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Micro-credit – More Lifebuoy than Ladder?
Understanding the role of micro-credit in coping with risk in the context of the Andhra Pradesh Crisis

Anita Kumar

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Development Studies Institute

London School of Economics and Political Science

Houghton Street

London

WC2A 2AE UK

Tel: +44 (020) 7955 7425/6252

Fax: +44 (020) 7955-6844

Email: d.daley@lse.ac.uk

Web site: www.lse.ac.uk/depts/ID

Abstract

While traditionally micro-credit has focused on developing 'micro-enterprises' and the productive capabilities of the household, over time it has emerged that micro-credit plays an important role in smoothing consumption and income for the poor, as their income is not only low, but also unpredictable and irregular. The Andhra Pradesh Ordinance in late 2010 which brought micro-credit activities in the state to an abrupt halt acted as a natural experiment for this study. Using personal interviews with borrowers in two groups of bordering villages - one where micro-credit access continued uninterrupted and one where credit access was withdrawn, this study finds that micro-credit might not be the ladder out of poverty as envisaged three decades earlier, but definitely acts as a critical lifebuoy which keeps a poor household afloat. Sudden and complete withdrawal of credit like that experienced by the AP borrowers has a huge negative impact on the well-being of the poor.

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I. Introduction

Financial inclusion for the poorest and the neediest has been the quest of many developing countries for a long time. This quest gathered momentum with the success of the Grameen Bank model, and micro-credit was widely credited as the latest panacea for poverty reduction. However as pointed out in the initial years, empirical evidence on the impact of micro-finance was conspicuously absent and the positive consequence on income-generation was largely assumed (Morduch 1998, Morduch 1999). Over the last decade, the actual 'impact' of micro-credit on income levels of a household has been questioned and a number of studies have looked at 'measuring' the impact of micro-credit through randomized trials or non-experimental data (Banerjee et al 2010, Karlan and Zinman 2011). While traditionally micro-credit was focused on developing 'micro-enterprises' and the productive capabilities of the household, over time practitioners in this sector have realized that credit is used for multiple purposes, not all of it necessarily productive. Micro-credit plays an important role in smoothing consumption and income for the poor due to the fact that their income is not only low but also unpredictable and irregular, especially during times of external shocks or household emergencies. While extensive work has been done trying to understand how the poor manage their meagre finances and cash flows (Collins et al 2004, Rutherford 2000), and some amount of work has gone into studying the consumption smoothing behaviour of poor households (Zeller 1998, Zeller 1999, Zeller and Sharma 2000, Menon 2003, Nourse 2001), the debate on whether micro-credit has been able to make any permanent improvement to the income levels of the poor or whether its primarily role is to help smooth consumption is far from settled. Very recently, it has been shown using randomized trials and impact evaluation in Philippines that micro-credit may not be making any positive impact on growth or scale of businesses (Karlan and Zinman 2011); however what it might improve is the household's risk-coping ability. It is this literature which this current paper intends to contribute to.

This paper is set in the context of the recent micro-credit crisis in Andhra Pradesh, a southern state in India that has sent alarm bells ringing across the world about the dangers of fast growth in this industry. The crisis was triggered by a sudden Ordinance passed by the AP government in October 2010 effectively stopping all Micro-Finance Institution (henceforth MFI) operations in the state, purportedly to protect the poor from being exploited by institutions following irresponsible lending and collection practices. However, the reasons for the Ordinance appear to be more political than practical. This paper does not go into details of the ordinance and only briefly discusses the causes of the crisis. What the crisis does present, however, is a unique opportunity to study the impact of micro-credit, as the Ordinance has been in effect only in the state of Andhra Pradesh where lending has come to a standstill, while business in the rest of the country including neighbouring states continues unaffected. In effect, this arguably random event of passing the Ordinance in AP gives us a chance to study first-hand what happens when the poor have had continuous access to formal micro-credit for a number of years and then this access is withdrawn. While Karlan and Zinman use experimental data over two years to quantitatively measure the impact of micro-credit (Karlan and Zinman 2011), this paper tries to provide qualitative insights on the risk-reducing role of micro-credit. Have the micro-credit consumers built up any assets over the years which they can utilize or do they have to revert to informal borrowing from moneylenders at usurious interest rates? Did the credit-flow for a number of years have a lasting impact on their poverty status or was it used mainly for consumption smoothing? Has the risk-coping ability of the poor households improved due to the continuous access to micro-credit which is manifest even when the access is withdrawn?

Using personal interviews with 49 households in villages both sides of the Andhra Pradesh-Tamilnadu border, and also interviews with MFI staff and a few moneylenders, this paper tries to find some leads to the above questions. It finds evidence which supports the claim that while micro-credit does not necessarily have a permanent impact on income-status nevertheless it does play an important role in increasing the financial ability of borrowers and improving their idiosyncratic risk-coping abilities by providing them with livelihood and savings opportunities which do not exist otherwise. This is in accordance with the findings in the literature (Karlan and Zinman 2011, Zeller 1999, WB 2001). In the absence of micro-credit, the poor are found be vulnerable to the dynamics of the informal market and are categorically worse off. However, this paper finds evidence contrary to Karlan and Zinman on the subjective well-being of borrowers, based on the obvious negative effects of the lack of micro-credit access. Indeed access to micro-credit appears to contribute to the positive well-being of the borrowers.

The current paper is organized as follows – Part II gives a brief background about Micro-credit in India and the Andhra Pradesh crisis. This provides the setting for Part III which describes the research design and methodology used in this study. Part IV deals with the theoretical debates surrounding micro-credit and the hypothesis formulation while Part V consists of the findings of the primary work and the surrounding discussion. Part VI specifies the limitations of this study and areas of further research, and Part VII concludes.

II. Micro-credit in India and the Andhra Pradesh Crisis

Financial inclusion for the rural poor has traditionally been led by the government of India. Various laws and policy directives were put in place starting in the 1970s with the aim of increasing access to credit and savings for the rural population. The National Bank for Agricultural and Rural Development was established in the early 1980s to facilitate credit flow to rural areas primarily to develop agriculture, small scale and village industries and also to act as the co-ordinator for rural credit operations. Self-Help Groups (small groups of 10-20 women) also came into being around the same time, initially to extend rural development initiatives. The groups also went on to mobilize savings and later with the advent of bank-SHG linkage program facilitated large amounts of lending to the rural households (CGAP 2010, CMF 2010).

Private Micro-Finance Institutions appeared in the scenario in the early 1990s after economic reforms got underway. Initially most of them started out as non-profit organizations, but soon for-profit Non-Bank Finance Companies became the norm. This new breed of MFIs benefited from the SHG structure which was already in place and used Joint Liability Guarantee as the principal mechanism of credit disbursement. Currently there are about 250 MFIs operating across the country (CGAP 2010).

The southern state of Andhra Pradesh (henceforth AP) has one of the oldest and most comprehensive state-led initiatives for Micro-Finance. Women's self-help groups have been used to implement various poverty-reduction programs since 1979, and in 2000, it was massively scaled up with the Andhra Pradesh District Poverty Initiatives Project, or the Velugu program which aimed to reach 860 sub-districts in 22 districts and 2.9 million of the rural poor (Deshmukh-Randive 2004). In a recent survey three-quarters of the households were found be a member of an SHG (CMF 2010). While the coverage is impressive, the depth of the program is an issue – in order to maintain the heavily subsidized interest rates the program has to compromise on the amount of funds disbursed.

It is no surprise therefore, that AP also has the highest penetration of microfinance in India with close to 5 million borrowers residing in this state - a quarter of the total number of borrowers in India. Many of the biggest microfinance institutions started their operations in AP, and since 2000 the number of borrowers has been doubling every year with MFIs growing at a frantic pace (CMF 2010, Ghate 2007).

In August 2010, SKS, the largest MFI in India was the first MFI to go public. The IPO was oversubscribed by 13 times by institutional investor and was valued at $1.5 billion (CGAP 2010a). This was 40 times the company's earnings for the fiscal year 2010. However, while huge demand existed for the loans, the blistering growth experienced by the MFIs resulted in certain crucial customer-centric practices such as client origination, recruitment, collection practices etc being compromised (Ghate 2007). Repayment rates in the excess of 97% were attributed to the 'zero-tolerance' collection practices of the MFIs. When some cases of suicides due to debt in AP came into light in October 2010 (54 debt-related cases as per official statistics), the government decided to act by clamping down on the MFIs. 'An ordinance to protect women's self-help groups from the exploitation of micro-finance institutions in the state of Andhra Pradesh' was passed by the state government on 15th October 2010 which required every MFI operating in the state to register with the local council and get their approval before any loan was given or recovered and also sought a complete halt in all repayments until the MFIs obliged. While the micro-finance industry as a whole admitted to lapses in certain practices, the ordinance was seen as an act of political vengeance against the for-profit MFIs to protect the government-run Velugu program. The ordinance brought the entire MFI operation to a standstill in AP and brought about a crisis situation with repayments dipping to 10-15%, MFIs being forced to stop loan disbursements, and investors unwilling to lend to the MFIs amidst such uncertainty (Legatum 2011).

