

The Demand for Micro-credit As a Determinant for Microfinance Outreach— Evidence from China

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1. Introduction

What is Microfinance?

Financial services to the poor micro-entrepreneurs; often as a tool for poverty alleviation, poverty, social objective and outreach

Promise of micro-finance

poverty alleviation while achieving sustainability

Current Studies:

a trade-off between outreach and sustainability: high transaction costs, high risk and lower expected returns; Implications: Higher efficiency, more subsidies, targeting for better outreach.

Objective of this Study:

Current study/response on outreach mainly on the supply side, this study examines outreach from the demand side and the behaviour of very poor so as to achieve deep outreach

II. Survey Areas and Households 1

MFI	CZWSDA ¹	Nanzhao FPC ²	Zhuoquan ³ SSCOP	Linxian VPF ⁴
Start-up Year	1997	1995	2001	1993
State Designated Poor County	Yes	Yes	Yes	Yes
Loan Portfolio end of 2004 (1,000 RMB)	4,400	8,640	3,600	About 1,000
Number Borrowers ⁵	3,800	7,793	4,085	About 250
% Women borrowers ⁵	100	100	50	n.a.
Funding and Management Agency	UNDP/CICETE ⁶ Beijing	FPC Headquarter Beijing	CFPA, ⁷ Beijing	Poverty Fund Beijing
Sources of MF Funds	a). UNDP, b). Japanese Government c). Grameen Trust	Yang Lin ⁸	a). HK Foundation b). County Government	Private donation
Location: Province	Inner Mongolia	Henan	Shanxi	Shanxi
Counties	Balin Right, Lincheng, Aohan and Songshan	Nanzhao County	Zhaoquan County	Linxian County
Covering Townships	8 townships in the 4 counties	4 Townships in Nanzhao	6 Townships in Zhaoquan	3 Villages in one township

II. Survey Areas and Households 2

	Aohan	Nanzhao	Zhuoquan	Linxian	Total
Total Townships in the County	29	16	10		
Population of the county	593,000	614,000	163,000		
Total rural households	111,300	129,850	39,779		
Sample Townships	3	4	6	1	15
Sample Villages	5	11	13	3	32
Total Sample Households	159	312	209	141	821
From Program Villages	90	234	138	141	603
From Non-Program Villages	69	78	71	0	218

II. Survey Areas and Households 3

	Unit	Aohan	Nanzhao	Zhuoquan	Linxian	Total
Per capita Net incomes	RMB	3,586.1	2,950.5	3,030.4	2,327.9	3,013.7
Average Household incomes	RMB	12,115.3	12,179.3	10,755.8	10,098.1	11,526
Cropping	%	33.7	15.2	11.7	10.6	17.7
Animal production	%	14.5	7.8	7.9	4.9	8.9
Migrant workers and wage	%	21.0	39.9	30.6	53.0	35.4
Off farm operations	%	22.4	30.7	37.7	21.1	29.3
Others	%	7.8	4.7	11.4	7.1	7.2
Household Assets	%					
Housing	RMB	14,870	10,826	15,666	15,994	13,570.6
Productive	RMB	11,202	5,452	6,924	3,775	6,752
Consumer durable	RMB	3,892	4,725.6	4,107	4,468.4	4,362.6
Cultivated Land Areas	Mu	19.1	2.9	3.65	8.54	7.2
Animal Stock Value end 2004	RMB	3,144.3	661.9	1,100	512.8	1,260.2

III. Microfinance Outreach in the Sample Areas 1

- Microfinance in China: with fund from donors, aims to target the very poor in the very poor area of China
- Means
 - Direct target: select poor and remote mountainous areas, and select the poor households in these areas, set criteria on annual incomes, assets (mainly housing), gender (Table 4)
 - Indirect Means: GM Model: small size of loans, relatively high rates of interest, group guarantee, weekly or bi weekly loan repayment and weekly centre meetings, a screening technique
 - The logic behind Indirect Means: In poor rural areas of China, the poor will have access to the micro-loans only when the richer and powerful are not interested in the micro-loans, the loan product above is designed partly to raise the borrowing costs and partly to building the capacities for the poor. It is called automatic targeting.

