

PER PUPIL FUNDING AND STUDENT OUTCOMES: Florida Results and New Research Show Clear Linkage



In years leading up to the Great Recession, major increases by Florida students on federal testing were accompanied by comparably large increases in per pupil funding. But test gains flattened after Florida's education budget suffered cuts in 2009 and 2012, losing ground versus inflation. A new generation of research, more rigorous than earlier studies, provides firm evidence that such links are not coincidental, and that new base funding gains—or cuts—are causally linked to K-12 student outcomes.

Florida K-12 Scores Rise—Then Lag—in Relation to Funding *Test results lose steam after budget cuts, consistent with research consensus*

As measured by national testing, Florida's 4th grade students raised their reading and math scores between 9 and 12 percent from the late 1990s until 2007. The charts at right show that these gains correlate with a steady rise of per pupil funding, in constant dollars. Yet this pattern changed when K-12 budgets were cut in 2009 and 2012, leaving services below 2008 levels when adjusted for inflation. This decade of reduced funding correlates with a period of roughly level outcomes, with 10-year test gains close to 1 percent.

Patterns of test rise and stagnation. This alignment of funding and testing is reflected nationally: U.S. per pupil funding rose at a similar pace until 2008, with 4th-grade scores rising 3 to 7 percent; both then leveled off over the next decade. Likewise, Florida's 8th- and 12th-grade test outcomes were mostly flat after 2008.

Tracking FL per pupil funding and test results

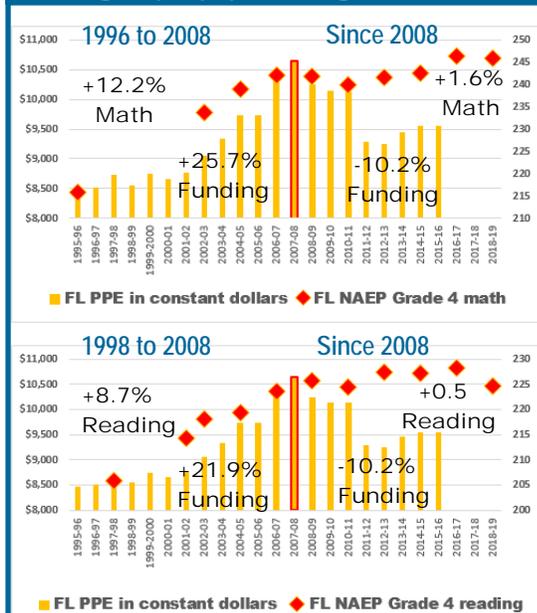


Chart sources: National Assessment of Educational Progress average scale scores (using tests with accommodations when multiple assessments were made). National Center for Education Statistics [NCES], *Digest of Education Statistics: 2018* and *2008* (funding in constant dollars from Tables 236.65 and 184); 2017-19 Florida data from [FL] in constant dollars. For context on Florida's double-dip K-12 recession, see Miami-Dade County Public Schools [M-DCPS], Policy Brief: Florida K-12 Funding Since the Recession: Still Not Recovered (Winter 2018).

¹ See NCES supra, Table 216.90 (FL charter enrollment rose from 1% in 2000 to 6% in 2009 and 10% in 2017), and M-DCPS, Policy Brief: Florida Tax Credit Vouchers: A National Model with Harmful Impacts (Apr. 2017) (exponential voucher growth and lagging test results). ² Florida Dept. of Education, Florida's Common Core Standards (State Board of Education, Mar. 19, 2013). ³ C. Jackson, Does School Spending Matter? The New Literature on an Old Question (Dec. 2018). ⁴ C. Abott, V. Kogan, S. Lavertu & Z. Peskowitz, School District Operational Spending and Student Outcomes: Evidence from Tax Elections in Seven States (Sept. 2019).

