Agent Intermediated Lending: A New Approach to Microfinance

Pushkar Maitra, Sandip Mitra, Dilip Mookherjee, Alberto Motta and Sujata Visaria

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Challenge: Lending to Poor Farmers to Finance Cash Crop Cultivation

- Growth, poverty reduction and control of food price inflation are key economic policy goals in India
- Need ways to encourage poor farmers to increase cultivation of cash crops
- Financing constraints a key problem: unable to access credit from formal financial institutions owing to lack of collateral
- Microfinance has not succeeded either in financing cultivation credit needs of poor farmers, owing to:
  - Rigid repayment requirements
  - Discouragement of risk-taking by MFIs
  - Peer monitoring by group members

Other Concerns with Microfinance in India (Malegam Committee Report 2011, RBI)

- Malegam Committee concerns with MFIs: they charge high interest rates, encourage over-borrowing, coercive recovery practices, poach self-help-group (SHG) clients borrowing directly from banks
- Mean interest rate charged by MFIs: 37%, compared with 12% for those accessing coop or formal bank loans
- Margin of 25% above borrowing costs = 14% administrative costs + 11% profit
- New RBI regulations impose interest cap of 26% and margin cap of 12%, which makes it very difficult for MFIs to continue based on traditional lending practices
- Malegam Committee recommendation: switch direction of rural sector lending to SHGs financed directly by banks, with Banking Correspondents/Facilitators acting as intermediaries

Our Approach: Trader-Agent-Intermediated-Lending (TRAIL)

- We develop a new approach relying also on intermediaries: informal traders/lenders chosen randomly from local community, those with extensive experience of lending to poor clients
- Their main role is to recommend 30 local clients for TRAIL loans, from those owning less than 1.5 acres of cultivable land
- 10 out of 30 recommended clients are randomly chosen to receive the loans
- Agents are incentivized by commissions = 75% of loan repayments, besides Rs 500 deposit per client forfeited in case of default, fired if average repayment rate falls below 50%
- Main idea: harness local information and incentives to select good borrowers and ensure they repay loans

TRAIL Loan Features

- Key difference from SHG loans: TRAIL loans are individual liability loans, not group loans
- Longer duration of repayment: 4 months, to enable borrowers to finance cultivation of most crops
- Low interest rate: 18% (half of average MFI interest rate of 37%)
- No collateral, savings requirements
- No group meetings, or any monitoring by bank/MFI officials
- Insurance against covariate risks (repayment liability reduced if more than 20% drop in crop price or local yield)
- Borrower repayment incentive: credit limit in next cycle = 133% of current loan repaid

Group Loans as Control

- We conduct randomized experiment to compare TRAIL with Group-Based-Lending (GBL) where:
  - joint liability loans are given to 5-member groups
  - all group members must own no more than 1.5 acres of cultivable land
  - group members must meet saving requirements and attend frequent group meetings
- All other features of GBL loans the same as TRAIL: 18% interest rate, 4-month duration, future credit limit of group=133% of current repayment, insurance against covariate risks

Setting of Experiment

- In two districts of West Bengal (Hugli, West Medinipur) where potato is leading cash crop
- 24 villages: TRAIL, 24 villages: GBL (and 24 villages: GRAIL) divided equally between two districts
- Within each TRAIL village, 10 out of 30 eligible borrowers recommended by TRAIL agent receive TRAIL loans, starting at Rs 2000 in October 2010 (growing to Rs 8-9,000 by end-2012)
- In each GBL village, two groups chosen randomly from eligible groups that formed in mid-2010
- Farmer survey in each village, sample size of 50:
  - 10 receiving loans (treatment group)
  - 10 recommended or formed group but didnt get loan (control 1)
  - 30 non-recommended/eligible (control 2)
- Separately estimate treatment effect (treatment group - control 1) and selection effect (control 1 – control 2)

Theoretical Predictions to be Tested

- Owing to high commission rates for TRAIL agents, we expect they will recommend safer, more productive borrowers from amongst their own clientele
- No such selection pressure in GBL, where riskier and less productive borrowers may have a stronger incentive to apply for GBL loans
- Most TRAIL agents are not low caste, and are likely to prefer clients owning some land; hence we expect greater selection of landless, low caste borrowers in GBL
- These features likely to generate higher repayment effects in TRAIL, but group insurance feature of GBL generates an effect in other direction: net effect is hard to predict
- Effect on borrower incomes are also difficult to predict
- We expect lower takeup rates in GBL owing to joint liability, group meetings and saving mandates which borrowers dislike

