
Chapter-2

Review of Literature

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

Success of Microfinance generated significant interest among policy makers, donors, civil societies and academicians. As the sector achieved tremendous growth during the last two decades, it became one of the most researched areas. A lot of research has been conducted by individual researchers as well as by development organizations to understand the various issues in the sector. Despite such interest, especially by academic circle, various questions regarding microfinance are still unanswered. This study is an attempt to shed some light on three questions frequently raised in academic circles.

1. Do MFIs serve the poor?
2. Does microfinance reduce poverty?
3. Whether there is a trade off in serving the poor clients and financial sustainability of MFIs?

Keeping objectives of the study in mind this chapter provides a review of past studies which have addressed these issues. The first section reviews past studies focussed on the issue of depth of outreach. The second section looks into those studies which attempt to assess the impact of microfinance on poverty while the third section focuses on studies which deal with the issue of trade-off between financial sustainability and poverty outreach of microfinance institutions (MFIs).

2.2 Depth (Poverty) of Outreach Studies

Empirical research on the depth of outreach is relatively scarce as most of the studies focus basically on impact evaluation and depth of outreach is of secondary consideration (Ghalib, 2011). Despite dearth of exclusively focused empirical research on depth of outreach, there are instances of empirical work.

Study by Navajas et al. (1999) was one of the earliest attempts to empirically analyze the issue of poverty outreach of MFIs. The study addresses three empirical questions with evidence from a comparison of the poverty of a treatment group—borrowers of five microfinance organizations in La Paz, Bolivia—with the poverty of

a control group—the population of La Paz. The first empirical question is whether microfinance organizations reach the poorest of the poor. The second question is whether group loans reach the poorest better than individual loans. The third question is whether rural lenders reach the poorest better than urban lenders. The study surveyed a random sample of 622 of the more than 52,000 borrowers active with the five lenders at the end of September in the urban areas in and near La Paz and in the rural Altiplano near Lake Titicaca. Of the 588 cases with complete data, 221 came from BancoSol, 124 from Caja Los Andes, 91 from FIE, 83 from Sartawi, and 69 from PRODEM. The study concludes the lenders in La Paz tended to serve not the poorest but rather those near the poverty line. Group lenders in La Paz had a deeper outreach than individual lenders. In general, group technologies have more potential for deep outreach since they substitute joint liability for physical collateral. Further, the rural lenders in La Paz had a deeper outreach than the urban lenders in that the typical rural borrower was more likely to be among the poorest.

Amin et al. (2001) used a unique data set from two villages in Northern Bangladesh to test if members of microcredit programmes are poorer and more vulnerable than non-members. A household is defined as poor if it has low consumption levels, and vulnerable if it is unable to smooth consumption in the face of idiosyncratic income fluctuations. The study used consumption and income data for 229 households for the year 1991-92 to identify households that are poor and vulnerable. MFIs surveyed in the study are Grameen Bank, Bangladesh Rural Advancement Committee (BRAC) and the Association for Social Advancement (ASA). The study uses stochastic dominance analysis and Probit regression for exploring the link between poverty and membership in MFI. The study found that poor households are participating well in the program but vulnerable households have been excluded.

Somanathan & Dewan (2003) applied nonparametric methods to assess poverty targeting in PRADAN microcredit program in Central India. Methodology adopted is appropriate when participation rates are not monotonic in income and the population distributions of participants and non-participants cross each other. Estimates of these crossing points provide upper bounds on the incomes of those who are neglected by the program or unable to participate for a variety of reasons. The

survey population consisted of households in 149 new microcredit groups in 100 villages of 11 different administrative districts. Study sampled villages with newly formed groups to avoid any effect of microfinance on the economic wellbeing of clients. The relative sample sizes of 1:3 for members and non-members were chosen based on prior belief that the group of non-members are more heterogeneous than the group of members because PRADAN forms these groups in a similar fashion across the state and is therefore likely to attract similar sorts of households into the program. The study found evidence that the population distributions of program members and non-members cross, with the poorest households excluded from the program.

Banerjee et al. (2007) evaluated the targeting efficiency of various assistance programmes operated by the government of India and a program operated by Bandhan, a Kolkata based MFI. The study performed this comparison for four government aid programmes; BPL and Antodaya rationing programmes, the Indira housing program and employment generating schemes. The study analysed the relative performance of the various methods employed with respect to identifying the poorest of the poor. The results suggest anti-poverty programmes operated by government of India do not overwhelmingly reach the poorest which may be due to deficiencies in the identification process. The comparison indicates that the ranking from the PRA adopted by Bandhan accurately identifies a poorer sub-population along with various important dimensions of poverty, most notably with respect to land holdings, assets and credit access.

