***Impact of Relationship on Access to Bank Financing for Microenterprises: Empirical Evidence from an Emerging Economy***

**ABSTRACT**

 In this study hypotheses were tested regarding the impact of relationship on access to bank financing for micro enterprises. The empirical analysis was conducted using data collected from the banks of Bangladesh and micro enterprises operating in Bangladesh. The empirical results suggest that micro enterprises in Bangladesh has better access to bank financing as the year of relationship increases with the financing bank. Our findings also suggest that, the length of relationship is crucial factor for the micro enterprises in Bangladesh in receiving financing irrespective of bank ownership structure.

***Keywords****:* Micro enterprises, Relationship, Banks, Bangladesh

JEL Classification: G21, G23, G38

**1. Introduction**

Access to finance of micro enterprises has beena subject of substantial importance for both the policymakers and researchers because micro enterprises are contributing significantly in employment generation and economic growth throughout the world especially in emerging economies. But there is a general perception that these micro enterprises are financially constrained and these enterprises have disadvantages in getting financing from formal sources such as banks because of their information opacity characteristics and inability to provide collateralisable assets (Schiffer and Weder 2001, Beck and Demirguc-Kunt 2006; Berger and Udell, 1998). The business and financial conditions of these enterprises led to difficulties of them to reduce their credit risk which results in credit rationing and strict credit condition when applying for bank financing (Belas *et al.* 2015; Lenka *et al.* 2014).

 The duration of a bank-borrower relationship (length) has become the most commonly used proxy for measuring relationship lending in applied empirical work for small- and medium-sized enterprises (SMEs) and micro enterprises. It is also highlighted in numerous literature that financing small and micro enterprises requires special relationship building which helps the banks to better know more private and soft information of a firm (Berger et al., 2014; Berger and Udell, 2005). The generation of soft information and its proper and careful investigation increases the lending efficiency of a bank which led to reduction of credit risk and ultimately increases the access to financing of firms (Berger and Black, 2011; Belas et al., 2014a; Cole et al., 2004; D’Aurizio et al., 2015, Rahman and Rahman, 2016).

 In order to provide comprehensive evidence, we have focused our analysis on the micro enterprises of Bangladesh because the micro enterprises in Bangladesh has huge contribution to the economic growth, economic development and employment generation. Moreover, the government of Bangladesh has taken some important financial inclusion initiatives to bring small and micro enterprises under the formal banking umbrella but still many small and micro enterprises are out of the formal banking system and prefer informal sources to meet financial need. These firms are considered as “missing middle” who are still outside of the formal banking system.

 Using data from 500 micro enterprises in Bangladesh, this study tests the effect of relationship on access to bank financing using a probit model. The results suggest that micro enterprises in Bangladesh have better access to bank financing if they maintain longer relationship with the bank.

 To confirm the result, we carried number of additional analysis. Additional analyses were performed across different bank ownership structure. Also, additional analyses were performed by split up the sample based on gender of the owner of the micro enterprise and based on financing application time. To confirm the robustness of our results, we performed some more analyses. Additional tests were also carried out using return on assets (ROA) instead of monthly average profit as a measure of an firm’s financial health, and firm invested capital rather than number of employees as a measure of firm size. Also, additional tests were performed using two additional variables: asset specificity of the enterprise (total assets / total number of employees) and debt ratio of the enterprise (debt / total assets). Moreover, additional tests were carried out by split up the sample based on the purpose of financing. In all of these tests, the results do not show significant change indicating better access to financing of micro enterprises while maintaining longer relationship with bank.

 This paper makes a number of contributions to the literature on micro enterprises lending. First, in this paper, we have investigated the impact of relationship on access to financing of micro enterprises where prior research on this topic is hardly found till date.

