

Understanding Household's Access to Loans from Microfinance Institutions in Delhi Slums

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ABSTRACT

The provision of credit is essential for poverty alleviation, but formal financial institutions often exclude the poor due to stringent criteria and collateral requirements, leading them to rely on informal lenders despite high interest rates. Microfinance aims to fill this gap by offering small loans to those lacking access to formal credit, promoting investment in microbusinesses and economic growth. However, microfinance often fails to reach the poorest, serving mainly those near the poverty line. This study takes up this issue and aims to identify the socio-economic factors that determine access to microfinance institution loans among 368 households in Delhi slums. The study reveals that MFIs aim toward poverty alleviation by providing loans to the poorer sections of society. They provide loans to "self-employed" households for investments in micro ventures which helps them in raising their income and living standards. Also, the level of education of the household's head and the age of a women respondent have a positive influence on accessing loans from MFIs.

Keywords: microfinance, poverty alleviation, informal credit, financial inclusion, socioeconomic determinants

I. INTRODUCTION

Credit provision is crucial for raising incomes and alleviating poverty, but formal financial institutions' complex selection criteria often prevent poor people from accessing credit (Kerata, 2007). These institutions avoid serving the poor due to information asymmetry and lack of collateral. Researchers like Conning (2001), Robinson (2002), and Johnston and Morduch (2008) note that formal institutions offer loan sizes that are too large for the small credit needs of the poor, leaving their demand unmet. Consequently, the poor rely on informal sources such as friends, relatives, moneylenders, and traders. Despite higher interest rates, informal financing is valued for its low transaction costs, easy access, flexibility, familiarity, and established relationships. However, the limited funds available from informal lenders often result in significant credit constraints or necessitate borrowing at high interest rates from other sources (Atieno, 2001).

Microfinance aims to bridge the gap in access to credit for households lacking collateral, credit history, steady employment, or other requirements needed for formal credit (Bauchet et al., 2011). Despite its potential, researchers like Von Pischke (1995), Sharif (1997), Morduch (1998), Amin et al. (2003), Adjei and Arun (2009), and Li et al. (2011b) argue that microcredit, while beneficial to the poor, often fails to reach the poorest of the poor, as the majority of better-off beneficiaries tend to be non-poor households. As observed by Navajas et al. (2000), most microcredit programmes serve those near the poverty line rather than the hard-core poor. It, therefore, poses an important question as to why microfinance programmes are not able to reach the poor. This may require focusing on the households being served as well as those not served by the Microfinance Institutions (MFIs).

This paper takes up this issue and also aims to identify the socio-economic factors that determine access of households to loans from the MFIs. The analysis is based on primary data collected from 368 households, mainly women in Delhi Slums during 2016. It is hypothesized that

(a) Households belonging to lower MPCE (income) quintiles have a higher probability of accessing loans from MFIs as compared to those belonging to higher MPCE quintiles.

(b) The probability of accessing loans from MFIs is higher among households who are self-employed than those belonging to other occupational categories.

(c) Experience, social connections, and knowledge of clients further contribute to their accessibility of loans.

Following the introduction, the subsequent section provides an overview of the existing literature on the determinants of access to microfinance. Section 3 explains the database and the methodology used. Section 4 presents an empirical analysis

to understand the socio-economic factors of the households that influence their access to loan from MFI. The last section concludes.

II. ACCESS TO CREDIT FROM MFIS AND ITS DETERMINANTS – A BRIEF LITERATURE SURVEY

Among various factors that explain a household's access to microcredit services, poverty status, education, age, gender, loan usage, religion, family size and number of dependents, nature of activity, and exclusion from the banking sector are stated to hold importance. Pitt and Khandker (1996) studied three microfinance programmes in Bangladesh during 1991-92 which specifically targeted the poorest households and found positive effects on household welfare. Evans et al. (1999) examined the microcredit program in Bangladesh in the year 1994 and found that rates of participation were higher among poorer households. It identified a lack of female education, small household size, and landlessness as risk factors for non-participation. Kacem and Zouari (2013) suggested that there is no discrimination against the poor; the main hindrance to access to microcredit is the absence of a guarantor, and women have not been considered as their preferred customers. Buhiya et al. (2016) found that the treatment group members (those who have accessed loans) were poorer than the control group members (those who have not accessed loans), reflecting that microfinance helps the poor more than the others.

