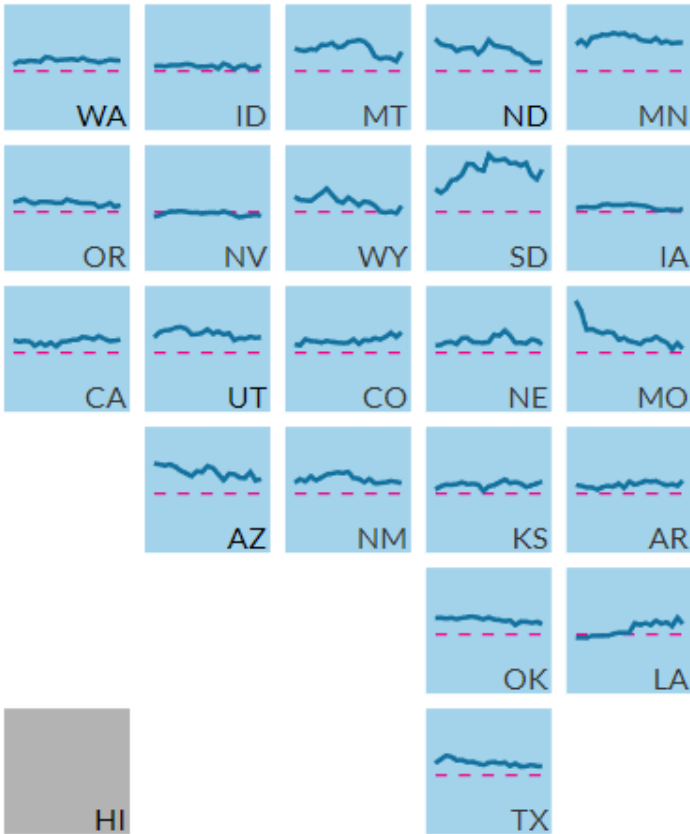
Total Progressivity



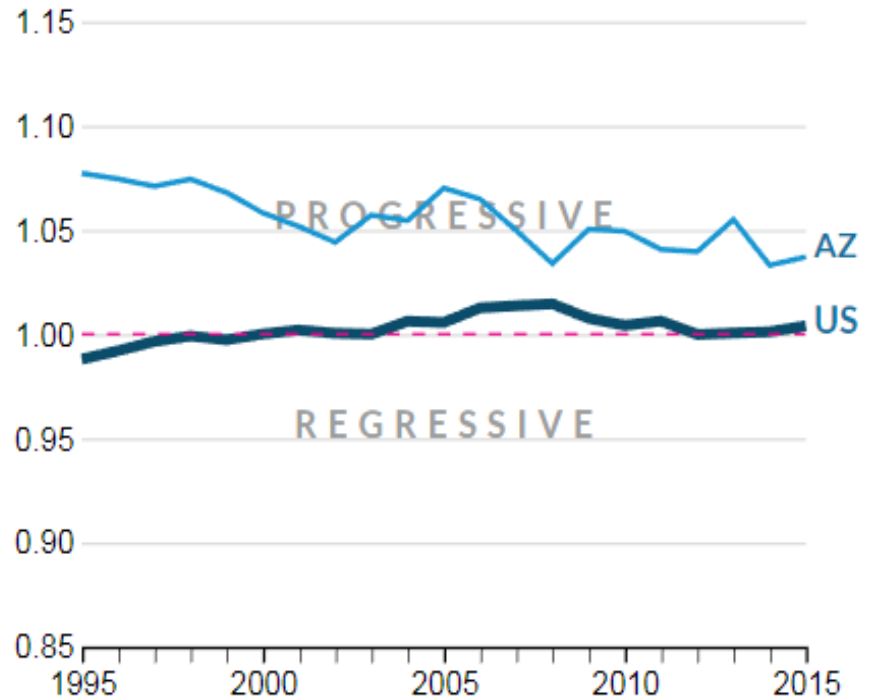
Progressivity over time



Alaska data are displayed on a separate y-axis scale (from 1.00 to 1.29) from the other 49 states.

