Evaluation, Experimentation, and Evidence Based Policy

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Topics Explored

- How do we know if a particular policy is helping to achieve the MDGs?
- How can we use data to indentify barriers to MDG progress?
- Why is assessing progress towards MDGs easier than establishing causation?
- What data types are best to analyze the impact of a policy?

Two Examples

- Randomization and Evaluation
  - Obtaining data to establish causation
  - Use meta-data to make policy decisions
- Behavioral Economics
  - Using micro-data to examine barriers to progress
  - The promise of low-cost big-impact results

Randomization

- All too often development policy is based on fads, randomized evaluations are a tool to base policy on evidence
- For a broad class of development programs, randomized evaluations can be used to address causation
- Programs targeted to individuals or local communities (such as sanitation, local government reforms, education, and health) are likely to be strong candidates for randomized evaluations

Setting Up a Randomized Evaluation

- Randomized evaluations require at least two sets of data for comparison
  - One set should include individuals that have been 'exposed' to a particular development initiative
  - The second set should include individuals that are as similar as possible to the first set, but have not been 'exposed' to the initiative
- The target population must be chosen randomly

MDG 2: **Achieve Universal Primary Education**

- **Target 2.A:** Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling

2.1 Net enrolment ratio in primary education

2.2 Proportion of pupils starting grade 1 who reach last grade of primary

2.3 Literacy rate of 15-24 year-olds, women and men

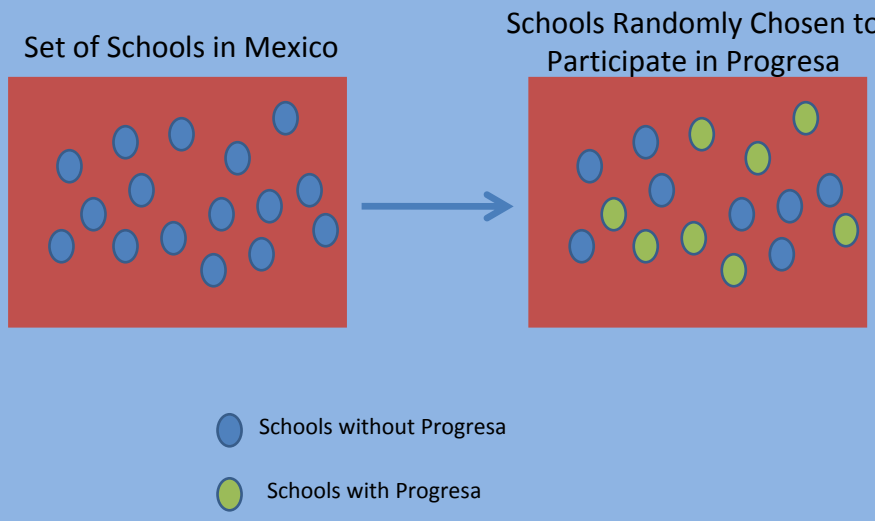
What is Working?

- Cash Grants to Families
- School Feeding Programs (MDG 1)
- Health/Immunization in Schools (MDG 6)
- Subsidized School Fees and Uniforms

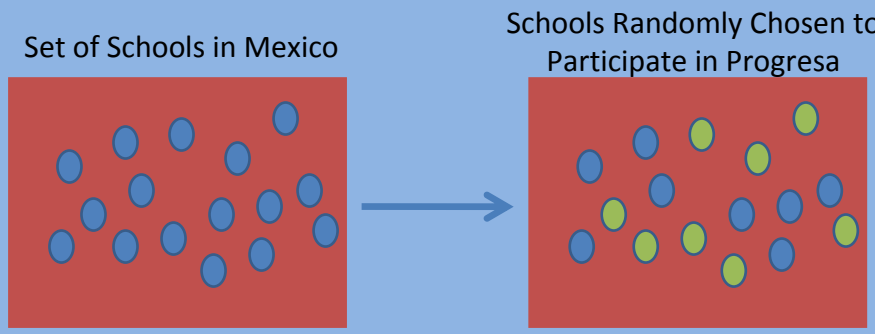
Cash Grants to Families

- The PROGRESA program in Mexico provided cash grants to families if their children attended school regularly and received preventative health care
- Schultz (2004) uses the fact that the program was randomly phased-in in different areas to design a randomization study to assess effectiveness

Schultz Study



Schultz Study



Comparing the two sets of schools allows for statistical analysis:

Is attendance lower in schools without PROGRESA?

Do more girls attend school in schools with PROGRESA?

