

# Educational Policy and Intergenerational Mobility

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Discussion - December 2015

## This paper:

- The role the level and variation of public school spending has on variation in intergenerational mobility across states
- How various types of funding systems affect public school spending choices and hence intergenerational mobility
- What happens when all states adopt a centralized funding model

## Begin by stripping down the model:

- All kids have the same ability
- There is no taste for equality
- Heterogeneity in income level of parent

## State funding:

- Given public spending, households choose private spending to equate its return to the return to passing transfers to their children
- This implies that private spending is independent of parental income
- All kids have same early private investment,  $x_1$

## State funding:

- When people vote over the public funding level, they choose  $\bar{x}_1$  ( $\tau_S$ ) so that:

$$\frac{MB_{\bar{x}_1}}{MB_{x_1}} = \frac{y}{\mu_S}$$

- This incorporates a desire for (against) redistribution for those below (above) the mean income of the state
  - if  $y^{median} = \mu_S$ ,  $MB_{\bar{x}_1} = MB_{x_1}$
  - if  $y^{median} > \mu_S$ ,  $MB_{\bar{x}_1} > MB_{x_1}$ , too little public input
  - if  $y^{median} < \mu_S$ ,  $MB_{\bar{x}_1} < MB_{x_1}$ , too much public input

## State funding:

- Under statewide funding, all kids reach adulthood with the same  $h_2$
- If median income is below the mean in the state, there will be over investment in the public input relative to the private input
- Rank-rank slope measure of intergenerational mobility is zero

# Foundation funding:

- Given public spending, households choose private spending to equate its return to the return to passing transfers to their children
- Given a statewide spending level  $\tau_S$ , homogenous districts will supplement with  $\tau_I^* > 0$  if doing so will equate:

$$\frac{MB_{\bar{x}_1}}{MB_{x_1}} = \frac{y}{\mu_d} = 1, \text{ else } \tau_I = 0$$

- Given  $\tau_S$ , all districts will choose same  $\tau_I \in \{0, \tau_I^*\}$

# Foundation funding:

- Voters choose  $\tau_S$  such that  $\frac{MB_{\bar{x}_1}}{MB_{x_1}} = \frac{y}{\mu_S}$
- If  $y^{median} < \mu_S$ :
  - The median voter (wants redistribution) chooses  $\tau_S$  so that  $MB_{\bar{x}_1} < MB_{x_1}$
  - No district will supplement,  $\tau_I^* = 0$ , and all kids have too much public investment
- if  $y^{median} \geq \mu_S$ :
  - The median voter (doesn't want redistribution) chooses  $\tau_S = 0$
  - Every district will supplement by,  $\tau_I^*$ , and all kids have the efficient level of public investment



## Foundation funding:

- Under the foundation system, all kids reach adulthood with the same  $h_2$ .
- If median income is below the mean in the state, no district will supplement and all kids will have an inefficiently high level of public investment.
- If median income is above the mean in the state, foundation and statewide funding have the same outcome
- Rank-rank slope measure of intergenerational mobility is zero

# Mechanism

- No credit market frictions implies that parental income will not affect private investment input
- Political economy implies income of the median voter in state level elections impacts public investment, but not differentially by income (even under foundation system)
- Therefore, there should be no differences in intergenerational mobility across states by income

# Mechanism

- So where do differences by parental income come from in this model?
- If we bring back ability, efficient investments will be higher for higher ability students
- There is an added wrinkle in statewide voting because median voter has kid with high or low ability
- Differences in intergenerational mobility that result are not coming directly from parental income differences, but indirectly in how kid ability and parent income are correlated
- In this paper, ability of kid is an exogenous function of parental schooling level (which also directly affects parental income)

# Mechanism

- What about taste for equality?
- Assuming no ability differences, this addition has no effect because everyone has the same outcome (standard deviation of human capital is zero)
- Assuming ability differences, parents with low ability kids optimally choose lower human capital levels for their kids
- A preference for equality will encourage redistribution towards districts with lower ability kids in an attempt to bring their human capital levels up
- If poor parents are more likely to have low ability kids, this redistribution will increase intergenerational mobility

# Question

- Do we really think all differences in human capital are due to child ability? (Differences by income are only operating via this channel)
- When we think about preferences for equality driving higher statewide spending, do we really think voters are hoping to increase investments in low return kids?
- How are we supposed to think about ability differences being a function of parental schooling? Is this innate ability transmission? Or is there some sort of constrained early investment going on?

# Calibration

- Would like more discussion about how the calibrated parameters are pinned down and why to these targets
- In particular, the importance of public investment plays a key role and it is unclear how it is identified using data from a state that has no variation in public investments (Washington)
- Would be more convincing if the technology parameters were calibrated using all or many states (especially given that doing the same exercise for California yields a negative parameter value)

# Private vs. Public inputs

- Here they are modeled as complementary separate investments
- You can't privately supply the public schooling component and you can't just rely on public schools to do the whole job
- How important is the functional form for the results? Might be interesting to try CES to allow for different elasticities of substitution between public and private investments.

# Mobility

- This paper assumes location is fixed when considering a switch to state level funding for all states
- At an individual state level, parents have the option to exit the public school system and privately buy the inputs that go into public spending in this model (last point)
- Parents also have an option to move states. If currently it is possible to segregate into a homogenous, high spending enclave, and this option disappears, considering interstate mobility could be important.



## Other issues

- Should individuals consider how their private choice for their one kid impacts the mean and sd statewide?
- If people have preferences over equality, might that impact the funding model of the state? Or, maybe effect their location choice?
- There is a second and third period when the child is an adult - why?
- There is a random component to ability that is state specific - why random and why state specific?