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Impact of Microcredit on Children's Education in Nepal

Abstract

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This paper intends to assess the impact of microcredit on children's education in Nepal. The multivariate techniques used to achieve the objectives of the study. The study uses Nepal Living Standard Survey 2011 data, which covers 5,988 households. Considering the endogeneity in the microcredit participation of household, the study uses instrumental variable technique (IV method) for assessing the impact of microcredit on Children's education. After the adjustment of the endogeneity, distance of bank, distance of cooperative from household and holding of land size of household as the instruments, eligible household reduced 475 household from 779 total households of intervention group and similarly 2,953 households from 5,209 total households of control group. CMP (conditional mixed process) estimator used to give flexibility in terms of combining continuous and binary variables together in the same model. Multivariate analysis indicates that it has positive relationship with school expenditure, positive and significant relationship with highest educational level attained by children and number of currently school going children on intervention group than the control group. The results and findings of this study and review of the literatures in the paper provided a wide range of evidence that microcredit programs can increase incomes and lift families out of illiteracy. Microcredit would be a viable and potentially sustainable tool to reduce illiteracy in Nepal.

Key words: Microcredit, Education, Nepal

JEL Classification: C31, G21, G23, I 22, I 32

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I. INTRODUCTION

A loan for the poor used to be an absurd concept. Millions of poor, vulnerable non-poor and unbanked households want financial services. They seek a diverse range of services including loans, savings, insurance, and facilities for sending and receiving remittances. Households use financial services to build incomes, mitigate risk, and protect against vulnerability often exacerbated by economic crises, illness, and natural disaster. They invest in micro and small businesses, purchase assets, improve their homes, and access health and education services (Pokhrel,2017).

It is often argued that the financial sector in low-income countries has failed to serve the poor. With respect to the formal sector, banks and other financial institutions generally require significant collateral, prefer high income and high loan clients, and have lengthy and bureaucratic application procedures. With respect to informal sector, money-lenders usually charge excessively high interest rates, tend to undervalue collateral, and often allow racist attitudes to guide lending decisions. The failure of formal and informal financial sectors to provide affordable credit to the poor is often viewed as one of the main factors that reinforce the vicious circle of economic, social and demographic structures that ultimately cause illiteracy and poverty (Pokhrel,2017).

As the partial response of this failure, over the past three and half decades, there has been significant growth in what can be termed "micro-credit". Microcredit is essentially the dispersion of small collateral-free loans to jointly groups in order to foster income generation and overall poverty reduction through enhancing self-employment (Pokhrel, 2017)

Perhaps the best-known micro-credit institution is the pioneering *Grameen Bikas Bank* in Nepal which was the model of *Grameen Bank* of Bangladesh. However, the Grameen model has been replicated in many countries (even in high income countries such as the United States), and one estimates that over 10 million households world-wide are serviced by microcredit (Morduch, 1997).

Time to time, the World Bank, USAID and other international donor agencies arrange an international summit on microcredit. At that summit, representatives of international donor agencies and microcredit organizations have set a target to achieve. Under these circumstances, it is important to evaluate what is the real impact on literacy of poor through poverty alleviation capacity of microcredit? It is also very important from policy perspective to know whether microcredit alleviates poverty and improves their poverty related indicators such as education, income, shelter, sanitation and assets. We need to know that whether claims, made by the international microcredit summit and the microfinance institutions in Nepal to eradicate poverty and improve people's poverty related indicators through microcredit, are rhetoric or reality. For that some studies have carried out and found that access to this type of credit by the poor has a positive, large and permanent effect on living standard and education while other studies have also found that through micro-credit, the poor households simply become poorer through the additional burden of further debt (Chowdhury, 2005).

We therefore need to know the answer to a number of questions before making any statement on the microcredit summit's and microfinance institutions' target. Does microcredit increase the school expenditure of borrowing households through increasing their income? Does microcredit increase the educational level of their children of borrowing households? Does microcredit increase the number of currently school going children of borrowing households? Is it true that microcredit programs are sustainable tool to reduce illiteracy in Nepal?

Keeping with this in mind, this study is intended to examine empirically the impact of microcredit on education in Nepal. The cross-sectional data from Nepal Living Standard Survey III (2011) has used in this study which covers 5,988 households. Among them 5,209 households are control and 779 households are intervention group. The drawback associated with impact assessment studies using one period cross sectional data is that the result of such studies do get biased due to the problem of self-selection and endogeneity. The presence of such an endogeneity problem, the study uses instrumental variable technique (IV method) for assessing the impact of microcredit on children education.

II. HYPOTHESES OF RESEARCH

The main hypothesis of this study is that microcredit is a sustainable tool to reduce illiteracy of borrowing households. The poor households in rural areas fail to acquire the minimum amount of capital that is required to improve the employment status of the members of the households due to lack of collateral. Microfinance institutions provide poor households with this minimum capital to improve their employment status. Through improving employment status poor households increase their income and thus, improve the fulfillment of basic needs. Gradually these households graduate to increase in school expenditure, educational level of their children and number of currently school going children i.e. microcredit is a sustainable tool to reduce illiteracy.

Within this main hypothesis, two sub hypotheses can be defined:

- The membership in the microcredit institutions improves the employment opportunity and increases income of the poor households;
- The membership in the microcredit institution improves the fulfillment of basic needs of the poor households, i.e. membership of the microcredit institutions increases the access to formal educational institutions for the children which ultimately increase in school expenditure, educational level of their children and number of currently school going children.

III. LITERATURE REVIEW

In spite of the existence of microcredit for over thirty-three years, it is surprising that there is a shortage of literature, which provides a clear evidence of alleviation of poverty indicators capacity of microcredit. Only a few impact assessment studies have been conducted with carefully chosen treatment and control groups and these studies provides a mixed picture of the impact (Morduch, 1999).

The results of the empirical evidence on impact of microcredit on poverty's indicators such as employment, income, assets, formal education health access, sanitation etc. have found very mixed results (Hossain,1988), (Proshika,1995), Mustafa, et.al;(1996), Sebstad and Chen,(1996), Khandker and Chowdhury,(1996), Pitt and Khandker,(1996), Chowdhury and Khandker,(1996), Bruntrup et.al;(1997), Edgecomb and Barton, (1998), (Morduch,1999), Schrieder and Sharma,(1999).

Glewwe and Jacoby (1995) the effect of child health and nutrition outcomes in Ghana, including the age of enrollment and years of completed schooling. They used the cross-sectional data to identify effects. One of the approaches in that study was to seek instruments that affect child health characteristic (such as height for age anthropometric outcome) but were not correlated with unobserved family characteristic affecting child education. They proposed as instruments for child health (a) Distance to the closest medical facility and (b) Maternal height. Both justifiably correlate with child health, but they also pointed out the mother's height could affect her labor productivity and hence household income and the resulting time she has to spend on her children's education. Distance to nearby medical facilities could also correlate with other community characteristic, such as presence of school. Both of the caveats weaken the assumption that cov(Z, e) =0. From the IV estimate, as well as alternative estimate specifying fixed effect for families. They found strong negative effects of child health on delayed enrollment but no statistically significant effect on completed years of schooling.

