

**Progress in development economics:
From micro-level to broader-level impact assessment of
development initiatives**

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Messages:

- *Major advances using rigorous impact assessment techniques, especially RCTs. But typically confined to “thinking small”.*
- *Recent move toward larger/longer term policy issues.*
- *However, methodological problems remain in*
 - *identification of impact at the micro-level,*
 - *extending toward national development policy issues.*

Micro-level impacts, using RCTs

Examples abound (Banerjee-Duflo, Karlan-Appel, others):

- Education

- ✓ Impact of student tracking on test scores in Kenya (Duflo, Dupas, and Kremer, 2010): benefited lower-achieving pupils by allowing teachers to teach at their level.

- ✓ Lots of experiments on teacher selection and rewards, school equipment, etc. Many experiments on the demand side too, i.e., how to induce kids to go to school with CCT, rewards, etc.

Micro-level impacts, using RCTs

- Health:

- ✓ Cost recovery for preventative health products such as insecticide treated bed nets (ITN) (Cohen and Dupas, 2010). Even a small price charged, i.e., cost sharing, induces a large drop in demand: reducing the subsidy from 100% to 90% induces a 60 percentage points drop in demand.

- ✓ Lots of experiments on how to induce people to have better hygiene (clean water, washing hands, etc.)

Micro-level impacts, using RCTs

- Microfinance

- ✓ Introduction of a credit bureau with randomized training given to borrowers about their implications for information sharing (de Janvry, McIntosh, Sadoulet, 2010).

- Large efficiency gains, augmented when borrowers understand the rules of the game. Economic mobility both upwards and downwards is likely to be increased

- ✓ Lots of experiments on alternative ways to induce people to save and make sure they repay their loans

Micro-level impacts, using RCTs

Major **contributions** to development economics:

- ✓ Establish accountability
- ✓ Facilitate results-based management
- ✓ Identify channels of causation
- ✓ Explore alternative program designs

But ... confined to “**thinking small**”, i.e., to local experiments and to short term results that can be managed by RCTs (Rosenzweig, 2012)

Broader, longer-term policies, using other identification strategies

- Long-term effects of increased supply of education
Affects specific age groups, regions: Difference-in-differences approach (with necessary verification)

School construction program in Indonesia (Duflo, 2001)

==> 0.12 additional years of education per child

==> 8 to 12% higher income earned on the labor market 20 years later.

Broader, longer-term policies, using other identification strategies

- Effects of property rights reform
Rolled out over many years: Panel analysis (with necessary verifications)

Procede in Mexico, implemented 1992-2006 (de Janvry et al.)
Induced shift to the right in voting, large out-migration (because former rights were use-based with minimum requirement).

Broader, longer-term policies, using other identification strategies

- Impacts of intergovernmental transfers to lower level
Regression Discontinuity Design (rule of allocation based on a formula and cutoffs that creates discontinuity in amount/eligibility)

Federal transfers in Brazil in 1982–1985 (Litschig and Morrison, 2013)

==> *local government spending per capita increased by about 20%*

==> *no evidence of crowding out other revenue sources.*

==> *Schooling increased by 0.3 years*

==> *Literacy rates increased by about 4 percentage points.*

==> *Poverty rate reduced by about 4 percentage points.*

Broader, longer-term policies, using other identification strategies

- The value of political connection / measure of corruption
Event study

Fisman (2001) looked at whether repeated episodes of bad news about the health of Suharto in Indonesia affected each time the stock market valuation of 79 large firms highly dependent on ties to Suharto and his family.

He finds that this was indeed the case, with Suharto-connected firms losing more market value the closer their political connection.

Challenges

Methodological problems remain both in the identification of impact at the micro-level, and in extending the analysis toward national development policy issues.

Example of **technical innovation in agriculture**

Challenges

- Specifying a *treatment* and the *counterfactual* for innovations, because of technological continuity (e.g., drought tolerant rice seeds)

Treatment = a given release relative to the previous release
or = a stream of successive releases relative to none.

Counterfactual cannot be observed anymore.

Example of cell phone: easy to identify the impact of cell phone tower (discontinuous), not of dramatic improvement in the phone capability

Challenges

- Impact measured in a pilot implementation (early and small scale) cannot be extrapolated to large-scale adoption or to individual adoption in a mature environment.

Market adjustments in thin local markets induce decline in price (technological treadmill). Is this the African curse for technology adoption in staple foods?

Similar but reverse with the phone or with mobile money. Only useful on a large scale.

Challenges

- For cases where there are spillover, general equilibrium effects, etc. the unit of analysis should be the “market”, the region, etc.

==> Fundamental issue of degrees of freedom

Impact very diffuse in the population, hard to measure

Especially if effect takes place over time

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