# Bridging the Gap in Financial Inclusion and Empowering Small Businesses: Evidence from North-East India

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#### **Abstract**

This study aims to investigate the significant impact of microcredit on small businesses and entrepreneurs in north-east India. The research employed a primary survey approach, gathering responses from 205 small business owners through purposive sampling. The analysis utilised a probit model to assess the data, highlighting that factors such as the business's status, participation in awareness programmes by entrepreneurs, operating the business from home and other relevant variables play a crucial role in determining access to microcredit. The findings point out that the businesses experiencing decline are more likely to access credit from microfinance institutions. Also, there is a significant correlation between awareness programmes attended by the entrepreneurs and access to microfinance services. These findings suggest that an increase in the awareness programme participation by entrepreneurs will significantly encourage access to microfinance services.

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#### **Keywords**

Access to microcredit, financial inclusion, microfinance institutions, small business, small business management, status of business

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#### Introduction

Microfinance is understood as the provision of financial services to low-income individuals, who lack access to banking and related services. Microfinance allows people to take collateral-free loans with a very less financial burden, as the interest rates are low and affordable to the poor. Although institutions providing microfinance exist all around the globe, the majority of them are present in developing nations where most of the population live in poverty and are mostly excluded from formal financial services. According to the World Bank (2022) estimates, microfinance institutions (MFIs) have served more than 500 million people, directly or indirectly. However, there still exist lacunae in terms of the outreach of microfinance services. In fact, an estimated 1.7 billion people still lack access to basic financial services.

Proponents of microfinance argue that such access helps people move out of poverty through higher employment and higher incomes (Bannerjee et al., 2015). It also encourages entrepreneurship, especially among women, who are discouraged to take up entrepreneurship mainly due to lack of financial access (Nath & Nochi, 2014). It is expected to have a positive effect on the nutrition and education of the borrower's children. It is also considered a tool to empower women. On the contrary, microfinance is accused of adding the burden of loans on the already downtrodden populace that lives life on the edge (Ellerman, 2007; Soni & Sharma, 2020). Loans from such institutions also lead to the 'feminisation of debt' and worsen the position of women.

Despite garnering so much attention among policymakers, microfinance has been criticised for being inaccessible for some sections of society—mostly uneducated rural women (Sane & Thomas, 2013). Studies have found that it is mostly men who gulp a major chunk of loans, which is mainly targeted at rural women. Such disparity in access to microfinance services has led to serious speculations about its impact in recent years (Kalpana, 2005).

Access to MFI loans has been a major issue in India. Studies have pointed towards the gender disparity in access to MFI services. There is evidence of rural—urban disparity as well. Again, the awareness about MFI loans is also very low. Acknowledging this, our study is intended to examine some of these aspects of microfinance services in Nagaland, India, particularly related to its outreach, access and impact on small businesses. To be precise, we aim to address the following research questions: (a) Does the status of the business influence the accessibility of microfinance services for small business owners in Nagaland, India? (b) How does awareness program participation by the entrepreneurs provide access to microcredit?

By examining the roles of business status, participation in awareness programmes by the entrepreneurs and operating the business from home, the study aims to document the dynamics of microfinance accessibility in North Eastern Region (NER) of India.

The rest of the study is organised as follows. In the following section, we discuss the existing literature. The third section discusses the data and variables employed in our analysis. The fourth section presents the results and discussion. The fifth section presents the empirical results. The final section concludes the study.

