



THE IMPACT OF MICROFINANCE ON RURAL POOR HOUSEHOLDS' INCOME AND VULNERABILITY TO POVERTY: CASE STUDY OF THENI DISTRICT

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1.1. Introduction

Microfinance has become very important in global poverty reduction debates. The popular assumption is that enabling poor households access to credit helps households begin micro entrepreneurship which would enable them improve their incomes and eventually escape poverty. Evidence from research so far has been scanty, and many results have been highly contested. The main objective of the article was to analyze the impact of microfinance on household income as well as measure household vulnerability to poverty after access to microfinance. The study is an experimental case of Theni district where participants in microfinance programmes and non-participant households were studied over time; thus yielding a rich pooled data for analysis. On integrating time dynamics in the analysis, the results indicate a positive and significant impact of microfinance on household income. To this end, the paper argues that there is a role of microfinance on the improvement of household incomes. The thesis also re asserts that providing affordable financial services to the rural population still remains to be an important component of development strategy.

On the other hand, the article emphasizes that there is need to come up with innovative microfinance institutions that are supportive of their own role in assets accumulation and wealth creation for their clients. This will involve innovative targeting of potential clients, as well as streamlined microfinance regulations to protect their clients. In particular the study cautions that the ability of households to begin informal sole micro entrepreneurs should not be assumed to be adequate for the improvement of household income. There is need to create a policy framework to spur growth not only in the micro enterprises but also in the overall rural economy that would lead to the creation of employment opportunities and an increment in the agricultural output. This is quite a big task to accomplish and may require more than one particular policy intervention. In essence, this calls for both private (microfinance) and public partnerships to create the environment where such poverty reduction objectives could be realized.

The word microfinance is being used very often in development vocabulary today. Although the word is literally comprised of two words: micro and finance which literally mean small credit; the concept of microfinance goes beyond the provision of small credit to the poor. Christen (1997) defines microfinance as 'the means of providing a variety of financial services to the poor based on market-driven and commercial approaches' (Christen R.P., 1997). This definition encompasses provision of other financial services like savings, money transfers, payments, remittances, and insurance, among others. However many microfinance practices today still focus on micro-credit: providing the poor with small credit with the hope of improving their labour productivity and thereby lead to increment in household incomes.

Joint liability lending (JLL) which is the main focus of this study is the sort of microfinance model that is targeted to the very poor in society who cannot even borrow individually but must borrow within a group of other borrowers. Participants of joint liability lending must organize themselves in groups, and act as security for each other's loans. In reality, the group not the individual is responsible for loan repayment to the microfinance institution. The groups use peer pressure and peer monitoring to ensure that loans acquired by members are repaid. The poor through Joint Liability Lending microfinance programs mainly focus this study on participation and access to loans. The main interests of the study was to understand how members organized themselves in to borrowing groups; and how these groups operated as institutions, facilitating household access to credit. It was also the interest of this study to understand how households used the credit, and to measure the impact of that credit on household income.

1.2 Objectives of the Study

The general objective of the study was to analyze the impact of microfinance on household income and household future vulnerability to poverty. To achieve this there are four specific objectives:

1. To understand the socioeconomic attributes of households that participate in the Joint Liability Lending microfinance programs
2. To understand what determines household decisions for the loan sizes that they acquire.
3. To analyse the impact of microfinance on household income using both cross sectional and pooled data.
4. To investigate if participation in microfinance programs significantly reduces household vulnerability to poverty.

Study Hypothesis

In this study hypothesis, include

1. Microfinance has had a significant positive impact on household income
2. Participation in Microfinance programs significantly reduces household vulnerability to poverty.
3. Joint liability lending institutions attract the poorest of society



1.3 Overview of Research Methodology

To address the empirical objectives of the study, primary data was collected in 3 cross sections within Theni district of Tamilnadu. The data was collected for the same households for a period of six months; thus giving us a rich pooled primary data for analysis. The data was collected using questionnaires that focused on household access to microfinance, household uses of the credit, as well as fluctuations of household income over the period. To achieve a more accurate data about household incomes and expenditure and to be able to capture any changes including marginal changes over the relatively short period, we used relative measures of income and poverty measures mainly focused on household access and ownership of assets, and the fluctuations therein within the period.

The overall study is designed as an experimental case study. A randomised sample of 100 treatment households (participants of Microfinance programs) and 100 control households (non -participants of microfinance programs) in every cross section was used. Data in this study is analysed using both qualitative and quantitative techniques.

