

# Recent Development in the impacts and mechanisms of microfinance

# Introduction

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- Imperfections on the credit market → significant credit constraints → many viable projects go unfunded
- Interventions on the credit market: subsidized credit policies from the 50s. Most of these policies have failed
- Microfinance : group lending, no individual liability.  
Great enthusiasm and hopes
- Important development of microfinance programs : more than 100-150 (?) million clients over the world, high repayment rates
- But is it sufficient to prove its efficiency ?

# Many unanswered questions

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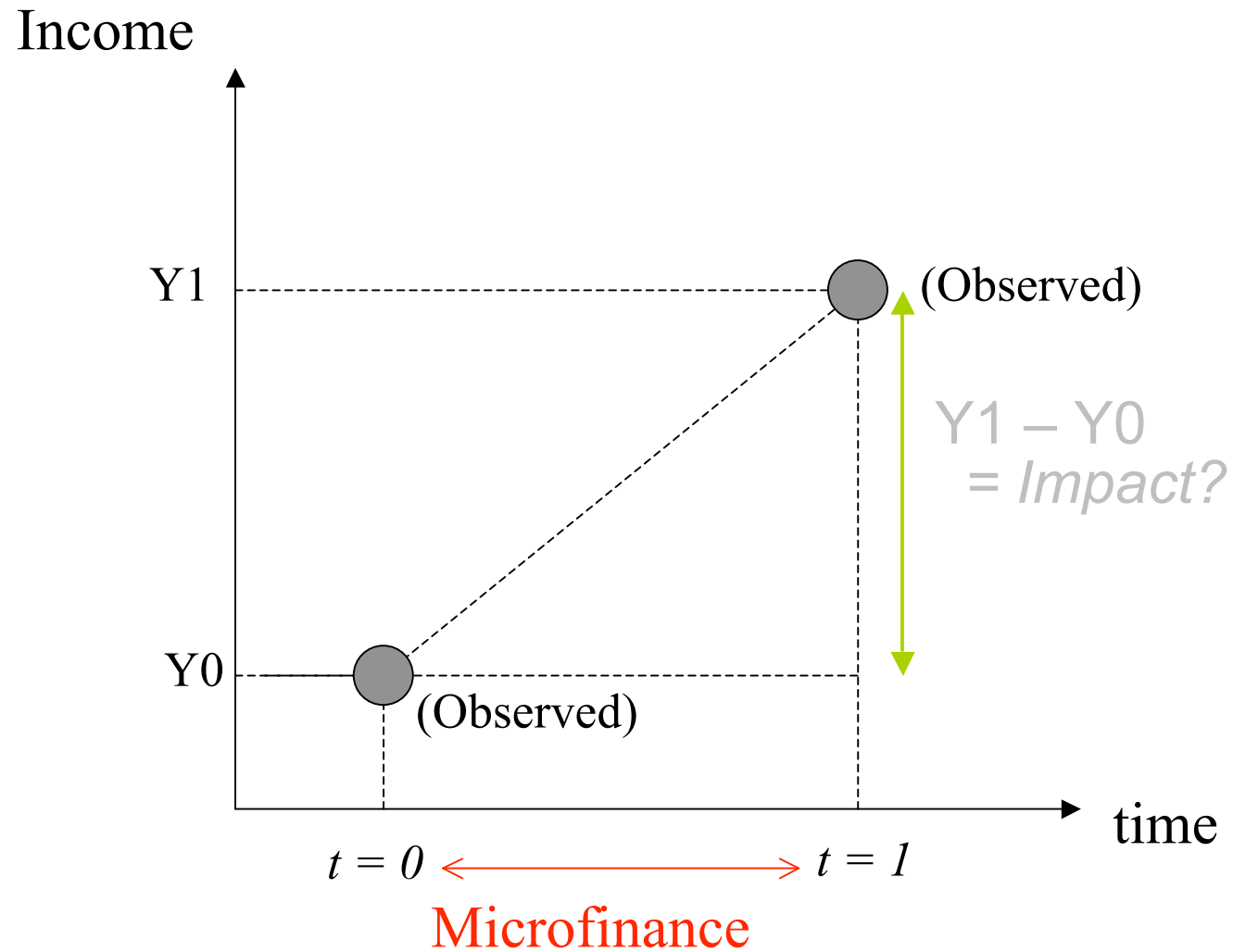
- Impact on living conditions ?
- Role of Grameen methodology?
  - Joint liability, frequent repayments, etc...
- Effect of interest rates?
  - Are poor households able to pay high interest rates?
  - What are the returns to capital of micro-enterprises
  - Demand sensitive to interest rates?
- Low demand for credit in some contexts?
  - Adaptation of product
  - Risk aversion