Ghalib (2009) explained the social impact on lives of the poor by means of a standard model. This is sort of an experimental design which consists of a control group and a treatment group. Treatment group is exposed to microfinance intervention whereas control group is not, assuming that both the groups are living in the identical economic and social conditions. The difference in the quality of lives, in terms of social indicators is considered the impact of microfinance. Since social impact is a complex process and a number of other factors will contribute to the model.

Some impact evaluation studies have found that access to credit by the poor has a positive, large and permanent effect on poverty's indicators such as employment, income, assets, formal education health access, sanitation. However, other studies have found that poverty is not reduced through micro-credit, poor households simply become poorer through the additional burden of further debt. Since more money for micro-credit essentially means less money for other programs with similar aims. Bruntrup et.al;(1997), have only used descriptive statistics for impact analysis. They have not used any multivariate technique to determine the impact of microcredit on poverty related aspects of borrowing households. Mustafa et.al;(1996) and Hossain (1984) completed their study without solving endogeneity problems. It means they were biased in selecting the sample households. Among the studies reviewed, Khandker and Chowdhury (1996), and Pitt and Khandker (1996) were found sound in methodological perspective. Hossain (1998), Khandker and Chowdhury (1996), have conducted the study using cross sectional data and only one impact assessment study, Khandker (2002), has conducted using a panel data set. Instrumental variable technique (IV) method (Stock & Watson, 1998) allows for endogeneity in the individual participation, program placement, or both and it also can allow for time-varying selection bias. Measurement error that results in attenuation bias can also be resolved through this procedure. This approach involves finding a variable (or instrument) that is highly correlated with program or participation but that is not correlated with unobserved characteristics that affecting outcomes.

IV. METHODOLOGY

Source of Data

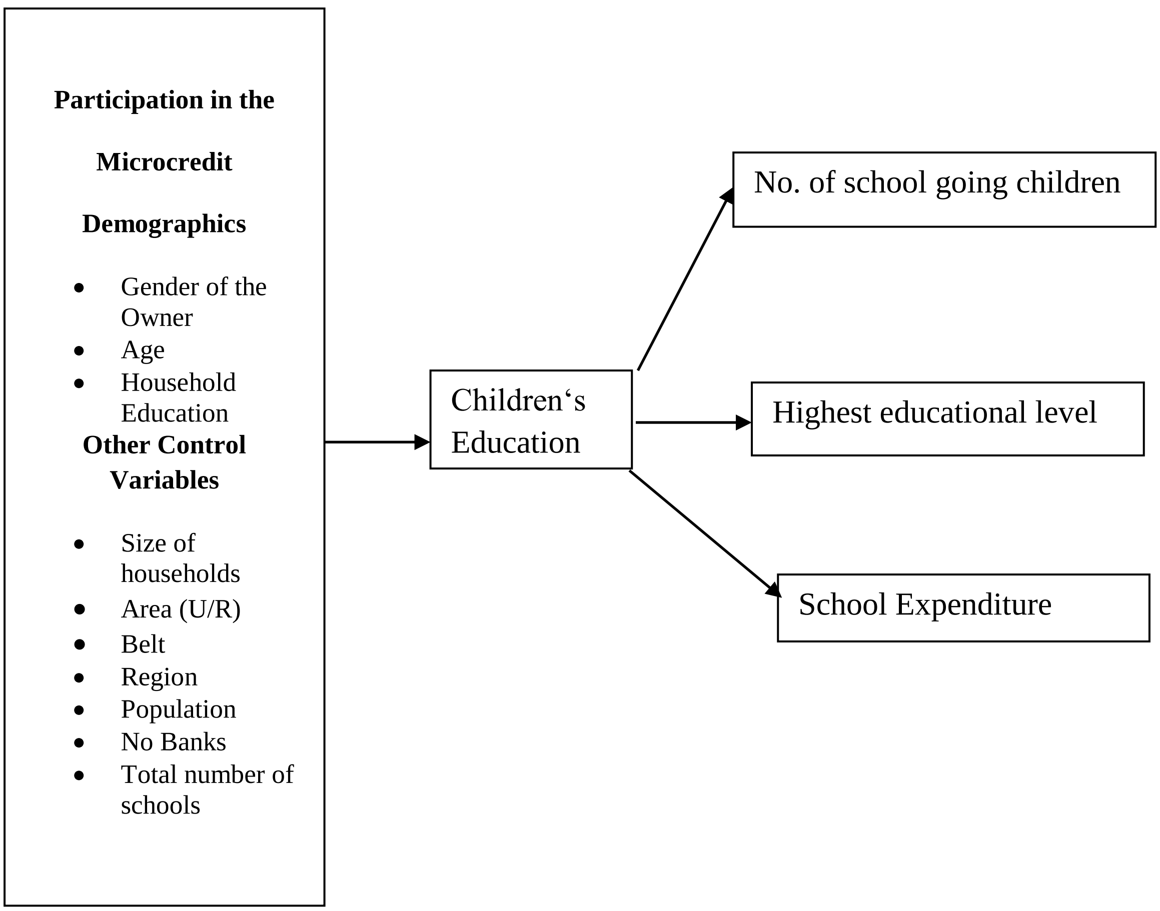
The data used in this research are taken from Nepal Living Standard Survey (NLSS). The original survey was carried out by the Central Bureau of Statistics (CBS), National Planning Commission, and Government of Nepal. The NLSS has been carrying out since 1995/96. The second time the NLSS was carried out in 2003/04. And the NLSS 2010/11 was the third round of the survey conducted by the CBS. NLSS followed the globally adopted framework and methodology developed by the World Bank. All the three surveys followed the Living Standard Measurement Survey Methodology, which was developed by the World Bank. While the panel data could be desirable to inter temporal changes and specially studying on impact. This study used the cross-section data of NLSS III in view of unavailability of panel data. This cross-section survey NLSS III enumerated 7,020 households, of which 5,988 households have been for the cross-section sample and remaining 1,032 were for the panel sample. (NLSS III, 2012). Data has generated from the seven chapters of the NLSS III. Total number of schools going children been picked up from the 7.18 subchapter, highest educational level attained is taken from 7.11 subchapter and total expenditure of school or education is taken from subchapter 7.11 of NLSS III.

Research Framework

On the basis of discussion made so far and theoretical underpinnings explained in the review of literature, the research framework has developed like as shown in Figure 1 below which is a unified framework that sheds light on the impact of microcredit on education at household level. In addition to this, demographic and other independent variables have been added in the model.

Figure 1

Research Framework



Source: Developed by the researcher.

