Evaluating Community-Based Programs

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Introduction

- Outline challenges associated community-based programs designed to improve employment, health, education & other economic outcomes.
- Realistic expectations
- The evaluation problem
- The selection problem
- Evaluating outcomes for:
  - Individuals?
  - Communities?

Big Impacts Will Look Small

- An employment and training program raises annual earnings by $1,000 per year.
  - Combination of general skill, vocational skills, job search assistance.
- Participant (direct) costs: ~$3,000 - $5,000
  - Indirect costs (1): Training delays return to work?
  - Indirect costs (2): Trainees “displace” other job seekers?
- Is the $1,000 effect permanent?
  - “Rate” of return ~ 25%
  - Far better than one year of formal schooling!

Good Evaluations are Difficult, Time Consuming, & Expensive

- *Evaluations are only cost-effective if they lead to some significant action or outcome.*
  - *Doing nothing could be a significant action!*
  - *High quality evaluations are sometimes supported by program opponents!*
- Ask is it worthwhile to evaluate "this" program?
  - Concentrate scarce resources on a limited number of high quality evaluations

The Evaluation Problem

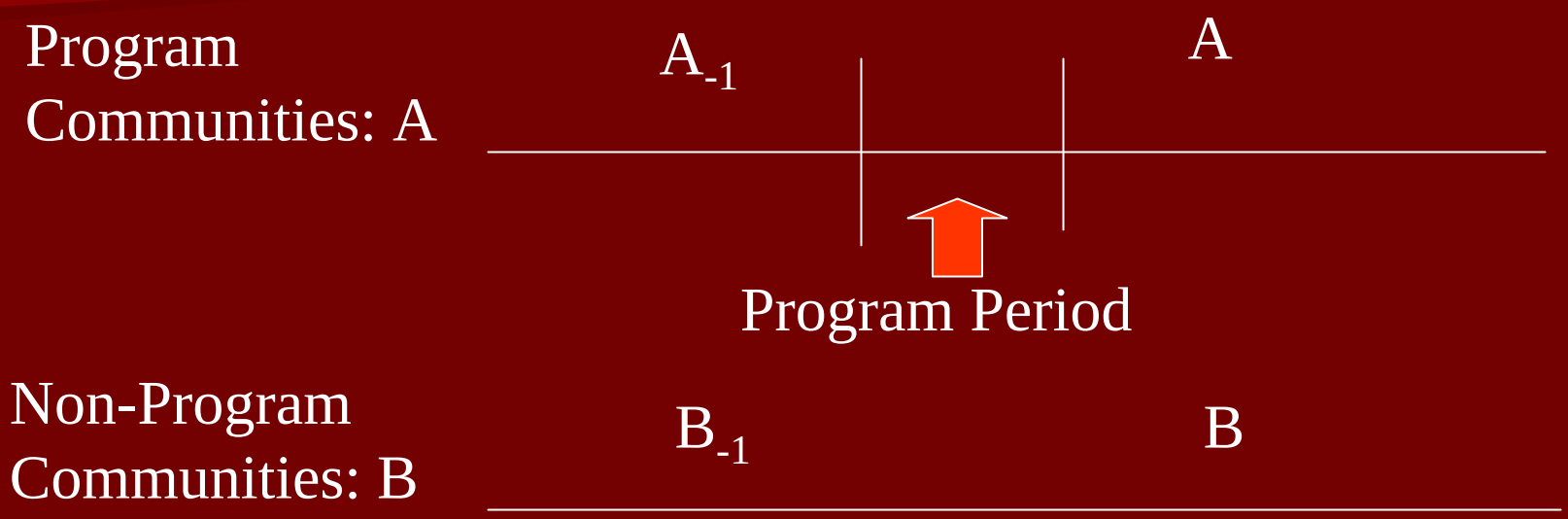
- The “evaluation problem” is ...
  - a “**missing data**” problem.

- What is missing?
  - Data on participants’ “counterfactual” outcomes.
- Use other data to “fill-in” or “estimate” participants’ counterfactual outcomes:
  - A comparison community’s outcomes
  - A community’s pre-program outcomes

Community-Based Evaluations

- Empowerment/Enterprise zones
- TIFs (Tax Increment Financing)
- Community Policing
- Saturation designs
  - for youth employment
  - Reentry programs for prisoners
- Community organizations
- Political empowerment

Illustrate Four Evaluation Strategies



Pre/post = $A - A_{-1}$

Cross sectional = $A - B$

Panel Data = $(A - B) - (A_{-1} - B_{-1})$

Cohort = $A - B_{-1}$

Why Do Outcomes Differ Among Communities?

