The essence of financial exclusion economics essay

Economics

ABSTRACT

Despite many efforts in the last twenty years, access to finance has remained scarce in rural India. Inadequate access to financial services is considered one of the main reasons behind inadequate economic opportunity and poverty situation in the developing countries. The present study is a research paper conducted among rural households in Howrah and Murshidabad districts of West Bengal. The main aim of this paper is to explore the various factors behind the financial exclusion in West Bengal. The principal sources for financial exclusion generate from demand side and supply side factors. The study was based essentially on the primary data captured through a structured questionnaire and was administered to a total of 150 respondents. In order to find out causes behind the financial exclusion inside the demand and supply related factors, binary logistic regression method has been considered appropriate. The result of the analysis suggests that in demand side, income of the households, awareness and education have a significant role for financial exclusion. From supply side, cumbersome documentation process is having marginal effect on it. Thus, appropriate policies are required to solve these problems. Key words: Awareness, Credit Programme, Financial Exclusion, Institutional Credit and Logistic Regression.

INTRODUCTION

Financial inclusion is the new buzzword. With the Reserve Bank of India charting the path to the unbanked hinterland, private stakeholders, including technology driven start-ups, are rolling out innovative programmes to reach out to rural India. The term " Financial inclusion" is an important issue which

arises from the problem of financial exclusion of almost 40 per cent of the population in India excluded from formal financial systems. Financial inclusion is intended to connect people with banks for easy and affordable credit and other financial services for poor and vulnerable groups. Access to formal financial system creates enabling condition for accelerating growth and reducing inequality and poverty. " Financial inclusion is imperative for India to reap the benefits of its demographic dividend" (Chakrabarty, 2011). Inadequate access to financial services is considered one of the main reasons behind inadequate economic opportunity and poverty situation in developing countries. In most South Asian countries rural population comprises two third of the total population, where economic development is skewed towards urban areas, which drives inequality in income distribution. Rural societies in those countries have suffered continuous erosion in their standard of living. Poverty is the persistent and widespread problem with the majority of the poor people living in rural areas. Rural Financial services primarily include credit, saving, insurance and remittance services. Rural credit is a small amount of credit tied in income generation activities, while saving and insurance are used to protect and stabilize the families and livelihood of the people. Financial Exclusion is the lack of access by certain consumers to appropriate, low cost, fair and safe financial products and services from main stream providers (Chakrabarty, 2011). Three types of financial exclusion are: (a) People who do not have any access at all to a regulated financial system; (b) People who have marginal accessibility to banks and other financial services; and (3) People who have inappropriate products. In rural West Bengal some people desire to access the financial

services, but are denied. In India with a large rural population, Financial Exclusion has a geographic dimension. The intensity of financial exclusion in India is very acute in nature where we find that almost half the country is unbanked. According to Chakrabarty, only 55 percent of the populations have deposit accounts and 9 percent have credit accounts with banks and there is only one bank branch per 14, 000 people.

The Essence of Financial Exclusion

In the past two decades of Indian economic reforms it has been transformed into a higher growth plane which indicates the country has entered in the global stage. Due to structural rigidities, strong growth failed to improve the economic development. A large section of the people was deprived from the benefits of economic growth. So, it was the situation of growth but without development. Developing an Inclusive Financial System is one of the strategies for inclusive growth. The advantage of the financial inclusion is to ease economic transaction, improve standard of living, protect against vulnerability and make productivity augmenting investments. It has been realized that poor is bankable. The underlying principle for financial inclusion is taking banking services to the vulnerable sections and spreading financial knowledge. Since banking technology has arrived so the role of technology is taking financial services available & affordable to the rural poor in India.

LITERATURE REVIEW

Credit is an important commodity for improving the welfare of the poor especially in developing countries. A large number of factors play an important role in determining demand for a commodity by an individual.

