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Evidence on the Impact of MFIs on Income of the Rural Poor in Bangladesh

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Abstract

This paper estimates the impact of microfinance-related activities on income of the rural poor members of the MFIs located in the district of Narayanganj nearby Dhaka in Bangladesh. The empirical method uses experimental survey to collect the sample of 160 households from the study areas during the months of April and May, 2013. The study employs the multiple regression method to analyze the data. The findings demonstrate that except income of the households earned from sources of other than microfinance (MF), there has been no MF-related variable which is statistically significant to influence the income earned from the MF-related activities by the rural poor borrowers. This result implies that the impact of MFIs on income of the rural poor in Bangladesh is effectively nil. Hence, the objective of alleviating rural poverty remains as a far reaching phenomenon which warrants exploring the alternative development program to raise income of the rural poor and to alleviate rural poverty.

Keywords: Impact, MFIs, microfinance income, rural poor, alleviating poverty

Introduction

In recent years impact assessment of microfinance programs on income and poverty has appeared to be a crucial and controversial issue in finance and economics discourse (Ashraf and Ibrahim, 2013; Karim, 2011). Nonetheless, such assessment hinges on another methodical controversial issue which is much diverse and relative, because there have been several procedures to measure the impact on income based on subjective predilection of the authors rather than the use of a standard model (Ullah and Routray, 2007). In this respect, one prime instance is Hossain (1984) who compares the household income in "before-after" situations of the poor. Perhaps, this was the first study ever which investigated the impact of microcredit programs on income of the poor showing a positive association between income and microcredit programs (Develtere and Huybrechts, 2005). Recently, this procedure was followed by Ullah and Routray in 2007.

Another procedure is to examine the impact of microfinance institutes (MFIs) through the perception of their members or borrowers which was explored by Hossain (1988) who found that the economic condition of more than ninety percent of the Grameen Bank's (GB) members improved after joining the GB. Later in the 1990s, income of the rural poor was also explored by Khandker and Chowdhury (1996) and Khandker (1998) who took the lead to put forward that microcredit institutions have positive stance on influencing income of the poor and alleviating rural poverty which are the central objects of development literature.

Khandker and Chowdhury (1996) investigated the impact of GB and BRAC on income and rural poverty. Their findings expounded that a greater number of loans could make a lower level of poverty for all borrowers who actively participated in the microfinance programs. Similar findings appeared in Khandker (1998) who examined the case of BRAC which revealed that increasing number of borrowings reduced the poverty level in the rural areas of Bangladesh. Further, the study showed that length of membership had a negative relationship with poverty incidence. These results suggested that poverty declines with cumulative loan size taken from BRAC which is also common to other cases of MFIs including GB (Montgomery, 1996), ASA (Sharma and Zeller, 1999) and Proshika (Rahman, 2000).

In another study, Khandker (2003) estimates the long-run impacts of microfinance programs such as GB and BRDB in Bangladesh on household consumption and poverty in Bangladesh based on household survey data collected in 1991/92 and 1998/99. The results suggest that microfinance benefits the poorest and has sustained impact in reducing poverty among program participants. It also shows a positive spillover impact reducing poverty at the village level. However, the effect is more emphasized in reducing extreme poverty rather than moderate poverty. Khandker (2005) studied MFIs in general and showed that access to microfinance programs contributes to poverty reduction, especially for female participants, and to overall poverty reduction at the village level.

By and large, Khandker is fully convinced that microcredit is an effective tool to reduce rural poverty. Similar evidences of positive impact on income and poverty are also provided by other studies such as Chowdhury, Ghosh and Wright (2005), Alam (2006), Ahmed (2009), Rahman (2010). However, these empirical evidences advanced by Hossain (1984, 1988), Khandker (1996, 1998, 2003, 2005) along with many others were found to be contrasting with the findings of the studies such as Hulme and Mosley (1996), Morduch (1999), Zeller, Sharma, Ahmed and Rashid (2001), Rahman (2000), Haque (2004), Develtere and Huybrechts (2005), Ullah and Routray (2007), Karim (2011), Ashraf (2011a), Ashraf (2012b), and Ashraf (2013).

Hulme and Mosley (1996) examined 13 MFIs in seven countries including Bangladesh. One of the purposes of the study was to measure the impact these MFIs on poverty. The findings of the study revealed that borrower households above or on the poverty line experience a higher average income impact than households below the poverty line. For the very poor, loan impacts a small or negative in comparison to the control group.