In contrast, several studies have found that the participation of poor households in microfinance institutions (MFIs) is still low due to various constraints (Navajas et al., 2000; Datta, 2004). Von Pischke (1995) and Sharif (1997) noted that MFIs often target wealthier clients to ensure high repayment rates and achieve financial sustainability. This commercialization has led MFIs to drift away from their original poverty-focused mission, compromising their commitment to the very poor, who are often crowded out by less poor clients who can handle market interest rates (Hadia Hina et al., 2014). The exclusion of the ultra-poor from MFIs occurs for two main reasons: self-exclusion and indirect push-exclusion by the MFIs (Ashraf and Ratan, 2009). According to Adjei and Arun (2009), the goal of microfinance is to provide credit to economically disadvantaged individuals for microbusiness and entrepreneurial activities, thus improving their income and living standards. Consequently, the focus tends to be on economically active poor people, even if it means bypassing the very poor. This aligns with Montgomery and Weiss (2005), who argue that serving the poorest of the poor is not the sole mission of most MFIs.

Morduch (1998) analyzed the impact of microfinance on 1800 households in Bangladesh from 1991-92 and found that about 20-30 percent of borrowers were already relatively well-off, indicating mistargeting by microfinance programs. Similarly, Amin et al. (2003) evaluated the Grameen Bank credit program in two Bangladeshi villages during 1991-92 and 1995, finding that while microcredit effectively reached the poor, it was less successful in aiding the vulnerable poor. Coleman (2006) studied village banking microfinance schemes in Thailand and discovered that wealthier households tended to self-select into village banks, using their advantageous positions to borrow more. Adjei and Arun (2009) assessed the leading MFI, Sinapi Aba Trust (SAT), in Ghana's urban centers in 2007, revealing that SAT served a very small percentage of the extremely poor. This was partly due to SAT's selection criterion requiring members to own a business for at least six months, excluding many poor individuals without entrepreneurial ventures.

In sum, the evidence is mixed with large variations across the regions. On the determinants of access to MFIs, fewer studies exist. Latif et al. (2017) studied the accessibility of microcredit to households in the rural Punjab Province of Pakistan and found a positive relationship between household microcredit demand and access to microcredit. It emphasized the demand side factors stating that households should raise their capital requirements (e.g., generate investment opportunities), which in turn will increase their access to microcredit. Ashraf and Ratan (2009) showed that the loan repayment method, loan utilization opportunities, and religious restrictions are significant variables in explaining the non-participation of the poor in microcredit programs in rural Bangladesh.

Among various factors that explain the household's access to microcredit services, the age of women is considered to be important. The available literature has found both positive and negative relationships between age and access to credit. Tang and Guo (2017) argued that the older have an extensive social network and thus higher social capital which makes it easier for them to access credit. Demand, as well as the supply of credit increases with age, as economic activities and experiences, increase with age (Addo et al., 2017). Okurut (2006) found a positive and significant relationship between age and access to credit in rural households. In contrast, Baiyegunhi et al. (2010) and Bakhshoodeh and Karami (2008) argued that older people tend to have accumulated wealth which though makes them creditworthy but are less likely to apply for microcredit (because of the availability of funds themselves).

III. DATABASE AND METHODOLOGY

The present study extensively uses household data on consumption expenditure from the National Sample Survey (NSS) 68th round (2011-12) as a baseline to construct a scorecard. The selected indicators in the scorecard were used to collect

the primary data from MFI clients. The study's sample includes 368 women/households from selected slums in urban Delhi, where MFIs are operational. MFIs were chosen using a purposive sampling method, while sample households (women) and slums were selected through convenience sampling. The sample is divided into a treatment group (T-group) and a control group (C-group) based on their access to MFI loans. The T-group consists of 215 respondents who have been MFI clients for at least three years, chosen randomly and based on their willingness to participate. The C-group comprises 153 respondents who have been approved for their first MFI loan but have not yet received the funds, also selected randomly and based on willingness. A survey using a structured questionnaire was conducted among both groups, which share similar socio-economic backgrounds, during the last quarter of 2016.

The study begins with an assessment of the poverty status of MFI's clients based on a scorecard approach. The structured household questionnaire for carrying out the primary survey includes all the above-selected variables in the scorecard. For both groups, the data is collected for the 'current' period and 'before' period. The period 'before' refers to the time of joining a specific MFI for the T-group and three years before the date of the survey for the C-group. The period 'current' refers to the time of conducting the household survey (last quarter of 2016) for both the T-group and C-group. For the "before" period data is collected on a recall basis. Based on the scorecard (regression model) and the information collected in the questionnaire, monthly per capita expenditures (MPCE) of each HH are predicted for the 'current' period and 'before' period. This is done by substituting the values of independent variables (collected in the household questionnaire) in the regression model and calculating the value of the dependent variable, i.e., the MPCE of each household.