Theory of Demand was propounded by a French economist Leon Walras (1834-1910) and he depicts the relationship between the demand for goods or services and prices which examines purchasing decisions of consumers and subsequent impact of prices on commodity demanded. According to Walras, price of a commodity influences its demand. There is an inverse relationship exists between the price of a commodity and the quantity demanded of the product. Keynesian consumption theory was based on developed economies. It analyzes the relationships between income, consumption and savings. In underdeveloped countries priority of the poor household is to meet their unfulfilled wants. So, poor households spend more on consumption as their income increases. Keynesian assumption was supported by Long (1968) through his empirical research work. He designed a formal model for household borrowing in India and Thailand. Household has to choose the allocation of wealth between present and future consumption, between holding capital in risky and less risky forms, and the allocation of time between labour and leisure. Inferences of the results signify that giving loans to poor households at low interest rates will do little to improve their plight unless the loans are accompanied by other inputs which shift their productions. A household’s accessibility to credit can be defined as the ability to borrow from different sources of credit (Diagne & Zeller, 2001). In All-India Rural Credit Survey of 1951-52 it had emphasised the link between improving access to finance and reducing poverty, a stance that has had influence globally (RBI, 1954). The first survey of rural indebtedness (All India Rural Credit Survey, or AIDIS) prepared by the Reserve Bank of India in 1947, documented that more than 90 percent of the rural credit needs fulfilled by

the moneylenders and other informal lenders. The share of banks was only about 1 percent in total rural household debt (Jayasheela & et al., 2012)Evans, Adams and Mohammed (1999) present a comprehensive conceptual framework for analyzing factors that affect households' accessibility to microcredit in Bangladesh, in which both household-related factors and programme-related factors are taken into account. View endorsed by the planning commission of India. Sparsely populated hilly areas with poor infrastructure, difficulty of access, lack of awareness among consumers, social exclusion, low income and illiteracy are some of the important reasons for financial exclusion in India (Throat, 2007). A society with financial exclusion also suffers from unemployment, reduced production levels and lack of productivity resulting in a high debt to output ratio as evidenced in the emerging economies (Hatchondo, Martines, and Sapriza, 2007). Li, Gan and Hu (2011) establish a conceptual framework to investigate households' accessibility to microcredit in rural China by focusing on the microcredit programme implemented by the Rural Credit Cooperatives (RCCs).

RESEARCH OBJECTIVES

To explore that the financial exclusion occurs due to the dual factors i. e., demand side and supply side factor. To measure households' accessibility to credit by empirically examining the influence of demand and supply factors.

METHODOLOGY

Sampling Techniques

For the present study survey based research has been adopted. Two districts of West Bengal viz., Howrah and Murshidabad have been covered. From two districts few blocks and under the block few villages have been selected. From those villages, households have been selected randomly and analyze their credit accessibility. Since, the selection of units based on factors which would be appropriate for the study, so, simple random sampling technique has been used for this research work. Sample size for the study is 150 respondents (75 from each district). One type of respondent has been covered for the present study. They are individual respondents. Accessibility of the institutional credit of the rural households depend upon many households parameters. Similarly supply of institutional credit is also having some limitations. The study shows the impact of those parameters on credit accessibility. Research Instrument: In order to achieve the objectives of the research, a structured questionnaire has been designed and supplied to the respondents for collecting the primary data. The time period of the research was from 2012-2013. Statistical Tools and Techniques: The data so collected were captured in SPSS 18 version for analysis and interpretation. Further, in order to address the objectives of the study, binary logistic regression technique is applied. Under that forward method logistic regression is considered to be appropriate, because it starts with single variable and adds one by one variable and tests significance and removes insignificant variables from the model.

Model

The study finds out that the financial exclusion and poverty in rural India is a non-mutually exclusive forces. Vicious circle of financial exclusion is a self-reinforcing force in which there are certain factors that are related in a circular way so as to result in continuation of poverty and underdeveloped in rural India. It examines the demand and supply factors influencing the accessibility of financial services by rural households. Demand-related factors are income, occupation, Interest rate charged on loans, age, education, number of dependents in a family, awareness and poverty that are hypothesized to affect households' demand for credit, which can directly influence households' accessibility to credit. This is because households' access to a certain type of credit can be conceptualized as a sequential decision making process that is initiated at the demand side (Zeller, 1994). The following diagram depicts the fact that, due to low demand for institutional credit by the rural households they are bearing the burden of exorbitant high rate of interest while accessing the non-institutional credit. Therefore, production of goods and services has fallen and subsequently disposable income of the borrowers goes down. This in turn, creates a lack of educational opportunity and dearth of awareness which cause a barrier in accessing institutional credit. This is the trap from which it is difficult to come out and it is named as vicious circle of financial exclusion.