Sarangi (2007) attempted to measure targeting efficiency of MFI by applying comprehensive methodologies, including mean tests, non-parametric tests, probability regressions and non-parametric tests. The sample of participant households pertained to three different variants of group-lending models, such as; (i) government supported Swarnajayanti Gram Swarozgar Yojana (SGSY) programme (ii) NABARD's SHG-Bank linkage programme (iii) World Bank's SWASHAKTI project. The study adopted a non-experimental evaluation design in which the participants and the non-participants (control group) were selected by a multi-stage systematic random sampling method. Results indicate that the probability of participation is lower at lower end of the income distribution and it increases with an increase in per capita income of the household. Probability of participation declines with very high level of per capita income of the household.

Adjei & Arun (2009) examined the targeting efficiency of Sinapi Aba Trust (SAT) a leading MFI in Ghana. The study sample covered two groups of respondents, made up of 231 clients of SAT and 305 non-clients residing in the same operational areas of SAT. Respondents were selected from nine districts, located within the three main geographical zones of the country made up of the coastal areas, forest and savannah. The poverty index for each household of both groups of respondents has been derived using the PCA method based on four dimensions of poverty. These dimensions are human resources, food security and vulnerability, dwelling and related indicators, and ownership of household assets. The results of the analysis indicate that, in general, SAT microfinance programme targets a disproportionately smaller proportion of the very poor in its operational areas. Thus, only 15 per cent of its clients fall into the poorest category, whilst 46 per cent of the target clients fall within the less poor.

Ghalib (2011) used primary survey data of 1,132 respondents (borrowers and non-borrowers) in the Punjab Province of Pakistan to assess which category of the poor is being served by microfinance institutions. The study employed Principal Component Analysis (PCA) allocate a specific poverty score to each household in relation to all other households in the sample and households were ranked according to varying poverty levels. Survey results revealed that the poorest households amongst the surveyed sample are not being reached to the desired extent. The study concludes that various MFIs operating in the province do not seem to be targeting the poorest households, and outreach to the poorest remains low.

The section discusses past studies exclusively focused on the issue of depth of outreach. As there is little empirical research available, we have considered seven studies for this review section. Among these studies, seven are from India and one each from Bangladesh, Pakistan, Bolivia and Ghana. By looking at the finding of these studies it can be concluded that poorest of the poor have been excluded from the microfinance. Only one study by Banerjee, et al. provides strong evidence of better depth of outreach in case of Bandhan MFI. It shows Bandhan has better depth of outreach in comparison to various other anti-poverty programmes. Existing empirical evidences on the depth of outreach are weak and there is a need to understand the poverty outreach of MFIs especially in India scenario.

2.3 Impact Evaluation Studies

As the whole enthusiasm behind the microfinance is based on the assumption that it is one of the best poverty alleviation approaches at present, the empirical justification of this assumption is necessary (Aghion & Morduch, 2000). Lots of assessment studies of microfinance programmes have been conducted during the last two decades both in India and worldwide adopting different design and methodology for assessing the outreach and beneficial impacts of microfinance. Some studies have considered both the problems of outreach and impact both as their objectives of the analysis, but most of the studies have paid their attention only to the issue of impact.

Most of the studies have adopted reflexive comparison method (pre and post program comparison) for determining the benefit of microfinance program on the clients. This method fails to account for the changes in the outcome that would occur without the program and therefore leads to erroneous estimates of the benefits received by the program. The proper method for assessing the impact of the program is to compare the difference in outcome with and without the program.

As the outcome without the program i.e. counterfactual¹ cannot be observed, impact assessment studies generally adopt the control group² for making inferences about it. Constructing the control group comparable to the treatment group is not straightforward due to two kinds of biases: non-random program placement bias³ and self-selection bias⁴. Credible measurement of the impact of microfinance on poverty is a challenging task. Studies that do not deal with biases have little power to prove causality (Littlefield et al., 2003). Since the empirical literature on this particular issue is vast and evolving only those studies which adopted rigorous methodologies⁵ have been reviewed. A literature review of studies on the impact of microfinance using rigorous methodologies was undertaken to:

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- 1 Counterfactual is the situation that would have prevailed had the intervention not occurred.
 - 2 The control group refers to individuals who would have outcomes similar to those in the treatment group if the members of the treatment group had not participated in the program.
 - 3 This bias arises due to the placement of the program by MFIs in some selected areas.
 - 4 It arises as the clients self-select to join the program and they may systematically differ from nonparticipants.
 - 5 Rigorous impact studies refer to studies employing quantitative methods of analysis and do not include those using qualitative and participatory approaches. In addition, these studies control for known biases in microfinance impact evaluation such as sample selection and non-random program placement.

- I. To shed light on the existing evidence of impact of microfinance on poverty.
- II. To understand the various methodological problems in assessing the impact of microfinance on poverty.
- III. To identify the research gap.

