Anjana Dube:

Who has financial Access - Evidence from India

This is a work in progress. Please do not cite without permission of the author:

Anjana Dube
FPM, Indian Institute of Management Bangalore
Bannerghatta Road, Bangalore
anjanad09@gmail.com; anjanad09@iimb.ernet.in

Abstract

The nature and forms of financial exclusion may vary from country to country and state to state. The All India Debt and Investment Survey captures the household indebtedness in India. The survey shows that in India non-institutional agencies play a major role in advancing credit to the households in the rural sector. This paper therefore plans to study the socio-economic characteristics of factors affecting financial inclusion in few of the states in India. Here, access to institutional lending is taken as a parameter for measuring financial inclusion. The objective is to develop a model to predict the percentage of households availing credit (banking) facilities. The study is empirical using the AIDIS data for the 59th round.

The paper starts with the premise that financial access to institutional agencies is affected by the socio-economic characteristics and goes on to analyze as how the supply side factors are still dominant given the developing status of the country and still low financial inclusion. However this should not prevent policy makers from focusing on the target groups as these could be the weakest links.
Start the Paper on Page 2...
1 Heading 1

Text

Heading 2

Text

– Normal List item.

1.1.1 Heading 3

Text

1. Numbered List Item

References

Preferably in AMJ Style...


1 Introduction

Provision of rural credit and improving the conditions of agricultural rural population has been one of the important concerns in the public policy debate. A number of committees of enquires have assessed the need for better financial inclusion of the rural poor and identify the chronic problems associated with indebtedness of the rural poor. The first such enquiry committee of Sir Frederick Nicholson, 1895 was instrumental in creation of co-operative credit societies in the country (RBI, 1954, pp1). The other committees of importance were Maclagan Committee (1915), Agricultural Finance Sub-Committee (1945), Cooperative Planning Committee (1946) and Rural Banking Enquiry Committee (1949). Recent such reports have been given by, Khan Committee on Rural credit and Micro-finance (2005), Vaidyanathan Committee on Cooperatives (2004) and Rangarajan Committee on Financial Inclusion (2008).

As a follow up of the recommendations of the Rural Banking Enquiry Committee, the Reserve Bank of India convened a conference in February 1951 to define its role in policy changes leading to the better accommodation of cooperatives; wherein is was observed that most of these issues are handicapped due to non availability of reliable and comparable data on “credit needs and borrowing practices of the rural families and working if credit agencies” (ibid, pp 3). The conference recommended that RBI should undertake a Rural Credit Survey and the first All India Rural Credit Survey was conducted by RBI in 1951-52 and subsequently the second in 1961-62 which was called All India Debt and Investment Survey (AIDIS). The responsibility of conducting the third survey was given to the National Sample Survey Organization (NSSO) which was conducted during July1971-September 1972 (26th round) and the coverage was enhanced to urban areas as well. Since
then decennial surveys are conducted by the NSSO. 4th AIDIS was conducted in 1982 (37th round); fifth in 1992 (48th round); sixth in 2003 (59th round). Thus sufficient data is now available for studying the structure of rural indebtedness and how various policy interventions have impacted the financial inclusion in the country. This paper is an attempt to understand the issues relating to access to safe, easy and affordable credit and other financial services by the poor and vulnerable groups in terms of theoretical perspectives and developments in credit delivery. It further explores the relationship between financial inclusion and socio-economic status of the poor using AIDIS survey data.

The debate on financial inclusion has generally centered on the concern for access to banking facilities and people lacking savings of any kind. The term financial inclusion may mean differently to different contexts and geographical location. Broadly it allows for exploring whether desired financial services are available to those who seek it at reasonable costs. In the context of developing countries India, the goals of financial inclusion have been intermingled with the goals of poverty alleviation and it is felt that historical deprivation of financial needs of the poor has led them to be further marginalised in the process of development. Absence of such measures has enabled the ubiquitous moneylenders to exploit and grab the assets of marginalised households. The Committee on financial inclusion has therefore after adequate debate defined the term as:

“Financial inclusion may be defined as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost.”