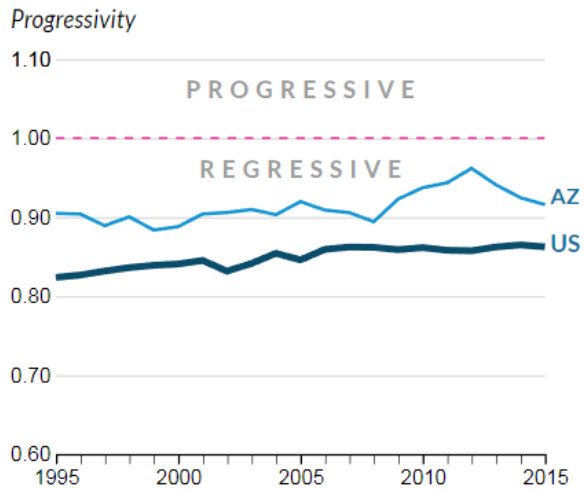


Progressivity

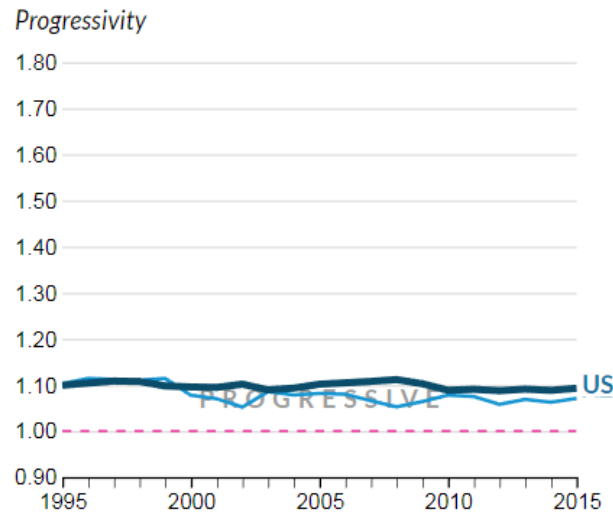


Progressivity over time

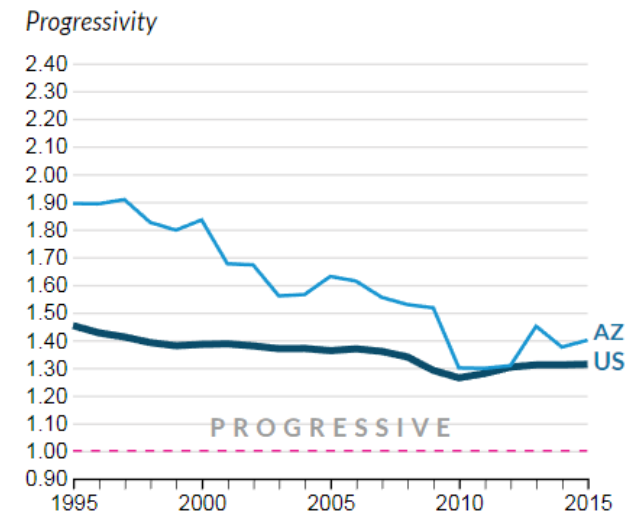
Local Cost-Adjusted



State Cost-Adjusted

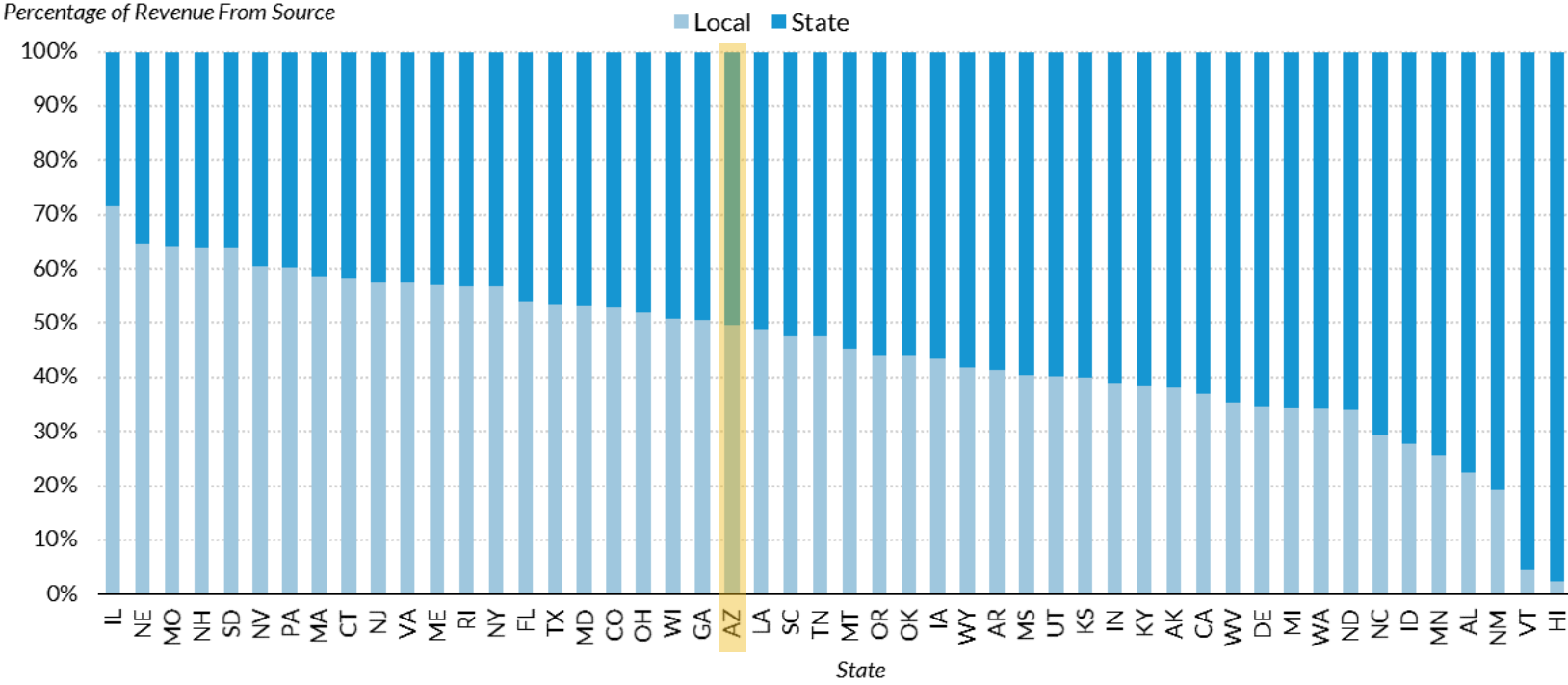


Federal Cost-Adjusted

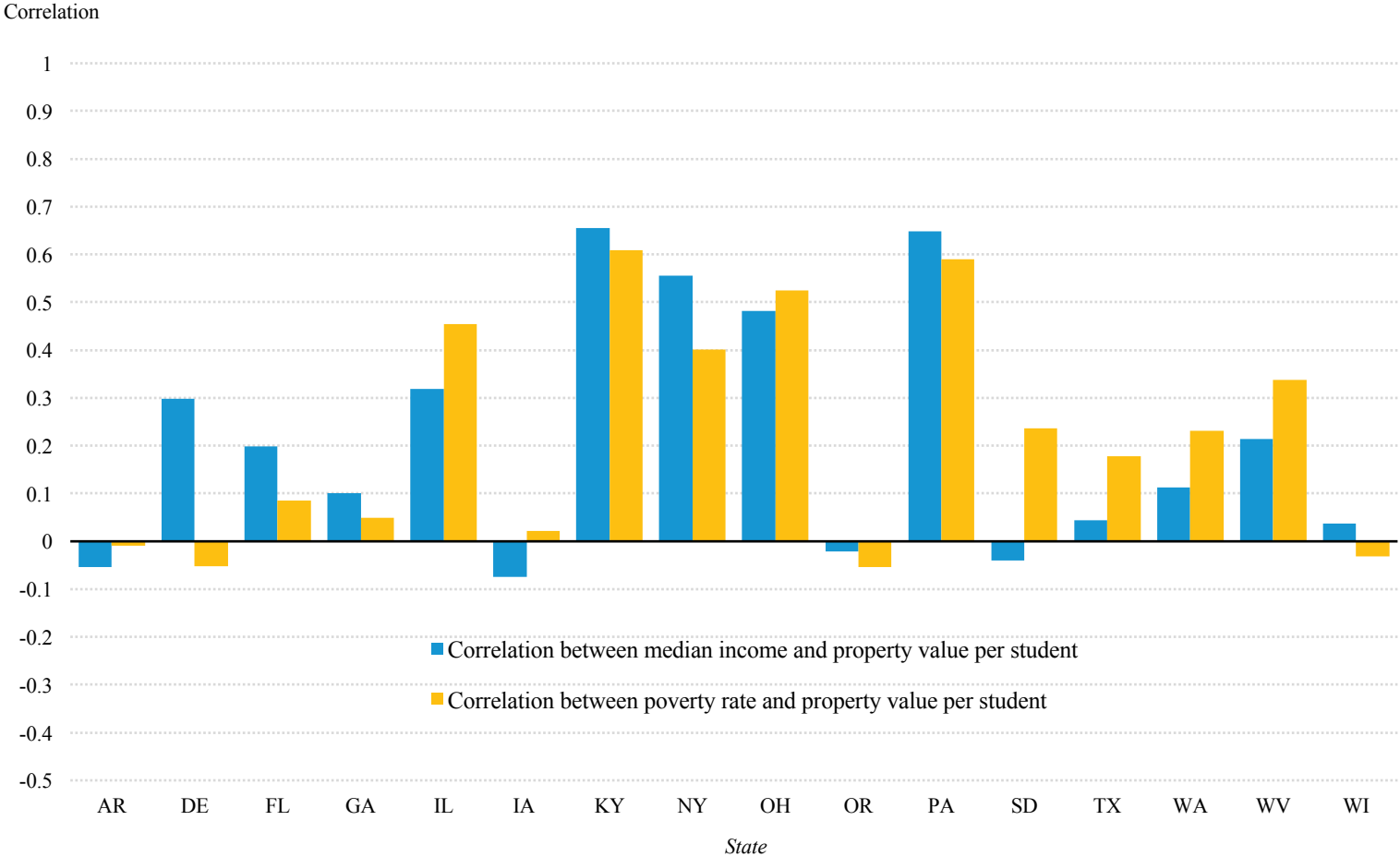


Funding Considerations

