

# DETERMINANTS OF CONSUMER CREDIT ACCESSIBILITY FROM FINANCIAL COMPANIES: AN EMPIRICAL STUDY IN A PROVINCE OF MEKONG RIVER DELTA, VIETNAM

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### Abstract

In recent years, consumer credit activity has become a topic of broad public interest in Vietnam as the demand for consumer credit is rapidly increasing in both urban and rural areas. In Vietnam, many empirical papers have focused on investigating the determinants of consumer credit accessibility from commercial banks, but the prior studies on the factors affecting consumer credit accessibility from financial companies are still limited. Hence, the aim of this paper was to analyze the determinant factors of the consumer credit accessibility from financial companies of individual borrowers in Vinh Long province, Vietnam. Based on the primary data of 141 individual borrowers in Vinh Long province, the study applied Probit regression model to test the proposed hypotheses. The research results showed that age, education level, marital status, working area and access to credit information positively affect the borrower's ability to access consumer loans. Based on the empirical findings, the authors proposed several recommendations to increase the consumer credit accessibility from financial companies of individual borrowers in Vinh Long province.

**Keywords:** Credit accessibility; Consumer loan; Financial company; Individual borrower; Probit regression.

## 1. INTRODUCTION

Consumer loans in the form of unsecured or mortgaged loans are used to support financial source for consumption needs, purchase of household goods, purchase of motorbikes, studying abroad and other essential needs in life. The importance and the great contribution of consumer lending in the macroeconomy are emphasized through supporting the expenditures of individuals and households. Especially, in difficult times when the incomes of individuals and households are reduced, consumer lending will form

an alternative source, helping to maintain the spending levels of individuals and households, thereby contributing to maintaining aggregate demand of the local and national economy.

Consumer lending activities of financial companies are very active as the consumption needs of low- and average-income customers are very high. Most individual borrowers at financial companies are people who have low or moderate income, unstable employment, low credit score, and these borrowers are often not eligible for loans at commercial banks. The development of unsecured loan products at financial companies has helped many consumers access to loans. Getting an unsecured loan at financial companies are easier than getting an unsecured loan at commercial banks because financial companies do not require customers to have collateral asset. Hence, more and more individuals take out loans from financial companies to satisfy their consumption needs. In Vietnam, according to the statistics of the State Bank, at the end of 2020, the country's consumer credit outstanding balance was about 1.8 million billion VND, accounting for 20% of the total outstanding loans in the whole economy. Loan outstanding balance of financial companies was about 130,000 billion VND and more than 30 million customers had access to different types of loans to meet their consumption needs. In addition, consumer credit at financial companies also helps borrowers gain more financial knowledge about different consumer loan products. Consumer credit is also a tool to promote economic growth and reduce black credit in Vietnam.

In the Mekong Delta region in general and Vinh Long province in particular, the demand for consumer credit is increasing in both urban and rural areas. People's shopping needs are constantly growing as the socio-economic life is developing. In particular, young people have an increasing demand for consumer loans. Grasping this trend, financial companies have continuously implemented many consumer credit stimulus programs with attractive interest rates and suitable loan conditions for different kinds of customer. Financial companies also actively cooperate with supermarkets and shops to offer consumer credit products with fast disbursement time and simple procedures to create favourable conditions for customers to easily access consumer credit. Financial companies focus on exploiting groups of customers who are not eligible for loans at commercial banks and customers living in remote areas. To further study lending activities of financial companies and the factors affecting consumers' access to capital at financial companies, this paper focuses on analyzing the determinants of the consumer credit accessibility from financial companies of individual borrowers in Vinh Long province, thereby proposing several solutions to increase the credit accessibility from financial companies of borrowers in the study area.

## **2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

### **2.1. Literature Review**

To examine factors affecting individuals' ability to access consumer credit from financial firms, the article uses an economic theoretical framework for consumption, savings and

borrowing decisions developed in life-cycle theory proposed by Modigliani & Brumberg (1954) and the permanent income hypothesis proposed by Friedman (1957) as the foundation of developing arguments and theoretical model. The main idea of consumption choice models is that people make consumption decisions on the basis of their wealth, disposable income, and future income expectations. People adjust their saving and wealth over time to keep their planned spending levels steady in the face of uneven income streams. People are consciously adjusting their wealth levels for the explicit purpose of keeping their consumption path smooth throughout their life cycle. The underlying assumption of these models is that income is generally low when people start working and it tends to increase when people retire. Young people expect to have higher income in the future, so they make a decision to consume more based on their expectations of future income. Conversely, when people get older, they tend to increase their savings to prepare for retirement phase when spending will exceed income. In this framework, saving and debt would ensure an increase in economic welfare by decreasing consumption over time.

