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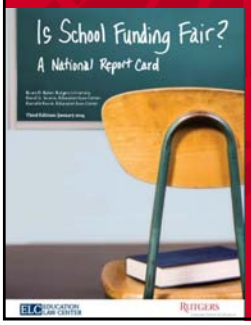
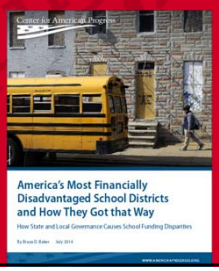
What's Up With the Funding of Public Elementary and Secondary Education in the United States?

Bruce D. Baker





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Overview

- Conceptions of equity & equal opportunity
- Does money matter?
  - & do school finance reforms make a difference?
- Back to Basics: School Finance 101
  - The path from money to outcomes with cross-state evidence
- Recent trends in state school finance systems
- Persistent inequities
- The road ahead

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Conceptual Backdrop

From Equal Inputs to Equal Opportunity

- Old-school school finance
  - Striving to provide equal dollar inputs across settings (school districts) of varied wealth/fiscal capacity
- New school finance
  - Striving to provide equal opportunity to achieve common outcome goals/standards
    - Requires differentiation of programs services
    - Determining funding levels
      - Requires identifying costs of relevant programs & services
      - Requires determining how costs vary from one location/setting to the next.
  - Providing equal opportunity to achieve common outcomes requires differentiation of financial inputs across settings & children.

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Conceptual Backdrop

Leveraging State School Finance Systems to Achieve EEO

- Local public school districts vary in their capacity to raise tax dollars to achieve necessary spending levels
  - Thus, state aid formulas must account for local district's ability to pay (equalization)
- Local public school districts vary in the needs of the student populations they serve
  - Thus, state aid formulas include student need adjustments to drive additional funding into districts serving more needy populations
- Local public school districts vary in the input prices they must pay (regional price differences) for common resources
  - Thus, state aid formulas often include adjustments for geographic factors that affect costs.

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School Finance in the Political Context

Cutting through the rhetoric

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"We spend more than any other state in the country,"

"It ain't about the money. It's about how you spend it – and the results."

[Except for that rectangle that sits on top of Colorado]

http://blogs.wsj.com/metropolis/2014/02/11/cuomo-on-education-funding-lawsuit-it-aint-about-the-money/

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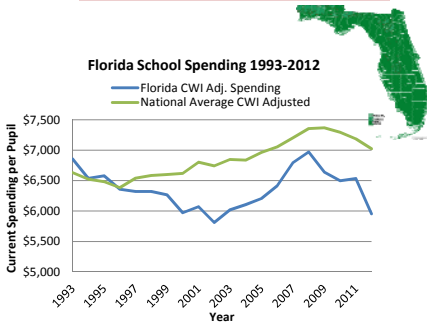
"We're spending a lot of money on education, and when you look at the results, it's not great."



http://blogs.orlandosentinel.com/news_politics/2011/10/scott-anthropology-and-journalism-dont-pay-and-neither-do-capes.html

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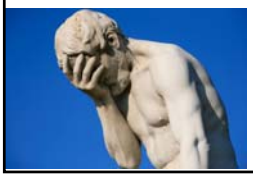
Rep. Dave Brat (R-VA)

http://thinkprogress.org/education/2015/02/13/3623158/brat-education-plato/

"Socrates trained Plato in **on a rock** and then Plato trained in Aristotle roughly speaking **on a rock**. So, huge funding is not necessary to achieve the greatest minds and the greatest intellects in history." [sic]



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Political Rhetoric

- Robert Sommers, chief education advisor to Governor **Tom Kasich** declared:
  - **"In the last decade, we've spent more money but have not gotten any better result."**
    - http://www.norwalkreflector.com/content/deal-it-schools-can-adjust-cuts-kasich-education-official-tells-lawmakers
- And in an interview with New Jersey's **Governor Chris Christie**, the *Wall Street Journal* reported:
  - **"According to Mr. Christie, New Jersey taxpayers are spending $22,000 per student in the Newark school system, yet less than a third of these students graduate, proving that more money isn't the answer to better performance."**
    - http://online.wsj.com/article/SB10001424052702303348504575184120546772244.html

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PINGRY
EXCELLENCE & HONOR

Tuition & Fees

Tuition Rates for the 2014-2015 Academic Year

Grades K-5	$30,512
Grades 6-8	$34,411
Grades 9-12	$35,895

DELBARTON SCHOOL

FACULTY/STAFF DIRECTORY
PROGRAM OF STUDIES
COLLEGE COUNSELING
STUDENT RESOURCES
GUIDANCE
TEXTBOOKS
TECHNOLOGY
DELBARTON FACULTY READS
VALENTINE LIBRARY

Tuition for the 2014-15 academic year is $33,900.00 for all grades. Tuition is comprehensive, covering items such as daily hot lunch, technology costs, and most activity fees. The large expenses not included in tuition are those associated with transportation (approximately $1,300-$3,000 per year if you opt for an available bus), books (approximately $600-$800 per year), and voluntary giving to school initiatives.

FAR HILLS COUNTRY DAY SCHOOL
1929

Kindergarten through Eighth Grade:

Kindergarten (Full Day)	$26,[illegible]
First Grade	$27,350
Second Grade	$28,660
Third Grade	$29,040
Fourth Grade	$29,440
Fifth Grade	$30,000
Sixth Grade	$30,890
Seventh Grade	$31,600
Eighth Grade	$32,[illegible]

Tuition

The majority of the costs for field trips, transportation, lunch program, testing and technology are included in the tuition.

Preschool – 5 half days: $12,000
Preschool – 3 full days and 2 half days: $13,300
Preschool – 5 full days: $15,[illegible]
Kindergarten: $22,500
Grade 1: $26,000
Grade 2: $26,000
Grade 3: $28,300
Grade 4: $28,300
Grade 5: $28,300
Grade 6: $29,900
Grade 7: $29,900
Grade 8: $29,900

THE WILLOW SCHOOL

THE Peck SCHOOL
Morristown, New Jersey

Kindergarten: $28,530
Lower School (Grades 1-4): $30,700
*Upper School (Grades 5-8): $33,600

*Upper School tuition includes laptops issued for individual use.

NEWARK ACADEMY
FOUNDED IN 1774
MIDDLE SCHOOL 6-8 UPPER SCHOOL 9-12

2014-2015 Tuition and Fees

Tuition for grades 6-12: $34,760

Lunch plan: $1,250

Technology fee: $220

Books (on average): $500

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The 4 Legged Stool of Denial

- **Leg 1:** Vote-counting with dated, crude statistical studies of correlations between spending and outcomes
  - Misrepresentations of Coleman Report
  - The Hanushekian *Cloud of Uncertainty (& cycle of self-citation)*
- **Leg 2:** Misleading tales of fiscal disaster
  - Kansas City (deseg) & New Jersey
  - [add Wyoming, Kentucky, Massachusetts?]
- **Leg 3:** The Graph
  - Doubling/tripling spending & NAEP "virtually" flat
- **Leg 4:** The Graph – International version
  - US spends more than other countries, but does worse on PISA

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Exploring the Roots of Fiscal Denial

- Education Policy's "Merchant of Doubt"
  - Hanushek (1986) ushered in the modern era "money doesn't matter" argument, in a study in which he tallied studies reporting positive and negative correlations between spending measures and student outcome measures, proclaiming as his major finding:

"There appears to be no strong or systematic relationship between school expenditures and student performance." (p. 1162)

- Misinterpretations (Misrepresentations) of Coleman (1966)
  - more recent re-analyses of the Coleman data using more advanced statistical techniques than available at the time clarify the relevance of schooling resources.
    - Konstantopolous, S., Borman, G. (2011) Family Background and School Effects on Student Achievement: A Multilevel Analysis of the Coleman Data. Teachers College Record. 113 (1) 97-132
    - Borman, G.D., Dowling, M. (2010) Schools and Inequality: A Multilevel Analysis of Coleman's Equality of Educational Opportunity Data. Teachers College Record. 112 (5) 1201-1246

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Current Hanushek [Testimony in CCJEF v. CT, 2014]

- "There has been substantial econometric evidence that supports this lack of relationship."
  - **Cited source?** 'Hanushek (2003). See also Hanushek (1981, (1986, (1989). The statistical analyses focus on the independent impact of resources on performance after allowing for differences among families, peers, and neighborhoods. A variety of sophisticated approaches have been applied to schooling situations across the countries, and the reviews summarize these studies. The aggregate results of the most sophisticated of these studies are shown below.'
- "This analysis has been conducted for a half century since the major government study of the Coleman Report."
  - **Cited source?** Coleman et al. (1966). The "Coleman Report" was a response to a Congressional mandate in the Civil Rights Act of 1964. It was the first major study that attempted to identify the determinants of achievement differences across students. It used statistical methods (analysis of variance) to assess the importance of the various inputs into achievement. While heavily criticized on methodological grounds, it began the large research stream that is discussed here. For criticisms, see Bowles and Levin (1968) and Hanushek and Kain (1972).

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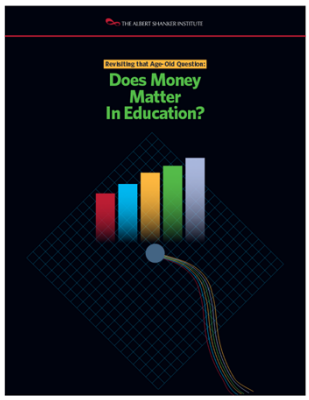
Cutting through the Cloud

- Baker (2012) summarized re-analyses of the studies tallied by Hanushek, wherein authors applied quality standards to determine study inclusion, finding that more of the higher quality studies yielded positive findings with respect to the relationship between schooling resources and student outcomes.

  Baker, B. D. (2012). Revisiting the Age-Old Question: Does Money Matter in Education?. *Albert Shanker Institute*.

- While Hanushek's "cloud of doubt" continues to permeate policy discourse over school funding, often used as evidence that "money doesn't matter," it is critically important to understand that this statement is merely one of uncertainty about the direct correlation between spending measures and outcome measures, based on studies prior to 1986.
- Neither this statement, nor the crude tally behind it ever provided any basis for assuming with certainty that money doesn't matter.



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Current Hanushek [Testimony in CCJEF v. CT, 2014]

- "An enormous amount of scientific analysis documents the case that spending on schools is not systematically related to student outcomes.
  - [Evidence?] The overall truth of this is easiest to see by looking at the aggregate data for the United States over the past half century. Since 1960, pupil-teacher ratios fell by one-third, teachers with master's degrees over doubled, and median teacher experience grew significantly (Chart 1). Since these three factors are the most important determinants of spending per pupil, it leads to the **quadrupling of spending between 1960 and 2009** (after adjusting for inflation).
  - At the same time, plotting scores for math and reading performance of 17-year-olds on the National Assessment of **Educational Progress (NAEP, or "the nation's report card") shows virtually no change since 1970 (Charts 2 and 3).**

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Public Discourse & "The Graph"

From Junkcharts.typepad.com

"Using double axes earns justified heckles but using two gridlines is a scandal! A scatter plot is the default for this type of data. (See next section for why this particular set of data is not informative anyway.)"