 Second, we investigated the impact of relationship on micro enterprise’s access to financing in the context of an emerging economy country like Bangladesh. Banks are highly significant source of financing in emerging economies and small and micro enterprises play crucial role in the economic development of the emerging country. The Bangladesh banking system has distinctive types of banks with nationwide branch networks. The empirical findings of this research are highly beneficial for policy implications in emerging markets like Bangladesh.

 Third, this study is helpful in understanding the issue relationship lending and access to financing of micro enterprises across different bank ownership structure.

 Fourth, in this study we have used specific data which were not included in previous studies such as the effect of Covid-19 pandemic on relationship lending and access to financing. Covid-19 is a new experience for the world and it has brought numerous changes.

 The remainder of the paper is organized as follows. Section 2 provides theoretical background and develops hypotheses. Section 3 presents the data and summary statistics. Section 4 describes the empirical method used, section 5 discusses the main empirical results. Some additional analysis was done in section 6. Section 7 reports the robustness tests and Section 8 presents the conclusion.

**2. Theoretical Background and development of hypothesis**

 Based on information asymmetry theory, the main cause that hinders small and micro enterprises to receive financing from formal sources such as banks is the informational opacity of these firms. Because of this information opacity problem raised from information asymmetry prevents small and micro enterprises to receive financing from formal sources thus induces to receive financing from sources which are usually not standardized, more expensive and highly complex. Because of some organizational features, small and micro enterprises cannot provide actual information of business to the financer in a transparent way. Many small and micro enterprises do not use conventional tools such as audited financial statements to better communicate with outsiders which causes the problem of information asymmetry (Infelise, 2014).

 Relationship lending has been repeatedly reported by many researchers to be more small firm friendly (Petersen & Rajan, 1994; Berger & Udell, 2002) because it is widely believed that relationship lending is helpful in mitigating the problem of information asymmetry which eventually lead to increased access to finance of small and micro enterprises. Firms with a longer relationship with their financing bank incur a lower incidence of pledging collateral and higher evidence of access to financing (Berger and Udell, 1995; Harhoff and Ko ̈rting, 1998).

 Access to financing is higher and pledging of collateral is lower as the relationship between bank and borrower matures and it is also consistent with banks producing private information about the quality of the borrower mentioned by the financial intermediation literature (Diamond, 1991; Rama- krishnan and Thakor, 1984). Greater relationship increases credit availability and lower collateral requirements (Chakraborty and Hu 2006; Jimenez, Salas, and Saurina 2006; Voordeckers and Steijvers 2006; Brick and Palia 2007; Steijvers, Voordeckers, and Vanhoof 2010; Bharath et al. 2011).

 Relationship lending improves the bank’s knowledge regarding the characteristics of the firm and its projects which makes it less risky for the bank to grant a financing request. From the borrower’s side, this translate into an increased availability of loan and lowers the cost of capital (Petersen and Rajan 1994; Boot and Thakor 1994; Berger et al. 2001).

 However, some studies also reported that relationships with bank may not guarantee access to credit and less collateral requirement because financing decision may be based on the perception of the competence of the small firm’s owner’s(Moro, Fink, & Kautonen, 2014). Banks use relationship lending in coexistence with other lending technologies (Bartoli et al, 2013) which suggests that relationship lending and access to financing and collateral are complementary.

 Some literatures suggested that a solid relationship might be detrimental for the borrower if the financing bank is the first and the only lender to the firm (Elsas and Krahnen 1998). The financing bank might utilize its information monopoly and might charge high interest rates or might demand more collateral using its ex post superior bargaining power (Sharpe 1990).

 Theoretical and empirical research on relationship lending and access to financing of micro firms presents diverse and conflicting results. One strand of literature reports that longer relationship with a financial institution ensures higher access to financing. The other strand of literature argues that because of durable relationship lenders exploit borrowers by their advantage in information and thus lower access to financing. Considering the significance of length of relationship in getting financing from banks, following H1 has been formulated

**H1: There is a negative relationship between the length of the relationship and access to financing by micro firms of Bangladesh.**

**3. Data and summary statistics**

**3.1 Sample and data**

 This research is based on primary data collected from micro enterprises operating in Bangladesh as there is no database available in Bangladesh providing the financing histories of micro enterprises. A structured questionnaire was prepared first and then face-to-face in-depth interview were conducted for 500 microenterprises. 500 microenterprises are randomly selected from all eight divisions of Bangladesh. In Bangladesh, by definition, the microenterprises are those having less than 10 works.

