School Finance & Equal Educational Opportunity

Bruce D. Baker
Rutgers University

Political Backdrop
"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."


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

Florida School Spending 1993-2012

"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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**The 4 Legged Stool of Denial**

- **Leg 1:** Vote-counting tallies of 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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[Rep. Dave Brat (R-VA)](http://thinkprogress.org/education/2015/02/13/3623158/brat-education-plato/)
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.)”

“My student achievement has remained virtually flat”

THE GRAPH Rhee-vised!

**U.S. Spending and Achievement**

- **US Education Spending:** $10,383
- **Academic Achievement: Math**
- **Academic Achievement: Reading**

350% increase in spending: relatively flat achievement
The Great Recession & State School Finance Systems
Most states allocating smaller share of gross productivity to k12 than in 2007!

Many states showing significant decline in “fairness” (targeting to high poverty districts)
Teacher wages continue to decline in relative competitiveness (to similarly educated, same age non-teachers).

Many states have reduced overall staffing per pupil.
Persistent Deprivation

Philadelphia

[% above/below labor market average]

- Poverty Ratio
- Revenue Ratio
- Spending Ratio

### Reading, PA

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### Allentown, PA

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Utica, NY

[% above/below labor market average]

- Poverty Ratio
- Revenue Ratio
- Spending Ratio


Bridgeport, CT

[% above/below labor market average]

- Poverty Ratio
- Revenue Ratio
- Spending Ratio

New Britain, CT

[% above/below labor market average]


Chicago

[% above/below labor market average]

Back to Basics

Conceptual Model
(of the obvious)

State & Local Wealth & Income

State & Local Fiscal Effort

State & Local Revenue

Current Operating Expenditure

Staffing Quantities (PTR & Class Size)

Staffing Quality (Competitive Wage)

Student Outcomes

Tradeoffs

24
Relationship between Effort and Revenue
2011-12

R² = 0.4084

States applying more “effort” tend to have higher funding levels!

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

Input Price Adjusted Revenue and Spending
[up 4.5 to 5.5% over 20 years]

- Current Spending (adj.)
- State & Local Revenue (Adj.)

Current Operating Expenditure
**Pupil to Teacher Ratios over Time**

- **All Districts**
- **>2,000 Pupils**
- **K12 > 2,000 Pupils**

**Current Spending per Pupil (Constant 1999)**

- Higher spending leads to more teaching staff!

**R² = 0.4852**

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**Staffing Quantities (PTR & Class Size)**

**Spending Levels and Staffing Levels 2011-12**

**R² = 0.4852**
Relating Total Staffing and Class Size

- Class Size - Departmental
- Class Size - Self Contained

More staff leads to smaller classes!

Spending Levels & Competitive Wages

Teacher to Non-Teacher Wage Ratio (age 45)

Higher spending leads to more competitive teacher wages!

Staffing Quality (Competitive Wage)

Current Operating Expenditure

R² = 0.2547

R² = 0.481  R² = 0.3966
Correlations between Resource Measures & Adjusted NAEP Measures
[All States & All Years]

- Teachers per 100 Pupils
- Teachers per 100 Pupils Fairness
- Salary Parity (45)

Outcome Level (Low Income) | Outcome Gap | Outcome Disparity Slope
---|---|---
Reading 4 | 0.33 | 0.28 | 0.13
Math 4 | 0.29 | 0.30 | 0.20
Reading 8 | 0.14 | 0.17 | 0.08
Math 8 | 0.04 | 0.12 | 0.04