Figure 1: Vicious circle of financial exclusion: Demand side factors

Source: Author's Research

Along with the demand-related factors, supply-related factors also influence the households' credit accessibility. For example, Umoh (2006) argues that the inaccessibility to credit is generally created by the lending policies of institutional agencies, which can be manifested by complicated application procedures, specified minimum loan amounts and prescribed loan purposes. The supply-side factors are related to the cost of credit where the distance to the nearest bank branch, branch timings, cumbersome documentation and procedures, unsuitable products, languages, staff attitudes etc. In figure 2, it delineates that supply of institutional credit decreases as cost of transaction increases. Therefore, return for lending falls or the cost of borrowing increases. So, amount of lending falls and the level of investment diminish. The rate of return falls due to low investment. Hence, there is a high probability that the borrowers become defaulter of the credit and once again the cost of transaction increases. This is supply side trap of the vicious cycle of financial exclusion. Thus, combination of demand and supply related factors create an impact of households' accessibility to credit.

Figure 2: Vicious circle of financial exclusion: Supply side factors

Source: Author's Research

This research paper attempts to measure households' financial exclusion by empirically examining the influence of demand and supply factors. Here, we investigate the impact of household's characteristics on account of getting

institutional credit. The characteristics of the households regarding the demand related factors are (i) gender; (ii) level of education; (iii) age; (iv) occupation; (v) preference of money lenders; (vi) purpose of taking loan. The characteristics of the households regarding the supply related factors are (i) household’s distances from bank branch; (ii) cumbersome documentation and procedures; (iii) unsuitable products; (iv) languages; (v) staff attitudesThis analysis has been performed from the perspective of borrowers in the sense that it can help both formal and informal lenders for understanding the possible reasons of barriers for institutional credit on the basis of factors other than collateral alone.

Method of Analysis

Probability of getting institutional rural credit in accordance with the demand and supply side factors have been analyzed by applying the forward method binary logistic regression technique as explained below: The empirical model is specified as follows: Where: Zji = α+ βjXjiα is a constant term; β is a vector of coefficients for the independent variables Xi. Pi is the estimated probability of a household having access to formal credit.(1-Pi) is the estimated probability of a household not having access to formal credit. Eq. (1) represents the cumulative logistic distribution function in a non-linear form. For the purpose of interpretation, it is usual to write the model in terms of log-odds ratio (Maddala, 2001). With a logit transformation, the estimated model will become a linear function of the explanatory variables, which is expressed as follows: is the odds ratio of a household having access to formal credit i. e., the ratio of the probability that a household will be having

access to formal credit to the probability that household not having access to formal credit. The parameters of these models estimated using SPSS 18.

DISCUSSION OF RESULTS

Table 1: Categorical Variables Coding

Independent Variables

Parameter Coding

Frequency

Percentage

Interest rate charged on loansHigh rate = 11912. 7%Moderate rate = 26442. 7%Low rate = 32416%Very low rate = 421. 3%Don’t know = 54127. 3%Education of borrowersNo education = 06946%Primary education = 14530%Secondary education = 23020%Higher secondary education = 364%Number of dependents in a familyLess than 2 = 07248%More than 2 = 17852%Technical and vocational trainingOtherwise = 07852%Formal training = 17248%Occupation of borrowerFarm = 04932. 7%Non farm = 110167. 3%Household awarenessNo = 096%Yes = 114194%Staff attitudesNot friendly = 05234. 7%Friendly = 19865. 3%Cumbersome documentation and proceduresNo = 05838. 7%Yes = 19261. 3%LanguagesNot difficult to understand = 011979. 3%Difficult to understand = 13120. 7%Household’s distances from branchLess than 1 Km = 05033. 3%More than 1 Km = 110066. 7%Source: Author’s Research

Table 2: Classification Tablea, b (Block 0: Beginning Block)

ObservedPredictedGetting institutional CreditPercentage

CorrectnoyesGetting institutional Creditno880100. 0yes620. 058. 7a.

Constant is included in the model. b. The cut value is . 500Source: Author’s ResearchThe questionnaire was administered to 150 respondents among the rural households in Howrah and Murshidabad districts of West Bengal. Dependent variable (getting institutional credit) and all the independent variables except age of the households and income are categorical variable. Categorical variables coding is presented in the Table 1. In table 2, block 0 means no predictor variable included in the model. The model includes only the intercept i. e., constant. Out of 150 respondents, 62 are getting institutional credit whereas 88 are not. Therefore, given the two situations, 58. 7% cases are not getting institutional credit. So, they are financially excluded households as far as the institutional credit is concerned.

