Comments on “School Size and Student Achievement in TIMSS 2003”

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Main points

- What is TIMMS good for?
- What can we learn from this paper about education policies regarding school size?
- What are big-picture issues about school size we should be thinking about?

Strengths of TIMMS

- Cross-sectional data on representative samples of 8th graders (47 countries) and 4th graders (25 countries)
  - Best opportunity available for cross-country comparisons (relative country performance)
  - Comparisons over TIMMS waves also informative about relative progress across countries

Limitations of TIMMS

- Cross-section design makes causal inference of education policies difficult
  - Even with rich set of student and family covariates …
  - Still worried about why some children in a country wind up in small schools, others not

Schutz paper

- Effects of school size important question…
- But study plays to TIMMS' limitations, not strengths
- Findings:
  - Students in "small" schools have higher math scores
  - "Optimal" school size is 600-900 students

Selection bias concerns

- Author has done about best that can be done on this question with these data
- But selection bias concerns remain
- Schutz (p. 4) talks about possibility of focusing on cases where children don't have choice of schools
  - But place of residence itself is not exogenous
  - (Plus can't identify which kids do or don't have choice of schools given residential location)

Selection bias, continued

- Hard to even *sign* selection bias here
  - More affluent, motivated parents might put premium on smaller schools?
  - Lazear (2001) model argues small classes most important for “high risk” students
    - Lower probability of disruptive behavior by kids, fewer costs of larger class sizes
    - Same logic could apply to school size as well

Example of causality concern

High school	Location	Enrollment
Banneker	DC	412
Anacostia	DC	618
Eastern	DC	911
Ballou	DC	1,090
Wilson	Leafy NW DC	1,672
Bethesda-Chevy Chase	Leafy Bethesda	1,691

Evidence on school size

- Most likely to come from countries where we have good longitudinal data
  - Most of those will be developed nations

- Collection of analogous data in selected developing countries might be especially valuable World Bank-style project

Big picture questions

- Any potential *benefits* to big schools?
  - Opportunity for more diverse niche offerings
  - Possibility of greater matching of student interests to course content
  - So focus on one outcome domain (math) may not be able to identify “optimal” school size
    - Future research should think about outcome measures that can capture benefits of greater course-taking benefits

Big picture questions, continued

- Any other benefits to big schools?
- Economies of scale
  - Fixed costs, so in terms of financial costs we expect MC < AC
  - But perhaps some diseconomies of scale in "social control" (Cook and Ludwig, 2006)
    - Consistent with earlier findings of DC-area high school sizes

Where does this leave us?

- We need good causal estimates of school size effects on student outcomes
  - Hard to derive
  - Longitudinal data would help
  - Focus on multiple subject area domains
  - Account for possible benefits from greater course offerings
- Need to also pay attention to cost side
  - When do MB from smaller schools on student achievement equal MC?