Field Experiments and the practice of Economics

Esther Duflo
Nobel Lecture | December 8, 2019 | Stockholm
As an undergraduate student, I was not destined to become an economist…
Like many people, I did not think most economists were to be trusted.
And yet... 28 years later...
J-PAL directly affected policy in numerous ways, and almost all continents
The strawman

1. Run a small, well controlled experiment
2. Get the results
3. Prepare a shiny policy brief and peddle to policy makers
4. Get full scale adoption
The strawman subject to all sorts of critics

Run a small, well controlled experiment
“Gold plated experiments”–samples are too small

Get the results
Results only valid in one place, might not replicate elsewhere; might not even be internally valid (imperfect take up, spillovers on non beneficiaries)

Prepare a shiny policy brief and peddle to policy makers
May not fit with the policy makers interest at the time

Get full scale adoption
Results will be quite different if adopted at scale: equilibrium effects, Political economy effects
But really, it is not the way policy influence works
The Miracle of Microcredit?
Microcredit in the 2000s

Microfinancing changes lives around the world – measurably

Today, Grameen Bank gives loans to nearly 7.0 million poor people, 97 percent of whom are women in 73,000 villages in Bangladesh. Grameen Bank gives collateral-free income generating, housing, student and micro-enterprise loans to poor families and offers a host of attractive savings, pension funds and insurance products for its members. Since it introduced them in 1984, housing loans have been used to construct 640,000 houses. The legal ownership of these houses belongs to the women themselves. We focused on women because we found giving loans to women always brought more benefits to the family.

In a cumulative way the bank has given out loans totaling about US $6.0 billion. The repayment rate is 99%. Grameen Bank routinely makes profit. Financially, it is self-reliant and has not taken donor money since 1995. Deposits and own resources of Grameen Bank today amount to 143 percent of all outstanding loans. According to Grameen Bank's internal survey, 58 percent of our borrowers have crossed the poverty line.

By Brigit Helms

The Nobel Peace Prize 2006
Muhammad Yunus, Grameen Bank

Microfinancing can help poor people around the world with small loans that can change their lives, writes guest columnist Brigit Helms. The anecdotes are plentiful but a new study shows the benefit.
Then the tone shifted...

Trapped in micro debt

Peace Prize winner Yunus’ famous microcredit bank Grameen Bank takes 30 percent interest and brings many poor women into a debt spiral.

Focal point documentary “Trapped in micro-debt” shows a very different side of microcredit than Muhammad Yunus and his peace-prize-winning bank Grameen Bank enjoy in public.

debt Spiral

Surveys Danish journalist Tom Heinemann has done for NRK Brennpunkt through several trips to Bangladesh and talks with a number of international experts around the world, shows that Grameen Bank leads many poor women into a devastating debt spiral.

The women pay about 30 percent interest on the loans, which they must already start paying back after a week. In the documentary, the poor tell about hard collection methods from Grameen Bank, which received NOK 400 million in assistance from Norway.

The Limits of Microcredit: A Bangladesh Case

Jason Cons and Kasia Papolcki | 12.01.2008

In rural Bangladesh, microcredit is not achieving its core goals of poverty alleviation, financial independence, and gender equality.
The evaluations

• The first evaluations conducted where in India and in the Philippines.
  – Philippines: rather good
  – India: rather weak

• India is a very unique context: hotbed of microfinance

• To get a useful answer, we had to wait...

• Until seven studies came out together, all in different contexts and carried out by different teams

• But published together with the same outcomes.
Bayesian Hierarchical Modelling of all the MF results: Profits

Posterior mean, 50% interval (box), and 95% interval (line) for each Treatment Effect (USD PPP per 2 weeks)
Meta-analysis: Average estimated effect and range, 6 countries

Posterior distribution of average effect

Posterior mean, 50% interval (box), and 95% interval (line) for each Treatment Effect (USD PPP per 2 weeks)
Changing the debate

Microcredit may not work wonders but it does help the entrepreneurial poor

Small is smart
Maitreech Ghatak
Posted online: 2009-08-24 21:49:32+05:30

Microfinance is big these days. It may be called ‘micro’ but there is nothing small-time about it. It serves more than 200 million borrowers worldwide through various microfinance programmes (MFPs). While its true origins are lost in the mists of time, the microfinance institution (MFI) of the modern era, the Grameen Bank of Bangladesh. In 2006, Yunus and the Gi
Changing microfinance

- One sized approach (small term loan) does not work for all.
- Many experiments since then have focused on the terms of lending.
- Focus on all the financial services the poor need, and the right fit for each
  - Transaction
  - Savings
  - Insurance
  - Ultra poor programs
- Focus on heterogeneity: Creating methods to identify real entrepreneurs who will benefit from a microcredit.
- Interplay between theory and experiments is what makes economics useful to policy (and policy useful to economics)
Teaching at the right level
% Children in Std V who can at least read at Std II level

All India (rural) – All Children

ASER 2011 to 2016
What is the problem?