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Richard Rothstein (EPI)

- **Bill Gates says: "Our student achievement has remained virtually flat"**
  - The only longitudinal measure of student achievement that is available to Bill Gates or anyone else is the National Assessment of Educational Progress (NAEP). NAEP provides trends for 4th, 8th, and 12th graders, disaggregated by race, ethnicity, and poverty, since about 1980 in basic skills in math and reading (called the "Long Term Trend NAEP") and since about 1990 for 4th and 8th graders in slightly more sophisticated math and reading skills (called the "Main NAEP").[1]
  - **On these exams, American students have improved substantially, in some cases phenomenally.** In general, the improvements have been greatest for African-American students, and among these, for the most disadvantaged. The improvements have been greatest for both black and white 4th and 8th graders in math. Improvements have been less great but still substantial for black 4th and 8th graders in reading and for black 12th graders in both math and reading. Improvements have been modest for whites in 12th grade math and at all three grade levels in reading.

http://www.epi.org/publication/fact-challenged_policy/

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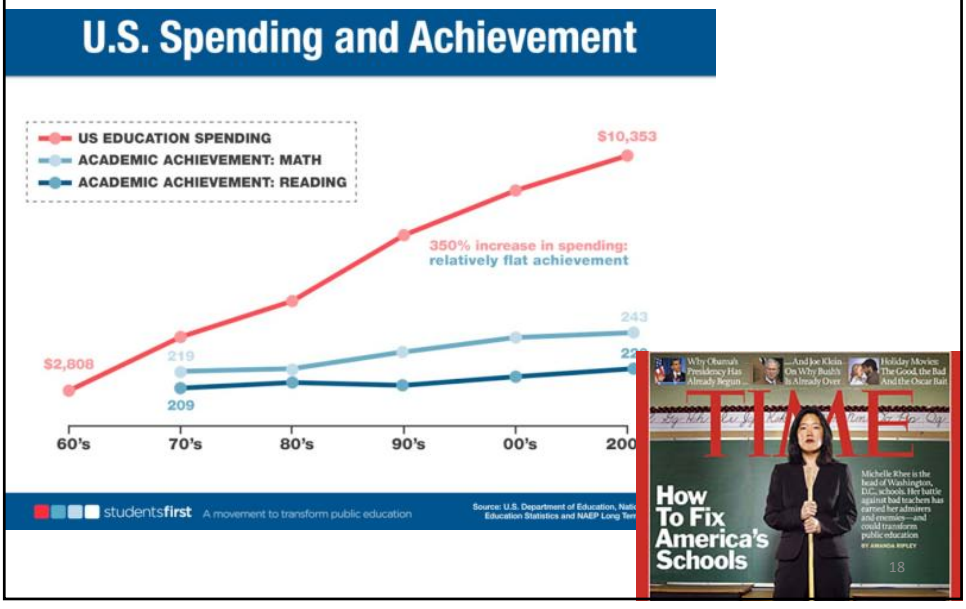
THE GRAPH Rhee-vised!



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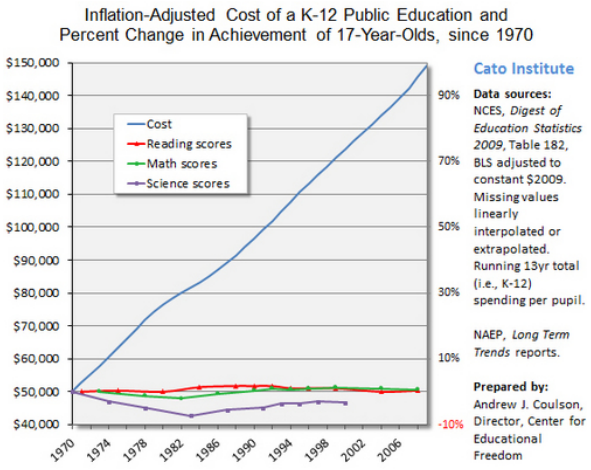
THE GRAPH-Extreme (Cato) Edition!



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(Real) Research on School Finance Reforms
Cross state studies

- Card and Payne (2002) found **"evidence that equalization of spending levels leads to a narrowing of test score outcomes across family background groups."** (p. 49)
  - Card, D., and Payne, A. A. (2002). School Finance Reform, the Distribution of School Spending, and the Distribution of Student Test Scores. **Journal of Public Economics**, 83(1), 49-82.
- Jackson, Johnson & Persico (2015) evaluated long-term outcomes of children exposed to court-ordered school finance reforms, finding that **"a 10 percent increase in per-pupil spending each year for all twelve years of public school leads to 0.27 more completed years of education, 7.25 percent higher wages, and a 3.67 percentage-point reduction in the annual incidence of adult poverty; effects are much more pronounced for children from low-income families."(**p. 1)
  - Jackson, C. K., Johnson, R., & Persico, C. (2015). The Effects of School Spending on Educational and Economic Outcomes: Evidence from School Finance Reforms (No. w 20847) **National Bureau of Economic Research.**

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(Real) Research on School Finance Reforms Within-state, longitudinal studies

- Studies of **Michigan** school finance reforms in the 1990s have shown positive effects on student performance in both the previously lowest spending districts, and previously lower performing districts.
  - Roy, J. (2011). Impact of school finance reform on resource equalization and academic performance: Evidence from Michigan. **Education Finance and Policy,** 6(2), 137-167.
    - Roy (2011) published an analysis of the effects of Michigan's 1990s school finance reforms which led to a significant leveling up for previously low-spending districts. Roy, whose analyses measure both whether the policy resulted in changes in funding and who was affected, found that "Proposal A was quite successful in reducing interdistrict spending disparities. There was also a significant positive effect on student performance in the lowest-spending districts as measured in state tests." (p. 137)
  - Papke, L. (2005). The effects of spending on test pass rates: evidence from Michigan. **Journal of Public Economics**, 89(5-6). 821-839.
    - Papke (2001), also evaluating Michigan school finance reforms from the 1990s, found that "increases in spending have nontrivial, statistically significant effects on math test pass rates, and the effects are largest for schools with initially poor performance." (p. 821)
  - Hyman, J. (2013). Does Money Matter in the Long Run? Effects of School Spending on Educational Attainment. http://www-personal.umich.edu/~jmhyman/Hyman_JMP.pdf.
    - Hyman (2013) also found positive effects of Michigan school finance reforms in the 1990s, but raised some concerns regarding the distribution of those effects. Hyman found that much of the increase was targeted to schools serving fewer low income children. But, the study did find that students exposed to an additional "12%, more spending per year during grades four through seven experienced a 3.9 percentage point increase in the probability of enrolling in college, and a 2.5 percentage point increase in the probability of earning a degree." (p. 1)

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(Real) Research on School Finance Reforms Within-state, longitudinal studies

- Three studies of **Massachusetts** school finance reforms from the 1990s find similar results.
  - The first, by Thomas Downes and colleagues found that the combination of funding and accountability reforms "has been successful in raising the achievement of students in the previously low-spending districts."(p. 5)
    - Downes, T. A., Zabel, J., and Ansel, D. (2009). Incomplete Grade: Massachusetts Education Reform at 15. Boston, MA. MassINC.
  - The second found that "increases in per-pupil spending led to significant increases in math, reading, science, and social studies test scores for 4th- and 8th-grade students."
    - Guryan, J. (2001). Does Money Matter? Estimates from Education Finance Reform in Massachusetts. Working Paper No. 8269. Cambridge, MA: **National Bureau of Economic Research**.
  - The most recent of the three, published in 2014 in the *Journal of Education Finance,* found that "changes in the state education aid following the education reform resulted in significantly higher student performance."(p. 297) Such findings have been replicated in other states, including Vermont.
    - "The magnitudes imply a $1,000 increase in per-pupil spending leads to about a third to a half of a standard-deviation increase in average test scores. It is noted that the state aid driving the estimates is targeted to under-funded school districts, which may have atypical returns to additional expenditures." (p. 1)
  - Nguyen-Hoang, P., & Yinger, J. (2014). Education Finance Reform, Local Behavior, and Student Performance in Massachusetts. **Journal of Education Finance**, 39(4), 297-322.

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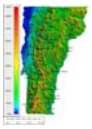

(Real) Research on School Finance Reforms
Within-state, longitudinal studies

- Downes had conducted earlier studies of **Vermont** school finance reforms in the late 1990s (Act 60). In a 2004 book chapter, Downes noted "All of the evidence cited in this paper supports the conclusion that Act 60 has dramatically reduced dispersion in education spending and has done this by weakening the link between spending and property wealth. Further, the regressions presented in this paper offer some evidence that student performance has become more equal in the post-Act 60 period. And no results support the conclusion that Act 60 has contributed to increased dispersion in performance." (p. 312)
  - Downes, T. A. (2004). School Finance Reform and School Quality: Lessons from Vermont. In Yinger, J. (Ed.), Helping Children Left Behind: State Aid and the Pursuit of Educational Equity. Cambridge, MA: MIT Press.
- Similarly, a study of **Kansas** school finance reforms in the 1990s, which also involved primarily a leveling up of low-spending districts, found that a 20 percent increase in spending was associated with a 5 percent increase in the likelihood of students going on to postsecondary education.
  - Deke, J. (2003). A study of the impact of public school spending on postsecondary educational attainment using statewide school district refinancing in Kansas, **Economics of Education Review**, 22(3), 275-284. (p. 275)

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More Hanushek Spin

[the efficiency smokescreen & moneyball argument]

- "**Virtually** all analysts now realize that how money is spent is much more important than how much is spent.
  - This finding is particularly true at the upper levels of current U.S. spending.
  - It also underscores how calculations of equity gaps in spending, of costs needed to achieve equity, or of costs needed to obtain some level of student performance are vacuous, lacking any scientific basis." (Hanushek 2014, CCJEF v. CT)

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Teacher Compensation & "Efficiency"

- Hanushek argues that the dominant structure of teacher compensation which ties salary growth to years of experience and degrees obtained, despite weak correlations between those measures and student achievement gains, creates inefficiencies that negate the overall relationship between school spending and school quality.
  - Hanushek, E. A. (2011). The economic value of higher teacher quality. *Economics of Education Review*, *30*(3), 466-479.
- This argument is built on the assertion that existing funds could instead be used to compensate teachers according to (measures of) their effectiveness, while dismissing high cost "ineffective" teachers, replacing them with better ones with existing resources, thus achieving better outcomes with the same or less money.
  - Hanushek, E. A. (2009). Teacher deselection. *Creating a new teaching profession*, *168*, 172-173.

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Teacher Compensation & "Efficiency" 3 flawed assumptions

- First, that adopting a pay-for-performance, rather than step-and-lane salary model would dramatically improve performance at the same or less expense.
  - Existing studies of pay for performance compensation models fail to provide empirical support for this argument – either that these alternatives can substantially boost outcomes, or that they can do so at equal or lower total salary expense
- Second, that shedding the "bottom 5% of teachers" according to statistical estimates of their "effectiveness" can lead to dramatic improvements at equal or lower expense.
  - Simulations purporting to validate the long run benefits of deselecting "bad" teachers depend on the average pool of replacements lining up to take those jobs being substantively better than those who were let go (average replacing "bad"). Simulations promoting the benefits of "bad teacher" deselection assume this to be true, without empirical basis, and without consideration for potential labor market consequences of the deselection policy itself.
- Third and finally, both the incentive pay argument and deselecting the bottom 5% argument depend on sufficiently accurate and precise measures of teaching effectiveness, across settings and children.
  - existing measures of teacher "effectiveness" fall well short of these demands.

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The bigger issue

- Most importantly, arguments about the structure of teacher compensation miss the bigger point –
  - **the average level of compensation matters with respect to the average quality of the teacher labor force.**
- To whatever degree teacher pay matters in attracting good people into the profession and keeping them around, it's less about how they are paid than how much. Furthermore, the average salaries of the teaching profession, with respect to other labor market opportunities, can substantively affect the quality of entrants to the teaching profession, applicants to preparation programs, and student outcomes. Diminishing resources for schools can constrain salaries and reduce the quality of the labor supply. Further, salary differentials between schools and districts might help to recruit or retain teachers in high need settings.
- In other words, resources used for teacher quality matter.

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The Moneyball Argument

[Pervasive inefficiencies render equity gaps irrelevant]

- School districts with fewer resources need to engage themselves in creative personnel management strategies analogous to those of the 2003 Oakland Athletics baseball team which overcame its relatively low total payroll to win the American League Division Series, through *clever,* statistically driven player recruitment and selection. That is, schools, particularly disadvantaged ones, need a lesson in *Moneyball!* (the main title of the book chronicling the 2003 A's).
  - There are a multitude of absurdities in this comparison, not the least of which is that once other "teams" (or school districts) catch on to the methods being used by one of their less advantaged competitors, any competitive edge created by those revenue-neutral, field-leveling strategies is negated.
    - In other words, when everyone is equally efficient (or inefficient) the equity gaps still matter!
  - Then there's the thorny issue that the lowest performing schools, unlike the teams with the worst win/loss records, don't get first pick in the draft for new teachers. Rather, in reality, it's quite the opposite!

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MAJOR LEAGUE BASEBALL

Fans protest baseball economics

Royals fans waive fake $100 bills, turn backs on Yankees

By CRAIG HORST
Associated Press

KANSAS CITY, Mo. — About 3,000 fans walked out of Kauffman Stadium during the New York Yankees-Kansas City game Friday night to protest baseball economics that pitted one of the richest teams against one of the poorest.

The fans, wearing shirts that read "Share the Wealth" had gathered hours before the game to drink beer and line up for general admission tickets as the sponsoring radio station broadcast a call-in show live from the stadium.

The fans filled the left field bleachers, turning their backs when the Yankees were at bat. They chanted "Share the wealth" and "Let's go Royals" before leaving when New York's Derek Jeter grounded into a forceout for the first out of the fourth inning. One fan waved a sign that read "George Steinbrenner Death of Baseball."

It took nearly 15 minutes for the protesters to empty the left field seats. Some

Kansas City Royals fans hold up signs between innings referring to New York Yankees owner George Steinbrenner on Friday at Kauffman Stadium in Kansas City, Mo.