III. Microfinance Outreach in the Sample Areas 2

Table 5. Outreach of Various Lenders in the Sample Counties

	YI RMB ¹	YII	YIII	YIV	YV	Total
	<1278	1280-1893	1894-2685	2686-3981	>3981	
RCC borrower ²	24 (14.6)	21 (12.8)	21 (12.8)	29 (17.7)	40 (24.4)	135
MFI borrowers ³	68 (41.5)	78 (47.6)	95 (57.9)	84 (51.2)	87 (53.0)	412
Informal borrowers ⁴	41 (25.0)	32 (19.5)	22 (13.4)	19 (11.6)	17 (10.4)	131
Non borrowers	31 (18.9)	33 (20.1)	26 (15.9)	32 (19.5)	20 (12.2)	142
NOB ⁵	164 (100)	164 (100)	164 (100)	164 (100)	164 (100)	820

III. Microfinance Outreach in the Sample Areas 3

	NoBs	% Total	Yt p.a. ³	Ynf % ⁴	V-house	V-Animal	Land
4 Counties ¹							
RCC borrower ²	123	17.5	3510.3	0.51	15337	1698	9.77
MFI borrowers (current) ³	345	49.2	3170.8	0.64	13832	1231	6.74
Informal borrowers ⁴	115	16.4	2443.6	0.55	13149	985	7.13
Non borrowers	118	16.8	2751.3	0.62	11713	1202	5.98
Means ⁵	701	100.0	3040.5	0.603	13627	1268.2	7.22

III. Microfinance Outreach in the Sample Areas 4

- Some observations
 - The major beneficiaries of the MFPs are the middle and above middle income households, rather than the poor
 - RCCs have targeted the top and richer households while the lower income households depend more on informal sources of finance
 - Instead of serving the poor, MFPs have helped the outreach the loan services to the middle and above middle income households
- Why
 - The supply side: trade-off between outreach and sustainability provide some answers: group guarantee to exclude the poorest; role of loan officials in screening loan applicants for higher repayment; the richer households pooled loans and not come to the meeting to reduce the borrowing costs.
 - Demand side is important as well, whether the poor and low income ones demand micro-loans?

IV. Demand for Micro-loans from the Households 1

- Univariate probit models to estimate the determinants of the
 - $\text{Prob (DML)} = F(Y, H, O, A), \quad (I)$
 - Where
 - Demand =1, for the households that have a demand for a micro-loan from the MFI
 - Demand = 0, for all the other households.
- Definition of the demand for loans
 - Current borrowers of micro-loans at the time of survey;
 - (b). Non-borrowers who have applied for a micro-loan but were rejected by loan officials;
 - (c). Non-borrowers who did not apply for a micro-loan, because they thought their application will be rejected by the loan official anyway;
 - (d). Past borrowers who have quit the program because they had difficulties in loan repayment, and they want to borrow now but the MFI is unwilling to lend to them again.

IV. Demand for Micro-loans from the Households 2

- Hypotheses on independent variables
 - Investment opportunities, represented by incomes, ratio of off farm incomes, cultivated land areas, human and social capital of a household
 - Need for loan for smooth household consumption, using the large events in 2004
 - Access to other loans, especially RCC loans

IV. Demand for Micro-loans from the Households 3

Table 9. Estimation Results, Specific Model after Removing the Insignificant Variables

Log likelihood = -312.080 Number of observations = 557 Number of positive obs. = 395 Fraction of Correct Predictions = 0.718133				
			dP/dX	
	Estimated coefficients	t-Statistics	0	1
YTNA**	.927880E-04	2.05119	-0.000029499	0.000029499
YTNA2 **	-.429502E-08	-2.18594	1.36546D-09	-1.36546D-09
SCHW **	0.047723	2.44479	-0.015172	0.015172
YNOR **	0.605918	3.03894	-0.19263	0.19263
LA **	0.017473	2.38961	-0.0055551	0.0055551
RCC035 *	0.311081	1.89604	-0.098898	0.098898
A3 *	0.223424	1.70173	-0.07103	0.07103

IV. Demand for Micro-loans from the Households 4

- Discussion of the results
 - Following income grows, the probability of the demand increases up to a point and then decline, more fund for self investment?
 - YNOR significant, YWR insignificant
 - SCHW significant, positive, targeting women specifically, but SCH and Offi insignificant.
 - Large events in 2004, insignificant
 - RCC035 significant, positive, different from expectation, rationing and micro-loan of RCCs
- The results contradict with basic assumption of indirect mechanism, the micro-loan product target the poor automatically. The households have higher incomes, more off farm opportunities, higher level of education and more access to RCC loans demand more credit.