1.3.1. The Methodology

The study is designed as an experimental case study using panel data. A randomized sample of respondents from 16 villages in Theni district was used. There were two sets of respondents; one set consisted of 100 respondents who were microfinance recipients. The criterion for choosing the microfinance participants was that the respondent should not be older than two months in the program at the beginning of the survey. The idea was to capture household socioeconomic welfare before and after the micro credit loans. A list of all new lending groups (up to two months old) was obtained from the local offices of the microfinance intuitions operating in the area. From this list respondents were selected randomly. It turned out that the respondents were from 16 different villages, all within proximity of up to 10 kilometers radius from the microfinance institution's local field offices, which were mainly located within the main area.

Rapid appraisals in the form of focus group discussions with joint liability borrowing groups and semi structured interviews with key informants were used. The rapid appraisal provided a platform where issues related to microfinance like group lending and group activities were discussed openly and respondents were able to check each other to avoid situations of exaggerations or misreporting. Participant observation was also quite helpful in accessing in-depth detailed information about the operations of solidarity groups. Participant observation in this sense refers to the informal interaction of the researcher and the local community in the study area by way of temporary stay within the community. This way, it was possible to observe the respondents go about their day today activities without them fearing that they are being studied. This makes it possible to learn first hand the realities of household, community and individual behavior towards microfinance. Most importantly through participant observation it was possible to observe practical issues of how some individual household attributes and Lending Groups influence loan uses, repayment and general household activities that affect household incomes. The other set of respondents was for control purposes. It consisted of a random sample of 100 respondents who did not receive micro credit loans at the beginning of the survey.

Formal Structured questionnaires were administered every six months to both participants of microfinance and non-participants. For the microfinance participants, the idea was to capture, group participation, new loans, uses, and loan repayment as well as household incomes. While for non-participants, the idea was to keep up with households' socioeconomic activities and understand any welfare changes in the absence of microfinance.

2.1 Results and Discussion

The following table summarizes the econometric results (regression model)

T able 1: Determinants of household loan size decisions (regression model)

Variable	Coef.	Z	Marginal effects	Z
Loansize				
Mrkt	-.232728*** (.0851112)	-2.73	-.232728** (.08511)	-2.73
Ince	.231429*** (.0375725)	6.12	.2304376*** (.03763)	6.12
Age	.0499669* (.0304005)	1.71	.0533895* (.03114)	1.71
Agesq	-.000725* (.0004142)	-1.81	-.0007704* (.00043)	-1.81
Sizesq	-.0032255	-0.55	-.0032775	-0.55



	(.0058512)		(.00585)	
Size	.0797829	1.16	.0800425	1.16
	(.0688764)		(.06878)	
Sex	.0345394	0.43	.0339261	0.43
	(.0805827)		(.08062)	
Edu	.0034313	0.21	.0030978	0.21
	(.0143766)		(.01447)	
Y	.2714206**	2.23	.2737702**	2.28
	(.1219273)		(.03763)	
Constant	7.969119***	10.45		
	(.7629369)			

The following table summarizes the econometric results (selection model)

Table 2: Determinants of household loan size decision (selection model)

Select	Variable	Z
Edu	.0127257	0.13
	(.0983627)	
Age	.0132118	0.31
	(.0423188)	
Employ	-.4118695***	-3.04
	(.1352713)	
Agesq	-.0002798	-0.51
	(.0005488)	
Edusq	-.0008652	-0.16
	(.0053173)	
Y ²	-.0000364	-0.39
	(.0000922)	
Y	.5049152*	1.79
	(.2814681)	
Constant	-.766464	-1.54
	(1.148284)	
Prob>chi2	0.000	
Chi2	0.60	
Sigma	.5621982	
Lambda	.2125409	
Key		

*** Significant at 1 %, ** Significant at 5%, * Significant at 10%
 Standard errors are in parenthesis

Source: Field data

The results indicate that access to market is very significant in explaining the loan sizes that household acquire. Households living nearer to the main shopping centers along the main highway will acquire significantly larger loan sizes than households living further away. Several reasons could be used to explain this result: The first is access to market by such households thus the ability to have bigger enterprises. The second could be that households near the main highway shopping centers may have more household incomes and thus the ability to convince their peers of their ability to repay bigger loan amounts. The age of household head has a significant positive relationship with loan sizes up to a certain maximum threshold. Increasing the age of household head beyond this threshold starts to have significant negative relationship with



household loan sizes. This result could relate to household socio economic status. Households headed by younger heads may be better off in the rural areas than households headed by a head who is older than a given threshold. Dynamic incentives offered by the microfinance institutions have positive significant relationship with loan sizes. The more a household stays in the microfinance program the larger the loan sizes it can access in the future. This is because each time a household repays a loan successfully; they stand to acquire a larger loan the next time they borrow. Household income also has a significant positive relationship with loan sizes in that wealthier households are also likely to access larger loans.

