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14.74 Foundations of Development Policy

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Credit

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Introduction: Lending to the Poor

- ▶ In the 1970s and early 1980s, many had given up hope on giving credit to the poor and being repaid.
- ▶ Some governments were continuing subsidized credit programs to the poor, which functioned almost like free transfers programs. For example, in India:
 - ▶ Mandated bank branch expansion in rural areas helped reduce poverty (Robin Burgess and Rohini Pande), but the default rate is 42%, and it cost \$2.72 to increase income by \$1.
 - ▶ Loans are used for political purpose: Shawn Cole shows that agricultural credit increases by 5%-10% in election years, especially in districts where elections are close. These extra loans are not productive.
- ▶ Yet, informal credit institutions have always existed: village moneylenders; Rotating Credit and Savings Associations; mutual credit and insurance arrangements.

Introduction: The Microfinance Revolution

- ▶ In 1976, Mohammed Yunus created the Grameen Bank: an institution which made small loans to poor women.
- ▶ Microcredit has expanded as a worldwide phenomenon: Today, \$25 billion outstanding, 150-200 million clients; high repayment rates. Many microfinance institutions are profitable. Some are *very* profitable.
- ▶ Mohammed Yunus and the Grameen Bank won the Nobel Peace Prize.
- ▶ Compartamos, a Mexican MFI.
- ▶ Microfinance institutions try to also provide a broader set of financial services, beyond traditional group lending: larger individual loans; savings; insurance.

Introduction: The Questions

Today we will try to understand:

1. Why lending to the poor may be difficult,
 - ▶ and to what extent are those difficulties serious;
2. What innovation did the “microfinance” revolution introduce to overcome those difficulties,
 - ▶ and to what extent are those innovations responsible for the ability of microfinance institutions to lend and be reimbursed;
3. Whether microcredit really helps the poor, and if so how;
4. Other financial services the poor may need: (savings, insurance), and their impact.

The Barriers to Credit

1. Informational asymmetries
 - ▶ Moral hazard: the monitoring cost multiplier.
 - ▶ Adverse selection.
2. Lending to the poor is costly. Their rates of return are too low.

Credit markets: some facts

- ▶ Sizeable gap between lending rates and deposit rates within the same sub-economy
- ▶ Extreme variability in the interest rate within the same sub-economy:
- ▶ Low levels of default:
- ▶ There seems to be ex ante competition in the markets
- ▶ Production and trade finance are the main reasons given for borrowing, even in cases where the rate of interest is relatively high

The neo-classical model of the capital market

- ▶ Everyone faces the same interest rate, adjusted for risk. i.e. if there is a $d\%$ risk of default then $(1 - d)r$ (where r is the gross interest rate) is a constant.
- ▶ The interest rate paid to depositors is equal to $(1 - d)r$ less some small change for the cost of operating a bank.
- ▶ The expected marginal product of capital should be equated to $(1 - d)r$.
- ▶ This cannot explain any of these facts!

A simple model of the credit market

- ▶ Loan repayment is imperfectly enforceable.
- ▶ Suppose k dollars invested yields a gross return $F(k)$ and that the gross interest rate is r . A borrower who has a wealth of w and invests k will need to borrow $k - w$. He is supposed to repay $(k - w)r$ at the end of the period.
- ▶ But by expending some resources, which we assume to be proportional to the size of the investment, he can avoid repayment altogether. We denote the constant of proportionality by η and assume that it is less than the cost of capital, ρ .

- ▶ Lenders will only provide finance up to the point where the borrower has the incentive to repay: this requires $F(k) - r(k - w) \geq F(k) - \eta k$ which gives us:

$$\frac{k}{w} = \frac{r}{r - \eta} \equiv \lambda(r, \eta).$$

- ▶ Firms are credit rationed. They cannot borrow as much as they want.
- ▶ The amount you can borrow is increasing in your wealth and your η but decreasing in the interest rate.
- ▶ The interest rate is equal to the cost of capital. It obviously does not vary across borrowers.
- ▶ This is a handy model but does not fit the facts.

Extending the model: 1

- ▶ It is natural to assume that the lender needs to spend resources in order to make the borrower want to repay. In other words, $\eta = 0$ unless the lender spends some resources.
- ▶ First let monitoring cost be linear in the amount borrowed: $\phi(k - w)$.
- ▶ In this case

$$r(k - w) = \rho(k - w) + \phi(k - w)$$

$$r = \rho + \phi$$

- ▶ r will only vary to the extent that ϕ or ρ varies.