Morduch (1999) reviewed the microfinance program of the Grameen Bank in Bangladesh. The study explored the sustainability and poverty. The evidence yields slightly larger break-even rates than the previous studies. It also concludes that raising interest rates and subsidy-cut may affect the poor borrowers negatively which refutes the conventional positivists' claim that MFIs are helpful to raise income of the poor.

Rahman (2000) explored a meta-analysis on the microcredit program of Proshika which revealed that the length of association with the MFIs did not have a significant impact on income of the rural poor participants in microcredit program. Yet, the study confirmed that a greater number of loans had influenced the poverty level to decline. Very similar conclusion was drawn in Haque (2004) which investigated the impact of BRAC's microcredit on the reduction of poverty in Bangladesh. The investigation compared the incidence of poverty, depth of poverty and severity of poverty between BRAC members and Non-BRAC households and showed that in the case of BRAC microcredit program has a minimal impact on the reduction of poverty in rural Bangladesh.

Zeller et al., (2001) report that group-based microfinance activities in Bangladesh stressed the lack of physical, human, but also social capital as the key access barriers to micro-entrepreneurship and microcredit. The study explored GB, BRAC, ASA and Proshika for analyzing poverty impact. According to the results of the study, there is a general tendency of the MFIs to place their offices within more developed rural areas with better access to infrastructure and banks, and avoid areas that are at high risk of flooding and other adversities. Within the more developed areas, the MFIs have not assisted the ultra poor. The MFIs charge interest rates 10–20 percent which is above the inflation rate.

Develtere and Huybrechts (2005) presented comparative overview of the impact of microcredit institutions like the GB and BRAC in Bangladesh, which suggested that the vulnerability of microfinance members has been reduced, but there is no consensus about whether these MFIs reduce the poverty. Ullah and Routray (2007) studied the impact of MFIs on income of the poor and overall rural poverty in the southern areas of Bangladesh. The findings revealed that microcredit activities had no impact on income and rural poverty.

Karim (2011) reviewed a longitudinal survey on GB, BRAC, ASA and Proshika in order to focus on the fate of rural poor women-folk in terms of economic uplift through microfinance activities in Bangladesh. The study is naïve to disclose the fact that women are not better off rather they have been caught in a vicious circle of poverty.

Ashraf (2011a), Ashraf (2012b), and Ashraf (2013) investigated the economic impact of MFIs in Bangladesh on the life of the rural poor who have been striving to change their fortune since right-after the liberation of Bangladesh in 1971. Though microcredit scheme was initiated primarily in Bangladesh to unleash the rural poor from the vicious cycle of poverty trap, the agenda ends in serious debate whether the program is realistically able to attain this noble objective. Here is the clue remained with this paper which articulated a measure to expose the fact of the MFIs whether these have any real effect on the income and poverty of the rural poor in Bangladesh. In so doing, the paper delineates theory base on income generation through self-employment generated by microfinance activities in the next section. Then research design was developed following the results and discussion. In the end, conclusion and recommendations were provided for the proper policy options which are much required in the present critical situation of the microfinance movements in the political economy of Bangladesh.

Theory: Income Generation through Microfinance

There have been two categories of income-employment which are wage employment and self-employment. The microcredit expounds the self-employment scheme which offers the small and collateral free loans to members of groups who otherwise would not have access to the capital necessary to initiate a small business (Hossain, 2002). The small capital that is supplied by the MFIs to the rural poor may have been worthy to generate additional income which may aid to equity growth if and only if some conditions hold. Theses conditions have been conceptualized by Baker and Hopkins (1969) in which they discuss the role of credit to enhance income which can perpetually help build the capital base necessary to generate and sustain equity capital growth. For examining the dynamics of equity capital growth, they employ the following theory-construct showing the possible link between credit and equity growth:

$$\Delta E / E = [(D / E)(r - i) + r](1 - c)$$

where,

E = Amount of equity capital (i.e. the difference between the value of asset and loan)
D = Amount of loan
ΔE = Equity growth
$\Delta E/E$ = Equity growth rate
r = Rate of return on assets
i = Interest paid on loan, and
c = Rate of consumption out of the income from assets i.e. *MPC*

As long as the rate of return on assets is higher than the rate on the loan, credit will increase family income. The higher the share of the loan in total capital *(D+E)*, the higher will be the growth of income of the household. And marginal propensity to consume *(MPC)* being less than one, the higher is the household income, the larger would be the capital accumulation made by the household. Under normal circumstances, the poor may find it very difficult to save, but if the credit program is such that the loan and the interest are recovered in small installments over a period of time, the loan may force compulsory regular saving of small amounts that would otherwise be consumed under the pressure of poverty.

