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FACTORS AFFECTING THE ACCESSIBILITY TO MICROCREDIT: THE CASE OF RURAL HOUSEHOLDS IN VIETNAM

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ABSTRACT

This study was conducted to analyze the factors affecting the accessibility to microcredit of rural households in Vietnam, using a logistic regression model with panel data from the survey on access to resources by rural households in Vietnam. The results indicated the following factors: Social capital, poverty status, key poverty reduction communes, distance from home to the main road, and agricultural land have an impact towards increasing access to microcredit.

Keywords:
Microcredit, accessibility, VARHS, rural households, logistic.

1. INTRODUCTION

The majority of the poor are financially constrained, which hinders their decisions in engaging in income-generating production and business activities. Therefore, timely loans often provide them with the capital to undertake activities that generate income. Morduch and Haley (2002) suggest that credit can help improve living standards or at least cover essential daily living costs.

However, the poor often face difficulties in accessing formal credit sources. In Vietnam, many rural households find it difficult to access loans, especially those in difficult circumstances, those in remote and mountainous areas, ethnic minorities, or those engaged in high-risk sectors such as agriculture. They often face difficulties in accessing formal or semi-formal loans. As a result, many resort to borrowing from informal sources such as friends, relatives, or loan sharks.

One of the programs aimed at improving access to capital for the poor is the microcredit program. To enhance the effectiveness of financial institutions and to better serve the poor, it is necessary to understand which factors affect the accessibility of capital. This study was conducted to examine the factors affecting the accessibility to microcredit loans for rural households in Vietnam.

2. THEORY AND RESEARCH METHODS

2.1. Theoretical Basis

The ability of a household to access capital is defined as the ability to borrow from various credit sources (Li et al., 2011). The theory of loan capital accessibility is described as a sequential decision-making process with two steps, where the first step originates from the demand side and then from the supply side (Zeller, 1994; Li et al., 2011). This means that, in the first step, households will decide to apply for a loan and then the lender will decide whether to lend or not and how much to lend.

In the second step, households will compare the expected benefits of borrowing against not borrowing, and they will choose the option that offers the highest expected benefits. The expected benefits for a farmer depend on the household's demographic characteristics, family resources, and characteristics of the loan.

Due to the issue of asymmetric information, explaining capital access from the demand side is insufficient (Stiglitz & Weiss, 1981). Credit markets are unlike other commodity and service markets. Lenders do not simply adjust the credit market equilibrium by raising interest rates due to insufficient information about the risk of borrowers defaulting. Therefore, in the second step (after the borrower has applied for a loan), the lender will consider providing capital to the borrower. The evaluation of the loan application will be based on the lender's perception of the borrower's trustworthiness or ability to repay. Normaly, the lender will assess this through characteristics and information obtained about the borrower. Therefore, the decision to borrow (from the demand side) and the decision to lend (from the supply side) depend on factors such as the characteristics of the credit program, the head of the household, the household's resources, and the community and region.

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2.2. Research Methods

Estimation Method

Logit and probit models are commonly used for analyzing discrete choices. Caliendo and Kopeinig (2008) suggest that the estimation results from these two models are quite similar. This study employs the logit model for estimation. The model for capital access is expressed linearly as follows:

$logit\ [Pr(Cr_{it} = 1)] = \alpha + \beta X_{it}$

Where Cr_{it} is a dummy variable representing borrowing (1 = Borrow; 0 = Do not borrow). X_{it} are the independent variables affecting capital access. ε_i is the error term. *i, t* represents household *i* at time *t*. *Pr* is the probability of accessing capital.

When estimating with panel data, studies often focus on using either a fixed effect model (FEM) or random effect model (REM). When using the logit or probit model with maximum likelihood estimation (MLE), FEM can be biased if the number of periods *t* is too few, which can be mitigated when *t* is 3 or more. Furthermore, FEM also removes time-invariant variables while these variables are of interest for analysis in this study, such as gender. Simultaneously, many households either borrowed or did not borrow in both periods. Therefore, during the estimation process using FEM, these observations will also be excluded from the sample, which affects the estimation results. Hence, this study uses REM.

