

MICROCREDIT IN PARTIAL AND GENERAL EQUILIBRIUM
EVIDENCE FROM FIELD AND NATURAL EXPERIMENTS

Cynthia Kinnan

Northwestern, Dept of Economics and IPR; JPAL and NBER

June 28, 2016

MOTIVATION

- Average impact of microfinance has been the subject of a recent wave of experimental research
 - Jan 2015 AEJ: Applied edition. Angelucci et al., Augsburg et al., Attanasio et al., Banerjee et al., Crépon et al., Tarozzi et al.
- Consistent picture of moderate impacts
 - Moderate business creation and business expansion
 - Little growth in revenues and profits
 - Little or no impact on non-durable consumption or on other indicators of welfare such as health, education
 - Remarkably similar effects across many distinct settings
 - Some evidence of heterogeneity

OVERVIEW

Today:

- A. Do modest average effects mask heterogeneous *partial equilibrium* effects of microfinance? Is heterogeneity persistent and predictable?

- B. What do the effects of microfinance look like in *general equilibrium*? Are there spillovers to non-borrowers? Are they positive or negative?

DO CREDIT CONSTRAINTS LIMIT ENTREPRENEURSHIP?
HETEROGENEITY IN THE RETURNS TO MICROFINANCE

Abhijit Banerjee Emily Breza
Esther Duflo and Cynthia Kinnan

MOTIVATION

Two common views of entrepreneurship:

- “Gung-ho entrepreneur” theory
- Profitable business opportunities; Scope for growth
- Relaxing credit constraints may jumpstart firm growth

vs. alternate view of “forced” entrepreneurship

- “Reluctant entrepreneur” theory
- Low profits; Limited scope for growth
- Business may be a response to labor market frictions, i.e., an alternative to unemployment
- Relaxing credit constraints may have limited value, and may cause entry of low-productivity businesses

Both may coexist even in a population which appears fairly homogenous

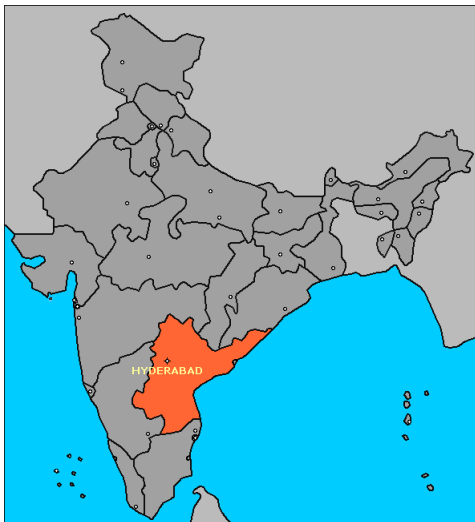
MOTIVATION

We use experimental variation from the Banerjee et al (2015) microfinance (MF) RCT to investigate the possibly heterogeneous effects of MF on:

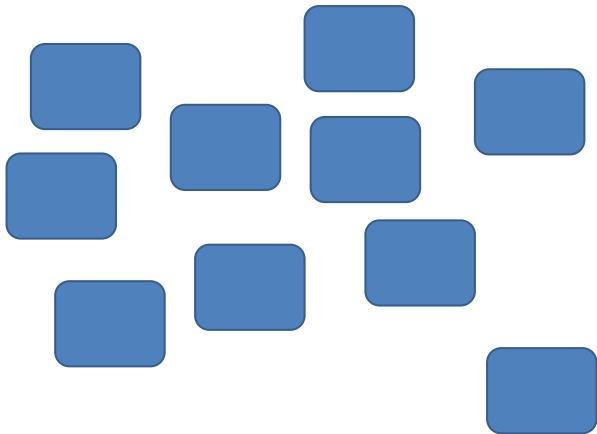
- Business assets and performance
- Consumption and labor supply
- Social network connections and informal credit

- We propose a proxy for being a gung-ho (high return) entrepreneur
 - Did your household create a business prior to the entry of MF?
 - Idea: Higher returns needed to justify financing when cost of capital is high
- Does this proxy predict the effects of MF 6 years after initial randomization?