Extending the model: 2

- ▶ Let monitoring be a variable cost, ϕ per unit of ηk , *i.e.* the cost does not depend on the amount borrowed but on amount invested.
- ▶ Under the assumption of competition, the lender just breaks even:

$$r(k - w) = \rho(k - w) + \phi\eta k$$

- ▶ For any credit constrained borrower, $k = \frac{r}{r-\eta}w$, which implies that

$$r = \rho + \phi r = \frac{\rho}{1 - \phi}.$$

- ▶ Aleem calculates ϕr to be 50 cents per dollar lent on average, easily explaining the gap between the 32.5% cost of capital and the 78.5% average interest rate in this data.
- ▶ For this ϕ needs to be about 0.6
- ▶ Does not explain exclusion

Extending the model: 3

- ▶ Let the monitoring cost be a fixed cost ϕ
- ▶ Then the lender's zero profit condition is

$$r(k - w) = \rho(k - w) + \phi$$

- ▶ In the model without default, the borrower's IC constraint is now given by

$$r(k - w) = \eta k$$

which together give us

$$\rho(k - w) + \phi = \eta k$$

- ▶ We can rewrite this in the form $k = \frac{\rho w - \phi}{\rho - \eta}$. What if $\rho w < \phi$? Is this necessarily more than w ?
- ▶ Multiplier property.:

$$r = \rho + \frac{\phi(\rho - \eta)}{\eta w - \phi}$$

Implications of the model

- ▶ Can explain a large wedge between the cost of capital and the interest rate and by implication a very high monitoring cost.
- ▶ The interest rate can be very sensitive to the cost of capital and the monitoring cost, if $1-\phi$ is small
- ▶ The interest rate will be especially sensitive where the interest rate is high relative to the cost of capital
- ▶ However we do not explain equilibrium default.

Some Policy Implications

- ▶ What is the total amount lent?
- ▶ In the model without default, the borrower's IC constraint is now given by

$$r(k - w) = \eta k$$

while the lender's zero profit condition is

$$r(k - w) = \rho(k - w) + \phi$$

which together give us

$$\rho(k - w) + \phi = \eta k$$

or

$$k = \frac{\rho w - \phi}{\rho - \eta}$$

The Barriers to Credit

- ▶ One dollar subsidy to monitoring costs reduces ϕ by ρ dollars (since we assume monitoring costs are paid at the end of the period) which increases the amount of resources going to the poor by $\frac{\rho}{\rho-\eta} > 1$ dollars.
- ▶ Keeping the interest rate fixed, the effect of \$1 subsidy would have been $\frac{r}{r-\eta} < \frac{\rho}{\rho-\eta}$. The multiplier adds to the leverage, especially when monitoring is expensive.
- ▶ Cutting monitoring costs is the *raison d'être* of the micro-credit movement.
- ▶ Note however that one dollar subsidy to wealth (w) would have the same effect.
- ▶ However this is only true for those who have $\eta w - \phi > 0$.
- ▶ Those who have $\eta w - \phi < 0$, start out unable to borrow.
- ▶ This may be why some micro-credit organizations insist on savings as a way into borrowing (especially under the self-help group model): Helping them save may be way to subsidize building wealth.

How Serious Are Those Constraints?

If moral hazard are real, the credit market can lead to a *poverty trap*, at the individual level and at the societal level. Another problem may be adverse selection: high interest rates may discourage people who are planning to repay, and encourage people who have low cost of default and were planning to default anyway. How serious are they?

1. Are market interest rates higher than the profits the poor could make with their businesses?
2. Do high interest rates increase adverse selection?
3. Do high interest rates increase *ex-post* default?
4. Is there moral hazard in the credit market?

The High Interest Rate

- ▶ Interest rates will be highly sensitive to the cost of monitoring and the cost of funds: They are highly variable. Many examples: e.g., interest rates in Pakistani villages can vary from 2% to 150% (Irfan Aleem).
- ▶ The poor borrow less and pay higher interest rates. Interest rate on daily loans for vegetable and fruit vendors in India can be up to 5% *per day* (Dean Karlan and Sendhil Mulainathan).
- ▶ Interest rates of 3% to 4% per month are common.