Microfinance movement started with the experiment of Mohammad Yunus in Bangladesh to provide a small credit to poor clients by using some innovative approaches and subsequent formation of the Grameen Bank. Microfinance movement has strong roots in Bangladesh. It founds congenial conditions to grow there as there was acute poverty and all stakeholders involved found this new approach best suited for addressing poverty. As the socioeconomic environment of Bangladesh suited well for the nourishment of the microfinance sector, it also provided an ideal environment for assessing the impact of microfinance. A large proportion of impact evaluations have been conducted with focus on Bangladesh. This bias is also present in this section as the study reviews number of studies conducted in Bangladesh.

One of the first impact assessments of microfinance was carried out by Mahabub Hossain in 1988. The study uses cross sectional data and compares Grameen Bank clients to eligible non-participants in project villages as well as non-participants in control villages. The study found a significant difference in average household income between Grameen clients and target non-participants in comparison villages and between Grameen clients and eligible nonparticipants. Grameen Bank clients spent 8 percent more per capita income on food and 13 percent more on clothing than target non-participants in Grameen villages, and 35 percent more on food and 32 percent more on clothing than target households in comparison villages. Grameen clients spent six times more on housing investments than the comparison group in non-Grameen villages and three times more than target non-participants in Grameen villages.

Though the study by Hossain shows positive impact of microfinance on several outcomes, it does not address methodological issues rigorously. The samples used by Hossain show, Grameen clients were younger and better educated in comparison to the target group in comparison villages, while non-members were landless. The study does not address the issue of systematic differences between target groups and the control group.

Pitt & Khandker (1998) made first serious attempt to use statistical methods to measure the impact of microfinance. The study combined the use of a quasi-natural experiment and eligibility requirements to study the impacts of microfinance on a set of indicators by using data of three MFIs-Grameen Bank, Bangladesh Rural Advancement Committee (BRAC) and Bangladesh Rural Development Board (BRDB). Outcome indicators used by the study are household expenditure, non-land assets held by women, male and female labor supply, and boys' and girls' schooling. It is found that the credit provided to women significantly affects all six of the behaviors studied. Credit provided to men does so in only one of six cases. Annual household consumption expenditure increases 18 taka for every 100 additional taka borrowed by women from these credit pro-grams, compared with 11 taka for men. The study shows that microfinance reduces poverty by increasing per capita consumption among program participants and their families. Microfinance also help smooth consumption, as well as the seasonality of labor supply. Targeted credit also improves the nutritional status of children. The nutritional impact of credit is especially large for girls, and the impact is larger for loans made to women. Microcredit had a significant and positive impact on schooling, especially for boys⁶.

Zaman (2000) examined the role of micro-credit in reducing poverty and vulnerability through a case study of BRAC, in Bangladesh. The study attempted to explore the relationship between microfinance and poverty and vulnerability. He carried out empirical analysis of household survey data collected in one region of Bangladesh in 1995. The study shows that micro-credit contributes to mitigating a number of factors that contribute to vulnerability whereas the impact on income-poverty is a function of borrowing beyond a certain loan threshold and to a certain extent contingent on how poor the household is to start with. The study shows that the largest effect on poverty arises when a moderate-poor BRAC loanee borrows more than 10,000 taka (US\$200) in cumulative loans. Zaman stresses that membership in micro-credit programmes reduces vulnerability, by smoothing consumption, building assets, providing emergency assistance during natural disasters, and contributing to female empowerment. The study illustrated the potential reduction in vulnerability due to micro-

6 The accuracy of the original results as presented in Pitt and Khandker (1998) has been challenged by morduch, as the eligibility criteria of low land holdings was not strictly enforced in practice.

credit through a number of pathways. One channel is the asset-creation associated with a series of loan-financed investments. A household who has taken several loans would typically have focused its asset building on the creation or expansion of one or more income-earning assets and would also have invested in improving housing conditions. Another channel through which credit reduces household vulnerability is through income and consumption-smoothing. This occurs through the creation of non-farm sources of income as well as by saving part of the loan disbursed for the lean season.

Chen & Snodgrass (2001) examined the operations of the Self Employed Women's Association (SEWA) bank in India, which provides low-income female clients in the informal sector with both saving and loan services. The study tests for the impact of these services by comparing the bank's clients, who borrowed for self-employment to those who saved with SEWA Bank without borrowing, and compared both groups to a randomly selected control group in a similar geographical area. Two surveys were conducted two years apart. Average incomes rose over time for all groups—borrowers, savers and the control, although the increase was less for the latter. In terms of poverty incidence, there was little overall change, although there was substantial 'churning', in that amongst the clients of SEWA there was significant movement above or below the poverty line. In interpreting these results, Meyer (2002) argues that the evidence on the counterfactual—that is what would have happened to the clients in the absence of the services of SEWA—is not sufficiently strong to draw any firm conclusions on poverty impact.

