
Impact Evaluation as a tool for decision-making

Ariel Fiszbein

Chief Economist

Human Development Network

World Bank

Organization of the presentation

- Part 1: Brief (non-technical) introduction to impact evaluation
 - Part 2: Discussion of how results from impact evaluation studies are being used for decision-making
-

Part 1: Brief (non-technical)
introduction to impact
evaluation

Impact Evaluation Answers

- What is effect of program on outcomes?
 - How much better off are beneficiaries because of the intervention?
 - How would outcomes change under alternative program designs?
 - Does the program impact people differently (e.g. females, poor, minorities)
 - Traditional M&E cannot answer these questions
-

The evaluation problem

- Impact: difference between the outcome with and without the program. We cannot observe simultaneously.
 - Simply comparing outcomes for people with and without the program can be deceptive if program participation depends on attributes of individuals that also influence outcomes
 - Simply comparing outcomes before/after program can be misleading if other things happened during the period which may explain changes in outcomes
-

Participants vs. non-participants

- Does job training increase employment and earnings?
- Compare employment & earning of those who sign up to those who did not
- Who signs up?
 - Those who are most likely to benefit, i.e. those with more ability
 - Would have higher earnings than non-participants without job training
- Cannot separate effect of 'ability' and training

Before and After

- Effect of School scholarship program on enrollment
 - Financial assistance to poor students
 - Compare enrollment before and after
 - Find fall in enrollment
 - Did the program fail?
 - Before is normal economy, but after is recession
 - Could not separate (identify) effect of financial assistance program from effect of the recession
-

Solving the evaluation problem

- Counterfactual: what would have happened without the program
 - Need to estimate counterfactual
 - i.e. find a control or comparison group
 - Counterfactual Criteria
 - Treated & counterfactual groups have identical characteristics on average,
 - Only reason for the difference in outcomes is due to the intervention
-

Impact Evaluation design options

- Randomized Experiments
 - Quasi-experiments/non-experimental
 - Regression Discontinuity (RD)
 - Difference in difference – panel data
 - Other (using Instrumental Variables, matching, etc)
 - In all cases, these will involve knowing the rule for assigning treatment
-

Two paths to Control Groups

- Retrospective (very hard):
 - ❑ Try to evaluate after program implemented
 - ❑ Statistically model how governments & individuals made allocation choices
 - ❑ Cannot alter treatment or control group
 - Prospective:
 - ❑ Can introduce some reasons for participation that are uncorrelated with outcomes (randomization)
 - ❑ Can exploit selection rules (e.g. RD)
 - ❑ Easier and more robust
-

Part 2: Use of impact evaluation results

Three uses for decision-making

1. How much better off are the beneficiaries as a result of the program? Informs decisions about continuity, size and budget of the program
 2. Is the program cost-effective? Informs about alternatives to achieve an objective.
 3. How would results change if the program design were altered? Informs program design decisions.
-

Impact evaluation can influence continuity and size of programs

■ **D.A.R.E. (U.S.A.)**

- Created in 1983 as part of the effort to reduce drug use
 - Police educated students in the 5th and 6th grades
 - Multiple experimental evaluations in different parts of the country
 - Lost federal and local funding as a result of evaluations that revealed no significant impact (GAO, 2003, West and O'Neil, 2004, and Weiss, 2003).
-

Impact evaluation can influence continuity and size of programs

■ **PROGRESA-Oportunidades (Mexico)**

- The program began in 1998 and was phased-in in a gradual manner, accompanied by an experimental evaluation
 - The results helped to build political support for its continuity and expansion with the change of administrations
 - The program now reaches over 5 million households
-

...hopefully by using cost-benefit analysis

■ Job Corps (EE.UU.)

- Training for young adults 16-24
 - Experimental design beginning in 1994-1995 and continuing over the course of 4 years
 - In the fourth year, earnings of the beneficiaries were 12% higher than the control group and the arrest rate was 16% lower
 - Cost-benefit analysis supported the program's funding (Mathematica, 2001)
-

Three uses for decision-making (cont.)

1. How much better off are the beneficiaries as a result of the program? Informs decisions about continuity, size and budget of the program
 2. **Is the program cost-effective? Informs about alternatives to achieve an objective.**
 3. How would results change if the program design were altered? Informs program design decisions.
-

Informs about alternatives to achieve an objective (cost effectiveness)

- **Teacher incentives (India)**
 - Improve learning outcomes by:
 - Monetary incentives to groups of teachers and individual teachers conditioned on student performance
 - More inputs to schools (extra teacher, block grant for school supply needs)
 - Incentives increased test scores by 0.15 SD
 - Inputs increased test scores by 0.09 SD (Muralidharan and Sundararaman, 2006)
-

Three uses for decision-making

1. How much better off are the beneficiaries as a result of the program? Informs decisions about continuity, size and budget of the program
 2. Is the program cost-effective? Informs about alternatives to achieve an objective.
 3. **How would results change if the program design were altered? Informs program design decisions.**
-

Informs program design decisions

- **RAND Health insurance experiment (U.S.A.)**
 - 5809 people in 6 sites throughout the country were randomly assigned to insurance plans that either had no cost sharing, or 25, 50, or 95% coinsurance with a maximum family out-of-pocket payment of \$1000 in current dollars
 - Rates of hospitalization was equivalent for the groups
 - The study found that cost sharing reduces spending
 - Health Savings Accounts, established by the federal government in 2003, applied high-deductibles to insurance options
-

When to have an impact evaluation?

- Simple decision rule: When I have doubts concerning the effects of an intervention, and those doubts have strong practical relevance, the impact evaluation is generally justified
-

Since it is difficult to distinguish true prophets from false, it is as well to regard all prophets with suspicion. It is better to renounce revealed truths, even if they exalt us by their splendor or if we find them convenient because we can acquire them gratis. It is better to content oneself with other more modest and less exciting truths, those one acquires painfully, little by little and without shortcuts, with study, discussion, and reasoning, those that can be **verified and demonstrated.**

- Primo Levi
