Credit III: The Classic Microcredit Model

14.740x: Foundations of Development Policy

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How Microfinance Solves the Moral Hazard Problem

Default rates in microfinance are extremely low (less than 2%). The "canonical" model of microcredit (Grameen Bank) has the following elements: (adopted or not by other MFIs) (Jonathan Morduch and Beatriz Armendariz de Aghion)

1. Lends almost only to women.
2. Weekly repayment schedule.
3. Group lending (5 to 10 women who know each other), with joint liability.
4. Regular meetings, where members forge bonds and other things can be discussed (business advice, home advice).
5. Very small loans initially, which become larger over time.
6. extensive monitoring by credit officers who are not very well paid and work very hard, with incentives based on number of clients, and repayment rates.
7. High interest rates (at least 20% a year, often much more).

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Lending to Women

Motivations for focus on women:

1. Women are (intrinsically) more reliable.
2. Social goal: Lending to women may improve women's power in the household (which is an objective in itself and could also have consequences within the household).
3. Women are more likely to have no other access to credit: may have higher return.

Lending to Women

- There is no experimental evidence on the first point yet (whether women are less likely to default).
- We will return to the second point later, when we discuss the impact of getting a microcredit loan on household life.
- On the third point, we have the evidence from the experiment in Sri Lanka. Results

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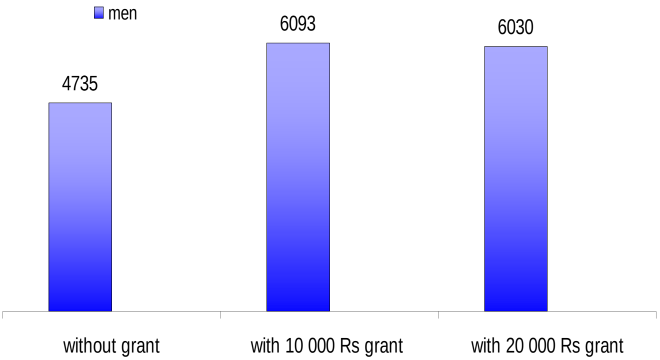
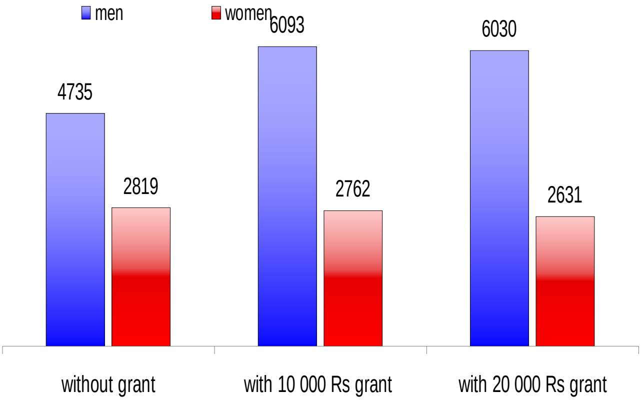
- On the third point, we have the evidence from the experiment in Sri Lanka. Results
- Surprising results: Women's marginal product of the loan is about zero!
- Why is that?
  - The smaller loans are not invested in the business.
  - The larger loans are invested in the business, but women are often in less profitable industries.

Returns to Capital for Men



Returns to Capital for Men...and Women



The Puzzle of Low Returns for Women

- Low returns to capital for women have been found in other settings:
  - Christopher Udry: agricultural productivity in Burkina Faso.
  - Christopher Udry and Markus Goldstein: agricultural productivity in Ghana.
- This suggests intra-household inefficiencies: If households were efficient, money should always be put towards its most efficient use within the household.
- This also suggests that small household businesses (especially owned by women) may not always try to maximize productivity, but may have other goals: e.g., a little extra income while mother watches children.