# Plan

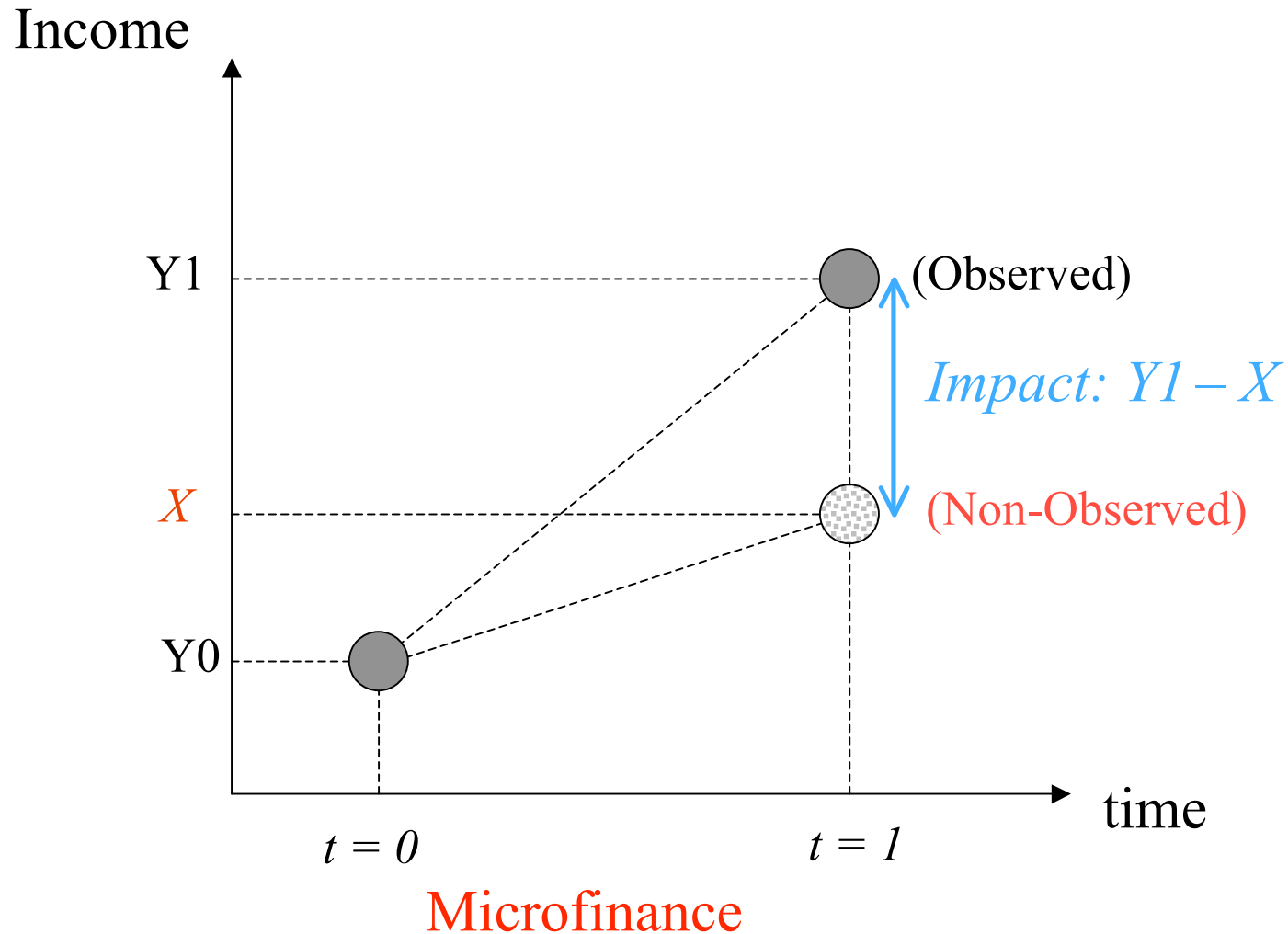
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- What is impact?
  - Existing methodologies
  - Randomized evaluation/social experiment
    - Ex: India, Philippines
- Beyond impact : other things we learned
  - Group lending/individual lending
  - Repayment schedules
  - Understanding the effect of interest rates