#### Literature Review

There is a large body of literature review and research conducted to examine the role of the financial aid to the small business owners. Various studies including Jain and Ekta (2014) tried to capture the role of financial aid to the marginalised business owners. Its financial aiding tool proved to be an important factor to help many semi-rural, rural and urban marginalised people to start their businesses and even grow their businesses (Khandelwal, 2007). However, understanding the functioning of the MFIs is an important parameter to analyse its sustainability in the market (Lensink & Hermes, 2007). But various research studies argue and question the constructive outcomes of microfinance services as a tool in poverty reduction (Singh, 2019). Its discriminatory approach has been documented in the studies by Kharti (2014). Another literature also documents the deliberate exclusion of the urban or semi-urban poor small business owners (Lensink & Hermes, 2007). Further, the ethical crisis is also being bought in various studies including Hudon and Sandberg (2013), which involves documenting the dark episode of Microfinance Regulatory and Policy with its exploitive lending techniques and trapping marginalised borrowers with micro or small loans with the high rate of interest which is often quoted as the 'debt trap' (Hudon & Sandberg, 2013). This further presents MFIs, an exploitative social banking system in various semi-urban and rural areas, with various profit-driven players entering the market of financial institutions (Turvey, 2011). With the increase in the awareness on health, education and standard of living, it has also given a space for various NGOs, self-help groups (SHGs) and MFIs to start organised approach for the awareness of financial services and its role in the overall improvement of the marginalised people (Helmig & Pinz, 2015). With the rising evidence of the varied treatments of MFIs with various borrowers, a proper policy regulatory constitution for the efficient and transparent functioning of MFIs would have shown a different picture of its outreach within various intra-groups or regions (Angelucci et al., 2013). The positive initiatives of microfinance will undoubtedly act as a poverty reducing catalyst under certain circumstances for some marginalised groups and their clients (Nath & Nochi, 2014). Although the mechanism of microfinance is passive, the results of various empirical findings happen to trouble the foundational motto of the Institution (Soni & Sharma, 2020), thereby directing various research studies and scholars to question the mechanism of MFIs as a poverty reducing catalyst (Ellerman, 2007). The outreach of microfinance is also sometimes said to be dependent on how SHGs create its effective connection to reach the marginalised people (Kalpana, 2005). But an inefficient regulatory policy of MFIs results in its inefficiency as a poverty reduction catalyst (Sane & Thomas, 2013).

Although the above studies address on the microfinance services in India, very few studies have been conducted in NER of India and no research studies have been performed in context of small business owners post-COVID-19 period, which is secluded and do not share the same ethos of the population from other parts of the country. Therefore, the findings of previous studies carried out for the rest of India cannot be generalised for NER of India. This makes it imperative to understand the implementation and effectiveness of MFIs in this region. We argue that the determinants of access to MFIs is different in NER than other parts of India, as the region is demographically, socially, economically and politically different from the mainland India. Thus, this study is intended to examine some of these aspects of microfinance services in Nagaland, India, particularly related to its outreach, access and impact on the small businesses. To be precise, we exploit the recent primary information collected from January 2022 to April 2022 to empirically investigate the determinants of access to microfinance services among small business owners in Nagaland.

# Formation of the Hypothesis

To comprehensively document the impact of the business status in accessing the microloan from MFIs, the study aims to examine the influence of business status in accessing microloan alongside other significant factors such as participation in awareness programmes by entrepreneurs on MFIs and microcredit and the role of the business operated from home or residence of the owner.

 $H_1$ : Business status plays an important role in accessing microcredit.

Built upon the findings of Rupasingha and Wang (2017), Lensink and Hermes (2007) and Hameed et al. (2020), which advocates the linkages between 'status of the business' and 'location of the business' and how the size of the business defines its sustainability in the market. Our study aims to document status dimension of the business by examining the role of business status and access to microfinance services. It proposes that the status of the business, that is, 'growing', 'declining' or 'stagnant' might shape the requirement for accessing microfinance services. Therefore, to understand the significant role of the 'status of business' and the likelihood in accessing microcredit, it is employed as an important variable.

**H<sub>2</sub>:** Awareness programme participated by the entrepreneurs on microfinance services significantly determines access to microcredit.

Aligned with the findings of Helmig and Pinz (2015), this hypothesis asserts that the role of the awareness programmes plays an important role in accessing

financial services from institutional sources particularly microfinance services. This hypothesis forms the foundation for the study to empirically document the awareness dynamics and entrepreneurs' participation in awareness programmes in determining the accessibility of microfinance services.

**H**<sub>3</sub>: Business operated from home determines the access to microfinance services.

Drawing insights from Kalpana (2005), Sane and Thomas (2013) and Turvey (2011), this hypothesis predicts that businesses operated from home plays a significant role in access to microloans. The study aims to document how business operated from home or residence of the entrepreneurs defines accessibility of microloans from MFIs.