Impact assessment by Todd (2001) tried to compare mature clients of SHARE MFIs in India with new clients who have yet to receive loans. The study sample was very small which included 125 clients (treatment group) and 104 new clients (comparison group). The study found that SHARE targets mostly poor clients. Most of the new clients were either very poor or moderately poor. For assessing the impact, the study utilizes Housing Index used by SHARE to target new client. This allowed measuring the extent to which clients have moved out of poverty. The study found a large percentage of clients were moving out of poverty over the time. The study by Todd also attempts to understand the impact on various other outcomes like health, education and also on gender dimensions and finds significant impact of microfinance on these dimensions.

Using data from Bangladesh, Zeller et al. (2001) estimated the impact of microfinance on household income by comparing eligible households in the Association for Social Advancement (ASA) and Bangladesh Rural Advancement Committee (BRAC) villages with eligible households in the Rangpur Dinajpur Rural Service village. They found different impact estimates depending on the season. The estimated annual average impact was Taka 37 per Taka 100 credit available. They noted a substantial difference between their estimates and that of Pitt and Khandker (1998) and explained that their “measures were not only the effect of actual borrowing, but also the effect of access to credit, that is, the ability to borrow sometime in the future even if the household in the current period chooses not to borrow.” These indirect benefits would include “reduced cost of consumption smoothing, such as decrease in distress sale and an increase risk-bearing capacity favoring more profitable production and investment portfolios.”

Khandker (2005) follows up his earlier work by employing panel data. The study uses the BIDS-World Bank survey conducted in 1998-99 that traced the same households from the 1991-92 survey. The study adopted ‘two stage instrumental variable’ approach along with a household fixed-effects method to control for the fixed unobserved characteristics of households. The study found apparently strong and positive results. Households who are poor in landholding and formal education tend to participate more. Borrowing by males appears to have no significant impact on consumption but there is a significant impact in case of females, who are the dominant client group. From this analysis a 100 taka loan to a female client leads to a 10.5 taka increase in consumption (compared with 18 taka in the earlier analysis). It is estimated that due to participation in microfinance programmes moderate poverty among program participants decreased by 8.5 percentage points over the period of seven years and extreme poverty dropped by about 18 points over the same period. Further, there is an evidence of positive spillovers on non-program participants in the villages greater impact for those in extreme poverty. Poverty for non-participants is found to decline by 1 percentage point due to the programmes whilst extreme poverty declines by nearly 5 percentage points. This impact is due solely to female borrowing.

Coleman (2006) attempts to evaluate the outreach and impact of two microfinance programmes in Northeast Thailand of two MFIs; Rural Friends

Association (RFA) and the Foundation for Integrated Agricultural Management (FIAM). The study uses a unique survey data that included program participants from “treatment” villages that had already received program support, participants from control villages that had not yet received program support, and nonparticipants from both types of villages. The study demonstrated the program is not reaching to the poorest of the poor and the participant households are significantly wealthier than the nonparticipants prior to the program intervention. The probability of selection of the wealthiest villagers is twice that of the poorer villagers. The study found strong evidences that the targeting efficiency of sample microfinance institutions is poor. Weighted t-tests indicate that prior to program intervention; participating households are significantly wealthier than those of nonparticipants. Study therefore suggests that other microfinance programmes should adopt the membership eligibility criterion to more actively target the poor. Coleman found no significant impact of access to microcredit on improving household wealth using a sample of households from northeastern Thailand. However, when the sample was broken down into general beneficiaries and committee members, Coleman (2006) found that the insignificance was limited to general beneficiaries and that a positive impact was found among the committee members who received access to financing. Results indicate a positive impact of the village bank program on several measures of household welfare. Impact on outcomes for rank and file members was largely insignificant. He found positive and significant impact for committee member households on some important measures of wealth, savings, income, productive expenses, and labor time. The differential impact measured between committee members and rank and file members could be the result of the differential access to loans, with committee members’ increased access allowing them to invest in different types of projects, perhaps with greater returns to scale. It could be the result of different unobservable characteristics (e.g., entrepreneurship) that can be harnessed or realized only by access to credit.

Kondo (2007) used a quasi-experimental design⁷ to control for nonrandom program participation and fixed-effects estimation to correct for non-random program placement for impact evaluation study of the Rural Microenterprise Finance Project (RMFP) in the Philippines. It included former clients to correct for non-random

7 As used by Coleman, 1999.

attrition/drop-out problems which were not considered in the original Coleman (1999) design. It also recommended estimation procedures for estimating average treatment effects described in Wooldridge (2002).