Adopting the standpoints of life-cycle theory and the permanent income hypothesis, so far, several studies have investigated factors affecting the ability of individuals and households to access consumer credit. Chien & DeVaney (2001) conducted a survey on consumer credit of 4,305 households in the United States in 1998. The study used Tobit regression model to identify the determinants of the credit use of households. Research results showed that households headed by someone who is married, who is in a professional or managerial occupation, with more education, with a larger household, with lower income, and favorable specific attitudes toward credit are more likely to have higher outstanding credit card balances. Hawley & Fujii (1991) examined the consumer credit of 3,665 households at credit institutions in the United States. Based on data collected in 1983, the study employed Probit regression model to investigate factors affecting household's ability to access consumer credit. Research results pointed out that race, age, gender, marital status of the household head, income and expenditure strongly impact the household's consumer credit accessibility.

Kim & DeVaney (2001) collected data from 3,376 households in the United States in 1998 and used Heckman two-stage estimation to investigate the probability of having an outstanding credit card balance, and then to examine the factors influencing the amount of the outstanding balance. These authors found that factors affecting credit card use include age, education level, income, liquid assets, real estate, interest rates, loan term. In which, only the age of the household head has a positive effect, the remaining factors have a negative impact on the use of credit cards. Zhu & De'Armond (2005) investigated the consumer credit accessibility of households in the United States. Based on survey data of 7,579 households in the United States in 2001, the study applied Logit regression model to evaluate factors impacting households' access to consumer credit. The analysis results showed that race, marital status, employment status and education of the household heads, income, allowance and housing of the household, have a statistically significant influence on households' access to credits.

In Vietnam, Nguyen & Lien (2019) examined the decisive factors of the borrowing decision of business households at commercial banks in Tra Vinh province. The study gathered data from 300 business households making transactions at 4 commercial banks in Tra Vinh province, including Vietnam Bank for Agriculture and Rural Development, Vietnam Joint Stock Commercial Bank for Industry and Trade, Asia Commercial Joint Stock Bank, Joint Stock Commercial Bank for Foreign Trade of Vietnam. By using the Binary Logistic regression method, the study found that the factors affecting the borrowing decision of business households include bank brand, lending interest rate, bank service attitude and loan procedures. Tran & Thai (2013) studied the factors affecting households' access to consumer credit from commercial banks in Can Tho City. The study applied Probit model to determine the factors affecting the accessibility of consumer credit, and used Tobit regression model to identify the factors affecting the amount of consumer credit. The results of the analysis showed that education level of the household head, mortgage of the land use right certificate, land area and income strongly influence the ability to access to consumer credit from commercial banks of households. In addition, the amount of consumer credit is determined by education level of the household head, land area, income and loan term.

Through the comprehensive review of prior studies related to the research topic, it is important to address that previous research papers have provided relatively diverse empirical frameworks and theoretical models on the factors affecting the borrower's ability to access consumer credit at credit institutions. Based on the inheritance of related studies, this paper builds a quantitative research model and applies Probit regression model to analyze the factors influencing the consumer credit accessibility from financial companies of individual borrowers in Vinh Long province.

## **2.2. Hypotheses Development**

### **Age**

Young people often have low income and do not accumulate many assets. When they get married and have children, their income may not be enough to cover their living expenses, leading to a higher demand for loans. On the contrary, older people often have stable income, save more, accumulate more assets, have prestige, take responsibility to repay debt on time, so the credit accessibility of the old is often higher than that of the young (Chien & DeVaney, 2001). These results support the following hypothesis:

H1: Age has a positive effect on individual customers' accessibility to consumer credit.

### **Education level**

High-educated people often gain more knowledge, have high position in society, build many relationships and are able to access to many sources of information, so they can easily get a loan from credit institutions (Chien & DeVaney, 2001; Kim & DeVaney, 2001). High-educated people know how to manage and use loans for the right purposes and effectively, thus the ability to access credit of high-educated people is higher than that of

low-educated people (Tran & Thai, 2013). Therefore, this study puts forward the hypothesis as follows:

H2: Education level has a positive effect on individual customers' accessibility to consumer credit.

### **Marital status**

Marital status affects the borrowing needs of individuals and households because when borrowers get married and have children, they often want to borrow more money to ensure their lives due to low income and greater spending. Several studies have shown that when borrowers have children, their ability to access credit will increase because these borrowers are responsible for their loans repayments in order to get a new loan in the future. In brief, married people and multi-generation families have greater borrowing needs (Zhu & De'Armond, 2005). Thus, the third hypothesis is suggested as follows:

H3: Marital status has a positive impact on individual customers' accessibility to consumer credit.

### **Income**

When people have high income, they often borrow less as they can afford to pay their own expenses. However, in some cases, high-income people still want to take out large amount of loan to satisfy their current needs because the repayment source is guaranteed from their income. Therefore, the higher the income, the easier the access to consumer credit (Hawley & Fujii, 1991; Tran & Thai, 2013). Hence, this study suggests the fourth hypothesis as follows:

H4: Income has a positive effect on individual customers' accessibility to consumer credit.