Research Design and Data

The data collection exercise aimed at gathering information on the impact of poverty-focused interventions of MFIs on income of the microfinance beneficiary households. Data collection took place in April and May 2013. A total of 160 households were selected randomly in four villages of Rupganj in the district of Narayanganj, nearby Dhaka of Bangladesh. These four study villages in Rupganj sub-district of Narayanganj were selected based on the criteria: (a) these villages have almost all major NGO-MFIs; (b) the sample MFIs (GB, BRAC, ASA, Proshika, HEED, BURO and others) have been working in the areas for more than the last 15 years; (c) the demographic characteristics of the district are homogenous in terms of income, household consumption, health situation; and sampled four MFIs have interventions focusing on poverty reduction. The Table I lists the sample statistics which include gender, age, ethnic background, education level, marital status, and occupation of the respondent of this survey. The Table also includes mean, mode and standard deviation of some of the variables incorporated in the model.

The data were analyzed using multiple regression analysis. The dependent variable was microfinance related income and the independent variables were length of membership in MFIs, household income from the sources other than microfinance related income, household members, earning members, landownership, amount of loan, number of loans taken from MFIs, interest rate, days of training and service charges. The results of descriptive statistics and regression have been provided in Table II and III respectively. The R^2 value was obtained as 0.23 and the ANOVA test indicates $F(9, 150) = 4.839$ ($p<.01$) which implies that the cumulative correlation is effective or significant.

Background Characteristics of the Respondents

From the survey it is apparent that there have been fifty-fifty male-female members who responded to the questionnaire. These figures may seem unusual, because most of the MFIs conventionally prefer to advance the micro loans to the female member of the household. However, in our sample there have been some MFIs such as HEED and BURO which are indifferent to advance the loans among the male and the female borrowers. For this reason, the figure for the male is close to the female members of the surveyed MFIs in Narayanganj areas.

Table I: Sample Statistics of Microfinance Borrowers

	Frequency	Valid Percent
Gender		
Male	82	51.1
Female	78	48.9
Age		
15 – 24	29	18.1
25 – 39	87	54.5
40 – 60	33	20.5
Above 60	11	6.9
Ethnic		
Islamic	151	94.4
Hindu	9	5.6
Education		
No Education	52	32.5
Primary	15	9.4
Secondary	40	25.0
Higher Secondary	50	31.2
Bachelor	2	1.2
Post-Graduate	1	.6
Marital Status		
Single	13	8.1
Married	146	91.2
Divorced	1	.7
Occupation		
Housewife	55	34.4
Van driver, Riksha and Agriculture	30	18.8
Day-laborer and garment-worker	28	17.5
Teaching and other public job	8	5.0
Retailer	36	22.5
Tailors	3	1.8

In terms of age, about 55 percent of the members are between 25 and 39 years of old. The second majority of the borrowers of the age between 40 and 60 years scored for about 21 percent and the youngest borrowers of age between 15 and 25 are scored for about 18 percent. These facts and figures imply that the MFIs would prefer to advance the loans to more productive borrowers who are between 25 and 39 years of old which may decrease the probability of loan default and increase the probability of loan repayment rate.

The literacy status of the respondent members of the sampled MFIs is noteworthy, because there have been almost one-third who are illiterate. The members who have secondary and higher secondary education are little more than 50 percent. This fact indicates that these microfinance programs have the potentiality of ensuring better utilization of the micro loans advanced to the borrowers.

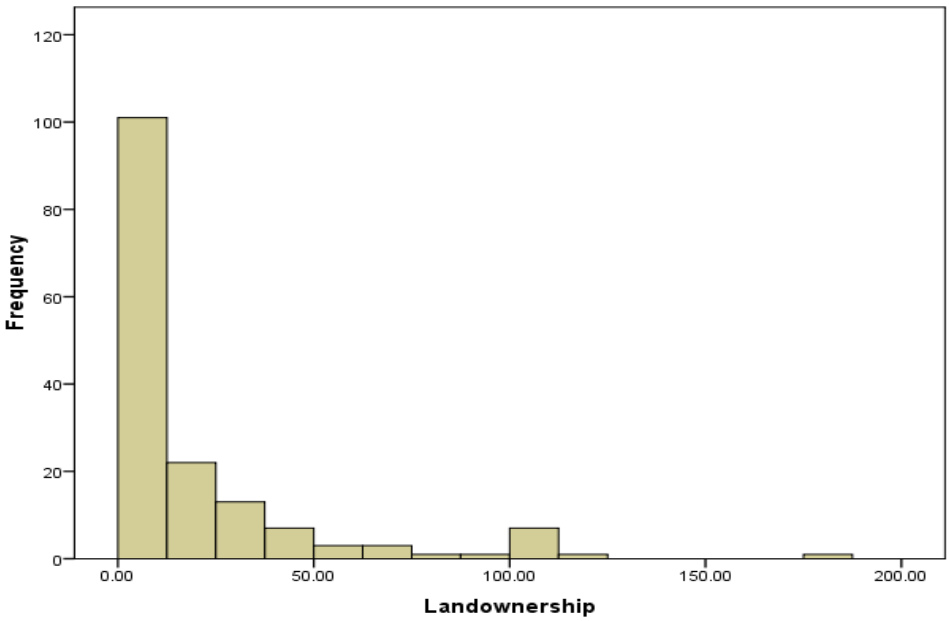
In the case of occupation, about 35 percent of the borrowers are housewife who perhaps borrowed the funds which were used by other members of the household. About one-fifth of the borrowers are van-drivers, riksha-pullers and peasants. About 18 percent borrowers are day-laborers and garment-workers and 22 percent are