The impact of the availability of program loans on per capita income is shown to be positive and mildly significant. This is also true for per capita total expenditure and per capita food expenditure. But it was also found that this impact is regressive, that is negative or insignificant for poorer households and becomes only positive and increasing with richer households. This negative or insignificant impact for poorer households and positive impact for richer households provides some explanation of the mild significance of the coefficient for the total sample. It is worth mentioning that this is not the only study that found a regressive impact.

Thus, the regressive result of this study may not be entirely surprising but is certainly disturbing. This indicates that among poorer borrowers the cost and availability of program loans appears to be not sufficient to prod them into selecting more productive activities that will not only pay the cost of borrowing but also earn them some profit. One can also view this as the result of MFIs not screening projects enough to have the desired results. This implies that attention to project selection must also be an important component of program design.

Banerjee et al. (2009) carried out a first randomized evaluation of the impact of introducing microcredit in a new market. Half of 104 slums in Hyderabad, India were randomly selected for opening of an MFI branch while the remainders were not. They examined the effect on both the outcomes, that directly relate to poverty like consumption, new business creation, business income, etc. as well as measures of other human development outcomes like education, health and women's empowerment. The study showed that the intervention increased total MFI borrowing, and studies the effects on the creation and the profitability of small businesses, investment, and consumption. 15 to 18 months after the program, there was no effect of access to microcredit on average monthly expenditure per capita, but durable expenditure did increase. The effects were heterogeneous: Households with an existing business at the time of the program invest in durable goods, and their profits increase. Households with high propensity to become business owners see a decrease in nondurable consumption, consistent with the need to pay a fixed cost to enter entrepreneurship. Households with low propensity to become business owners

see nondurable spending increase. They find that microfinance does not affect human development outcomes like health, education, or women's decision-making significantly.

Imai et al. (2010) applied treatment effect model and propensity score matching method to explore the impact of access to microfinance on poverty by using household level data collected by EDA as a part of SIDBI impact assessment study. The study also applied Tobit regression model to investigate the poverty reducing effect of productive loan amount. The study uses Index Based Ranking (IBR) as a multidimensional index of poverty indicator. The study shows positive impact of microfinance on poverty level of clients. Further, the study shows that loans for productive purposes were more important for poverty reduction in rural areas than in urban areas. However in urban areas, simple access to MFIs has larger average poverty-reducing effects than the access to loans from MFIs for productive purposes.

The study by Imai, Malki & Galib (2012) examined whether household access to microfinance reduces poverty by using quasi-experimental research design, whereby comparison is made between two groups of respondents: the control group (non-borrowers) and the treatment group (borrowers). The study covers 1,132 households across 11 districts covering 8 MFIs in rural areas of the province of Punjab in Pakistan. The total sample of 1,132 respondents comprises 463 borrowers and 669 non-borrowers. The study addresses the issue of selection bias by using propensity score matching method widely used in literature. Among various outcome indicators used in the study, borrowers performed better in terms of livestock, participation in saving schemes, household assets, household income and expenditure. In the case of dwelling related indicator results are mixed. Overall borrowers were seen to be better in around 70 per cent of the indicators used in the study. The findings of the study showed microfinance as an effective strategy for reducing poverty.

In this review section, twelve past studies have been included in which five are from Bangladesh, four from India and one each from Philippines and Pakistan. Looking at these past studies we concluded that results regarding impact of microfinance are mixed and it is difficult to arrive at any conclusion. Further, it is found there are only few serious attempts to apply proper empirical framework to assess impact of microfinance especially in India Scenario.

2.4 Trade-off between Financial Performance and Outreach Studies

In the policy circles, there are two different approaches viz. *Poverty alleviation* and *financial self-sustainability* for the functioning of microfinance institutions. The *poverty alleviation* approach (also referred as *welfarist* approach) claims that the overall goals of micro-finance should be poverty reduction and empowerment. Such MFIs are quite explicit in their focus on improving the wellbeing of participants. According to Woller (2002), their objective tends to be self-employment of the poorer among the economically active poor, especially women, whose control of modest increases in income and savings is assumed to empower them to improve the conditions of life for themselves and their children. Within this paradigm, there is a group of *feminist empowerment* authors that emphasize women's economic, social and political empowerment. While microfinance is seen by these authors as an important way to respond to the immediate practical needs of poor informal sector women workers, it is seen only as a part of strategy for wider social and political empowerment of women which, in turn, is seen as essential to sustained increases in income (Mayoux, 1998). Overall, those who follow the *poverty alleviation* approach are only interested in discussing the sustainability of organizations that target poverty. This view dominates among NGOs. Since their overall goal is poverty reduction, complementary services are often needed and integrated approaches are commonly applied. Some donor funding and subsidies may be needed because the availability of funds is the most binding constraint in scaling up the supply of financial services to the poor.