Dependent and Independent Variables

Treatment (independent) variables and the outcome (dependent) variables have considered in the study. Several outcome variables taken into consideration, namely: children education (number of schools going children, highest educational level attained before leaving the school and school expenditure). There are three possible treatment variables that can be used to assess the impact of microfinance. These are: (1) number of years the clients spent as an access of the microfinance, (2) amount/value of loans availed, (3) number of loan cycles. Treatment variable 1 and 2 are deemed better in representing program availability (Coleman, 1999). Present study has taken (2) as the treatment variable to assess the impact of microfinance. Outstanding loan without collateral from agricultural development bank or commercial bank or rural development bank or other financial institution or NGO or relief agency or co-operative has considered the proxy of microcredit.

Other Control Variables

Other control variables have been included in the control function such as sex, age, education of household head, household size, type of area (rural, urban), ecological belts (mountain, hills, terai), development region (eastern, central, western and mid and far western), population, number of banks and total number of schools.

Theoretical Statement of IV Model and Assumptions

Sometimes, problems occur in the regression model. This is often due to omitted variables, or due to errors in variables or due to simultaneous causality which makes the error term correlated with the regressor. Omitted variable can be addressed directly by including the variable in a multiple regression, but this is feasible if data is available on the omitted variable. And sometimes, when causality runs both from X to Y and from Y to X, there is simultaneous causality bias, multiple regression cannot eliminate the bias. If a direct solution to these problems is either infeasible or unavailable, then a new method is required. In such a situation Instrumental Variables (IV) regression is a general way to obtain a consistent estimator of the unknown coefficients of the population regression function when the regressor, X is correlated with the error term u. The variation in X as having two parts: one part, for whatever reason, is correlated with u, and the other part is uncorrelated with u. if we had the information that allowed us to isolate the part second, then we could focus on those variation in X that are uncorrelated with u and disregard the variation in X that bias the OLS estimates. The information about the movements in X that are uncorrelated with u is gleaned from one or more additional variables, is an instrumental variables or instrument.

General Instrumental Variables Regression Model

$$Y_i = B_0 + B_1 X_{1i} + \ldots + B_k X_{ki} + B_{k+1} W_{1i} + \ldots B_{k+r} W_{ri} + u_i \qquad \ldots\ldots\ldots (1)$$

$i = 1, \ldots n$

where,

Y_i is the dependent variable,

$B_0, B_1, \ldots, B_{k+r}$ are the unknown regression coefficients,

$X_{1i}, \ldots, X_k$ are k endogenous regressors, which are potentially correlated with u_i

$W_{1i}, \ldots, W_{ri}$ are r included exogenous regressors, which are uncorrelated with u_i or are control variables,

u_i is the error term which represents measurement of error and /or omitted factors, and

$Z_{1i}, \ldots, Z_{mi}$ are the m instrumental variables.

Two Stage Least Squares (TSLS)

The TSLS estimator in the general IV regression model in Equation (1) with multiple instrumental variables is computed in two stages:

(1) **First-stage regression(s):** Regress X_{1i} on the instrumental variables ($Z_{1i}, \ldots, Z_{mi}$) and the induced exogenous variables ($W_{1i}, \ldots, W_{ri}$) using OLS. Compute the predicted values from this regression; call these $X_{1i\ hat}$. Repeat this for all the endogenous regressors $X_{2i}, \ldots, X_{ki}$ thereby computing the predicated values $X_{2i\ hat}, \ldots, X_{ki\ hat}$

(2) **Second-stage regression:** Regress Y_i on predicted values of the endogenous variables ($X_{1i\ hat}, \ldots, X_{ki\ hat}$) and the included exogenous variables ($W_{1i}, \ldots, W_{ri}$) using OLS. The TSLS estimators, $B_{0hat}^{TSLS}, \ldots, B_{k+r\ hat}^{TSLS}$ are the estimators of the second –stage regression.

In this study two stages are done automatically within TSLS estimation commands in STATA software.

Two Conditions for Valid Instrument

A set of m instruments Z_{1i}, ..., Z_{mi} must satisfy the following two conditions to be valid:

(1) Instrument Relevance

- In general, let $X_{1i\ hat}$ is the predicted value of X_{1i} from the population regression of X_{1i} the instruments (z's) and the included exogenous regressor (W's) and let "1" denote a regressor that takes on the value "1" for all observations (its coefficient is the intercept), then ($X_{1i\ hat}$, ..., $X_{ki\ hat}$, W_{1i}, ..., $W_{ri,\ 1}$) are not perfect by multicollinear.

- If there is only one X, then at least one Z must enter the population regression of X on Z's and the W's.

(2) Instrument Exogeneity

The instruments are uncorrelated with the error term, that is

$Corr(Z_{1i}, u_i) = 0, ..., (Z_{mi}, u_i) = 0$.

The Instrument Variable Assumptions

The variables and error in the IV regression model satisfy.

(1) $E(u_i / W_{1i}, ..., W_{ri}) = 0$

(2) (X_{2i}, ..., X_{ki}, W_{1i}, ..., W_{ri}, Z_{1i}, ..., Z_{mi}, Y_i) are i.i.d. draws from their joint distribution.

(3) The X's, W's, Z's and u all have nonzero, finite fourth moments

(4) The W's are not perfectly multicollinear and

(5) The two conditions for the valid instrument hold.

A Rule of Thumb for Checking for Weak Instruments for Relevancy

The first stage F-statistics is the F-statistics testing the hypothesis that the coefficients on the instruments, Z_{1i}, ...,Z_{mi} equal to zero in the first stage of the two stage least squares. When there is single endogenous regressor, first-stage F less than 10 indicates that the instruments are weak. In which case, the TSLS estimator is biased (even large sample), and TSLS t-statistics and confidence interval are unreliable (Stock and Watson, 1998).

Empirical Instrumental Variables Regression Model

First Stage

Micro = α + $\beta_1$sex + $\beta_2$age + $\beta_3$education + $\beta_4$size of households + β_5 area +β_6 belts + β_7 development regions + β_8 population +β_9 no of banks+ β_{10} total number of school + β_{11}distance of bank + β_{12} distance of cooperative + β_{13} holding of land + u_i .... (2)

Second Stage

Y = α + $\lambda_1$sex + $\lambda_2$age + $\lambda_3$education + $\lambda_4$size of households + λ_5 area +λ_6 belts + λ_7 development regions + λ_8 population +λ_9 no of banks+ λ_{10} total number of school + λ_{11}micro^{hat} + vi.......... (3)

Y is the dependent or outcome (children education)

Micro is the endogenous regressor, which is potentially correlated with u_i whose characteristic is the participation of microcredit which is measuring the household status (a binary variable having a value 1 if there is participating in the credit and 0 otherwise)

Sex, age, household head's education, household size, type of area (rural, urban) belts (mountain, hills, terai) development region (eastern, central, western and mid and far western), population, no of Banks and total number of schools are included exogenous regressor, which are uncorrelated with u_i or Control variables. u_i is the error term which represents measurement of error and /or omitted factors. Distance of bank, distance of cooperative and holding of land size are the instrumental variables which are highly correlated with program or participation but not correlated with unobserved characteristics that affects outcomes. β_1, ..., β_{13} are the unknown regression coefficients.