The New Institutional Economics perceives institutional and organisational issues in terms of transaction costs, social norms, social capital, asset specificity, information asymmetry, adverse selection, moral hazard, bounded rationality, uncertainty, monitoring costs etc. Some of these issues have been in focus in the recent debate on financial inclu-
sion when mainly concerned with providing banking facilities to the hitherto unbanked and marginalised sections of the society.

2 Literature Review:

Financial institutions play an important role in the resource allocation process (Schumpeter, 1911). The literature on financial development and growth has some evidence of positive relationship (Rajan and Zingales, 1998). Historical institutions too have impact on economic development (Banerjee and Iyer, 2002). The main problem for any lending activity is that in the credit market it is difficult to distinguish between the low-risk and the high risk borrowers due to asymmetry of information. The commercial banks try to bridge this gap by seeking collateral. These contractual relationships are created to minimise transaction costs (Tirole & Holmstrom, 1989). Williamson (1975) identifies these transaction costs due to human agents, who are characterised by bounded rationality implying self interests which results in adverse selection, moral hazard and opportunism due to which contracts unsupported by commitments will not be self enforcing. Jensen and Meckling (1976) has characterised these agency costs as sum of monitoring expenditure, bonding expenditure and residual loss (to the owner manager due to decline in equity). The competitive equilibrium of a banking sector, characterised by a demand function which is a decreasing function of interest rates and a backward bending supply curve for high level of interest rates, would entail credit rationing by monopolistic bank (Freixas and Rochet, 2008). Hence supply of agriculture and on-farm credit can be characterised by loan market credit rationing as the commercial banks may not like to lend to an individual (beyond a threshold interest rate) due to riskiness of the borrower/project (Stiglitz and
Weiss, 1981). Thus credit delivery mechanism has evolved in trying to bridge the gap in provision of low cost finance and minimize the moral hazards associated with it.

Institutions have realized that in micro credit market physical collateral may not exist for each loan hence loans can be provided in groups where through peer-monitoring and joint liability social collateral are developed to eliminate risk to the lender. The term peer-monitoring word was coined by Joseph Stiglitz (1990) to represent the risk transfer in credit markets where in there is a cosigner who has some interest to monitor the activities of the borrower (mostly costlessly) and bear the risk if the borrower defaults. Stiglitz shows that this transfer of the risk from the bank to the monitor in a competitive credit market leads to improvement in borrowers’ welfare. The incentives to monitor can be created by joint liability. In case of self formed groups it leads to self selection of lower-risk persons grouping together and higher risks persons forced to group separately, thus eliminating some cross-subsidization. Banerjee et al (1994) show that community based monitoring for cooperatives can lead to efficient outcome. This happens when the constitution of the cooperative provides necessary incentive for monitoring. They construct a simple model of an optimal credit cooperative and test it with the data.

Empirical study (Jonathan Conning, 1999) shows that micro finance institutions that target poor borrowers need to charge higher interest rates due to higher staff cost and less leveraged in order to be sustainable. The cost of delegated monitoring tends to get higher in effort to deepen the outreach. The lender needs to bring down the enforcement rent, in terms optimal level of monitoring.

Evidence and issues regarding the low financing (under-lending) by nationalised banks in India show incentive problems in banks, banks opting for risk free loans at times of hard lending environment and suggests need for policy reforms for making banks more responsive, (Abhijit V. Banerjee, Shawn Cole, and Esther Duflo, October 2003). While ex-
plicitly examining the rural banks in India, Bugress, Robin and Rohini Pande, 2005 argue that nationalisation and directed credit lending and opening of branches in unbanked areas by banks in India has led to reduction in poverty.

Aghion and Morduch, 2005, in Economics of Micro Finance, argue that though poorer households pay higher rates of interests, the capital does not flow naturally to them in terms of principles of diminishing returns and attribute it to poor information, higher transaction costs and difficulties in enforcing contracts. Thus this market failure has led to the evolution of micro-finance institutions which have been more successful than the state financed development banks; Bangladesh’s Grammin Bank has been the most sighted example and a pioneering model of the Noble Laureate, Professor Mohammed Yunus.