# What is Impact



# What would have happened in the absence of the program



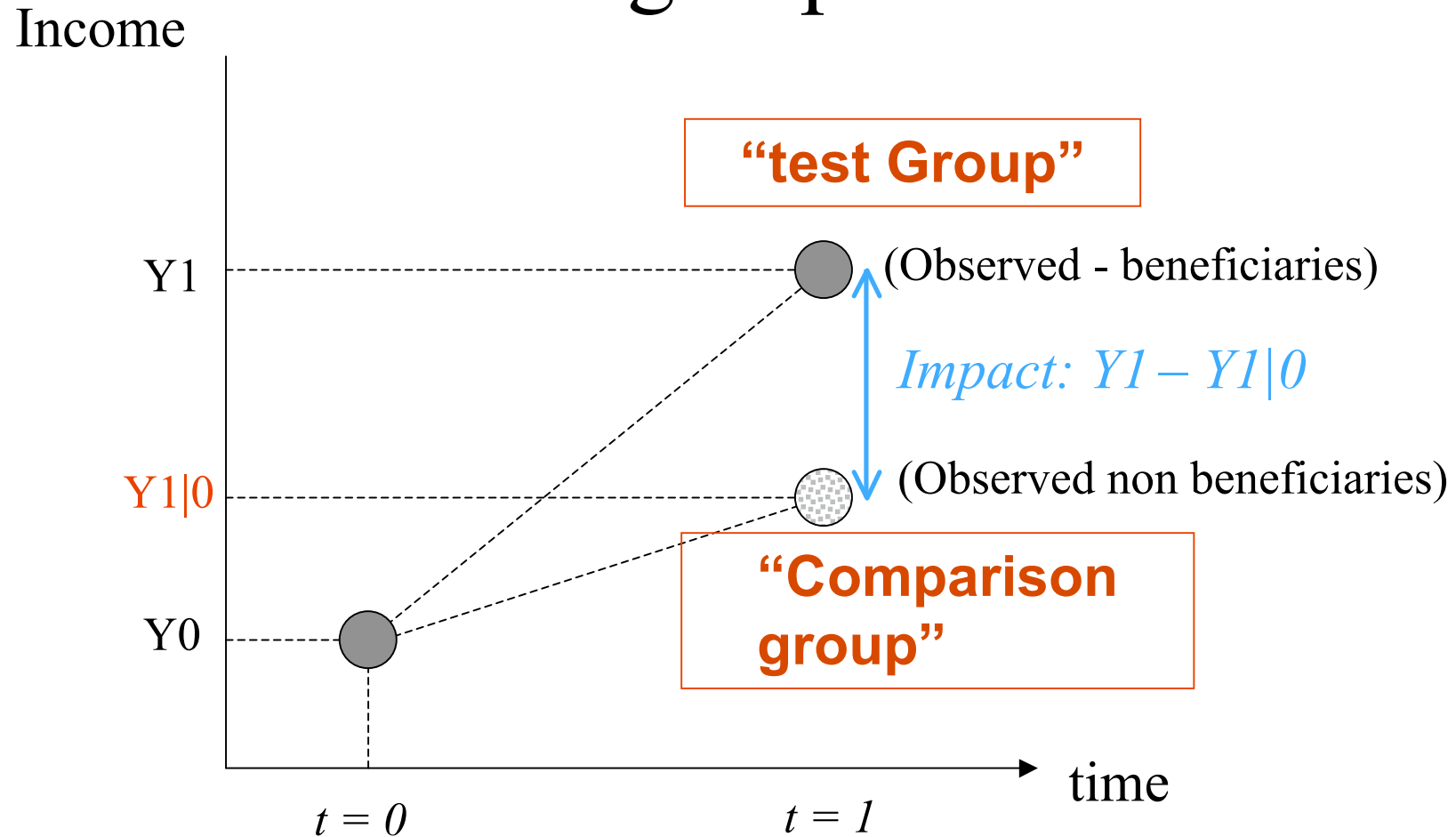
# Impact evaluation problem

- We want to know what would have happened in the **absence** of the program (**X**, “**Conterfactual**”)
- But how to know what would have happened without the program?
  - The program happens or does not
  - We cannot observe this two potential outcomes simultaneously
  - Impact evaluation problem is a problem of missing data
  - An impact evaluation is correct only if the estimation of **X** is correct
- The all difficulty of an impact evaluation is to reconstruct this **X**

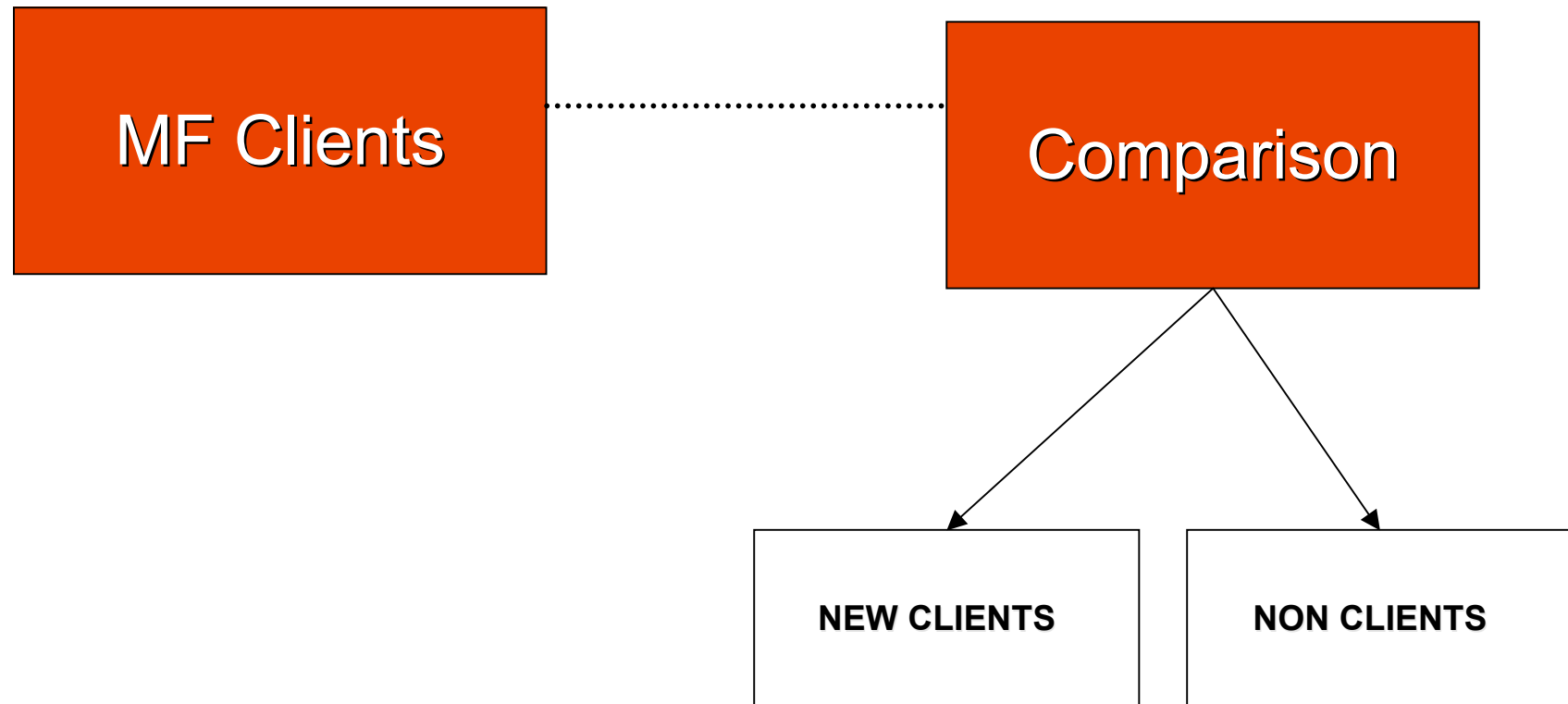
# How reconstruct **X**?

- Principal strategy :
  - Use the data from a group of non beneficiaries (a control group)
- Central Question :
  - How to chose a good comparison group?