SETTING: HYDERABAD

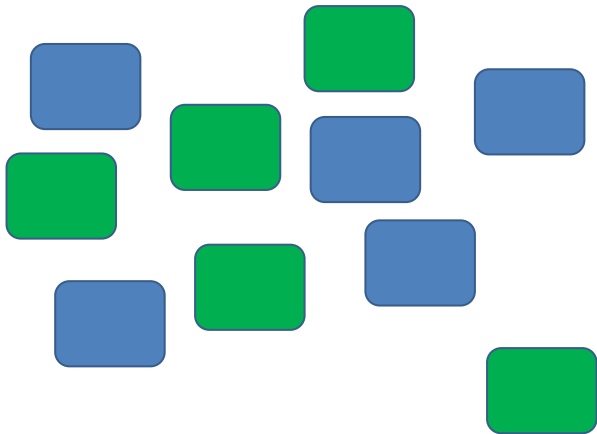


SAMPLE FRAME



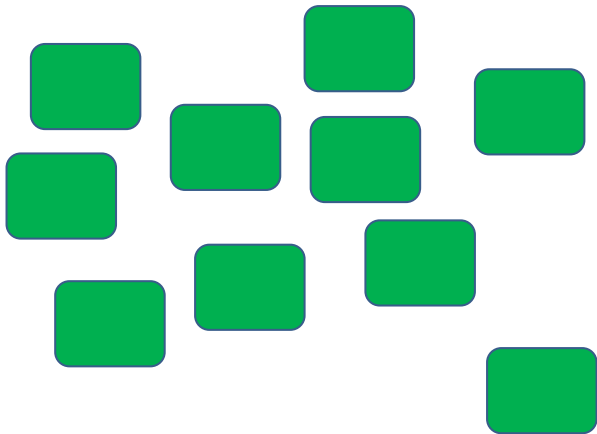
104 neighborhoods of Hyderabad, AP selected by Spandana in 2005

RANDOMIZATION OF MICROFINANCE



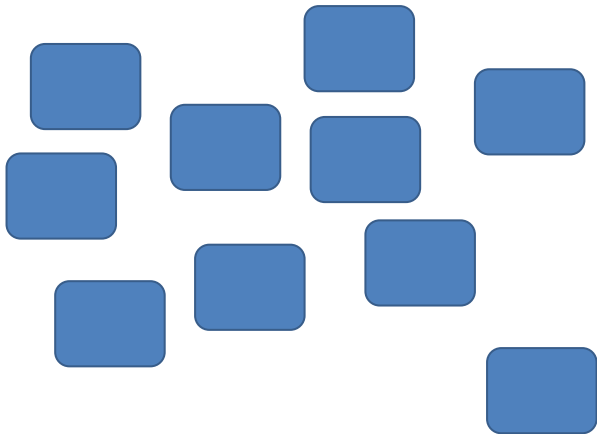
In 2006, Spandana entered 52 *randomly chosen* neighborhoods

RANDOMIZATION OF MICROFINANCE



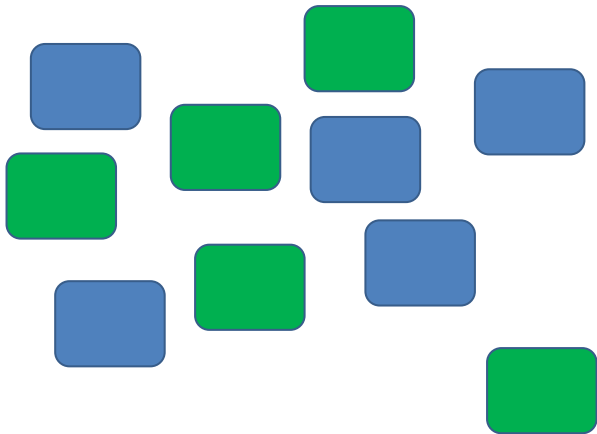
In 2008, Spandana entered remaining half of neighborhoods

AP CRISIS



In 2010, microfinance was outlawed by govt. across all neighborhoods.