IV. Demand for Micro-loans from the Households 5

Estimation Results by Deleting the Households in the Top 20 Per cent Income Group

Log likelihood = -240.131 Number of observations = 421 Number of positive obs. = 288 Fraction of Correct Predictions = 0.684086				
	Estimated coefficients	t-Statistics	dp/dX	
			0	1
YTNA **	1.10E-03	3.3352	-0.00035588	0.00035588
YTNA2 **	-1.92E-07	-2.65266	6.19240D-08	-6.19240D-08
SCHW **	0.057031	2.51479	-0.018407	0.018407
YNOR	0.09632	0.321506	-0.031088	0.031088
LA *	0.016714	1.834	-0.0053945	0.0053945
RCC035	0.228984	1.16238	-0.073907	0.073907
YW **	-5.69E-05	-2.15812	0.000018364	-0.000018364
A3 **	0.317238	2.12422	-0.10239	0.10239

IV. Demand for Micro-loans from the Households 6

- YNOR becomes insignificant, but YW becomes significant, but negative
- Increases YW tend to reduce the demand for micro-loans
 - limited investment opportunities in off farm family operations
 - migrant labour does not need much fund investment;
 - incomes from migrant workers provide the families with cash for smoothing family consumption
 - Owing to the very small size of farms, the demand for investment in farm production is limited except for large-scale farm investment by specialist farm households.
- Implications
 - Outflow of rural labour tends to reduce the demand for credit for those households that have limited investment opportunities for off farm family production in local areas.
 - migration of large amount of rural labour from poor areas is expected to have a profound impact on the demand for credit from the poor and middle income households in these areas

Part V: The Demand for Micro-loans: Why Not? 1

Items	Observations	%	Y-mean RMB
Total Observations (for the project areas in the three Counties)	573		3,255
With Demand for MLs	407		3,438
Without Demand for MLs	166		2,806
Don't need a loan	71	42.3	
Do not Need a Micro-loan	38	22.6	
Of which: have access to other loans	7	4.2	
Did not apply poor repayment Capacity	26	14.9	1,539
Do not understand the micro-loan	4	2.4	
Other	15	9.5	
Total	168	100.0	

Part V: The Demand for Micro-loans: Why Not? 2

- Those have no demand for micro-loans:
 - over 40 per cent do not need a loan: more opportunities
 - a further 22 per cent do not need a micro-loan: loan design, frequent loan repayment and agricultural seasons
 - 15 per cent did not apply because they do not think they can repay the micro-loans. They effectively rationed themselves out of the market (risk rationed, see Bucher 2001). The average income for this group is significantly lower
 - A small percentage do not understand the micro-loans, promotion
- Risk rationed are the very poor households (Table 12)
 - Lower incomes and fewer opportunities, older and lower levels of education, higher proportion of sick family members, micro-loans may not solve their problems. Basic education, health and infrastructure, training to raise their demand. MF plus

Part VI. Conclusions and Policy Implications

- The middle and above middle income households are the major beneficiaries of the MFPs and more sustainable MFPs in China have failed to target exclusively the poor in poor areas of China.
- Supply factors: group guarantee, loan officials
- Results contradict one of the essential assumptions for the Grameen replicates in China that the design of these programs tend to target the poor automatically in the poor areas of China. MFPs with a higher borrowing cost have failed to reach the poor automatically, but increased the borrowing costs for all the micro-loan borrowers.
- the increases in the wage incomes of the households that have limited investment opportunities in off farm production tend to reduce the household demand for micro-loans as the migrant labour does not need financial investment and the wage incomes from migrant workers provide the families with cash for smoothing family consumption.
- MFPs can improve their outreach by improving their loan products and by promoting their products better to the farmers.
- For risk rationed households, MF plus to raise their demand for micro-loans
- Note: assumption: to achieve deep outreach