**Table 1 Distribution of Sample**

|  |  |
| --- | --- |
| Division/Region | Number of SMEs |
| Dhaka |  180 |
| Barisal |  29 |
| Rajshahi |  87 |
| Chattogram |  75 |
| Khulna |  55 |
| Rangpur |  40 |
| Sylhet |  25 |
| Mymensingh |  9 |
| Total |  500 |

This table represents the total number of micro enterprises in the sample from different regions. There are eight regions in Bangladesh which are popularly known as “divisions”. The number of sample micro enterprises for each division is proportional to the total number of micro enterprises in each division.

 The sample microenterprises of this study are diverse in terms of financial condition, number of employees, age and financial condition. Both male-owned and female-owned microenterprises were included in the study. The questionnaire used in this study consisted of several questions regarding year of relationship with bank, financing history, financial condition and characteristics of the microenterprise and it’s manager.

**3.2 Variables**

 For testing the Hypotheses, access to bank finance is the dependent variable of this study. The value of this variable equals 1 if the microenterprise has received financing from any schedule bank of Bangladesh, and the value of this variable equals 0 if the microenterprise did not receive financing. The most recent financing application was considered here. The independent variable of this study is the relationship and this variable indicates the number of years of relationship the microenterprise has with the financing bank.

 Number of control variables have been used in this study indicating firm characteristics and the manager characteristics of the microenterprise. The details of the control variables are as follows-

 Firm-specific characteristics: Important firm-specific characteristics have been used in this study as control variables such as the monthly average sales and profit of the microenterprise, age of the enterprise, industry in which the firm operates (manufacturing or service), ownership structure and number of employees.

 SME manager characteristics: Important manager characteristics have been used in this study as control variables such as age of the manager, number of years of work experience of the manager and educational qualification of the manager. In most cases owner himself/herself is the manager of the micro enterprise.

**Table 2 Variable definitions**

|  |  |  |
| --- | --- | --- |
| Variable Name | Symbols | Definition |
| 1. Dependent Variable |  |  |
| Access to finance  | AccessFin | =1 if micro firm has received financing from a bank.  |
| 2. Independent Variable |  |  |
| Length of relationship | RELATIONSHIP | Number of years of relationship the firm has with financing bank |
| 3. Control Variables |  |  |
| Firm-specific characteristics |  |  |
| Sales | Log\_sales |  monthly average sales of the firm (measured in USD) |
| Profit | Log\_profit | monthly average profit of the firm (measured in USD) |
| Age | Log\_age |  number of years the firm has been in operation |
| Ownership Structure | Sole\_owner | =1 if the firm is a sole-proprietorship business |
| Industry | INDUSTRY | =1 if the firm operates in a manufacturing industry, 0 if operates in a service industry |
| Firm Size | Log\_employee |  total number of employees working in the firm |
| SME-manager characteristics |  |  |
| Manager’s experience  | Manager\_experience | number of years of working experience the firm manager has |
| Log Manager’s age | Manager\_age | The age of the firm manager |
| Manager’s education | Manager\_edu | =1 if the firm manager is a graduate |

This table describes the variables used in this study indicating dependent variable, independent variable, and control variables. In this study there is one dependent variable , one independent variable, and nine control variables.

**3.3 Descriptive statistics**

 Table 3 presents a summary of the descriptive statistics of all variables used in this study. Around 59% micro enterprises have received financing from a bank. The average length of relationship the micro enterprise has with banks is around 7 years. Around 37% surveyed micro enterprises are owned by single owners. The average age of the sample micro enterprise is around 14 years and average experiences of the firm managers are around 12 years.