IDENTIFYING VARIATION



We compare original Treatment vs. Control neighborhoods in 2012

RESULTS: BUSINESS ASSETS (GUNG-HO ENTREPRENEURS)

Treatment effect on business assets
(seasoned entrepreneurs, endline 3)

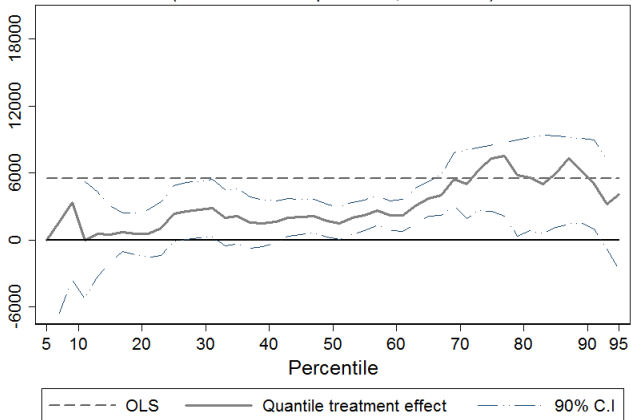


FIGURE 1: Business assets (EL3)

RESULTS: BUSINESS ASSETS (RELUCTANT ENTREPRENEURS)

Treatment effect on business assets
(novice entrepreneurs, endline 3)

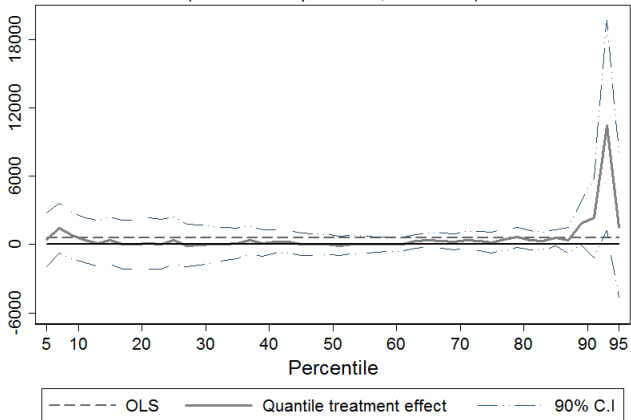


FIGURE 2: Business assets (EL3)

BUSINESS PROFITS (GUNG-HO ENTREPRENEURS)

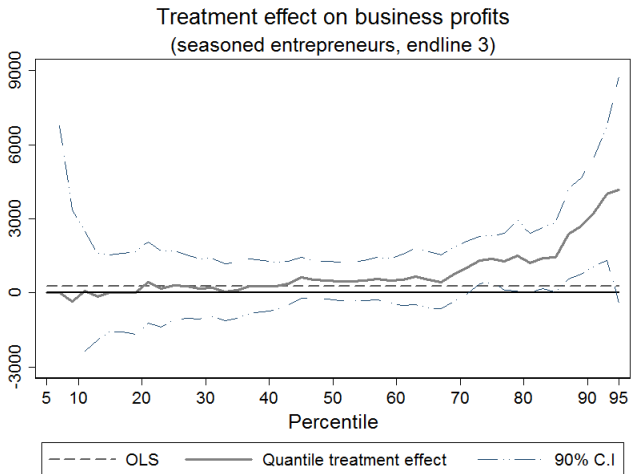


FIGURE 3: Business profits (EL3)

BUSINESS PROFITS (RELUCTANT ENTREPRENEURS)

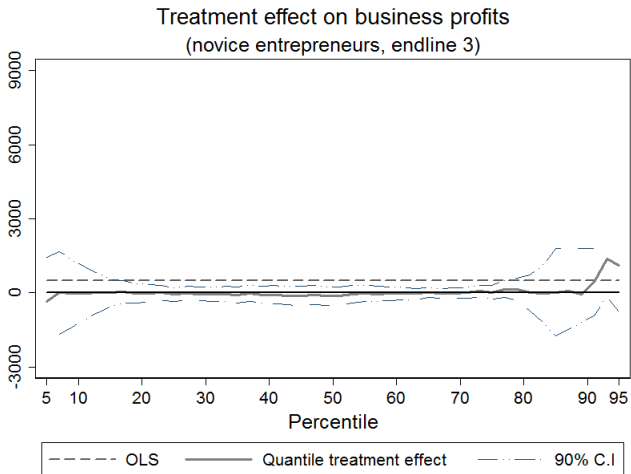


FIGURE 4: Business profits (EL3)