# Data, Variables and Methods

Nagaland is one of the most important states of NER, which has population of over 2.28 million. The data used in the study are collected from 205 small business owners in Nagaland to understand the determinants of access to microfinance services. We followed a purposive sampling method to collect the data. We employ a number of variables for the econometric exercise. MFIs, commercial banks and informal sources or non-institutional sources to observe the impact of the determinants on the accessibility of the mentioned financial services. The study employed six explanatory variables, namely education, age square of the client, the age of the firm/business, microfinance awareness programme attended by the clients, business run from home and status of the business. To observe the role of awareness, we have employed the control variable microfinance programme attended by the clients, which is dichotomous in nature, that is, 1 = business owner has attended any awareness programme about microfinance services and 0 =otherwise. We further employ the status of business as an indicator to capture the status of the businesses from the entrepreneurs' perspective: whether the business is 'growing', 'stagnant' or 'declining'.

# Probit Regression Model

We employ the probit regression model to formally understand the determinants of the access to microfinance services by the small business owners. The model takes the following form:

Finance<sub>i</sub> = 
$$\beta_0 + \beta_1$$
 Education<sub>i</sub> +  $\beta_2$  Business Home<sub>i</sub> +  $\beta_3$  Firm Age<sub>i</sub> +  $\beta_4$  Age<sup>2</sup><sub>i</sub> +  $\beta_5$  Microfinance Programme<sub>i</sub> +  $\beta_6$  Business Status<sub>i</sub> +  $\varepsilon_i$ 

where  $\beta_1$  is the likelihood of the client accessing any of the financial services given the individual (i) educational qualification,  $\beta_2$  is the likelihood of the client

accessing any of the financial services given individual (i) business operated from home or not,  $\beta_3$  is the likelihood of the client accessing any of the financial services given the age of the firm,  $\beta_4$  is the likelihood of the client accessing any of the financial services given individual (i)'s square of the age,  $\beta_5$  is the likelihood of the client accessing any of the financial services provided the individual (i) attended the microfinance awareness programme,  $\beta_6$  is the likelihood of the client accessing any of the financial service with respect to the status of the firm and  $\varepsilon_i$  is the error term in the model.

In the econometric model, the dependent variable is 'finance', which stands for access to microfinance services. We constructed three binary variables for getting access to microfinance services, institutional sources and non-institutional sources.

#### **Results and Discussion**

To understand the impact of the financial services to the small businesses in NER, we first present the descriptive statistics before moving to the regression results.

# Summary Statistics

The summary statistics of the variables used in the empirical analysis are presented in Table 1.1

The data in Table 1 reveal that, on average, 32% of the clients have access to microfinance services. While, on average, 29% of clients have accessed loans from commercial banks, 40% of the client's business is financed on an average from various informal sources.<sup>2</sup> The majority of the respondents or representatives of their respective businesses operate on a rented outlet. From Table 1, it is clearly evident that, on average, with mean value, 1.697 businesses in Nagaland are growing, with an average age of business being 19.11 years. It has also been observed that an average of 13% of firms or businesses is operating from the home or from the residence of the entrepreneur.

Table 1. Sullillar	y statistics.				
Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
Microfinance institutions	205	0.317	0.466	0	I
Commercial banks	205	0.288	0.454	0	I
Informal sources	205	0.395	0.490	0	1
Education	205	2.248	0.742	I	3
Age <sup>2</sup>	205	1,487.2	727.45	484	3,969
Business status	205	1.697	0.922	I	3
Firm age	205	19.11	12.15	0	72
Microfinance programme	205	0.249	0.433	0	I
Business home	205	0.126	0.334	0	I

Table I. Summary Statistics

The correlation matrix of the determinants of the microfinance services is documented in Table 2. From the table, we can observe that the age of the entrepreneurs and microfinance services are negatively related and significant at the 5% level. However, as expected, there is a positive correlation between education and microfinance services and a negative correlation between informal sources with the 1% level of significance. Moreover, the positive correlation of microfinance awareness programme attended by entrepreneurs with microfinance and a negative correlation with commercial banks and informal sources advocates the positive impact of the awareness programmes. In addition, the inverse and significant relationship of microfinance programmes with commercial banks and informal sources motivates and advocates microfinance services.