The selection model results show that participation in a micro credit program is significantly influenced by employment status of spouse or head of household as well as household income. Household that have extra regular household incomes are not likely to participate in JLL programs. Household wealth has a significant positive relationship with Participation in JLL micro credit programs up to a certain threshold. After these thresholds, households with more wealth are not likely to participate. Overall the results suggest that poorer households that participate in JLL micro credit programs acquire smaller loan as compared to other better off participants.

T able 3: Impact of microfinance on household income (first cross section)

Variable	Coefficient	Std.error	Z
Lninc (lnY)			
Age	0.0161776	0.01427	1.13
Agesq	-0.0000115	0.0001786	-0.06
Sizehh	0.1525696***	0.0383012	3.98
Sizehhsq	-0.0100133***	0.0034889	-2.87
Edu	0.0246523***	0.0078954	3.12
Sex	0.113181**	0.048827	2.32
Mrk	-0.2271299***	0.0471366	-4.82
Partc.	-0.9184083*	0.5520232	-1.66
Impact	0.0014682	0.0318898	0.05
lamnt.	0.0933021*	0.0556059	1.68
Employ	0.0135485	0.0480091	0.28
Constant	2.603476***	0.2780794	9.36

Summary statistics

R Squared: 0.2808 Adjusted R squared: 0.2600

Prob>F: 0.0000

Key :*** Significant at 1 %, ** Significant at 5%, * Significant at 10%

Source: Field data

The results indicate that there exists a significant positive relationship between the size of household and household income up to a certain maximum threshold. Beyond this threshold larger households have a significant negative relationship with household income. Education level of head of household is also positively related to household income. Female-headed households tend to have lower incomes than male headed households. Access to market significantly increases household incomes. The results also show that households participating in joint liability borrowing had significantly lower incomes than non parting households, and that the amount of loan borrowed in the initial period has a significant positive relationship with household income. However in this study we fail to show that microfinance has significant positive impact on household income.

T able 4: Impact of microfinance on household income (second cross section)

Variable	Coefficient	Std.error	T
Lninc (lnY)			
Age	0.0245318*	0.0139324	1.76
Agesq	-0.0001587	0.0001748	-0.91
Sizehh	0.1296524***	0.0375018	3.46
Sizehhsq	-0.0082168**	0.0034177	-2.40
Edu	0.0147896*	0.0078069	1.89
Sex	0.0934801*	0.0479336	1.95



Mrk	-0.2160787***	0.0463472	-4.66
Partc.	-0.4775297	0.5419591	-0.88
Impact	0.0251584	0.0206003	1.22
Lamt	0.043944	0.0549016	0.80
Employ	0.0023608	0.0475067	0.05
Constant	2.712935***	0.2724612	9.96

Summary statistics

R Squared: 0.2514 Adjusted R squared: 0.2300

Prob>F: 0.0000

Key: *** Significant at 1 %, ** Significant at 5%, * Significant at 10%

Source: Field data

Same as the previous period, there is a significant positive relationship between the size of household and household income up to a certain threshold after which larger households have a significant negative relationship with household income. Education level of head of household is also positively related to household income. Female headed households tend to have lower incomes than male headed households. Households that have a closer access to the market have significantly more income than households that are located far from the market. Once again we fail to show positive significant impact on household income due to participation in microfinance programs.

3. Concluding Remarks

In the quantitative section, it was possible to show that participation in joint liability lending microfinance programs in our study context is mainly influenced by household desperation for lack of other sources of a regular income. It was also established that joint liability lending programmes that are supposed to target the poorest in society does not reach the very poorest who do not have individual household assets. This is mainly due to peer discrimination in to the borrowing groups. There are policy implications if microfinance can not reach the very poor. There may be a need to re-examine the real issues contributing to household poverty and re evaluate how microfinance could be integrated with other poverty reduction policies to form a sustainable synergy.