# Reconstructing $X$ with a comparison group



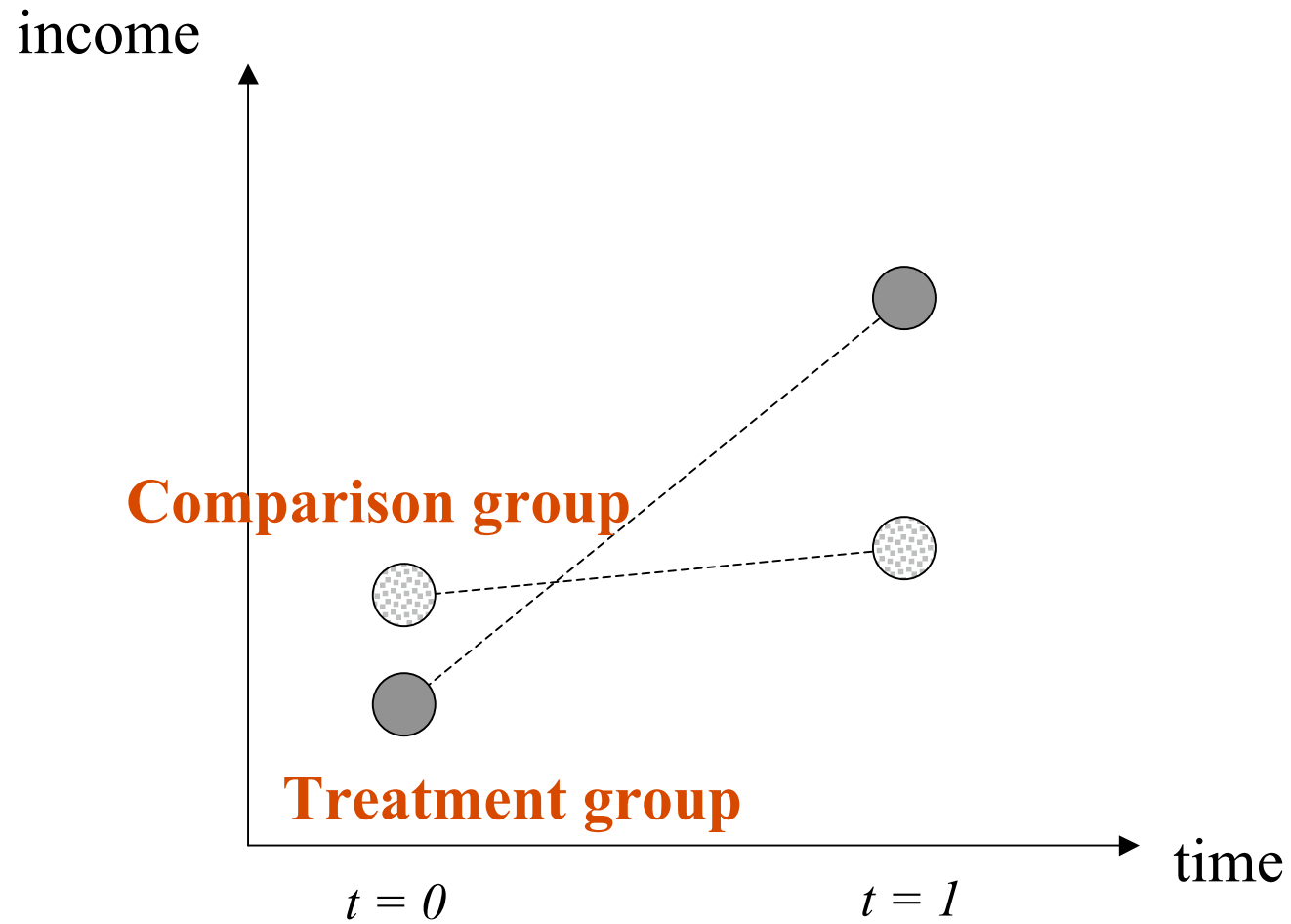
# Usual methodologies : reconstructing X ex post



# Problem of comparison groups

- Self selection of individuals to the microfinance program
  - Borrowers are in general very specific
    - those participating are more motivated?
    - Have more information?
    - Are better entrepreneurs?
    - Very hard to observe
- Non random placement of the MFI intervention
- “selection bias”
- Comparison will be biased

# Graphically :

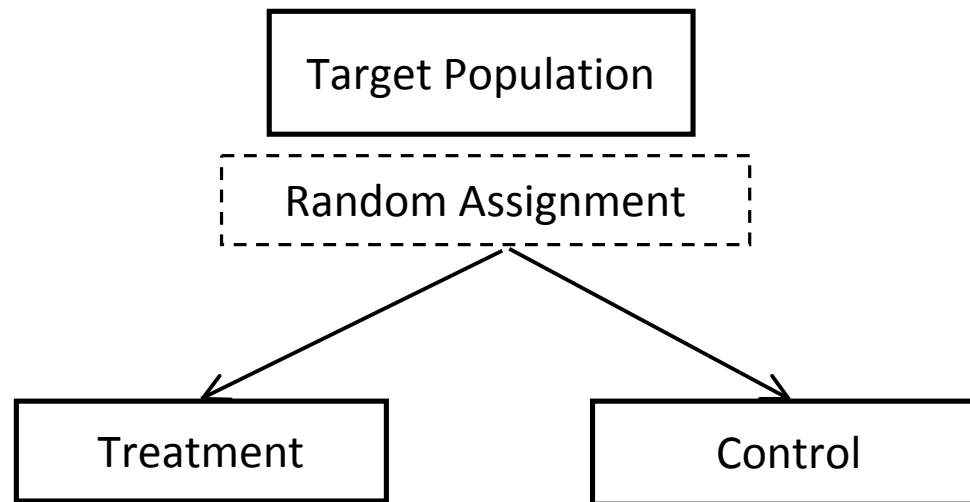


# Methods to reduce the selection bias

- Many methods attempt to reduce the selection bias
  - Control for covariate differences (regression and matching)
    - But control only on observable characteristics but what about unobservable?
  - Difference in difference methods
    - Assume parallel trends in the absence of the program
  - Regression discontinuity designs
    - Need an exogenous eligibility cut off
- Exemple :
  - Pitt and Khandker (1998) , Morduch (1998) and Morduch and Roodman (2009)
  - Very conflicting results with the same data!
- Generally, difficult to test whether ex post methods succeed in reducing the selection bias
- More discussion on this issue than on the results themselves

# Another possibility : randomized evaluations

- Randomized evaluations: divide your target recipients or villages randomly into two groups before giving loans
- **If your sample is large enough**, the two groups will be identical on observables AND non observables



# randomization: does it work?

- Comparison of Treatment and Control villages in an experiment in Morocco: Baseline data (after randomization and before the program)

	TREATMENT	CONTROL
Household size	6,11	6,14
Number of children in school	0,86	0,81
Age of household head	50,8	50,7
instruction - Household head	0,42	0,39
Water connection	0,11	0,11
Access to sanitation	0,25	0,26
Household consumption	31036	30648
Per capital consumption	5739	5694
Credit	0,36	0,33