High Interest Rates and the Demand for Credit

Are the poor excluding themselves from the credit market because the rate of return on their projects won't be very high?

- ▶ *Prima facie* does not seem to be the case: The poor borrow at those rates. Furthermore, in informal markets, defaults are rare, and most loans appear to be taken for productive purposes.
- ▶ However it could be that only those with high rates of return agree to borrow: Average rates could still be lower (but still higher than a “reasonable” interest rate).
- ▶ More direct evidence on returns to capital is given by an experiment in Sri Lanka.
- ▶ More direct evidence on elasticity of demand of credit to interest rate is given by an experiment in South Africa.

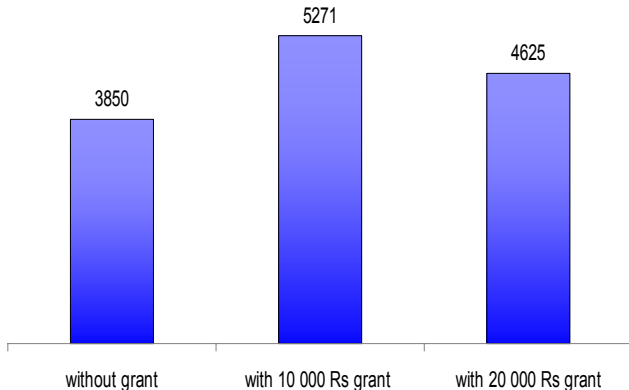
The Returns to Capital for Micro-Entrepreneurs: Sri Lanka

- ▶ A study by Suresh de Mel, David McKenzie and Christopher Woodruff
- ▶ Starting from a census, identified 405 households which had a small business (retail or manufacturing), with less than \$1,000 in fixed capital (excluding land and building).
- ▶ Most of the firms have very little in the way of assets (about \$100 in machinery or stock).
- ▶ Conducted a survey and offered, as an encouragement to participate in the survey, a random prize drawing:
- ▶ Prize was a small grant (\$100 or \$200) either in cash or kind of asset, or stock. \$100 is equivalent to 3 to 6 months profit. Cash grants were unrestricted.
- ▶ Follow-up survey data was collected on all firms.

Results

- ▶ Treatment increased real monthly business profit by 5.7% on average: very high returns, greater than the monthly interest rates observed in urban area.
- ▶ Return decrease steeply: \$200 led to no more profit than \$100. [▶ Figure](#)

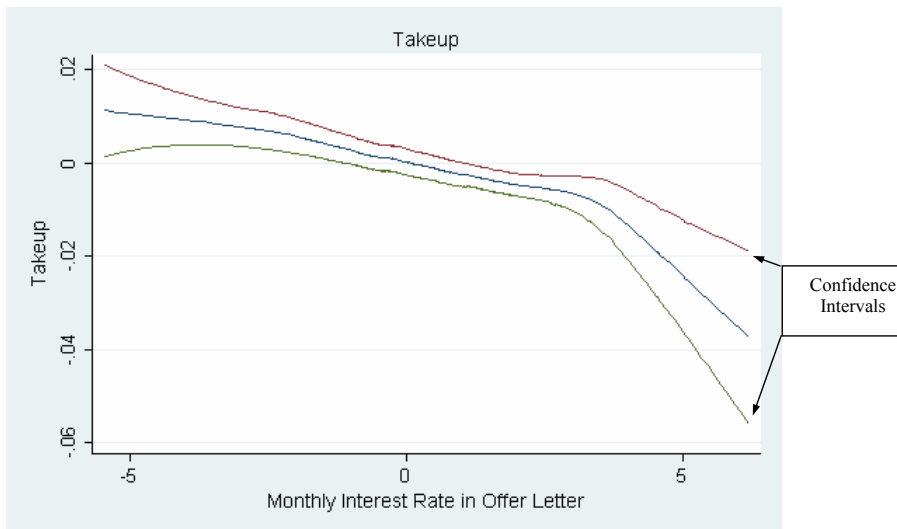
Net Profit in Follow-up Waves (Rupees)



How Sensitive is the Demand for Credit to Interest Rates?