The *financial self-sustainability* approach (also referred to as the "*profit*" or *financial systems* or the *institutionalist* approach) views the overall goal of the microfinance as the provision of financial services to low-income people, but not to the poorest among them (Gulli, 1998). The services should not target exclusively the poorest, but the underserved in general. According to Otero & Rhyne (1994), financial self-sufficiency is achieved when the program is fully financed from the savings of clients and capital is raised at commercial rates from formal financial institutions. Fees and interest income cover the real cost of funds, loan loss reserves, operations, inflation and profits. The ultimate aim is the programmes, which are profitable and fully self-supporting in competition with other private sector banking

institutions, and are able to raise capital from international financial markets rather than relying on the funds from development agencies (Mayoux, 1998). Generally, those who deliver microfinance services as regulated financial institutions, such as commercial banks, fall under this approach. Financial self-sustainability (profit) is seen as a necessary precondition for achieving exponential growth for MFIs (Christen & Drake, 2001). Without achieving financial sustainability, Christen & Drake (2001) argue that no amount of subsidy is sufficient to preserve the long-term access of a large number of very poor clients to basic financial services. In other words, to financial self-sustainability proponents, scaling-up necessarily (and perhaps preferably) involves mission drift away from the poorest of the poor.

There is a significant debate about the tradeoffs between these two paradigms (Morduch, 2000; Ghosh & Eric, 2008; Armendáriz & Szafarz, 2009). As described above, the microfinance community is divided between those who argue poverty alleviation is the primary goal of MFIs and those who advocated financial self-sustainability. However, a third paradigm has recently emerged. This paradigm promotes a “middle ground” or balancing the goals of poverty alleviation and financial self-sustainability (Christen et al., 1995; Woller, 1999). They noted that if institutions develop service delivery methods that meet client needs at an affordable rate, then financial viability as well as poverty outreach could be achieved. This is ultimately contingent on how interest rates are set; it has been shown that charging full interest rates does not reduce client demand. Rhyne (1998) used a mathematical framework of maximization and constraints to determine if trade-offs occur. According to Rhyne (1998) outreach or scale is the only objective and financial sustainability is a means to achieve it.

The literature on this issue is not extensive and is largely anecdotal. From a policy making perspective, it is very important to know whether there is a trade-off between sustainability and outreach. Given that there is hardly any solid evidence on the existence of a trade-off, there is much room for expanding our knowledge on this issue (Hermes & Lensink, 2011).

Christen (2001) studied MFIs of Latin America to understand the impact of commercialization on the performance of these institutions. The study attempts to understand whether regulated and commercially oriented microfinance institutions

have larger average loan size and if it is the case, larger average loan shows mission drift or simply evolution towards mature groups. The study found that regulated and commercially oriented MFIs have larger average loan size. The study concludes that there are no compelling arguments that this represents mission drift. Rather, larger loan sizes could simply be the function of different factors, such as choice of strategy, period of entry into the market, or natural evolution of the target group.

In order to overcome the problems associated with proxy measures of poverty outreach such as average loan size, Paxton (2002) made an attempt to construct the depth of outreach index (DOI). The DOI includes demographic variables relating to clients who have traditionally been excluded from formal finance, including women, illiterate and poor people and rural inhabitants. For the financial performance indicator, the study uses a subsidy dependence index (SDI). Sample of the study includes 18 MFIs from the 'World Bank Sustainable Banking' with the Poor. The sample represents two major regions of the developing world (Latin America and Africa) and three institutional types (Credit Unions, Banks and NGOs). The study found a strong correlation between outreach and sustainability. The correlation was stronger in Latin America than in Africa. Further, the study found, although credit unions and banks serve a wealthier clientele than an NGO, they offer financial services to much heterogeneous population. The study does not suggest that the two objectives are mutually exclusive.

Polanco (2005) used data from 28 Latin American MFIs to test Christen's (2001) conclusions and for other factors that may affect loan size. Multiple regression results reveal that the type of institution in terms of NGO versus financial institutions, regardless of being regulated or not, has no effect on loan size. The study shows that the sign of the coefficient of the age of the institution suggests a negative relationship: the older the institution, the lower the loan size. This finding contradicts two of Christen's arguments: the target group of pioneering NGOs was not the poorest of the poor, but a higher income group, and their engagement in incremental lending. The sign of the coefficient for the level of competition indicates that the higher the concentration—or the lower the competition—the lower the loan size. If this variable accurately predicts loan size, then more competition in a microfinance market will also result in larger loan sizes, suggesting that institutions will probably search for

more profitable clients. Finally, the sign of the coefficient for sustainability (ROA) confirms an old belief in microfinance: there is a trade-off between profitability and depth of outreach.