Mandatory Diagnostic Tests of Models for IV

Two important tests, testing for endogenneity and testing of over identifying restrictions have carried out for searching the plausible instruments for a potentially endogenous explanatory variable. As a diagnostic test conducted on all given 3 equations for the test of the strength of instruments and over identification restrictions. Cragg-Donald Wald F statistic, Sargan statistic (over-identification test of all instruments), and under identification test (Anderson canon. corr. LM statistic), have been tested and results of all 3 equations are verified (Table1)

When the distance of the cooperative is used as IV for outcome variables in all 3 equations, the criteria of testing the over identifying restriction. This over identification test is satisfied. The distance of bank and land holding (eligibility restriction criteria to the participant of households for microcredit) are added to the IVs list, nR^2 is higher than the 10 percent level which is statistically verified for instrument. Therefore, it is valid to add these two variables as instruments to the IV list of this empirical model.

Testing for endogeneity, OLS and 2SLS estimator have estimated and found statistically significant difference between OLS and 2SLS. As Hausman (1978) suggested that directly comparing the OLS and 2SLS. That determines whether the difference is statistically significant. Both OLS and 2SLS are consistent and found exogenous. If OLS and 2SLS is statistically significant, it means that dependent (outcome) variable must be endogenous. All three equations in this empirical model, OLS and 2SLS found statistically significant. For details, number of observations, result of F-test, probability > F, R-Squared and adjusted R-squared see the Appendix.

Table 1
Diagnostic Test Results

Dependent Variable (outcome variable)	Exogenous variables	Endogenous variables	Instruments	Weak identification test (Cragg-Donald Wald F statistic)	Sargan statistic (over identification test of all instruments)	Under identification test (Anderson canon. corr. LM statistic):
tedu_exp	age, sex, edu(education) (size of household), type of area (rural and urban), Region (eastern, central, western Midwestern and far western), population, numbers of schools, numbers of bank and financial institutions	Micro	Distance of Bank, Distance of cooperative and size of land holding	13.92	6.57	41.55
hhmmedu_level				13.34	105.28	39.82
Currentsch				13.92	5.99	41.55

Table 1 shows the all individual results of tests on all dependent variables.

Weak identification test (Cragg-Donald Wald F statistic): $>$ 10

Sargan statistic (over identification test of all instruments): $\leq$ 10% of level

Chi-sq (2) P-val $\leq$ 10% of level

For the results of OLS and IV estimator of all three models (Appendix)

VI: EMPIRICAL RESULTS AND DISCUSSION

To assess the impact of microcredit on children education of participants, controlling for selected demographic and other variables. An instrumental variable technique with CMP command was run to determine the effect of microcredit on children education. The key coefficients of all the variables estimated i.e., Currently school going children (Currentsch), expenditure on children education (tedu_exp) and the highest level of children education attained before leaving the school (Hedu level) of instrumental variables estimator are in Table 2.

Table 2

**IV results of children education indicators
(tedu_exp, hhmmedu_level and currentsch)**

Variable	Model1	Model2	Model3
	tedu_exp	Hedu level	currentsch
Age	40.92	.05***	-.02***
Sex	5077.43***	-.60***	-.31***
Edu	961.66***	.32***	.01
Hhsize	2562.46***	.17***	.42***
Urban	10593.97***	1.21***	.08*
Hill	2620.10	.19	-.19**
Terai	5909.48*	.70*	-.20
Edr	1798.61	-.16	-.14**
Cdr	5659.08***	-.63***	-.41***
Wdr	3900.62*	-.56***	-.23***
Mwdr	276.82	-.58**	-.13*
Population	-.012***	-2.88***	-4.99**
Noofbank	152.29***	.010**	-.00
totalnoofs~l	4.38	.00***	.00***
micro	1769.83	.59*	.20**
_cons	-10911.95***	3.82***	1.11***

legend: * p<0.05; ** p<0.01; *** p<0.001

Source: Author's calculation based on instrumental variable technique estimator.

The results show that microcredit on the children education is positively associated with all the indicators of education. There are highly and positively significant and strong relationship between the participant of microcredit and percentage of currently school going children as compared to non-participant (since p<0.01). So, there is no evidence to reject our hypothesis.

The participation of microcredit led to more expenditure in children's education (Rs.1769) as compared to non-participant of microcredit. The results show that, there is strong positive relationship between micro credit and expenditure of children's education. So, there is no evidence to reject the hypothesis.

The results show that being the participant of the microcredit is positively associated with children education level attained before leaving the school. There is highly and positively significant and strong relationship between the microcredit participation and children education level attained before leaving the school (since $p<0.01$). So, there is no evidence to reject our hypothesis of participation in the microcredit leads to increase the children education level attained before leaving the school.

The results of this study are also consistent of several studies like Drioadsuryo and Cloud (1999), Chowdhury and Bhuija (2001), Nepone (2003), Holvoet (2004), Effa and Herring (2005), Sengsourivon (2006) and Noreen (2010). However, these results are contradicting with the findings of previous studies like Colemn (1999) and Kondo et. al., (2008).

Some controlled variables were used for each hypothesis in the models as the independent variables such as sex, age, household head education, household size, type of area (rural, urban) belts (mountain, hills, terai) development region (eastern, central, western and mid and far western), population, no of Banks and total number of schools. Sex, education, type of area, belts, and development regions used as dummy. Most of these variables were used as a control function existing literature (Coleman 1999; Montgomery, 2005; Kondo et. al; 2008).

The IV results clearly indicated that the participation of microcredit, age, sex, household size, type of area, belts development region, population and total no of school are found highly significant in case of currently school going children (since $p<0.001$).

Sex, household head education, household size, type of area, belt, development region, population and total no of banks is highly significant in case of school expenditure (since $p<0.001$). However, total no of school is insignificant indicating that having a greater number of schools at the district makes no difference with expenditure in children. Similarly, household head education, age, household head education, household size, type of area (rural, urban) belts (mountain, hills, terai) development region (eastern, central, western and mid and far western), population, no of banks and total number of schools are significant in case of the level of children education attained before leaving the school (hhmmedu_level). However, hill is insignificant indicating that the impact of microfinance on highest level of children education is higher in the terai and mountain belt as compared to the hill belt. The detail information about impact of education is presented in the Appendix.

Based on econometric evidence so far, the impact of children education using of three dimensions i.e. number of currently school going children, highest educational level attained by children before leaving school there are positive and significant relationship of participation in microcredit as compared to who is not participant on microcredit. Similarly, for the school expenditure positively associated with participation in microcredit. This means that expenditure in education of participants household in microcredit is more than non-participant households.

