CAN SCHOOLS LEVEL THE INTERGENERATIONAL PLAYING FIELD? Lessons from Equal Educational Opportunity Policies



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First-Generation Suite of Equal Opportunity Policies

School Desegregation
School Finance Reform
Head Start

Data: Linking Schools to Adult Outcomes

PSID - those born 1955-85 followed up to 2011

- Educational attainment and adulthood outcomes (1980-2011);
- Data linked to census block in childhood

Resulting Sample:

151,756 person-year adult observations (ages 20-45)
 15,353 individuals (9,035 low-income; 6,318 not-low-income)
 (Low-income: income/needs<2 during childhood)

From 1,409 school districts in 1,031 childhood counties, 50 states
 Matched to childhood school districts (pre-reform)

Adult outcomes for those expected to be exposed to Court Mandated Reforms.

Unconditional Mobility Estimates

Directional Rank Mobility

• Upward Directional Rank Mobility (UP)

$$UP_{\tau,s} = \Pr(Y_1 - Y_0 > \tau \mid Y_0 \le s)$$

- To be interesting, s must be <1 (though for group differences s can be 1)
- For $\tau = 0$, this is simple: are you higher in distribution than your parents?
- Can use intervals rather than cumulative samples

Upward Mobility Estimates by Race Using Intervals of Parental Income: Tau = 0



Upward Mobility Estimates by Race Using Intervals of Parental Income: Tau = 0.2





Tau=0

Tau=0.2

Birth Cohort Variation in Childhood Exposure to Court-Ordered School Desegregation



PSID individuals born 1947-1975, followed up to 2007.

The Effect of Court-Ordered Desegregation on Intergenerational Mobility, by Race .15 Change in (Upward Mobility) .1 au=0 .05 Prob(l 0 -.05 2 10 12 0 6 8 Years of Desegregation Exposure Whites Blacks

4 Types Funding Formulae

- Foundation plans:
 - Guarantees a base level of school spending.
- Equalization pans:
 - Tax wealthier district and redistribute funds to low wealth districts.
- <u>Reward for Effort plans</u>:
 - Match locally raised funds for education in (typically in low income districts).
- <u>Spending Limits</u>:
 - Prohibit per-pupil spending levels above some predetermined amount.

VISUAL PRESENTATION OF FIRST STAGE:

Plot of coefficients on interaction between SPEND_d and "Yr relative to Court Mandated Reform" indicators (times 0.05, 0.1, and 0.2 to depict a 5, 10, and 20 percent *predicted* change)



Testing for Effects of Reform Induced Spending Changes on Outcomes



Do post reform cohorts have better outcomes than pre-reform cohorts?

Are improvements (across cohorts) larger in
 districts that experienced the largest increases in per pupil spending?

3. MECHANISMS & -----FALSIFICATION

2. INTENSITY

Are benefits concentrated for "school age" yrs of exposure?

Hypothesized Patterns in The Data



Reduced Form Effect on Student Teacher Ratio



Yrs of Education by Childhood Income



Adult Poverty by Childhood Income



Discussion

- Exogenous spending increases are associated with sizable improvements in long-run educational attainment, earnings, and intergenerational mobility.
 - Education effects of a 10% ¹⁄₁ during all 12 yrs =
 - effect of attending a small school (Barrow et al 2013; Schwartz et al 2013) OR
 - effect of attending a quality pre-K program (Deming 2009; Carneiro and Heckman 2003)
- a 10% û in spending yields û wages by 7.25%.
 - If all the effect were through years of education it would imply a Mincerain return of about 22 percent. *The results are large, but plausible*.
- A 10% û in spending ♥ annual incidence of adult poverty by ~6.8 percentage points for low income children.
- Exogenous spending effects are associated with improved school inputs.
 - Endogenous spending is not associated with improved inputs, which might account for differing results across studies.



- MONEY MATTERS increasing spending improves outcomes & reduces intergenerational transmission of poverty
- Exogenous school spending has benefit-cost ratio of about 2 and an internal rate of return of about 8.9%.
- Spending increases have large effects on low-income children.
 - Family background certainly is important, but improved school quality can help ameliorate the performance of those from disadvantaged backgrounds.
- HOW increased \$\$\$ spent determines extent of better outcomes