Are Women Really Better Borrowers in Microfinance? Evidence from Matrilineal and Patrilineal Societies in India

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Why Microfinance?

➢ Over 2.5 billion people - more than $\frac{1}{3}$ of world’s population live on less than $2$ per day and remain unbanked (Karlan and Appel 2011)

➢ Under this background microfinance has emerged as an alternative way to rethink banking for the poor
  • Number of microfinance clients had increased from 7.6 million in 1997 to 137.5 million in 2010 (Banerjee et al. 2015)

➢ Two popular lending innovations in microfinance: group liability and gender targeting
Why Women?

- More than 80% of all microfinance clients worldwide are women (D’Espallier et al. 2011).

- Double dividend of gender targeting of women in microfinance
  1. Social dividend: women empowerment, investment in child schooling and healthcare
  2. Economic dividend: higher repayment rates for the lenders

- Conventional wisdom in microfinance (World Bank Report, 2008): *Women are better credit risks than men.*
Research Questions

➢ Are women really better borrowers in microfinance?
  • Does gender targeting generate higher repayment rates for the Microfinance Institutions (MFIs)?

➢ What drives gender differences in repayment among borrowers?
  • Do social context and norms lead to gender differences in behavior among microfinance borrowers?
The Answer Lies Here

http://www.mdoner.gov.in/zoomimzgemap/imagemap.php?map=States_Maps/Assam
http://www.iitg.ernet.in/rcilts/phaseI/icons/meghalaya_loc.gif
The Two Societies- Karbi and Khasi

➢ The Khasis and the Karbis share a genetic background and appear to be close kin based on genetic analysis of six polymorphic loci (Roychoudhury 1992)

➢ They are neighboring societies in the north-eastern region of India

➢ Both are either Christians or follow their indigenous religion (nature worship)

➢ Both are indigenous agricultural societies

➢ But the two societies are very different in terms of gender relations
  • Karbis are a *patrilineal* society while the Khasis are a *matrilineal* society
Patrilineal Karbi

➢ Men inherit and control property
  • Eldest son gets family property

➢ Wife moves to husband’s house
  • But do not own property

➢ Women have very little bargaining and decision-making power

Matrilineal Khasi

➢ Men do not inherit property, women do
  • Youngest daughter gets family property

➢ Husband moves to wife’s house
  • But do not own property

➢ Women have a lot of bargaining and decision-making power
Experiment
Subjects receive a loan and decides independently to invest between the following projects:

<table>
<thead>
<tr>
<th>Project</th>
<th>Success</th>
<th>Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prob</td>
<td>Return</td>
</tr>
<tr>
<td>X</td>
<td>5/6</td>
<td>60</td>
</tr>
<tr>
<td>Y</td>
<td>1/2</td>
<td>160</td>
</tr>
</tbody>
</table>
Repayment Choice

➢ If project fails then individual subjects cannot repay loan
  • Involuntary or non-strategic default

➢ If project is successful, individual subjects decide independently between the following:
  • Repay loan
  • Default strategically
Microfinance Games

- 368 subjects in total (184 male, 184 female) participated in the experiment

- Each subject is randomly assigned to one of the 2 microfinance games:
  - Individual game and Group liability game

- For group liability loans, two subjects of the same gender and society are randomly matched and make the same decisions in the experiment

- Group debt is split equally among the two randomly matched group members
  - If one group member defaults, the other must repay the entire group loan to continue receiving loans in future rounds in the experiment
What Else can Matter?

Individual Characteristics

✓ Age
✓ Religion
✓ Household members
✓ Whether head of household
✓ Type of dwelling
✓ Whether holds a bank account

Risk Attitudes

• Implemented incentivized Investment Risk Task

• Subjects choose how much of a fixed endowment to invest in a risky lottery that yields a return of 3 times the amount invested with 50% chance and zero otherwise

• The lower the amount invested, the more risk averse subjects are
What Do I Find?
Reversal of Gender Effect in Loan Default

Loan Default

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patrilineal Karbi</td>
<td>19%</td>
<td>6%</td>
</tr>
<tr>
<td>Matrilineal Khasi</td>
<td>5%</td>
<td>12%</td>
</tr>
</tbody>
</table>

p=0.00, p=0.02
Risky Project Choice: Matrilineal Khasi vs. Patrilineal Karbi

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patrilineal Karbi</td>
<td>64%</td>
<td>27%</td>
</tr>
<tr>
<td>Matrilineal Khasi</td>
<td>59%</td>
<td>50%</td>
</tr>
</tbody>
</table>

p=0.00 (Patrilineal Karbi)  
p=0.06 (Matrilineal Khasi)
Strategic Default: Matrilineal Khasi vs. Patrilineal Karbi

![Bar chart showing strategic default rates for Patrilineal Karbi and Matrilineal Khasi.

- Patrilineal Karbi:
  - Male: 7% (p=0.01)
  - Female: 1%

- Matrilineal Khasi:
  - Male: 3% (p=0.006)
  - Female: 11%]
Risk Attitude: Matrilineal Khasi vs. Patrilineal Karbi

Investment in Risky Lottery

- Patrilineal Karbi: Male 74%, Female 40%
  - p = 0.00
- Matrilineal Khasi: Male 66%, Female 65%
  - p = 0.78

Legend: Male □ Female □
<table>
<thead>
<tr>
<th>Outcome Variables</th>
<th>(1) Risky Project Choice$^+$</th>
<th>(2) Strategic Default$^+$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>-0.23***</td>
<td>-0.10**</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Matrilineal Khasi</td>
<td>-0.01</td>
<td>-0.05</td>
</tr>
<tr>
<td></td>
<td>(0.07)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Female*Matrilineal</td>
<td>0.15*</td>
<td>0.16***</td>
</tr>
<tr>
<td></td>
<td>(0.09)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Group Liability</td>
<td>0.22***</td>
<td>0.10**</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Investment Risk</td>
<td>0.32***</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.06)</td>
<td>(0.03)</td>
</tr>
<tr>
<td>Individual Controls</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Round Fixed Effects</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>743</td>
<td>592</td>
</tr>
<tr>
<td>Pseudo R-Squared</td>
<td>0.13</td>
<td>0.20</td>
</tr>
</tbody>
</table>

Robust standard errors, clustered at group level, in parentheses.

$^+$ Marginal effects from Probit estimation  

*** p<0.01, ** p<0.05, * p<0.1
Key Findings

➢ Reversal of gender effect across societies
   • In patrilineal society women are better credit risks (conventional wisdom)
   • But the pattern reverses in matrilineal society (new insight)

➢ Matrilineal women are more likely to invest in risky projects and default strategically more than patrilineal women

➢ Patrilineal women are significantly more risk-averse than patrilineal men, but this gender gap disappears in the matrilineal society
Policy Implications

➢ Microfinance Policy
  • Although women have lower default on average, a universal gender targeting policy might be suboptimal in presence of heterogeneity across societies

➢ Development Policies in general - importance of social context
  • One should be careful about generalizing a policy simply because it has worked in a particular context
  • Policymakers should take into consideration the heterogeneity and the social context to design better targeted policies
Thank you 🌟

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