VI. CONCLUSION

As results discussed above that microcredit participation and impact on three dimensions of children education i.e. number of currently school going children, highest educational level attained by children before leaving school and school expenditure are positive and significant relationship. All these results answer the question whether the microcredit works or not in general, and it also provides a wide range of evidence that microcredit programs can increase incomes and lift families out of illiteracy in a particular. Access to microcredit can improve children's nutrition and increase their school enrollment rates, among many other outcomes.

We can conclude that there is a role for microcredit as an illiteracy reduction policy tool. However, it is emphasized that if microcredit is chosen as an intervention policy to enhance the illiteracy reduction, we need to set clear objectives for the indicators of economic empowerment for the people. More importantly, the ability of households to begin informal sole micro entrepreneurships should not be assumed to be adequate for the improvement of household income. A policy framework should be created to spur growth in the enterprises as well as the rural economy as a whole through the creation of employment opportunities and an increment in the agricultural output to achieve such illiteracy reduction objective policy. Further impact study should be done on expenditure, housing quality and food security in the same model presented here to examine the impact on other indicators of poverty.

REFERENCES

Bruntrup, Michael, Afroza Huda, S.M. Alauddin, and Mizanur Rahman (1997); *Impact Assessment of ASA*; Dhaka: Association for Social Advancement (ASA).

Chowdhury A. (2009). *Microfinance as a Poverty Reduction Tool-A Critical Assessment*. DESA Working Paper, UN-DESA.

Coleman, B.E. (1999). The impact of group lending in northeast Thailand. *Journal of Development Economics*, 60, 105-42.

Edgecomb, E. and L.Barton. (1998). *Social Intermediation and Microfinance Programs; A Literature Review*. Bethesda, MD: Development Alternatives Inc.

Effa, A, D., Herring, R, D. (2005). Micro Finance Support to Rural Women Farmers in Ghana: A Case Study of the Ga District of the Greater Accra Region, Ghana, Proceedings of the 21st Annual Conference, San Antonio, TX.

Ghalib, A. (2009). Measuring the Impact of Microfinance Intervention: A Conceptual Framework of Social Impact Assessment. UK: *Journal of Development Economics, 71* (1), 146-159.

Gibb, S. (2008). Microfinance's Impact on Education, Poverty, and Empowerment: A case study from the Bolivian Altiplano Development Research. Bolivia: Working Paper Series, Institute for Advanced Development Studies.

Glewwe, P., and G.Jacoby, H. (1995). An Economic Analysis of Delayed Primary School Enrollment in a low Income Country:The Role of Early Childhood Nutrition. *The Riview of Economics and statistics, 77* (1), 156-169.

Hausman, J. A. (1978). Specification Test in Econometrics. *Econometrica* , 46(6) : 1251-1271.

Holvoet, N. (2004). Impact of microfinance programs on children's education: Do the gender of the borrower and the delivery model matter? *Journal of Microfinance,* 6 (2), 33-49.

Hossain, Mahbub (1984); Credit for the poor; *Research Monograph* No.4; Bangladesh Institute of Development Studies; Dhaka.

Hossian, A.M. Muazzam, eds. (1998); Poverty Alleviation and Empowerment: The Second Impact Study of Brac's Rural Development Program; Dhaka; BRAC

Khandker, S. R., Zahed Khan, BaquiKhalilly.(1995). *Sustainability of a Government Targeted Credit Program: Evidence from Bangladesh.* World Bank Discussion Papers.

Khandker, S.R. (2005). Micro-finance and poverty: Evidence using panel data from Bangladesh. *The World Bank Economic Review*, 19(2), 263–286.

Khandker, Shahidur R. and Osman H. Chowdhury (1996); *Targeted Credit Programmes and Rural Poverty in Bangladesh in Bangladesh;* World Bank Discussion Paper No.336; Washington D.C.: The World Bank.

Montgomery, H. (2005). *Serving the poorest of the poor*: The Poverty Impact of the Khushhali Bank's microfinance lending in Pakistan, ADB Institute.

Morduch, J. (1998). *"The Microfinance Schism."* Development Discussion Paper No. 626. Cambridge: Department of Economics and HIID, Harvard University.

Morduch J., Elizabeth L. and Syed H. (2003) *"Is Microfinance an Effective Strategy to Reach the Millennium Goals?"* CGAP Focus Note, 24, 1-12.

Morduch, J. (1999). "The Micro Finance Promise." *Journal of Economic Literature*, Vol. 37(4) 1569-1614.

Morduch, J. (1999). The Role of Subsidies in Microfinance: Evidence from the Grameen bank. *Journal of Development Economics,* 60, 229-248.

Morduch, J. (2000). The Microfinance Schism. *World Development*, *28*(4), 617–629. doi:10.1016/s0305-750x (99)00151-5

Morduch, J. (1998). *Does microfinance really help the poor? Evidence from flagship programs in Bangladesh*? Grameen Bank, Bangladesh. Retrieved June 3, 2008, from world wide web: http://www.wws.princeton.edu/~rpds/downloads/morduch_microfinance poor.pdf.

Mustafa, Shams, Ishrat Ara, Dilruba Banu, Altaf Hossain, Azmal Kabir, Mohammad Mohsin, Abu Yusuf, Sarwar Jahan (1996); Beacon of Hope: An Impact Assessment and study of BRAC's Rural Development Programme; Research Division, Bangladesh Rural Advancement Committee (BRAC), Dhaka.

CBS, *Nepal Living Standards Survey (2012).* National Planning Commission Government of Nepal, Central Bureau of Statistics.

CBS, *Nepal Living Standards Survey. (2004).* National Planning Commission Government of Nepal: Central Bureau of Statistics.

Neponen, H. (2003). *ASA-GV Microfinance Impact Report 2003,* The Activists for Social Alternatives (ASA), India.

Noreen U. (2010). "Impact of Microfinance on Poverty", A Ph.D. dissertation submitted to the Faculty of Management Sciences Foundation, University of Islamabad, Pakistan.

Pit, M.M. and Khandker S.R. (1996). *Household and Intra household Impact of Grameen Bank and Similar Targeted Credit Programme in Bangladesh*, World Bank Discussion Papers. 306. Washington D.C.The World Bank.

Pitt, Mark and Shahidur R. Khandker (1996); Household and Intra-Household Impact of the Grameen Bank and Similar Targeted Credit Programs in Bangladesh; World Bank Discussion Paper No. 320; Washington, D.C.

Pokhrel, S.R. (2017). *Impact of Microfinance on Poverty in Nepal.* A PhD. dissertation submitted to the Faculty of Humanities and Social Sciences of Tribhuvan University in Kirtipur, Kathmandu, Nepal.

Proshika (1995); *Impact Assessment Survey Report;* Proshika: A Centre for Human Development; Dhaka.

Schrieder, G. and M.Sharma. (1999). "Impact of Finance on Poverty Reduction and Social Capital Formation: A review and Synthesis of Empirical Evidence." *Savings and Development*, 23, (1) pp. 67-93

Sebstad, J. and G. Chen. (1996). *Overview of Studies of the Impact of Micro Enterprise Credit.* Washington: Management Systems International.

