

Growth and distribution of microfinance in India: A panel data analysis

S. SARAVANAN

Madras School of Economics, Chennai, India
saravanan@mse.ac.in

Devi Prasad DASH

Indian Institute of Technology, Ropar, India
devi100.dash@gmail.com

Abstract. *This paper analyses large panel of Self-Help Group (SHG) financing across 30 Indian states over the period 2007 to 2015. Classifying the panel across four different bank based on financing, we find a significant and positive association of both outstanding loan and savings of SHGs to that of bank financing across the states. Applying panel regression frameworks of both time varying and state specific fixed effects, we have obtained positive association between outstanding loans, savings rate of SHGs to that of bank loans. Our panel model has further confirmed that increases in the number of SHGs have positively influenced the bank loans particularly from public and private sectors over the years. The results thus suggest that financial inclusion drive in India has made financial institutions across the sectors to extend loan for small sector initiatives.*

Keywords: Micro-Finance Institutions, SHG, Outreach, Financial Inclusion, NPA.

JEL Classification: G21, H62.

1. Introduction

Financial Markets and Institutions, in the developing countries, have failed miserably to address the credit requirements of the poor households in rural areas. The main reason for the failure is the lack of any sort of recognized employment source and collateral with the poor (European Commission, 2007a). The high risk and the high transaction costs of banks associated with the small loans and savings deposits are the other factors which have made them unbankable. The lack of loans from the formal institutions has left the poor with no other option but to borrow money from the local money-lenders at huge rate of interests. The high interest rate fixer dominates the rural credit market because they are able to monitor borrowers credit needs closely and offer credit to a group of known or trustworthy clients where social ties and social sanction induce investment (Ghate et al., 1992; Udry, 1990). However, the policy makers of various countries including India have taken efforts to offer formal financial services to the rural borrowers by setting up special agricultural banks/rural banks or directing commercial banks. Nonetheless, these programmes were in vain owing to various reasons. The common reasons marked by many were the political difficulty for governments to enforce the loan repayment and most importantly the borrowers were relatively wealthy and influential people rather than the poor (Adams et al., 1984; Adams and Vogel, 1986; World Bank, 1989).

The formal financial institutions do not serve to the segment of rural poor, as they perceived it as too risky (Armendariz and Morduch, 2000; Yunus, 1998; Hermes and Lensik, 2007). Thus, the inability of the formal credit institutions to deal with the credit requirements of the poor effectively has led to the emergence of microfinance to alleviate poverty and as an alternative credit system for the poor (Battilana and Dorado, 2010; Morduch, 2000; Coleman, 2005).

Microfinance scheme emerged as panacea for the poor households who are not able to access financial services from the formal financial institutions which require collateral (Ledgerwood, 1998; Littlefield, Morduch and Hashemi, 2003; Robinson, 2001). It helps them build up assets, survive crises and to establish small business to come out of poverty. Besides, by extending small loans (microcredit), the microfinance program provides various other financial and non-financial services such as savings, insurance, guidance, skill development training, capacity building and motivation to start income generating activities. This innovative programme is reaching the poor people especially women and has a greater impact on their socio-economic development as well as their empowerment. The successfulness of the program had impacted the developed countries to emulate the program to alleviate poverty (Jajo et al., 2010).

Literature reveals different ideas of impacts of microfinance. Some studies shows positive impact of microfinance in terms of poverty, health, nutrition, education, and women empowerment (Armendariz de Aghion and Morduch, 2000; Armendariz and Morduch, 2005, 2010; Hashemi, Schuler and Riley, 1996; Littlefield et al. 2003; Roodman and Morduch, 2009). These positive impacts have been questioned and proved that microfinance do not make any changes in the lives of the poor (Angelucci et al., 2013; Ganlea et al., 2015; Banerjee et al., 2009, Rooyen et al., 2012).

The main objective of the paper is to empirically analyze the outreach of bank financial lending programmes for the small credit mainly to MFI or SHG financing. Drawing evidences from previous literatures has helped us to establish the real issue behind the MFI lending methodology. Till date, Banks across the sectors have not had the well established financial connectivity for small lending institutions. Though volume of financial assistance from banks go on increasing, still the problems like non-performing assets, rising debt ratio, failure of many loans and lack of recovery of loans have even decimated the bank lending in this regard across the states. Lack of regulation and absence of strong credit bureau have led to the profound increase in debt ratio of MFIs in Lebanon⁽¹⁾. Another biggest problem is the presence of indebtedness over a longer time period has cut short the refinancing facilities of bank for further MFI loan. In one report “Microfinance Banana Skins 2011” for the analysis of 500 MFIs of 86 economies, it has been documented that credit risk is the number one risk for all MFIs across the economies worldwide. Against this background, we have empirically analysed our paper by using time varying fixed effect and state specific fixed effect frameworks to see, how far the coefficients of bank loans get influenced by the rising default rates, NPAs, outstanding loan volumes and number of SHGs per year.

The remainder of the paper is structured as follows. Section 2 discusses the Growth and outreach of MFIs in India. In Section 3 we discussed the microfinance lending methodologies in India and financial outreach for MFI lending across Indian states. Section 4 continues with data description, estimation strategy along with results and discussion. Section 5 underscores certain potential challenges and issues faced by the MFIs in India. In section 6 we summarize the main findings and provide conclusion, we derive from the analysis.

2. Growth and outreach of microfinance in India

In India, MFIs currently operate in 28 States, 5 Union Territories and 561 districts. At present, 155 MFIs with a branch network of 11,687 have reached out to an all-time high of 33 million clients with an outstanding loan portfolio of Rs.33,517 crore. This includes a managed portfolio of Rs.4,075 crore. The average loan outstanding per borrower stood at Rs.10,079 and 80% of loans were used for income generation purposes. Outreach grew by 20% and loan outstanding grew by 30% over the previous year. The Southern region continues to have the highest share of both outreach and loans outstanding, followed by East. However, growth rates are higher in the Western and Eastern regions. Outreach proportion of urban clientele is increasing year on year (44% for 2013-14) as against the rural population. Women borrowers constitute 97% of the total clientele of MFIs; SC/ST borrowers constitute 19% and other minorities 14%. Of the total, NBFC-MFIs contribute to 82% of both clients outreach and outstanding portfolio, while NGO MFIs contribute to the remaining. MFIs with portfolio size of more than Rs.500 crore contribute significantly to the total outreach (74%) and loan outstanding (76%) of the sector.

Table 1. Year-wise Outstanding Loan, Loan Disbursed and Client Outreach of Overall Banks

Year	Outstanding loan (in crore)	Loan Disbursed (in crore)	Client outreach (in lakhs)
2009-10	22544	29330	267
2010-11	24332	35176	317
2011-12	24607	22635	275
2012-13	25699	25635	275
2013-14	33517	24017	330
2014-15	48882	30334	371
2015-16	63853	37286	399

Source: Compiled from various reports of Bharat Microfinance Reports, Sa-Dhan.