• Teachers can teach
• Salaries are sufficient
• Computers can help
• Parents care
• Children can learn
• Inputs alone don’t help
• Teachers are willing to do better
In a TaRL classroom

**STEP 1:** ASSESSMENT
Test children on the basics using simple tools

**STEP 2:** GROUPING
Create homogeneous learning level groups

**STEP 3:** FOUNDATIONAL SKILLS
Focus on basic skills for a period of the day or year

Children are reassessed and moved through the levels as they progress.

Dr. Rukmini Banerji

Dr. Mdav Chavan
For 15+ years of experimentation

2001-2003
“Balsakhi” program; Pratham community volunteer “pull out” remedial program in urban schools

2005-2006
Village volunteers conducted community classes for rural primary school children

2008
In-school one month gov’t teacher-led summer camp with support by rural village volunteers

2010-2013
Ghana trials of teacher-led vs. tutor-led in school and out of school

2013-2014
“Learning Camps” in gov’t primary schools; led by Pratham teams supported by village volunteers

2008-2010
In-school gov’t teacher-led learning improvement program & support by Pratham volunteers (rural)

2012-2013
Teacher-led model; onsite mentoring by gov’t academic officials
Teaching at the right level today
Improving programs that run at scale

Helping government address the “plumbing problems”
Evaluating programs at scale:
Targeted information to improve rice distribution

Photo: Hector Salazar Salame | J-PAL
Raskin Social Assistance ID Cards

• Raskin is Indonesia’s US$2.2 billion rice subsidy program for poorest families

• Problem:
  – Poor receive just 30% of the intended subsidy
  – Pay 25% more for Raskin
Kartu Perlindungan Sosial (KPS) Hanya Untuk Yang Miskin!
Selengkapnya mengenai KPS [...]

KARTU PERLINDUNGAN SOSIAL (KPS)
Experimental design

The experiment varied 4 aspects of the cards

– Information on the cards
– Who gets the card
– Common knowledge through posters
– Create impression of accountability

Researchers:

Abhijit Banerjee  Rema Hanna  Jordan Kyle  Benjamin A. Olken  Sudarno Sumarto
Results

Banerjee, Hanna, Kyle, Olken, Sumarto

- Poor families get 26% increase in subsidy
- Driven by reduction in leakage
- Cost Effective: $1 for ~$8 increase in subsidy

Photo: Ben Olken | J-PAL
Scale-up

• Government rolled out “social protection” cards in 2013 to 15.5 million poor families, reaching 66 million people

• Continued partnership to improve service delivery, with planned evaluations of a new reformed social benefit scheme to be implemented through electronic vouchers
Reforming the auditing of firms in Gujarat
Third party audit
Audit system performance

Suspended particulate matter, mg/Nm3 | A. Control, Midline

Mass: 0.7297
The reform we proposed
Duflo, Greenstone, Pande, Ryan

1. Random assignment of auditors and fixed payments from a central pool
2. Back check auditors for accuracy
3. Payment (or continuation with the scheme) based on accuracy
   – Ideas based on basic economics, and a solid understanding of the institutions

Researchers:

Esther Duflo  Michael Greenstone  Rohini Pande  Nicholas Ryan
Impact of the reform

Suspended particulate matter, mg/Nm³ | A. Control, Midline

背担/query Backchecks

Mass: 0.7297

Mass: 0.1892
Fostering a culture of learning inside Governments

- Many governments have launched either long run partnership with J-PAL or their own “learning units” (e.g. Minedulab in Peru, Tamil Nadu research partnership).

- World Bank Supports hundreds of RCT and training with various governments

- Many of the governments we meet want us to run an RCT, rather than listen to any evidence we might bring.

- May be one day we can make ourselves irrelevant…