**Table 3 Descriptive statistics of sample SMEs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Mean | Std. Dev. | Min | Max |
| AccessFin | .589 | .495 | 0 | 1 |
| RELATIONSHIP | 6.881 | 3.241 | 1 | 19 |
| Log\_sales | 2.641 | 1.045 | .100 | 20 |
| Log\_profit | .536 | .745 | .100 | 4 |
| Log\_age | 14.012 | 2.134 | 3 | 40 |
| Sole\_owner | .368 | .423 | 0 | 1 |
| INDUSTRY | .693 | .135 | 0 | 1 |
| Log\_employee | 8 | .254 | 2 | 9 |
| Manager\_experience | 12.110 | 1.322 | 3 | 27 |
| Manager\_age | 35 | 1.001 | 25 | 57 |
| Manager\_edu | .135 | 0.428 | 0 | 1 |

This table presents the descriptive statistics of the sample micro enterprises used in this study. AccessFin is the dependent variable set as a dummy variable. RELATIONSHIP is the independent variable to test the hypotheses of this study. Log\_age, Log\_profit, Log\_sales, Sole\_owner, INDUSTRY, Log\_employee, Manager\_experience, Manager\_age and Manager\_edu are control variables; dummy variables are used for Sole\_owner, INDUSTRY and Manager\_edu.

**4. Empirical analysis method**

 To test the hypothesis and investigate the impact of year of relationship on access to bank finance of microenterprises, following regression model has been used-

 Model for testing hypotheses:

$AccessFin= α+ β RELATIONSHIP+γ\_{1}Log\\_sales +γ\_{2}Log\\_profit + γ\_{3}Log\\_age +γ\_{4}Sole\\_owner + γ\_{5}INDUSTRY+ γ\_{6}Log\\_employee +γ\_{7}Manager\\_experience +γ\_{8}Manager\\_age+γ\_{9}Manager\\_education + μ\_{i}$

 Here, y the outcome variable represents access to finance indicating whether a loan application of a microenterprise is approved or not, such that-

$y\_{ij}$ = 1 if the loan request of firm is accepted

 And 0, otherwise

 The dependent variable used in this study (AccessFin) is a dichotomous variable therefore we estimated the parameters using probit model. Because, the use of ordinary least squares (OLS) method would result in a linear probability model (LPM) if the stochastic error term is distributed with mean 0 and variance 1. The assumption of the LPM is $0\leq P(y=1|x\_{1},x\_{2},.....,x\_{k})\leq 1$, which limits the application of OLS in this case. In this study we have used a set of control variables representing characteristics of the microenterprise and its manager. In model 1, we have considered only the variables which represents characteristics of the microenterprise only. Then we have considered both the variables representing characteristics of the microenterprise and characteristics of the manager in the final model.

**5. Empirical analysis and results**

**5.1 Baseline analysis**

 To investigate the impact of microenterprises relationship with bank and access to finance, we ran the ordinary probit regression model. Table 4 represents the results of the probit models. The first column shows the results of model 1, which includes control variables of the firm specific characteristics. Model 2 includes both firm specific characteristics and SME manager characteristics.

**Table 4 Access to financing of micro enterprises and relationship with bank**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | Model 1Coefficient | AME | Model 2Coefficient | AME |
| RELATIONSHIP | .53\*\*\*(.17) | .31 | .59\*\*\*(.11) | .33 |
| Log\_sales | .12\*(.09) | .06 | .09\*(.07) | .03 |
| Log\_profit | .08\*\*(.13) | .15 | .11\*\*(.07) | .13 |
| Log\_age | .24\*\*\*(.20) | .10 | .20\*\*\*(.14) | .09 |
| Sole\_owner | .13(.21) | .12 | .11(.19) | .15 |
| INDUSTRY | .45\*\*(.32) | .16 | 52\*\*(.37) | .19 |
| Log\_employee | .15\*\*(.16) | .05 | .17\*\*(.18) | .08 |
| Manager\_experience |  |  | .10\*(.07) | .03 |
| Manager\_age |  |  | .13(.15) | .04 |
| Manager\_edu |  |  | .33\*\*(.23) | .14 |
| N | 500 |  | 500 |  |
| Pseudo.R-Square | 0.31 |  | 0.37 |  |