# Empirical Results of the Determinants: Probit Model Analysis

The results from Table 4 indicate that education qualification plays a very important role in the access of loan.<sup>3</sup> It was found that with the increase in the qualification of the business owners, they are more likely to avail loan or credit from commercial banks, which is positively significant at the 5% level, and are less likely to take credit from the informal sources. It was found that the age of the business to be an important factor as young enterprises are more likely to access loan from MFIs. However, to capture the influence of experience, we employ the variable Age<sup>2</sup> to document the experience of the entrepreneurs and the likelihood in the accessibility of microcredit, and it was found that with increase in the age of the business owners, they are less likely to access loan from MFIs. The location of the business is another important determinant of access to financial services. It was found that the business that are operated from the home are more likely to access loan or credit from the microfinance finance due to collateral-free and less security burden in the borrowers.

It was found that both awareness programme of the microfinance services and status of business (declining) being positively significant are important factors in the access of the microfinance services. The result suggests that the entrepreneurs who have attended awareness programme of microfinance service are more likely to access loan from MFIs. Furthermore, the business-experiencing declines are more likely to access loan from the microfinance services. Among all the independent variables, awareness programme of microfinance services and status of the business from the entrepreneurs' perspective make a significant impact in the access of credit/loan from MFIs. We now report the marginal effects in Table 5, which are described in Table 3.

The results from Table 5 clearly suggest that businesses experiencing decline are more likely to access loan than man by 0.7%. The variable 'Business Run from home' yields a positive significance. To be precise, the entrepreneurs who are running their business from home are more 0.9% more likely to access loan from MFIs, this might be due to collateral-free micro-credits provided by MFIs. Firm age is another important factor in the access of the microfinance services.

**Table 2.** Correlation Matrix of the Determinants.

1.0000

Variables	Fin_Inf	Fin_Mfi	Fin_Cb	Edu	Bss_Sts	Bss_Hm	Firm_A
Fin_Inf	1.0000						

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0.5507***	1.0000						

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0000.1 0.1687

0.0963 1.0000

-0.0288 0.1537 0000<sup>-</sup>

0.1936\*\*\* 0.1593\*\* 0.1308\*

-0.015

0.3409\*\*\* 0.1881\*\*\*

0.6021\*\*\*

-0.2574\*\*\*

-0.0133

Age<sup>2</sup>

-0.0179 -0.0082

> Firm\_Age Mfi\_Prog

Bss Hm Bss\_Sts

-0.1107

\*\*0691.0-

0.1331\*

**20.16** ₩

-0.0677 0000.1

0.152\*\*

0.1335\*

0.1813\*\*\*

0.1955\*\*\*

-0.3930\*\*\* 0.3097\*\*\*

Edu

Fin\_Mfi Fin\_Cb -0.098

**Note:** (a) \*\*\*\*, \*\*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively (\*\*\*\*p < .01, \*\*\*p < .05, \*p < .10).

Table 3. Construction of Variables.

Variables	Definitions	Descriptions	Anticipated Relationship
Endogenous			
Fin_Mfi	Binary variable; takes loan from MFI = 1 and 0 otherwise	The business is financed through MFIs	
Fin_Cb	Binary variable; takes loan from commercial banks = 1 and 0 otherwise	The business is financed through commercial banks	
Fin_Inf	Binary variable; takes loan from informal sources = 1 and 0 otherwise	The business is financed through informal sources	
Exogenous			
Client charac	teristics		
Edu	Categorical variable; I = less than primary school. 2 = high school and below graduation, 3 = graduation and above	Education qualification of the respondent	±
Age <sup>2</sup>	Age squared of the client's age	Square of the age of the client (in years)	±
Awareness d	imension		
Mfi_Prog	Binary variable; client attended microfinance awareness programme = I and 0 otherwise	Microfinance awareness programme in the city/ locality	±
Business cha	racteristics		
Bss_Sts	Categorical variable; I = infant, 2 = declining, 3 = growing	Status of the business	±
Bss_Hm	Binary variable; business operated from home = 1 and 0 otherwise	Business operated from home or not	±
Firm_Age	Number of years elapsed since the business began its operation	Age of the business/firm	±

**Note:** MFI = microfinance institution.

Table 4. Results: Probit Model Regression.