Table 3: Variables in the Equation Under Demand Related Factors

BS. E. Sig. Odds Ratio [Exp(B)]95% C. I. for Odds RatioLowerUpperDemand Related FactorsStep 1aincome. 228. 037. 0001. 2561. 1671. 350Constant-13. 6232. 186. 000. 000Step 2bincome. 252. 042. 0001. 2861. 1841. 397awareness(1)-2. 6891. 326. 043. 068. 005. 915Constant-12. 3982. 060. 000. 000Step 3cincome. 160. 048. 0011. 1741. 0681. 291awareness(1)-2. 9081. 401. 038. 055. 004. 850education. 060education(1)2. 403. 884. 00711. 0601. 95562. 562education(2)2. 2231. 077. 0399. 2371. 11976. 222education(3)20. 70414746. 774. 9999. 810E8. 000

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Constant-8. 6292. 263. 000. 000a. Variable(s) entered on step 1: income. b. Variable(s) entered on step 2: awareness. c. Variable(s) entered on step 3: education. Note: R2 = 0. 52 (Hosmer and Lemeshow), 0. 50 (Cox and Snell),

0. 68 (Nagelkerke). Model Chi-square (3) = 105. 10, p < 0. 01Source: Author’s Research

Table 4: Variables in the Equation Under Supply Related Factors

BS. E. Sig. Odds Ratio [Exp(B)]95% C. I. for Odds RatioLowerUpper

Supply Related Factors

Step 1aDocumentation(1)-2. 399. 395. 000. 091. 042. 197Constant1. 053. 300. 0002. 867a. Variable(s) entered on step 1: documentationNote: R2 = 0. 21 (Hosmer and Lemeshow), 0. 25 (Cox and Snell), 0. 34 (Nagelkerke). Model Chi-square (1) = 43. 40, p < 0. 01Source: Author’s ResearchIn order to identify the sources of financial exclusion through the demand and supply sides, the binary logistic regression technique has been considered appropriate. The method has been chosen because of the exploratory nature of the study and the advantage of the likelihood test. The Table 3 shows the results of the variables in the equation under demand related factors. It is crucial because it depicts the estimates for the coefficients for the predictors included in the model. It shows the model parameters for three steps in the hierarchy. Now, the first step in the hierarchy was to include income only and the predictor contributed significantly (as p < 0. 05) to the prediction whether they are getting institutional credit or not. In step 2, income and awareness (1) have been included in the model. Awareness (1) means households are having awareness regarding the institutional credit. Along with income, awareness also contributed significantly to the prediction, since p < 0. 05. The best model is usually the last model i. e. step 3. It contains variables: income, awareness and education. It is noted that education of

borrowers contributed insignificantly to the prediction as p > 0. 05. But, primary education (education 1) and secondary education (education 2) are having significant explanatory power to the prediction, as p < 0. 05, whereas, higher education (education 3) is insignificant to the prediction, because p > 0. 05. Similarly, in Table 4, the result of the variable in the equation under supply related factors, shows that cumbersome documentation and procedures for getting institutional credit contributed significantly to the prediction as p < 0. 05. The b-values are used for predicting the dependent variable from the independent variable in the logistic regression equation. Hence, it shows the relationship between demand for institutional credit and each predictor. It estimates the change in the predicted log odds of dependent variable by one unit increase (or decrease) in the predictor, holding all other predictors constant. The prediction equation through demand related factor is:

Log (p/1-p) = -8. 629 + 0. 160 Income – 2. 908 Awareness (1) + 2. 403 Education (1) + 2. 223 Education (2) + 20. 704 Education (3)equation (4)

Income (b = 0. 160): The value indicates that as income of the households' increases by one unit (measured in thousands) then we expect, 0. 160 increase in the log-odds of getting institutional credit, holding all other independent variables constant. Awareness (1) (b = - 2. 908): If the households' awareness increases by one unit, we expect a 2. 908 decrease in the log-odds of getting institutional credit. Education of borrowers: The overall variable education is statistically insignificant. There is no coefficient listed, because education is not a variable in the model. Rather, dummy

variables which code for education are in the equation, and those have coefficients. However, as we can see the coefficient for two dummies are statistically significant while the other one is not. The reference group is level 0 i. e., no education. So, Education (1), Education (2) and Education (3) coefficients represent the difference between level 1 of education and level 0, difference between level 2 of education and level 0 and difference between level 3 of education and level 0 respectively. In table 4, b- value is -2. 399 indicates that as documentation process for institutional credit become more complex, we expect a 2. 399 decrease in the log-odds of getting institutional credit, holding all other independent variables constant. The prediction equation through supply related factor is:

Log (p/1-p) = 1. 053 – 2. 399 Documentation (1) equation (5)