is This table presents the results of the probit models and Average Marginal Effect (AME) of the models for micro enterprises access to financing and relationship with banks. The main variable of interest RELATIONSHIP variable is significant at the 1% level in the two models. Standard errors in parentheses. Significance levels: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1

 From the analysis of the models, it is found that the coefficient of the variable RELATIONSHIP is positive and statistically significant at the 1% level; this implies that a microenterprise that maintains longer relationship with a bank is more likely to receive financing from the bank. The average marginal effect of estimates of the variable RELATIONSHIP is 0.33 in the final model, which indicates that application of a microenterprise for a loan from a bank is 33% more likely to be approved when it maintains longer relationship with bank compared to maintaining short duration of relationship with bank. This supports our hypothesis.

 The relationship lending theory can better explain this finding. The financing bank knows properly the quality of the firm because of longer relationship which ultimately reduces the problem of information asymmetry. If one enterprise has long relationship with its financing bank and it has proved its creditworthiness in the past then it is quite usual that the financing bank now better knows about the less default possibility of the firm and approve financing request. In Bangladesh, the longer relationship of the firms with the financing bank most of the time goes beyond professional relationship with the banker and banker exercises authority and favors the microenterprises by approving credit application.

 Most of the control variables, such as profit, sales, number of employees, experience of the manager, educational qualification of the manager found to be significant, suggesting that banks in Bangladesh consider these variables before making financing decisions.

 Among the control variables, the age variable had a significant impact. The estimated coefficient of this variable is positive at the 1% level of significance, implying that microenterprises have higher chance of getting financing from a bank if they are in operation for long period of time. This indicates that, banks can better know the credit history of the firm which are in operation for long time compared to new firms. Also, banks can believe that older firms are in operation for long time because they have enough sales and profit to continue business which proves financial strength of the enterprise. According to prior studies, it is easier for the older firms to show past business information which enhances possibility of getting financing and reduces collateral requirements. Moreover, according to relationship lending theory, older firms are engaged in long-term relationships with their financing banks that reduces strict financing conditions for small businesses (Berger, Udell 1995).

**6. Additional analysis**

**6.1 Analysis Across bank ownership structure**

In this section we extend our analysis of access to financing of micro enterprises and relationship with bank across bank ownership structure. We found that, our sample micro enterprises have approached for financing to state-owned banks (banks owned by government), private banks (banks owned by individual or private entities) and specialized banks (banks serving special activity). We re-ran our models based on different bank ownership structure and the results are quite consistent with our previous results indicating that a microenterprise that maintains longer relationship with a bank is more likely to receive financing from the bank.

**Table 5 Access to financing of micro enterprises and relationship with bank across different bank ownership structure**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | Model 1Coefficient | AME | Model 2Coefficient | AME |
| State-owned banks | .92\*\*(.33) | .11 | .80\*\*(.47) | .09 |
| Private banks | .67\*\*\*(.17) | .16 | .83\*\*\*(.42) | .12 |
| Specialized banks | .74\*\*(.18) | .10 | .55\*\*(.24) | .07 |
| Control | Yes | Yes | Yes | Yes |
| N | 500 | 500 | 500 | 500 |

T This able presents the results of the probit models and Average Marginal Effect (AME) of the models for micro enterprises access to financing and relationship with banks across bank ownership structure. The State-owned banks and Specialized banks variable are significant at the 5% level in the two models. The Private banks variable is significant at the 1% level in the models. Standard errors in parentheses. Significance levels: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1