AL ROUNDUP

Low-budget Royals rout Yankees

Associated Press

KANSAS CITY, Mo. — No wonder Don Zimmer wanted to go home Friday and turn the New York Yankees over to Joe Torre.

Carlos Beltran and Tim Spehr hit two-run homers off Andy Pettitte and the Kansas City Royals hit five home runs in all as they routed New York 13-6, stopping a 12-game losing streak to the Yankees that dated to Aug. 12, 1997.

Jermaine Dye hit a solo homer off Jason Grimsley in the fifth, and Carlos Febles and Joe Randa hit consecutive home runs off Dan Naulty in the sixth.

Torre, who has prostate cancer surgery March 18, joined the team Friday for his first road game of the regular season. But Torre said before the game he's probably two weeks away from feeling strong enough to take over as manager from Zimmer, the interim manager whose knees

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By the way…
[at 2012 All Star Break]

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Moneyball: About that subtitle

- The central problem however, is illustrated by the oft conveniently overlooked subtitle of the book *Moneyball:*

The art of winning an unfair game.

- Maybe it's okay, in terms of payroll disparity, for baseball to be an unfair game….
  - there's no constitutional mandate that all baseball teams have resources sufficient to provide them equal opportunity to make the post-season or to achieve equitable win/loss records over time.

But children's schooling isn't baseball, and shouldn't be an unfair game to begin with!

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Kansas Judges on the "Efficiency" Smokescreen & "Cuts Cause no Harm" Argument [Gannon v. Kansas]

- **Rather, here, the State has effectively asserted that all Kansas K-12 students have reached their apparent maximum and *will continue to do so* with less money.** Here, it is clearly apparent, and, actually, not arguably subject to dispute, that the state's assertion of a benign consequence of cutting school funding without a factual basis, either quantitatively or qualitatively , to justify the cuts is, but, at best, only based on an inference derived from defendant's experts that such costs *may possibly* not produce the best value that can be achieved from the level of spending provided. **This is simply not only a weak and factually tenuous premise, but one that seems likely to produce, if accepted, what could not be otherwise than characterized as sanctioning an unconscionable result within the context of the education system.** Simply, school opportunities do not repeat themselves and when the opportunity for a formal education passes, then for most, it is most likely gone. We all know that the struggle for an income very often – too often – overcomes the time needed to prepare intellectually for a better one.
- **If the position advanced here is the State's full position, it is experimenting with our children which have no recourse from a failure of the experiment.**

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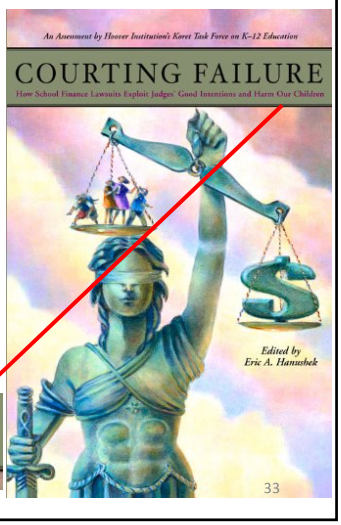
Summarizing the Current Anti-Funding Argument

- Increasing funding has no positive effects
  - Overall levels of funding are inconsequential to student outcomes
  - Inequities in funding are inconsequential
- Substantial cuts to funding have no negative effects (because there's so much inefficiency in the system)
- Judicially ordered school funding increases actually harm children!



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Summarizing the Research Evidence

- There exist no methodologically competent analyses yielding convincing evidence that significant and sustained funding increases provide no educational benefits, and a relative few which do not show decisively positive effects.
  - There is absolutely no evidence that increased funding, judicially ordered or otherwise, "harms our children."
  - There is absolutely no evidence that substantial cuts to funding cause no harm.
- On balance, it is safe to say that a sizeable and growing body of rigorous empirical literature validates that state school finance reforms can have substantive, positive effects on student outcomes, including reductions in outcome disparities or increases in overall outcome levels.

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But… but.. .but… Don't "successful" charter schools "prove" that more can be accomplished with less?

- The Charter efficiency trifecta?
  - Doing more (better outcomes)
  - With less
  - While serving the "same" kids?

& thus, the additional public dollar is better spent in charters than districts

35

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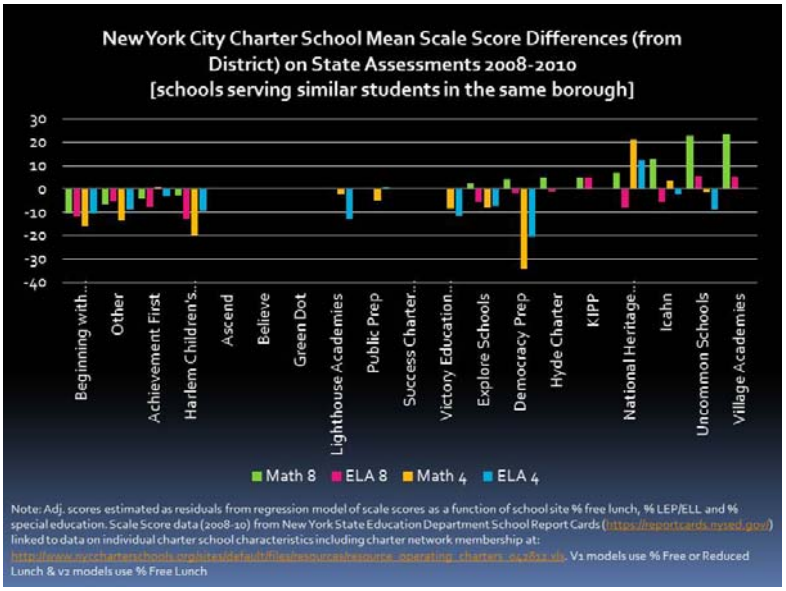

Mixed/Varied Outcomes

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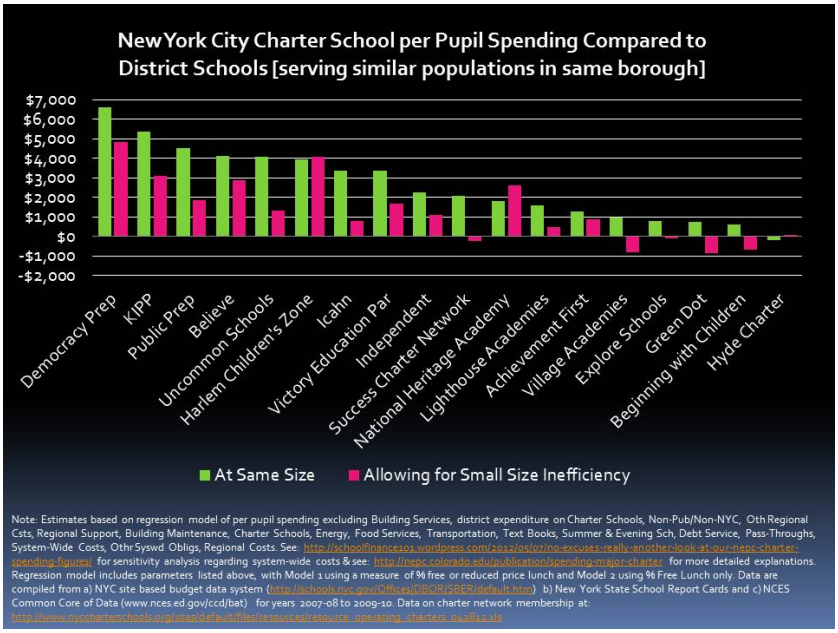
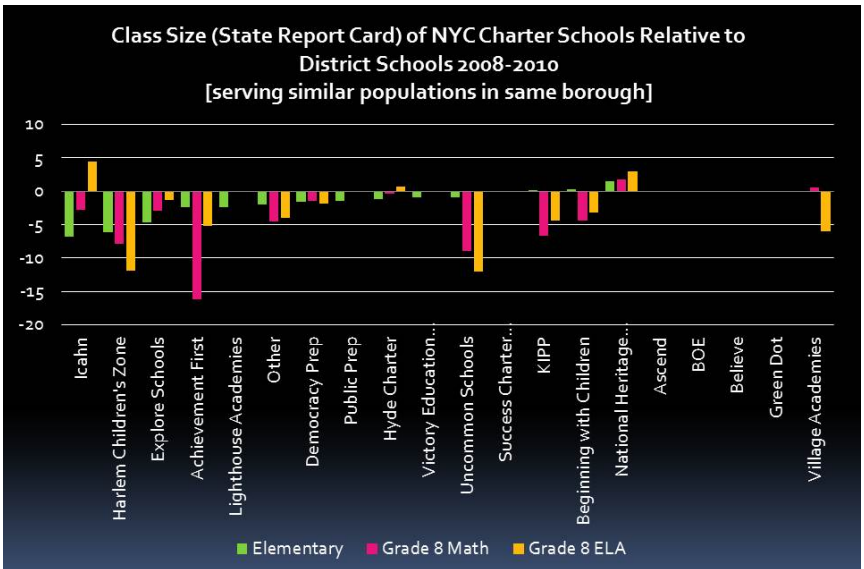
RUTGERS



With More!

Note: Estimates based on regression model of per pupil spending excluding Building Services, district expenditure on Charter Schools, Non-Pub/Non-NYC, Oth Regional Csts, Regional Support, Building Maintenance, Charter Schools, Energy, Food Services, Transportation, Text Books, Summer & Evening Sch, Debt Service, Pass-Throughs, System-Wide Costs, Othr Syswd Obligs, Regional Costs. See: http://schoolfinance101.wordpress.com/2012/05/07/no-excuses-really-another-look-at-nyc-nepc-charter-spending-figures/ for sensitivity analysis regarding system-wide costs & see: http://nepc.colorado.edu/publication/spending-major-charter for more detailed explanations. Regression model includes parameters listed above, with Model 1 using a measure of % free or reduced price lunch and Model 2 using % Free Lunch only. Data are compiled from a) NYC site based budget data system (http://schools.nyc.gov/Offices/DBOR/SBER/default.htm) b) New York State School Report Cards and c) NCES Common Core of Data (www.nces.ed.gov/ccd/bat) for years 2007-08 to 2009-10. Data on charter network membership at: http://www.nyccharterschools.org/sites/default/files/resources/resource_operating_charters_042812.xls

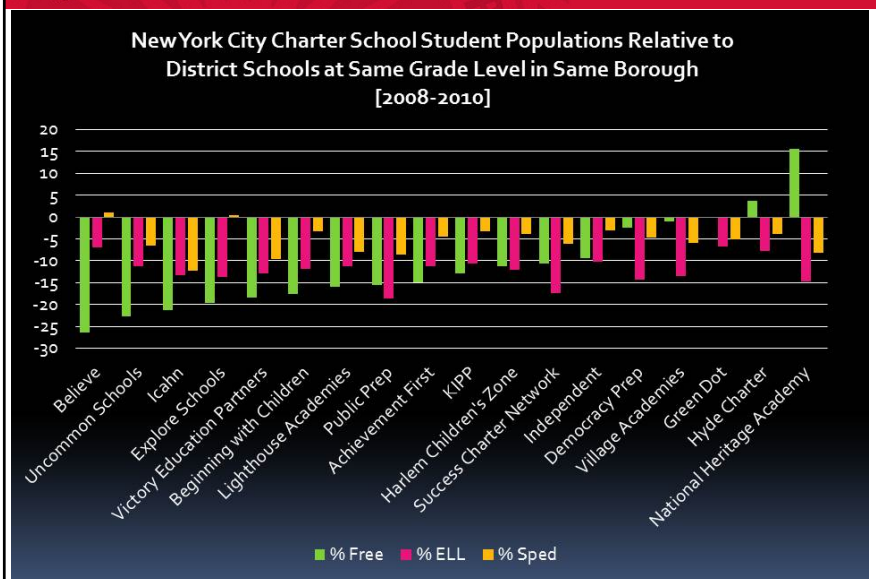
RUTGERS



With More!

Note: Based on regression model of class size data (2008-10) from New York State Education Department School Report Cards (https://reportcards.nysed.gov/) linked to data on individual charter school characteristics including charter network membership at: http://www.nyccharterschools.org/sites/default/files/resources/resource_operating_charters_042812.xls. Population Characteristics included in model include % free lunch, % LEP/ELL and % in special education.

RUTGERS



Note: Based on regression model of student demographic data (2008-10) from New York State Education Department School Report Cards (https://reportcards.nysed.gov/) linked to data on individual charter school characteristics including charter network membership at: http://www.nycchartersschools.org/sites/default/files/resources/resource_operating_charters_042812.xls. Schools are compared against other schools a) of the same grade range and b) in the same borough of New York City.