Exp(B) are the odds ratios for the predictors. Odds ratio can be interpreted in terms of the change in odds. If the value exceeds 1 then the probability of outcome occurring increases; if it is less than 1, the probability of outcome occurring decreases due to any increase in the predictor. In table 3 of step 3, there is no odds ratio for the variable education because education was not entered into the logistic regression equation. The odds ratio for the variable income is 1. 174. Hence, if income of the household is raised by one unit (in thousand rupees) then the probability of getting institutional credit increases by 1. 174 times or 117. 4 % having allowed for awareness and education in the model. Similarly, odds ratio for awareness is 0. 055. Hence, if awareness is raised then the probability of getting institutional credit decreases by 0. 055 times or 5. 5% when income and education are given in the model. The odds ratio for the variable education (1) is 11. 060 indicates as households

are getting the opportunity of education and it is increased from primary to secondary level then the probability of getting institutional credit increases by 11. 060 times. The odds ratio for education (2) is 9. 237 shows the probability of getting institutional credit increases by 9. 237 times as households are getting opportunity to promote themselves from secondary to higher secondary level. The odds ratio for education (3) is 9. 810 signifies as households are able to advance their education from higher secondary to graduate level then the probability of getting institutional credit increases by 9. 810 times. On the other hand, EXP(B) in table 4, is 0. 091 specifies that probability of getting institutional credit decreases by 0. 091 times or 9. 1% due to increase in exhaustive documentation process. Hosmer and Lemeshow's R2 is the proportional reduction in the absolute value of the log-likelihood measure and as such it is a measure of how much the badness of fit improves as a result of the inclusion of the predictor variables (Field, 2009). Its range is 0≤ R2 ≤ 1. R2 = 0 indicates that the predictors are useless at predicting the outcome variable whereas, R2 = 1 means that the predictors are perfect at predicting the outcome variable. In our study, Hosmer and Lemeshow's R2 for demand related factor is 0. 52, so the predictors like income, awareness and education are good enough to predict the outcome variable. The Cox and Snell pseudo R2 statistic value 0. 50 delineates that all the independent variables in the logistic regression model collectively account 50 percent the explanation for whether rural households will get institutional credit or not. Nagelkerke's R2 will normally be higher than the Cox and Snell measure. In our case it is 0. 68 which indicates a moderately strong relationship of 68 percent between the predictors and the

prediction. The model chi-square value 105. 10 is statistically significant at a 0. 01 level so the model is better to predict the outcome variable. Similarly, for supply related factors Hosmer and Lemeshow’s R2 value is 0. 21. So, the Cumbersome documentation and procedures predictor is not so good enough to explain the outcome variable. The Cox and Snell pseudo R2 statistic value 0. 25 signifies that the independent variable in the logistic regression model account for 25 percent the explanation for whether rural households will get institutional credit or not. Nagelkerke’s R2 value is 0. 34 which indicates a weak relationship of 34 percent between the predictor and the prediction. The model chi-square value 43. 40 is statistically significant at a 0. 01 level so the overall model is predicting whether a households get institutional credit or not significantly better than it was with only the constant included.

SUMMARY AND POLICY IMPLICATION

The present study evaluates that the vicious circle of financial exclusion of the rural households is due to the cause of both demand side and supply side factors. The paper suggests some important results on which institutional lenders such as Commercial banks, Co-operative banks, Regional Rural banks and policy planners can design an appropriate credit programme. The results of the study indicate that as income of the households increases the probability of getting institutional credit increases. So, in order to improve the financial inclusion programmme, implement of the employment generation policy may improve the per capita income of the rural households. Surprisingly it has been found that as awareness of the households increases probability of getting institutional credit falls. One of

the reasons could be accessing non-institutional credit is much easier than the institutional credit. Therefore, awareness programmes must be initiated by the government as well as by the bank unions or bank associations on a regular basis. Education of the households is another stimulating factor for enhancing institutional credit accessibility. As, households are promoted to higher level of education their chance of accessing institutional credit increases. Stringent documentation process reduces the chance of getting institutional credit. So, it is recommended that documentation process must be lenient, simple and understandable. Due to lack of explanatory power of documentation process, it suggests that there must be some other factors which are underlying for supplying the credit to the rural households. Finally the lesson learnt from the analysis that financial exclusion and poverty in rural India is a non-mutually exclusive force and it falls in a vicious circle. To come out from this, a big- push is required by the policy planners, bank associations and the government. The study is limited by certain shortcomings in the data set, mainly due to lack of data from two districts of West Bengal only. Therefore, due to limited scope of this study there is room for improvement through future research.