The data for the year 2015-16 indicates to an outstanding loan portfolio of Rs.63,853 crores as on 31 March 2016. Of this amount, the 8 SFB licensees account for a portfolio of Rs.23,553 crore. This implies that on a standstill basis the MFI sector portfolio would reduce to Rs.44,943 crore once all these eight institutions become SFBs, indicating a contraction of nearly 35 %. The provisional estimate of clients served by MFIs for the year ending March 2016 was 476 lakhs, out of which nearly 135 lakhs are being served by would-be SFBs.

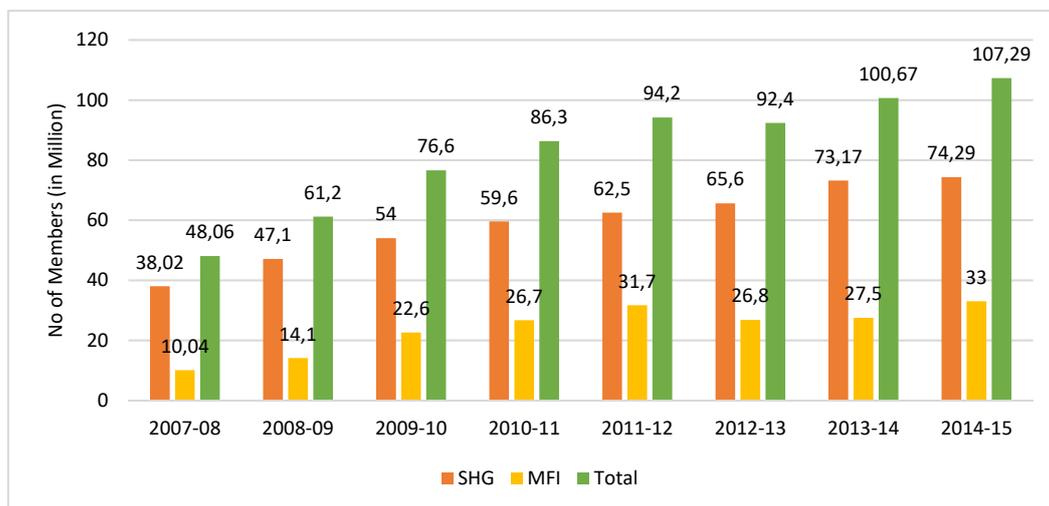
While the lending philosophy and methodology of each of the SFBs would be for them to decide upon, few of them would be able to continue with the present systems of unsecured group lending. Opportunity also opens up for not-for profit MFIs, i.e. NGO-MFIs, Mutual/Cooperatives and Section 8 Companies. The trajectory of growth of MFI sector since 2010 is an indication of the absorption capacity and potential for such type of lending. This potential opportunity calls for a vigorous role to be played by the development finance institutions. It may be recalled that in the initial years of setting up of MFIs in their NGO-MFI form it was NABARD which assisted them with grant support and Revolving Fund Assistance (RFA). Later NABARD helped a number of MFIs with quasi-equity and subordinated debt instruments from Micro Finance Development and Equity Fund (MFDEF).

Similarly, SIDBI supported the growth story of MFIs through its SIDBI Foundation for Micro Credit (SFMC). The India Microfinance Equity Fund (IMEF) later supported MFIs, especially the medium and smaller ones with equity and quasi-equity. Such pioneering roles may be required to be played again in nurturing a newer set of institutions to take their places in the space vacated by the SFBs. Of course MUDRA with its total focus on microenterprise has to hand-hold and facilitate the development process of smaller MFIs and not-for profit MFIs as they are the ones who operate in remoter locations and with the more underserved populations. The establishment of Small Finance Banks also opens up another window of opportunity for reinvigorating the SHG-Bank Linkage Programme. We are aware that there is greater enthusiasm for SBLP from smaller institutions like RRBs, DCCBs and smaller banks than from bigger banks. This phenomenon would apply to SFBs also. Moreover, as eight of them (nine, if you include Capital) are from the microfinance stable, they would be more positively inclined for SHG linkage. While all of them operated on the JLG methodology, some of them worked on the SHG model also. Strategic partnerships with them for SHG-Bank Linkage Programmes have the potential to take SBLP to greater heights in the next couple of years. The setting up of Payment Banks would also give a further fillip to the microfinance sector. Partnerships between

MFIs and Payment Banks can ensure that MFIs' clients can avail of financial products other than credit from the latter. Additionally, the cash and remittance management services of FIs can be taken care of by the Payments Banks. RBI's discussion paper on Peer to Peer (P2P) lending also opens up a window for some MFIs with technology wherewithal to transform themselves into P2P players for the microfinance segment. Institutions like Kiva and Rang-De are already working in this area, but there is a scope for a number of other institutions to enter this niche.

The transition of microfinance industry into a mature industry could strengthen the financial inclusion pattern in a much better fashion. Structured financing and SHG linked bank financing can make MFIs more appealing to the achieving of financial stability (Karmakar, 2009). As per Status in Microfinance Report, 2013, big NBFC MFIs have gained lot of momentum in terms of opening more accounts and disbursing loans to the poor. Big NBFC MFIs have regained market confidence and picked momentum in client outreach and loans outstanding. Bank credit eased for MFIs and SHGs as well. However, rising NPAs pose as the serious challenges for the bigger MFIs. The gross loan portfolio of microfinance institutions (MFIs), registered with the Reserve Bank of India as non-banking financial companies (NBFCs), can cross Rs 1 lakh crore by March 31, 2018⁽²⁾. Medium MFIs are, however, facing with the rising challenges in some key states such as U.P and Bihar, where people especially women take loan for consumption purposes rather than the income generation activities. Increasing suicide rates among poor people and inadequate regulation have also added woes to the financial capability of MFIs⁽³⁾. Differences in terms of taking loans and using for other purposes often have marred the basic aim of the MFIs.

Figure 1. Growth of SHG and MFI



The chart describes that approximately 107.29 million people were provided with microfinance under SHG- BLM and 33 million under the MFI model up to March 2015. The perusal portrays the focus of the programme mainly concentrating in the southern region. Approximately 48 percent and 55 percent of the people who were provided with

microfinance under these two models belonged to the Southern Region of India (NABARD, 2015). However the spread of the programme is limited in the North and North-Eastern Region. Over all, the microfinance outreach in India is approximately five percent and three percent and these clients belonged to the north and north-eastern regions respectively.

3. Microfinance lending methodologies in India: Bank Linkage Model

In India, the microfinance penetrates in different ways and the most popular channels are: MFI-Bank Linkage Program (MFIBL) and SHG-Bank Linkage Program (SHGBL). The SHG-BL program is spearhead program in rural financial service launched by NABARD in the year 1992, is most popular and spread across six different regions of India, i.e. Northern, North-Eastern, Eastern, Central, Western and Southern Regions. The Northern region comprises of the states of Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir and Rajasthan. The North-Eastern region encompasses Assam, Sikkim, Tripura, Meghalaya, Arunachal Pradesh, Mizoram and Nagaland states. The Eastern region takes in Bihar, West Bengal, Jharkhand, Orissa, and Andaman and Nicobar Islands. The Central region includes Madhya Pradesh, Chhattisgarh, Uttaranchal and Uttar Pradesh. Western region includes Goa, Gujarat and Maharashtra states. The Southern region incorporates Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and U.T. of Pondicherry.