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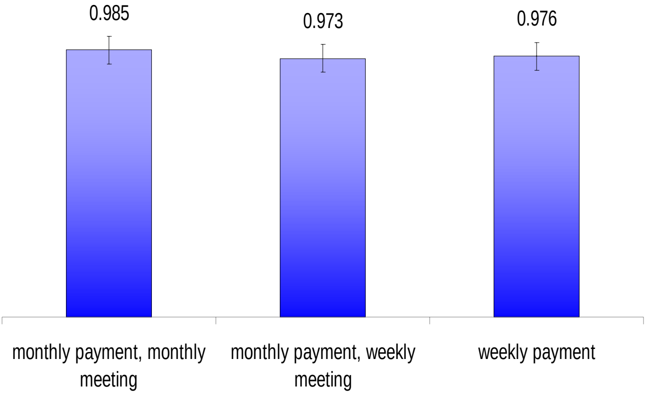
Weekly Repayment Schedule

- Many MFIs are convinced that a regular repayment schedule starting immediately is essential for repayment: it provides discipline, and it is easier for clients to save a small amount towards weekly repayment, rather than large amounts.
- In contrast, many potential clients say they are discouraged from weekly repayment by both the schedule (not appropriate to all activities, e.g., cow rearing), and meetings (time consuming).
- Erica Field and Rohini Pande set up a study to test this with an MFI in Kolkata (West Bengal, India).
- After joining the organization, 100 groups were randomized by public lottery into:
  - Regular (weekly) repayment schedule.
  - Monthly repayment schedule with monthly meetings.
  - Monthly repayment schedule with weekly meetings.
- On time repayment was as high in monthly and weekly. ▸ Figure

Proportion of Loans Fully Repaid within 54 Weeks



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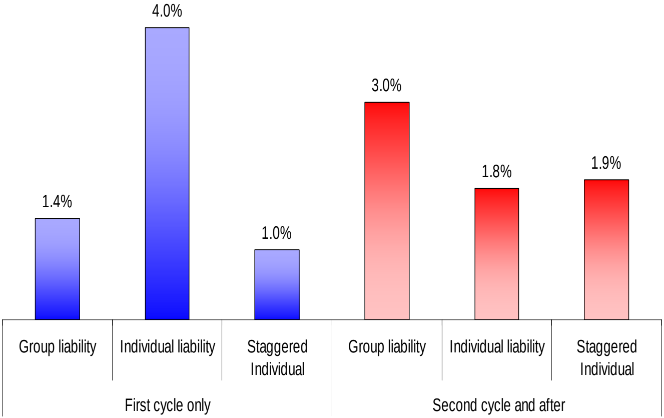
Group Lending with Joint Liability

- This is probably the feature of microcredit which has attracted the most attention: Women are responsible for each other's loan (they cannot borrow again if the group does not reimburse).
- Two potential beneficial effects:
  - A screening effect: Women will only want to join other reliable women (Maitreesh Ghatak).
  - A monitoring effect: Women will monitor each other (for free).
- Yet, it has drawbacks: it may create excessive pressure, and discourage some clients from borrowing.
- Many microfinance organizations are quietly moving away from it. Even Grameen Bank does not practice joint liability any more, but "group lending with individual liability:" the group.

Testing the Role of Joint Liability

- Dean Karlan, Xavier Gine, and Jonathan Zinman: Philippines
- In 2004-2005, *after group formation*, Green Bank of Caraga converted 56 centers (randomly selected out of 106) from joint liability to individual liability. Weekly group meetings still held, but now people are not jointly responsible: pure monitoring effect.
- Three years later: Percent in default (or delay in repayment) is exactly the same in both type of center.
- Green Bank then randomly selected different areas to implement *from the start* (selection and monitoring effects):
  - Group liability;
  - Individual liability (still grouped based); and
  - Staggered: First loan cycle is group, and then individual onwards, if repayment was high.

