



Return on Educational Investment

A district-by-district evaluation of U.S. educational productivity

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Introduction and summary

This report is the culmination of a yearlong effort to study the efficiency of the nation's public education system and includes the first-ever attempt to evaluate the productivity of almost every major school district in the country. In the business world, the notion of productivity describes the benefit received in exchange for effort or money expended. Our project measures the academic achievement a school district produces relative to its educational spending, while controlling for factors outside a district's control, such as cost of living and students in poverty.

Our nation's school system has for too long failed to ensure that education funding consistently promotes strong student achievement. After adjusting for inflation, education spending per student has nearly tripled over the past four decades.¹ But while some states and districts have spent their additional dollars wisely—and thus shown significant increases in student outcomes—overall student achievement has largely remained flat.² And besides Luxembourg, the United States spends more per student than any of the 65 countries that participated in a recent international reading assessment, and while Estonia and Poland scored at the same level as the United States on the exam, the United States spent roughly \$60,000 more to educate each student to age 15 than either nation.³

Our aims for this project, then, are threefold. First, we hope to kick-start a national conversation about educational productivity. Second, we want to identify districts that generate higher-than-average achievement per dollar spent, demonstrate how productivity varies widely within states, and encourage efforts to study highly productive districts. Third—and most important—we want to encourage states and districts to embrace approaches that make it easier to create and sustain educational efficiencies.

This report comes at a pivotal time for schools and districts. Sagging revenues have forced more than 30 states to cut education spending since the recession began.⁴ The fiscal situation is likely to get worse before it gets better because the full impact of the housing market collapse has yet to hit many state and local budgets.⁵ At a time when states are projecting more than \$100 billion in budget shortfalls, educators need to be able to show that education dollars produce significant outcomes or taxpayers might

begin to see schools as a weak investment.⁶ If schools don't deliver maximum results for the dollar, public trust in education could erode and taxpayers may fund schools less generously.

While some forward-thinking education leaders have taken steps to promote better educational efficiency, most states and districts have not done nearly enough to measure or produce the productivity gains our education system so desperately needs. Some fear that a focus on efficiency might inspire policymakers to reduce already limited education budgets and further increase the inequitable distribution of school dollars. To be sure, our nation's system of financing schools is unfair. Low-income and minority students are far more likely to attend schools that don't receive their fair share of federal, state, and local dollars. But while the issue of fairness must be central to any conversation about education finance, efficiency should not be sacrificed on the altar of equity. Our nation must aspire to have a school system that's both fair and productive.

Our emphasis on productivity does not mean we endorse unfettered market-based reforms, such as vouchers allowing parents to direct public funds to private schools. Nor do we argue that policymakers should spend less on education. Indeed, we believe neither of these approaches can solve the nation's pressing education challenges. Transforming our schools will demand both real resources and real reform. As Education Secretary Arne Duncan recently said: "It's time to stop treating the problem of educational productivity as a grinding, eat-your-broccoli exercise. It's time to start treating it as an opportunity for innovation and accelerating progress."⁷

Productivity 101: Embracing transformational change

When successful businesses want to improve performance and boost efficiencies, they focus on creating the conditions for organizational change. They use data to identify problem areas, create short and long-term goals, and engage their employees to sustain transformations and nurture further innovation. Such approaches have long worked for the private sector, and there's clear evidence that the techniques can help drive better performance in large, public organizations as well.⁸

But schools and districts have long been effective at deflecting or watering down meaningful change in order to protect entrenched bureaucracies and interests. And even reform-minded school administrators often confuse merely novel techniques with successful

ones and dash from one educational fad to the next without tracking their efficacy.⁹ To increase productivity, school leaders will need to fundamentally reinvent the way that they do business and create an outcomes-based school culture that sets high goals—and gives employees the strategies to achieve them.

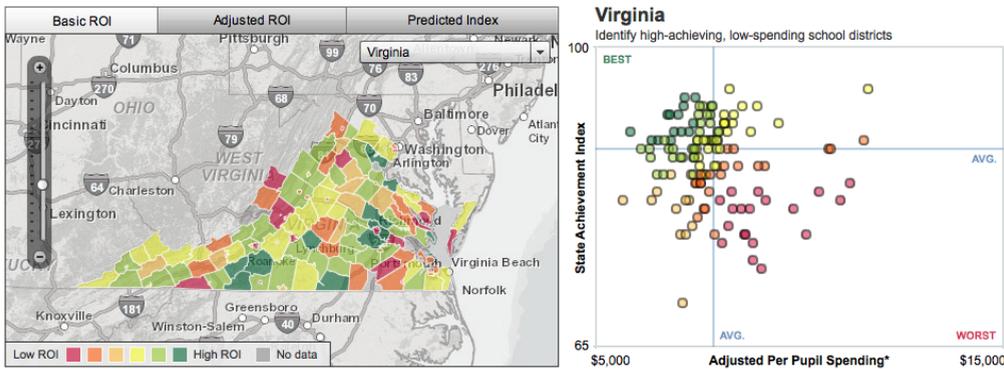
That will entail doing away with obsolete traditions and ineffective programs, to be sure. But it will also require schools and districts to embrace transformational ways of delivering a cost-effective education that reduces spending while boosting performance. The goal must be nothing short of a breakthrough in performance that guarantees that every dollar produces high achievement for all students.