	Institu	ıtional	Non-Institutional
Variables	Microfinance Institutions	Commercial Banks	Informal Sources
Edu_HiSchBGrad	8.178 (314.65)	0.664 (0.318)**	-I.37I (0.308)***
Edu_GradAbove	8.915(314.65)	0.524 (0.319)	-1.663 (0.313)***
Bss_Hm	0.937 (0.465)**	-0.724 (0.425)*	0.165 (0.362)
Firm_Age	-0.028 (0.016)*	0.019 (0.008)**	-0.005 (0.009)

(Table 4 continued)

(Table 4	continued)
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	Institu	ıtional	Non-Institutional
Variables	Microfinance Institutions	Commercial Banks	Informal Sources
Age <sup>2</sup>	-0.006 (0.002)***	0.001 (0.001)	0.001 (0.001)
Mfi_Prog	2.758 (0.440)***	-I.857 (0.426)***	-0.862 (0.303)**
Bss_Sts-Declining	1.455 (0.712)**	-0.485 (0.443)	-0.146 (0.439)
Bss_Sts_Growing	0.991 (0.739)	-I.278 (0.478)*	0.939 (0.458)**
Constant	-17.528 (314.67)	-0.099 (1.867)	2.788 (1.851)
Log likelihood	-52.72	-92.35	-90.77
Pseudo R <sup>2</sup>	0.59	0.25	0.34
No. of observations (N)	205	205	205

**Notes:** (a) \*\*\*\*, \*\*\* and \* indicate significance at the 1%, 5% and 10% levels, respectively (\*\*\*\*p < .01, \*\*\*p < .05, \*p < .10).

Table 5. Marginal Effects: Probit Model.

	Institu	ıtional	Non-Institutional
Variables	Microfinance Institutions	Commercial Banks	Informal Sources
Edu_HiSchBGrad	8.178 (314.65)	0.664 (0.318)**	-I.37I (0.308)***
Edu_GradAbove	8.915 (314.65)	0.524 (0.319)	-I.663 (0.3I3)***
Bss_Hm	0.937 (0.465)**	-0.724 (0.425)*	0.165 (0.362)
Firm_Age	-0.028 (0.016)*	0.019 (0.008)**	-0.005 (0.009)
Age <sup>2</sup>	-0.006 (0.002)***	0.001 (0.001)	0.001 (0.001)
Mfi_Prog	2.758 (0.440)***	-1.857 (0.426)***	-0.862 (0.303)***
Bss_Sts-Declining	1.455 (0.712)**	-0.485 (0.443)	-0.146 (0.439)
Bss_Sts_Growing	0.991(0.739)	-I.278 (0.478)*	0.939 (0.458)**

**Notes:** (a) \*\*\*, \*\* and \* indicate significance at 1%, 5% and 10% levels, respectively (\*\*\*p < .01, \*\*p < .05, \*p < .10).

As expected, it is negatively significant. It means, with the increase in the age of the business, the businesses are less likely to access. The age of the entrepreneurs is another important factor in the access of microcredit. However, to document the experience of the entrepreneurs, we have squared the age of the entrepreneurs. Therefore, with the increase in the experience of the entrepreneurs, they are 0.6% less likely to access loan from MFIs. The findings show that with the increase in education, the entrepreneurs are less likely to take loans from the informal sources. But with the increase in the educational level, they are more likely to access loan from the institutional sources. 'microfinance programme' carries the relevant signs and significance. To be defined, the variable 'microfinance programme' yields a negative coefficient for both commercial

<sup>(</sup>b) Standard errors are given in the parentheses.

<sup>(</sup>b) Standard errors are given in the parentheses.

banks and informal sources, suggesting that the business owner who have attended microfinance programme are more likely to access loan from MFIs by 2.7%. Thus, the results from probit and marginal effects clearly suggest that microfinance awareness programme and the status of the firm are the two major determinants of access of loan from MFIs.

#### Conclusion

This article examines the determinants of the microfinance services in Nagaland, India. Using a primary survey approach, data were collected from 205 small business entrepreneurs in Nagaland. The study has framed three endogenous variables, namely MFIs, commercial banks and informal sources, to document a wider horizon in understanding the accessibility of microcredit in the region. MFIs and commercial banks represented 'institutional loans' in the study and informal sources represented 'non-institutional loans'. To answer the mentioned questions and attain the core objectives of the study, we have employed six important explanatory variables. 'Business status' was employed to document the significant role of the status of the small businesses post-COVID-19 pandemic period in defining the accessibility of microcredit. Therefore, to get a holistic view of the status of the business in the region, we have categorised it into three categories, namely growing, declining and stagnant. Further, to understand the impact of the microfinance awareness programme participation in the state, we have employed it as a dichotomous variable, where an individual representing his/her business or entrepreneurs takes value 1, if he/she has participated in the awareness programmes related to microfinance services and 0 otherwise. Also, to understand the impact of rent-free enterprise, we employed another exogenous variable 'business home' which is also dichotomous in nature, where an entrepreneur takes value 1 if he/she operates his/her business from home or residence of the owner and 0 otherwise.