Testing the Role of Joint Liability: Results



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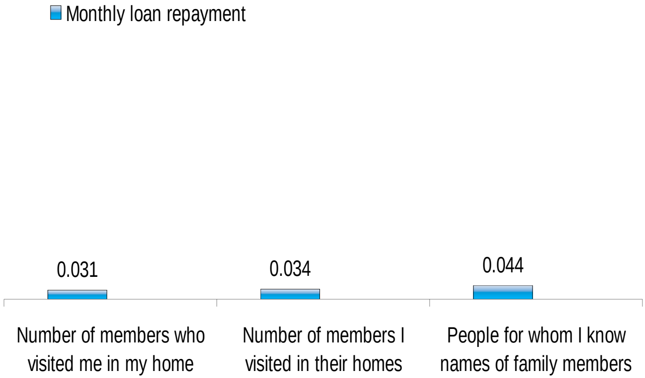
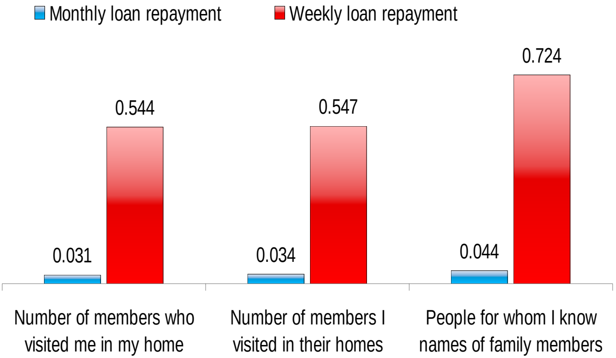
Social Capital

- The group structure could still be important for microcredit, as a support and reputation structure.
- "Social Capital" (Robert Putnam): web of interactions which exist between people, and help them achieve better outcomes through mutual cooperation.
- A study by Dean Karlan with FINCA Peru.
- Natural experiment: in Ayacucho, Peru, FINCA assigns individuals to groups quasi-randomly, in the order in which they visit the office to join.
- Group members may live close or far; may be from same or different culture.
- Results, focusing on people who came uninvited:
  - Default is lower when more members live close by.
  - Default is lower when more members have the same culture.

Social Capital and Group Meetings

- The regular meetings may favor social interactions, and social capital.
- This can be checked in the Field-Pande experiment in Kolkata that we saw earlier: In groups with monthly meetings, was social capital lower relative to the groups with weekly meetings? Results
- Much more contact between the members of weekly groups.
- More solidarity: When VWS organized a lottery, and offered group members a chance to give away some ticket to members of their group (thus reducing the chance that the individual wins, but improving the chance that someone from the group wins), members of weekly groups were more likely to give tickets away to members of their group.
- Social capital valuable in itself.


Monthly loan repayment
0.031
0.034
0.044
Number of members who visited me in my home
Number of members I visited in their homes
People for whom I know names of family members


Monthly loan repayment
Weekly loan repayment
0.031
0.544
0.034
0.547
0.044
0.724
Number of members who visited me in my home
Number of members I visited in their homes
People for whom I know names of family members

Taking Stock: What Explains the Success of Microfinance?

- The features of microcredit that have most attracted interest may not in fact be the most important ones. Microcredit may work on relatively old-fashioned principles:
- When legally possible, MFIs require clients to save, progressively building up a collateral.
- Promise of future loans for people who have no other source of credit, or at least not at good interest rates (like in the South Africa experiment).
- Role of credit officers who are given strong incentives to monitor reimbursement.
- High cost of monitoring and high interest rates, but lower than what the clients could get elsewhere.
- As microfinance grows, competition between agencies may cause problems: The strength of the threat to be cut out of credit will be less strong if someone else can pick up the client.

The Impact of Microcredit

- Does microcredit really help the poor?
- Surprisingly, in contrast to the vibrant research on *why* it works which we just reviewed, we still have very little evidence on this question.
- For a long time, microcredit organizations refused to ask the question of impact.
- The reasoning was as follows. Since we are profitable, we are like any other business: As long as we have clients, they must get some value out of coming back, and since we don't require any funding, we don't need to be accountable to anyone but the clients.