- ▶ Thus, the poor have profitable investment opportunities: They should be willing to borrow, even at high interest rates.
- ▶ What is their sensitivity to interest rates?
- ▶ To find it out, Dean Karlan and Jonathan Zinman worked with a consumer credit firm in South Africa.
- ▶ Average interest rate: between 7.75% and 11.75% depending on risk class.
- ▶ Bank sent letter to offer credit at a specific rate to over 55,000 former clients.
- ▶ Both interest rate and suggested reimbursement duration were randomized:
 - ▶ Offer rates were randomized (96% below usual rate, 4% above).
 - ▶ The *suggested* loan maturity was also randomized (although it was not binding: They could choose another maturity when the applied).

The Sensitivity of Credit Demand with Respect to Prices



Results

- ▶ Within a limit, clients are not very sensitive to interest rates variation: Reducing interest rate by 1% from current level would increase take-up of credit by 0.3 percent (take-up of credit: 8%).
- ▶ Clients more sensitive to interest rate *increase*: Institution probably prices at optimal level.
- ▶ Similar results for loan size.
- ▶ Sensitivity to repayment duration is much larger: Increasing suggested duration of reimbursement by 1 month increase take-up by about 15%.

A (Serious) Caveat: Do Clients Really Understand the Interest Rate?

- ▶ Some microfinance institutions charge very high interest rates. Compartamos in Mexico: 100% a year.
- ▶ Yunus spoke very strongly against those organizations: “They are no better than the moneylenders we tried to displace.”
- ▶ Answer commonly given by institutions who charge a high rate: But if clients are willing to borrow at these rates, why wouldn't we lend it to them at that rate?
- ▶ This implies that they understand interest rates. This is not obvious: They are often not very clearly presented. For example, MFI in India presents interest rates as “flat” (the interest payment always stays the same even as the balance decline: Interest rate is effectively double the stated interest rate).

What Do Clients Pay Attention To?

- ▶ To test the power of marketing manipulation, the South African Bank varied at the same time the price of the offer *and* other aspects of the offer letter (such randomizations are very common in marketing):
 1. Photo: no photo, man, woman;
 2. Language affinity (“we speak your language”),
 3. “Special rate,” “low rate,” no blurb;
 4. Suggested use;
 5. Number of suggested maturities and loan sizes;
 6. Interest rate explicitly disclosed, or client needs to infer from example loans;
 7. Comparison with competition: loss frame (if you borrow with others you will pay more), or gain frame (if you borrow with us you will pay less); and
 8. Cell phone raffle.

Image removed due to copyright restrictions.

Results

- ▶ Taken jointly, these manipulations affect demand.
- ▶ Three manipulations that have a large impact:
 - ▶ Photo: Female photo increases loan take up by 0.4% (more than reducing interest rate by 1 percentage point, e.g., 8% to 7% per month);
 - ▶ Not giving a specific use increases take up by 0.6% (equal to a 2 percentage points reduction in interest rate); and
 - ▶ Proposing only one example increases take up by 0.7% (more than a 2 percentage points reduction in interest rate).
- ▶ Thus, while it is difficult to predict *ex-post* what will matter, some seemingly irrelevant manipulations matter as much as the interest rate. This suggests that client awareness may be limited (and we don't fully understand credit demand).

How Serious Are Those Constraints?

If moral hazard and adverse selection constraints are real, the credit market can lead to a *poverty trap*, at the individual level and at the societal level.

How serious are they?

1. Are market interest rates higher than the profits the poor could make with their businesses?
 - ▶ Not really: High returns to capital; low sensitivity to interest rates: interest rates can be high.
2. Do high interest rates increase adverse selection?
3. Do high interest rates increase *ex-post* default?
4. Is there moral hazard in the credit market?

“Observing Unobservables”

- ▶ How can we identify moral hazard and adverse selection?
- ▶ By definition they are hidden...we cannot measure it directly (or the bank would do it themselves!).
- ▶ Creative experimental design by Dean Karlan and Jonathan Zinman (with the same South African lender) allows us to make progress on this question.
- ▶ Experimental design builds on the previous randomization (randomization of an interest rate *offer* to different people).
- ▶ We know that those who receive a higher offer are (somewhat) less likely to borrow.
- ▶ Do they reimburse less? Yes.
- ▶ Proportion of loan passed due (after maturity):
 - ▶ 10.5% for those who receive a high offer, and borrow at high rate.
 - ▶ 8.2% for those who receive a low offer, and borrow at low rate.