III. Research Design and Methodology

a. Research Design and Identification Assumptions

The current study was undertaken in the backdrop of the AP crisis. While almost zero fresh disbursements have taken place since November 2010, some amount of repayment continues to happen depending on the area and the strength of the MFI-borrower relationship. Currently over Rs.5000 Crore (Approx $1 Billion) of MFI loans is still outstanding in AP (Legatum 2011). On the other hand, operations in rest of the country continue as before and have not been impacted by the crisis. This study therefore makes use of the random discontinuity of loan disbursements across border villages with similar MFI operations. Borrowers in the Tamil Nadu (henceforth TN) villages act as the control group with no change in their ability to access MFI credit while borrowers in the AP villages are the treatment group which experienced an abrupt stop to credit-access. Hence it is possible to study the impact which lack of micro-finance has had on the treatment group and get an understanding about the role of micro-credit.

The key identification assumption is that households close to the border (within a 25 km radius) are similar on all unobservable parameters. This assumption is defensible for a number of reasons – the village profiles are very similar, labour opportunities and agricultural patterns are similar, income levels of households are comparable and the same MFI operates across these villages with identical credit terms. AP shares borders with 5 other states – TN, Karnataka, Orissa, Maharashtra and Chattisgarh. The choice of the AP-TN border was based on time and resource constraints. Also, TN as a state is very comparable to AP and has a number of MFIs operating, though the penetration is slightly lower. Table 1 provides statistics on MFI operations in the two states. As can be seen, the outreach of MFIs in the two states is reasonably comparable while the SHG prevalence is much higher in AP. However, our primary focus is on the villages.

Table 1

State	AP	TN
Population (2011 census)	84665533	72138958
Total no. of MFIs operating in the state	40	39
Number of MFIs having HQ in the state	32	24
Number of Banks providing microfinance services	48	48
Total number of SHGs in the state	1448216	826710
Total credit - client outreach	26842084	12116944
Of which MFIs outreach	6244108	4572806
Of which Banks outreach	20597976	7544138
Total portfolio outstanding(in lakhs)	1697467.67	644651.86
Of which MFI (in lakhs)	523514.05	238709.36
Of which SHG (in lakhs)	1173953.62	405942.5
No. of districts served by MFI	23	32
Of which no. of poorest districts	19	10

***Source – Sa-Dhan Micro-finance Map of India**

b. FFSL Operations and Project Methodology

The primary source of data for this paper is the data gathered from interviews with 49 clients of a single MFI conducted over five days in July 2011. This was 8 months after the Ordinance was passed and therefore consumers can be reasonably expected to have devised their own financial strategies without access to micro-credit. The co-operative MFI - Future Financial Services Limited (FFSL) – was chosen based on information provided by Sa-Dhan, a leading Microfinance network in India with a membership of 169 MFIs across India. FFSL has operations in 4 bordering districts of AP, Karnataka and TN with headquarters in Chittoor district of AP. The map in Appendix 1 shows the areas of operation of FFSL.

This particular MFI has been in operation for the last 15 years. As of March 2010, the total client outreach for FFSL was 257,991 and the loan portfolio was $54 Million with an asset base of about $63 Million. Just a month prior to the AP Ordinance being passed, a venture fund Indian Finserve Advisors (IFA) acquired stakes in FFSL. For context FFSL is the 6th largest MFI in Andhra Pradesh and is therefore quite representative of the MFIs operating in India. FFSL offered loans on an annual basis at a 21% declining interest rate which together with the set up fees etc worked out to an interest rate between 24-26% depending on whether it was a weekly or monthly repayment (the more remote groups were monthly).

The management at FFSL agreed to share borrower-data for the purpose of this study and the field staff also assisted in identifying the exact villages where the interviews were to be conducted. Exhaustive village-level maps for India do not exist and it is very difficult to find these villages without field-experts who physically identify the villages and hand-draw the maps for their use. After getting a list of border villages from the field staff of FFSL, 6 villages were chosen to conduct customer interviews based on their location, operations and village profile as provided by the Census of India website.

The choice of villages can be seen on the map in Appendix 2. The majority of the interviews were conducted in the bordering villages of Keelapattu, Mitta Undlu, Papasamudram and Velanjeri, Nemili and Nedambaram. As can be seen these villages fall within a 25 km distance and can be expected to have similar weather patterns and hence agricultural employment patterns. Land use patterns and non-farm employment opportunities were also found to be closely comparable. Majority of those interviewed had no land, except a few women who grew flowers on a patch of land. Appendix 3 lists the village profiles and as can be seen all the villages are extremely small with approximately 500 households, with only one of the six having access to banking facilities. They have similar access to schools, water facilities and other infrastructure such as roads, communication and other post and telegraph services. While agriculture is the pre-dominant occupation for most of the villagers, it is also seasonal, and majority of the population is land-less and have other sources of income.

The choice of borrowers to be interviewed within these villages was random. In the case of TN, as lending operations continue unhindered the Credit Officer (CO) was able to arrange for the groups to come together and a combination of individual and group interview method was used. The CO was requested to not be part of these interviews in order to avoid interviewer bias. In the case of AP, the CO helped with locating the villages but did not come in as the situation was still unpredictable with most groups defaulting on their loans. We therefore interviewed whoever was available at that point and there was no systematic pattern in those who were available and those who were not. While most of the clients were interviewed at home, in some cases we went to the place of employment like the local tailoring shop or the school. Most of the questions were close-ended but was conducted in a conversation style and questions apart from those in the questionnaire were used to understand the complete picture. The primary questionnaire can be found in Appendix 4.

That there was close to zero spill-over across the border villages in this study can be deduced by the fact that the borrowers interviewed in TN had no idea about any crisis which was happening just a few kilometres across the border, and repayments and disbursements were continuing without any dip whatsoever. Borrowers interviewed ranged from those who were taking their first loan to many who had been taking loans for years. However, majority of the clients interviewed on both sides of the border were in their 3rd or 4th cycle of loans with FFSL.

IV. Theoretical Arguments and Hypotheses Formulation

Based on available literature and expectation of the situation in AP post the crisis, a number of hypotheses regarding the informal credit market as well as the risk-reducing role of micro-credit could be formulated. The primary purpose of this study was to understand how the sudden lack of access to micro-credit impacted borrowers and compare their risk-coping strategies with those in the control group who continued to have access to micro-credit. While these hypotheses cannot be tested without rigorous quantitative data, the interviews could be used to provide some preliminary conclusions.

a. Micro-credit and its effects on informal borrowing

Before proceeding to the hypotheses formulation, it would be useful to understand the various sources of credit available to the rural poor, specifically in the Indian context. Malcolm Darling who was the administrator scholar in Colonial Punjab, once made the statement '*the Indian peasant is born in debt, lives in debt and dies in debt'*. This might not be completely true, but does capture the sentiment of how the rural poor's life revolves around debt. The findings from the All-India Survey of Debt and Investment 2003 show that 27% of the rural poor are indebted, and this is an increase from the 23% in 1991 (NSSO 2003).

Informal sources still serve the majority of credit needs in spite of extremely high interest ranges. This includes pawnbrokers and moneylenders who offer unsecured or secured loans (gold serving as the usual security), often ranging from 36% to even more than a 1000% interest rate per annum (Devaraja 2011, Rutherford 2000). Interestingly, when borrowers speak of interest rates it is in terms of Rs. x per Rs.100 of loan amount. What crucially gets missed is the loan period. In many cases while the quoted interest rates may be 2%-3%, the loan period would be just 10 months or even 10 weeks which when calculated on an annual basis becomes significantly more expensive. To illustrate, a borrower might get an unsecured loan of Rs.1000 from a local moneylender at a stated interest rate of 2% per month which might seem very similar to the formal sources of credit available. Usually, in an unsecured loan, the moneylender holds back 10% of the loan amount as security to cover the cost of risk incurred. Secondly, and more importantly, the loan period would usually be very different. A Rs.1000 loan would usually be for a period of 10 weeks, which translates into a flat interest rate that does not decline with the diminishing principal amount. The rate of return on a weekly basis turns out to be 2%. This works out to an effective annual interest rate of 102%. Hence while the overt interest rate mentioned by the lender or the borrower is only 2%, the actually interest rates are far higher. The borrower is usually aware of this.

Other sources of credit include the local landowner on whose farm the borrowers usually work. While interest rates may be not as high, these landowners might not always be able or willing to lend. Various anti-usury laws have been implemented right from the colonial period, most of which have failed in implementation (Devaraja 2011).