To understand the socio-economic factors influencing household's access to MFI loans, various characteristics of households in the T-group and C-group are examined along with specific factors that can empirically explain their access to MFI's credit. The period termed as 'before' is considered for the analyses because during this period, while the MFIs were providing financial services in the slum areas, HHs in the T-group joined the MFIs, but HHs in the C-group did not do so. So, an attempt has been made to empirically understand the factors that influenced the household's participation in MFIs. Logit regression has been used for this purpose. The dependent variable is participation in MFI (TTCC code). It is assigned the value '1' if the household belongs to the T-group (those who have availed of loans from MFI) and the value '0' if the household belongs to the C-group (those who have not yet availed of loans from MFI). Different socio-economic factors, along with the monthly per capita expenditure (MPCE), are independent variables. Some of these variables are time-invariant such as household's social group, religious group, family type, and female-headed households, and others are time-variant. Therefore, all the time-variant variables are measured in the "before" period. Marginal effects are also estimated to show the difference in the predicted probabilities for the cases in one category relative to the reference category.

IV. RESULTS: DETERMINANTS OF ACCESS TO LOAN FROM MFIS

The Logit regression equation is as follows:

¹The NSS 68th round (2011-12) data on consumption expenditure for urban Delhi is utilized to develop a scorecard using the Ordinary Least Squares (OLS) method. Household monthly per capita expenditure based on the mixed reference period (MPCE-MRP) from the NSS 68th round (2011-12) serves as the dependent variable, acting as a proxy for household welfare. Various survey variables are considered as independent variables. The feature selection is confined to the data available in Schedule 1.0: Consumer Expenditure Schedule Type 1 of the NSS 68th round. Step-wise regression is employed to select the final indicators that most accurately predict household expenditure. These indicators include the average education level of adults in the household, dwelling type, household size, number of children in the family, and ten assets owned by the household.

$$TTCC \text{ code} = \beta_0 + \beta_1 \text{Family-type} + \beta_2 \text{HH-type-B} + \beta_3 \text{Social-group} + \beta_4 \text{Religion} + \beta_5 \text{Age-less than 15-B} + \beta_6 \text{women-employment-type-B} + \beta_7 \text{MPCE-quintile-B} + \beta_8 \text{Access-bank-loan} + \beta_9 \text{Education-head-B} + \beta_{10} \text{Female-headed-HH} + \beta_{11} \text{Age-women-B} + \mu t$$

Where

"Family-type" is a dummy variable showing the type of family each household belongs to. (Nuclear-1, Joint-0)

"HH-type-B" is a categorical variable based on the means of livelihood of the household i.e., the major source of the household's income from economic activities during the last 365 days preceding the date of the survey. The period considered is the "before" period. (Casual labor-0, Wage/salary earnings-1, Self-employed-2)

"Social-group" is a categorical variable stating the social category each household belongs to. (Scheduled Caste / Scheduled Tribe-0, OBC-1, General caste -2)

"Religion" is a dummy variable showing the religion of each household. (Islam-0, others-1)

"Age-less than 15-B" is a continuous variable showing the total number of family members whose age is less than 15 years i.e. the number of children in the household during the "before" period.

“Women-employment-type-B” is a dummy variable showing the employment status of women respondents in each household in the "before" period. (Unemployed-0, Employed-1)

“MPCE-quintile-B” is a categorical variable showing MPCE divided into five equal quintiles in ascending order. The period considered is the "before" period. (Lowest quintile-1, second quintile-2, third quintile-3, fourth quintile-4, highest quintile-5)

“Access-bank-loan” is a categorical variable meaning whether the household has ever tried taking a loan from the bank. If tried, whether their application was accepted and they got the loan, or their application was rejected, and they did not get any loan. (Never tried bank loan-0, Bank loan tried and received -1, Bank loan tried but rejected-2)

“Education-head-B” is a categorical variable showing the general educational level of the household head during the "before" period.

“Female-headed-HH” is a dummy variable showing whether the household is female-headed or male-headed. (Male-headed household-1, Female-headed household-0)

“Age-women-B is a continuous variable, refers to the number of years completed by the women respondents during the "before" period.

“Loan-usage” is a categorical variable showing the use of the current loan amount for consumption purposes, production purposes, or both. (0-loan used for consumption purposes, 1-loan used for both consumption and production purposes, 2-loan used for production purposes).

Table 1 presents the estimated coefficients of the parameters obtained in the empirical analysis. The results reveal that participation in MFIs is significantly influenced by the household's religion, occupational category, number of dependents in the family, MPCE quintiles, access to a bank loan, education level of the household's head, and the age of women.