Results of Schultz Randomization

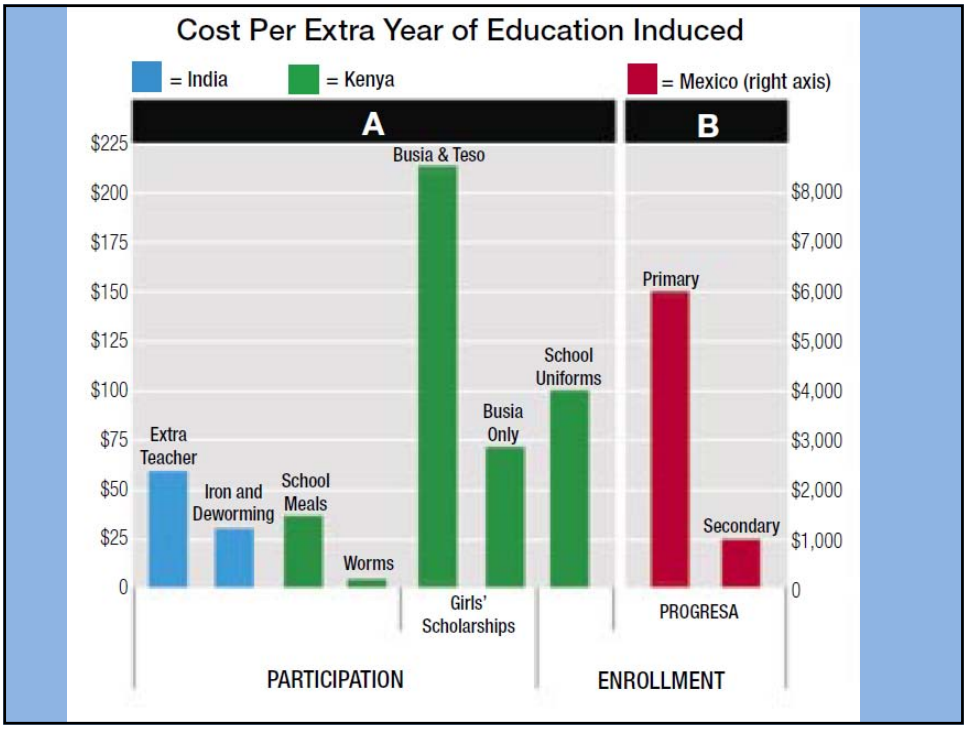
- PROGRESA increased enrollment for students in grades 1 through 8 by 3.4 percent.
- Payments after grade 6 were increased to address a drop-off in attendance as children moved up into junior high school. Attendance by girls who'd completed grade 6 rose the most—by 14.8 percent.
- In part because the randomized introduction of the program meant the benefits were so clear, the Mexican government expanded it, and similar schemes are now being introduced elsewhere in Latin America and Turkey.

School Feeding

- Free school meals is another way to subsidize attendance
- This approach is being used in a range of countries
- In India, the Supreme Court recently made it mandatory for all public schools.
- However, there have been few rigorous evaluations of the program's effectiveness.

School Feeding: Randomization

- One exception is a program providing meals to children attending preschools in Kenya
- Evaluated by Vermeersch and Kremer (2005) using the randomized trial technique
- They found that school participation was 30 percent greater in the 25 schools with a free breakfast, than in 25 comparison schools
- They also found that test scores in schools receiving the meals also increased



Summary of Randomization Example

- Not all initiatives can be evaluated using randomization studies
- Given the right conditions for a randomization study, analysis can show causation
- Randomization studies can also examine cost effectiveness
- Multiple randomization studies can be combined into meta-analysis
- As in this example, synergies between MDGs can be explored and quantified

Behavioral Economics

- Behavioral Economics uses social, cognitive and emotional factors to understand the economic decisions of consumers, borrowers and investors
- Channel factors are minor situational details that may have a lasting effect
- Most development interventions are conceptualized based on 'large scale' theory
- Behavioral economics most often examines small-scale barriers that might have a big impact

MDG 1: Poverty and Hunger

Goal: Eradicate extreme poverty and hunger

- Target 1a: Reduce by half the proportion of people living on less than a dollar a day
- Target 1b: Achieve full and productive employment and decent work for all, including women and young people
- Target 1c: Reduce by half the proportion of people who suffer from hunger

Psychological Barriers to New Technology Adoption

- When it comes to the adoption and application of new technologies, many people are misinformed about technology and its benefits
- Individuals may be misguided by a rule of thumb that results in either non-adoption or misuse
- Mullainathan and Mani explored these issues with rice farmers in the Cuttack district, India
- Cuttack has the largest documented overuse in fertilizer at the aggregate level

Psychological Barriers to New Technology Adoption

- Mullainathan and Mani found that farmers used ‘greenness’ as a proxy for yield/profits
- Cost analysis shows that acheiving maximim ‘greenness’ does not corralate directly to yield or profit
- Further, a penchant for ‘greenness’ served as a barrier to adoption of new technologies (i.e. new fertilizer mixes or organic farming)

Psychology of Harvests

- When thinking about the decision making processes undertaken by the poor, the notion of stress and its impact on decisions making is often overlooked
- For example, farmers planting crops with long gestation periods often face inconsistent income streams that vary during times of scarcity (pre harvest) and bounty (post harvest)
- During harvest, farmers typically receive a large one time payment, and afterwards they are left with nothing else (from a single crop at least) until the next season
- This situation generates a difficult problem for many poor farmers in terms of planning their households' expenses: they must make the resources from each harvest last until the next one

Psychology of Harvests

- An 'Ideas 42' study on the psychology of harvests aims at addressing questions based on the stress and conditions farmers experience during times of scarcity and bounty
- **MDG 1**: Are there high return investments, such as later fertilizer applications, that are compromised due to inadequate financial planning?
- **MDG 5**: Is a rural woman more likely to deliver in a hospital if her child arrives soon after harvest?
- This study is currently in process, but will attempt to address issues of stress and financing for future development interventions

Behavioral Economics Summary

- More EBP research should be directed towards testing the effectiveness of behaviorally motivated anti-poverty policies
- Mirco-level differences that may slip under the radar can have large implications for a policy's eventual success
- The good news is that simple and inexpensive policies may have substantial impact
- The cautionary news is that policy makers may need to attend to nuances they are not trained to attend

Conclusion

- Assessing progress towards MDGs is easier than establishing causation
- Design of data collection can be targeted to provide clear evidence of a policy's impact on the ground
- We do not always have to think big
- Small barriers can inhibit change, but they are not easy to identify if evaluation is not rooted in 'people based' data and description