For Less Needy Children

39

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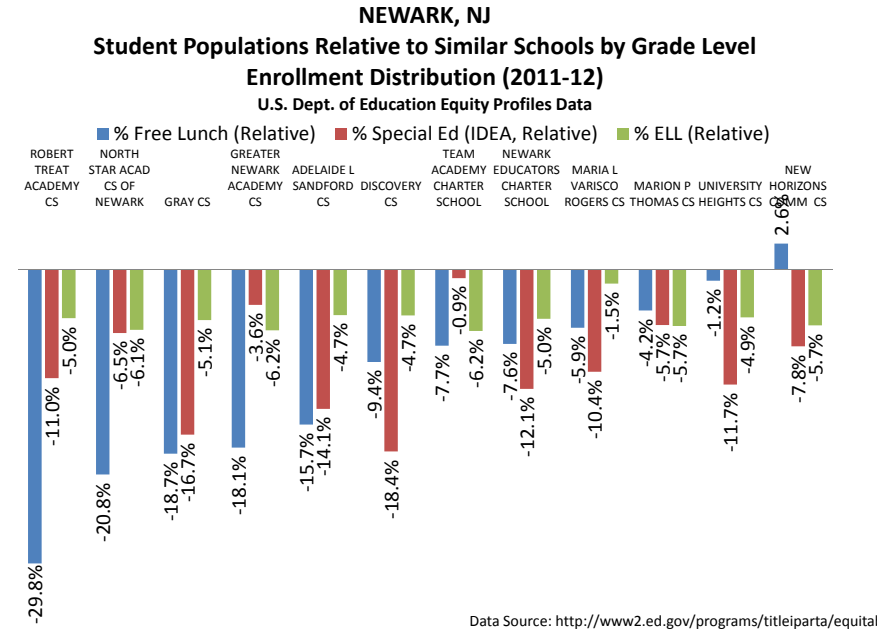

For Less Needy Children

40

Data Source: http://www2.ed.gov/programs/titleiparta/equitable/nj.html

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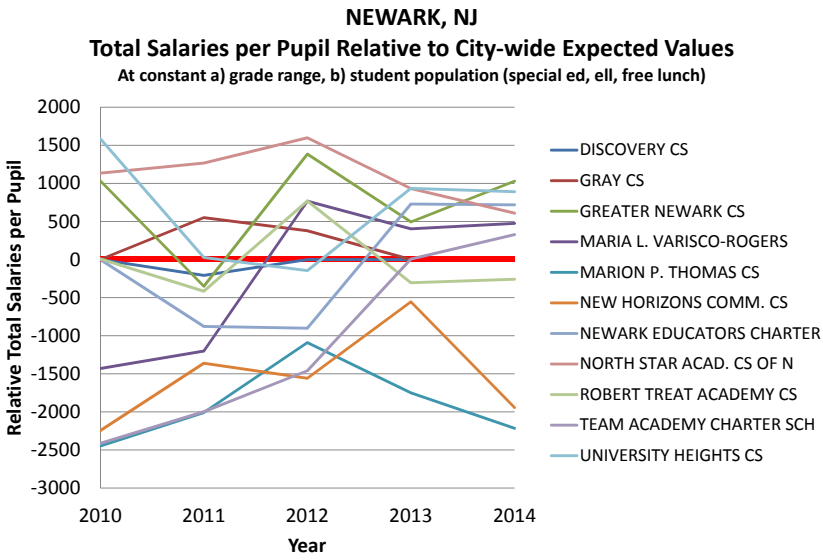

With Same to More!

Data Sources: Salary data summed to school level from NJDOE Fall Staffing Reports. Salary data regressed as a function of year, grade range, student population. Plotted values are "residuals" from the regression.

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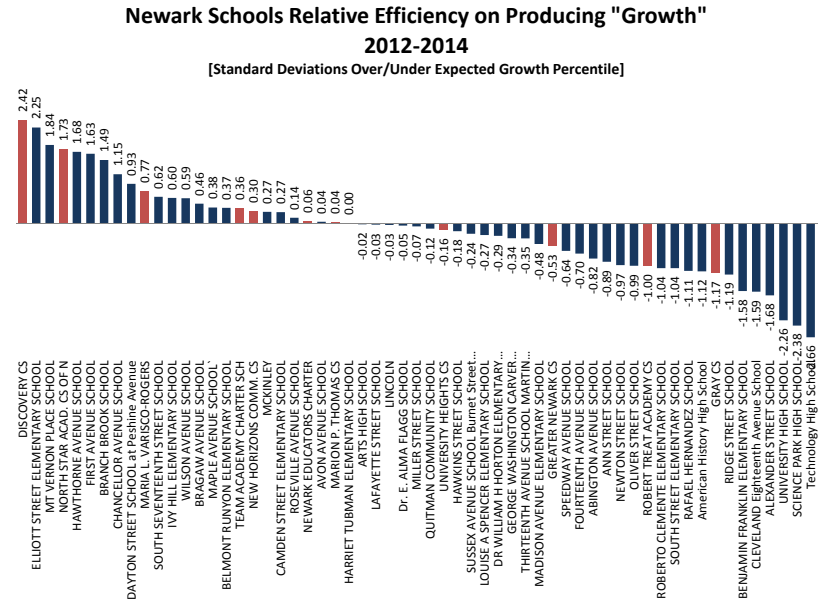

Mixed/Varied Outcomes

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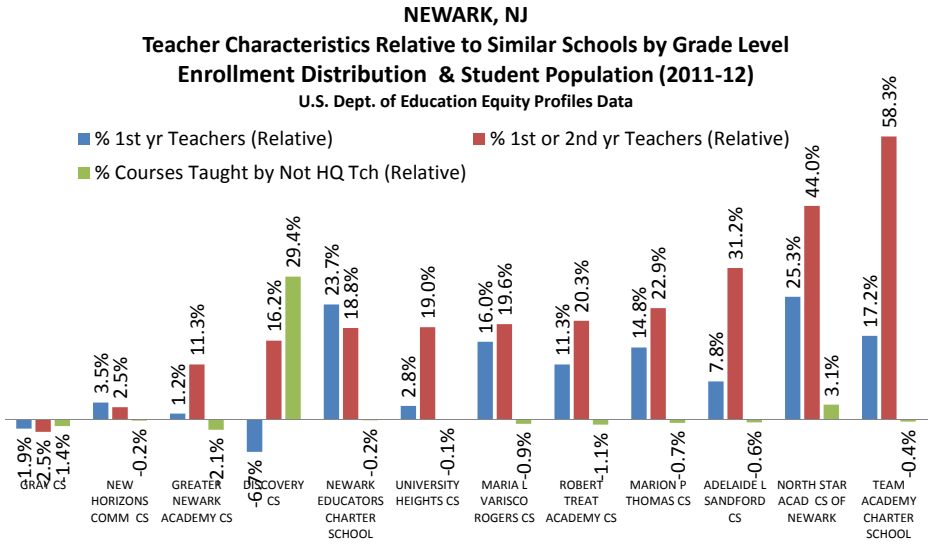

43

Data Source: http://www2.ed.gov/programs/titleiparta/equitable/nj.html

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Thoughts on Charter Expansion as a Scalable, More Efficient Alternative

- Relative efficiency of charters in this region comparable to that (dispersed among) traditional schools
  - Sustainability?
    - In many cases, even that level of relative efficiency depends heavily on maintaining a very young teacher workforce & accumulating no long run benefits costs
    - [teacher attrition is a feature not a bug]
  - Scalability?
    - In many cases, "more efficient" charter schools (North Star) rely on serving very different student populations, and having very high student attrition rates (especially among black boys), tied to harsh disciplinary codes/practices.
    - [student selection/attrition is a feature, not a bug]
  - Other issues
    - Redundant administrative costs (major CMOs have their own "district" administrative structures)
    - Increased transportation costs
    - Potential negative influence on child/community health
    - Loss of student rights under discipline policies
    - Market for lemons (failure to provide meaningful information to parents)

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Back to Basics
School Finance 101

The relatively simple path from money to outcomes

With a tour of the States

45

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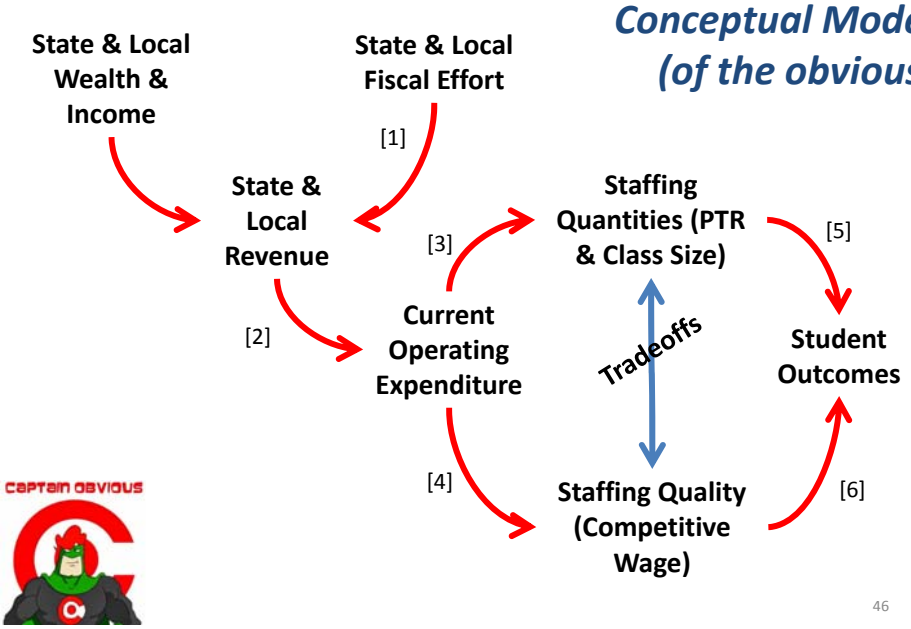
Conceptual Model (of the obvious)



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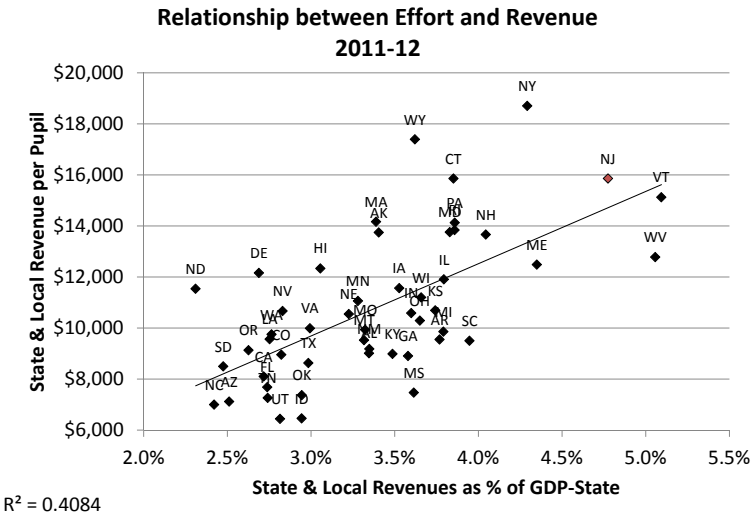

States applying more "effort" tend to have higher funding levels!