Our findings reveal that the business operated from home or the residences of the entrepreneurs are more likely to access microcredit. The findings also show that entrepreneurs<sup>4</sup> with higher educational qualifications are less likely to access loan from the informal sources and more likely to access loan from the institutional sources. Moreover, the experience of the entrepreneurs reveals that they are less likely to access credit through microfinance services; this finding also aligns with the study of Hudon and Sandberg (2013). Again, those business owners who have attended the microfinance programme are more likely to access loan compared to those who have not attended the programme. This perhaps suggests that awareness about the programme is a major determinant of access to loans from MFIs. Although organisation like National Centre for Financial Education has launched the Financial Education Programme for Adults in 2019 to promote and create financial awareness, and bodies such as the National Bank for Agriculture and Rural Development have previously initiated programmes like Financial Literacy Awareness Programmes, which played a key role in integrating the financially excluded population into the institutional financial system, a more holistic

and inclusive financial awareness programmes designed for NER, India could be a key policy measure. Thus, from a policy perspective, there is a need to increase awareness about microfinance loans so that more individuals and businesses come forward to access loans.

#### **Acknowledgement**

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#### **Author Notes**

- Status of the business documents the status of business (growing, declining or stagnant) in Nagaland, India, according to their entrepreneurs' or owners' prospective.
- Informal or non-institutional sources include those loans taken by the entrepreneurs from their relatives, friends, colleagues or any other sources apart from any institutional sources (MFIs or commercial banks).
- 3. Since in the study, age<sup>2</sup> is taken as an explanatory variable to document the experience of the entrepreneurs. Therefore, before performing the operation of squaring the age, the average age of the owner or manager managing the firm is 37.53 years (38 years approximately).
- 4. The awareness programme participation also shows the effort of the state/central government in promoting financial literacy.
- 5. The binary variable takes the value 1 if the individual has participated in the awareness programmes of microfinance services and 0 otherwise. Results are presented in Tables 4 and 5.
- 6. In the present study, after documenting the correlation matrix. We have employed advance statistical methods such as principal component analysis (PCA) and variance inflation factor (VIF) test to solidify the absence of 'multicollinearity' in the data. Results are presented in Figure A1 and Table A1 in the Appendix.

#### **Data Availability**

The primary survey data will be provided by the author, when needed.

### **Declaration of Conflicting Interests**

The author declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

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# Appendix A

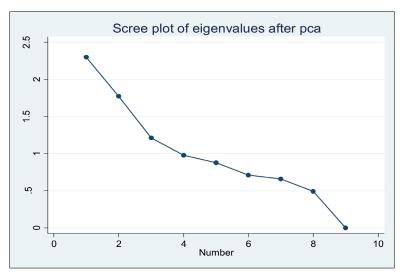


Figure A1. Plot of Eigen Values after Principal Component Analysis (PCA).

Table A1. Results of Variance Inflation Factor (VIF) Test.

Variable	VIF	I/VIF
Bss_Sts	1.09	0.918
Age <sup>2</sup>	1.11	0.829
Mfi_Prog	1.07	0.923
Firm_Age	1.09	0.919
Bss_Hm	1.03	0.928
Edu	1.07	0.937
Mean VIF	1.07	

Table A2. Awareness Index of Microfinance Institutions.

Awareness of Microfinance Institutions	Percentage
Aware	38.54
Unaware	61.46
Total	100

Table A3. Sources of Finance.

Source of Finance	Percentage
Informal	39.51
Microfinance institutions (MFI)	31.71
Commercial banks	28.78
Total	100

#### **Notes**

- 1. Refer to Table 3 for the construction and description of the variables.
- 2. Here, in this study, informal sources are from family, relatives, friends, etc. Here, informal and non-institutional sources are synonyms.
- 3. In the case of informal sources, the education level with high school and above and that with graduation and above are negatively significant at 1% level.
- Since the investigated clients are the entrepreneurs, entrepreneurs and clients are used concurrently.

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