Table 1: Determinants of household’s participation in MFI based on logit regression

VARIABLES	Coefficients	Marginal Effects
0. Family-type (Joint)		
1. Family-type (Nuclear)	0.290 (0.305)	0.0605 (0.0635)
0. HH-type-B (Casual labour)		
1. HH-type-B (Wage/salary earnings)	-0.0850 (0.361)	-0.0184 (0.0782)
2. HH-type-B (Self-employed)	0.700* (0.377)	0.144* (0.0794)
0. Social-group (SC/ST)		
1. Social-group (OBC)	-0.213 (0.309)	-0.0452 (0.0659)
2. Social-group (others)	0.229 (0.305)	0.0471 (0.0621)
0. Religion (Islam)		
1. Religion (others)	0.936** (0.370)	0.199*** (0.0763)
Age-less than 15 (no. of children)-B	-0.260** (0.125)	-0.0539** (0.0256)
0. Women-employment-type-B (unemployed)		
1. Women-employment-type-B (employed)	0.157 (0.243)	0.0327 (0.0509)
1. MPCE-quintile-B		
2. MPCE-quintile-B	-0.883** (0.407)	-0.165** (0.0716)
3. MPCE-quintile-B	-1.124*** (0.413)	-0.215*** (0.0720)
4. MPCE-quintile-B	-0.953** (0.482)	-0.179** (0.0862)
5. MPCE-quintile-B	-1.642*** (0.540)	-0.323*** (0.0947)
0. Access-bank-loan (Never tried bank loan)		
1. Access-bank-loan (Bank loan tried and received)	0.945 (0.647)	0.188* (0.113)
2. Access-bank-loan (Bank loan tried but rejected)	1.193**	0.228***

	(0.472)	(0.0758)
Education-HH-head-B	0.102** (0.0479)	0.0212** (0.00979)
0.Male-headed-HH		
1.Female-headed-HH	0.213 (0.321)	0.0439 (0.0655)
Age-women-B	0.0338** (0.0154)	0.00703** (0.00311)
Constant	-1.616* (0.912)	
Prob > chi2	0.000	0.000
Pseudo R^2	0.1143	0.1143
No. of observations	368	

Note: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1, B implies “before” period, 1= Reference category for MPCE quintile and 0= Reference category for all other variables

Results furnished in Table 1 suggest that HH-type-B positively influences the household’s participation in the MFIs. The positive and significant coefficient for self-employed households indicates that their probability of accessing loans from MFIs is 14% higher than that of casual-labor households. The result is consistent with the findings of Adjei and Arun (2009), (Ashraf and Ratan, 2009) and (Latif et al.,2017) who stated that the MFIs aim to provide loans for investment in micro ventures and self-enterprises. Kumari (2017), and Microfinance India (2006), found that casually employed and wage employed need consumption and emergency loans while the self-employed use loans for productive purposes, However, the value of the coefficient obtained is insignificant for the household belonging to the ‘wages and salary’ category. The result accepts the hypothesis that the probability of accessing loans from MFIs is higher among households who are self-employed than those belonging to other occupational categories.

Regarding the relationship between religion and access to loans from MFIs, the marginal effects given in Table 1 indicate that the probability of accessing a loan from an MFI increases by 20 percentage points for households belonging to the “other” religion as compared to households belonging to the “Islam” religion. It is consistent with the findings by Kumari (2017), (Ashraf and Ratan, 2009), (Amin and Pebley, 1994) who argued that since their religious practices restrict the free movement of women without the purdah (cover-up), thus, females attending meetings with MFI’s male officials and controlling their finances, are aspects of microfinance programmes that violate patriarchal values (Develtere and Huybrechts, 2002).

The number of children (dependents) in households is found to have a negative influence on participation in MFIs as the coefficient of the variable “Age-less than 15-B” is negative. The result is consistent with the findings of Latif et al. (2017) and suggests that households with a lesser number of children (i.e., a larger proportion of people in working-age groups) have a higher probability of accessing loans as they are likely to use it for their business/employment activities and have better-paying back capacity.