Accompanying this report is an interactive website that allows anyone to compare the relative productivity of thousands of school districts and find out more about their spending and achievement. Because we cannot control for everything outside a district's control when calculating its productivity evaluation, the site makes it easy to compare similar districts based on their demographics and enrollment. It also allows users to see how districts fare under different approaches to measuring productivity. The site was created in partnership with the nonprofit advocacy organization OMB Watch and the geo-information services company Esri.

The Wisconsin school systems of Oshkosh and Eau Claire are about the same size and serve similar student populations. They also get largely similar results on state exams—but Eau Claire spends an extra \$8 million to run its school system.

Return on Educational Investment: A district-by-district evaluation of educational productivity

To spark a national dialogue about educational productivity, we've attempted to evaluate the return on investment (ROI) of almost every major school district in the country. By productivity, we mean how much learning a district produces for every dollar spent, after controlling for factors such as cost of living and students in poverty. Use the map to see how each district performs and click on the tabs to toggle between our three different approaches. We call them **Basic ROI**, **Adjusted ROI**, and **Predicted Index**. [Click here for our methodology](#) and [here for additional instructions on how best to use the site](#).



School District	Basic ROI	State Achievement Index	Adj. Per Pupil Spending	Percent Low Income	Enrollment	Urbanicity
Amelia County Public Schools	High ROI	85	\$6,732	40	1,880	Rural: Distant
Campbell County Public Schools	High ROI	88	\$7,493	29	8,813	Rural: Fringe
Floyd County Public Schools	High ROI	90	\$7,366	37	2,059	Rural: Distant
Amherst County Public Schools	Low ROI	85	\$7,731	42	4,764	Rural: Fringe
Grayson County Public Schools	Low ROI	81	\$8,430	54	2,109	Rural: Remote
Hanover County Public Schools	High ROI	94	\$7,239	8	19,100	Rural: Fringe
Accomack County Public Schools	Low ROI	89	\$7,718	61	5,206	Rural: Remote
Bland County Public Schools	Low ROI	88	\$8,114	36	906	Rural: Remote
Brunswick County Public Schools	Low ROI	78	\$7,988	76	2,256	Rural: Fringe
Charlotte County Public Schools	High ROI	92	\$7,798	50	2,195	Rural: Remote

* Per pupil spending has been adjusted for differences in cost of living and students in special programs.
 Sources: For spending and demographic information, we relied on 2008 data compiled by the U.S. Department of Education's National Center for Education Statistics. For overall school district achievement results, we used 2008 data compiled by the New America Foundation's Federal Education Budget Project. Some states and districts were missing data for certain demographic indicators, necessitating the use of proxies. For more information on our sources, use of proxies, and our approach to calculating educational productivity, please consult our detailed methodology.

Summary of findings

- **Many school districts could boost student achievement without increasing spending if they used their money more productively.** An Arizona school district, for example, could see as much as a 36 percent boost in achievement if it increased its efficiency from the lowest level to the highest, all else being equal.
- **Low productivity costs the nation's school system as much as \$175 billion a year.** This figure is an estimate; our study does not capture everything that goes into creating an efficient district. But the approximate loss in capacity equals about 1 percent of the nation's gross domestic product.¹⁰
- **Without controls on how additional school dollars are spent, more education spending will not automatically improve student outcomes.** In more than half of the states included in our study, there was no clear relationship between spending and achievement after adjusting for other variables, such as cost of living and students in poverty. These findings are consistent with existing research: How a school system spends its dollars can be just as important as how much it spends, at least above some threshold level.
- **Efficiency varies widely within states.** Some districts spent thousands more per student to obtain the same broad level of academic achievement. After adjusting for factors outside of a district's control, the range of spending among the districts scoring in the top third of achievement in California was nearly \$8,000 per student.
- **More than a million students are enrolled in highly inefficient districts.** Over 400 school districts around the country were rated highly inefficient on all three of our productivity metrics. These districts serve about 3 percent of the almost 43 million students covered by our study.
- **High-spending school systems are often inefficient.** Our analysis showed that after accounting for factors outside of a district's control, many high-spending districts posted middling productivity results. For example, only 17 percent of Florida's districts in the top third in spending were also in the top third in achievement.