Hartarska & Nadolnyak (2007) explored the differences in performance between regulated and unregulated MFIs using new data available from the MIX MARKET database with the objective to establish whether the performance of MFIs is enhanced by regulatory involvement. Understanding how regulation affects performance matters, because the costs of designing and enforcing regulatory policies to address the specific challenges of microfinance are substantial. The policy implications are that MFIs who transform into regulated financial institutions are not likely to be more financially sustainable or reach more poor borrowers than MFIs who remain unregulated. However, the finding that MFIs collecting savings achieve better outreach suggests that there may be indirect benefits of regulation, if regulation is the only way for MFIs to access savings. The study weakens the argument that there is a need to increase leverage in order to reach more poor borrowers, and illustrates that the dual mission of microfinance institutions makes the central role of donors, investors and regulators much harder.

Kereta (2007) attempts to look at the MFIs performance of Ethiopia from outreach and financial sustainability angles using data obtained from primary and secondary sources. The study finds that the industry's outreach rises during the period from 2003 to 2007 on an average by 22.9 percent. It identified that while MFIs reach the very poor, their reach to the disadvantages particularly to women, is limited (38.4 Percent). From the financial sustainability angle, it finds that MFIs are operationally sustainable measured by return on assets and return on equity and the industry's profit performance is improving over time. Similarly, using dependency ratio and Non-performing Loan (NPLs) to loan outstanding ratio proxies the study also finds that MFIs are financially sustainable. Finally, it finds no evidence of trade-off between outreach and financial sustainability.

Cull et al. 2007 analyzed MIX datasets and find that an MFI does not have to be a for-profit company to achieve profitability: even the non-profit organizations are able to reach financial self-sufficiency. According to the authors, these notions are robust to age, location and the financial structure of the institutions. Cull et al. 2007

is one of the few empirical studies that employ large datasets. But even though the institutions in these data represent a large part of the microfinance industry, measured as the amount of loans and borrowers, they are still not representative of the entire industry. The commitment to financial sustainability and the quality and extent of their data makes the institutions in Bulletin datasets a very special subsample. It is highly probable that other institutions with less commitment on profitability fare even worse on sustainability measures. It has also been estimated that no more than 1 percent of microfinance programmes provided by non-governmental organizations (NGOs) world-wide were financially sustainable in the end of the 1990s, and perhaps another 5 percent of them will ever achieve sustainability – the continuation of the rest of the institutions remaining dependent on donations (Morduch 1999b).

Mersland & Strom (2010) investigated mission drift using average loan size as a main proxy and the MFIs lending methodology, main market, and gender bias as further mission drift measures by employing large dataset of 379 MFIs in 74 countries. The main conclusion of the study is that it does not find evidence of mission drift. Building upon a bank profit function framework the study hypothesizes that profit per credit client is correlated with average loan amount. The econometric evidence supports this hypothesis as general methods of moment (GMM) estimations with panel data methods and instruments show that average loan size increases with an increase in average profits and average operational costs. The impact of MFI risk upon the size of the average loan is undecided. Furthermore, logistic regressions with lending methodology (group or individual), main market (rural or urban), and gender bias support the findings for average loan. Together with the descriptive evidence, this shows that the MFIs tend to maintain and even increase the depth outreach of average loan.

Nawaz (2010) investigates the relation between sustainability and efficiency of MFIs and also identified determinants of MFIs profitability and sustainability. The study uses the panel data set of 179 MFIs in 54 countries worldwide. The study uses subsidy dependence index (SDI), return on asset (ROA) and operational self-sufficiency (OSS) as a proxy for the profitability of microfinance institutions and has taken as left hand side variables; where, an increase in profitability and sustainability is associated with a decrease in SDI and increase in ROA and OSS. The regression

results do not support the trade-off between sustainability and outreach; where lending in small loan sizes (greater outreach) to relatively more poor borrowers leads to an increase in the profitability and sustainability of MFIs with lowering the subsidy dependence and increasing the ROA. However lending to women does not explain any variation in profitability of an MFI.

Hermes, Lensink & Meesters (2011) provide new evidence on the existence of the trade-off between sustainability and outreach, using data for 435 MFIs for the period 1997–2007. In particular, the study focuses on the relationship between cost efficiency of MFIs (as a measure of sustainability) and the depth of outreach measured by the average loan balance and percentage of women borrowers. Cost efficiency of an MFI is measured by using stochastic frontier analysis. This approach measures cost efficiency in terms of how close the actual costs of the lending activities of an MFI are to what the costs of a best-practice MFI would have been in case it produces identical output under the same conditions. Hermes et al. find strong evidence that outreach is negatively related to efficiency of MFIs. More specifically, MFIs that have lower average loan balances are also clearly less efficient. Moreover, MFIs that have more women borrowers as clients are also less efficient. The results remain robustly significant even after taking into account a long list of control variables.