State & Local Fiscal Effort

[1]

State & Local Revenue

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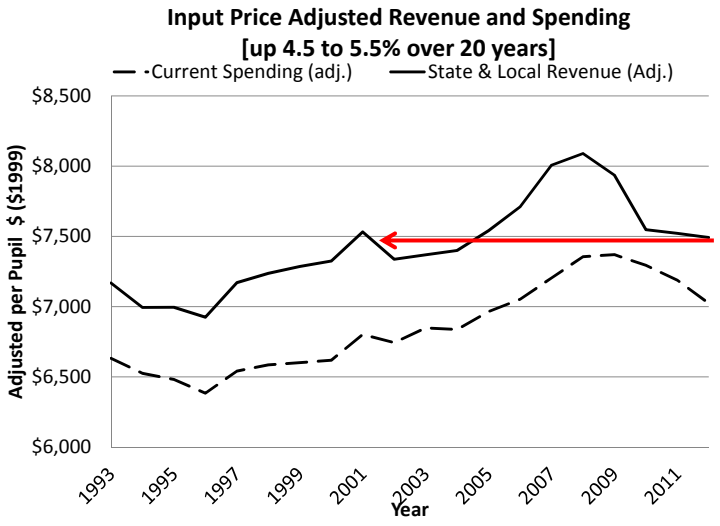
As revenue climbs, so does per pupil spending, and as revenue falls…

State & Local Revenue

[2]



Current Operating Expenditure

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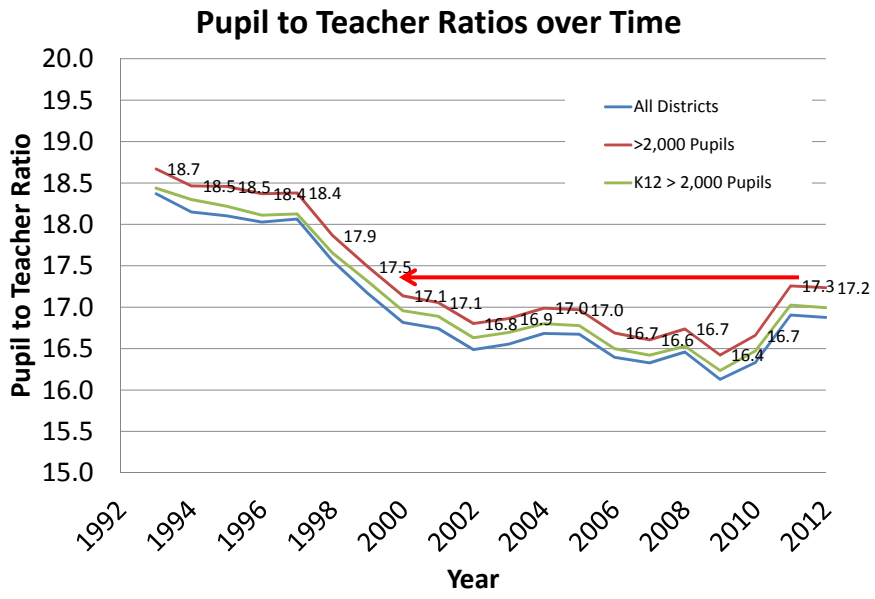

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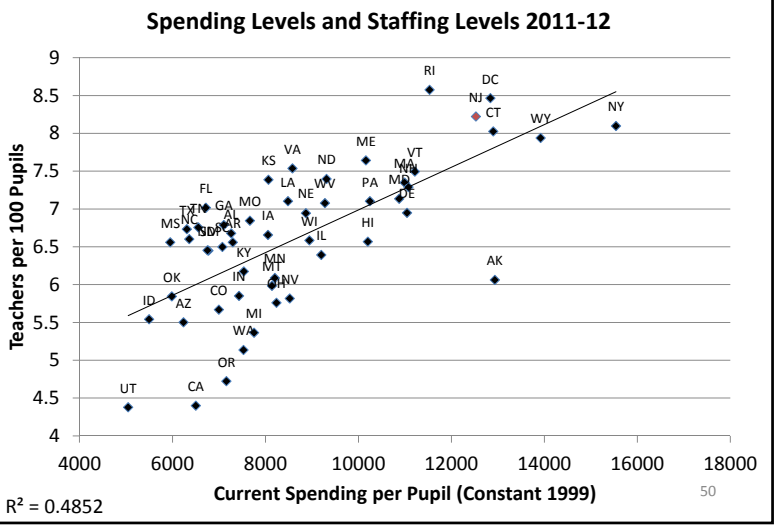
[3]

Staffing Quantities (PTR & Class Size)

Current Operating Expenditure

Higher spending leads to more teaching staff!



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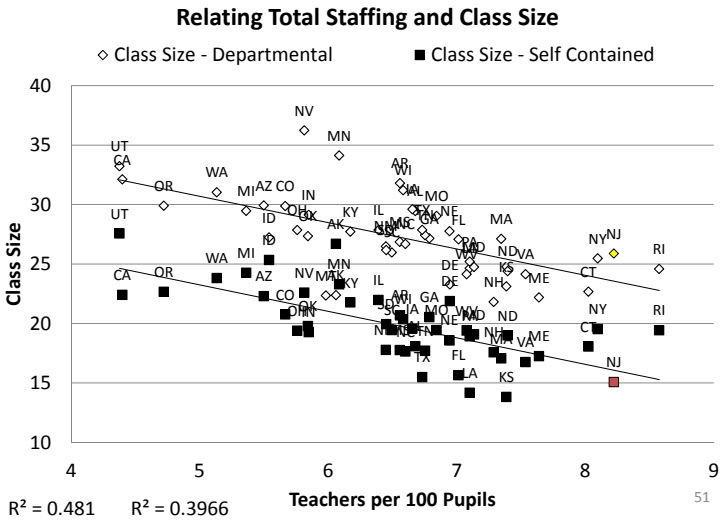
[3]

Current Operating Expenditure

Staffing Quantities (PTR & Class Size)

More staff leads to smaller classes!



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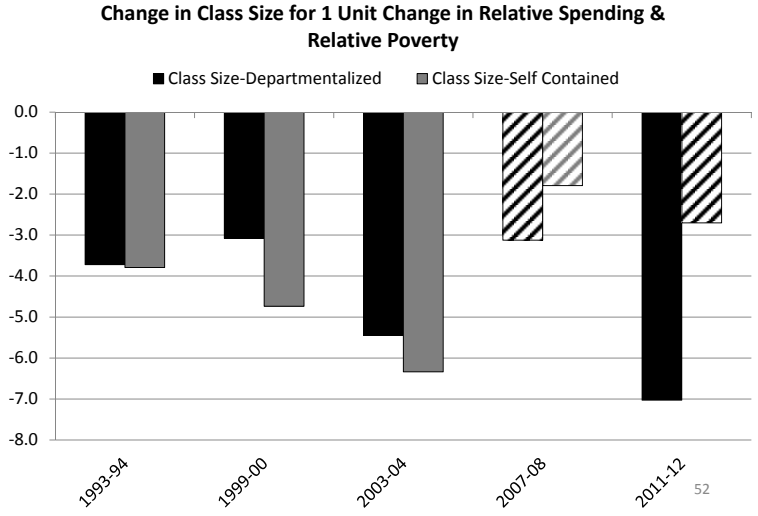
[3]

Current Operating Expenditure

Staffing Quantities (PTR & Class Size)

Higher relative spending (for districts within states) leads to smaller classes!



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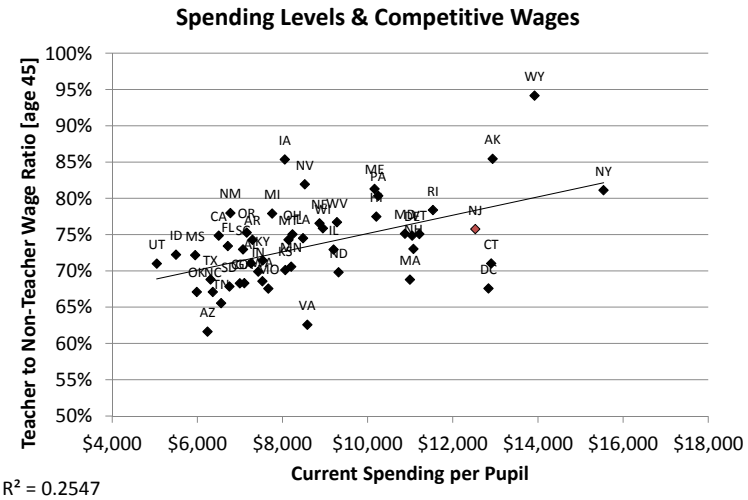
Higher spending leads to more competitive teacher wages!

Current Operating Expenditure

[4]

Staffing Quality (Competitive Wage)



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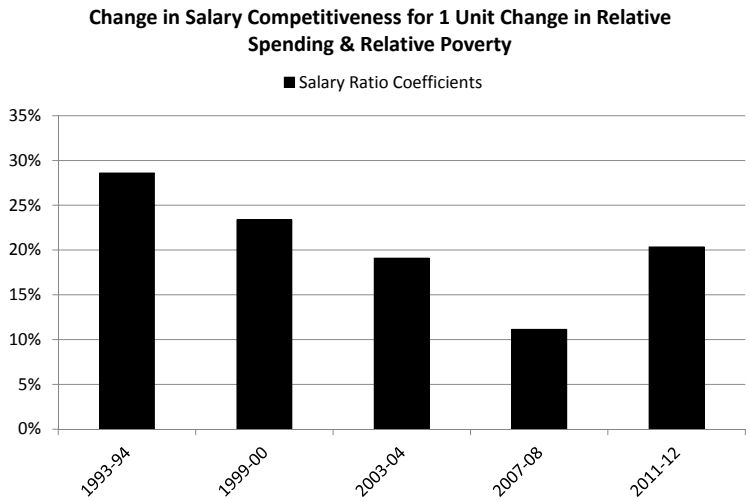
Higher relative spending (for districts within states) leads to more competitive salaries (compared to other districts)

Current Operating Expenditure

[4]

Staffing Quality (Competitive Wage)



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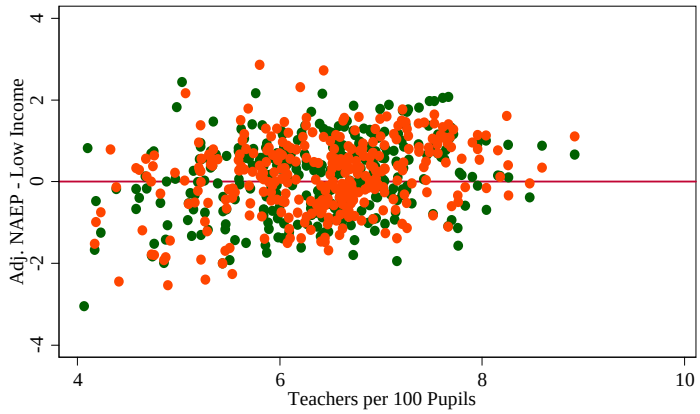
Staffing Quantities (PTR & Class Size) [5] → **Student Outcomes**

Teachers per 100 Level & Adj. NAEP Low Income

All Years



More teaching staff associated with higher achievement for low income students

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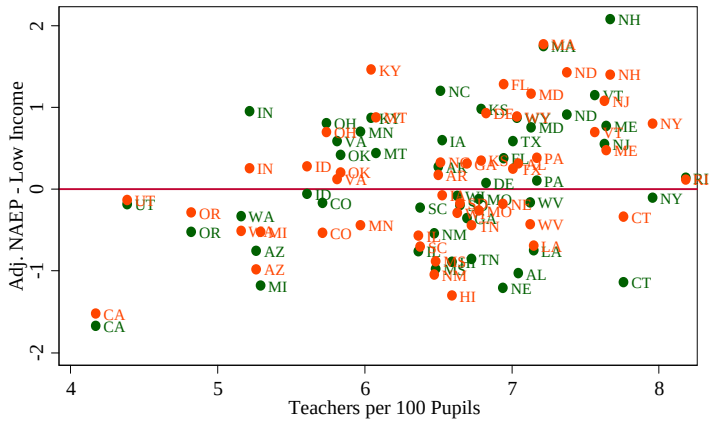
Staffing Quantities (PTR & Class Size) [5] → **Student Outcomes**

Teachers per 100 Level & Adj. NAEP Low Income

2011



More teaching staff associated with higher achievement for low income students

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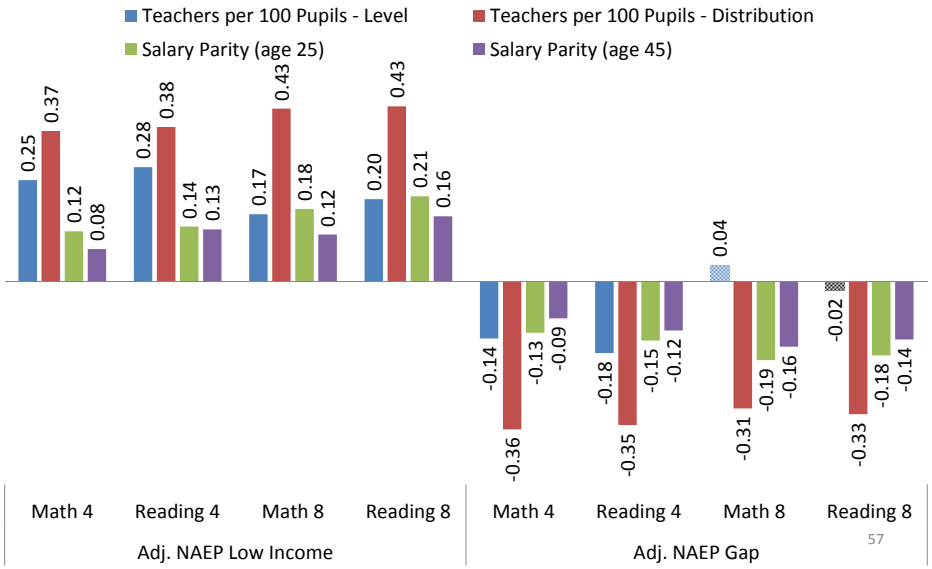
Correlations between Resource Measures & Adjusted NAEP Measures [All States & All Years]



