Does Access to Finance Reduce Inequality? Evidence from Bangladesh

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Abstract: The study intends to assess the impact of the access to credit on the inequality of households. The analysis is based on a household-level survey of 3,481 (N=3,481) households. The sample households have been selected randomly from 140 villages from the different parts of the country. The inequality has been estimated at the household level through calculating the log mean deviation of per capita consumption expenditures of households. The log mean deviation of per capita consumption expenditures of a household reflects how far that household is deviated from the mean. The multivariate results indicate that the access to credit has a significant negative impact on the inequality in the society as it negatively determines the log mean deviation of per capita consumption expenditures of households.

Introduction:

The available literature indicates that the access to finance has positive impacts on income and welfare of the people of a country and thus, it has a negative impact on the poverty in the society. The reduction of poverty in the society does not necessarily reduce inequality in the society. There are evidences in the literature that the inequality in the society goes up while the average income level goes up to a certain level and the level of poverty goes down in the society. There is a gap in the literature in terms of the assessment of the impact of the access to finance on the inequality in the society at the micro level. However, there are some available studies that have looked at the relationship between the financial development and the level of inequality in the society through using cross-sectional data sets. The financial development ensures an efficient credit allocation and that leads to the economic development and thus, reduces the inequality in the society. It is also argued that the financial development eases the credit constraint on the poor and increases their ability to increase income and to increase productive assets which in turn contributes to the poverty reduction (World Bank, 2001). Using a cross-sectional data set, Kai and Hamori (2009) argue that the microfinance sector development has the potential to reduce inequality in a country.

Objective:

Considering the gap in the literature, this study intends to assess the role of the access to finance on the inequality in a society at the micro level. In this paper, the access to credit has been considered as a proxy of the access to finance.

Data:

The analysis is based on a household-level survey of randomly selected three thousand four hundred and eighty one (*N=3481*) households from 140 villages in different parts of the country. Besides information on consumption and access to credit, the survey collected detailed information from all households on a variety of other factors such as demographic information (age, sex, marital status, etc.) and socio-economic information (education, employment, assets, microcredit etc.). The survey also collected detailed village level information such as the distance of a household from the nearest primary school, secondary school, market and district headquarters, along with variables describing village infrastructure such as the presence of schools, markets, roads, electricity, etc.

Estimation Strategy:

Using multivariate models, this paper tries to assess the impact of the access to credit on the inequality at the household level. The following models have been formulated for achieving the objectives of the paper.

(1) $$Y_{ij} = \beta ACCESS_j + \Sigma\varphi X_{ij} + \Sigma\delta Z_j + u_i$$

(2) $$Y_{ij} = \eta LOAN_j + \Sigma\varphi X_{ij} + \Sigma\delta Z_j + u_i$$

(3) $$Y_{ij} = \eta LOAN_{ij} + \varpi SLOAN_{ij} + \Sigma\varphi X_{ij} + \Sigma\delta Z_j + u_i$$

(4) $$Y_{ij} = \Sigma\vartheta LS_{ik} + \Sigma\varphi X_{ij} + \Sigma\delta Z_j + u_i$$

Where, Y_{it} reflects the extent of the inequality at the household level. It has been defined in the following way:

(5)
$$Y_{ij} = In(\frac{\bar{c}}{c_{ij}})$$

In equation 5, following Theil L inequality index, Y_{it} is the log mean deviation of per capita weekly consumption expenditure of households (C_{ij}). The Theill L index (T_L) is constructed using the following formula, where y is the per capita income.

(6)
$$T_L = \frac{1}{N}\sum_{i=1}^{n}\ln(\frac{\bar{y}}{y_i})$$

The higher Y_{it}, i.e. log mean deviation, of a household reflects the higher level of the deviation of per capita consumption expenditures of that household from the mean.