Yet another creative way of borrowing often utilized is to pay for goods/services by credit. Be it groceries at the local shop or the doctor's fees, depending on the perceived trustworthiness of the client, these are common credit sources, usually at zero rates of interest. Family, friends and neighbours are usually a constant form of support and as mentioned in the literature, there are continuous transactions which occur usually of very low amounts ($5-$25). Apart from these informal sources, there are the government banks and government SHGs which lend at heavily subsidised rates. Finally of course are the MFIs, offering credit at annual interest rates anywhere between 12-36%. Table 2 gives the share of various sources of debt of the Rural Household.

Table 2

Share of Rural Household Debt by Source, India, 1951-1991 (%)

Credit Agency	**1951**	**1961**	**1971**	**1981**	**1991**	**2010**
Cooperatives and Commercial Banks	5.7	10.3	24.4	58.6	58.8	52.8
Government and other formal sources	3.1	5.5	7.3	4.6	7.5	7.8
All Institutional Agencies	**8.8**	**15.8**	**31.7**	**63.2**	**66.3**	**60.6**
Professional and Agriculturists Moneylenders	68.6	62.0	36.1	16.1	17.5	18.2
Traders		7.2	8.4	3.1	2.2	4.8
Landlords		7.6	8.6	4.0	4.0	5.7
Relatives and Friends	14.4	6.4	13.1	11.2	4.6	4.4
Other Sources	8.2	0.8	2.1	2.4	2.3	4.6
All Non-Institutional Agencies	**91.2**	**84.0**	**68.3**	**36.8**	**30.6**	**37.7**
Sources not specified	0.0	0.2	0.0	0.0	3.1	1.7
Total	**100**	**100**	**100**	**100**	**100**	**100**

Source: All-India Debt and Investment Surveys as compiled in Devaraja 2011

As seen above, the share of moneylenders in the rural credit market has been dramatically reducing over the past few decades. While this is good news, it is still the poorest of the poor who end up with usurious debts.

According to available literature, there are various theories about the effect of micro-credit on informal borrowing. While the increase in formal credit sources such as banks could possibly reduce the reliance on informal sources of credit (Binswanger and Khandker 1992, Karlan and Zinman 2011) and as seen from the above table as well, it is possible that formal credit improves the credibility status of the borrower and facilitates informal borrowing during emergencies while the lack of it might negatively affect informal borrowing capacity (Conning and Udry 2005 as cited in Karlan and Zinman 2011)

In the current situation, consumers in Andhra Pradesh have been actively borrowing from MFIs for a number of years. It is highly likely that they are dependent on this stream of cash flow and without it would have to resort to informal borrowing – be it family, friends or moneylenders. It is also plausible that moneylenders would take advantage of the current crisis and charge exorbitant interest rates. On the other hand, it is possible that moneylenders continue to operate at regular rates as they expect the crisis to end anyway. Similarly, if the credit access over the years had fulfilled at least part of its promise of removing people from poverty, then it should have made them more resilient and moved them beyond the clutches of exploitative moneylenders. Hence one hypothesis which can be tested is the following:

Hypothesis 1: Without access to formal micro-credit, informal borrowing would have gone up and also the informal interest rates.

b. Micro-credit as savings, and insurance against risk

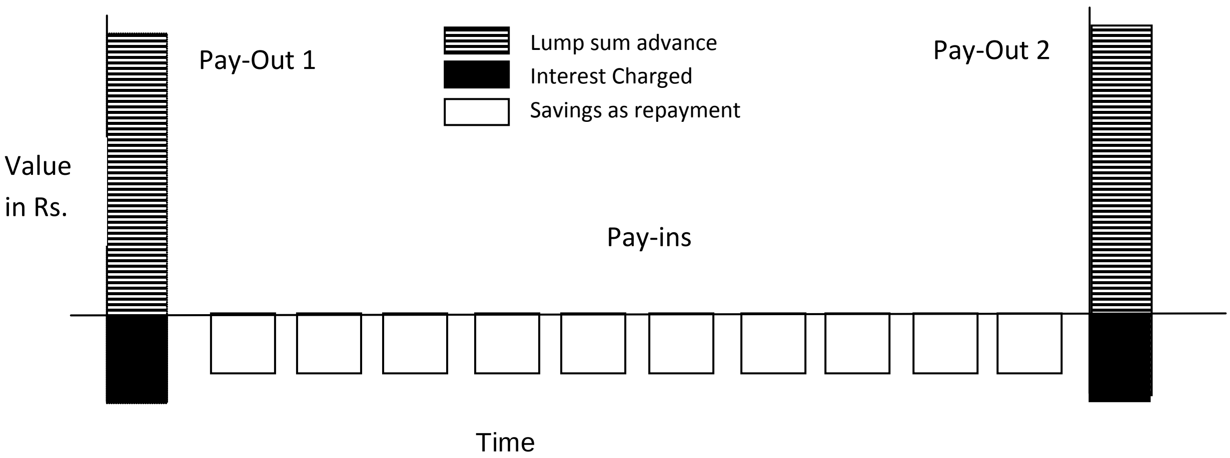
Poor households face a variety of risks – health risks due to poor nutrition and low quality of water and sanitation as well as risky occupations, livelihood risk due to the uncertain nature of their employment and seasonality of agriculture, risks due to death and associated costs for social events, risks due to macro-economic shocks and inflation, risks of natural disasters and many more (Zeller 1999, ADB 2007, Raju and Chand 2009). It may be useful at this point to differentiate between the day-to-day risks which households face due to illnesses, inflation etc and transitory losses of income, and unexpected big shocks such as natural disasters, droughts or macro-economic shocks which impact the whole community. This is the same as differentiating between idiosyncratic and covariant risks (Zeller 1999).

The poor often have a variety of financial instruments - not all of them sophisticated - to deal with risk as well as non-financial coping mechanisms (Rutherford 2000, Collins et al 2009). As pointed out by some authors, for risks which are small and occur with high-frequency, savings and emergency loans could be the most appropriate response while for more complete coverage against large losses formal micro-insurance would be a better strategy (Churchill 2008, p14). The role of micro-insurance is an altogether separate topic, which is not within the scope of this paper. Suffice to say that while micro-insurance is one of several risk-management tool in many poor developing countries, insurance products are yet to make an impact for the poor, primarily due to the difficulty in designing a product which meets their demands (related to the problem of irregular cash-flow); and a product which is also profitable, as insurance also faces problems of high transaction costs, moral hazard and inappropriate distribution systems (Churchill 2008, p.19, Armendáriz and Morduch 2005 p.166). In such a scenario, the poor are forced to cope with risk using their own resources. Maintaining a diverse portfolio of livelihood with multiple working members is a common coping strategy (ADB 2007 p89-98, Ellis 1998).

As discussed in a report by the Asian Development Bank, people cope with poverty in three ways – local strategies, while remaining in their villages or towns; commuting to nearby towns or cities for employment; and migrating out of their village. Local strategies include taking on debt at exploitative terms and conditions, selling off assets, and depending on common resources. In difficult times, or when households face a financial risk, they respond by foregoing meals, migrating out of their villages, distress sale of assets and working in hazardous occupations amongst other strategies (Cohen and Sebstad 2000, ADB 2007).

Our principal focus is on the role of credit, especially micro-credit in smoothing income and consumption. Credit markets pool risk as households experience various positive or negative shocks at different points in time and the free flow of information within the village or between family members facilitates credit to play a direct role for insuring against risk (Udry 1990). While these point to the risk-sharing between households in a community, formal micro-credit itself can act as insurance against risk. A lot of attention these days is devoted to theories on developing holistic financial solutions for the poor which include savings and insurance and not just credit (Armendáriz and Morduch 2005, Collins et al). Indeed there is ample evidence which suggests that for micro-credit to serve its development function, credit alone might not be sufficient (Harper 1998, Morduch 1998, Zeller and Sharma 2000).

However, even though micro-finance has not yet evolved to that extent in India, poor households themselves often develop innovative ways of using micro-credit as a safety-net to help cushion day-to-day risks. Savings, assets and livelihood-diversification are all important ways in which risk is mitigated by the poor. These are also presumably the primary channels through which micro-credit can be used as a risk-coping strategy (Nourse 2001, Zeller 1999, Zeller 1999a, WB 2001, CGAP 2006). The method of saving by taking a loan in explained by Rutherford as a saving-down mechanism where the borrower uses the credit service to swap a series of small regular pay-ins (or savings) for a usefully big pay-out (Rutherford 2000, p.17-19). As he points out many of the loans which the poor take out are essentially an 'advance against future savings'. When there are continuous loan cycles, the line separating the beginning of one cycle and the end of another begins to blur and what essentially remains is that small pay-ins are made at regular intervals (usually weekly) and at the end of a cycle a usefully big pay-out occurs. The following diagram taken from Rutherford illustrates this point better:



*Source – Rutherford, 2000 p.18

On the other hand it is also possible that micro-credit weakens the risk-coping ability of the households if they use it mainly for consumption and do not look at alternate risk-coping strategies which involve productive income-generation. More than 20 years back, Berger has described how micro-credit as a tool has its limitations and only serves to 'stabilize, rather than increase income' especially for women (Berger 1989). It has now been established that just as not every well-off person can be an entrepreneur not every poor person with an access to a micro-loan can be an entrepreneur. As pointed out by Banerjee et al, only 1 in 8 borrowers of the Spandana actually started a new business (Banerjee et al 2010). Does this mean MFIs should only lend to potential micro-entrepreneurs or does it make financial and social sense to continue lending for non-productive purposes? Hence, one possible hypothesis which could be explored in the given situation of the Andhra Pradesh crisis is the following:

Hypothesis 2: Micro-credit helps smooth income and consumption and acts as the primary risk-coping strategy for these households.