Initially, till 1999, there was a slow progress in the programme as only 32,995 groups were credit linked. Later on, the programme began to grow rapidly. Table 2 exposes the total figure of SHGs credit linked with banks and the bank loan disbursed to these groups between the periods 1992-93 and 2007-08. It, furthermore, shows that 255 SHGs were given Rs.2.9 million of bank loans during the period 1992-93. In 1999-2000 the number increased to Rs.1, 14,775 with bank loans of Rs.1,929.8 million. This cumulative number of credit linked SHGs has increased to about Rs.34.78 lakh and the amount of bank loan given to these groups increased to Rs.2, 22,680 million up to March 2008. The microfinance through SHGs has reached such a position in India that it is acknowledged as the biggest microfinance programme in the world. The data reveals that though the cumulative number of SHGs provided with the bank loans increases, the rate of intensification is relatively slow as compared to the previous years. The table also shows that the rate of expansion of SHGs and the bank loans disbursed to them is unenthusiastic during the year 2007-08. One of the reasons for the rapid escalation of the programme in the southern states of India might be because it has reached a saturation point in some other parts of these states. The provisional data available from NABARD for the year 2010-11 shows that the banks has disbursed loan amounting to Rs.14.7 billion to 1.2 billion groups during the year. The average loan disbursed per group is amounted to Rs.122,700 which are higher than the comparable levels of last year. Compared to the last year's growth rate, the SBLP has underperformed during the year.

Table 2. Progress of SHG-Bank linkage in India (in Billion)

Year	SHGs financed by banks			Bank loans		
	Number	Growth	Cumulative	Number	Growth	Cumulative
1993-1994	610	-	-	0.01	-	-
1994-1995	1502	146.23	2122	0.02	100.00	0.02
1995-1996	2635	75.43	4757	0.04	100.00	0.06
1996-1997	3841	45.77	8598	0.06	50.00	0.12
1997-1998	5719	48.89	14317	0.12	100.00	0.24
1998-1999	18678	226.60	32995	0.33	175.00	0.57
1999-2000	81780	337.84	114775	1.36	312.12	1.93
2000-2001	149050	82.26	263825	2.88	111.76	4.81
2001-2002	197653	32.61	461478	5.45	89.24	10.26
2002-2003	255882	29.46	717360	10.22	87.52	20.49
2003-2004	361731	41.37	1079091	18.56	81.60	39.04
2004-2005	539365	49.11	1618456	29.94	61.31	68.98
2005-2006	620109	14.97	2238565	44.99	50.27	113.97
2006-2007	1105749	78.32	3344314	65.7	46.03	179.67
2007-2008	1227770	11.04	4572084	88.49	34.69	268.16
2008-2009	1609586	31.10	6181670	122.54	38.48	390.70
2009-2010	1586822	-1.41	7768492	144.53	17.95	535.23
2010-2011	1196134	-24.62	8964626	145.48	0.66	680.71
2011-2012	1147878	-4.03	10112504	165.35	13.66	846.06
2012-2013	1219821	6.27	11332325	205.85	24.49	1051.91
2013-2014	1366421	12.02	12698746	240.17	16.67	1292.08
2014-2015	1626238	19.01	14324984	275.82	14.84	1567.9
2015-2016	1832323	12.67	16157307	372.87	35.19	1940.77

Source: Compiled from various issues of Status of Microfinance in India, NABARD.

The NABARD's Status of Microfinance in India reports clearly states that Southern region's principal focus was on SHGs. It was on account of the prevalence of the voluntary organizations being in the wide spread for the linkage banking program. The largest MFIs of India, such as SHARE, Spandana, CDF, MYRADA, SKS and PREM have also given attention to the Southern regions. The spread of microfinance programme was almost negligible in the North-Eastern States. The share of Southern States in the number of groups linked to the banks was declining, while the share of the other regions was improving (NABARD, 2016).

4. Data, estimation strategy and results

The dataset for the study has been collected from Status of Microfinance in India reports for the years 2007-08 to 2015-16 (9 years) annually published by NABARD. MFIs data have been gathered from Microfinance in India report published by Sa-Dhan.

Description of Variable

Bank Loan: Here the bank loan is in volume term, meant for the MFI finance exclusively. This constitutes an important segment of our empirical analysis. Being the dependent variable, it will help explain the magnitude of change w.r.t other variables. Being the part of financial inclusion programme, the banks irrespective of their classifications have extended loans for the small scale credit.

Savings: Here, the variable saving has implied the SHG saving rate. It is included as one of the explanatory variables in our model in terms of volume.

Outstanding Loan: it is kept as the one of the explanatory variables in the model. Outstanding loan refers to the failure in terms of repayment intensity of the banks. It is the best indicator of growing NPAs of the banks. It can be otherwise known as bad loan.

No of SHG: it is in terms of numbers. Being one of the explanatory variables, it indicates how the number of SHGs has increased over the years. It is in annualized formats. It indicates the outreach of SHGs across India over the years.

All these data are covered for 30 states over the time period 2007 to 2015. In order to avoid inconsistency and spurious regression problem, we have converted all the variables into the natural logarithm.

The empirical model in this context is

$$\begin{aligned} \text{bank loan}_{i,t} = & \alpha_1 \text{bank loan}(-1)_{i,t} + \alpha_2 \text{savings}_{i,t} + \alpha_3 \text{out.loan}_{i,t} + \\ & + \alpha_4 \text{SHG}_{i,t} + \delta_t + \sigma_t + \epsilon_{i,t} \end{aligned} \quad (1)$$

Here, we have taken bank loan as the dependent variable. The other sets of explanatory variables are savings of SHGs, outstanding loans of SHGs and the number of SHGs. δ_t takes care of the panel specific time effect. σ_t takes into account the state specific effect or region specific effect. $\epsilon_{i,t}$ is the error term in the equation across the region I and time t. In order to get rid of spurious regression issue, we have converted all the variables into the natural logarithmic values. The region I takes care of 30 Indian states and the time t covers the period from 2007 to 2015.