Results

Table 1: Determinants of Inequality and Access to Credit by Households

VARIABLES	Equation 1 (Access to Finance)
RELIGION	0.0205
MEMBERS	0.116***
AGE	-0.00420*
AGE Square	2.74e-05
SEX	-0.148***
HEADEDU	-0.00670**
EDUMALE	-0.00918***
EDUFEMALE	-0.00711***
EMPAG	-0.102***
EMPDL	0.0194
LANDIRR	-9.23e-07
LANDNIRR	-0.000283***
ASSETSP	-0.0349***
LSTOCK	-0.0162***
ACCESS	-0.0394***
RIVERERO	-0.000232*
NHHS	1.46e-05
HOMELESS	0.000113
MIGRATION	0.000107***
ROAD	0.00339
SCHOOL	0.00355
ELECTRICITY	-0.00439
FLOOD	-0.0421*
SIDR	-0.0662***
Constant	0.386***
Observations	3113
R-squared	0.252
*** p<0.01, ** p<0.05, * p<0.1	

Table 2: Determinants of Inequality and Total Loan Amount of Households

VARIABLES	Equation 2 & 3 (Total Household Loan Amount)	
	Linear	Quadratic
RELIGION	0.0231	0.0220
MEMBERS	0.116***	0.117***
AGE	-0.00431*	-0.00413
AGE Square	2.92e-05	2.80e-05
SEX	-0.147***	-0.147***
HEADEDU	-0.00630**	-0.00596**
EDUMALE	-0.00917***	-0.00899***
EDUFEMALE	-0.00671***	-0.00668***
EMPAG	-0.100***	-0.0998***
EMPDL	0.0184	0.0183
LANDIRR	-8.01e-07	-7.98e-07
LANDNIRR	-0.000276***	-0.000279***
ASSETSP	-0.0357***	-0.0351***
LSTOCK	-0.0162***	-0.0162***
LOAN	-6.93e-07***	-1.87e-06***
LOANS		2.07e-12***
RIVERERO	-0.000223	-0.000222
NHHS	1.61e-05	1.77e-05
HOMELESS	0.000102	9.01e-05
MIGRATION	0.000102***	0.000101***
ROAD	0.00324	0.00328
SCHOOL	0.00368	0.00389
ELECTRICITY	-0.00307	-0.00599
FLOOD	-0.0415*	-0.0378*
SIDR	-0.0629**	-0.0575**
Constant	0.375***	0.365***
Observations	3113	3113
R-squared	0.254	0.256
*** p<0.01, ** p<0.05, * p<0.1		

Table 3: Determinants of Inequality and Different Sources of Credit

VARIABLES	Equation 4 (Credit Sources)
RELIGION	0.0231
MEMBERS	0.115***
AGE	-0.00395
AGE Square	2.65e-05
SEX	-0.149***
HEADEDU	-0.00588**
EDUMALE	-0.00887***
EDUFEMALE	-0.00622***
EMPAG	-0.0981***
EMPDL	0.0172
LANDIRR	-8.41e-07
LANDNIRR	-0.000275***
ASSETSP	-0.0363***
LSTOCK	-0.0164***
LOANCB	-2.13e-06***
LOANMFI	1.69e-06*
LOANCBO	-2.81e-06
LOANNGO	4.68e-08
LOANML	-2.75e-07
LOANFF	-1.93e-06**
LOANS	-1.15e-06
RIVERERO	-0.000226*
NHHS	1.78e-05
HOMELESS	0.000101
MIGRATION	0.000102***
ROAD	0.00339
SCHOOL	0.00398
ELECTRICITY	-0.00377
FLOOD	-0.0387*
SIDR	-0.0634**
Constant	0.369***
Observations	3114
R-squared	0.267
*** p<0.01, ** p<0.05, * p<0.1	

Analysis of Results:

Table 1 shows the estimated results of the equation 1. The results indicate that the access to credit (ACCESS) negatively determines the log mean deviation of per capita consumption expenditures of households and it is statistically significant. It means that an access to credit has a negative impact on the inequality in a society as it helps households to increase their income through investing on income generating activities. The similar results are also reflected in the results on table 2. The results show that the total amount credit (LOAN) of a household has a significant negative impact on the log mean deviation of per capita consumption expenditures of households. This result illustrates that the amount of credit reduces inequality at the household level. The quadratic term of the amount of credit (LOANS) has a positive coefficient and it is statistically significant. It means that the relationship between the amount of credit and the log mean deviation is non-linear and it is U-shaped. The increase in the total amount of credit reduces inequality up to a certain level and it increases inequality after that level. The reason might be that the amount of credit reduces inequality of those households, which have income below the mean level, through enhancing their abilities to invest in income generating activities and the same credit increases the inequality of those households which belong above the mean income level though increasing their income further away from the mean level.

Table 3 shows the estimated results of the equation 3. The results indicate that out of seven credit sources, five sources have negative impacts on the inequality of households and the remaining two sources have positive impacts on the same inequality. The credit from the formal sector commercial banks (LOANCB) has a significant negative impact on log mean deviation of per capita consumption expenditures of households. The reason might be that the commercial banks are cheaper than other sources of credit in Bangladesh in terms of the interest rate. Surprisingly, loans from microfinance institutions (LOANMFI) significantly positively increase inequality. This result indicates that microcredit loans make some households poorer and make some households richer. The probable reasons are that poorer households have lesser number of income generating opportunities due to poor capital bases and they fail to make investment of their loans from microfinance institutions. Moreover, effective interest rates of loans from microfinance institutions are higher than those of loans from commercial banks and the repayment structure of these loans is totally different from that of loans from commercial banks.

Loans from commercials banks are repaid at the end of the maturity and loans from microfinance institutions are repaid on a weekly instalment basis and the repayments start immediately after the disbursements of loans. Households which do not have entrepreneurial qualities and enough investable opportunities, instead of making investment of microcredit loans, these households consume these loans and they take more microcredit loans to pay off existing microcredit loans and thus, they fall into a trap of a vicious cycle of microcredit loans. Through this process, these households become poorer and the level of inequality in the society goes up. On the other hand, households, which have more investable opportunities due to higher levels of capital bases, make investment of their microcredit loans and increase their income. Through this process, these households become richer and hence, they go further away from the mean and the inequality as a whole in the society goes up.

The results in Table 3 also illustrates that loans from community based organisations (LOANCBO) have negative impacts on the level of inequality in the society. It means that loans from community based organisations enable households to increase their income through investing them in income generating activities and thus, these loans reduce inequality in the society. However, the coefficient of LOANCBO is not statistically significant. Like loans from microfinance institutions, loans from NGOs (LOANNGO) have also positive impacts on the inequality. Loans from NGOs are similar to loans from MFIs. Like the positive relationship between loans from microfinance institutions and inequality, probably the same reasons are also working behind this positive relationship between loans from NGOs and the inequality. The loans from money lenders (LOANML) reduce the inequality. But, the result is not statistically significant. Usually, money lenders are exploitative, but households can easily acquire these loans from money lenders. The easy accessibility of these loans by households might be the main reason behind the negative relationship between these loans and the inequality as the easy accessibility enables entrepreneurial households to get the required amount of fund for starting income generating activities easily and quickly and thus, it reduces inequality. On the other hand, loans from family members and friends (LOANFF) have significant negative impacts on the inequality. This result is logical in the sense that the terms and conditions of loans from family members and friends are easier and the interest rates are zero in most of the cases. These easy terms and conditions are likely to be the reasons behind the negative relationship between these loans and the inequality.

Finally, loans from suppliers (LOANS) have negative impacts on the inequality. But, it is not statistically significant. Usually, households which have businesses take loans from suppliers in kind and these loans are paid back after selling the supplied finished product or finished products made from supplied raw materials. As these loans help some households to earn some extra income without any additional capital or incurring any costs, the relationship between loans from suppliers and the inequality is negative.

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