# Randomization

- No difference in observable AND unobservable characteristics before the program
- No selection bias by construction and Not by assumption
- All differences found after the program can be attributed to the program and nothing else

# Impact of micro-credit in India

- First randomized evaluation of a microcredit program (Banerjee, Duflo...)
- What is the impact of microcredit: on business creation; durable goods purchase; consumption smoothing, etc.
- Spandana, and Indian MFI
  - working in the South of India
  - was starting to work in Hyderabad
- Spandana: typical “grameen” model microcredit program

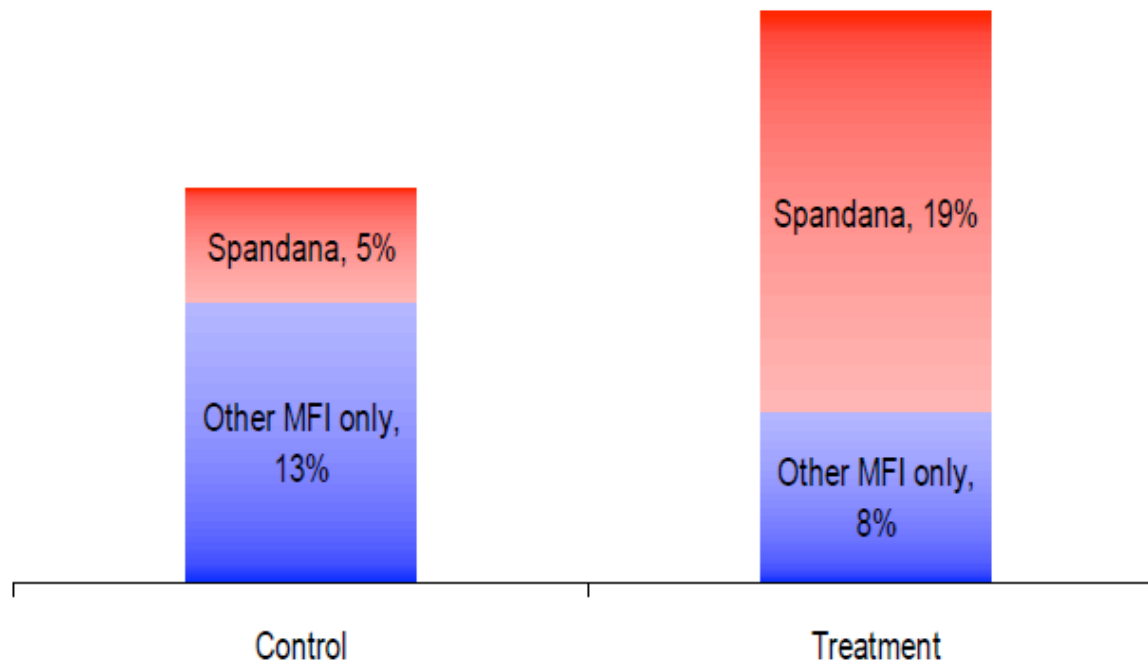
# Impact of micro-credit in India

- 100 slums in Hyderabad city, randomly divided in two groups of 50 slums
  - Spandana introduced micro-credit in one group, the “treatment group”, and not in the other group, the “control group”.
- Despite the presence of other MFIs, take up of credit and amounts borrowed were higher in treatment slums
- Survey at endline of around 100 households per area

# Take up

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- And other MFIs entered at the same time than Spandana
- But the take up of micro-credit is higher in treatment areas than in control



# Who are the clients and why do they borrow ?

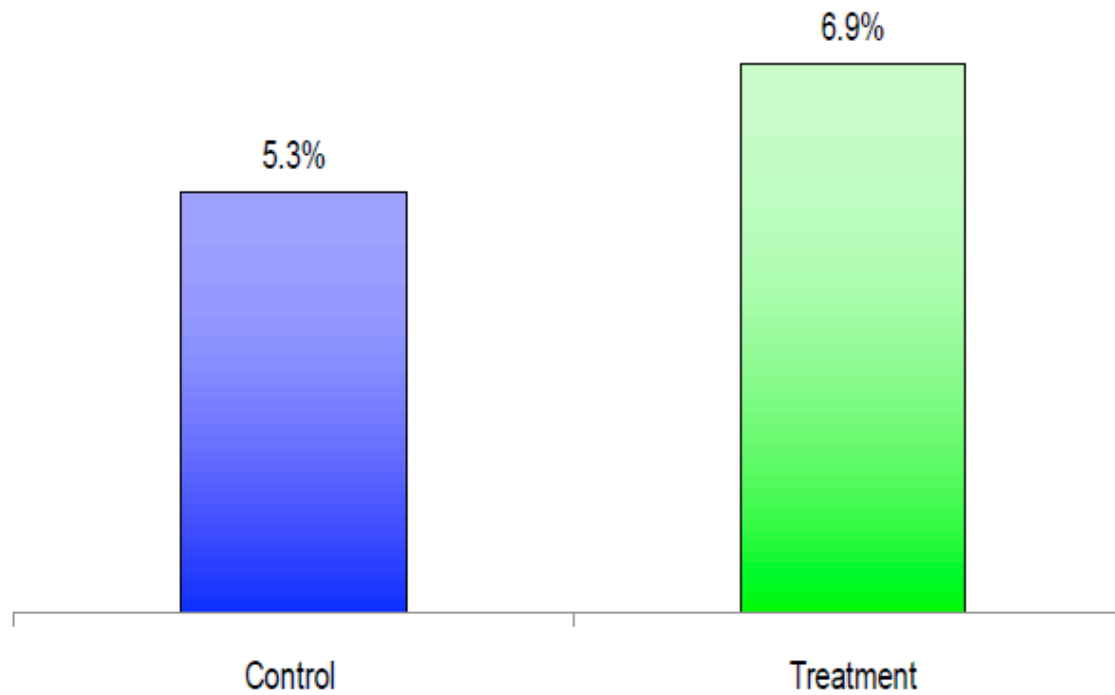
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- Potential clients at baseline
  - Average HH size of 5 members
  - 6% of HH under 1\$/day and 47% under 2\$/day
  - 31% of potential clients have an activity
- For those who borrow, three main reasons:
  - Start a new business (30%)
  - Pay back a debt (30%)
  - Expand their business (22%)
- Impact likely to be heterogeneous
  - Effect on consumption different for the three groups