retailers. The survey indicates that at least 65 percent of borrowers used their loans for buying van-carts and riksha as well as for running small shops like retailing business in the village bazaars or other village corners.

The sample statistics also revealed some interesting facts about the microfinance activities, income patterns, household demography and landownership patterns as well. The average length of membership in the study areas is about 5 years which exhibit a somewhat sufficient period of time needed for changing the income level of the borrowers by microfinance activities. The average household members are about 5 and earning members are about 2 which imply that family burden are substantial comparing household members with earning members of the family. This fact may suppress the smooth income impact of the overall poverty level of these rural households.

The average household income by the means other than microfinance activities is about Taka 98 thousand per year and the average income from microfinance activities is about Taka 61 thousand per year. One of the most important other facts are the landownership patterns which indicate that at least 62 percent borrowers are landless as well as homeless (Figure 1). The result of landlessness among the majority of the rural poor in Bangladesh is consistent to other study (Cain, 1983). And the average landholding size is indicated as about 19 decimals per household most of which are used for homestead and dwellings.

Figure 1: Histogram of Landholding Sizes of the Borrowers



Impact on Microfinance Income

Income sources have been split up broadly into two factors to isolate microfinance impact from other sources. Income generating activities related to microfinance programs are most pronounced in the development discourse (Ullah and Routray, 2007). Income is treated as the control variable or principal determinant of the economic condition of the household. In this study, total yearly income generated out of microfinance related activities has been taken into account as dependent variable. The contribution of microfinance related activities to the total income of the beneficiaries was worked out. However, collected data show that income from microfinance related activities are significantly lower than income from other sources (p<.01).

From the Table II, the interest rate charged by the MFIs ranges from 10 percent to 31 percent which is substantially higher than the average rate of about 19 percent. The training period ranges from zero days to 60 days per year and the amount of loan taken from the MFIs ranges from 5,000 taka to 20,00,000 taka. This implies that among the borrowers, there have been some who are rich enough and should not be eligible for getting micro loans. This indicates that there might have sorts of hidden agenda in terms of loan approval by the MFIs.

Table II: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Dev.
Membership Length	160	.20	25.00	4.7881	4.63464
Household Income	160	.00	540.00	97.5437	97.77351
Landownership	160	.00	180.00	18.9468	28.78743
Amount of Loan	160	5.00	2000.00	70.4187	197.73613
Number of Loans	160	1.00	25.00	3.9938	3.92139
Interest Rate	160	10.00	30.90	18.6476	4.67604
Sickness: Days/Year	160	.00	365.00	31.5125	81.28713
Training: Days	160	.00	60.00	3.0375	9.35054
Service Charge Rate	160	.00	2.20	1.5363	.52650
Household Members	160	2.00	12.00	5.2312	1.75629
Earning Members	160	1.00	5.00	1,7125	.89293

The correlation ratios represented in the Table III indicate that most of the coefficients are not statistically significant. This fact implies that there is no multicolinearity among the independent variables included in the model. However, many coefficients are appeared to be negative especially in the case of interest rate and service charges which reflects the reality that high costs of loans are negatively related to any type of investment funds. The coefficients of microfinance income and costs of loans are also appeared to be negative. This means that high interest rates have a negative influence on income level of the rural borrowers. Owing to this particular reason among the important others, microfinance programs appeared to be unpopular among the rural poor in Bangladesh (Karim, 2011). There have been evidences that suggest that at least half of the rural poor appear to be outreach of the MFIs in Bangladesh (Ashraf, 2013).