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Resources & Outcomes Across States

		DV = Free Lunch Gap			DV = Low Income NAEP		
		Coef.	Std. Err.	P>z	Coef.	Std. Err.	P>z
Math 4							
Level - Teachers per 100		-0.084	0.071		0.055	0.057	
Fairness - Teachers per 100		**-1.094**	**0.431**	*	**0.652**	**0.348**	**
Constant		1.744	0.652	*	-0.946	0.523	**
R-squared	within		0.002			0.000	
	between		0.345			0.421	
	overall		0.172			0.227	
Math 8							
Level - Teachers per 100		0.021	0.069		0.033	0.061	
Fairness - Teachers per 100		**-0.807**	**0.416**	**	**0.910**	**0.368**	*
Constant		0.814	0.631		-1.108	0.558	*
R-squared	within		0.001			0.000	
	between		0.186			0.391	
	overall		0.095			0.220	
Reading 4							
Level - Teachers per 100		**-0.167**	**0.075**	*	**0.165**	**0.061**	*
Fairness - Teachers per 100		**-1.475**	**0.440**	*	**1.048**	**0.357**	*
Constant		2.661	0.674	*	-2.071	0.542	*
R-squared	within		0.011			0.010	
	between		0.364			0.444	
	overall		0.175			0.256	
Reading 8							
Level - Teachers per 100		-0.040	0.077		0.070	0.064	
Fairness - Teachers per 100		**-1.439**	**0.452**	*	**1.334**	**0.372**	*
Constant		1.866	0.694	*	-1.773	0.569	*
R-squared	within		0.011			0.010	
	between		0.216			0.407	
	overall		0.111			0.246	

*p<.05, **p<.10

States with more progressively targeted staffing (to higher poverty districts) tend to have smaller achievement gaps between low income and non-low income children!

They also tend to have higher achievement levels for low income children.

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In other words…

- Money in schools does exactly what we expect it to do.
  - It translates to real resources
    - Including making teacher wages more competitive
    - And providing opportunity for smaller class sizes
  - When applied across the board, these resources can "level up" system outcomes
  - When applied targeted to children with greater needs, these resources can close achievement gaps

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Recent Trends in State School Finance Systems

Continuing the Slide even During the "Recovery"

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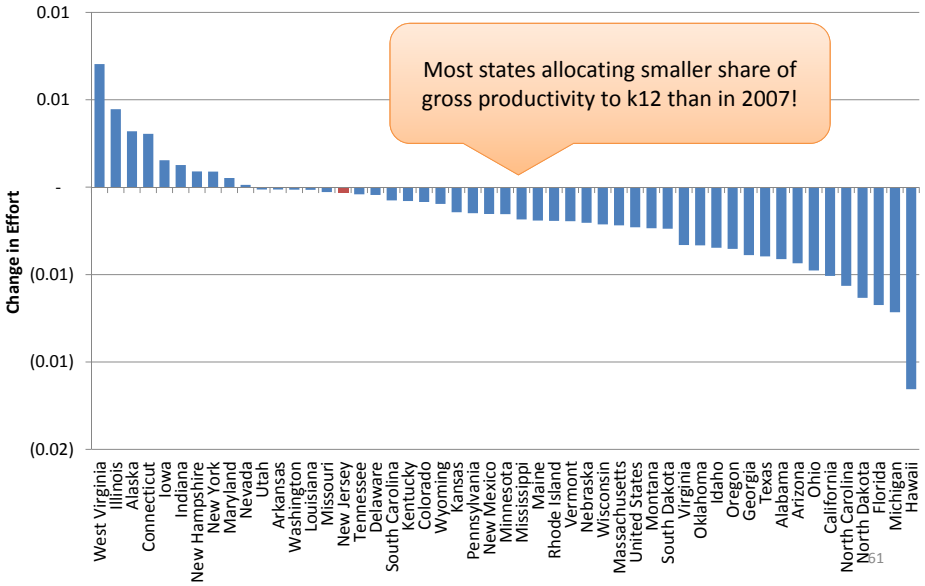
Change in State Effort Ratio 2007 to 2012



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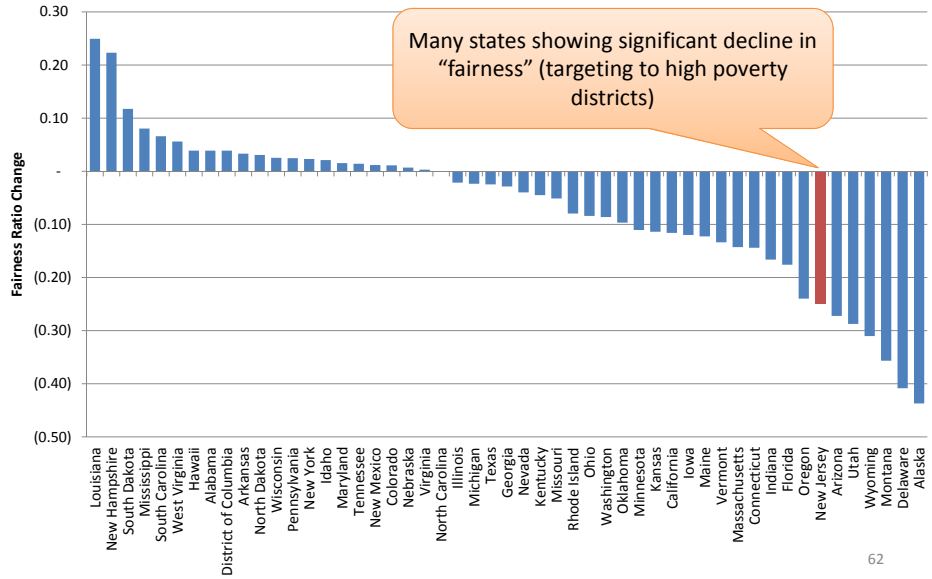
Change in Spending Fairness Ratio 2007 to 2012



62

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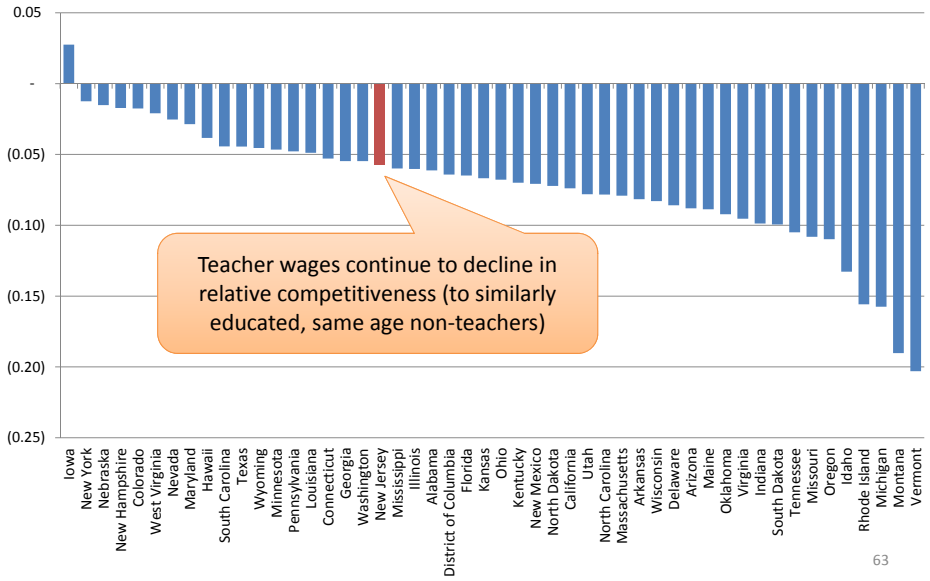
Wage Competitiveness Change from 2007 to 2012



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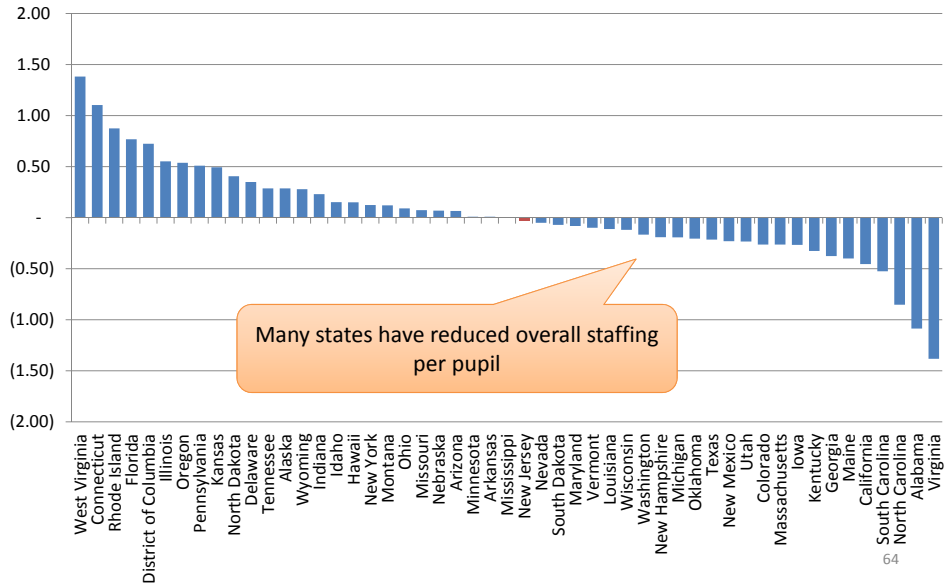
Change in Teachers per 100 Pupils



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Persistent Inequities
How hard have we really tried?

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Severely Disadvantaged Districts

Typology	Exemplar states	Severely disadvantaged districts	Relative Poverty [to labor mkt]	Relative revenue
Type 1. Classic Property Wealth/Income Driven Disparities	Illinois Pennsylvania	Chicago, IL Philadelphia, PA Reading, PA Allentown, PA	**1.660** **2.131** **2.316** **2.454**	**0.868** **0.879** **0.795** **0.777**
Type 2. Disparities Created by Illogical State Aid Formulas	Michigan Arizona	Hamtramck, MI East Detroit, MI Clintondale, MI Sunnyside, AZ	**2.099** **2.062** **1.906** **1.646**	**0.803** **0.876** **0.869** **0.800**
Type 3. Disparities Created by Failure to Regulate Local Spending Decisions	Connecticut	Bridgeport, CT	**2.618**	**0.802**
Type 4. Disparities Created by Localized *Hypersegregation*	Illinois Arizona [elementary districts]	Posen-Robbins Elem, IL Lincoln Elem, IL Glendale Elem, AZ Alhambra Elem, AZ	**1.748** **1.713** **1.574** **1.964**	**0.687** **0.747** **0.770** **0.795**
Type 5. Disparities Exacerbated by Demographic Shift	Illinois Pennsylvania	Waukegan, IL Aurora East, IL Round Lake, IL Reading, PA Allentown, PA	**2.175** **1.416** **1.966** **2.316** **2.454**	**0.786** **0.782** **0.769** **0.795** **0.777**

http://cdn.americanprogress.org/wp-content/uploads/2014/07/BakerSchoolDistricts.pdf

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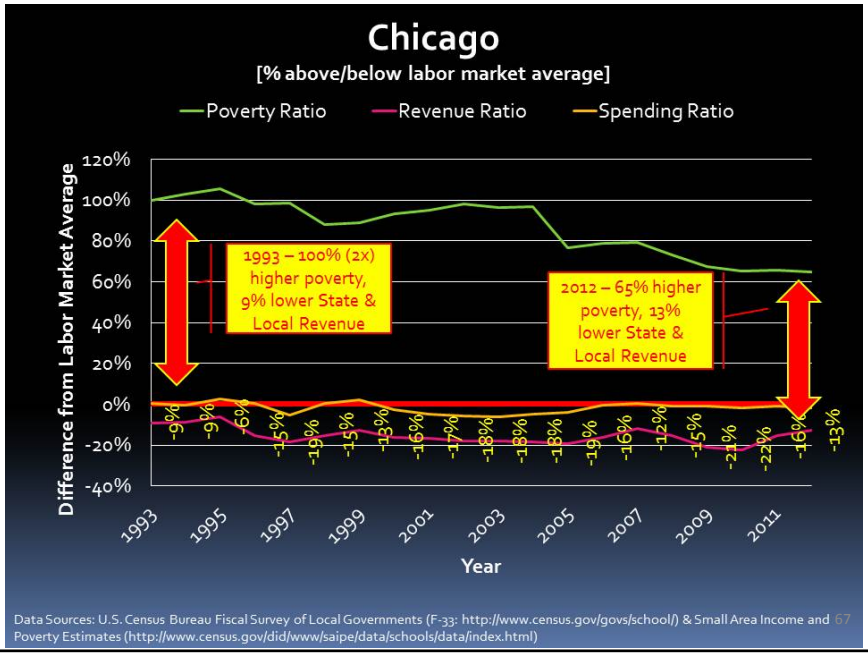