RESULTS: OTHER BUSINESS OUTCOMES

Positive treatment effects for gung-ho entrepreneurs at EL3 on:

- Having a business
- Household labor supply
- Number of workers
- Wage bill
- Revenues
- Expenses
- Informal borrowing

Essentially no effects for reluctant entrepreneurs

CONSUMPTION (GUNG-HO ENTREPRENEURS)

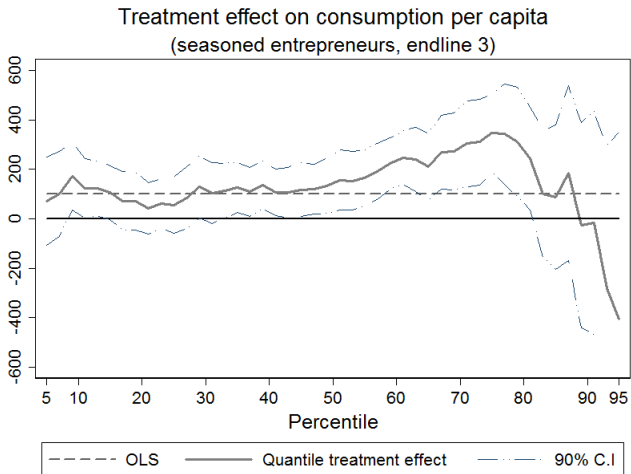


FIGURE 5: Consumption PC (EL3)

CONSUMPTION (RELUCTANT ENTREPRENEURS)

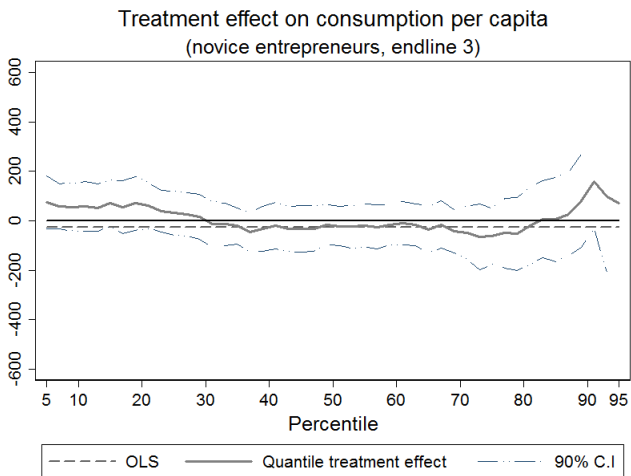


FIGURE 6: Consumption PC (EL3)

FINDINGS SO FAR

Evidence of significant and persistent heterogeneity in treatment effects between:

- Gung-ho entrepreneurs: Significant, positive effects of MF access on business outcomes and consumption
 - Effects through much of the distribution; not driven by a few outliers
 - Effects persist two years after MF is withdrawn
- Reluctant entrepreneurs: Little effect of effects on business outcomes or consumption

BROADER IMPACTS?

RCTs offer gold standard identification but come with limitations:

- identify effects on “compliers,” who may be marginal borrowers
- or, tend to identify effects on early adopters

Most RCTs conducted in partial equilibrium:

- Even if spillovers can be detected, full labor market unlikely to be treated
- GE outcomes may be quite different than PE outcomes
- Heterogeneous impacts of credit on productive entrepreneurs (as seen above) may be amplified in the labor market