Sengsourivong, K., (2006). *The Impact of Microfinance on Household Welfare: case study of a savings group in Lao*, PDR, Master Thesis, Department of Regional Cooperation Policy Studies, Graduate School of International Cooperation Studies, Kobe University, Japan

Stock, J. H., and Watson, M. W. (1998). *Introduction to Econometrics* (Second ed.). United State of America: Pearson Education, Inc.

(Appendix)

OUTPUT OF IV ESTIMATORS

Impact on Education

1. **cmp (tedu_exp = age sex eduhhsize urban hill teraiedrcdrwdrmwdr population noofbanktotalnoofschool micro) (micro =dist_ban> k dist_coopland_hec_tot age sex eduhhsize urban hill teraiedrcdrwdrmwdr population noofbanktotalnoofschool), indicators(> $cmp_cont $cmp_probit)**

```
      Source |       SS       df       MS              Number of obs =    5988
-------------+------------------------------           F( 15,  5972) =   82.54
       Model |  1.1235e+12    15  7.4901e+10           Prob > F      =  0.0000
    Residual |  5.4195e+12  5972   907487058           R-squared     =  0.1717
-------------+------------------------------           Adj R-squared =  0.1696
       Total |  6.5430e+12  5987  1.0929e+09           Root MSE      =   30125
```

tedu_exp |	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
age	41.36	29.57	1.40	0.16	-16.61	99.33
sex	-5075.66	979.15	-5.18	0.00	-6995.14	-3156.17
edu	961.24	89.25	10.77	0.00	786.28	1136.19
hhsize	2561.35	178.78	14.33	0.00	2210.89	2911.82
urban	10593.92	968.28	10.94	0.00	8695.76	12492.09
hill	2634.98	1703.34	1.55	0.12	-704.18	5974.14
terai	5900.34	2699.02	2.19	0.03	609.28	11191.39
edr	1786.65	1602.54	1.11	0.27	-1354.91	4928.21
cdr	5650.84	1555.30	3.63	0.00	2601.89	8699.79
wdr	3908.18	1654.97	2.36	0.02	663.84	7152.53
mwdr	250.57	1732.39	0.14	0.89	-3145.55	3646.69
population	-0.02	0.01	-3.36	0.00	-0.03	-0.01
noofbank	152.65	33.39	4.57	0.00	87.20	218.10
totalnoofs	4.31	3.18	1.36	0.18	-1.91	10.53
micro	2060.45	1169.48	1.76	0.08	-232.16	4353.06
cons	-10935.70	2883.86	-3.79	0.00	-16589.10	-5282.30

Probit regression

Number of obs = 4566
LR chi2(17) = 153.05
Prob > chi2 = 0.0000
Log likelihood = -1707.4209 Pseudo R2 = 0.0429

Micro	coeff	std. error	z	P>|z|	[95% Conf. Interval]	
dist_bank	-0.01	0.00	-3.36	0.00	-0.01	0.00
dist_coop	-0.01	0.00	-3.80	0.00	-0.02	-0.01
land_hec_tot	-0.14	0.04	-3.43	0.00	-0.22	-0.06
age	-0.01	0.00	-2.99	0.00	-0.01	0.00
sex	0.00	0.06	-0.01	0.99	-0.12	0.12
edu	0.01	0.01	1.95	0.05	0.00	0.02
hhsize	0.02	0.01	1.99	0.05	0.00	0.04
urban	-0.13	0.06	-2.00	0.05	-0.25	0.00
hill	-0.35	0.10	-3.59	0.00	-0.55	-0.16
terai	-0.15	0.16	-0.94	0.35	-0.45	0.16
edr	0.08	0.09	0.92	0.36	-0.09	0.26
cdr	-0.01	0.09	-0.12	0.90	-0.19	0.17
wdr	-0.21	0.10	-2.20	0.03	-0.41	-0.02
mwdr	0.38	0.09	4.08	0.00	0.20	0.57
population	0.00	0.00	-1.69	0.09	0.00	0.00
noofbank	-0.01	0.00	-2.82	0.01	-0.01	0.00
totalnoofs	0.00	0.00	5.09	0.00	0.00	0.00
_cons	-0.93	0.18	-5.12	0.00	-1.29	-0.58

Mixed-process regression
Number of obs = 5988
LR chi2(32) = 1275.68
Log likelihood = -71950.817 Prob > chi2 = 0.0000

tedu_exp	Coef	Std. Err	z	P>|z|	[95% Conf. Interval]	
age	40.92	29.71	1.38	0.17	-17.31	99.15
sex	-5077.43	977.93	-5.19	0.00	-6994.15	-3160.72
edu	961.66	89.18	10.78	0.00	786.86	1136.46
hhsize	2562.46	178.73	14.34	0.00	2212.16	2912.77
urban	10593.97	966.99	10.96	0.00	8698.71	12489.23
hill	2620.10	1704.71	1.54	0.12	-721.06	5961.27
terai	5909.49	2696.29	2.19	0.03	624.85	11194.12
edr	1798.61	1602.91	1.12	0.26	-1343.02	4940.25
cdr	5659.08	1554.45	3.64	0.00	2612.41	8705.75
wdr	3900.62	1653.74	2.36	0.02	659.36	7141.88
mwdr	276.82	1741.19	0.16	0.87	-3135.86	3689.50
population	-0.02	0.01	-3.36	0.00	-0.03	-0.01
noofbank	152.29	33.45	4.55	0.00	86.73	217.85
totalnoof	4.38	3.22	1.36	0.17	-1.92	10.69
micro	1769.83	2467.89	0.72	0.47	-3067.14	6606.80
_cons	-10911.95	2885.49	-3.78	0.00	-16567.41	-5256.48
micro	Coef	Std. Err	z	P>|z|	[95% Conf. Interval]	
dist_bank	-0.01	0.00	-3.34	0.00	-0.01	0.00
dist_coop|	-0.01	0.00	-3.79	0.00	-0.02	-0.01
land_hec_tot	-0.14	0.04	-3.43	0.00	-0.22	-0.06
age	-0.01	0.00	-2.99	0.00	-0.01	0.00
sex	0.00	0.06	-0.02	0.99	-0.12	0.12
edu	0.01	0.01	1.96	0.05	0.00	0.02
hhsize	0.02	0.01	1.99	0.05	0.00	0.05
urban	-0.13	0.06	-1.97	0.05	-0.25	0.00
hill	-0.35	0.10	-3.59	0.00	-0.55	-0.16
terai	-0.15	0.16	-0.94	0.35	-0.45	0.16
edr	0.08	0.09	0.93	0.35	-0.09	0.26
cdr	-0.01	0.09	-0.12	0.91	-0.19	0.17
wdr	-0.21	0.10	-2.19	0.03	-0.40	-0.02
mwdr	0.38	0.09	4.07	0.01	-0.01	0.00
population	0.00	0.00	-1.69	0.09	0.00	0.00
noofbank	-0.01	0.00	-2.82	0.01	-0.01	0.00
totalnoofs	0.00	0.00	5.09	0.00	0.00	0.00
_cons	-0.93	0.18	-5.12	0.00	-1.29	-0.58
lnsig_1	10.31	0.01	1128.42	0.00	10.29	10.33
atanhrho_12	0.01	0.05	0.13	0.89	-0.09	0.11
sig_1	30084.41	274.92			29550.37	30628.09
rho_12	0.01	0.05			-0.09	0.11