Data Sources: U.S. Census Bureau Fiscal Survey of Local Governments (F-33: http://www.census.gov/govs/school/) & Small Area Income and Poverty Estimates (http://www.census.gov/did/www/saipe/data/schools/data/index.html)

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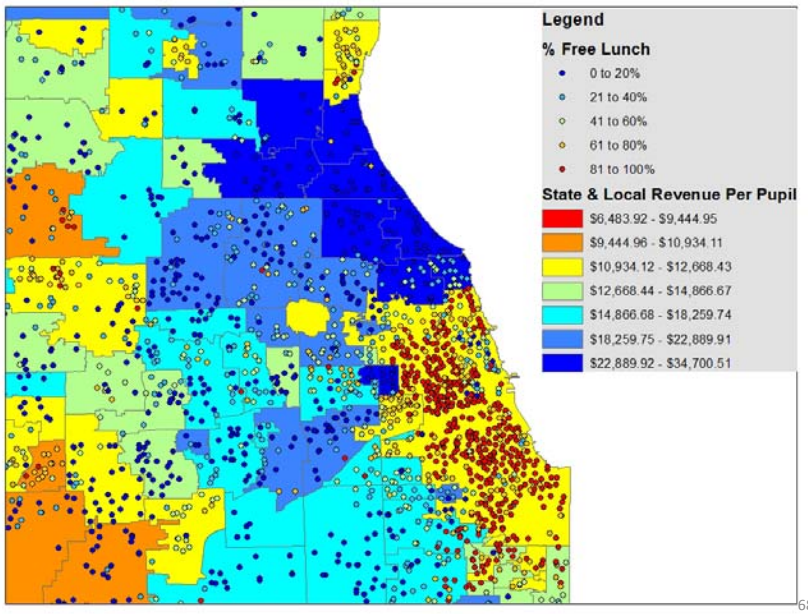

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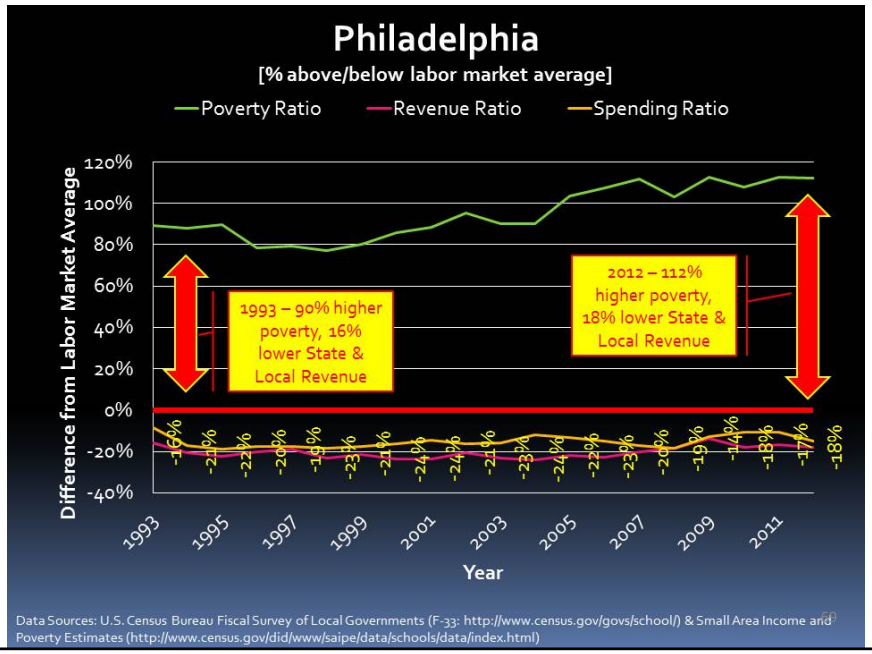

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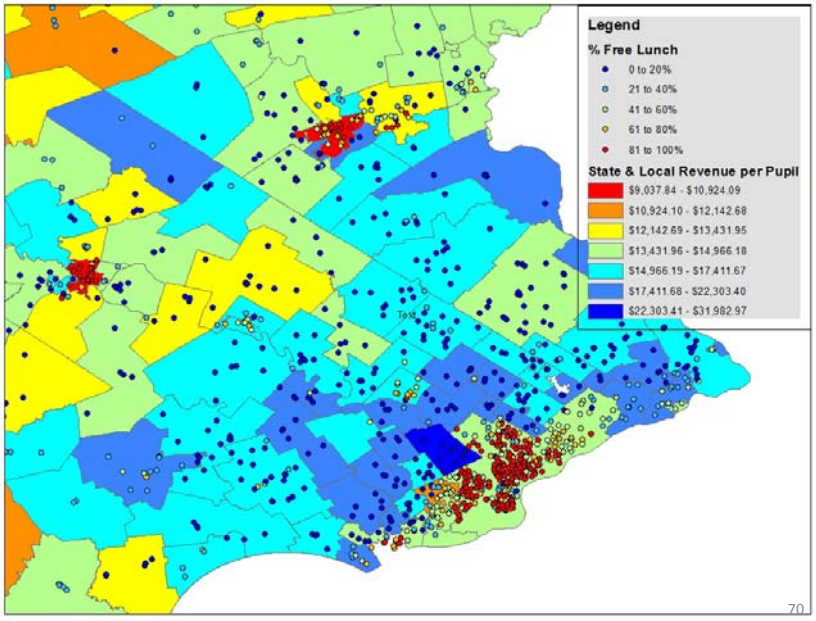

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So then…

No-one would ever seriously argue that we've poured tons of money into Philly schools trying to "fix" them? Would they?

Nah…

Maybe?

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Who needs facts anyway?

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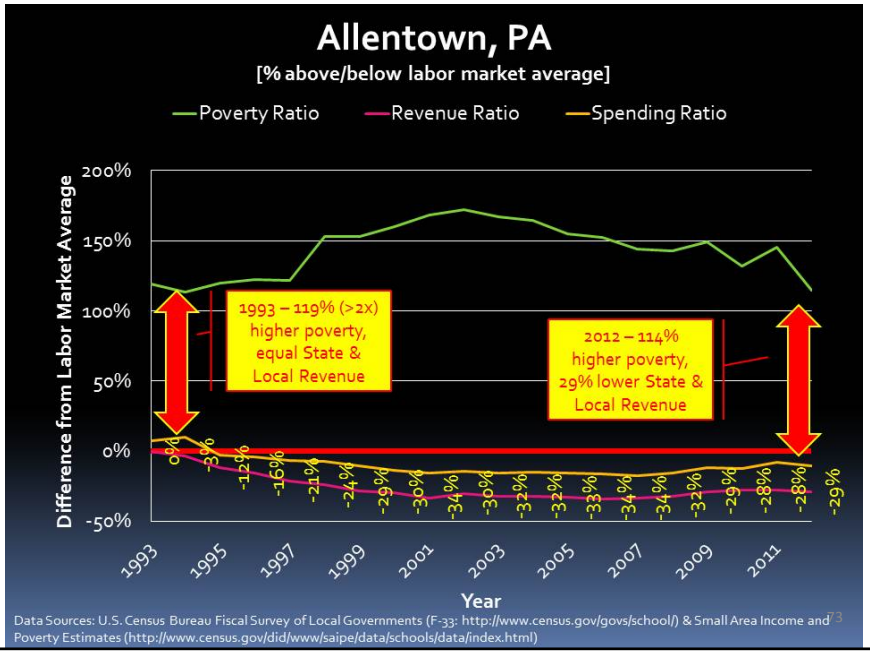

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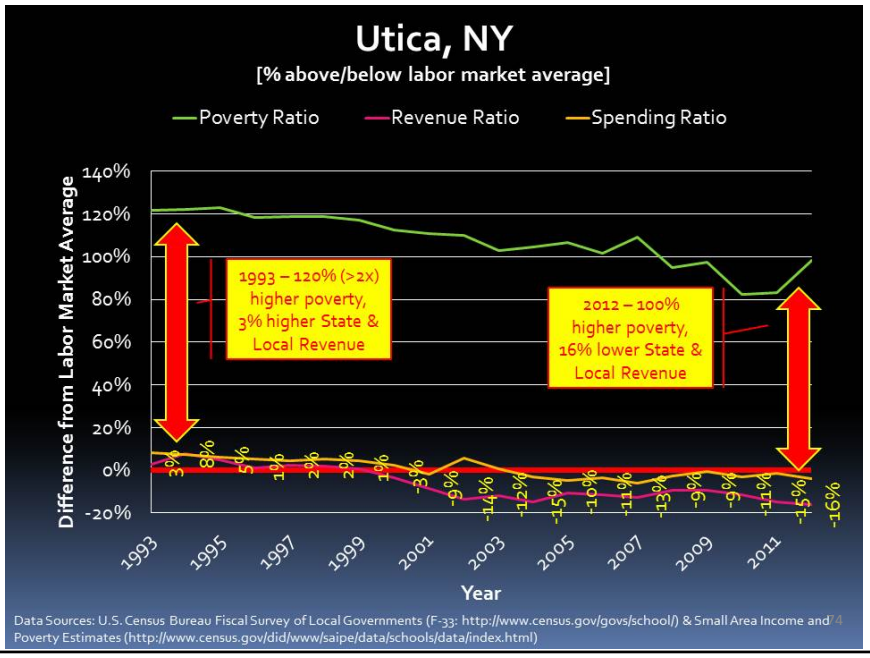

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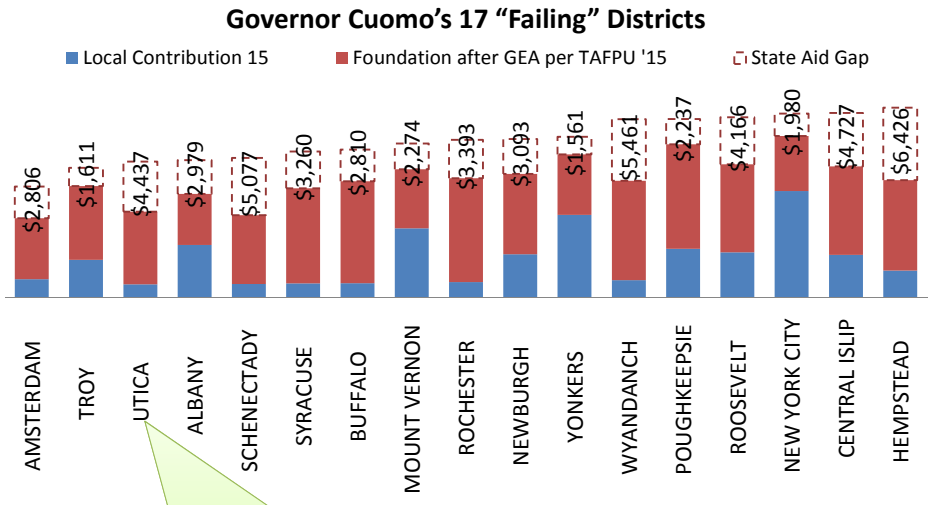
"We've been putting more money into failing schools for decades,"

"Over the last 10 years, 250,000 children went through those failing schools, and New York government did nothing"

."

http://poststar.com/news/local/teacher-evaluations-are-baloney-cuomo-says/article_f51aefda-a1c0-11e4-8d43-1fe6f62ba3e6.html

RUTGERS



Utica receives over $4,400 less in per pupil foundation aid than the state's own formula indicates the district should receive.