This above equation has been applied across the bank classified in terms of their ownership. Using the set of variables just described above, we have estimated the following equations by applying Ordinary Least Squares and Fixed Effect methods.

$$\begin{aligned} \text{bank loan}_{it}^{pb} = & \alpha_1 \text{bank loan}(-1)_{it}^{pb} + \alpha_2 \text{savings}_{it}^{pb} + \\ & + \alpha_3 \text{out.loan}_{it}^{pb} + \alpha_4 \text{SHG}_{it}^{pb} + \delta_t + \sigma_i + \epsilon_{it} \end{aligned} \quad (2)$$

$$\begin{aligned} \text{bank loan}_{it}^{pvb} = & \alpha_1 \text{bank loan}(-1)_{it}^{pvb} + \alpha_2 \text{savings}_{it}^{pvb} + \\ & + \alpha_3 \text{out.loan}_{it}^{pvb} + \alpha_4 \text{SHG}_{it}^{pvb} + \delta_t + \sigma_i + \epsilon_{it} \end{aligned} \quad (3)$$

$$\begin{aligned} \text{bank loan}_{it}^{rrb} = & \alpha_1 \text{bank loan}(-1)_{it}^{rrb} + \alpha_2 \text{savings}_{it}^{rrb} + \\ & + \alpha_3 \text{out.loan}_{it}^{rrb} + \alpha_4 \text{SHG}_{it}^{rrb} + \delta_t + \sigma_i + \epsilon_{it} \end{aligned} \quad (4)$$

$$\begin{aligned} \text{bank loan}_{it}^{cb} = & \alpha_1 \text{bank loan}(-1)_{it}^{cb} + \alpha_2 \text{savings}_{it}^{cb} + \\ & + \alpha_3 \text{out.loan}_{it}^{cb} + \alpha_4 \text{SHG}_{it}^{cb} + \delta_t + \sigma_i + \epsilon_{it} \end{aligned} \quad (5)$$

All these above equations represent the empirical results w.r.t different types of banks classified on the basis of their loans provided to the MFIs and other types of small credits over the period 2007 to 2015. The equations (2) to (5) represent the cases of bank loans as

the functions of the lagged bank loan value, savings, outstanding loan volume and no of SHGs for public sector, private sector, regional rural banks and co-operative banks respectively.

Table 3. *Fixed Effect Estimation bank loan with the explained variable*

Bank Loan	Model I	Model II	Model III	Model IV
Bank Loan (-1)		-0.057 (-1.46)		
Savings	0.279* (5.52)	0.344* (6.02)	0.271* (4.77)	0.285* (5.02)
Outstanding Loan	0.705* (14.94)	0.683* (13.18)	0.720* (14.07)	0.671* (12.67)
No of SHGs	0.042 (1.24)	0.056 (1.46)	0.134* (2.82)	0.103** (2.62)
Constant	-0.031 (-0.70)	-0.033 (-0.65)	-0.210* (-0.82)	-0.006 (-0.60)
State F.E			Yes	No
Year F.E			No	Yes
R squared	0.921	0.919	0.919	0.928
No of Obs	240	210	240	240

Note: 't' statistics are in parentheses; *, ** and *** are 1%, 5% and 10% levels of significances respectively.

Source: Computed.

The above table represents the empirical estimation result of the public sector bank loan towards the SHG institutions. Here, the bank loan is taken as the explained variable across the models. Our outcome variables are savings rate by SHGs, outstanding loans possessed by the public sector banks arising out of MFI loans and the number of SHGs created over the period 2007 to 2014. From empirical standpoint, we have applied four models based on OLS, OLS with lagged dependent variable, panel fixed effect models with time effect and state effect. In the first model, the coefficient of savings estimates is 0.279 implying that every 1% increase in SHG saving rate has induced nearly 0.28% increase in public sector bank loans. Bank loan transaction with respect to MFI expansion is somewhat continuing. However, if we look at the bank loan relation to that of outstanding loan amount, it is really staggering. For every 1% increase in bank loan, there is the probability that only 30% of SHG institution is successful in retuning the loan amount. In Model II, we have introduced the lagged explained variable to detect the problem of endogeneity. In this case, we have hardly got any significant association between lagged value of bank loan to that of bank loan and the number of SHGs to that of bank loan. Nevertheless, compared to savings rate of SHGs, the outstanding loans of PSBs have become doubled due to the rising bank loan. Further, our structural specification goes towards the fixed effect estimation model by controlling the time specific and state specific effects. In both these cases, we have found that the effects of outstanding loans have been pronounced more in the midst of rising bank loan towards this sector. The correlation between rest of these variables and bank loans appear to be positive and significant over the period. From the above result, it is evident that the public sector bank loan has not reduced despite the range of outstanding loan increasing day by day.

Table 4. Fixed Effect Estimation Private Bank loan with the explained variable

Bank Loan	Model I	Model II	Model III	Model IV
Bank Loan (-1)	-	-0.057 (-1.46)	-	-
Savings	0.279* (5.52)	0.344* (6.02)	0.271* (4.77)	0.285* (5.02)
Outstanding Loan	0.705* (14.94)	0.683* (13.18)	0.720* (14.07)	0.671* (12.67)
No of SHGs	0.042 (1.24)	0.056 (1.46)	0.134* (2.82)	0.103** (2.62)
Constant	-0.031 (-0.70)	-0.033 (-0.65)	-0.210* (-0.82)	-0.006 (-0.60)
State F.E			Yes	No
Year F.E			No	Yes
R squared	0.921	0.919	0.919	0.928
No of Obs	240	210	240	240

Note: 't' statistics are in parentheses; *, ** and *** are 1%, 5% and 10% levels of significances respectively.

Source: Computed.

The above table represents the empirical result of private bank loan towards the SHG financing across the states. Like public sector banks, private banks in recent years have started financing for various MFI and SHG initiatives. Like before, here we have focused on four empirical models: panel OLS, OLS with dependent lagged variable, and panel fixed effect models with both time specific and state specific effect. From our Model I estimation, we have obtained positive and significant association between savings of MFI and private sector bank loans. Every 1% increase in saving leads to 0.27% increase in private bank loan. However, it does not have any significant association with the number of SHG institutions. Outstanding loan tends to increase with the increase in bank loan over the years but the worrying trend is that the intensity of outstanding loan is almost twice of savings made by SHG institutions. While considering state specific effect, we have obtained positive and significant association of all variables to that of bank loan amount disbursed by the private banks. States specific effect further specifies the worrying trend of excessive outstanding loan amount incurred from the bank loans. It suitably implies that the loan repayment rate across states is significantly lesser. The time specific or year specific effect clearly shows even the substantial increase in the outstanding loan. Every 1% increases in outstanding loan shows a 0.67% increase in bank loan in the subsequent years. The number of SHGs and savings are found to be positive and significantly associated with the bank loan. Thus, the overall picture suggests that even though private sector banks abide by the financial inclusion initiatives of the government of India, the repayment rate is far from the satisfactory.