Proving the above hypothesis is not straight-forward. As this study is just a snapshot rather than a longitudinal study over time, we cannot observe how households cope in a variety of situations. What we can observe however is how micro-credit is used in these households, how they are coping with the sudden lack of credit-access, and therefore try and understand its role in reducing risk. The above hypothesis also forms the crux of this paper.

c. Measuring the impact of micro-credit

Finally, there are the long-standing debates surrounding the measurement of the impact of micro-finance. While for years the impact of micro-credit was assumed, primarily through anecdotal evidence, there were also attempts to use statistical methods to quantify the impact (Pitt and Khandekar 1998, Aigbokhan and Asemota 2011). Morduch points to the difficulties of obtaining accurate impact evaluations of micro-credit due to the inherent biases such as non-random placement and participation by clients (Morduch 1998) and recent work has focused on using randomized trials for measuring impact (Banerjee et al 2010, Karlan and Zinman 2011).

Impact evaluations have typically focused on how micro-credit has improved the productive capacity of the borrowers and the increase in the household income and well-being if any. There is currently no literature which measures the after-effects of credit withdrawal, especially in the context of the poor. There is also no data on borrowers voluntarily moving out of micro-credit after having achieved self-sustainable businesses.

According to the results in Banerjee et al 2010, borrowers with a higher propensity for starting a business, increase their spending in durables (investments) and those with a lower propensity for starting a business increase their spending in non-durables (or food). Their speculation therefore is that with continued access to micro-credit, in the long run, those who invest in durables will get richer while the impact on those who spend more on non-durables is not clear – they could get poorer as they were borrowing against the future, or they could enjoy the income effect of having paid down their debt to the money lender and stay richer. The current context provides a unique opportunity to study the impact of micro-finance using a non-typical counterfactual – what happens when micro-credit is withdrawn after years of continued access. Going by the above, those who invested in durables and businesses should be able to cope with the crisis slightly better as they have more access to durable assets while those who used it for consumption should be much worse off. This could lead us to formulate the following hypothesis, ancillary to the previous one:

Hypothesis 3: Without access to micro-credit borrowers would experience a dip in income and might resort to negative coping strategies; and borrowers who used micro-credit for consumption would be the most impacted.

V. Findings from the Field and Discussion

The following section discusses the actual findings from the interviews and the attempt to derive preliminary conclusions about the hypotheses. The section ends with two brief case-studies to give a richer picture of the findings.

Hypothesis 1: Without access to formal micro-credit, informal borrowing would have gone up as also the informal interest rates.

While 6 of the 24 people interviewed in the AP sample said that they have not taken any loans from moneylenders (the reason mentioned was inability to repay high interest rates), the remaining 18 admitted to increased borrowing from moneylenders and pawnbrokers. In AP, it was also seen that there were differences across villages when it came to informal borrowing from friends and neighbours. While majority continued borrowing from family members, particular groups were reluctant to borrow from neighbours or friends (as seen in Keelapattu village). This was either because of neighbours being in an equally dire strait or in some cases to preserve 'status' within the community. Other groups however were more connected and there was frequent lending and borrowing of tiny amounts within the community. In TN all three villages studied appeared to have a strong social network within the neighbourhood, with plenty of small transactions taking place. However in the TN only 3 of the 25 interviewed had an outstanding loan with a moneylender. One village also had an active rotating savings club. Overall informal borrowing had increased in the AP sample.

Coming to the interest rates, more than half of those interviewed in the Andhra Pradesh sample (14 out of 24) were of the opinion that interest rates with the local moneylenders had increased in the last 6 months. Only 2 out of the 24 said there was no change while the remaining interviewees did not know. On the other hand, none of the interviewees in the TN sample were aware of any increase in the interest rates while 19 of the 25 interviewed said that there was no change in the interest rates and the remaining did not know. The TN sample said the informal interest rates continued to be 1-2%. While the loan period again was unclear, based on examples the interest rates appeared to be in the range of 36-60% per year. On the other hand, the AP sample talked about the current interest rates being anywhere in the range of 3-10%. Based on examples, this is anywhere between 3 to 5 times the normal interest rates (and as compared to the control group) and more than 120% per year in some cases. It is also possible that due to the increased demand for loans, the moneylenders are unable to raise the amount of capital needed and are balancing the demand with high interest rates. As mentioned by a number of borrowers, in spite of being willing to pay the exploitative interest rates, the moneylenders fail to lend them the amount required.

Hence, apart from confirming the theory that MFIs address credit market failure, one ancillary finding is that MFIs also seem to help in restraining the informal interest rates. On interviewing the moneylenders in Tiruttani (TN) they revealed that since the MFIs started operations their businesses have seen a negative trend over the years. It is possible that they are forced to moderate their interest rates to continue the same level of business, while with the crisis in AP there is now opportunity to charge much higher interest rates. Also there was no evidence of AP customers crossing the border to borrow from either formal or informal sources.

Hypothesis 2: Micro-credit helps smooth income and consumption and acts as the primary risk-coping strategy for these households.

A typical borrower who gets a loan of say Rs.15,000 from the MFI tends to have very specific and multiple uses for it. While the MFI takes note of the purpose of the loan while enrolling clients, it is often just a formality and the most often quoted purpose was 'Milch cow'. A cow or a goat however, is an important income smoothing asset. Depending on the quality of the cow (and how much the person is willing to borrow and spend) the cost of a cow ranges from Rs.15,000 to Rs. 40,000 and the quantity of milk sold between 1-10 litres. Each litre of milk is sold for Rs.13-18 depending on the location and acts as additional income for the household which was also used for the weekly instalments to the MFIs. This was observed across a number of borrowers in both the control and treatment groups.

Hence, part of the loan went into some micro-enterprise, either buying a cow or a tailoring business or a flower business. 15 of the 24 borrowers in the AP sample used their loan for some small business which generated additional income for the household. The number was similar in the TN sample – 13 out of the 25 used it for a productive purpose. However, in TN, a further 7 households used part of the micro-loan to buy construction material to be used in their contract labour. The men had to take their own building material to be eligible for employment with contract builders as casual labour. This can also be thought of as a productive purpose as it facilitates employment and income. The rest of the interviewees did not use the loan for any income-generating activities.

What is interesting is that almost 100% of the households interviewed did not use all of their money immediately and saved a part of it. In almost all cases the savings was kept at home. In a number of households, this savings was used as the 'emergency money' or effectively as insurance against any sudden shock to the household. For many, it was also the extra bit of cash which could be used to tide over bad times and irregularities in daily income. In many cases part of the loan was used as a buffer to ensure that the weekly payments to the MFI did not suffer. Hence, the loan essentially served the function of various financial instruments such as savings and insurance and not just credit for income-generation.

Hence in almost every household, micro-credit was crucial in keeping the family just above extreme poverty. In the case of the TN sample this was evident in the fact that households felt they had a degree of control over their lives and because of the micro-credit loans they did not have to fall into the clutches of exploitative moneylenders. In the AP sample, the converse situation was noticeable with a clear weakening of risk-coping ability by the households. Is the situation better or worse than it would have been had these households never had access to micro-credit in the first place? The answer is neither easy nor particularly critical in the current context, what we do see is that the group with continued access to micro-credit is able to react to idiosyncratic shocks better than the group which does not have that access. Almost every household in AP indicated that without access to micro-finance they are essentially in the same position they were before they started getting access to micro-finance, with similar prospects in the informal markets (possibly a little worse due to higher interest rates by moneylenders, but this might be not be a permanent feature). From an impact point of view, this might be a little disheartening and is in agreement with recent impact evaluations. However, this can also be interpreted as micro-credit serving the positive function of a lifeline without which the households are certainly worse off.

Hypothesis 3: Without access to micro-credit borrowers would experience a dip in income and might resort to negative coping strategies.

100% of the borrowers interviewed on both sides of the border have experienced increasing food prices and general inflation which has had a negative impact on the household consumption. In TN, where micro-credit access continues, households were able to invest in available opportunities such as buying construction material for taking on building jobs, investing more working capital into their micro-business or even directly using the loan to fund consumption. Hence, they continue to consume the same amount of food and other necessary goods with increased expenditure.