Hermes and Lensik (2011) reviewed recent studies of trade-off between financial sustainability and poverty outreach. They conclude that existing evidences suggest that there is a clear case of trade off. They argued that transforming MFIs into formalized banking institutions does not only have positive consequences for the poor. They advocated moderated level of subsidy for MFIs as it does not compromise the financial sustainability. In particular, providing smart subsidies (i.e., subsidies for starting up new branches in untapped areas, subsidies for staff training, etc.) may actually improve the performance of MFIs. This contribution supports the view that aiming for financial sustainability only, may not be a fruitful venue when discussing the long-term viability of microfinance work. . By using existing social networks between existing and potentially new microfinance clients MFIs could improve their operations in terms of increasing their outreach while reducing the costs of reaching out. MFIs should focus on this strategy as it turns out that households may be willing

to apply for microfinance because other households in the same network do so as well. Using these networks is a low-cost strategy for MFIs when reaching out to new clients. Such approaches would better enable MFIs to reach higher levels of outreach without having to compromise its financial sustainability.

The contribution by Cull, Demirguc-Kunt, and Morduch (2011) also adds to our understanding of the existence of the trade-off. In their study they investigate whether prudential regulation and supervision affect the performance and outreach of MFIs. The issue of prudential regulation and supervision has become increasingly important, since several of the largest MFIs have started to raise increasing amounts of deposits from the public. Protection of these deposits has, therefore, become a policy relevant issue. Yet, prudential regulation and supervision raise the costs of lending for MFIs and the question is whether this affects their profitability and/ or whether it has an effect on their outreach. Cull et al., using data from the largest 245 MFIs, show that supervision has a negative effect on outreach, since supervision is positively associated with the average loan balance, whereas it is negatively associated with the percentage of women borrowers. The outcome of this study is especially interesting in the light of recent calls suggesting that MFIs should broaden their services toward offering (more) deposits.

By using large cross country data of 702 MFIs operating in 83 countries, Quayes (2012) explored the relation between poverty outreach and financial performance applying simple regression as well as three stage least square method. The study tried to differentiate between high disclosure MFIs (those providing more accurate information) and low disclosure MFIs to account for better reliability of audited financial statements. For depth of outreach study relied on average loan balance and for financial sustainability, operational self-sufficiency level of MFIs was used. Simple regression results show, there exists a trade-off in case of low disclosure MFIs but not in the case of high disclosure MFIs. Three stage least square model shows negative relation between outreach and sustainability in the case of low disclosure MFIs and positive relation for high disclosure MFIs. The study concludes with the recommendation that the recent drive towards self-sufficiency should be encouraged.

Most of the studies included in the review are cross country studies which uses cross country data for exploring linkage between financial performance and depth of outreach of MFIs. By looking at findings of included studies it can be concluded that evidences regarding trade-off are mixed. Research related to India on this particular topic is absent and there is an urgent need to do the same.

2.5 Conclusions

The chapter provides a review of past studies which have addressed three issues mentioned below related to microfinance:

1. Depth of outreach of MFIs.
2. Impact of microfinance.
3. Trade-off between financial performance and depth of outreach.

The first section of this chapter discusses past studies exclusively focused on the issue of depth of outreach. As there is little empirical research available, we have considered seven studies for this review section. Among these studies, seven are from India and one each from Bangladesh, Pakistan, Bolivia and Ghana. By looking at the finding of these studies it can be concluded that poorest of the poor have been excluded from the microfinance. Only one study by Banerjee, et al. provides strong evidence of better depth of outreach in case of Bandhan MFI. It shows Bandhan has better depth of outreach in comparison to various other anti-poverty programmes. Existing empirical evidences on the depth of outreach are weak and there is a need to understand the poverty outreach of MFIs especially in India scenario.

In second section, twelve past studies focused on impact of microfinance have been included in which five are from Bangladesh, four from India and one each from Philippines and Pakistan. Looking at these past studies we concluded that results regarding impact of microfinance are mixed and it is difficult to arrive at any conclusion. Further, it is found there are only few serious attempts to apply proper empirical framework to assess impact of microfinance especially in India Scenario.

Most of the studies included in the third section are cross country studies which uses cross country data for exploring linkage between financial performance and depth of outreach of MFIs. By looking at findings of included studies it can be

concluded that evidences regarding trade-off are mixed. Research related to India on this particular topic is absent and there is an urgent need to do the same.

There is dearth of past literature on these issues with reference to India. Issues related to depth of outreach, impact and trade-off between financial performance and outreach are unsettled and there is a need to explore these issues by applying proper theoretical and empirical framework.