Table 5. Fixed Effect Estimation Co-operative bank loan with the explained variable

Bank Loan	Model I	Model II	Model III	Model IV
Bank Loan (-1)	-	0.124* (3.62)	-	-
Savings	0.568* (10.93)	0.729* (13.71)	0.582* (11.66)	0.597* (11.94)
Outstanding Loan	0.445* (10.03)	0.239* (4.91)	0.960* (8.04)	0.355* (7.84)
No of SHGs	-0.002 (-0.08)	-0.039 (-1.12)	0.039 (0.79)	0.019 (0.39)
Constant	-0.079 (-1.19)	-0.066 (-1.03)	-0.025 (-0.15)	-0.0001 (-0.00)

Bank Loan	Model I	Model II	Model III	Model IV
State F.E	-	-	Yes	No
Year F.E	-	-	No	Yes
R squared	0.929	0.942	0.928	-
No of Obs	240	210	240	240

Note: 't' statistics are in parentheses; *, ** and *** are 1%, 5% and 10% levels of significances respectively.

Source: Computed.

The above table represents the case of co-operative bank loan initiative towards SHG financing. By applying the four models, we have shown that savings and outstanding loans have been positively and significantly associated with that of bank loan. The value of coefficient of saving varies from 0.568 to 0.597. The values of coefficient of outstanding loan vary from 0.455 to 0.355 throughout the models. Bank loan and the number of SHGs have not been significantly associated. The same is true in case of RRB loan disbursement towards SHGs as evident from the table below. With the increase of SHG savings level, the bank loan amount starts increasing. Therefore, the worrying trend is the increasing level of outstanding loans, implying the NPA cases.

Table 6. Fixed Effect Estimation RRB Bank loan with the explained variable

Bank Loan	Model I	Model II	Model III	Model IV
Bank Loan (-1)	-	0.050 (1.19)	-	-
Savings	9.367* (5.63)	0.342* (4.60)	0.278* (3.58)	0.269* (3.42)
Outstanding Loan	0.619* (10.91)	0.595* (9.04)	0.582* (8.70)	0.571* (8.68)
No of SHGs	-0.0374 (-1.02)	-0.035 (-0.85)	-0.010 (-0.22)	-0.17 (-0.36)
Constant	0.084 (1.05)	0.075 (0.83)	0.250 (1.50)	0.309** (1.72)
State F.E	-	-	Yes	No
Year F.E	-	-	No	Yes
R squared	0.886	0.876	0.885	0.893
No of Obs.	240	210	240	240

Note: 't' statistics are in parentheses; *, ** and *** are 1%, 5% and 10% levels of significances respectively.

Source: Computed.

5. Potential challenges faced by MFIs in India

Indian MFIs are not free from the impeding dangers in terms of default and other associated risks. There are four types of risks typically prevailing in the MFI market and they are credit risk, market risk, operation risk and strategic risk. Credit risk and market risk are more financial in character. Lack of proper regulation, small investment, no proper legal backup and other associated factors could potentially lead to more risk in terms of disbursing and handling of MFI loans. However, the overall advantage lies in the sustainability of MFI existence, rather than vying for huge profit at the initial stages. Smaller size of loans and short tenure in terms of repayment often have led to the failure of MFI loan schemes in most of the cases⁽⁴⁾. Kappel et al. (2010) have aimed for constructing an index of early warning in case of MFI, because many MFIs are increasingly facing the problem of over indebtedness across various economies. Mosley (2010) has established the link between MFI and poverty in Bolivia and found that MFI

unlike other financial institution is successful in controlling poverty. However, the growing problems in MFI institutions have been the rising share of default rates of the poor customers and rising indebtedness. Due to the dramatic decline in the repayment facilities, 50 branches of two major MFIs were closed by authorities in Krishna district of Andhra Pradesh in 2006 and in 2009 repayments almost came to a grinding halt in Karnataka's Kolar district⁽⁵⁾. Microfinance institutions typically face various forms of risks during the onset of different financial crises. Yet, the very crises also stem from the internal management, capital adequacy ratio, effective loan management and exposure to the forms of households being the clients. The concept of risk in MFI lies in the heart of financial intermediation. Lack of clarity in regulatory framework, political interference, inability in recovering the loans and lack of monitoring in terms of loan utilization have led to the failure of many small MFIs in India. In case of Joint Liability Group model, the potential failure of one group in terms of providing capital, deterioration in credit quality and mismatch in setting goals have often plagued the financial viability of the MFIs in long run. Increase in cost of funds and interest rate fluctuation, particularly short run interest volatility have triggered the collapse of such financial condition of MFI in the long run⁽⁶⁾. After Malegam committee, the Andhra Pradesh government has started initiative of shutting down the private MFIs in order to protect the government backed SHG financing models. This step has rather triggered severe loss in financing provisions to the poor. Citing private MFIs for exorbitant profit and operating under a competitive strategy, the Andhra government has restricted the movement of private players in MFI sectors⁽⁷⁾.

Other issues with present MFI in India

Mobilization of Savings

The rationale behind the establishment of SHG is to nurture saving habits among the poor women. Savings is mandatory in SHG; every member has to save a minimum amount of `25 per week and the maximum amount is discretion to the members. In this context, the savings of the members are maintained by a bank in which the SHG linked for bank credit. Table shows the growth of SHG savings with Commercial Banks, Cooperative Banks and Regional Rural Banks.

Table 7. *Savings of SHGs with Banks in India (Rs.in lakhs)*

Year	Commercial Banks	Coop-Banks	Regional Rural Banks	Total
2007	189241.44	46199.96	115829.39	351270.79
2008	207773.45 (9.79)	54116.67 (17.14)	116648.83 (0.71)	378538.95 (7.76)
2009	277298.84 (33.46)	78287.80 (44.66)	198975.08 (70.58)	554561.72 (46.50)
2010	367389.24 (32.49)	122544.16 (56.53)	129937.49 (-34.70)	619870.89 (11.78)
2011	423006.42 (15.14)	135084.19 (10.23)	143539.67 (10.47)	701630.28 (13.19)
2012	415298.04 (-1.82)	109829.49 (-18.70)	130013.93 (-9.42)	655141.46 (-6.63)
2013	553257.05 (33.22)	115758.22 (5.40)	152710.20 (17.46)	821725.47 (25.43)

Year	Commercial Banks	Coop-Banks	Regional Rural Banks	Total
2014	663145.63 (19.86)	130610.18 (12.83)	195985.73 (28.34)	989741.54 (20.45)
2015	663067.47 (-0.01)	208259.23 (59.45)	234657.37 (19.73)	1105984.07 (11.74)
2016	903388.77 (36.24)	217322.11 (4.35)	248428.13 (5.87)	1369139.01 (23.79)
Mean	466286.64	121801.2	166672.6	754760.42
SD	228437.08	56983.25	49125.04	322470.93
CV	48.990698	46.78382	29.47398	42.724939
CAGR	24.49	24.82	50.32	29.39
t' value	11.57**	6.32**	3.40**	10.67**

Note: Values in () shows growth rate, ** denotes significant at 0.05 level.

Source: Compiled and Computed from various issues of Status of Microfinance in India, NABARD.