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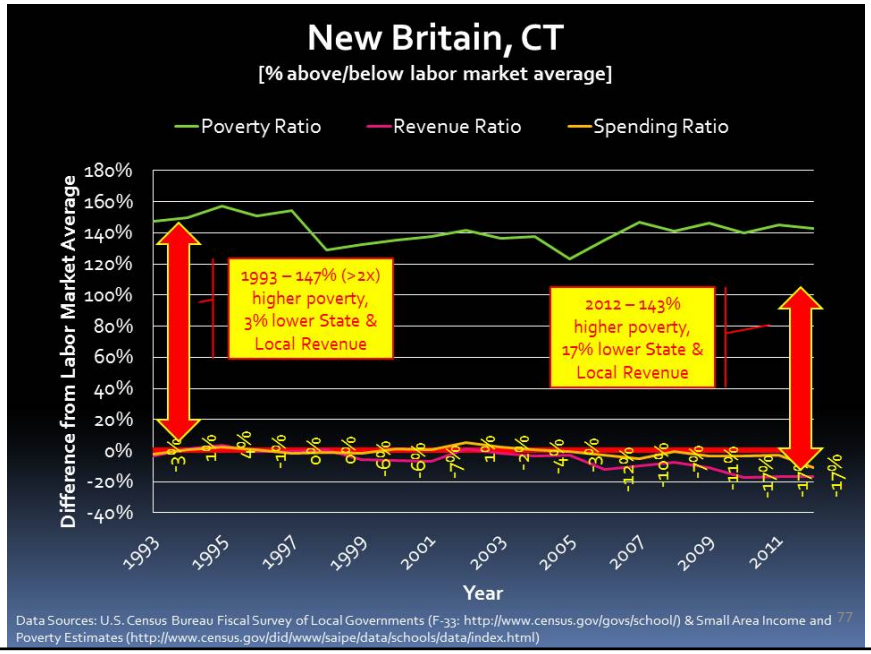

Data Sources: U.S. Census Bureau Fiscal Survey of Local Governments (F-33: http://www.census.gov/govs/school/) & Small Area Income and Poverty Estimates (http://www.census.gov/did/www/saipe/data/schools/data/index.html)

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States with Large Shares of Underfunded High Need Districts/Children

State	Total enrollment	Fiscally disadvantaged	Total districts	Fiscally disadvantaged	Percent of enrollment	Fairness ratio
Illinois	2,074,286	531,854	844	42	25.60%	0.81
Pennsylvania	1,674,152	246,980	498	18	14.80%	0.91
Connecticut	544,586	73,870	166	8	13.60%	1.03
Arizona	945,003	109,555	216	18	11.60%	0.96

State and local revenue per pupil from the U.S. Census Bureau Fiscal Survey's three-year average, which is less than the 90% of the average for districts in the same labor market*
Adjusted Census poverty rates for 5- to 17-year-olds from the Census Small Area Income and Poverty Estimates' three-year average—that is greater than 125% of the average for districts in the same labor market
Bureau of the Census, *Public School Finance Data: Public Elementary–Secondary Education Finance Data* (U.S. Department of Commerce), available at http://www.census.gov/govs/school/.
Bureau of the Census, *Small Area Income and Poverty Estimates: School District Estimates for 2009–2011* (U.S. Department of Commerce), available at
http://www.census.gov/did/www/saipe/data/schools/data/index.html.

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What about those states that have poured money into high poverty districts?

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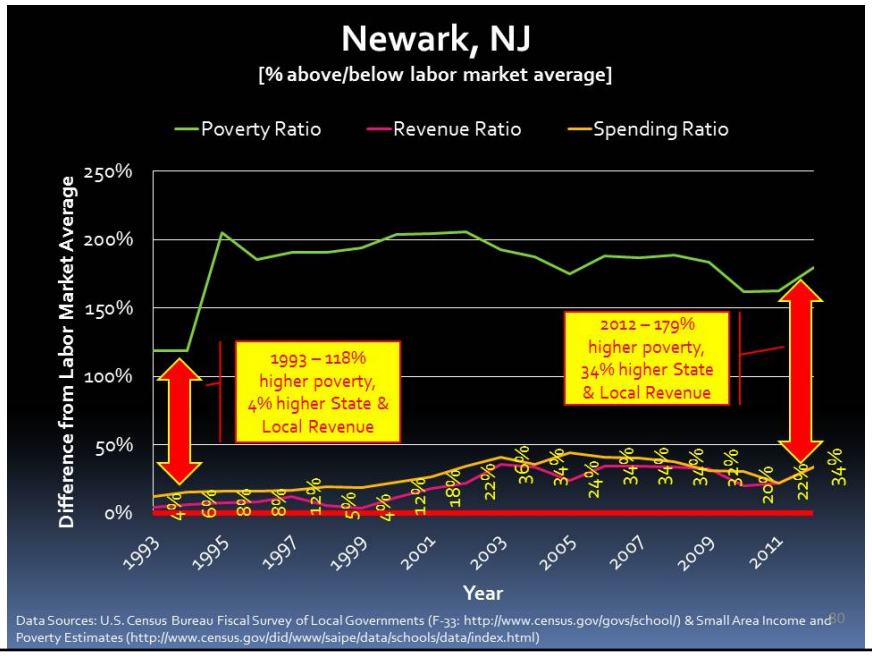

Data Sources: U.S. Census Bureau Fiscal Survey of Local Governments (F-33: http://www.census.gov/govs/school/) & Small Area Income and Poverty Estimates (http://www.census.gov/did/www/saipe/data/schools/data/index.html)

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This Impoverished City Hiked Spending to $25,000 per Student to Fix Its Schools. And Nothing Changed.

"It's not all about money!"

Jim Epstein | January 26, 2015

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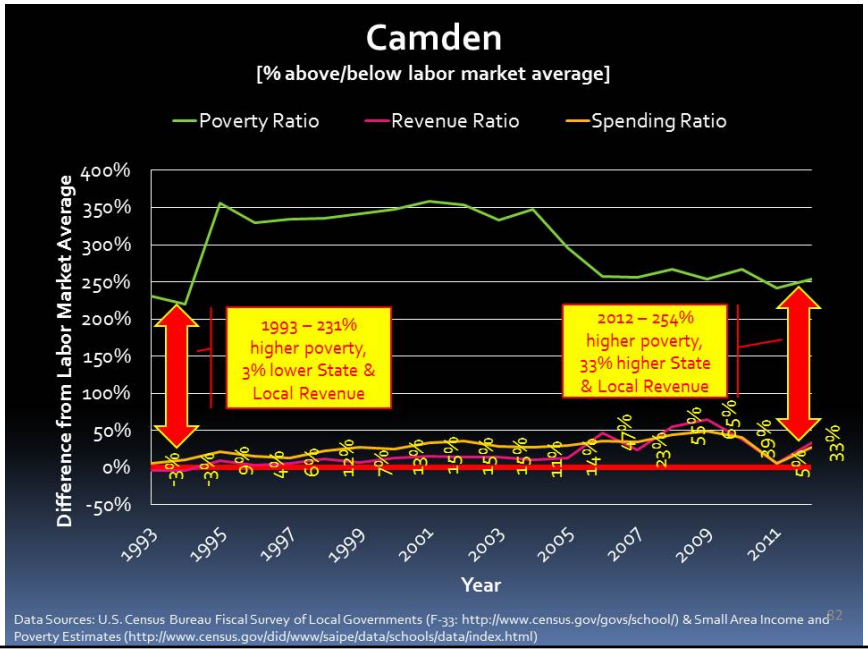

Data Sources: U.S. Census Bureau Fiscal Survey of Local Governments (F-33: http://www.census.gov/govs/school/) & Small Area Income and Poverty Estimates (http://www.census.gov/did/www/saipe/data/schools/data/index.html)

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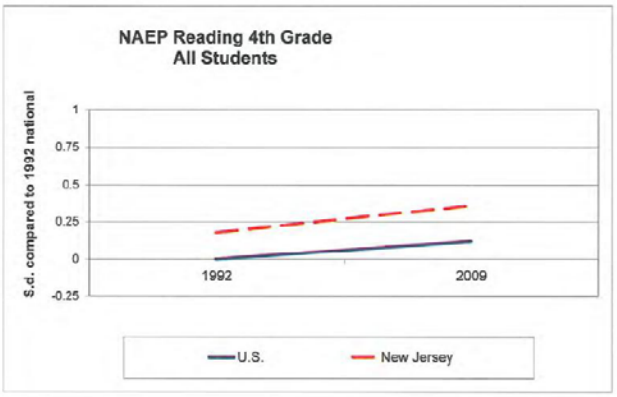
policy for four decades.[4] The dramatic spending increases called for by the courts (Exhibit 34) have had little to no impacts on achievement. Compared to the rest of the nation, performance in New Jersey has not increased across most grades and racial groups (Exhibits 35-40). These results suggest caution in considering the ability of courts to improve educational outcomes.

Figure R-6



Source: Author update from Hanushek, Eric A., and Alfred A. Lindseth. 2009. Schoolhouses, courthouses, and statehouses: Solving the funding-achievement puzzle in America's public schools. Princeton, NJ: Princeton University Press.

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From the political echo chamber?

"The conclusion is inescapable: forty years and tens of billions of dollars later, New Jersey's economically disadvantaged students continue to struggle mightily. There are undoubtedly many reasons for this policy failure, but chief among them is the **historically dubious view that all we need to do is design an education funding formula that would "dollarize" a "thorough and efficient system of free public school" and educational achievement for every New Jersey student would, automatically and without more, follow." (emphasis added)**

"Of course, schools must have the resources to succeed. To the great detriment of our students, however, we have **twisted these unarguable truths into the wrongheaded notion that dollars alone equal success. How *well* education funds are spent matters every bit as much, and probably more so, than how *much* is spent.**"

Note: report used this argument to conclude that the state should reduce targeted funding to low income students (cut poverty weighting & shift attendance count method to "average daily attendance" instead of resident enrollment)

http://assets.njspotlight.com/assets/12/1217/2204

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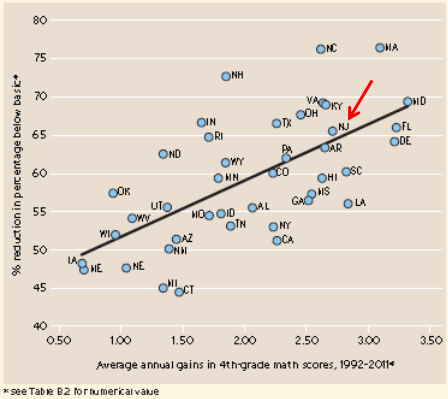
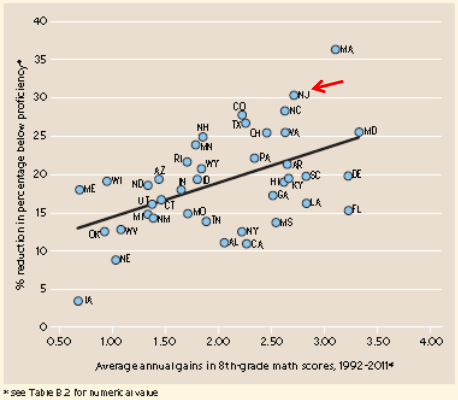
But…even Hanushek's own (other) graphs…

Figure 3. Relationship between gains in state average scores and percent reduction in percentage performing below basic level in math in 4th grade on NAEP



*see Table B-2 for numerical value

Figure 4. Relationship between gains in state average scores and percent reduction below proficiency in 8th grade on NAEP



*see Table B-2 for numerical value

http://www.hks.harvard.edu/pepg/PDF/Papers/PEPG12-03_CatchingUp.pdf

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The road from here?

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First Few Steps…

- Recognizing that money matters & reintroducing that well documented reality into the political debate
- Recognizing that the Dollars-Resources-Outcomes equation remains relatively straightforward
  - If you have it, you can spend it, if you don't you can't
- Recognizing that we really haven't put in the effort necessary to provide equal educational opportunity, even in the best cases
- Recognizing that tax increases do not collapse state economies (in fact the KS experiment suggests the opposite)
  - In particular, if they yield high quality services/amenities, they serve as economic stimulus

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Getting Started – The Hard Part

- Balanced revenue streams/tax policy required
  - Best source of property tax relief is state aid to help offset costs of high quality services
  - But, property tax revenues have benefit of stability
  - Fiscal effort went down during the downturn. A correction is in order!
- Funding formula should be sufficiently targeted according to needs and costs
  - Literature is clear on what factors affect need/cost
- Districts/schools can sometimes be better organized to manage/even out costs
  - This includes everything from consolidation to socio-economic & racial integration

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Critical Follow Through

- Just as it is the state responsibility to ensure equitable and adequate financing of local public schools and districts, it is a state responsibility to ensure that those resources are used equitably and efficiently
- SEAs need to rebuild technical capacity and provide technical support (real research on productivity/efficiency)
  - This includes smarter approaches to testing/measurement & better understanding what those measures capture about schooling/schooling contexts
  - Supporting role, not punitive one!
- Effort MUST BE SUSTAINED!

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