In AP, increasing food prices has had a worse impact. With no available working capital and no savings against future shocks, this group of people are currently extremely vulnerable to even small idiosyncratic shocks. One medical emergency, or a few days of lost livelihood immediately plunges the whole household into extreme poverty as can be seen in Case Study 1. The only way out in case of a sudden risk is to indulge in negative coping strategies such as drawing down on assets. This was visible in a number of cases where the interviewees had sold off their cows and other livestock to fund consumption. Gold, on the other hand, was not sold but pledged with the local pawnbroker but in some cases due to inability to repay, this had already been forfeited.

While this might not be the counterfactual for measuring the impact of micro-credit, it does give a clear indication of what happens when there is no access to formal credit. Those who spent the loan on food or other non-durables (9 out of 24 interviewees) seem to be most negatively impacted with no assets to draw upon and completely at the mercy of the moneylender. However, it is interesting to note that even those who invested in productive businesses did not seem that much better off in terms of coping with the crisis. 100% of even these borrowers (15 out of 24) had drawn down on their assets and were borrowing from moneylenders at excessive rates of interest. This points to the fact that even where borrowers use micro-credit for running businesses, while the asset build-up is probably higher, without continued access, eventually even these assets are sold off. It is not clear why these people did not sell off these assets to continue to invest behind their business instead of pawning it or selling it for consumption. One reason could be that due to reduced income, the immediate need is for consumption and survival and hence any additional income through loans from money-lenders or sale of assets goes into consumption.

Finally, on the question about how the termination of micro-credit has impacted their lives, 23 out of 24 respondents in AP responded that they have been negatively impacted. Similarly the response to the question posed to the TN sample about the impact on their lives if micro-credit were to be suddenly withdrawn was unanimous – without micro-credit they would be worse off than they were today. Apart from the increased income which they experience with micro-credit there was a definite sense of 'security' which they derive from micro-credit. This clearly points to the fact that micro-finance improves the well-being of the borrowers and is in contrast to the conclusions drawn by Karlan and Zinman 2011 that micro-credit actually had a negative impact on well-being due to the associated stress of repayment. While it could be because interest rates significantly differ in the two cases (26% in the case of India and 60% in the case of Philippines) it should also be noted that the discipline associated with weekly repayment have led to positive actions on the part of the borrowers leading to more security and a better sense of well-being.

Other findings

An interesting insight which emerged from the interviews was that the repayment discipline of micro-credit inculcates discipline in other areas, including work ethic. Interviewees revealed that the 'zero tolerance' policy practised by the MFIs meant that they had to be disciplined in both planning for the earning and saving up for that weekly repayment. To illustrate, during the course of one interview – the borrower's husband who was a casual labourer revealed that even though things were difficult he was currently unemployed. His explanation was with the weekly repayment model, he was forced used to go to work regularly, but now that he had a loan from a moneylender, he would find work only when he needed to make an interest payment. This seems counter-intuitive but gives an inkling about how micro-credit changes behaviour. While this might be an exceptional case, every member who was interviewed regarded the weekly repayment as sacrosanct and spoke about how they planned their employment and savings so that when that particular day of the week came they would not keep the CO waiting. This might indicate that borrowers prioritize micro-credit loan repayment over all other expenses; it also shows that in majority of the cases the women are able to plan for it and most times are better off because of this planning. Apart from paying back the MFI, they also ended up saving more for other expenses.

Another finding which emerged was the problem of re-lending and over-borrowing. Except the individual borrower mentioned in Case Study 2, none of the rural borrowers had more than one MFI loan. According to them, while they would have liked to take on more loans from other MFIs, they knew they would not be able to pay back based on their current income sources and hence refrained from over-borrowing. Hence, interestingly they would rather have loans from informal sources - either from moneylenders or from friends and family - than default on their MFI loans. However, the few urban borrowers whom we interviewed in AP were aware of others, or who themselves indulged in, taking multiple MFI loans simultaneously. According to the husband of one borrower in AP, they had taken loans from 4 MFIs simultaneously; two of these loans were used for productive purposes while two were re-lent at higher interest rates to family and friends. This was also mentioned as a common practice in neighbouring towns. The situation becomes unsustainable when the secondary borrower fails to repay and the primary borrower therefore is unable to repay one or more of his MFI loans.

However, one should be careful about drawing overarching conclusions on the borrowing behaviour of urban versus rural consumers based on a few interviews. One factor which contributed to this situation of over-borrowing has been attributed to the competitive and fast growth of MFIs (Ghate 2008 p.96-102), and there seems to be some truth in this. This can be seen based on the density of MFI operations – there were about 2 or 3 MFIs operating in the villages we visited, however in the one urban town we visited there were MFIs visiting every day of the week. MFIs were identified as Monday Company, Tuesday Company, and so on rather than by their names also showing that the borrowers were essentially indifferent to the various MFIs as the loan propositions and practices were more or less similar. The MFI employees who were interviewed admitted that their only goal was to disburse as many loans as possible, irrespective of whether the borrower had other loans and whether in their judgement the borrower had the capacity to repay one more loan. This lapse in origination practices could have well spurred on a few individuals to profit from multiple loans.

This study also revealed some interesting insights on the social network aspects of borrowing from friends. The social network - which was primarily the other members of the JLG - seemed to have a significant role to play in the repayment. There was evidence of strong networks in some villages where apart from the usual small amounts which were lent in cash or kind, members of a JLG also chipped in to help a fellow-member who failed to meet the repayment deadline. However the trust levels were very high and the expectation was that the defaulting member would pay back at the earliest often at the end of the day. Peer pressure was also equally evident. In one of the AP villages surveyed, where the group was towards the end of a cycle, all the members continued to repay the old loan in the hope of getting a fresh loan. On the other hand, there were others who admitted that while they would prefer to repay, the other members in the group who did not want to repay exerted pressure on them not to repay. This was affirmed by the MFI collection agents also; in spite of the MFIs relaxing their joint liability criteria, and urging members to repay irrespective of what the other members were doing, their observation was that there were hardly any individuals who went against the trend of the group - either the entire group was repaying or the entire group was not. This is in accordance with findings in the literature on the effects of micro-credit and social networks as well (Aigbokhan. and Asemota 2011)

The following are two brief anecdotal case-studies which gives a stark picture of the on-going crisis.

The case of the landless-labourer with no diversification of income

One of the poorest families we visited was that of Fathima, a Muslim woman with three young children whose husband was a landless labourer. Fathima’s family had used MFI loans to buy a cow and also saved a part of it to use during emergencies. They also had another loan with a tractor company which they had partly repaid. The tractor was bought in order to lease it out to earn some income. However the demand for the tractor was not completely predictable or regular and the MFI loan would help smooth income during the lean months. With the abrupt end to this credit access, they fell back on their repayment schedules for the tractor. The cow was sold, and then the gold they had purchased with previous MFI loans was pawned but the tractor loan still could not be repaid. The company then seized the tractor and in all probability Fathima will not get back any money for it. Fathima belongs to a minority Muslim household in a pre-dominantly Hindu village, and as her husband was not comfortable sending her to work in fields outside the village, she only worked when she found work in local fields. Currently there was no work available in the local fields and the entire family depended on her husband's earnings. The government NREGA scheme was not functioning in this village and consumption had been drastically reduced to sometimes one meal a day. The children would get one meal in their school. They had no insurance cover and obviously fell into a high-risk category. In this particular case, the MFI loan had acted as the lifeline which helped Fathima's family stay just above extreme poverty. The loans diversified income by building critical assets (in the form of the cow and tractor) and the household achieved a level of livelihood security. Without the MFI loan Fathima's household has overnight lost their risk-coping potential and moreover have had to engage in a negative coping strategy by drawing down on their assets.

The case of a micro-business owner

Suguna was a widow with two children who before the crisis struck was running a profitable tailoring business employing 6 tailors. She started her business nine years back with seed money which her employer at a tailoring shop provided. Over the years she expanded the business with loans from MFIs. She had taken loans from multiple MFIs for her working capital and over time graduated from JLG to individual loans. With the profits from her business, she provided support for her extended family and built up assets in the form of gold. When the AP crisis struck, within a few months she was short of working capital. Business steadily dwindled and she had to let go of all her employees and hire 4 newcomers at a lower salary. She stopped providing for her parents and brother and currently her parents were taking care of her children's food and schooling. Whatever money she was making was invested into the business but without a continuous inflow of capital, she was not able to break the vicious cycle. Currently she was in desperate need of loans and had pawned all her gold at extremely high interest rates (5-10% a month). Her worry was that in spite of being willing to pay such high interest rates the moneylenders were unable to raise the kind of capital she needed and she spent a lot of time trying to convince moneylenders to lend higher amounts. Suguna's case is tragic not just because lack of MFI credit had led to a downward spiral of asset-dilution and reduced consumption, but her self-confidence as a single woman taking care of an extended family which had been built after years of hard work has suffered a huge blow having to practically beg for loans from people who do not treat her with respect. She was especially troubled that the reputation which she had gained with the MFIs by making regular repayments has suffered as she was unable to pay back those loans.