The above table shows the savings of SHGs with Banks in terms of the Indian rupees. The trend above reflects that although the volume of savings of SHGs has been increasing due to the bank loan, still the growth rate of savings has remained volatile across the banks. In 2012, the savings rate has become negative for SHGs across banks. Across all types of banks, RRBs have faced severe default of loans from SHGs during this period. Due to the rising number of non-performing assets in banks, these institutions have faced notable challenges in forms of lack of further refinancing facilities. In case of commercial bank financing, savings of SHGs have become negative for the year 2012 and 2015. The loan flow from co-operative banks has been reduced in recent years due to the failure of repayment by SHGs, leading to the declining savings of SHGs. The total savings of SHGs across bank financing has been seen with wide fluctuation during this time period 2007 to 2016.

Loan Disbursement to SHGs

Various public and private sector banks such as commercial banks, RRBs and cooperative banks involved in providing microfinance to the SHGs. Table 7 exhibits the shares of these agencies in the total credit linked SHGs and in the total loans disbursed.

Table 8. Loan Disbursement to SHGs as per various types of banks

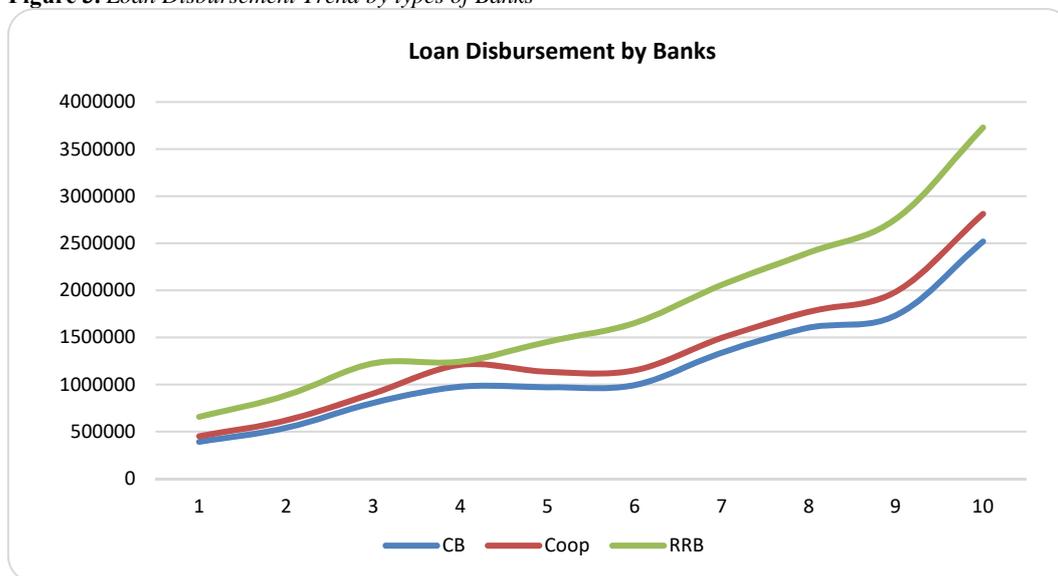
Year	CB	Coop	RRB	Total
2007	391894.32	59871.43	205273.10	657038.85
2008	540390.35	79351.75	265184.14	884926.24
2009	806053.10	99949.28	319349.01	1225351.39
2010	977521.00	232504.00	33320.06	1243345.06
2011	972455.27	162556.33	319761.59	1454773.19
2012	994204.49	156667.23	502605.15	1653476.87
2013	1338500.70	157383.52	562652.22	2058536.44
2014	1603749.35	169173.14	628813.35	2401735.84
2015	1733412.66	252296.21	772522.19	2758231.06
2016	2518497.23	293699.98	916492.88	3728690.09
Mean	1187667.8	166345.3	452597.4	1806610.5
SD	631627.38	75640.28	272988.2	942278.49
CV	53.182157	45.47185	60.3159	52.157258
CAGR	18.74238	23.89924	26.01253	20.961931
t' value	8.3	4.24	5.58	9.66

Note: Values in () shows growth rate, ** denotes significant at 0.05 level.

Source: Compiled and Computed from various issues of Status of Microfinance in India, NABARD.

The table explains that as on March 2007, 55 per cent of the total credit linked SHGs received the loans from the commercial banks, 31 per cent from RRBs and the remaining 14 per cent from the co-operative banks. The Commercial banks contributed 63 per cent of the total amount of the loans disbursed to the SHGs, while RRBs and co-operative banks shared approximately 28 per cent and 9 per cent of the total loan amount. The SHG bank linkage became a part of business for all the 27 public sector and 20 private sector commercial banks. NABARD data of SHG-BLP up to March 2006 reveals that the State Bank of India credit linked the highest number of SHGs (3,92,494), followed by the Andhra Bank (1,13,466) and the Indian Bank (96,460). The regional rural banks also financed SHGs in significantly

Figure 3. Loan Disbursement Trend by types of Banks



All the 159 RRBs in the country have been participating in the SHG-BLP. The Maximum number of SHGs has been linked to Pandiyan Grameen Banks in Tamil Nadu and Pondicherry (45,672) followed by Srivishakha Grameen Bank (35,875) and Nagarjuna Grameen Bank (27,879) in Andhra Pradesh. Up to March 2006, as many as 337 central co-operative banks were involved in SHG-BLP. The Maximum number of SHGs has been linked to Hooghly Cooperative Bank (18,015) in West Bengal followed by South Canara Co-operative Bank (10,851) and Hassan Co-operative Bank (10,389) in Karnataka.

Non-Performing Assets

Rising NPAs are the serious problems posing towards MFI refinancing. Over the years, refinancing facilities have taken a backstage due to the increasing reluctance of banks in financing the MFIs. NABARD Report (2012) has noticed a 4% decline in refinancing facilities across all categories of banks owing to the 4.72% rise in NPAs during this period. However, fresh loan issued by banks towards MFIs have been increasing sharply in order to drive up the financial inclusion and small entrepreneurship movements.

The probability of repayment has not been so encouraging due to the mismanagement and lack of effective monitoring of utilization of loans and grants⁽⁸⁾. Korankye (2014) has studied such a trend of defaulting of MFI loans and increasing NPA problems in Ghana. His study has pointed out that factors like poor appraisal, poor management, improper client selection and inadequate loan size have resulted in terms of failure of loan repayment and rising NPAs of banks. If we look at the table below, we can find the detailed trend of non-performing assets of three bank categories. Among these three banks, RRBs have the highest concentration of NPAs coming out of the MFI and SHG loan financing. However, the co-operative banks have been to certain extent been able to control the bad loan aspects of MFIs through various innovative financial schemes and less stringent repayment norms.

Table 9. NPAs across banks arising from SHG financing

Year	CB	Coop	RRB	Total
2008	21370.74	3594.89	17326.65	42292.28
2009	38710.10	6097.48	17779.20	62586.78
2010	53746.41	6703.99	21853.74	82304.14
2011	106698.90	27281.73	27281.73	161262.36
2012	165541.60	13097.44	42634.18	221273.22
2013	217598.70	18006.00	43088.27	278692.97
2014	202492.00	21585.20	69189.23	293266.43
2015	246686.47	28230.20	106553.96	381470.63
2016	232139.69	30053.72	106429.49	368622.90
Mean	142776.07	17183.41	50237.383	210196.86
SD	88926.05	10269.88	35823.254	129846.2
CV	62.283582	59.76629	71.307961	61.773617
CAGR	11.999785	15.14452	19.918048	14.593482
't' value	9.39	4.39	6.92	14.96

Note: Values in () shows growth rate, ** denotes significant at 0.05 level.

