Making Smart Policy: Using impact evaluations of rural roads

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World Bank's Vietnam <u>rural road rehabilitation</u> project 1997-2001

<u>Project objective</u>: link communities with markets & reduce poverty

<u>Evaluation questions</u>:

1. Did the road project end up funding what it intended?

   outcome variable: km of roads actually rehabilitated

2. Do new roads linking poor isolated rural areas to the outside world promote local development? Is there cross-community heterogeneity in impacts and what explains it? Does the heterogeneity share a common structure?

   outcome variables: multiple indicators of local area & market development

Data and methods

Panel data of 200 communes & 3000 households in project & non-project comparison areas, with a 1997 pre-project baseline & post-project follow-up rounds in 2001 & 2003.

Double difference (difference in outcomes over time between project & non-project communes) + propensity score matching (to select ideal comparison communes)

1.Fungibility, but sectoral flypaper effect

- Impacts on rehabilitated road km were less than intended

- However, more roads were built in project areas.   The quality of roads also improved.

- Spending on rehab + building accords reasonably closely to total amount allocated by the project

2. Impacts on local area development + heterogeneity in impacts

- Significant impacts on some indicators of local area & market development & commercialization

  goods & services availability, markets & market frequency, off-farm employment, primary school completion rates.

- Some outcomes respond quickly, others take much longer to emerge.

- However, for many indicators of local area development there is little impact attributable to better roads <u>on average</u>.

- However, pronounced differences in impacts across communes with substantially larger impacts in poorer communes

Explaining the impact heterogeneity

We find considerable impact heterogeneity with highly context specific impacts.

  Impacts are generally higher in poorer areas, which tend to have conditions favoring higher impacts: "<u>decreasing returns</u>"
  - Some commune attributes (adult illiteracy) consistently reduce the impacts of improved roads.
  - Others (mountainous areas) consistently increase them.
  - And yet others can go both ways.

- Different communities have different opportunities or capabilities to benefit from road improvements

- But, we find a huge complexity in how initial conditions interact with road improvements

- This makes us skeptical about finding a simple formula of targeting places with certain attributes and not others.

Policy influence: Methods

- Extensive demand for dissemination & outreach on methods of doing impact evaluations of rural roads & data required

- Rare, and so useful to have an infrastructure as opposed to an HD evaluation to discuss

- Methods/questionnaires used widely in rural road evaluations around the Bank and elsewhere

- Motivated interest in other infrastructure-based evaluations

Policy influence: Results (1)

- **Small internal impact**:
  - Such evaluations take a long time; project teams change. Little buy-in from project team and hence, government (MOT).
  - No incentive to finance evaluation out of individual project funds
  - Tension between this and the importance of having the evaluation rooted in the project & government interest; funding from project would improve accountability
  - Interest and funding from other organizations but leads to coordination & logistic problems.
  - For similar reasons: researcher would be crazy to undertake such evaluations

Policy influence: Results (1)

- **Larger external impact** :
  - Benefits accrue to other projects
  - Many useful, but complex policy lessons; lack of a simple formula complicates dissemination & adoption
  - Against that, focus of evaluation makes it more relevant to different settings.
  - But, policy influence will be indirect & take time.
  - Standards of future assessments are raised;
  - Other researchers/project teams/ countries pay attention & incorporate methods & policy lessons.
  - Best one can hope for?