VI. Limitations of the study and areas of further research

This study is based primarily on qualitative data and personal interviews. Moreover the sample size is extremely small due to time and resource constraints. While the study provides a number of important insights on issues including loan-usage, financial behaviour of the poor and MFI practices, and points to ways in which micro-finance can be used for improving the risk-coping strategies of the poor; due to the nature of the study it is not possible to test the hypotheses for statistical significance. Further, the results are primarily valid for the surveyed villages. While the villages are reasonably representative of other rural areas in both states, we already found huge behavioural differences between the urban and rural borrowers. Similarly it is possible that the findings may differ within different districts of Andhra Pradesh. Krishna District suffered a similar crisis in 2006 when the local collector imposed a ban on micro-credit. However the situation revived within a few months and operations continued unabated. It is plausible that borrowers in that district continue to repay in the knowledge that even the current crisis would pass and micro-finance will once again be available. This might also prevent them from taking on too many informal loans from moneylenders and moneylenders in that district might continue to charge normal interest rates.

It cannot be established without a doubt that the same results would hold anywhere in the world. Social networks might differ, sources of credit might differ and livelihood options might differ. Most importantly, the exact situation where access to credit is suddenly cut-off would be difficult to replicate under natural circumstances. Even in India, the Central Bank is taking steps to avoid a similar situation from occurring in the future where a State Government would arbitrarily be able to bring an entire industry to a standstill putting the lives and livelihoods of millions of poor people at stake. It might also not be ethically possible to have an experiment for a number of years offering micro-credit and then suddenly withdraw this support.

However a number of interesting insights have emerged during the course of the study which point to further areas of research. Firstly, the whole theory on measuring impact of micro-credit needs to be redefined. Even a randomized trial of micro-credit involving control and treatment groups only provides results on the productive capacity of micro-credit and measures only if income and well-being have improved as a result of micro-credit. What also needs to be taken into account is that well-being includes financial security and not worrying about risk-coping ability. The control group in a randomized experiment might be unaware of how micro-credit could help reduce risk. When operated at reasonably competitive interest rates (rather than the 60% interest rates of the Philippines MFI in the Karlan and Zinman 2011 experiment) it could possibly emerge that micro-credit offers significant risk-management support and the lack of micro-finance does not necessarily translate into people looking for better avenues of livelihood or insurance.

A more extensive quantitative survey could be done to specifically study how micro-credit consumers cope with large-scale covariant risk and if they are better off than those with no prior access at all. Also a more large-scale survey could be conducted in AP given the current situation to get more data which can be used for statistical inference.

VII. Conclusion

In the decades of the quest against poverty, micro-credit which appeared on the scenes 30 years ago seemed to yet hold the most promise. From the initial euphoria about the entrepreneurship abilities of the poor emerged the more sobering realization that not everyone could be an entrepreneur and not all micro-businesses necessarily pull people permanently out of poverty. As anecdotal evidence continues to pour in about the positive experiences of micro-credit, a lot of energy in the last few years has focused on measuring the 'impact' of micro-credit using randomized trials and to prove that micro-credit is not necessarily the magic bullet for poverty-reduction. This variance between what people say and what the data seems to suggest could partly stem for the differing uses of micro-credit and the different roles it plays in improving the financial security of a household.

This study was an attempt to examine the role of micro-credit not just in a productive capacity but also its ability to smooth income and consumption as well as reduce the idiosyncratic risks facing a household. That micro-credit is used as a safety-net rather than as a means to get permanently out of the poverty trap is not a new finding. However, to the best of the author's knowledge there has been no study which has tried to analyze how a sudden halt in formal credit access can impact the well-being of the borrower. This paper uses detailed discussions with two groups of people very close to the AP-TN border, one impacted by a state-wide ordinance which overnight withdrew access to micro-credit and another which had continued access; and some interesting insights have emerged about the channels through which micro-credit works to improve the well-being of a household.

The finding that even years of access to micro-credit failed to make a significant impact on the income status of the poor which could enable them to deal with a large-scale crisis just reinforces the recent results which randomized trials have yielded about the impact of micro-credit. Six months of a crisis situation with zero access to credit has undone what was achieved with more than six years of continuous access. This could be taken as proof that micro-credit has achieved nothing and left the borrowers in exactly the same position as they were before they started accessing micro-credit, neither better off nor any worse off. However that completely misses the impact on the lives of these people *during* these years. Looking at how every household in the interview sample uses micro-credit, we have seen that loans are used for multiple purposes, all of which go towards making the household more financially secure and smooth income and consumption. Micro-credit during these years was not just a safety net, a back-up stash of cash which was made to last as long as possible; it genuinely helped increase household income, feed mouths, made women more ambitious, helped them to buy assets which made them feel secure about the present, if not the future. In fact, more than anything it points to the fact that the poor certainly face external credit constraints as well as savings constraints (Dupas & Robinson 2009, Aportela 1995).

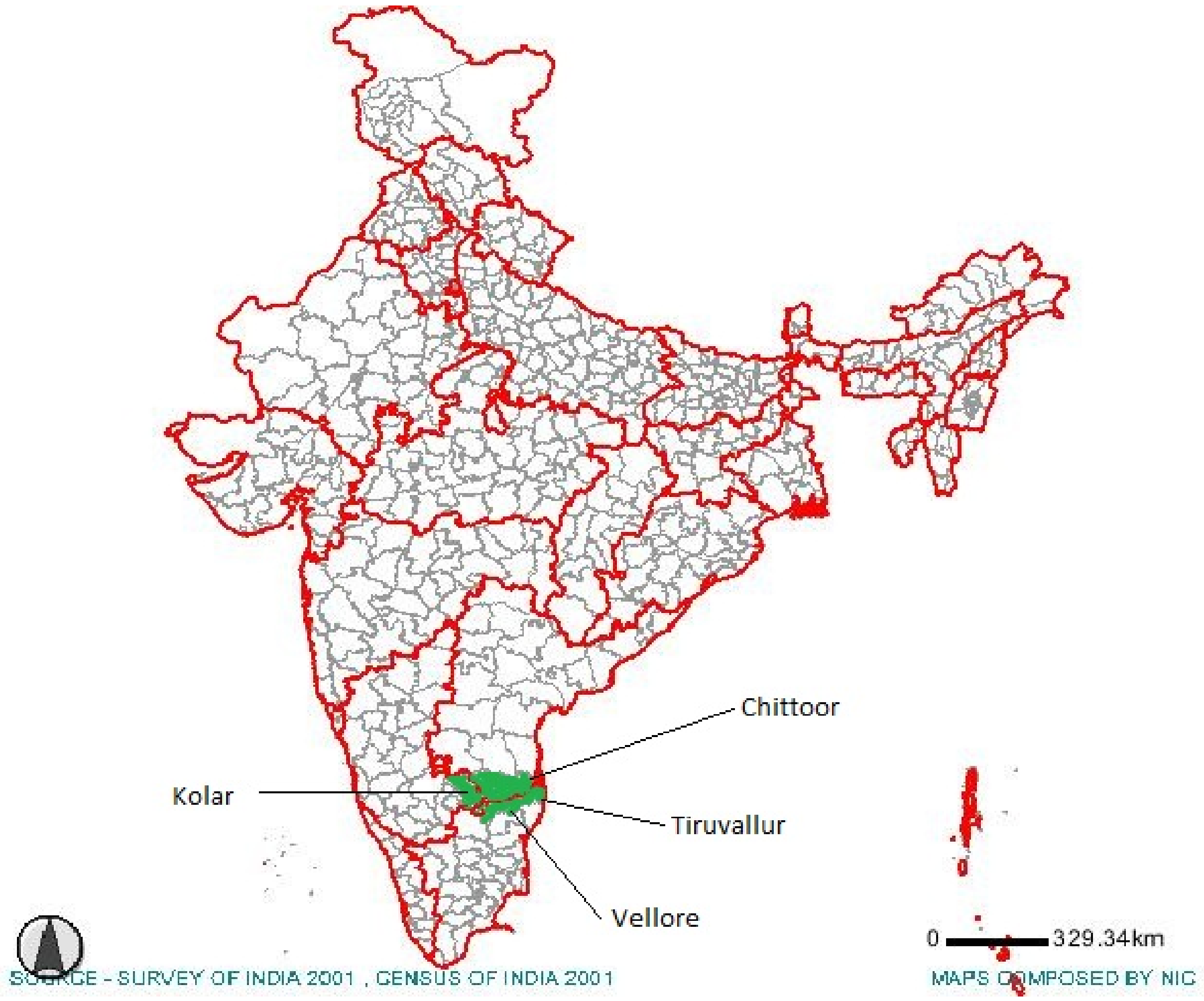
This study therefore concludes that micro-credit might not be the ladder out of poverty as envisaged three decades earlier, but definitely acts as a critical lifebuoy which keeps a poor household afloat.