Source: Compiled and Computed from various issues of Status of Microfinance in India, NABARD.

Rising NPAs have already posed as the serious challenges for the Indian banking system. Rising non-performing assets from the sides, SHG loans are being piled up day by day leading to the bankruptcy conditions of the public sector banks. In 2012 Status of Microfinance in India report, NABARD has raised serious concerns regarding the growing NPAs particularly from the public sector banks. As per NABARD report, the non-performing assets from SHG loans have been increased by 1.3% within 2011-12 periods. Fresh lending approach and effectiveness in handling the loan disbursement channels have become the failure in case of self help groups leading to which, the loan to SHGs has not been recovered fully by bank. Except some handful states of Karnataka, H.P and Pondicherry, all of the states have been facing severe challenges in forms of recovering SHG based loan given by PSBs⁽⁹⁾. Das (2013) has found the successful adoption of SHG linked lending approach across the country notably in southern states. However, his study has found greater disparity in terms of SHG based financing to the women household in North-East Indian states. In order to contain with the problem of NPA problems of MFIs, the government of India, in 2015-16 budget, has offered tax break for MFIs to deal with the situation. Furthermore, the budget 2016-17 had proposed that non-banking finance companies (NBFCs) will be allowed to claim tax deductions on the provisions for NPAs up to 5 per cent of total income⁽¹⁰⁾.

Regional variations in Microfinance outreach

Region-wise allocation of MFIs has not been uniformly distributed throughout the country. Regions more concentrated with poverty and deprivations, have seen more rise in the number of MFIs. In India, especially in South India the number of MFIs has increased exponentially. However, in the last two years, all regions have experienced increase in MFIs and SHG linked loan financing. MFI currently works in 28 states and 561 districts. Nearly 50% of total MFIs in India are concentrated in only one state, 30% in 2 to 5 states. Rest of India has very few shares of MFIs and small loan financing facilities. As of 2013-14, 11687 MFI branches have been there across India with more than 1200 branches in Andhra Pradesh alone. As of March 2016, the total savings across all SHGs have reached 13691 crores, with a 21% increase in overall savings rate from 2015⁽¹¹⁾. Nagaland, Tripura, Jharkhand, Maharashtra and Assam have seen all time high in the branches of MFIs. The Southern Region has maintained its prominence in upkeep of savings linked SHGs and savings balances with 44.9% of SHGs and 63.3% of total savings outstanding⁽¹²⁾. Some of the worrying figure has been detected in forms of losing client outreach in terms of negative growth for MFIs during 2015-16. States like Tripura, Delhi, Punjab, Haryana and Punjab have seen the biggest decline in client outreach for the small scale financing. In South, Pondicherry has registered 69% loss in the client outreach of MFIs. However, states like Bihar, Andhra, Odisha, West Bengal and Jharkhand have registered outstanding growth in MFI outreach in 2015.

6. Concluding remarks

This paper formally represents the evolution, structure and other financing patterns of MFIs, in India, post 2000. Indirect SHG and direct MFI models have helped to facilitate the process of financial inclusion process in the long run. Right from the establishment of small finance banks, the evolution of MFIs has been started in varied forms. After the successful initiation of Grameen bank model, MFI initiatives have been started with full swing in India. Amount of bank loans towards SHG financing, the number of SHGs, savings by SHGs and outstanding loan database of banks have been collected to figure out the empirical relation in terms of efficiency of bank loans in terms of MFI startups across the Indian states. The sample is constituted of the individualized cross-section data collected from the NABARD reports of each year. In order to encounter the difficulties in the estimation process, we have undertaken four alternative approaches to take care of sampling error, omitted variable bias and year and state specific effects.

Our first specification has tested the efficiency of various types of bank loans with respect to MFI expansion across the models. In case of public sector bank financing, savings and outstanding loans even perpetuate more bank loans over the years. Similar logic stands true for the cases of private sector bank, RRB and co-operative banks as well. Further, the results specify that the number of SHGs have no significant association with that of bank loan. In our second model specification, we have taken care of endogeneity problem with the introduction of lagged explained variable. Results specify that savings and outstanding loans across the banking sectors have led to the more financing of MFI loans.

These solely identify that small scale credit finances still play a major role in the disbursement of banking loans for meeting the financial inclusion criteria.

Coming to the private sector bank lending, we have found positive association between savings of SHGs and bank loans during this period. Despite the increasing outstanding loan, the volume of bank loans towards the SHG financing remains positive. The sheer numbers of rising SHGs never have influenced the bank loans over the years significantly. However, if we examine from the panel fixed effect with respect to time and state specifics, then we have got positive and significant association of all the concerned explanatory variables to that of bank loan. Moreover, private sector bank lending has greatly influenced with the rising number of SHGs during this period. Similarly, in case of both co-operatives and RRB, we have obtained positive and significant association between bank loans to those of savings and outstanding loans. Overall, the empirical results indicate that financial inclusion is the need of the hour and still, the rate of repayment out of such loan has not progressed well since the starting year. Banks across the sizes, specifications and ownership have extended overall financial loan towards the small sector finances. Across the banks, the volume of outstanding loans has been quite high in case of both public and private sector banks. Except private sector banks, there is no other bank having a positive relation between the number of SHGs and bank loans. In case of co-operative bank loans, the volume of savings from SHGs has been the highest compared to those of other bank loan segments.

In order to make an effective microfinance system, it is better to read the local credit needs and conditions first. One size fits all propositions have never been universally applicable in the line of Grameen bank model. The appeal of importance of microfinance is entirely local specific. In most of the cases, it has been found that the percentage rate of repayment is quite lessened or not up to the minimum expectation level. Though it is being dubbed as the forefront of micro-credit towards the poor, still it remains a confused buzzwords for the banking institution due to the increasing share of outstanding loan and low repayment rate. Even studies have confirmed that microfinance institutions are not the sole ways of escaping poverty. Banerjee et al (2015) from six different randomized experiments have confirmed that MFIs alone cannot solve the problem of poverty. As far as the women empowerment is concerned, the studies by Banerjee et al has concluded that women were neither more empowered nor was more money spent on things like child education in families that received loans⁽¹³⁾.

Now the question, how we could address this issue despite knowing that the loan repayment rate is not up to the satisfactory level, arises. It could be addressed in numerous ways. MFIs must disburse loan in a phased manner, rather than to give straightaway to the poor and needy people. Low interest rate with phase wise manner may encourage more returns in the long run, which will directly lead to the increased productivity of the poor people.

