Why do people stay poor?

Clare Balboni, Oriana Bandiera, Robin Burgess, Maitreesh Ghatak and Anton Heil
Most of the global poor work
Why do people stay poor?

- Labor is the sole endowment of the poor → the link between jobs and poverty is key
  - Over 65% of workers (2bn people) are in low-productivity, informal jobs with low earnings (WB 2013)
  - 98% of agricultural wage employment in India is through casual jobs in spot markets (Kaur 2017)

- Do people stay poor because they are only able to do bad jobs or do they do bad jobs because they are poor?
The idea of poverty traps (multiple steady states/equilibria) has a long history in macro and micro development theory (Rosenstein-Rodan 43, Nelson 56, Dasgupta & Ray 86, Banerjee & Newman 93, Galor & Zeira 93, Azariadis 96, Azariadis & Stachurski 06, Ghatak 16).

Empirical investigations include calibrations with cross-country data (Graham & Temple 06), structural approaches with household data (Kabowski & Townsend 11), micro studies with observational data (Kraay & McKenzie 14, Lybbert et al 04, Barrett et al 06, Santos & Barrett 11).

Recent field experiments relating to big push approaches (Banerjee et al 19, Blattman et al 13, 19, Haushofer & Shapiro 16, 18 – see Banerjee 20 for an overview).
People (countries) are observed at two equilibria, H and L

- Is it because of productivity differences?
- Or poverty traps?
We use the RCT of a large asset transfer program in Bangladesh and trace effects over 11 years to test directly for a poverty trap.

We estimate a structural model of occupational choice to back out the implied misallocation.
Setting
Study site: 23,000 HHs in 1,309 villages in Northern Bangladesh

Monga (famine) region: irregular demand for casual wage labor, higher grain prices, extreme poverty and food insecurity
We collect a five wave panel over 11 years

- 2007: Census 100k HHs
- 2007: Wave 1 23k HHs
- 2009: Wave 2 23k HHs
- 2011: Wave 3 23k HHs
- 2014: Wave 4 23k HHs
- 2018: Wave 5 6k HHs

TUP program in 50% randomly selected villages

TUP program in 50% control villages
1. The poor stay poor
   - 3% poor control households reach median middle class assets

2. Hierarchy of jobs correlated with community-defined poverty
   - Poor casually employed in agriculture and domestic service
   - Richer self-employed in livestock rearing and land cultivation

3. Better jobs require productive assets
   - Productive assets set apart rich and poor: 94 times higher
   - Richer households own more expensive, indivisible assets
The distribution of productive assets is bimodal.
Test
BRAC’s Targeting the Ultra-Poor program

- Randomly allocated across areas
- Beneficiaries are the poorest women in these villages
- Program transfers a large asset (a cow) and training
- Value of the asset = 1 year of PCE (5x typical microloan)
Program moves the poorest into the lowest density area.
Shocks of this magnitude are very rare.
Poverty traps and differential productivity are observationally equivalent in steady state

But they produce different transition equations

A necessary condition for poverty traps is that the transition equation is not concave

- Test using fact beneficiaries differ slightly in baseline assets
- Exploit to estimate transition equation from $k_{2007}$ to $k_{2011}$
- Test predictions of poverty trap model up to 11 years post-transfer
Identification is based on differences in initial assets that are extremely small relative to the transfer but not randomized → consider evidence in support of identifying assumption
Identification is based on differences in initial assets that are extremely small relative to the transfer but not randomized → consider evidence in support of identifying assumption

1. Endogenous shocks
   - $k_0$ correlated with shocks to $\Delta k$
   - Placement is randomized → use controls to account for shocks
Identification is based on differences in initial assets that are extremely small relative to the transfer but not randomized → consider evidence in support of identifying assumption

1. Endogenous shocks
   • $k_0$ correlated with shocks to $\Delta k$
   • Placement is randomized → use controls to account for shocks

2. Endogenous program responses
   • $k_0$ correlated with response to the program
   • Use different source of variation to compare those with same $k_0$:
     \[ k_{t+1} = sf(A, k_t) + (1-\delta)k_t \]
     Higher $s$ → lower threshold, higher $A$ → lower threshold
Findings
The transition equation without and with a poverty trap
The transition equation is S-shaped.

\[ \hat{k} = 2.34 \]

Sample includes treated ultra-poor households with baseline productive assets < 18,000 BDT.
Transition equation in control villages
What does the difference in assets correspond to?
Long run
Differences in productive assets grow over time
Change in composition of assets

![Graph showing change in composition of assets over time. The x-axis represents survey waves from 2009 to 2018, and the y-axis represents land owned value (DID coefficient) with values ranging from -5000 to 20000. There is a noticeable increase in the value from 2014 onwards.](image-url)
Average gap in consumption increases

Initially negative as those above threshold save to buy assets
Average gap in hours worked

Survey wave

Annual hours worked (DiD coefficient)

-300
-200
-100
0
100
200

2009 2011 2014 2018

Total hours
livestock and land cultivation
Life cycle effects

- Over 11 years, life cycle savings also affect asset stocks
- Asset dynamics reflect convergence to steady state and aging
  - Both lead to decreasing assets below threshold
  - Countervailing forces above threshold
- Evident above and below threshold but differences persist
- Stronger effects for younger beneficiaries: those above threshold 20pp more likely to grow assets by year 11
Differences persist and inequality increases over time.
Structural Estimation
Aims of structural analysis

- Reduced form findings suggest ultra-poor not in their first best occupation given their productivity and preference parameters

- Use structural estimation of model of occupational choice to:
  - Estimate individual-level productivity and cost of effort parameters
  - Determine optimal occupations in absence of capital constraints
  - Quantify extent of misallocation at baseline
Estimating misallocation

1. Assume ultra-poor had assets = upper mode
2. Use model to estimate optimal occupation
3. Compute payoff at actual occupation

Total misallocation value: $15 million pa

Total cost of transfers needed to bring all above the threshold: $1 million one-off
Quantifying misallocation

- Model suggests 96% of individuals are misallocated at baseline.

- Estimated total value of misallocation across all HHs 15 times larger than transfers needed for all HHs to escape the trap.

- Value of misallocation >> cost of eliminating trap robust with:
  - General equilibrium price effects
  - Doubling of wage rate
  - Halving disutility of wage labor
Policy
A big problem requires a big solution

Percentage of HHs above $\hat{k}$ on transfer size

- Share of HH above $\hat{k}$
- Household transfer value (share of average annual per capita consumption)
A big problem requires a big solution

Percentage of HHs above $\hat{k}$ on transfer size

- Microloan 100 $ PPP
- NREGA
- Microloan 200 $ PPP
- Pakistan*
- Ghana*
- Peru*
- India*
- BRAC
- Honduras*
- Blattman et al. (2014)

* Country names refer to study sites in Banerjee et al. (2015)
Poor people are not unable to take on more productive employment activities, they just lack the required capital.

Misallocation results suggest lack of opportunity prevents 96% from engaging in optimal occupation.

The existence of a poverty threshold implies that only transfers large enough to push beneficiaries past the threshold will reduce poverty in the long run.

Key policy conclusion – to tackle persistent poverty, need big push policies that tap into the talents of the poor rather than just propping up their consumption.