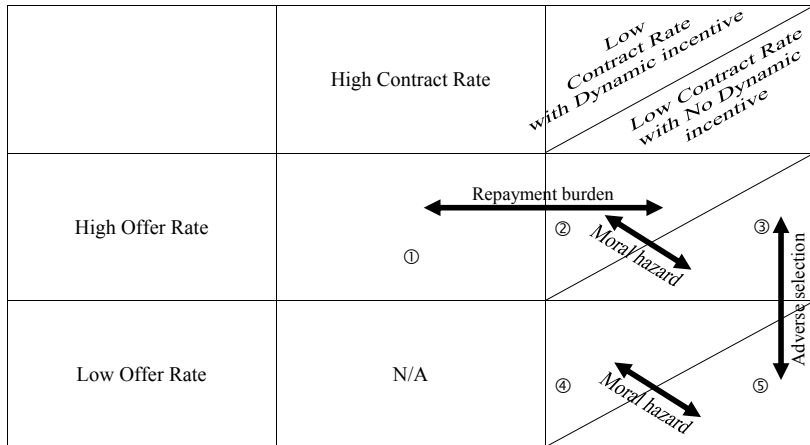
Moral Hazard or Adverse Selection

- ▶ It could be because of adverse selection: Those who agree to borrow at high rates are those who were not planning to repay anyway.
- ▶ Or it could be due to the *effect* of the interest rate paid, because of:
 - ▶ Moral Hazard.
 - ▶ Repayment burden.
- ▶ Usual identification problem... but here we are directly interested in selection effects.

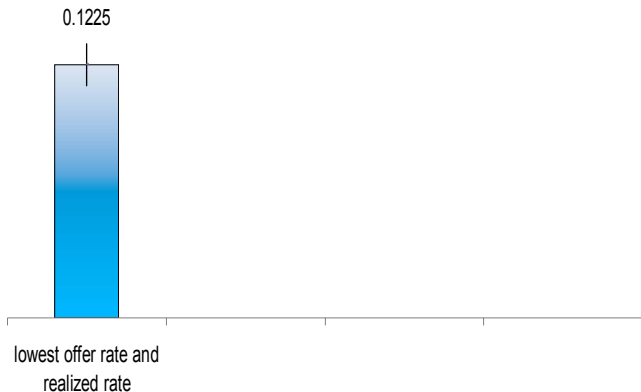
The Solution

- ▶ When client comes into the bank, computer sometimes randomly offers a lower rate.
 - ▶ Two clients may therefore have faced different offer rate, but end up with the same offer rate: selection effect.
 - ▶ Two clients may have faced the same offer rate, but end up with different offer rate: “treatment” effect of the interest rate.
- ▶ To identify moral hazard from other *ex-post* effects, among clients who have a low rate:
 - ▶ Some get to keep it only for this loan.
 - ▶ Some get to keep it for future loan if they repay on time.