* 1. **Re-estimating models with sub-sample of firms based on gender of the owner**

 Here, we have re-estimated our original models based on the gender of the owner of the firm. For ensuring women empowerment it is essential to include women in the financial system. Easy access to bank financing assists women to start their own venture and contribute to the economic development. The Bangladesh government has taken several initiatives to involve women entrepreneurs in financial system, such as providing financing without collateral and at low interest rates and prioritizing women entrepreneurs in providing bank financing. Here, we split up the sample into two groups, one group of firms owned by men (N=302) and another group of firms owned by women (N=198). Then models have been re-estimated for these two sub-groups where results are quite unchanged with previous results.

**Table 6 Re-estimating models by split up the sample based on gender**

|  |  |  |
| --- | --- | --- |
| Variables | Model 1 | Model 2 |
| *Panel A:*Sub group 1(Men Owner)  |  |  |
| RELATIONSHIP | 1.43\*\*\*(.12) | 1.92\*\*\*(.38) |
| Control | Yes | Yes |
| N | 302 | 302 |
| *Panel B:*Sub group 2(Women Owner)  |  |  |
| RELATIONSHIP | .58\*\*\*(.26) | .55\*\*\*(.24) |
| Control | Yes | Yes |
| N | 198 | 198 |

T This table presents the results of the probit models and Average Marginal Effect (AME) of the models for micro enterprises access to financing and relationship with banks when we split up the sample into two groups based on gender of the owner of the enterprise. The main variable of interest RELATIONSHIP variable is significant at the 1% level for the both sub-groups. Standard errors in parentheses. Significance levels: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1

**7. Robustness tests**

**7.1 Alternative measure of Firm size and Financial strength**

 First, as robustness tests, we have used alternative measures of two important variables used in our study. First. We have used return on assets (ROA) instead of monthly average profit as a crucial measure of the financial health of the surveyed firms, and invested capital of the firm instead of number of employees as a measure of firm size. Here, we found that, the results remain almost the same for the variable of interest. These results suggests that our results do not suffer significantly from endogeneity bias.

**Table 7 Re-estimating models using alternative measure of financial strength and firm size**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | Model 1Coefficient | AME | Model 2Coefficient | AME |
| RELATIONSHIP | .41\*\*\*(.13) | .29 | .49\*\*\*(.14) | .31 |
| Log\_sales | .15\*(.19) | .08 | .13\*(.06) | .07 |
| Log\_profit | .18\*\*(.14) | .16 | .16\*\*(.17) | .14 |
| Log\_age | .22\*(.18) | .09 | .19\*(.16) | .08 |
| Sole\_owner | .15(.24) | .11 | .15(.25) | .10 |
| INDUSTRY | .41\*\*(.29) | .15 | .43\*\*(.30) | .17 |
| Log\_employee | .35\*\*(.31) | .10 | .38\*\*(.38) | .11 |
| Manager\_experience |  |  | .11\*(.09) | .05 |
| Manager\_age |  |  | .15(.13) | .07 |
| Manager\_edu |  |  | .37\*\*(.26) | .16 |
| N | 500 |  | 500 |  |
| Pseudo.R-Square | 0.30 |  | 0.35 |  |

T This table presents the results of the probit models and Average Marginal Effect (AME) of the models for micro enterprises access to financing and relationship with banks when we have re-estimated the models using alternative measure of profit and firm size. The main variable of interest RELATIONSHIP variable is significant at the 1% level in the two models. Standard errors in parentheses. Significance levels: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1

* 1. **Re-estimating models with new variables “Asset specificity” and “Debt ratio”**

 Next, following Voordeckers and Steijvers (2006), we have added two more additional variables “Asset specificity” (total assets / total employees) and “Debt ratio” (debt / total assets) as additional control variables. These two variables are crucial indicators of a firm’s financial health. After re-estimating our original models, we found that, the regression results did not change significantly; the results are almost the same for the variable of interest.