3. Developments in credit delivery

Financial sector development in India has been characterised by various policy reforms initiated for changes in the macro-economic environment and institutions for provision of credit to the unbanked. One of the major aspects of financial development in India has been the changes initiated in ownership structure of the institutions targeted for rural credit markets.

‘Fisher and Sriram (2006) identify three post-independence phases in rural credit provision. First, the 1950’s up to the mid-1960’s when cooperatives were the institutional vehicles of choice; second, the 1970’s and 1980s when attention shifted to commercial banks and RRBs and third, the reform period in the early 1990’s which saw the re-structuring of the banking system, the emergence of SHGs and a growing number of MFIs’ (RBI, 2008, pp 45).’
3.1 Historical Perspectives:

The various development initiatives of the Indian Financial system started with the earliest cooperative societies established in 1891. Agricultural credit department was established in 1935 in the Reserve Bank of India to promote cooperative credit. The All India Rural Credit Survey of RBI in 1954 showed that the share of informal sources to total rural credit was 70 percent as compared to cooperatives 6.4 percent and banks 0.9 percent. This was followed by the recommendations of the Nariman committee, 1969, which introduced district credit plans and coordination among various forms of formal financial intermediaries through lead banks schemes. It was in the same year 1969 that 14 commercial banks were nationalized to enhance branch reaches and government subsequently followed massive expansion drive of branch network to the hitherto unbanked areas. In 1975 regional rural banks were introduced to overcome the failure of the cooperatives. New forms of cooperatives were experimented with collaboration from commercial banks. Further intervention through integrated rural development programmes was started in 1980-81 and a separate bank national bank for Agriculture and Rural Development (NABARD) was setup in 1982. The 1981 AIDIS survey showed some impact of these initiatives where in 1981 the share of formal financial sector in rural credit was 61.2 percent while informal sources gave credit to 38.8%. However further survey in 1991 registered decline in formal sectors share in rural credit to 56.6 percent and increase in informal (39.6%) and unspecified (3.8%).

Other initiatives included The Narasimhan Committee Report on Financial Systems, 1991, which suggested phasing out of concessional loans and Brahm Prakash Committee, 1991 which gives a model cooperative societies act with less state involvement. In 1992 NABARD started its ‘linkage’ program of refinancing and encouraging bank lending to SHGs. In 1996 RBI deregulated the interest rates for small loans (below Rs 200,000) by coopera-
atives and regional rural banks and introduced the concept of local area banks, to operate in three contiguous districts. Various other initiatives to enhance initiatives for microfinance include RBI declaring bank lending to MFOs as priority sector in 2000. Still the 2002 AIDIS survey shows that the incidence of debt serviced by non-institutional sector has again increased to 58.3% of total rural credit, which is seen as a fall out of implementation of BASEL II norms for the commercial sector banks wherein they has to comply with prudential norms and decline in share of rural branch networks (45.7% in 2005 vs 51.2% in 1996) (RBI, 2008).