# Some results

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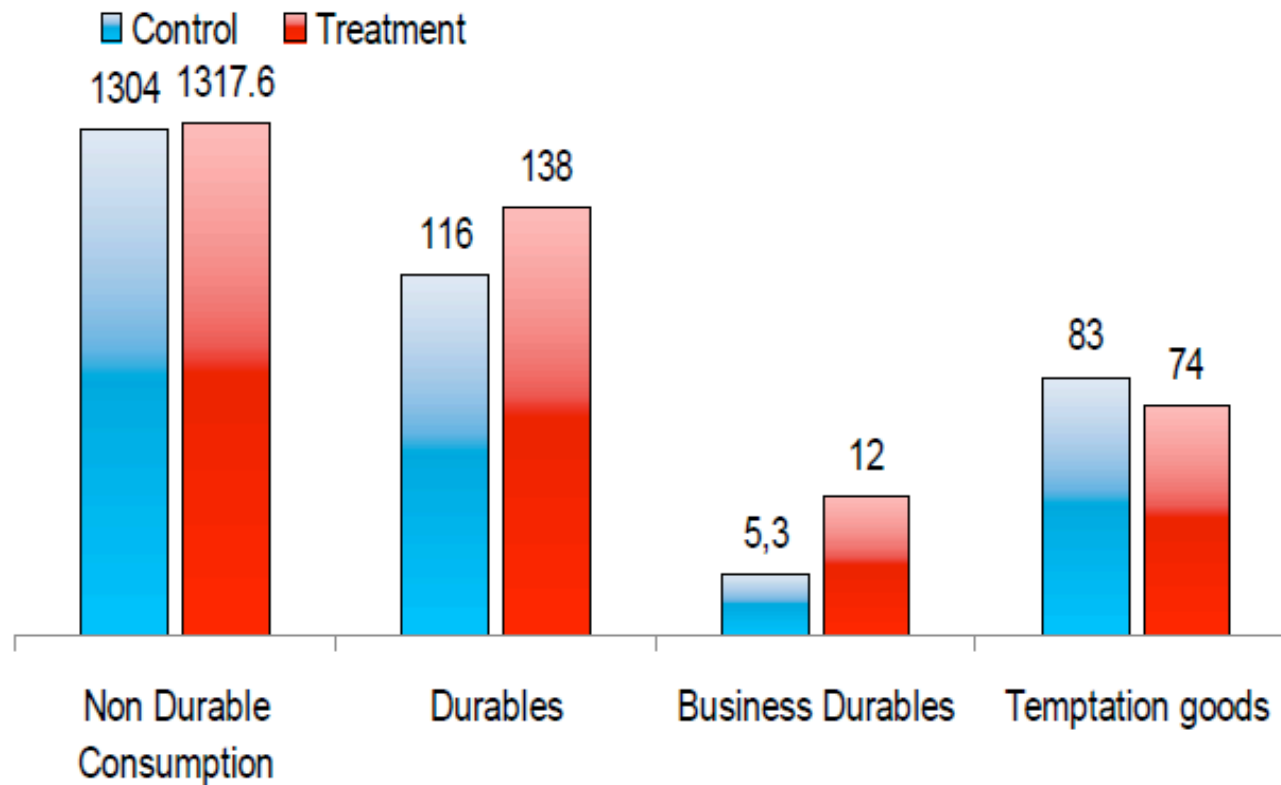
- More business



# Some results

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- Consumption : no effect on average