Variables Used for Analysis

The dependent variable in this study is a dummy that represents access to microcredit. Here, households that accessed capital are given a value of 1, and others a value of 0. In this study, microcredit is defined as loans less than 100 million VND (apropriate 4,000 USD) from formal credit sources, used for production or business.

Based on empirical studies (Khandker, 1998; Duong & Izumida, 2002; Barslund & Tarp, 2008; Khoi et al., 2013; Li et al., 2011) and with data limitations, this study selects appropriate variables to explain the accessibility to microcredit for rural households as shown in Table 1.

Research Data

This study uses panel data from the Vietnam access to rural household resources survey (VARHS) from the years 2020 and 2022. To create a balanced panel dataset, some observations were removed from the sample due to missing information. The final sample used for analysis includes 3,544 households (7,088 observations over two periods).

Table 1: Independent variables used in the analysis of capital accessibility

Variable	***Description***
	Characteristics of the Household Head
GRAD	Education level (From 1 to 12)
AGE	Age
MARI	Marital status (1 = Married, 0 = Single)
GEND	Gender (1 = Male, 0 = Female)
ETHI	Ethnicity (1 = Kinh people , 0 = Others)
	Characteristics of the Household
NMCR	Borrowing from other sources (1 = Yes)
POOR	Poor household (1 = Yes, 0 = No)
SAVE	Savings (Million VND)
ALAN	Agricultural land area (Hectares)
HLAB	Residential land area (Hectares)
SIZE	Number of people in the household
DERA	Dependency ratio
DAWR	Distance from home to main road (Km)
SOC	Social capital (Number of organizations or associations the household participates in)
	Characteristics of the Commune and Region
NTP	Communes of national priority programs for poverty reduction (1 = Yes, 0 = No)
MRKR	Presence of a market in the commune (1 = Yes, 0 = No)
REGI1	Red River Delta (1 = Yes, 0 = No)
REGI2	Northeast (1 = Yes, 0 = No)
REGI3	Northwest (1 = Yes, 0 = No)

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REGI4	North Central Coast (1 = Yes, 0 = No)
REGI5	South Central Coast (1 = Yes, 0 = No)
REGI6	Central Highlands (1 = Yes, 0 = No)
REGI7	Mekong River Delta (1 = Yes, 0 = No)

Notes: Kinh people are the ethnic group with the largest population in Vietnam.

Source: Author's work

3. RESEARCH RESULTS

Table 2 presents the estimation results using both the FEM and REM. The results from the Hausman test suggest that the FEM is more suitable for the data compared to the REM. However, the number of observations from the FEM estimation decreased from 7.088 to 1.402. This indicates that many observations were excluded during the estimation process with FEM, which may lead to biased results. Therefore, the interpretation of the estimation results in the following section will be based on the FEM. The specific results are as follows:

Table 2: Estimation results of factors affecting the accessibility to microcredit

Variables	**REM**		**FEM**	
	Coefficient	t-stat	Coefficient	t-stat
GRAD	0.016	1.18	0.005	0.10
AGE	-0.026***	-6.51	-0.063***	-2.79
MARI	0.017	0.10	0.637	1.34
GEND	0.014	0.09	-0242	-0.42
ETHI	0.108	0.75	0.102	0.09
NMCR	-1.386***	-11.18	-1.705***	-10.10
POOR	0.307***	2.74	0.401*	1.92
SAVE	-0.006***	-4.36	-0.003*	-1.68
ALAN	0.085**	2.22	0.065	0.64
HLAB	0.032	0.20	-1.204	-1.33
SIZE	0.108***	4.12	0.099	1.20
DERA	-1.052***	-6.00	-0.346	-0.53
DAWR	0.019	1.63	0.033	1.15
SOC	0.039***	4.99	0.047***	2.86
NTP	0.28***	3.25	0.399***	2.58
MRKR	-0.161	-1.52	-1046***	-3.83
REGI7 (Base variable = 0)				
REGI1	-0.122	-0.60		
REGI2	0.063	0.32		
REGI3	-0.534**	-2.47		
REGI4	0.242	1.02		
REGI5	-0.915***	-4.00		
REGI6	0.761***	4.07		
Constant	-1.435***	-4.19		
Observations	7,088		1,402	
Hausman test	Chi2(16) = 37.74; Prob>chi2 = 0.0016			

*Note: *, **, ***: Statistically significant at the 10%, 5%, 1% levels, respectively.*
Hausman test for choosing REM and FEM. If the P-value < 0.05, FEM is more appropriate.