Notes

- (1) See <http://business.time.com/2012/03/14/what-went-wrong-with-microfinancing/> (Retrieved on 29th Nov, 2016).
- (2) http://www.telegraphindia.com/1150413/jsp/business/story_14232.jsp#.V_6F1_197IU
- (3) Please see <http://thewire.in/18937/why-microfinance-is-becoming-a-bad-word-all-over-again/>
- (4) Please refer to <https://firstforsustainability.org/risk-management/understanding-environmental-and-social-risk/environmental-and-social-risk-for-financial-institutions/risk-in-microfinance/>.
- (5) Please see <http://www.ifmr.co.in/blog/2011/02/18/managing-risks-in-microfinance/>
- (6) <http://www.thehindubusinessline.com/opinion/managing-risks-in-microfinance/article1458600.ece>
- (7) For detailed discussion, please refer to <http://www.legatum.org/attachments/MicrofinanceCrisis.pdf>
- (8) Retrieved on 1st Dec 2016, see http://www.business-standard.com/article/finance/nabard-raises-concern-over-rising-npas-in-shg-lending-112112700679_1.html
- (9) Please refer to http://www.business-standard.com/article/economy-policy/nabard-raises-concern-over-rising-npa-in-shg-lending-112112603006_1.html
- (10) Please refer to <http://www.thehindubusinessline.com/money-and-banking/tax-breaks-for-npa-provisioning-will-help-mfis-save-150-crore/article8327972.ece>
- (11) For more details, see Status of Micro-finance Report, 2015 by NABARD
- (12) For more details, see Bharat Micro-finance Report, 2014.
- (13) Please refer to <http://www.humanosphere.org/social-business/2015/01/microfinance-not-quickly-lift-people-poverty-studies/>.

References

- Adams, D.W., and Vogel, R., 1986. Rural Financial Markets in low income countries: Recent Controversies and Lesson. *World Development*, 14(4), pp. 477-487.
- Adams, D.W., D.H. Graham et al., 1984. *Undermining Rural Development with Cheap Credit*. Boulder Colorado: Westview Press.
- Angelucci, M., Dean, S., Karlan, and Zinman, J., 2013. Win some lose some? Evidence from a randomized microcredit program placement experiment by Compartamos Banco. Institute for the Study of Labor (IZA), 7439-71.
- Armendáriz, de Aghion and Morduch, J., 2000. Microfinance beyond group lending. *Economics of Transition* 8(2), pp. 401-20.
- Armendáriz, and Morduch, J., 2005. The economics of microfinance. MIT Press: Cambridge, MA.
- Battilana, J. and Dorado, S., 2010. Building Sustainable hybrid organization: the case of commercial microfinance organization. *Academy of Management Journal*, 53(6), pp. 1419-1440.
- Coleman, I., 2005. Defending Microfinance. *Fletcher Forum of World Affairs*, 26, pp. 181-190.
- European Commission, 2007a. *European Financial Integration Report*. Commission of the European Communities.
- Ganlea, J., Kuumuori, K.A. and Segbefia Yao, A., 2015. Microcredit: Empowerment and disempowerment of rural women in Ghana. *World Development*, pp. 335-45.
- Ghate, P., 1992. *Informal Finance: some findings from Asia*. Oxford University Press.
- Hashemi, S.M., Schuler, S.R. and Riley, A., 1996. Rural credit programs and women's empowerment in Bangladesh. *World Development* 24(4), pp. 635-53.

- Hermes, N., and Lensink, R., 2007. The empirics of microfinance: what do we know?. *The Economic Journal*, 117(517), F1-F10.
- Irfan, A., 1990. Imperfect Information, Screening, and the Costs of Informal Lending: A Study of a Rural Credit Market in Pakistan. *World Bank Economic Review*, 4 (3), pp. 329-349.
- Jajo, B., Gonzales, A., Conzett, C., 2010. Overview of Microcredit Sector in the European Union. *EMN Working Paper*, No. 6, NantikLum Foundation.
- Kappel, V., Krauss, A., and Lontzek, L., 2010. Over-Indebtedness and Microfinance – Constructing an Early Warning Index. Center for Microfinance, University of Zurich, Council of Microfinance Equity Funds, Triodos Investment Management. Zurich.
- Ledgerwood, J., 1998. *Microfinance handbook: An Institutional and Financial Perspective*. Washington: World Bank.
- Littlefield, E., Morduch, J. and Hashemi, Syed. 2003. *Is microfinance an effective strategy to reach the Millennium Development Goals?* CGAP focus Note. No. 24. Washington, DC: World Bank.
- Morduch, J., 2000. The Microfinance Schism. *World Development*, 28, pp. 617-929.
- Robinson, M., 2001. *The microfinance revolution sustainable finance for the poor*. Washington, US: World Bank.
- Roodman, D. and Morduch, J., 2009. Impact of microcredit on the poor in Bangladesh: Revisiting the Evidence. Washington.
- Rooyen, R. Stewart, T. de Wet., 2012. The Impact of Microfinance in Sub-Saharan Africa: A Systematic Review of the Evidence. *World Development*, 40 (11), pp. 2249-2262.
- Udry, C., 1990. Credit markets in northern Nigeria: credit as insurance in a rural economy. *World Bank Economic Review*, 4, pp. 251-271.
- World Bank, 1989. *World Development Report: Financial Systems and Development*. Washington DC: World Bank.
- Yunus, M. and Jolis, A., 1998. *Banker to the poor: the autobiography of Muhammad Yunus*. Aurum.

Appendix

Definition of Variables and Descriptive Statistics

Variables	Definition	No of Obs.	Mean	Std.Dev	Min.	Max.
Bank Loan	the Loan disbursed for SHG Startup	240	3.252	1.122	0.100	5.902
Savings	total savings by SHGs	240	3.094	1.106	-0.091	5.443
Outstanding Loan recovered	Amounts of loan not recovered	240	3.808	1.068	0.000	6.325
No of SHGs total SHG startup in the state annually		240	4.427	0.915	2.255	6.021
Private Bank		No of Obs.	Mean	Std.Dev	Min.	Max.
Bank Loan		240	1.161	1.617	-1.698	5.144
Savings		240	0.791	1.354	-2	4.134
Outstanding loan		240	1.295	1.615	-0.585	5.241
No of SHGs		240	1.812	1.704	0	5.229
Co-operative Bank		No of Obs.	Mean	Std.Dev	Min.	Max.
Bank Loan		240	2.537	1.691	-0.431	5.614
Savings		240	2.416	1.536	0	4.961
Outstanding loan		240	2.813	1.741	0	5.781
No of SHGs		240	3.668	1.807	0	5.645
RRB		No of Obs.	Mean	Std.Dev	Min	Max
Bank Loan		240	2.044	1.565	-0.795	4.695
Savings		240	1.963	1.487	-0.456	4.536
Outstanding loan		240	2.200	1.619	0	4.869
No. of SHGs		240	3.364	1.661	0	5.517

Note: Author's own compilation. All variables are logarithmically transformed.