3.2 Reasons for failure (or success) of various reforms:

Success of any reform measure is governed by the evolution of markets and institutions and depends on inherent social capital, adaptive and allocative efficiency of reforms. In the Arrow-Debreu General equilibrium framework ultimately there is a price such that aggregate supplies will match aggregate demand. In case of mismatch we have a markets failure. The rural cooperatives were envisaged as means of pooling resources of poor and providing them with access to different financial services. Dairy cooperatives like Amul have been successful due to their three tier structure starting from the village level cooperative of producers’ with principles of equity (one member one vote), trust and fair price. The district level cooperative has membership of these village cooperatives which arranges transportation and purchase of milk and processing of excess produce ensure fair price to producers. The state federation comprises of milk unions of the state is responsible for marketing, financing, conflict resolution, training etc. This movement had its own share of evolutionary problems but has been sustained mainly due to clear contractual relationships, trust and fair play. In words of its chairman they are grounded in the values of self-help, self-responsibility, democratic, equality, equity and solidarity. The question
therefore arises why cooperative credit institutions did not succeed. The rural credit cooperatives are organised in form of 1.09 lakh Primary Agriculture Credit Society (PACS), 368 District Central Cooperative Banks (SCB) with 12,858 branches and 30 State Cooperative Banks (SCB) with 953 branches thus a total of 122,590 outlets. This translates to on an average one PACs for every 6 villages with 120 million members (RBI, 2008, pp 69). However the NPA's of SCBs were of the level of 16% and that of DCCBs were at 20%. Thus the physical reach is successful but most of these organisations are beset with problems of frozen assets and heavy over-dues in repayments. The reasons can be characterised in Williamson's arguments about governance perspective in choice between decisions like debt or equity, here equity was pumped by the Government with no stakes of the primary members of the cooperatives; thus they had no property rights. As humans agents, who are characterised by bounded rationality; self interests which results in adverse selection, moral hazard and opportunism and since contracts were unsupported by commitments they did not become self-enforcing. The competency perspective which seemed to be the case in Dairy Cooperatives for cost-effective development of both mind and trust also lacked here. The Governance issues failed and resulted in intrusive state patronage, politicisation, dual control, poor diversification etc. As per the task force on Revival of Rural Credit Cooperative Institutions (Vaidyanathan Committee), though originally these cooperatives were envisage as member driven, democratic, self-governing and self-reliant institutes (as the Diary cooperatives) but its evolution has transformed them into a governance structure with state government as major share holders, managers, supervisors and auditors of STCCS. From the beginning these cooperatives did not have the concept of savings and credit mutuality and thus became borrower driven with agency problems like conflict of interests, regulatory arbitrage etc. The Institutional environment in terms of the rules of the games did not mature due to banking activities being regulated by a Central Act and cooperatives are a state subject. Thus the initial conceptual frame-work could not take into account the pitfalls of
the federal structure in credit cooperatives. Here due to regulatory arbitrage and agency problems the prices did not approach their opportunity costs which lead to market failure. This is also due to weak enforcement and ex-post moral hazard.

The second round of reforms for financial inclusion was nationalisation of commercial banks in 1969 and provisions for formation of Regional Rural Banks in 1975. RRBs are jointly owned by the Central Government, State Government and sponsoring public sector banks. This led to increase in rural credit form 1% in 1951-52 to 14% in 1991. However this credit growth was mainly directed towards agricultural infrastructure, like irrigation and road connectivity and through IRDP loans and other government directed programs and subsidised lending towards self employment program. Thus it still left the poorer sections of the rural India out of its reach. As per lending norms commercial banks were not in a position to lend without adequate collateral, which the rural poor do not have. RRBs were to develop as the local (rural) banks but they were soon making losses, though the agricultural credit and coverage of farmers increased. One major issue in agricultural credit has been crop failure and lack of comprehensive crop insurance mechanism. Further political interference in terms of loan melas and loan waivers compounded the problems. Information asymmetry which led to adverse selection spawned opportunistic behaviour. This further deteriorated already weak enforcement mechanism. Enforcement requires costs of monitoring and information, delegation under agency relations and transaction costs of courts. Political patronage distorts such initiatives and erodes institutions.

It was in 1991 when due to balance of payments crises, the liberalisation and Institutional reforms in the Policy framework led to changes in Institution environment for the commercial banks. To enable them to be competitive against the multinational banks and other private sector participants, RBI instituted the BASEL II norms, allowing banks to re-
structure loss making branches and clean up their balance sheet through injection of fresh funds from GOI. Further policy initiatives led to public listing of public commercial banks through part disinvestment by the Government, which led to more institutional autonomy for these banks. Thus the period from 1991 to 2002 (as per AIDIS survey 2003) saw shrinkage in number of rural branches and share of rural credit from institutional sector.

All this led to shrinkage of access as far as the rural credit market was concerned. In early 1990s it was realised that commercial banks, cooperatives and regional rural banks were not sufficient to reach the poorer sections of society and the next set of reforms and experiments were started with emergence of micro finance institutions (MFIs) and SGH linkage program of NABARD.