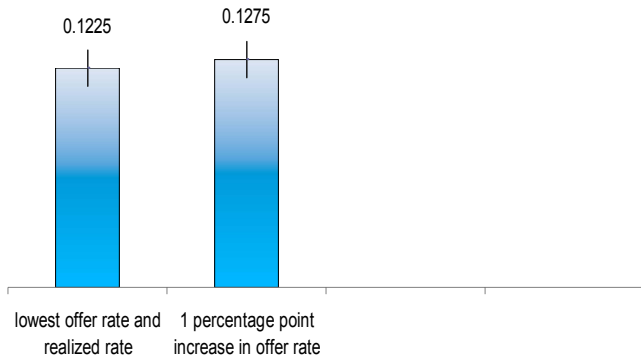
Experimental Design



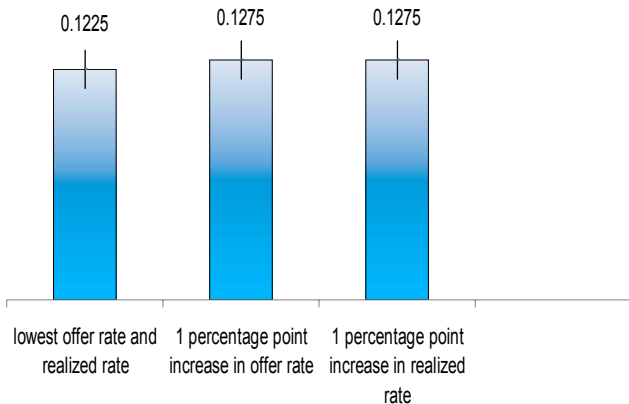
Results



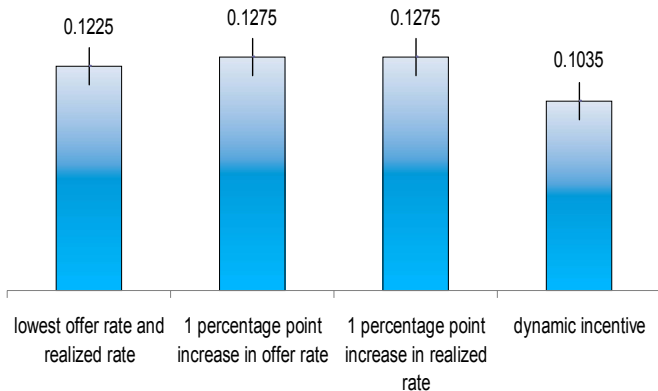
Results



Results



Results



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How serious are they?

1. Are market interest rates higher than the profits the poor could make with their businesses?
 - ▶ Not really: High returns to capital; low sensitivity to interest rates: interest rates can be high.
2. Do high interest rates increase adverse selection?
 - ▶ No evidence
3. Do high interest rates increase *ex-post* default?
 - ▶ No evidence
4. Is there moral hazard in the credit market?
 - ▶ Yes: Dynamic incentives improve repayment.

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.

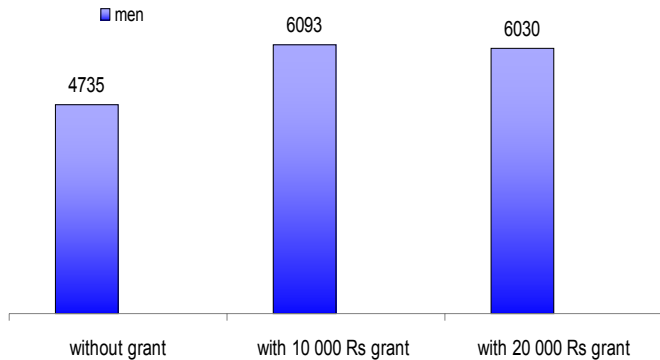
Lending to Women

- ▶ 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](#)
- ▶ 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.

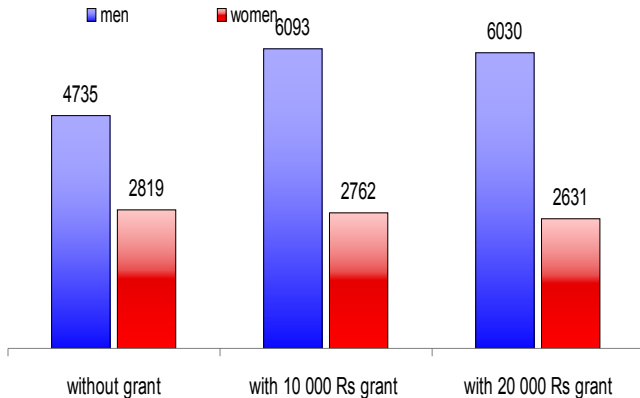
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Returns to Capital for Men



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.

How Microfinance Solves the Moral Hazard Problem

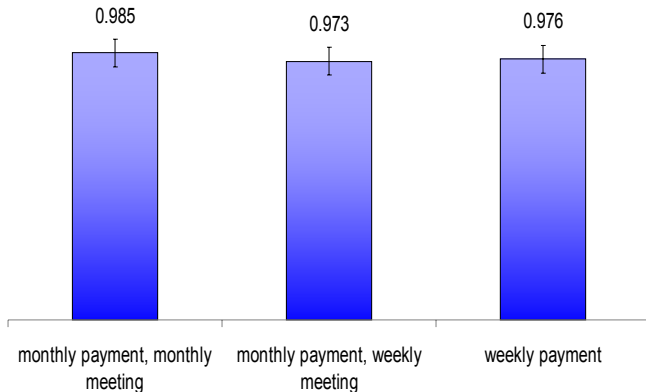
1. Lends almost only to women.
2. [Weekly repayment schedule](#).
3. Group lending (5 to 10 women who know each other), with joint liability.
4. Regular meetings, where members forge bonds and other things can be discussed (business advice, home advice).
5. Very small loans initially, which become larger 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)

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.