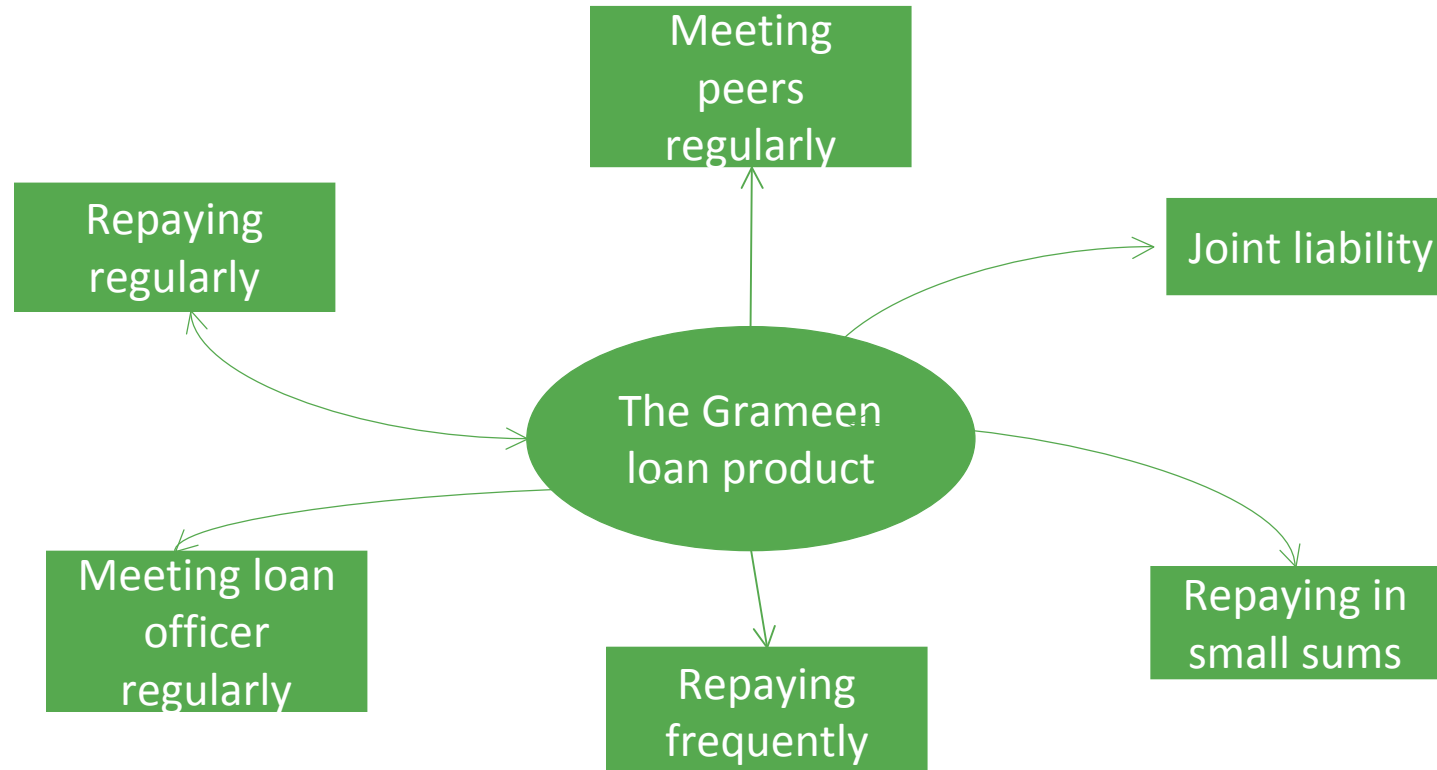
# Some results

- But as expected some heterogeneity
  - clients having already a business consume more durables and less temptation goods
  - clients starting up a business consume less
    - Spandana loans used to purchase assets
  - Clients without business consume more overall
    - Spandana loans allow them to pay back an old debt
- No effect on indirect outcomes:
  - Education
  - Health
  - Health and education expenses
  - Empowerment
- Miracle of microfinance?
- Other study in the Philippines (Karlan et al), positive effects on business but not on other outcomes

# Beyond impact?

- RCT, not only used to evaluate the impact of microfinance
- Can be used for other purposes
  - Improve and adapt products
  - Understand behaviors and demand
  - Test some theories
- Example: many beliefs and theories about the effect of the Grameen methodology to solve information problems in the credit market

# The Grameen model



- Which of these features work best?
- Are they all necessary?
- Can some of these loan product features have negative effects on clients? (joint liability, weekly repayments, etc.)

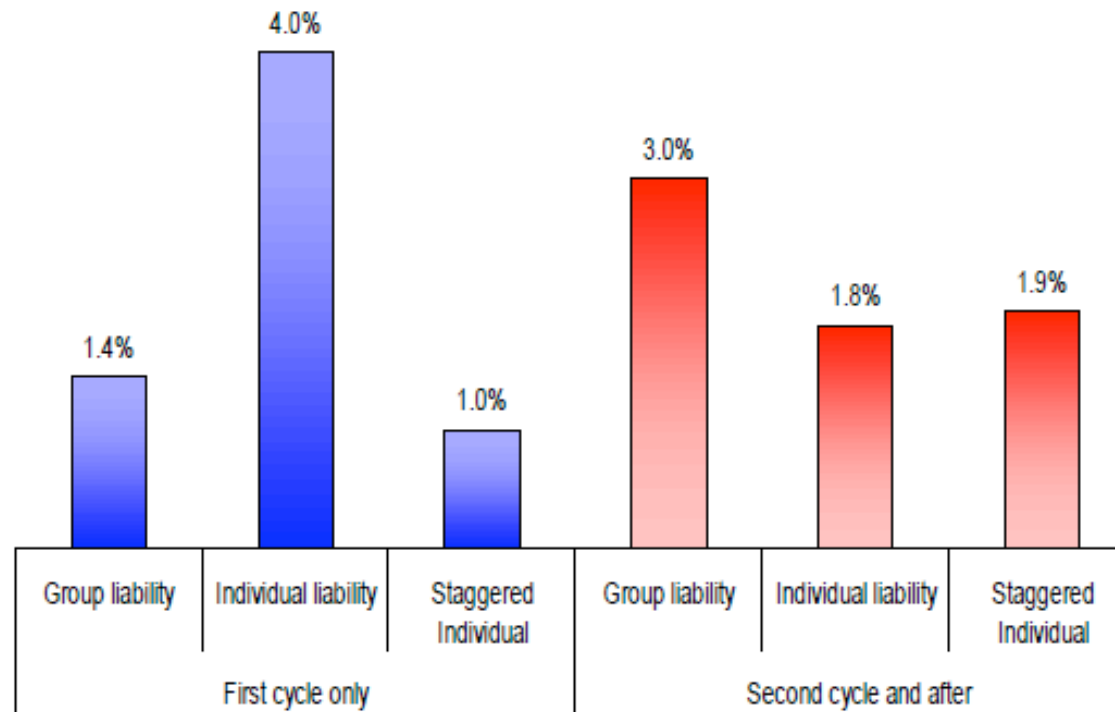
# Group lending with joint liability

- 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:”

# 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
- Three years later: Percent in default (or delay in repayment) is exactly the same in both type of center. Maybe still a selection effect
- Green Bank then randomly selected different areas to implement from the start (selection and monitoring effects):
  - Group liability;
  - Individual liability (still group based); and
  - Staggered: First loan cycle is group, and then individual onwards, if repayment was high.