Dynamic incentives by microfinance institutions are very important in determining the loan sizes that households acquire. All else constant, it is a good sigh especially if households continued to get bigger credit after repayment of their earlier loans. But the problem in the study context is that households were involved in debt spirals as they sought more debts to conceal due loan instalments and end up acquiring bigger debts. The problem here may not be the loan incentives by the microfinance institution, but rather the same question of why the households needed the loans and the best way to meet the household welfare maximising point without necessarily going in to excess debt.

Cross sectional analysis failed to show any significant positive impact of microfinance on household income. Though the study region had been plagued by five years drought and almost a complete failure of all agricultural activity, there had been lot of support coming from government a and donors. On the average, all households both participants and non participants of microfinance programmes registered increases in household welfare. On controlling for selection biases and endogeneity issues then the real increase in household income due to microfinance was insignificant; at least with cross sectional analysis. However after the inclusion of time dynamics in the analysis we were able to show significant impact (though weak) of microfinance on household income but only in the later period. This implied that it is possible for microfinance to have positive impacts on household incomes. Further positive impacts on household incomes would only come after persistence participation in the programmes. In the initial period we failed to show significant negative impacts of microfinance on household income. This implied that some households may have experienced negative impacts, though on the overall this is not significant. The drop out rates of households from microfinance programmes was 33 %. Negative impacts of microfinance are associated with high drop out rates from programmes by households.

The study also failed to show that on the overall participation in JLL microfinance significantly increases vulnerability to poverty, as implied by some earlier studies. In this study context microfinance did not have significant impacts in either increasing or reducing household vulnerability to poverty.

The overall aim of the thesis was not to qualify or disqualify the use of microfinance for poverty reduction; but rather to enrich the knowledge base on how microfinance impacts on household income. The next chapter motivates future research in the area by proposing a theoretical propagation of how microfinance would fit in the bigger picture of rural development and



poverty reduction. The goal of the chapter is mainly to generate hypothesis; but empirical research in the future would be useful to generate conclusive information. The section is not only supposed to provoke further empirical research but also shape the direction of further research in to the role of micro entrepreneurships in rural development. Especially the section is aimed at provoking future research in to a sustainable role of microfinance and rural household poverty reduction.

4. Conclusion and Policy Recommendations

The debate about microfinance still goes ahead and the United Nations Capital Development Fund (UNCDF) has estimated that the global demand for microfinance ranges from 400 to 500 million of which only around 30 million are reported to have access to sustainable microfinance services in 2002. The number of customers that use microfinance has grown between 25 to 30% annually over the last five years (UNCDF 2007), and the trend is expected to continue. These statistics revoke mixed feelings among different stake holders. Skeptics are worried that the huge publicity accorded microfinance does not commensurate with empirical findings on the actual role of microfinance and poverty reduction. The fear for the skeptics is that donors and policy makers may withdraw resources from other poverty alleviation policies in favor of microfinance; an action that has been feared to be a possible policy blunder especially if there is no proven history of a strong role of microfinance in poverty alleviation. In particular it has been argued that the demand for micro credit is supply driven mainly by donors and NGOs and that micro credit is likely to thrive in areas where there is high population growth rates and high levels of poverty. In this light, skeptics argue that "the fact that more and more households are embracing microfinance should not be interpreted to mean that they are improving their welfare; especially given that no study so far has shown any strong and robust impact of microfinance on poverty reduction".

In conclusion, to this study it is argued that there is a role for microfinance as a poverty reduction policy tool. However it is emphasized that if microfinance is chosen as an intervention policy for poverty reduction there is need to set clear objectives for the indicators of economic empowerment for the people. More importantly, the ability of households to begin informal sole micro entrepreneurships should not be assumed to be adequate for the improvement of household income. There is need to create a policy framework to spur growth in the enterprises as well as the rural economy as a whole through the creation of employment opportunities and an increment in the agricultural output. To achieve such objectives more than one policy intervention may be required. In essence this calls for both private (microfinance) and public partnerships to create the environment where such poverty reduction objectives could be realized. Overall there is need to have a sustainable mix of both market and non- market policy interventions for poverty reduction if the impacts due to an intervention policy are to be sustainable. This is so because the structure of markets in which households operate is critical in shaping household response to exogenous policy changes. The existing market structure is also very important in determining the impact of policy interventions on the target output.

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