The literature on various aspect of micro lending which has been characterised with group lending, peer-monitoring, joint liability, taking advantage of prevalent social norms and removing large part of information asymmetry through small groups from same localities, self selection and transfer of risk from MFI to the monitor, characterises the success of these initiatives. The literature also shows that not all initiatives are successful. Thus success is contingent on removal of the problems of information asymmetry, adverse selection, moral hazard and opportunistic behaviour. Another aspect of success of MFIs is their recognition that the poor require loan due to three main reasons; consumption, seasonality of income and production. SHGs are micro-banks which require savings before credit worthiness is established. Thus the proper institutional environment as well as institutional governance has led to success of these initiatives. This also conforms to the notion that in societies where everybody knows everybody else with a dense interaction network transaction costs are low. Cheating and opportunistic behaviour are restrained because of penalties of social stigma.
The most striking feature of these efforts on financial inclusion has been that the money-lender continue to exist and at times thrive (when strict norms of peer pressure force poorer lender to seek repayment loans from the same money-lenders with whom they were supposed to be protected) (Annex 1). In fact one of the negative dimensions of free flow of low cost credit has been seen as opportunistic behaviour of high risk borrowers due to lack of information flow amongst micro lenders and also higher coordination amongst moneylenders who still have better information advantage. One of the reasons for moneylenders continuing to exist has been due to their being perfectly discriminating monopolist in view of their local knowledge about borrowers and it is also argued that the rates charged by them may not be exploitative considering their giving loans to high risk borrowers and cost of enforcement. They truly represent the forces of rural credit market mechanism.

The theory of firms states that the firms exists due to higher transaction costs of using independent contracts (Coase RH, 1937) hence creation of new institutions (micro-finance institutions) rather than engaging existing (money lenders) is justified. Vertical integration with money-lenders will happen only if micro-credit institutions will continue to service their products at less costs and moneylenders would find it more profitable to join as their agents. However in a typical village setup the cost of organising the SHG-bank led initiatives or other forms of micro-credit involving the moneylenders has practical difficulties as anecdotal evidence suggests that moneylenders tend to lend rather easily due to their advantage of better information and social/political clout of getting back their loan or seizing the assets. It may not be very easy for a micro-credit or development bank to seize the assets of a defaulter as it is for the money lender. However micro-lending institutions cannot have too low interests rates as this would undermine their efficiency
and too high interest rates will also worsen the problem of adverse selection as only risky borrowers would be ready for paying interests rates above their incentive constraints.

To sum up, Government has intervened in the financial market to supply savings and credit through Cooperatives Societies, Regional Rural Banks and differentiated interest rates policies for priority sector through the commercial banks and other development oriented schemes for credit to rural and urban poor. However these development banking institutions were not much successful due to moral hazards and adverse selection. Both are due to the information asymmetry where in the borrower is more aware of his risk taking capacity than the lender. This is further mitigated due to lack of collateral in low income households. The micro-credit institutions have tried to overcome this problem through group lending and peer- monitoring mechanisms. Thus lenders are able to control inefficiencies without any extra cost for more information. There have been apprehensions that this still may create overall social inefficiencies if the strict peer monitoring norms of micro-credit institutions force poorer people to take loan from moneylenders to repay their micro-credit obligation. Thus the debate shifts to whether poor need loans or should they be helped to save especially for their consumption requirements.

4. Evidence from AIDIS Survey

The above evidences show a mixed trend in India as far as financial development is concerned. This paper therefore plans to use the historical data from All India Debt and Investment Survey (AIDIS) survey to explore how financial access has impacted the various socio-economic strata in the country. The paper further explores this aspect with a more recent data by IFMR, Chennai.
The All India Debt and Investment Survey captures the household indebtedness in India. The AIDIS, 2003 (NSS, 59th round) shows that in India non-institutional agencies play a major role in advancing credit to the households in the rural sector. The overall incidence of debt is 26.5% of the population and non-institutional lenders have financed debt to 15.5% of the rural households. In the urban areas the overall incidence of debt is 17.8% with non-institutional agencies lending to 9.4% of the population. Indebtedness is more wide-spread in Andhra Pradesh, Kerala, Rajasthan, Tamil Nadu and Karnataka than in other states. In all these states, except Kerala, (where incidence of indebtedness for institutional agencies shows a high figure of 32.8%) the incidence of indebtedness to non-institutional agencies is high (Andhra Pradesh at 32.9%).