Funding is a partnership between revenue raised by districts and states

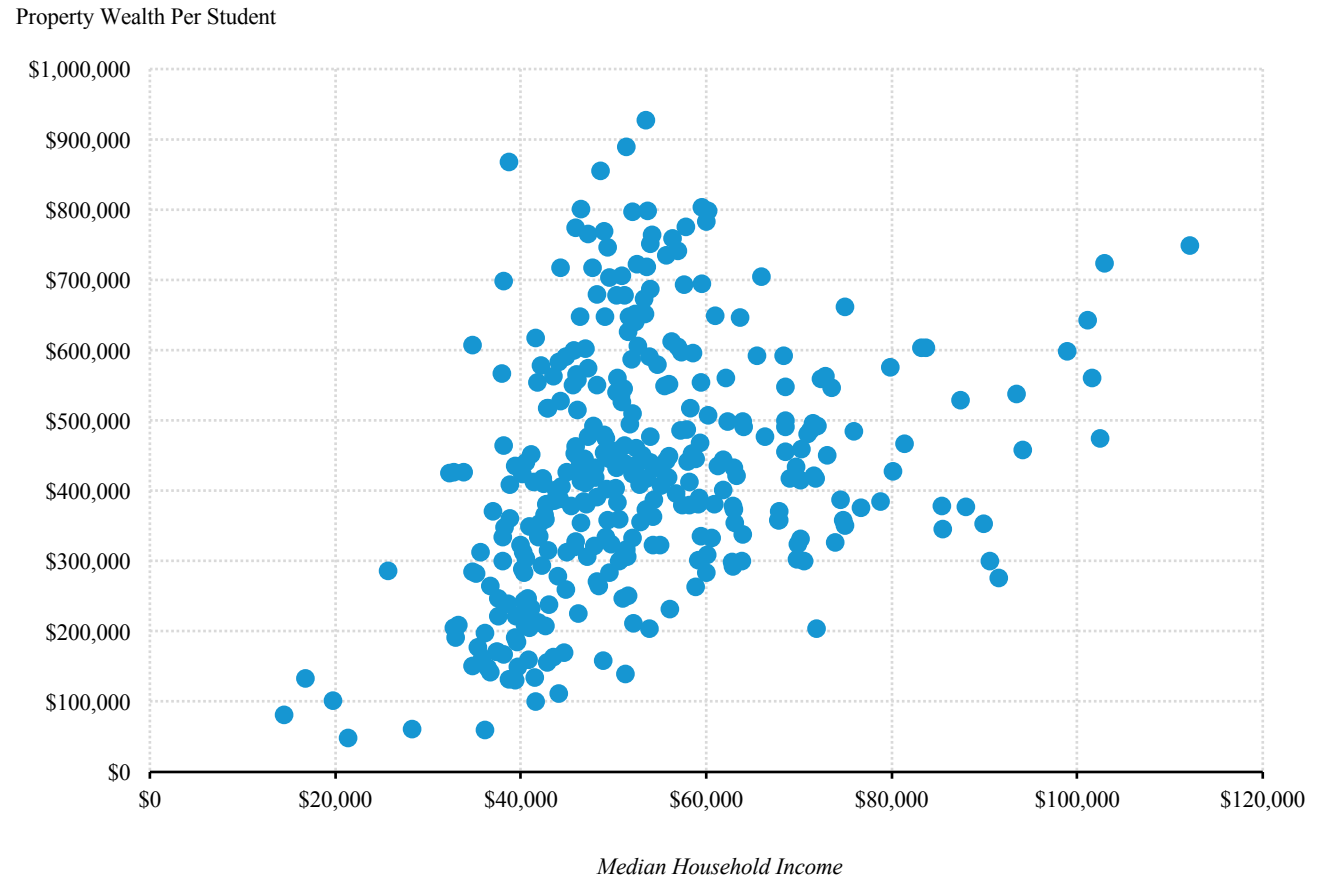


But district property wealth isn't always indicative of student need



But district property wealth isn't always indicative of student need

The correlation between median household income and per-student property wealth in Illinois is 0.32.