The Necessity to Evaluate Impacts

There are two flaws in this reasoning:

- First, while there are some profitable microcredit organizations, many are not, in particular when they lend to the very poorest. There are also hidden subsidies (salaries, funds to start up, etc.). While some venture capitalists make money by lending to microcredit organizations, as an industry, microfinance receives considerable subsidies.
  - Spending resources to lend to the poor is not a problem. We just need to be sure that benefits are higher than costs.
- Second, many now realize that the fact that clients borrow from microfinance organizations does not mean that this is good for them. Poor information, bounded rationality, may lead some clients to fall into debt traps: The impact may be negative.
  - Example: confrontation in Andhra Pradesh between MFI and Government.

Microcredit: Evidence from Urban India

- This is the first randomized evaluation of a regular microcredit program.
- A study by Abhijit Banerjee, Esther Duflo, Rachel Glennerster, and Cynthia Kinnan.
- The partner organization, Spandana, works mainly in eight states, but mainly in South India, particularly Andhra Pradesh.
- At the time the project started, it had not yet started working in Hyderabad, Andhra Pradesh's capital.

Evaluation Design

- A Spandana team visited Hyderabad, and identified 120 small neighborhoods where they were willing to start working right away, but also willing to wait.
- Prior to randomization, realized that 16 slums were not suitable for microfinance.
- In remaining 104 slums, selected half treatment: operations to start right away; half control: operations would start after two years.
- Other MFIs were already present, or about to enter, in those slums as well.
- Baseline survey of 20 households per slum; endline of up to 100 households per slum, at least two years after Spandana started to operate in the slum.

Spandana

- One of the fastest growing microfinance organizations in India.
- Founded in 1997 by Padmaja Reddy, it now has over 2 million clients in 8 States, and $297 million outstanding.
- Its main product is a standard, Grameen inspired, group lending product:
  - Eligible women: age 18-55, able bodied, lived at least 3 years in the slum, owner.
  - Groups of 10 women organized in center of 50, joint liability.
  - Starting loan Rs 10,000 (roughly $200).
  - Weekly repayment over a year: (principal+interest)/52.
  - Interest Rates varied over the period, but on average 24% per year.

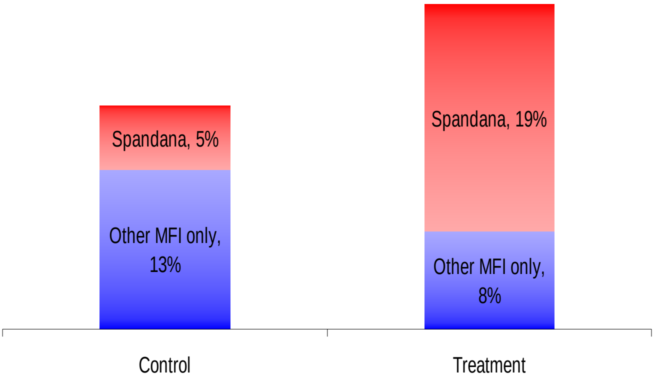
A Profile of Spandana's Potential Clients: Findings from the Baseline

- The average family is a family of 5, with monthly expenditure of Rs 5,000.
- Poor, but not ultra poor: Only 6% of these households live under a dollar a day per member, but 47% live under 2 dollars a day.
- 98% of the 7 to 11 year olds, and 84% of the 12 to 15 year olds are in school.
- 31% of the households have a business, many have more than one.
- Most of these businesses are,
    - Not specialized (25% stores or fruitsellers);
    - Small: only 10% have any employee. None have more than three. Sales: Rs 13,000 per month; and
    - Very little assets: 20% use nothing. Most common asset: table, chair, scale.

Take-up of Microfinance Loans

- At baseline, 69% of the households have debt, 49% of the loans are from moneylenders. Average interest rate 3.84% a month.
- Most of these loans were not taken for the business.
- Take-up of micro-finance: Figure
- A first lesson from this evaluation (and others on-going) is that while microcredit has many clients, penetration is less deep then often suggested: Overall take-up is 35%.
- Despite the presence of the other MFIs, Spandana's presence significantly increases the probability of microfinance borrowing (8.3% more borrowers; Rs 1,260 higher debt from microfinance).