While examining the developments regarding the access to financial services, it is observed that apart from the supply side factors, the factors that affect individual borrower in accessing financial services are:

- Gender
- Age
- Legal Identity
- Limited literacy
- Place of living
- Psychological and cultural barriers
- Social security payments
- Bank charges
Terms and conditions

Level of Income

Type of occupation

Attractiveness of the product (World Bank, 2008; ADB 2007; and Kempson et al 2007)

I try to develop a model using these aspects; keeping the data constraints in view.

The All India Debt and Investment Survey (AIDIS), 2003, captures the demographic and other particulars of the population along with details of physical and financial assets owned by the households and cash loans and other financial liabilities. It does not capture household income for which the monthly per capital consumption expenditure (MPCE) will be taken as a proxy. It also does not capture ownership of deposit accounts but it captures whether loan has been taken and through which institution.

Keeping the constraints of data, the financial inclusion is defined narrowly as the access to loan from an institutional agency. It is assumed that loan taken from a financial institution implies having an account, though there may be more deposit account holders. The data also gives the details of borrowers who have borrowed from non-institutional agencies. Hence it is proposed to keep ownership of a loan account as the dependent variable and regress it on the socio-economic parameters suggested above. The paper also examines the affect of other parameters like rate of interest, scheme of lending, type of mortgage etc. At first we examine from the data as who has financial access and what are the important factors affecting financial inclusion.
The analysis was started with the basic assumption that financial inclusion can be predicted by Probit Regression model (Caskey and Peterson, 1994) defined as

\[ Y_i = \beta_0 + \beta_1 \text{MPCE} + \beta_2 \text{Married} + \beta_3 \text{Household Size} + \beta_4 \text{Age} + \beta_5 \text{Edu} + \beta_6 \text{Male} + \beta_7 \text{Social Group} + \beta_8 \text{Employed} + \beta_9 \text{Home Owner} \]

where \( i \) is the \( i \)th household and \( Y_i \) is a binary variable which takes value 1 when a household has any institutional loan outstanding and 0 otherwise. The relationship that is being examined is that the access to institutional debt is affected by factors such as monthly per capita consumption expenditure, marital status, size of the household, age of head of household (hh), education of hh, gender (hh), social group, employment status and assets (ownership of a house or land). The other models ie logistic model and linear probability model are also tested keeping the dependent variable binary.

### 4.1 Analysis of Data

The first regression was run using the data for the state of west Bengal. The total sample size was 13,296 households however only 1,069 households had any loan outstanding of which 406 had loan outstanding with the institutional agency. The log likelihood ratio of Chi-square of 18.07 with a p value of 0.0344 tells that the model as a whole is statistically significant. However amongst the individual variables only MPCE and social group are significant at 5% level of significance. Dropping household size, age and educational level does not significantly alter the model.

A simple linear model also gives the same conclusion that apart from MPCE and social group none of the other variables are significant enough. Taking a log(mpce) improves its p-value, still all other variables apart from social group remain not significant. Dropping variables one by one or adding combined effect of say education and activity level also has
no effect. Thus this data does not conform to the model predicted by Caskey. Understanding that the results could be due to small sample size the next sample was a combined sample of the states of Andhra Pradesh, Kerala, Maharashtra, Chattisgarh, Lakhdweep, and Goa (this is just in terms of data files kept by NSS) having 30,309 sample units of which only 4236 had any cash loan outstanding. In this larger data set the overall model improves with a p-value of 0.0228. However the variable mpce becomes insignificant and the variable general education level becomes significant. In this model also the Social Group remains highly significant at 95% level of significance. Age is significant at 91% level of significance.

The logistic model also gives similar results. Adding ‘land owned’ to the model shows that it is significant. Thus it shows that the demographic characters do not have much effect on ownership of loan account, however socio-economic characters have a bearing. Analyzing this view further by adding rate of interest it is observed that it is highly significant with a p-value of .002. However this makes the variables social group, general education level and land owned insignificant at 5% level of significance.

Modifying the model further by creating class interval for continuous variable like age and reducing number of classes in education levels, usual activity status, size of household, it does not give any different results. Thus the Caskey’s model does not seem to hold for India. Though across all estimations it is seen that social group is highly significant. This basically confirms the impression that the persons from lower social strata still are less probable to avail institutional lending.