Districts may respond to parameters set out in a given funding formula

Use of weighted student counts help to allocate more resources to students who have more need, but also generate incentives to classify more students into the weighted categories ([Greene and Forster 2002](#), [Hoxby and Kuziemko 2004](#)).

When districts are responsible for providing most or all of the funding for capital expenditures (such as renovations or construction), property-wealthy districts may opt to spend on better facilities ([Martorell, Stange, McFarlin 2016](#)).

Categorical funding may direct dollars to students in need, but limit flexibility for districts ([Smith et al 2013](#)).

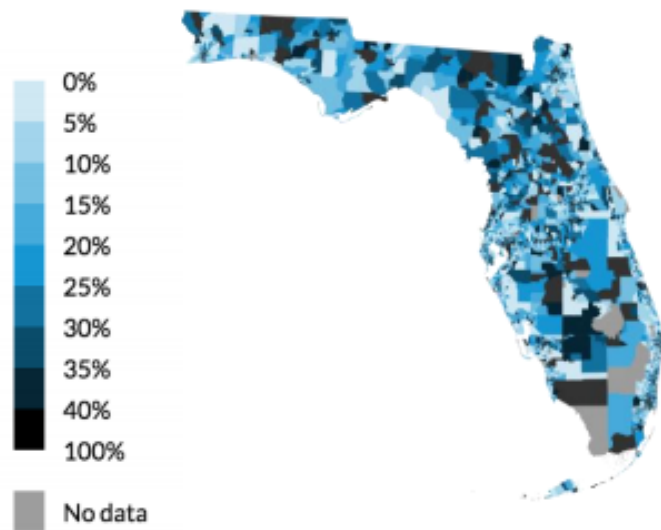
District-level funding is not school-level funding