Table III: Correlation Coefficients
Note: Figures in the parenthesis are indicating significance level

	1	2	3	4	5	6	7	8	9	10	11
Membsp. Length (1)	-										
Hhold. Income (2)	.10	-									
Landownership (3)	.00	-.06	-								
Amount of Loan (4)	.07	00	.03	-							
Number of Loan (5)	.54 (.01)	.12	.00	.16 (.05)	-						
Interest Rate (6)	-.07	-.10	.02	-.23 (.01)	-.11	-					
Sickness (7)	.13	.07	.01	.00	.21 (.01)	-.05	-				
Training (8)	.03	.06	.00	-.01	.01	-.01	-.11	-			
Service Charge (9)	.13	.09	.02	-.02	.04	.37 (.01)	.03	.07	-		
Family Member (10)	.13	-.01	.00	.03	.13	.08	.37 (.01)	.03	.07	-	
Earng. Member (11)	.18 (.05)	.10	-.02	.01	.13	-.04	-.06	.16 (0.5)	-.02	.06	-
MF Income (12)	-.02	.45 (.01)	.08	.01	-.04	-.01	.03	.10	-.02	-.04	.08

Table IV provides the results of multiple linear regression which shows that except one variable such as household income from the sources other than microfinance related activities, there have been no other variables that are statistically significant in influencing the microfinance related incomes of the rural poor employed in the sample of the study. Yet, the signs of many of the explanatory variables appear to be negative such as length of membership, size of landownership, number of loans, interest rates, service charges and number of household members. All these parameters are directly linked with the microfinance activities that showed bizarre contribution which is contrary to the conventional claim that the MFIs are influencing positively to raise the income of the rural poor.

Table IV: Multiple Regression Results

Variables	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**t**	**Sig.**
Membership Length	-.262	1.442	-.016	-.182	.856
Household Income	.345	.058	.445	5.988	.000
Landownership	-.146	.192	-.055	-.761	.448
Amount of Loan	.012	.029	.031	.406	.685
Number of Loans	-1.656	1.282	-.115	-1.292	.198
Interest Rates	-.642	1.327	-.040	-.484	.629
Sickness: Days/year	.051	.075	.054	.673	.502
Training: Days	.654	.603	.081	1.085	.279
Service Charge Rate	-4.906	11.468	-.034	-.428	.642
Household Members	-.688	1.264	-.042	-.529	.598
Earning Members	3.419	6.389	.040	.535	.593

Note: Dependent Variable: Microfinance (MF) Income

The negative sign of the length of membership implies that microfinance income is getting declined with the longer period of borrowing micro loans from the MFIs. So, the borrowers who have been borrowing micro loans for a long time would perhaps be demotivated with this negative result. The sign of land ownership indicates that it has negative effect as well on the microfinance related income. The microfinance loans are primarily designed to lend for non-agricultural business enterprises. This fact may reflect its negative impact on microfinance income to increase. The sign of the variable of the household members also appear to be negative. In fact, conventionally only one member of the family used to borrow microfinance from the MFIs and the rest of the members become employed otherwise which contribute to increase household income rather than microfinance income. Besides, this fact may indicate that the productivity of microfinance-related activities performed by the rural poor appears to be negative to enhance the income earned from microfinance programs.

Overall, the findings of the study suggest that no microfinance-related activities are significantly contributing to increase the microfinance income of the rural poor who borrow the micro loans from the MFIs in Bangladesh. Similar outcomes are also available in other studies such as Rahman (1999), Ullah and Routray (2007), Karim (2011), Ashraf (2013).

Conclusion

The main objective of this paper is to explore the impact of the MFIs on income the rural poor in Bangladesh. The core theory that logically validates the application of microfinance scheme to raise the income and other assets of the rural poor advanced that as long as the returns of the microfinance projects are more than the costs of loans and the value of marginal propensity to consume is less than one, growth rate of capital accumulation is positive. Here in the empirical results of this study show that the costs of loans which are substantially higher than average market rates and are not significantly influencing to increase the microfinance related income of the rural poor in the study areas. Thus, the study has evidently quashed, at least for this sample, the claims of the MFIs in contributing significantly to the economic development of the rural poor in Bangladesh. Hence, the role of the MFIs in making significant contribution in alleviating rural poverty through substantially raising income of the rural poor has remained rhetoric and far from the trumpets they have been rumbling since their emergence. While the study cannot generalize its findings, further research is needed to ratify the claim whether this finding is valid.

However, the main recommendation of this study is that the policy planners and development practitioners ought to reformulate the development scheme to alleviate the rural poverty through raising income of the rural poor. In this respect, alternative policy tools may be referred as Islamic MFIs which have already showed their potentials to raise the livelihoods of the rural poor in Bangladesh (Ahmed, 2007; Mannan, 2012).

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