This means that sudden and complete withdrawal of credit like that experienced by the AP borrowers has a huge negative impact on their well-being. The very reason for which the Ordinance was passed, that of protecting the poor from exploitation is completely negated and in fact aggravated because of the current crisis. The federal nature of the states in India and the way regulation of this industry has so far been handled means that the centre cannot directly overthrow the ordinance. A committee was appointed to look into the situation and provide recommendations for the overall industry (Malegam Committee). The committee came out with recommendations regarding who is eligible to receive credit, what the interest rates should be and other factors relating to the operations of the MFIs. The draft MFI Bill has recently been created and expected to be passed in the winter session of the Legislature. The draft bill is more favourable to MFI operations but still puts a lot of constraints in terms of capping interest rates and margins and is likely to hamper credit coverage. The situation in AP after 8 months is already very disturbing. Policy makers and industry experts need to act before it is too late. It is hoped that political problems and poor industry practices do not result in a situation where those who were clinging on to the lifebuoys are left to drown.

Appendix 1

Areas of Operation of Future Financial Services Limited

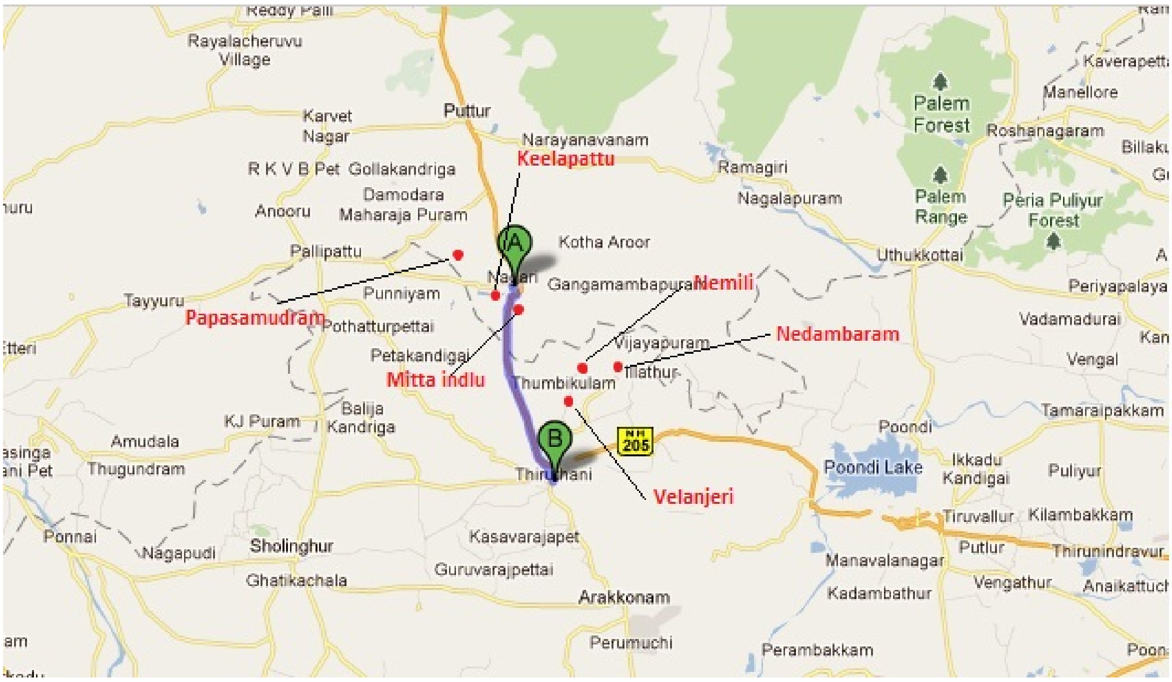
FFSL operates out of the four districts shown below in green, with headquarters in Chittoor.



Appendix 2

Location of villages where interviews were conducted

Main map sourced from Google Maps, villages located through different online maps and with the help of the MFI staff.



Note: Distance from Town A Nagari to Town B Thiruthani is 18.2 Kms as per Google Maps. The six villages should therefore lie within approximately a 25 Km distance.

Appendix 3

Profile of villages as downloaded from Government of India Census Website

*Mitta Undlu data not available

http://www.censusindia.gov.in/Census_Data_2001/Village_Directory/View_data/Village_Profile.aspx

Village Name	Nedambaram	Nemili	Velanjeri	Keelapattu	Papasamudram
Area details					
Area of village (in hectares)	547.68	626.22	712.45	440	383
Number of households	473	385	600	530	421
Population data based on 2001 census					
Total population - Persons	1,819	1,679	2,635	2,365	1,766
Total population - Males	938	824	1,305	1,188	851
Total population - Females	881	855	1,330	1,177	915
Scheduled castes population - Persons	1,014	917	1,121	772	346
Scheduled castes population - Males	527	454	555	391	171
Scheduled castes population - Females	487	463	566	381	175
Scheduled tribes population - Persons	178	0	0	15	6
Scheduled tribes population - Males	86	0	0	8	2
Scheduled tribes population - Females	92	0	0	7	4
Education facilities					
Education facilities	Available	Available	Available	Available	Available
Number of primary schools	3	3	2	3	3
Number of middle schools	0	1	1	0	1
Middle school available within range	With in 5 Kms				
Number of secondary schools	0	0	0	0	0
Number of senior secondary schools	0	0	0	0	0
Number of colleges	0	0	0	0	0
College available within range	More than 10 Kms	More than 10 Kms	Within 5 Kms	Between 5 Kms and 10 Kms	More than 10 Kms
Number of adult literacy class/centres	0	0	0	0	0
Number of industrial schools	0	0	0	0	0
Number of training schools	0	0	0	0	0
Number of other educational schools	0	0	0	0	0
Medical facilities					

Medical facilities	Available	Available	Available	Available	Not available
Number of allopathic hospitals	0	0	0	0	0
Allopathic hospitals available within range	More than 10 Kms	More than 10 Kms	Within 5 Kms	Between 5 Kms and 10 Kms	More than 10 Kms
Number of ayurvedic hospitals	0	0	0	0	0
Number of unani hospital	0	0	0	0	0
Number of homeopathic hospital	0	0	0	0	0
Number of allopathic dispensary	0	0	0	0	0
Number of ayurvedic dispensary	0	0	0	0	0
Number of unani dispensary	0	0	0	0	0
Number of homeopathic dispensary	0	0	0	0	0
Number of maternity and child welfare centre	0	0	0	0	0
Maternity and child welfare centre available within range	With in 5 Kms	With in 5 Kms	With in 5 Kms	More than 10 Kms	More than 10 Kms
Number of maternity home					
Number of child welfare centre	0	0	0	0	0
Number of health centre	0	0	0	0	0
Number of primary health centre	1	0	0	0	0
Number of primary health sub centre	1	1	1	1	0
Number of family welfare centre	0	0	0	0	0
Number of T.B. clinic	0	0	0	0	0
Number of nursing home	0	0	0	0	0
Number of registered private medical practiotioners	0	0	0	0	0
Number of subsidised medical practitioners	0	0	0	0	0
Number of community health workers	1	1	1	0	0
Number of other medical facilities	0	0	0	0	0
Drinking water facilities					
Drinking water facilities	Available	Available	Available	Available	Available
Tap water	Available	Available	Available	Available	Available
Well water	Available	Available	Available	Available	Available
Tank water	Not available	Available	Available	Available	Not available

Tubewell water	Available	Available	Available	Available	Available
Handpumb	Available	Available	Available	Available	Available
River water	No information	No information	No information	Not available	Not available
Canals	No information	No information	No information	Not available	Not available
Lakes	No information	No information	No information	Not available	Not available
Spring	No information	No information	No information	Not available	Not available
Other drinking water sources	No information	No information	No information	Not available	Not available
Post, telegraph and telephone facilities					
Post, telegraph and phone facilities	Available	Available	Available	Available	Available
Number of post office	1	1	1	0	0
Number of telegraph office	0	0	0	0	0
Number of post and telegraph office	0	0	0	0	0
Number of telephone connections	10	20	15	2	4
Communication facilities					
Communication facilities	Yes	Yes	Yes	No	Yes
Bus services	Yes	Yes	Yes	No	Yes
Railways services	No	No	No	No	No
Railway service available within range	More than 10 Kms	More than 10 Kms	With in 5 Kms	With in 5 Kms	
Navigable water way including river, canal etc.	No	No	No	No	No
Navigable water way available within range	More than 10 Kms	More than 10 Kms	More than 10 Kms	More than 10 Kms	More than 10 Kms
Banking facilities					
Banking facilities	Not available	Not available	Available	Not available	Not available
Number of commercial bank	0	0	0	0	0
Commercial bank available within range	With in 5 Kms	With in 5 Kms	With in 5 Kms	With in 5 Kms	More than 10 Kms
Number of Co-operative commercial bank	0	0	1	0	0
Co-operative bank available within range	With in 5 Kms	With in 5 Kms			
Credit societies					
Credit societies facilities	Not available	Not available	Available	Not available	Not available