Repayment Schedules

Proportion of Loans Fully Repaid within 54 Weeks



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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), which allows them to be financially sustainable (or close) despite high operating costs.

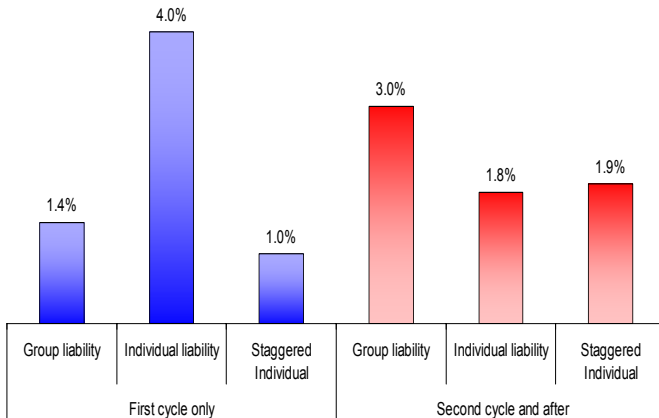
Group Lending with Joint Liability

- ▶ 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

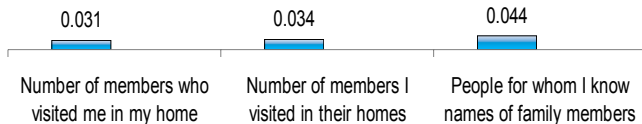
- ▶ The group structure could still be important for microcredit, as a support and reputation structure.
- ▶ “Social Capital” (Robert Putnam): web of interactions which exist between people, and help them achieve better outcomes through mutual cooperation.
- ▶ A study by Dean Karlan with FINCA Peru.
- ▶ 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

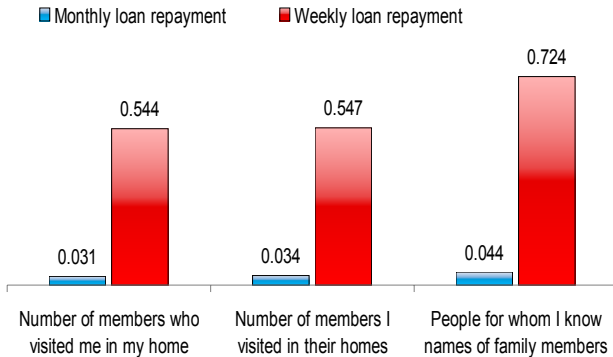
- ▶ The regular meetings may favor social interactions, and social capital.
- ▶ This can be checked in the Field-Pande experiment in Kolkata that we saw earlier: In groups with monthly meetings, was social capital lower relative to the groups with weekly meetings? [▶ Results](#)
- ▶ Much more contact 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.

Group Lending

■ Monthly loan repayment



Group Lending



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: $(\text{principal} + \text{interest}) / 52$.
 - ▶ Interest Rates varied over the period, but on average 24% per year.

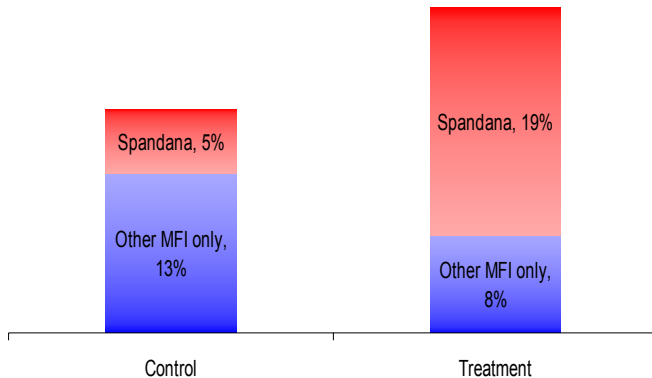
A Profile of Spandana's Potential Clients: Findings from the Baseline

- ▶ 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 than 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.