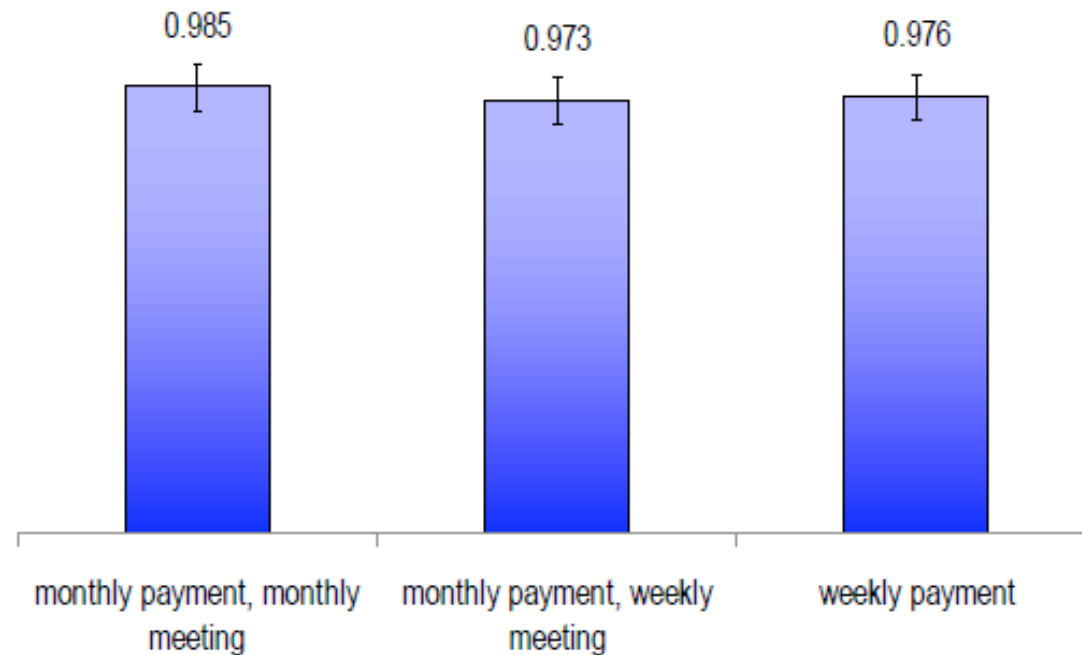
# Testing the role of joint liability



# Weekly repayment schedule

- Many MFIs are convinced that a regular repayment schedule starting immediately is essential for repayment:
  - provides discipline,
  - easier for clients to save a small amount towards weekly repayment
- 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).
- Field and 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.

# Proportions of loans fully repaid within 54 weeks



# High interest rates and the demand for microcredit

- Are poor individuals able to repay interest rates charged by MFIs?
- Is the return to capital high enough to repay at these rates?
- However it could be that only those with high rates of return agree to borrow:
- 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.

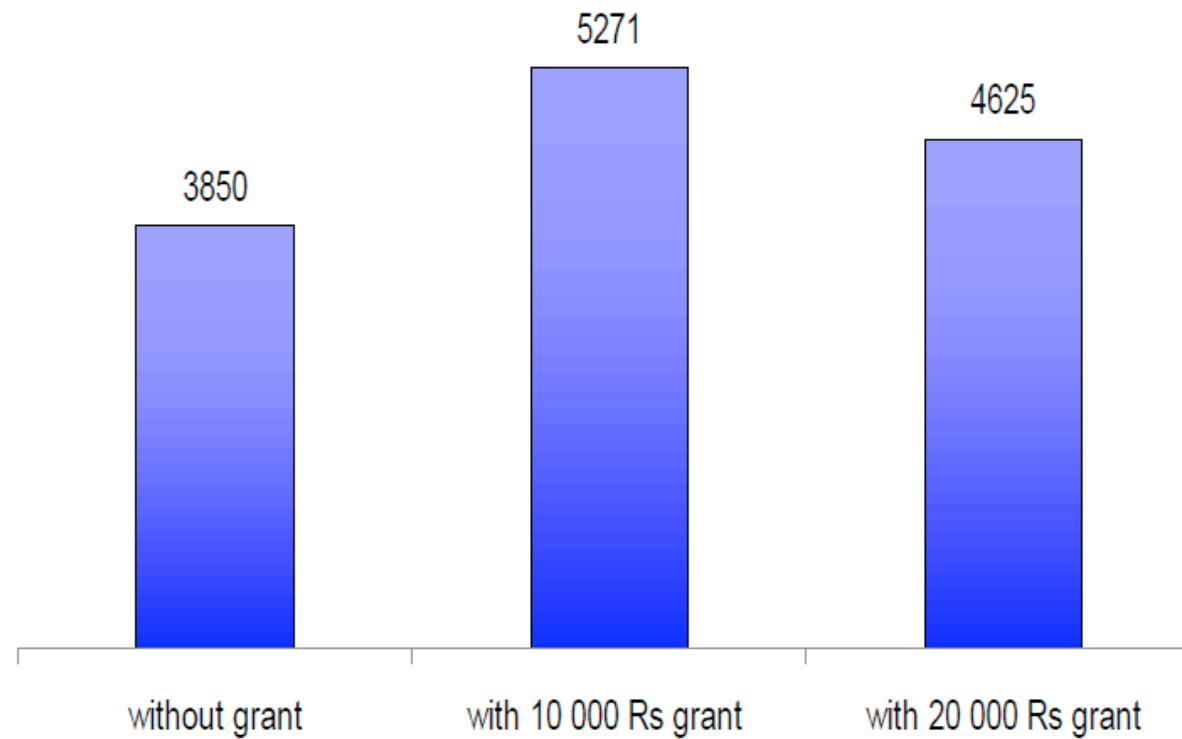
# The returns to capital for micro-entrepreneurs : Sri lanka

- A study by de Mel, McKenzie and 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.

# Net profits in follow up waves



# Interest rates

- What is the effect of interest rates on demand?
- In another experiment in South Africa, Karlan and Zinman send letters to former clients of an MFI with different credit offers with different interest rates (from 4 to 11% monthly)
- Then look at take-up
- 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%).
- But do people understand interest rates?

# Concluding remarks

- Possible to evaluate rigorously the effect of microfinance
- First evidences show mixed results : microfinance helps but no indirect effects
- Shortcomings of these evaluations
  - Short term impact and question of generalization?
- Well thought experiments can be used to answer other questions

# Concluding remarks

- Still many unanswered questions
- Role of the microfinance methodology in overcoming information problems
- Low demand in some areas
  - Are products adapted or are there other barriers (risk aversion?)
- Interest rates and ability to repay
- Financial literacy
- ...