**Table 8 Re-estimating models using new variables “Asset specificity” and “Debt ratio”**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variables | Model 1Coefficient | AME | Model 2Coefficient | AME |
| RELATIONSHIP | .58\*\*\*(.18) | .25 | .53\*\*\*(.15) | .23 |
| Log\_sales | .14\*(.18) | .07 | .16\*(.12) | .06 |
| Log\_profit | .57\*\*(.89) | .12 | .62\*\*(.87) | .11 |
| Log\_age | .15\*(.09) | .06 | .14\*(.10) | .04 |
| Sole\_owner | .32(.13) | .15 | 39(.10) | .14 |
| INDUSTRY | .14\*\*(.20) | .14 | .16\*\*(.24) | .16 |
| Log\_employee | .23\*\*(.27) | .11 | .24\*\*(.33) | .13 |
| Manager\_experience |  |  | .15\*(.20) | .05 |
| Manager\_age |  |  | .89(.18) | .08 |
| Manager\_edu |  |  | .30\*\*(.71) | .14 |
| N | 500 |  | 500 |  |
| Pseudo.R-Square | 0.34 |  | 0.38 |  |

T This table presents the results of the probit models and Average Marginal Effect (AME) of the models for micro enterprises access to financing and relationship with banks when we have re-estimated the models using two new variables. The main variable of interest RELATIONSHIP variable is significant at the 1% level in the two models. Standard errors in parentheses. Significance levels: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1

**7.3 Re-estimating models by split up the sample based on purpose of the financing**

 Third, in this step, we have evaluated the robustness of our results with respect to the purpose of the financing. Purpose is a crucial determinants of bank financing. In Bangladesh, micro enterprises are mainly financed by banks for two purposes; business expansion purpose and operating expense purpose. We are interested in testing whether the results changed significantly when we split the sample into business expansion purpose (N=265) and operating expense purpose (N=235). Table 9 reports the regression results for sub-samples of business expansion purpose and operating expense purpose loans where results are not changed with previous results indicating robustness of our results.

**Table 9 Re-estimating models by split up the sample based on purpose of the financing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Sub-group1 (business expansion purpose) |  |  Sub-group2 (operating expense purpose) |  |
| Variables | Model 1 | Model 2 | Model 1 | Model 2 |
| RELATIONSHIP | .44\*\*\*(.81) | .43\*\*\*(.78) | .48\*\*(.77) | .42\*\*\*(.75) |
| Control | Yes | Yes | Yes | Yes |
| N | 265 | 265 | 235 | 235 |

 This table presents the results of the probit models and Average Marginal Effect (AME) of the models for micro enterprises access to financing and relationship with banks when we split up the sample into two groups based on financing purpose time. The main variable of interest RELATIONSHIP variable is significant at the 1% level for the both sub-groups. Standard errors in parentheses. Significance levels: \*\*\*p<0.01, \*\*p<0.05, \*p<0.1

**8. Concluding Remarks**

 This study has used data from Bangladesh which is considered as one of the largest and fastest-growing emerging economies with a mix of distinct types of banks. In this study, we have evaluated the impact of relationship on access to financing for micro enterprises in Bangladesh.

 The results suggest that micro enterprises in Bangladesh have better access to bank financing if they maintain longer relationship with financing bank. By considering the significance of the results found from this study, it can be mentioned that this research can bring important new insights in relationship and micro enterprise lending by using a unique data set that has not been used earlier and showing how relationship can affect access to bank financing of micro enterprises which is hardly found in the prior literature. The results of this study are beneficial to understand the impact of relationship on micro enterprise finance within different bank ownership structure perspective.

 limitation of this study is that we have used the data for micro enterprises in Bangladesh only while excluding small, medium and large firms. Inclusion of SMEs and large firms in this topic could be a promising area for future research. Also, as a scope for future research, this study could be extended by showing comparison between developed countries and emerging economies.

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