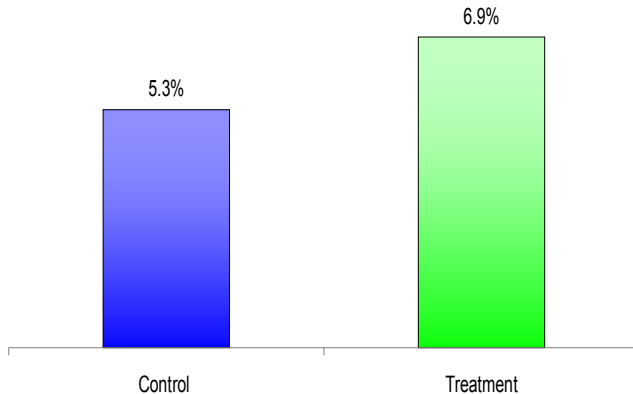
Overall Results

- ▶ 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
- ▶ Overall consumption per capita did not increase significantly, however:
 - ▶ Durable consumption increased.
 - ▶ Consumption of "temptation" goods (cigarettes, alcohol, tea and snacks) declined. ▶ Figure

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Business Creation



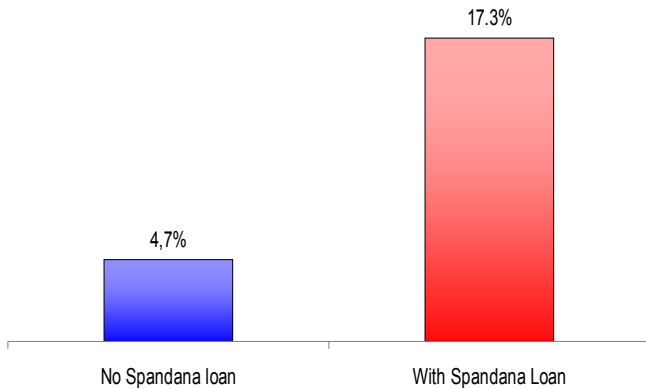
Business Creation due to Spandana Loans

- ▶ 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 $\frac{1.6\%}{13\%} = 12\%$.

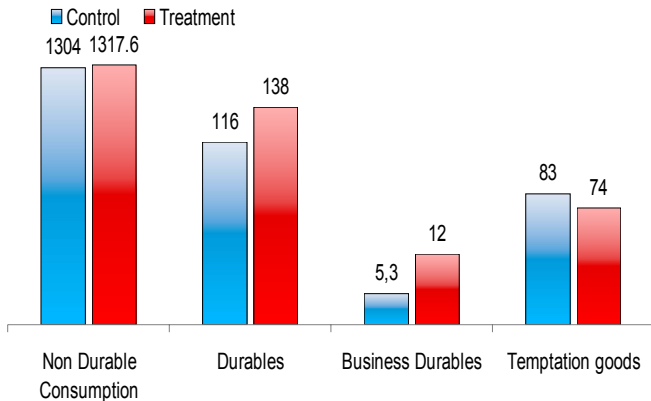
▶ Figure

- ▶ 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).

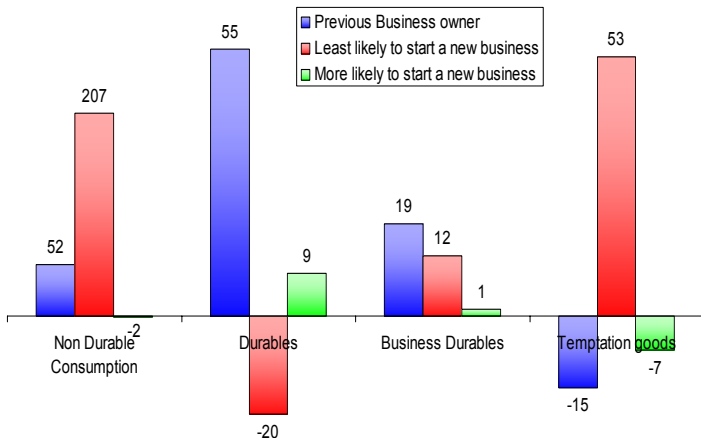
Effect of Spandana Loan on Business Creation



Consumption Effect: Overall Sample



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.

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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.