- Program Community A → Outcome(A)
- Non-Program Community B → Outcome(B)
- Outcome(A)
  - = Program Effect + Other community(A) variables.
- Outcome(B)
  - = Other community(B) variables.
- Outcome(A) – Outcome(B) = Program Effect +
  - [Other community(A) variables - Other community(B) variables].

It is Hard to Evaluate the Impact of One Community-Based Program

- Other variables in Community A =
  - (1) Variables we observe and measure
  - (2) Variable either we can not measure or observe.
- Can match Community A with a Community B that has the same values for the variables we can measure & observe.
  - E.g.: Percentage of households living in poverty
- Outcome(A) – Outcome(B) = Program Effect +
  - [Variables can not measure in community(A) - Variables can not measure in community(B)]
- The term in [.] is the “Matching Error.”

How do Program Evaluators Solve the Matching Error Problem?

- Outcome(A) – Outcome(B) =
  - Program Effect + Matching Error.
- We need to have many program communities & non-program communities.
  - Is the matching error on average = 0?
  - We can estimate the *average program effect*.
  - But can not estimate a program effect for any single program community.
- Suppose we have 16 program communities …
  - Is it reasonable to assume the “matching error” averages out?

Characteristics of PROGRESA Treatment, Control and Other Rural Mexican Communities

Characteristic	Treatments	Controls	Other Rural
Female Head?	8.3%	8.5%	13.4%
No Schooling	44.8%	46.0%	40.4%
Age of Head	42.2	42.6	47.2
No Bathroom	48.2%	48.9%	28.9%
Dirt Floor	72.9%	75.4%	20.3%
No Gas Stove	84.7%	83.4%	26.0.%

The 1976 CETA Male Cohort

- **Matching Participants & Non-Participants Prior Employment History.**
  - **Matching prior employment: 1970 - 1975**
  - **Define: 0 = not employed; 1 = employed**
  - **Outcome: Employment Rates in 1977**

History	Non-participants	'76 Trainees
000000	.099	.674
111110	.538	.821
011111	.888	.863
101111	.866	.886
001111	.958	.830
111111	.918	.870

Matching Error also May Bias Pre/Post Comparisons

- Can the change in Community A's post-program and pre- program outcomes estimate the program's Impact?
  - Outcome Next Year (A)
  - Outcome Last Year (A')
  - Program Implemented This Year
- Outcome Next Year(A) - Outcome Last Year(A') =
  - Program Effect + [Change in other variables in Community A]
  - The term [.] also is "matching error."
- Is it possible for this "matching error" to "average out?"

The Matching Problem is a Selection Problem - 1

- Participants choose to participate in programs based on their own assessments of whether they will benefit from the program.
- Program operators select applicants that they believe will benefit from the program.

The Matching Problem is a Selection Problem - 2

- The same issues arise when evaluating community-based programs.
- Why is the program operating in Community A:
  - Strong community leaders?
  - Prior outcomes are extreme?
  - Community selected to receive program services or funding?

The Selection Problem - 3

- **Because of participants' and program operators' decisions, …**
  - **participants and non-participants are different.**
  - **Expect their outcomes to differ even if program had no impact.**
- **Challenge: How does the evaluation account for these decisions?**

Program and Non-Program Communities

Program Communities		Non-Program Communities
Not eligible & does not participate	Not eligible & does participate	Household or establishment not eligible.
Eligible participant	Eligible non-participant	Household or establishment eligible

The 1964 MDTA Male Cohort

- Vocational classroom training for the permanently unemployed.
- Annual social security earnings of:

	Participants	Non-participants	
– 1962	$1,843		
– 1963	$1,810		
– 1964	$1,551		← training year
– 1965	$2,923		
– 1966	$3,750		

The 1964 MDTA Male Cohort

- Vocational classroom training for the permanently unemployed.
- Annual social security earnings of:

	Participants	Non-participants
– 1962	$1,843	$2,963
– 1963	$1,810	$3,108 ← "selection"
– 1964	$1,551	$3,275 ← training year
– 1965	$2,923	$3,458
– 1966	$3,750	$4,351

Conclusions

- Community-based training, health, education programs are difficult to evaluate.
- The “effect size” is very likely small compared to the “normal” variation in outcomes.
- Whether evaluating people or communities, must carefully identify counterfactual outcomes.
- Despite wishes of foundations, impact evaluations are not cost-effective for many programs.