2. cmp (hhmmedu_level = age sex eduhhsize urban hill teraiedrcdrwdrmwdr population noofbanktotalnoofschool micro) (micro =dist> _bank dist_coopland_hec_tot age sex eduhhsize urban hill teraiedrcdrwdrmwdr population noofbanktotalnoofschool), indicat>ors($cmp_cont $cmp_probit)

```
      Source |       SS       df       MS              Number of obs =    5559
-------------+------------------------------           F( 15,  5543) =  179.30
       Model |  23708.0149    15  1580.53433           Prob > F      =  0.0000
    Residual |  48861.6908  5543  8.81502631           R-squared     =  0.3267
-------------+------------------------------           Adj R-squared =  0.3249
       Total |  72569.7057  5558   13.056802           Root MSE      =   2.969
```

hhmmedu_le~l	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
age	0.05	0.00	16.13	0.00	0.04	0.06
SEX	-0.61	0.10	-6.04	0.00	0.31	0.34
EDU	0.33	0.01	36.19	0.00	0.31	0.34
hhsize	0.17	0.02	9.09	0.00	0.14	0.21
urban	1.21	0.10	12.28	0.00	1.02	1.40
hill	0.18	0.18	1.01	0.31	-0.17	0.52
terai	0.71	0.28	2.58	0.01	0.17	1.25
edr	-0.14	0.16	-0.88	0.38	-0.46	0.18
cdr	-0.62	0.16	-3.90	0.00	-0.93	-0.31
wdr	-0.57	0.17	-3.35	0.00	-0.90	-0.24
mwdr	-0.55	0.18	-3.09	0.00	-0.89	-0.20
population	0.00	0.00	-5.21	0.00	0.00	0.00
noofbank	0.01	0.00	2.91	0.00	0.00	0.02
totalnoofs~l	0.00	0.00	4.75	0.00	0.00	0.00
micro	0.24	0.12	2.00	0.05	0.00	0.47
_cons	3.84	0.29	13.03	0.00	3.26	4.42

Probit regression

Number of obs = 4566
LR chi2(17) = 153.05
Prob > chi2 = 0.0000
Log likelihood = -1707.4209 Pseudo R2 = 0.0429

micro	coeff	std. err	Z	P>|z|	[95% Conf. Interval]	
dist_bank	-0.01	0.00	-3.36	0.00	-0.01	0.00
dist_coop	-0.01	0.00	-3.80	0.00	-0.02	-0.01
land_hec_tot|	-0.14	0.04	-3.43	0.00	-0.22	-0.06
AGE	-0.01	0.00	-2.99	0.00	-0.01	0.00
SEX	0.00	0.06	-0.01	0.99	-0.12	0.12
edu	0.01	0.01	1.95	0.05	0.00	0.02
hhsize	0.02	0.01	1.99	0.05	0.00	0.04
urban	-0.13	0.06	-2.00	0.05	-0.25	0.00
hill	-0.35	0.10	-3.59	0.00	-0.55	-0.16
terai	-0.15	0.16	-0.94	0.35	-0.45	0.16
edr	0.08	0.09	0.92	0.36	-0.09	0.26
cdr	-0.01	0.09	-0.12	0.90	-0.19	0.17
wdr	-0.21	0.10	-2.20	0.03	-0.41	-0.02
mwdr	0.38	0.09	4.08	0.00	0.20	0.57
population	0.00	0.00	-1.69	0.09	0.00	0.00
noofbank	-0.01	0.00	-2.82	0.01	-0.01	0.00
totalnoofs~l	0.00	0.00	5.09	0.00	0.00	0.00
_cons	-0.93	0.18	-5.12	0.00	-1.29	-0.58

Mixed-process regression
Number of obs = 5930
LR chi2(32) = 2352.91
Log likelihood = -15635.463 Prob > chi2 = 0.0000

	coeff	std.err.	Z	P>|z|	[95% Conf. Interval]	
hhmmedu_le~l						
age	0.05	0.00	16.22	0.00	0.04	0.06
sex	-0.61	0.10	-6.03	0.00	-0.81	-0.41
edu	0.33	0.01	36.14	0.00	0.31	0.34
hhsize	0.17	0.02	9.02	0.00	0.13	0.21
urban	1.21	0.10	12.28	0.00	1.02	1.40
hill	0.70	0.18	1.11	0.27	-0.15	0.54
terai	0.70	0.28	2.54	0.01	0.16	1.24
edr	-0.16	0.16	-0.97	0.00	-0.94	-0.32
cdr	-0.63	0.16	-3.97	0.00	-0.94	-0.32
wdr	-0.56	0.17	-3.30	0.00	-0.89	-0.23
mwdr	-0.58	0.18	-3.25	0.00	-0.93	-0.23
population	0.00	0.00	-5.09	0.00	0.00	0.00
noofbank	0.01	0.00	3.04	0.00	0.00	0.02
totalnoofs~l	0.00	0.00	4.42	0.00	0.00	0.00
micro	0.59	0.25	2.36	0.02	0.10	1.08
_cons	3.82	0.30	12.93	0.00	3.24	4.39

micro						
dist_bank	-0.01	0.00	-3.58	0.00	-0.01	0.00
Dist_coop	-0.01	0.00	-3.91	0.00	-0.02	-0.01
land_hec_tot|	-0.12	0.04	-2.95	0.00	-0.21	-0.04
age	-0.01	0.00	-2.88	0.00	-0.01	0.00
sex	0.00	0.06	-0.04	0.97	-0.12	0.12
edu	0.01	0.01	2.03	0.04	0.00	0.02
hhsize	0.02	0.01	1.97	0.05	0.00	0.04
urban	-0.14	0.06	-2.15	0.03	-0.26	-0.01
hill	-0.36	0.10	-3.66	0.00	-0.55	-0.17
terai	-0.16	0.16	-1.03	0.30	-0.47	0.14
edr	0.08	0.09	0.85	0.40	-0.10	0.26
cdr	-0.02	0.09	-0.24	0.81	-0.20	0.16
wdr	-0.22	0.10	-2.29	0.02	-0.41	-0.03
mwdr	0.39	0.09	4.10	0.00	0.20	0.57
population	0.00	0.00	-1.64	0.10	0.00	0.00
noofbank|	-0.01	0.00	-2.80	0.01	-0.01	0.00
totalnoofs~l	0.00	0.00	5.04	0.00	0.00	0.00
_cons	-0.92	0.18	-5.09	0.00	-1.28	-0.57
/lnsig_1	1.09	0.01	113.88	0.00	1.07	1.11
/atanhrho_12	-0.09	0.05	-1.60	0.11	-0.19	0.02
sig_1	2.97	0.03			2.91	3.02
rho_12	-0.09	0.05			-0.19	0.02