Take-up of Microfinance Loans



What Should We Expect?

- Main reason to take up a loan (self-reported):
  - Start a new business (30%).
  - Repay an old loan (30%).
  - Expand business (22%).
- So there should be three groups of households:
  - Those who already had a business, who can expand it. If the return to capital is high (as in Sri Lanka), their consumption should increase.
  - Those who take a loan to start a business: If there is a fixed cost to start a new business, we may see their consumption fall at first.
  - Those who do not start a business, but repay an old loan: Their consumption could increase right away.
- Non-economic outcomes: education, health, women's power.

Overall Results

- We cannot compare Spandana's clients to others: While microcredit was randomly introduced in half the slums, those who *decide* to take a Spandana loan are clearly different, and we do not know who to compare them with in the treatment slum. Instead, we are comparing outcomes among everyone in the treatment slums, and everyone in the control slums.
- More new businesses were created in treatment slums. ▸ Figure

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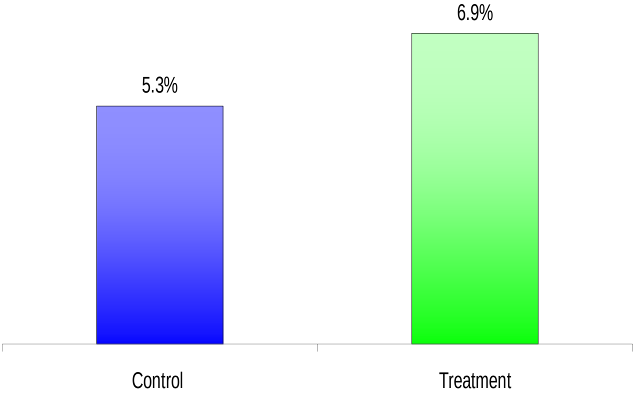
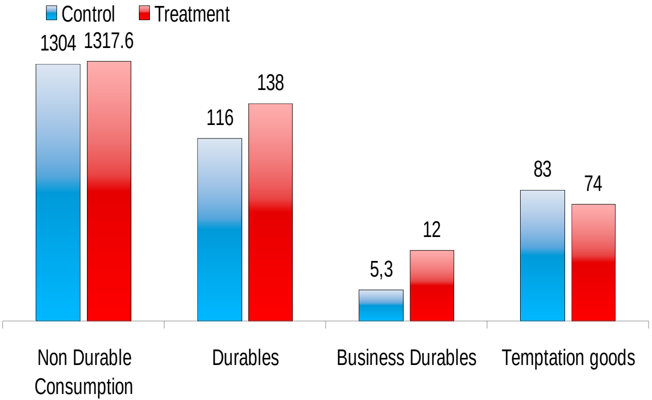
- More new businesses were created in treatment slums. Figure
- Overall consumption per capita did not increase significantly, however:
  - Durable consumption increased.
  - Consumption of "temptation" goods (cigarettes, alcohol, tea and snacks) declined. Figure

