Does Money Matter? Clean Evidence from School Finance Reforms

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Motivation

Since Coleman 1966, many have questioned whether school inputs matter. The claim that there is no relationship between school resources and student outcomes has subsequently been made by many well-known scholars and policy-makers.

There are 3 reasons why they COULD be correct:

1. Increased spending is wasted by bureaucracy.
2. Spending levels are above the point where increases really matter.
3. Most problems in education can only be remedied in the home.

However, the evidence supporting this claim is weak.

We will show that money (and other school inputs) does matter.
Some Studies Find Small Effects

While charts like these are suggestive, they are not conclusive, and have known flaws.

1. Many other things may be happening at the state level that could influence both spending levels and student outcomes.

2. Test scores are not the best measure of the skills.
   • Ideally we would like to see effects on real economic outcomes.
Bias Due to Compensatory Spending Increases

Test Scores

Test Scores in a Declining Neighborhood

Naïve Observed Effect

True Positive Effect

Test scores with spending Increase triggered by declining neighborhood

Test Scores with no spending increase

Time
We Use Spending Increases That are Unrelated to Other Changes

1. We model how different kinds of reforms affect different kinds of districts.
2. Then identify districts that saw increases in spending due to the passage of court ordered reforms.
3. Spending increases in these districts due only to the passage of a court mandated reform have nothing to do with neighborhood decline or other changing factors that typically predict spending changes.

NOTE: Effects are relative to similar districts in non-reform states.
We Look at Long Run Outcomes (not test scores)

We link school spending data and information collected on all reforms to a nationally representative survey of individuals born between 1955 and 1980 and tracked over time through 2011.

If there is a real causal effect of spending on outcomes, exposed cohorts (of school age at the passage of reforms) in districts that increase spending due to reforms should have better outcomes than unexposed cohorts (older than school age at the passage of reforms).

• A natural test for whether our spending increases are clean is if unexposed cohorts look similar in reform and non-reform states.
Children from low income families who are exposed to increases in school spending due to school finance reforms see large increases in years of educational attainment.

A 20 percent increase in school spending leads to an additional year of education.

Small positive effects on children from non-poor families.
Effects on Annual Earnings (ages 25-45)

Children from low income families who are exposed to increases in school spending due to school finance reforms see large increases in annual earnings.

A 20 percent increase in school spending leads to 20 percent higher annual earnings.

Small positive effects on children from non-poor families.
Effects on Adult Poverty (ages 25-45)

Children from poor families who are exposed to increases in school spending due to school finance reforms see large reductions in adult poverty.

A 20 percent increase in school spending reduced poverty by 16 percentage points.

No effects on children from non-poor families.
Effects work through improved resources

Effect of Court-Ordered School Finance Reform on Class Size, All Kids

- Change in Student-to-Teacher Ratio, ages 5-17
- Year Aged 17 - Year of Initial Court Order

90% CI  10% spending increase
To conclude….

1. Many states are currently in legal battles regarding how public schools are financed.

2. State education budgets are often cut in times of financial distress.

3. Policies that reduce school spending might save money today, but the cost will be felt several years from now in the form of less well educated students, less productive workers, and more dependency of social programs.

4. The magnitude of the estimated effects pass any reasonable cost-benefit analysis.