To test the data further it is decided to move to more traditional concept that financial inclusion is effected by the schemes of lending, terms of loan, type of security, mortgage, and credit agency. The effect of these along with social group was examined
and it was seen that the variables scheme of lending, rate of interest, type of mortgage are highly significant whereas social group has become insignificant in the new model, which is as follows:

\[ Y_i = \beta_0 + \beta_1 \text{Social Group} + \beta_2 \text{Scheme of lending} + \beta_3 \text{Rate of interest} + \beta_4 \text{Type of security} + \beta_5 \text{Type of mortgage} + \beta_6 \text{credit agency} \]

Even a simple linear regression gives the same results.

Thus it can be conjectered that in India apart from the demand side problem of financial non inclusion of lower socio economic group the financial access is still affected due to the supply side problems. This relation is true in this model since instead of ownership of deposits, the model examines the ownership of loan accounts as a dependent variable and proxy for financial inclusion.

5. Evidence from IFMR Survey

The AIDIS study is based on 2002 data, a more recent study by Institute of Financial Management and Research (IFMR, 2010) of “Access to Finance” in rural Andhra Pradesh, October 2010. The IFMR study shows that the incidence of debt in rural Andhra Pradesh is much higher now 93% (against 33% by AIDIS, 2003), of which 37% is from formal sources (against 11% by AIIDS, 2003) and 82% from informal source (against 25% by AIDIS, 2003). The IFMR also covers the loans form SHGs and MFIs which was not covered in AIDIS, probably due to lack of prevalence at that time. However due to differences in survey methodologies the results cannot be compared as such but they do give a sense of increased financial outreach.
In order to understand whether the impact of this outreach has been similar across all social groups and demographic structure, I use the raw data for the IFMR study to make similar analysis as with the AIDIS done above. Though some of the variables are different some sense of changes in impact can be seen.

\[ Y_i = \beta_0 + \beta_1 \text{Married} + \beta_2 \text{Age} + \beta_3 \text{Edu} + \beta_4 \text{Female} + \beta_5 \text{Social Group} + \beta_6 \text{Land Owner} \]

where \( i \) is the \( i \)th household and \( Y_i \) is a binary variable which takes value 1 when a household has any formal loan and 0 otherwise. The relationship that is being examined is that the access to institutional debt is affected by factors such as marital status, age of head of household (hh), education of hh, gender (hh), social group, and assets (ownership of a house or land). The other models ie logistic model and linear probability model are also tested keeping the dependent variable binary.

### 5.1 Analysis of Data

The total sample size was 1921 households much smaller than AIDIS, only 702 households had taken loan from formal agency. The log likelihood ratio of Chi-square of 173.99 with a p value of 0.000 tells that the model as a whole is statistically significant. Amongst the individual variables all except age, marital status and education level are significant at 5% level of significance. Thus gender, social group and land ownership significantly affect the access to formal loan for the rural residents of Andhra. A simple linear model also gives the same conclusion.

I then see how the access to SHG loan and JLG loan is impacted by these characteristics and use simple regression to see the affect of same variable. It is observed that only gender and age are statistically significant in access to finance. The beta coefficients for
social group and ownership of land are not significantly different from zero. This appeals intuitively as loans to SHG have larger access and outreach. In case of JLG loan access age, social group and land ownership are significant and gender does have an impact. Informal loan has gender and age only as significant variables though social group is significant at a slightly higher level of significance (6.7%). I then define a new variable on access to loan by combining access to any form of loan and regress it on same variable. It is observed that only gender and age are significant factors.

Thus IFMR data shows that the demographic characters like age and gender have effect on ownership of loan account and socio-economic characteristics like land ownership and social group does have a bearing. Thus it can be argued that in Andhra Pradesh, SHG loans has increased access to finance for the landless and all social groups.