3. cmp (currentsch = age sex eduhhsize urban hill teraiedrcdrwdrmwdr population noofbanktotalnoofschool micro) (micro =dist_ba>nkdist_coopland_hec_tot age sex eduhhsize urban hill teraiedrcdrwdrmwdr population noofbanktotalnoofschool), indicators
> ($cmp_cont $cmp_probit)

```
   Source |       SS       df       MS              Number of obs =    5988
-------------+------------------------------           F( 15,  5972) =  353.74
    Model |  5555.29654    15  370.353103           Prob > F      =  0.0000
 Residual |  6252.55249  5972  1.04697798           R-squared     =  0.4705
-------------+------------------------------           Adj R-squared =  0.4691
    Total |   11807.849  5987  1.97224804           Root MSE      =  1.0232
```

currentsch	coeff	std err	t	P>|t|	[95% Conf. Interval]	
age	-0.02	0.00	-18.76	0.00	-0.02	-0.02
sex	-0.31	0.03	-9.37	0.00	-0.38	-0.25
edu	0.01	0.00	1.69	0.09	0.00	0.01
hhsize	0.42	0.01	68.52	0.00	0.40	0.43
urban	0.08	0.03	2.34	0.02	0.01	0.14
hill	-0.19	0.06	-3.28	0.00	-0.30	-0.08
terai	-0.20	0.09	-2.13	0.03	-0.38	-0.02
edr	-0.14	0.05	-2.59	0.01	-0.25	-0.03
cdr	-0.41	0.05	-7.71	0.00	-0.51	-0.30
wdr	-0.26	0.06	-4.62	0.00	-0.37	-0.15
mwdr	-0.13	0.06	-2.21	0.03	-0.25	-0.01
population	0.00	0.00	-2.70	0.01	0.00	0.00
noofbank	0.00	0.00	-0.61	0.54	0.00	0.00
totalnoofs~l	0.00	0.00	4.24	0.00	0.00	0.00
micro	0.17	0.04	4.31	0.00	0.09	0.25
_cons	1.12	0.10	11.40	0.00	0.92	1.31

Probit regression

Number of obs = 4566
LR chi2(17) = 153.05
Prob > chi2 = 0.0000
Log likelihood = -1707.4209 Pseudo R2 = 0.0429

micro	coeff	std err	z	P>|z|	[95% Conf. Interval]	
dist_bank	-0.01	0.00	-3.36	0.00	-0.01	0.00
dist_coop	-0.01	0.00	-3.80	0.00	-0.02	-0.01
land_hec_tot|	-0.14	0.04	-3.43	0.00	-0.22	-0.06
age	-0.01	0.00	-2.99	0.00	-0.01	0.00
sex	0.00	0.06	-0.01	0.99	-0.12	0.12
edu	0.01	0.01	1.95	0.05	0.00	0.02
hhsize	0.02	0.01	1.99	0.05	0.00	0.04
urban	-0.13	0.06	-2.00	0.05	-0.25	0.00
hill	-0.35	0.10	-3.59	0.00	-0.55	-0.16
terai	-0.15	0.16	-0.94	0.35	-0.45	0.16
edr	0.08	0.09	0.92	0.36	-0.09	0.26
cdr	-0.01	0.09	-0.12	0.90	-0.19	0.17
wdr	-0.21	0.10	-2.20	0.03	-0.41	-0.02
mwdr	0.38	0.09	4.08	0.00	0.20	0.57
population	0.00	0.00	-1.69	0.09	0.00	0.00
noofbank	-0.01	0.00	-2.82	0.01	-0.01	0.00
totalnoofs~l	0.00	0.00	5.09	0.00	0.00	0.00
_cons	-0.93	0.18	-5.12	0.00	-1.29	-0.58

Mixed-process regression

Number of obs = 5988
LR chi2(32) = 3941.34
Log likelihood = -10333.341 Prob > chi2 = 0.0000

currentsch	coeff	std err	z	P>|z|	[95% Conf. Interval]	
age	-0.02	0.00	-18.65	0.00	-0.02	-0.02
sex	-0.31	0.03	-9.38	0.00	-0.38	-0.25
edu	0.01	0.00	1.68	0.09	0.00	0.01
hhsize	0.42	0.01	68.53	0.00	0.40	0.43
urban	0.08	0.03	2.34	0.02	0.01	0.14
hill	-0.19	0.06	-3.25	0.00	-0.30	-0.07
terai	-0.20	0.09	-2.14	0.03	-0.38	-0.02
edr	-0.14	0.05	-2.61	0.01	-0.25	-0.04
cdr	-0.41	0.05	-7.73	0.00	-0.51	-0.30
wdr	-0.26	0.06	-4.61	0.00	-0.37	-0.15
mwdr	-0.13	0.06	-2.25	0.02	-0.25	-0.02
population	0.00	0.00	-2.67	0.01	0.00	0.00
noofbank	0.00	0.00	-0.58	0.56	0.00	0.00
totalnoofs~l	0.00	0.00	4.13	0.00	0.00	0.00
micro	0.20	0.08	2.69	0.01	0.06	0.35
_cons	1.11	0.10	11.37	0.00	0.92	1.31

micro						
dist_bank	-0.01	0.00	-3.38	0.00	-0.01	0.00
dist_coop|	-0.01	0.00	-3.82	0.00	-0.02	-0.01
land_hec_tot|	-0.14	0.04	-3.42	0.00	-0.22	-0.06
age	-0.01	0.00	-2.98	0.00	-0.01	0.00
sex	0.00	0.06	-0.03	0.98	-0.12	0.12
edu	0.01	0.01	1.96	0.05	0.00	0.02
hhsize	0.02	0.01	2.01	0.04	0.00	0.04
urban	-0.13	0.06	-2.01	0.05	-0.25	0.00
hill	-0.35	0.10	-3.58	0.00	-0.55	-0.16
terai	-0.15	0.16	-0.95	0.34	-0.45	0.16
edr	0.08	0.09	0.91	0.36	-0.10	0.26
cdr	-0.01	0.09	-0.13	0.90	-0.19	0.17
wdr	-0.22	0.10	-2.21	0.03	-0.41	-0.02
mwdr	0.38	0.09	4.07	0.00	0.20	0.57
population	0.00	0.00	-1.68	0.09	0.00	0.00
noofbank	-0.01	0.00	-2.82	0.01	-0.01	0.00
totalnoofs~l	0.00	0.00	5.08	0.00	0.00	0.00
_cons	-0.93	0.18	-5.12	0.00	-1.29	-0.58