Number of agricultural credit societies	0	0	1	0	0
Available within range	Between 5 Kms and 10 Kms	More than 10 Kms			
Number of non agricultural credit societies	0	0	0	0	0
Available within range	Between 5 Kms and 10 Kms	More than 10 Kms	With in 5 Kms	More than 10 Kms	More than 10 Kms
Number of other credit societies	0	0	0	0	0
Other credit societies available within range	More than 10 Kms	More than 10 Kms	With in 5 Kms	More than 10 Kms	More than 10 Kms
Recreational and cultural facilities					
Recreational and cultural facilities	Not available	Not available	Not available	Not available	Not available
Number of cinema/video-hall	0	0	0	0	0
Cinema / video-hall available within range	With in 5 Kms	More than 10 Kms	With in 5 Kms	Between 5 Kms and 10 Kms	More than 10 Kms
Number of sports club	0	0	0	0	0
Sports club available range	More than 10 Kms	More than 10 Kms	More than 10 Kms	More than 10 Kms	More than 10 Kms
Number of stadium/auditorium	0	0	0	0	0
Stadium /auditorium available within range	More than 10 Kms	More than 10 Kms	More than 10 Kms	More than 10 Kms	More than 10 Kms
Approach to villages					
Approach paved roads	Available	Available	Available	Available	Available
Approach mud roads	Available	Available	Available	Not available	Not available
Approach foot path	Available	Available	Available	Not available	Not available
Approach - navigable river	Not available	Not available	Not available	Not available	Not available
Approach - navigable canal	Not available	Not available	Not available	Not available	Not available
Approach - navigable water-way other than river or canal	Not available	Not available	Not available	Not available	Not available
Nearest town	KANCHEEPURAM	KANCHEEPURAM	KANCHEEPURAM	TIRUPATHI	CHITTOOR
Distance from the nearest town (in kilometer(s))	58	40	45	46	17
Power supply					
Power supply facilities	Available	Available	Available	Available	Available
Electricity for domestic use	Available	Available	Available	Available	Available

Electricity of agricultural use	Available	Available	Available	Available	Available
Electricity of other purposes	Available	Available	Available	Available	Available
Electricity for all purposes	Available	Available	Available	Available	Available
News paper/magazine					
News paper/magazine facilities	Available	Available	Available	Available	Available
Newspaper	Available	Available	Available	Available	Available
Magazine	Available	Available	Not available	Not available	Not available
Income and expenditure of the village (in Rs.'00)					
Income & Expenditure of the village	Yes	Yes	Yes	Yes	Yes
Total income				17125	9992
Total expenditure				8820	8500
Most important commodities manufactured					
Manufactured item no. 1	No information	No information	No information	No information	JAGGERY
Manufactured item no. 2	No information	No information	No information	No information	No information
Manufactured item no. 3	MANGOJUICE	No information	No information	No information	No information
Land use (Two decimal) in hectares					
Number of forest land	0	0	26.01	0	99.47
Number of government canal	0	0	0	0	0
Number of private canal	0	0	0	0	0
Well (without electricity)	0	0	22	0	0
Well (with electricity)	192.47	100.94	0	67.6	42.09
Tube-well (without electricity)	0	0	0	0	0
Tube-well (with electricity)	33.42	80	206.7	0	209.63
Tank	0	0	0	20.2	0
River	0	0	0	0	0
Lake	46.94	0	0	0	0
Waterfall	0	0	0	0	0
Others	0	0	0	0	0
Total irrigated area	272.83	180.94	228.7	87.8	251.72
Unirrigated area	8.34	0	45.7	39	10.9
Culturable waste (including gauchar and groves)	173.41	242.37	311.4	57.5	0
Area not available for cultivation	93.1	202.91	100.64	255.7	20.9

Appendix 4

Survey Questionnaire used for the interviews

1. Name of the respondent and village:

2. Head of the household? Yes/No

3. Relationship to the head of the household:
    a. Self
    b. Spouse
    c. Son/Daughter
    d. Parent
    e. Parent-in-law
    f. Son-in-law/Daughter-in-law
    g. Other - Specify

4. What are the main sources of income for the household?
    a. Agriculture – own land
    b. Landless agricultural labour
    c. Own business
    d. Non agricultural employment
    e. Casual labour
    f. NREGA
    g. Remittances
    h. Others – specify

5. Do you own land?
    a. If yes – big land owner
    b. If yes – small land owner
    c. No land

6. Which household member belongs to the JLG?

7. What is the name of the JLG?

8. When did the member join the JLG?
    a. Within the last six months
    b. Within the last one year
    c. Within the last two years
    d. More than two years back

9. How many people are there in your MFI JLG?
    a. 5-10
    b. 10-15
    c. >15

10. How often does the JLG meet?
    a. Weekly

b. Monthly
c. Quarterly

11. In this JLG how many members belong to other SHGs/JLGs?

12. Have you currently taken loans from other sources?
    a. Yes
    b. No
    c. Refuse to answer

13. Which other sources do you have outstanding loans from?
    a. Family
    b. Friends
    c. Money Lenders
    d. Other MFIs
    e. Bank
    f. SHG/Chit fund
    g. No outstanding loan

14. Why does the household have no outstanding loan?
    a. Don't need a loan
    b. Need a loan but worried about repayment capacity
    c. Need a loan but interest rates are too high
    d. Other
    e. Refuse to answer

15. What did you use the MFI loan for?
    a. Productive Business
    b. Food
    c. Education for children
    d. Festival
    e. Paying off other loans
    f. Others

16. How do you intend to pay this loan back?
    a. Savings
    b. Another loan
    c. Others

17. What is the average interest rate charged by the MFI? (Specify terms – Daily/weekly/monthly/simple/compound/reducing balance)

18. What is the average interest rate charged by other informal sources? (Specify terms – Daily/weekly/monthly/simple/compound/reducing balance)

19. Do you also borrow from other members of the group?
    a. Yes
    b. No
    c. Refuse to answer

20. How has the interest rate changed in the past one year?
    a. Increasing
    b. Decreasing
    c. No Change
    d. Don’t know

21. How do you decide who to borrow from?
    a. Depends on the purpose of the loan
    b. Depends on the interest rates charged by different sources
    c. Depends on the timing/convenience/location
    d. Other – Specify

22. What is the maximum level of interest rate you can bear while deciding to take a loan for non-emergency purposes?
    a. <20%
    b. 20-30%
    c. 30-40%
    d. 40-50%
    e. >50%
    f. Can’t Say/Refuse to answer

23. Have you ever borrowed at a lower/higher rate to pay back any loan?
    a. Borrowed at a lower rate from an MFI/Bank
    b. Borrowed at a lower rate from a friend/relative
    c. Borrowed at a higher rate from a money lender
    d. Borrowed at a higher rate from an MFI/Bank
    e. Not borrowed to pay back loans
    f. Refuse to Answer

24. Over the last one year has expenditure increased in any of the following?
    a. Food
    b. Clothing
    c. Education
    d. Medical
    e. Agricultural inputs
    f. Consumer durables (TV/Radio/Mobile/Bike)
    g. Home improvement
    h. Others – Specify

25. Over the last one year have you decreased expenditure in any of the following?
    a. Food
    b. Clothing
    c. Education
    d. Medical
    e. Agricultural inputs
    f. Consumer durables (TV/Radio/Mobile/Bike)
    g. Home improvement
    h. Others – Specify

26. Has there been an increase in the number of new moneylenders/chit funds operating in the area?
    a. Yes
    b. No
    c. Don’t know

For TN sample:

27. If the MFI loans were suddenly terminated (like it has happened in AP) how would you manage?
    a. Borrow more from friends/relatives
    b. Borrow more from moneylenders
    c. Borrow from SHG/Chit funds
    d. Cut spending on food/clothing
    e. Cut or delay spending on education/medical treatments
    f. Cut or delay spending on consumer durables/home improvement
    g. Others – Specify

For AP Sample:

28. How has the sudden termination of credit from MFIs affected you?
    a. Negatively impacted
    b. Positively impacted (Don't have to repay loan)
    c. No impact(Can borrow from other sources)
    d. Other reasons – Specify

29. How did you cope with the lack of credit?
    a. Borrowed more from friends/relatives
    b. Borrowed more from moneylenders
    c. Borrowed from SHG/Chit funds
    d. Cut spending on food/clothing
    e. Cut or delayed spending on education/medical treatments
    f. Cut or delayed spending on consumer durables/home improvement
    g. Others – Specify

30. What was the first thing you thought of doing when you did not have access to the MFI loans?

Further Discussion/Comments

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