MEASURING THE EQUILIBRIUM IMPACTS OF CREDIT:
EVIDENCE FROM THE INDIAN MICROFINANCE CRISIS

Emily Breza and Cynthia Kinnan

SETTING: INDIAN MICROFINANCE CRISIS

- October 15, 2010: AP government unexpectedly issued an emergency ordinance to regulate the activities of MFIs.
- Ordinance brought the activities of MFIs in the state to a complete halt:
 - MFIs were not permitted to approach clients to seek repayment
 - could not disburse new loans
 - In the months following the ordinance, almost 100% of borrowers in AP defaulted on their loans.
- Indian banks became worried about contagion and pulled back lending to MFIs
- Led to (permanent) default of whole Andhra Pradesh portfolio, inability to quickly secure new financing
- ⇒ Contraction in lending nationwide

EMPIRICAL STRATEGY

The effect of the crisis was not felt equally in all districts:

- a district where the major MFI was heavily exposed to AP before 2010 faced a larger credit contraction
- a district where the major MFI was not exposed to AP before 2010 faced a smaller credit contraction

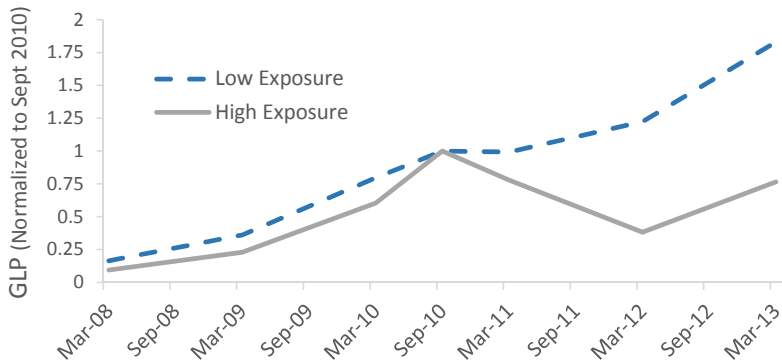
We exploit this district-level exposure to the lending crisis to measure impacts on rural households

- Includes general equilibrium effects

Data:

- Hand-collected administrative data from 30 MFIs
- NSS rounds 64, 66, 68 (consumption and employment modules)
- RBI banking data (to measure bank credit response)

CHANGE IN GLP FOR HIGH VS. LOW EXPOSURE DISTRICTS



Note: Excludes districts in Andhra Pradesh

FINDINGS

Labor market effects:

- 1% increase in exposure leads to 1% fall in agricultural wage; 2% fall in non-agricultural wage
- Due to increase in labor supply and reduced labor demand as business scale falls
- Effect on labor earnings is concentrated among landless households, who seldom borrow directly (*general equilibrium effect*)

Consumption effects:

- 1% increase in exposure leads to 1.2% fall in consumption
- Durable spending falls by 2.5%
- Consumption falls seen among medium landholders (*direct effect*) and landless (*spillover effect*)

CONCLUSIONS

CONCLUSIONS

Key Results:

- Non-detectable average effects on many “litmus test” outcomes in an RCT setting
- Large persistent effects for seasoned group on almost all these outcomes
- Diverging effects over time

Beneficial impacts of credit for productive firms are magnified via the labor market

- When credit access falls, medium-size firms scale back
- Low wealth households are hurt via a fall in the wage

CONCLUSIONS

Policy implications for evaluation:

- Studying only average effects on (likely) borrowers may miss important effects of credit:
 - Modest average effects may mask important heterogeneity
 - Significant benefits may accrue to non-borrowers, via increases in wages
 - as well as increased employment opportunities
- Where feasible, evaluation strategies should consider spillover effects:
 - labor supply, demand
 - interest rates
 - goods prices

CONCLUSIONS

Policy implications for credit:

- Selective deployment of credit can have large output effects
- As well as spillover effects via increased employment
- High costs of regulating microfinance out of existence in India; banks and SHGs did not pick up the slack

Not all households want to be entrepreneurs (or borrowers).

Policymakers should pursue:

- Reforms to labor markets (hiring/firing reforms, training/education, legal capacity)
- Improved access to financial products other than credit (savings, insurance, etc.)

THANK YOU!

c-kinnan@northwestern.edu