6. Conclusion:

Most of the Governments in the developing countries have intervened in credit market to extend financial services to the poorer households which are not automatically served by the commercial banks. The rationale for financial inclusion has it genesis on economic development and poverty alleviation, which therefore accepts that the financial needs of the poorer households are due to three primary reasons; seasonal income, consumption expenditure on account of marriage, festivity, sickness etc (due to lack of savings) and production purposes. The successful models of financial inclusion are the micro finance institutions like the Grameen Bank in Bangladesh and SHG-led initiatives in India besides a number of such institutions in Latin America, Thailand, Indonesia and other developing countries. The myth that poor cannot be banked has been eroded and there is a lot of private sector initiative in micro-finance, though most of these institutes have do-
nors capital or are run by NGOs through grants from governments, some of these institutes (SKS in India) have private capital and are now going public. The long term sustainability of any project/firm is based on efficiency; however need for enabling environment and role of government and public institutions will still be there to achieve adaptive and distributional efficiency of for the society. The long term goal of a sustainable, equitable and just society requires changes in institutions, norms, cultures which evolve over a long process of time. Civil society led initiatives with involvement of stake holders create institution with lesser transaction costs. Successful MFI could as well be the drivers in this regard. Recently MFIs have been under attack due to anecdotal evidence of strong arm tactics for loan recovery. This has led to Government of Andhra Pradesh making a Law restricting the activities of MFIs. This has serious affected the loan recovery as also the credit delivery. Recently Malegam Committee also submitted its report to RBI, suggesting restraints at the MFIs in terms of number of loans it can give to individual and ceiling on the loan amounts. The report is under discussion/comments of stakeholders.

Our objective was to see linkages between financial inclusion and factors like socio-economic strata of the rural poor that affect the reach of poor. We base our analysis on AIDIS survey data and started the analysis with the premise that the financial inclusion is effected not so much from the supply side factor but also greatly due to the demand side factors due to socio economic characteristic of the population. While this is an important aspect, the analysis of factors show that it is mainly social-groups which come out as a dominant factor in deciding financial access to institutional debt apart from educational attainment. Further the analysis shows that the supply side factors like rate of interest, scheme of lending, type of mortgage also effect financial access.

The analysis with more recent data of IFMR shows that the outreach has increased in rural Andhra Pradesh and gender, social group and land ownership significantly affect
the access to formal loan for the rural residents of Andhra. SHG’s loans have increased access to finance for the landless and all social groups. Hence MFIs and SHGs seem to have positive impact on credit delivery but issues of level of interests to be charged and modalities of recovery seems to be of immediate concern post the law restraining the MFIs.
References:

Banerjee V Abhijit, Besley Timothy, Guinnane W. Timothy, 1994 Thy neighbor’s keeper: The design of a credit cooperative with theory and a test, Department of Economics, MIT.


Devereux John, Fishe Raymond P.H., 1993, An Economic Analysis of Group Lending Programs in Developing Countries, The Developing Economics, XXX-1 (March 1993)


URL: http://www.ifmr.ac.in/cmf/resources.html


Books/chapters:
Aghion Beatrix Armendariz De and Morduch Jonathan (A&M), 2005, Economics of Micro Finance

Tirone Jean, 2006, Theory of Corporate Finance - pp 181
Annex

Percent share of institutional and non institutional lending to rural households in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Institutional lending</th>
<th>Non Institutional lending</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Banks</td>
<td>Cooperatives</td>
<td>Relatives &amp; friends</td>
</tr>
<tr>
<td>1951</td>
<td>1.1</td>
<td>4.6</td>
<td>14.4</td>
</tr>
<tr>
<td>1961</td>
<td>0.3</td>
<td>10.4</td>
<td>5.8</td>
</tr>
<tr>
<td>1971</td>
<td>2.4</td>
<td>20.1</td>
<td>13.8</td>
</tr>
<tr>
<td>1981</td>
<td>28.6</td>
<td>28.6</td>
<td>9.0</td>
</tr>
<tr>
<td>1991</td>
<td>29.0</td>
<td>18.6</td>
<td>6.7</td>
</tr>
<tr>
<td>2001</td>
<td>27.6</td>
<td>23.9</td>
<td>7.3</td>
</tr>
</tbody>
</table>

Adapted from: Bugress and Pandey, 2004. The data source for 1951 is the “All India Rural Credit Survey”, and for all subsequent years “All India Debt and Investment Surveys”.

- 2002: 27.6 23.9
- : 7.3 22.4