FIGURE 6A

Economic Segregation of Census Tracts versus School Districts

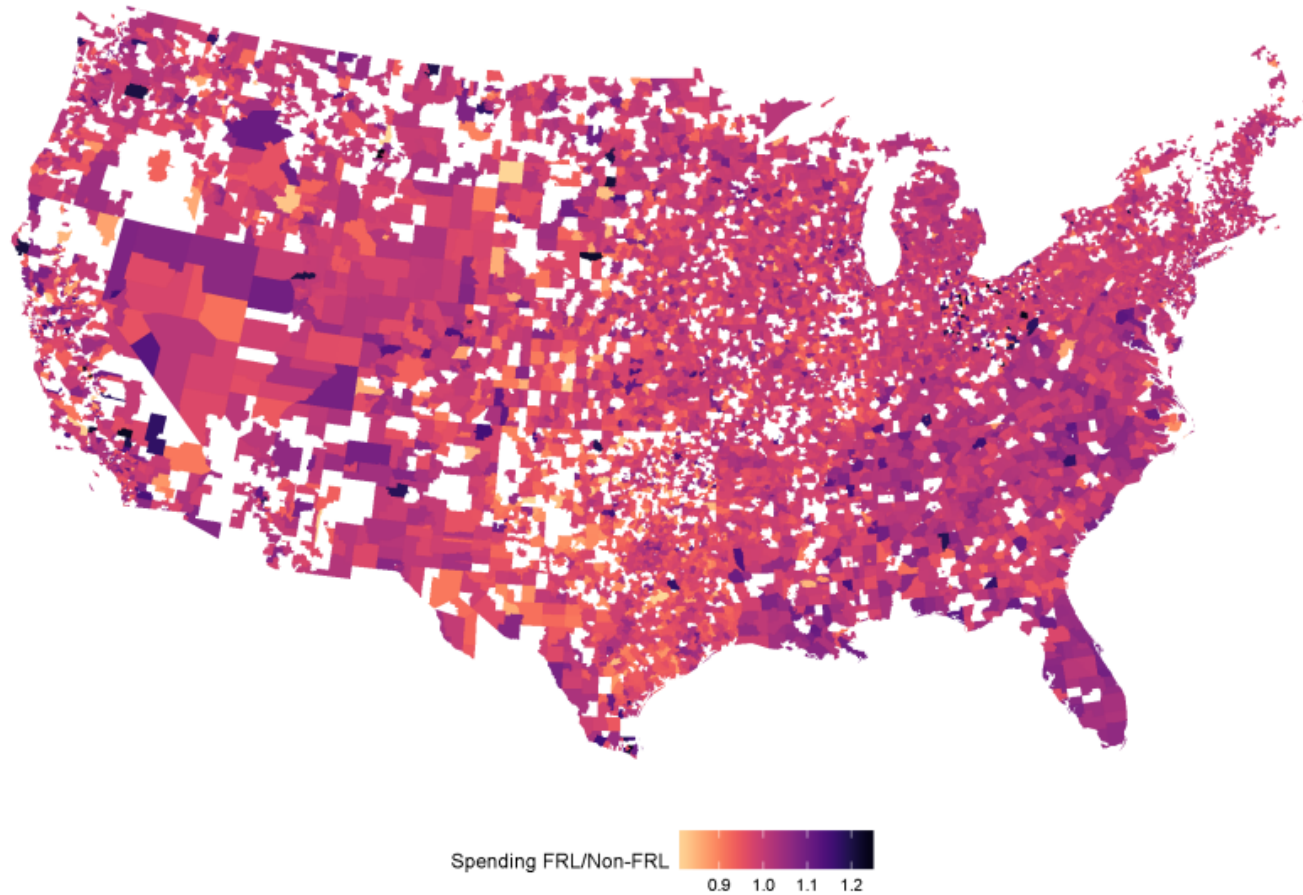
Florida

Poverty rate among families with children ages 5–17



([Chingos and Blagg 2017](#))

District-level funding is not school-level funding



([Ejdemyr and Shores 2017](#))

Conclusions

Conclusions

Relative to other states and to demographically-similar students, Arizona produced **generally middle-of-the-pack academic results**.

Increases in school resources and funding may help **improve academic outcomes** and can have a lasting impact on **post-secondary enrollment and earnings**.

Arizona generally **spends less**, in both local and state funds, on education, even after accounting for local cost differences.

Arizona spending, as a total of local, state, and federal funds, is **slightly progressive**, though contributions from local and state funds alone are **slightly regressive** in directing funds to low-income students.

Questions