- **Students from disadvantaged backgrounds are more likely to be enrolled in highly inefficient districts.** Students who participated in subsidized lunch programs were 12 percentage points more likely to be enrolled in the nation's least-productive districts, even after making allowances for the higher cost of educating lower-income students.¹¹
- **Highly productive districts are focused on improving student outcomes.** We surveyed a sample of highly productive districts to learn more about their principles and practices. The districts that performed well on our metrics shared a number of values and practices, including strong community support and a willingness to make tough choices.
- **States and districts fail to evaluate the productivity of schools and districts.** While the nation spends billions of dollars on education, only two states, Florida and Texas, currently provide annual school-level productivity evaluations, which report to the public how well funds are being spent at the local level.
- **The quality of state and local education data is often poor.** In many instances, key information on school spending and outcomes is not available or insufficiently rigorous, and this severely impedes the study of educational productivity. For instance, we did not have good enough data to control for certain cost factors, such as transportation. So a rural district with high busing costs might suffer in some of our metrics compared with a more densely populated district.
- **The nation's least-productive districts spend more on administration.** The most inefficient districts in the country devote an extra 3 percentage points of their budgets on average to administration, operations, and other noninstructional expenditures.
- **Some urban districts are far more productive than others.** While our main results are limited to within-state comparisons, we were able to conduct a special cross-state analysis of urban districts that recently participated in a national achievement test. After adjusting for certain factors outside a district's control, we found that some big-city school systems spend millions of dollars more than others—but get far lower results on math and reading tests.

Summary of recommendations

Policymakers should promote educational efficiency

We hope this report launches a broad dialogue about educational productivity. Education policymakers should encourage further research in this area, as well as convene a national panel to recommend how state and federal governments can better support policies and programs that promote efficiency.

States and districts must reform school management systems

Education policymakers should create performance-focused management systems that are flexible on inputs and strict on outcomes. State and federal governments should also provide educators with the tools, technology, and training required to succeed with limited school dollars.

Education leaders should encourage smarter, fairer approaches to school funding

Education policymakers should develop funding policies that direct money to students based on their needs, so that all schools and districts have an equal opportunity to succeed. Federal policymakers should also continue to support competitive funding programs that create opportunities for reform and innovation.

States and districts should report far more data on school performance

States and districts should develop data systems that report reliable, high-quality information on educational outcomes, operations, and finance.

Productivity ratings used in this study

Our work on educational productivity builds on the 2007 “Leaders and Laggards” report released by the Center for American Progress in partnership with the U.S. Chamber of Commerce and Frederick Hess of the American Enterprise Institute. In that study, we evaluated state-level return on investment (ROI), comparing state achievement outcomes with education spending, after controlling for differences in special education and low-income students, and living costs.

For this study, we developed three district-level productivity measures. We relied on spending data from the 2008 school year, the most recent available. For achievement, we relied on the results of 2008 state reading and math assessments in fourth grade, eighth grade, and high school. We believe this is the first national effort to gauge the efficiency of over 9,000 districts in more than 45 states against a set of evaluative rubrics. All three of our metrics use a green-to-red color-coding system, and the first two approaches use the matrix shown below to evaluate districts. The same color legend is used on the interactive companion website at www.americanprogress.org/ROI.

ROI Evaluation Matrix

	Lowest achievement	Medium achievement	Highest achievement
Lowest cost	Orange	Light Green	Dark Green
Medium cost	Red-Orange	Yellow	Light Green
Highest cost	Red	Orange	Yellow

Basic Return on Investment index rating

This measure rates school districts on how much academic achievement they get for each dollar spent, relative to other districts in their state. To avoid penalizing districts where education costs are higher, we adjusted for a variety of factors including cost-of-living differences as well as higher concentrations of low-income, non-English-speaking, and special education students.

Adjusted Return on Investment index rating

This measure uses the same approach as the Basic ROI but applies a different statistical method, called a regression analysis, to account for the higher costs associated with serving larger concentrations of low-income, non-English-speaking, and special education students. The adjustments, or weights, used in the Basic ROI are not always sensitive enough to account for spending differences within states.

Predicted Efficiency index rating

The Predicted Efficiency rating measures whether a district’s achievement is higher or lower than would be predicted after accounting for its per-pupil spending and concentrations of low-income, non-English-speaking, and special education students. Under this approach, a low-achieving district could get high marks if it performed better than predicted. Lowering academic expectations for students from disadvantaged backgrounds is not a policy position supported by the Center.

Our measures are far from perfect, and individual district evaluations should be interpreted with caution. The connection between spending and achievement is complex, and our methods cannot capture everything that goes into creating an efficient school system. Nor can we control for everything that’s outside of a district’s control, and our adjustments for factors like poverty and students in special education are estimations and don’t account for variations in severity and type within those demographic groups. Moreover, most of the variation in student achievement is within schools, and so district-level productivity results most likely mask significant variations in productivity within districts. Finally, we’re aware that some of the data reported by states and districts have reliability issues, with agencies sometimes using inconsistent definitions and weak data collection practices.

Despite these important caveats, we believe our district-level ratings use the best available methods and reveal important results. Our work has been aided by a panel of experts, who reviewed our approach and provided helpful feedback. However, we take full responsibility for the methodology and resulting evaluations.

America's ingenuity and dynamism have helped make it one of the most prosperous countries in the world, and these traits will be key to boosting the productivity of our school system. Efficiency reforms will not come fast or easy, but they must come soon because our nation can no longer afford schools that fail to make the most of their limited resources. We hope that our interactive website— together with the findings and recommendations in the following pages—will prompt a new way of thinking about educational success, one that does far more to guarantee that all schools and districts have the necessary data, tools, and incentives to be efficient with their school dollars.

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