Descriptive Statistics: Loan Details

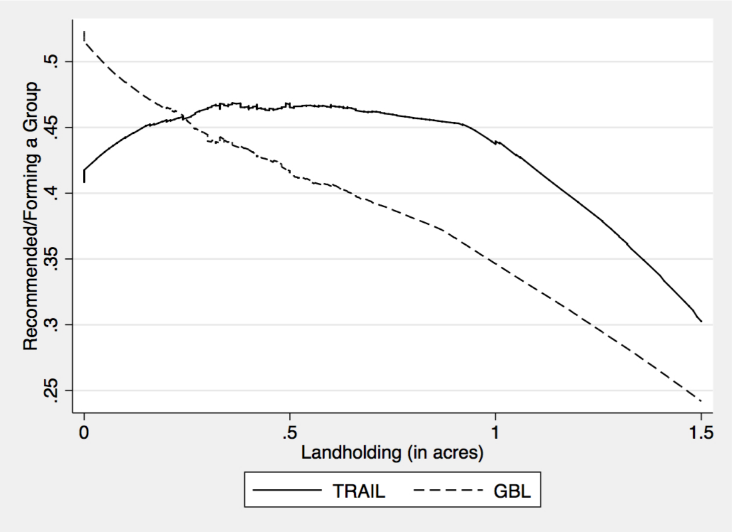
Source	Proportion of Loans	Interest Rate	Duration days	% Collateral
Informal Lenders	62	25.8 (22.2)	124 (31)	2
Family or Friends	5	19.7 (13.4)	164 (97)	4
Coop	24	15.5 (3.9)	317 (96)	76
Govt Banks	6	11.4 (4.7)	269 (119)	84

Empirical Results: Selection in TRAIL and GBL

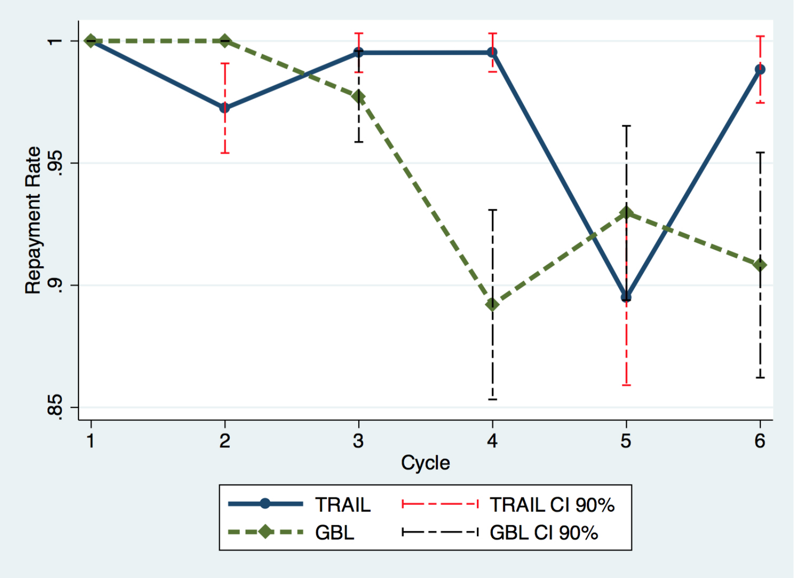
Informal Interest Rate Regression

	TRAIL	GBL	Recommended TRAIL vs. GBL
Recommended	2.2	5.2*	
Own-Clientele	4.9*		
Own-Clientele × Recommended	-7.1***		
TRAIL			-6.4**
Constant	24***	15.1	23.5***

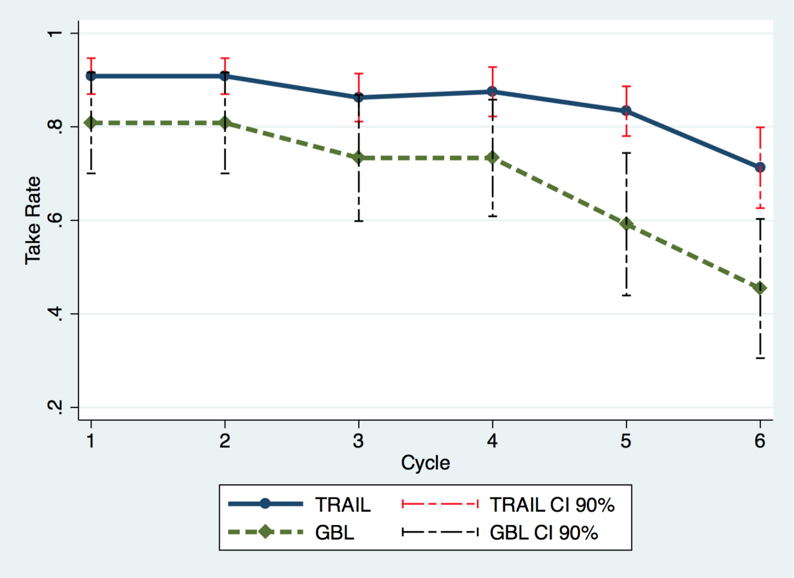
Selection in TRAIL and GBL Across Landholding