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Other factors do not explain Florida's results. Florida's rising scores before 2008 are not due to charter or voucher growth, since these continued to expand rapidly and their test results have not been shown to outpace traditional schools.¹ Nor can flagging results be explained by changed curriculum standards, as full common core implementation began with a kindergarten cohort starting in 2011 whose 4th grade testing was in 2015-16.²

Research links per pupil investments to better outcomes. For many years, K-12 spending studies were observational rather than designed, but a "credibility revolution" in economic studies has spurred more rigorous studies (see next page). The newer studies "overwhelmingly support a causal relationship between school spending and student outcomes," except in a few cases where funding gains are targeted to a particular budget category.³ Where districts have local discretion to allocate new operating funds, the results show "significant impacts on student achievement," in states with both strong and weak bargaining.⁴ Per pupil gains allocated through local control thus appear more likely to raise outcomes than state-targeted priorities or bonuses.

Research
Excerpt

"Revolution" in K-12 funding research is leading towards consensus

From C. Jackson, *Does School Spending Matter? The New Literature on an Old Question* (Dec. 2018).*

"Prior to 1995, all U.S.-based studies relating student outcomes to measures of per-pupil spending were observational (i.e. correlational) in nature.

"The old literature should not be taken as causal. ...One can overcome these limitations of the older literature by relying on exogenous (i.e., external) shocks to school spending that are both (a) unrelated to other determinants of student outcomes, and (b) not driven by the decisions of the individual families under study. With such independent variation in school spending, one can then credibly disentangle school spending from family background, and disentangle variation in school spending from other underlying differences. This is the approach taken in the new literature on school spending.

"The new literature on school spending. The 'credibility revolution'...in empirical economics started to take root in the mid-1990s. The vast majority of

the studies examined in [a 2003 summary] were written before this 'revolution' and would not be deemed credible by existing standards of evidence.... Accordingly, to determine whether there is a causal relationship between school spending and student outcomes one should *only* examine studies that can be deemed credibly causal by current standards....

"Conclusions. ...The recent quasi-experimental literature that relates school spending to student outcomes overwhelmingly support a causal relationship between increased school spending and student outcomes.... [T]he robustness of the patterns across a variety of settings is compelling evidence of a real positive causal relationship between increased school spending and student outcomes, on average. However..., this is not always so in all settings or in all contexts [e.g., Title I and capital spending studies].

"Exactly what contexts increased school spending are most likely to improve student outcomes remains an open question.... By and large, the question of whether money matters is essentially settled."

Research
Excerpt

Effects of recession persist

From K. Shores & M. Steinberg, *Schooling During the Great Recession: Patterns of School Spending and Student Achievement Using Population Data* (July 2019).*

"The effect of the Great Recession on school districts was...[that it] reduced state and local revenues by 5%.... These fiscal shocks led to subsequent reductions in educational employment, with public school employment falling by 3.7%, a loss of approximately 300,000 jobs nationwide....

"We find that exposure to school spending declines following the onset of the Great Recession is associated with student math and [English language arts] achievement declines of, on average, 0.03 standard deviations per year.... The resulting achievement gap between students in counties most** and least affected by the Great Recession persisted for more than 3 years after the end of the exposure period, indicating that recession-induced school spending shocks are associated with both contemporaneous and persistent declines in student achievement. Furthermore, declines in student achievement were concentrated among school districts serving more economically disadvantaged and minority students."

*Citations omitted from all excerpts.

**The most adverse declines were over \$600 per pupil, as in FL.

Research
Excerpt

Effects of local discretion

From C. Abbott, V. Kogan, S. Lavertu & Z. Peskowitz, *School District Operational Spending and Student Outcomes: Evidence from Tax Elections in Seven States* (Sept. 2019).*

"This study estimates the impact of recent increases in education spending across diverse districts in multiple states.... What districts in these states have in common...is that they have discretion in how they spend revenues from passing a tax referendum. Unlike local bond elections tied to capital spending and restricted federal grants, these local tax levies allow districts to allocate revenues to whatever operational functions they wish....

"Specifically, we employ data on over 3,000 district tax referenda held between 2000 and 2015... [yielding] \$400-\$500 more annually per student.... The majority of these funds went toward increasing instructor salaries.... The remainder of funds were spent on various support services. This overall increase in district spending is associated with a steady climb in average test scores in math and English language arts, as well as an increase in four-year, cohort-based graduation rates. By 5-7 years after a tax referendum, districts in which tax levies passed had achievement gains of 0.1 of a standard deviation and gains in graduation rates of 3-4 percentage points."