Business Creation



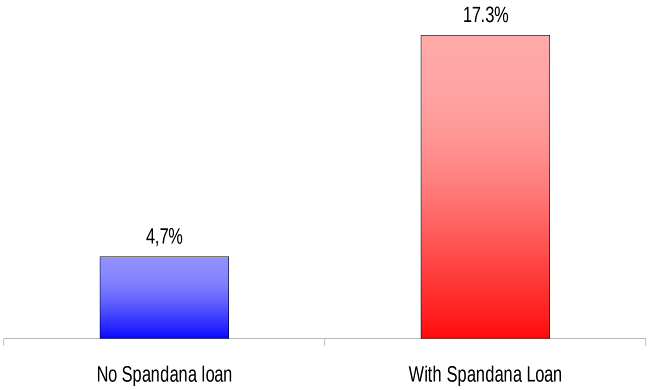
Consumption Effect: Overall Sample



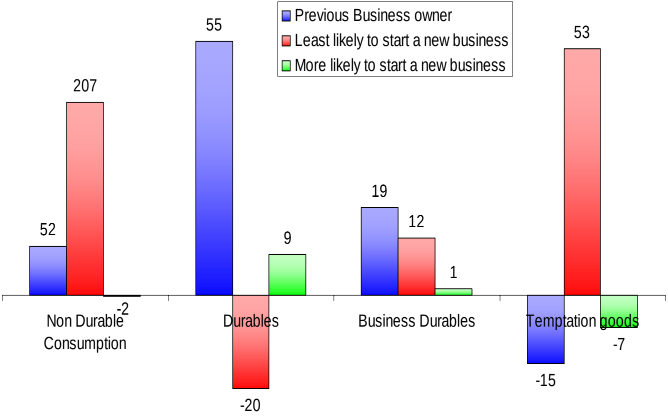
Business Creation due to Spandana Loans

- If we assume that Spandana's presence has no effect on starting a business for those who did not take a loan, the difference between treatment and control slum is due entirely to the 13% of people who took a Spandana loan.
- Effect of getting a loan on starting a business is $\frac{1.6\%}{13\%} = 12\%$.
  ▸ Figure
- This estimate of the Spandana loan on business creation is the effect of getting a loan on starting a business for people who would like to take a loan if it were available to them.
- It would be an over-estimate if the presence of Spandana also induced some who did not take a loan to start a business (for example, due to social learning) or an under-estimate if the presence of Spandana discouraged some who did not take a loan to start a business (for example, due to competition).

Effect of Spandana Loan on Business Creation



Consumption Effect: By type of individual



Understanding the Effects

- Spandana helps some to get out of expensive loans: The difference in interest payment can then be consumed.
- Spandana helps some borrowers purchase assets (for home or the business), and then they tighten their belt to reimburse the weekly amount: cut down in “un-necessary’ expenses.
- Is there a broader change in household behavior?
  - No impact on boys’ education, girls’ education, boys’ health, girls’ health, expenditure on health and education, nor women’s decision making power.

Understanding the Effects

- Microcredit serves its purpose: Some people take advantage of it when it is available, 1 in 8 start a new business, those who already had businesses invest in durables and restrict their other consumptions, others consume more.
- It may neither be the life changing experience that some have described, nor the new usury: The bottom line is that not everyone may want to become an entrepreneur. Microcredit will not be all to all people.

Beyond Credit?

- Overall, Spandana clients increase their durable expenditure, and reduce their consumption on "avoidable" goods.
- This suggests that the credit may work for them as a commitment to save: Suppose they are buying a television with the Spandana loan, then they may not need the television right now, if they could save towards it.
- But saving is difficult: Small temptations (tea, snacks) and intra-family differences get in the way; they may never be able to get a television if they need to save for it.
- Microcredit allows them to get the television right away, and then the credit officer (and their group) will come and force them to repay.
- The cost is the high interest rate they have to pay.

Conclusion: Microfinance Revolution?

- Much hope has been placed in the microfinance movement.
- Not only one (very smart) way to address one particular market failure (like most anti-poverty programs), but revolution in the way we help the poor.
- With credit (and now insurance) priced at financially sustainable prices, we can help the poor help themselves, and this way, lift everyone out of poverty without spending (much) money.
- The worldwide success of this vision has encouraged replicating the model in other domains, through social businesses.
- The reaction against microcredit has been no less extreme: the new moneylenders, profiteering from the poor's myopia.

Conclusion: Microfinance Revolution?

- The evidence leads us to a much more nuanced conclusion:
  - Financial innovation gave access to credit to some households who could start a business (one microcredit loan in 8 translates into a new business).
  - It helps others to save or smooth shocks.
  - However not everyone is a natural entrepreneur and the poor face other barriers to accumulation (time inconsistency, endogenous discouragement).
  - Microfinance is a great innovation, it should be supported and we should continue to develop new projects to improve financial access.
  - However, it cannot replace old-fashioned ways to help the poor.