Household’s MPCE gives direct information about their income, i.e., economic condition. The results reveal that the coefficients of MPCE-quintiles-B are negative and statistically significant (at a 1 percent level of significance) implying that households belonging to higher quintiles are less likely to access loans from MFIs as compared to those belonging to lowest quintiles (the reference category). The marginal effects given in Table 1 indicate that the households belonging to the second, third, fourth, and fifth MPCE quintiles have (17%, 22%, 18%, and 32% respectively) lower probability of accessing loans as compared to households belonging to the first quintile. Umoh (2006) also found that demand for credit decreases with an increase in the income of clients. Similarly, higher-income households have a low probability of being credit rationed (Nuryartono et al., 2007), and are in a better position to finance their economic activities on their own and can easily access loans from formal institutions (Addo et al.,2017). The inference, therefore, is that MFIs selected in urban Delhi have been successful in targeting the below-poverty-line households. As households move up the income/poverty ladder, their probability of joining the MFI decreases. The results conform with other studies - Pitt and Khandker (1996), Evans et al. (1999), Kacem and Zouari (2013) who found MFIs to be successfully able to target the poor. Thus, it conforms to the hypothesis that households belonging to lower MPCE (income) quintiles have a higher probability of accessing loans from MFIs as compared to those belonging to higher MPCE quintiles.

The variable access-bank-loan is expected to be positively associated with the dependent variable. The coefficient of this variable is positive and statistically significant at a 1 percent level. The result suggests that as compared to the reference category (the households who never tried taking a bank loan), those households who applied for a bank loan but their applications were rejected, have a 23% higher probability of being in the treatment group. It is consistent with the extant

literature as microfinance institutions give shelter to those who have been rejected by the formal banking system (Adjei and Arun, 2009). These households generally lack physical collateral which banks ask for as a loan guarantee (Gaitho, 2013). MFIs come in to bridge this gap and address the concern of lack of access to banking credit services (Robinson, 2001). However, the coefficient of those households who have applied for a loan and received it is also found to be significant (at a 10% level) indicating that the chances of such households to join MFIs are also 19% higher than that of the reference category. Since in the present study, the number of observations under this category is only 13, the results cannot be generalized.

The level of education of the household's head has been found to influence participation in MFIs positively as its coefficient is positive and statistically significant at the 5 percent level. The results suggest that a unit increase in the education level of the household's head increases the probability of accessing a loan from MFIs by two percentage points. A plausible explanation is that an educated household's head is more aware of credit opportunities, has a high risk-taking capacity, has higher exposure to the socio-economic environment (Latif et.al.,2017), and has better skills and knowledge with regard to operations of financial markets, its procedures, and paperwork formalities of formal MFIs (Addo et.al.,2017). Lending institutions have more confidence in lending them as they have better employment prospects and consequently, higher income to repay loans and are considered less risky for loan defaults (Addo et al.,2017). This result is again consistent with the findings of other studies (Peprah 2012, Kacem and Zouri 2013, Clamara et al. 2014, and Li et al. 2011a).

The coefficient of the age of women (a proxy for experience, social connections, and knowledge) is positive and statistically significant at the 5 percent level indicating that women's age positively influences their access to MFI loans. The results suggest that an additional year of age increases the probability of participation in MFI by 0.7 percentage points. It is consistent with other studies (Okurut, 2006, Addo et al., 2017) which found a positive and significant relationship between age and access to credit. Tang and Guo (2017) argued that the older have an extensive social network and thus higher social capital, which makes it easier for them to access credit. The result conforms to the hypothesis that experience, social connections, and knowledge of women clients contribute to their accessibility of loans.

The results furnished in Table 1 also suggest that the variables "family type", "social group", "women's employment status", and "female-headed-HH" do not make any difference to the household's participation in MFIs.

V. CONCLUSIONS

This paper aimed to identify the socioeconomic factors of the households that determine their access to loans from the MFIs and their participation. The analysis is based on the primary survey of 368 households in Delhi Slums during 2016 grouped into a control group and treatment group. Econometric techniques were used to test the proposed hypotheses.

As regards the determinants of households' access to loans from MFIs, results reveal that the level of education of the household head and the age of a women respondent have a positive influence on participation in MFIs while the number of children in a household has a negative influence on participation in MFIs. Households belonging to "other" religions (mainly Hindus) have a higher probability of accessing loans from MFIs than those belonging to the "Islam" religion and self-employed households have a higher probability of participating in MFIs as compared to the casual-labor household. Also, the households whose loan application was rejected by the bank are more likely to participate as compared to HHs who never applied for a bank loan. Furthermore, the results show that households belonging to the lowest quintiles (i.e., poor) are more likely to take a loan from MFIs as compared to those belonging to higher quintiles (i.e., non-poor).

These results accept the postulated hypotheses and substantiate the existing literature that microfinance institutions aim toward poverty alleviation by providing loans to the poorer sections of society. It stands to help those who lack collateral, verifying credit history, steady employment, or other requirements necessary to access the formal credit. The loans from MFIs can contribute to augment investments in micro ventures and self-enterprises or to make new investments, which can help in raising the household's income and living standards. With the increase in women's age, economic activities and social capital increase which significantly increases the demand for microfinance loans.

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