Source: Author's work

Borrowing from other sources (NMCR) decreases the accessibility to microcredit. This result suggests that microcredit and other loans are substitute products. Other loans include those from informal sources.

Savings (SAVE) also decrease the accessibility to microcredit. This indicates that savings are one of the alternative sources of capital for borrowing, including microcredit borrowing. This result aligns with the study by Li et al. (2011).

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Being a poor household (POOR) increases the accessibility to loan capital. This result shows that the poor have a high demand for borrowing (demand side) and microcredit programs are also somewhat aimed at serving the poor. Similarly, households living in disadvantaged communes (NTP) also have higher access to loan capital.

Agricultural land (ALAN) increases the accessibility to microcredit. Meanwhile, residential land (HLAB) does not impact the accessibility to capital. A characteristic of microcredit is that it does not require security. This is one of the reasons why residential land does not impact because its main role when borrowing is to serve as collateral. For agricultural land, besides the role of security, it also represents the household's production capacity. Households with more agricultural land generally have higher production capacity, which in turn increases their ability to repay, thus enhancing their access to capital.

Households with a higher dependency ratio (DERA) have decreased access to microcredit. Households with a high dependency ratio typically have lower repayment capacity due to lower expected income levels (Li et al., 2011). Conversely, households with more members (SIZE) often have better access to capital. The reason is that households with more members typically have more labor available and, consequently, higher expected income, which increases their ability to repay debts. The older the household head (AGE), the lower the accessibility to capital. Older household heads tend to be more risk-averse, thereby reducing their demand for borrowing. Households that participate in more community organizations (SOC) have better access to capital, highlighting the role of social capital in enhancing access to borrowing.

Regional variables also affect capital accessibility, such as Northwest (REGI3), South Central Coast (REGI5), and Central Highlands (REGI6), indicating regional differences in accessing microcredit.

Other variables, including education (GRAD), marital status (MARI), gender (GEND), the ethnicity of the household head (ETHNIC), distance from home to the main road (DAWR), the presence of a market in the commune (MRKT), Red River Delta (REGI1), Northeast (REGI2), and North Central Coast (REGI4) do not impact the accessibility to microcredit.

4. CONCLUSION

The study's findings indicate that factors positively influencing the accessibility to microcredit include: the number of household members, social capital, poverty status, communes prioritized for poverty reduction, distance from home to main road, and agricultural land. Factors negatively influencing microcredit accessibility include: the age of the household head, savings, other credits, dependency ratio, and residential land.

The study also shows that there is no gender difference in accessing microcredit. Furthermore, the results reveal that the poor and households in priority communes have better access to capital. However, statistics still show a relatively high proportion of the poor who have not accessed microcredit. On the demand side, the poor are often limited in accessing information and production resources and they tend to be risk-averse. Thus, despite their financial limitations, they do not borrow due to fear of inability to repay.

On the supply side, poor households or communes in remote areas face high transaction costs, which makes microcredit programs in these areas not really effective. Therefore, appropriate policies on both the demand and supply sides are needed, specifically:

Policies are needed to reduce transaction costs during the borrowing process. It is crucial to prioritize the development of infrastructure and information to best support production and business activities, thereby motivating poor farmers to borrow for investment in income-generating activities. Establishing customer-friendly microcredit institutions can make the poor more confident in borrowing. Simplifying loan procedures and processes is essential because the poor, often with low education levels, find it difficult to handle complex procedures.

Other policies are needed to support the poor and make them feel more confident in undertaking income-generating activities. Initially, there should be training programs on skills and knowledge in agriculture, self-employment, money management, and risk management (Li et al., 2011). Additionally, enhancing the activities of organizations such as agricultural extension centers, farmers' associations, and women's associations can better support farmers in their production and business activities, thereby increasing their demand for capital to undertake these activities.

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