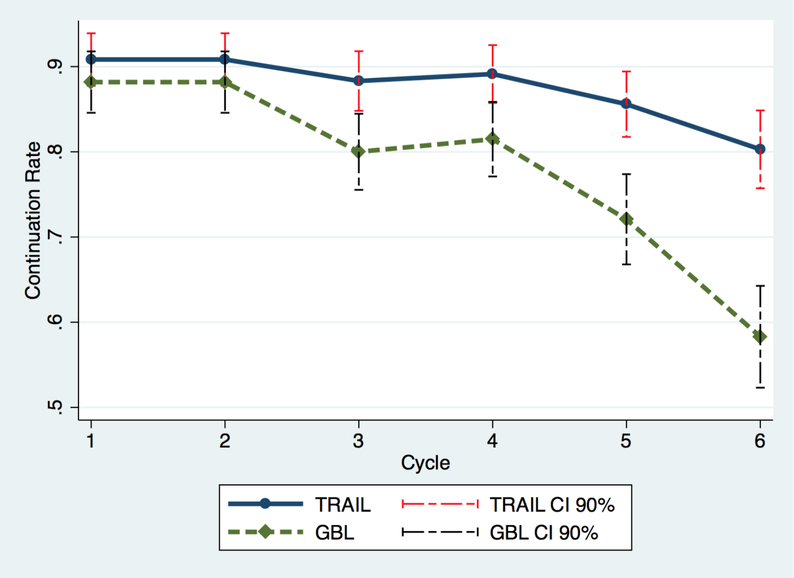
Loan Repayment Rates



Loan Take-Up Rates



Loan Continuation Rates, conditional on eligibility



Treatment Effects on Total Borrowing and Cost of Borrowing

	Loan Size (Rs.)	Cost of Borrowing (Int. Rate)
TRAIL Treatment	8228***	-2.91**
GBL Treatment	5959***	-6.76**
Mean Control 1	2681	24.3

Treatment Effects on Potato Cultivation and Output

	Cultivation Likelihood	Acreage	Leased-in acres	Output
TRAIL Treatment	0.0545	0.101***	0.0467**	888.0***
GBL Treatment	0.0492	0.0418	0.0222	278.0
Mean Control 1	0.677	0.292	0.111	4760

Treatment Effects on Potato Cultivation Cost, Revenue, Family Labor and Value-Added

	Cost of Production	Family labour hours	Revenue	Value Added
TRAIL Treatment	1774**	6.030	3429***	1687**
GBL Treatment	1308	4.906	1637	271.8
Mean Control 1	9538	57.86	19137	9498

Treatment Effects on Value-Added of Major Crops, and on Total Farm Income

	Potato	Sesame	Paddy	Vegetables	Total Farm Income
TRAIL Treatment	1687**	180.0	271.6	1255	2621***
GBL Treatment	271.8	-158.3	573.6	-1955	53.24
Mean Control 1	9498	2126	2506	8325	10328

Rate of Return Estimates

	Potato	Total Farm income
Bootstrapped Estimates		
TRAIL	1.05***	1.15***
	(0.06))	(0.02)
GBL	0.09	-0.10
	(0.37)	(0.29)
IV Production Function Regression		
TRAIL	0.72**	1.03***
	(0.33)	(0.35)
GBL	0.37	0.38
	(0.97)	(1.23)

Summary

- We designed and implemented TRAIL, a new way of lending to poor farmers, and compared its performance experimentally with group-based loans (GBL)
- TRAIL succeeded in inducing significant increase in cultivation of potato, borrower incomes while achieving repayment rates in excess of 90%
- GBL outcomes were substantially lower and statistically insignificant
- TRAIL meets RBI goals of lending to poor farmers at low interest rates, using a suitable variant of the BC/BF mechanism

Some Policy Implications

- Our results indicate the value of providing individual rather than group liability loans to meet higher growth and inflation control objectives
- Social and poverty reduction objectives of ensuring access of landless and low caste groups could be better served by group-based loans (the current SHG model)
- Both kinds of loan products could co-exist
- Our recommendation is thus to supplement the SHG model to include a component providing individual liability loans similar to TRAIL