### **Working area**

Economic theory assumes that the uncertainty of an income stream depends on the type of job and the individual's employment contract. When individuals have a stable job, they have more chances to access to credit. In fact, borrowers who work in the public sector are considered to have stable jobs, to be able to ensure their loan repayment ability, and to be more eligible for credit than other borrowers. Thus, the fifth hypothesis is suggested as follows:

H5: Working area has a positive impact on individual customers' accessibility to consumer credit.

### **Access to credit information**

When borrowers have full awareness of loan information through the introduction and consultation of credit officers or information from local authorities, newspapers, they will have a certain understanding of consumer credit products. Hence, borrowers will easily understand the borrowing process and procedures, so they have a higher chance of getting a loan. Therefore, this study puts forward the hypothesis as follows:

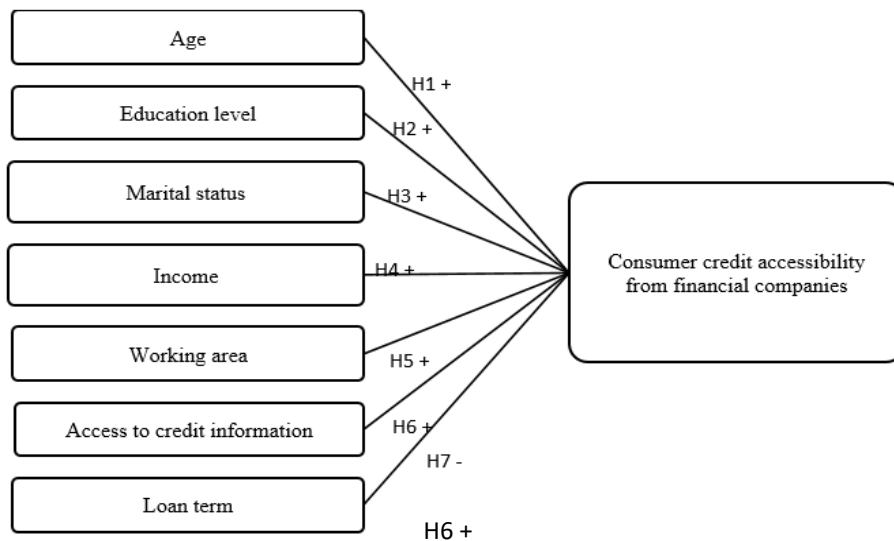
H6: Access to credit information has a positive effect on individual customers' accessibility to consumer credit.

**Loan term**

Consumer loans are often called unsecured loans. This means that borrowers do not have to provide assets as collateral, so credit institutions often limit medium and long-term loans. A long loan period raises the default risk. Therefore, the longer the loan term, the lower the ability to access consumer credit (Kim & DeVaney, 2001). From the above arguments, the hypothesis is proposed as follows:

H7: Loan term has a negative impact on individual customers' accessibility to consumer credit.

From the above arguments and based on the results of prior studies, the research model is generalized through Figure 1.



**Fig. 1: Theoretical model**

**3. RESEARCH METHODS**

**3.1. Sample Selection**

This article uses primary data from 141 people who have applied for consumer credit loans at financial companies in Vinh Long province. The research sample is selected by using convenience sampling method. Respondents are directly interviewed based on the designed questionnaire. The sample size is described in Table 1.

**Table 1: The sample size**

Survey area	Number of observations	Proportion (%)
Vinh Long provincial city	20	14.18
Binh Minh district	19	13.48
Binh Tan district	18	12.77
Long Ho district	18	12.77
Mang Thit district	17	12.06
Vung Liem district	15	10.64
Tam Binh district	18	12.77
Tra On district	16	11.35
<b>Total</b>	<b>141</b>	<b>100.00</b>

Source: Surveyed by authors in 2022

Additionally, secondary data on consumer lending activities is collected from the database of the State Bank of Vietnam – Vinh Long branch. The study also collects secondary data from documents, statistical yearbooks, scientific journals, and articles on websites of relevant departments.

### 3.2. Estimation method

To analyze the factors affecting consumer credit accessibility from financial companies of individual borrowers in Vinh Long province, the study uses a binary Probit regression model. The research model is proposed as follows:

$$\text{ACCESSIBILITY} = \beta_0 + \beta_1 \text{AGE} + \beta_2 \text{EDU} + \beta_3 \text{MS} + \beta_4 \text{INC} + \beta_5 \text{WORK} + \beta_6 \text{INFO} + \beta_7 \text{TERM} + \varepsilon \quad (1)$$

Where Y is the dependent variable, which is the consumer credit accessibility from financial companies of individual borrower; AGE, EDU, MS, INC, WORK, INFO, TERM are independent variables in the model;  $\beta$  are the estimated coefficients of the regression model. Table 2 summarizes the characteristics of the variables in the research model and the expected signs about the impact of the independent variables on the dependent variable.



**Table 2: Description of variables in binary Probit regression model**

Variable	Measurement method	Expected signs
Consumer credit accessibility from financial companies (ACCESSIBILITY)	Dummy variable, 1 = Loan is approved, 0 = Loan is not approved	
Age (AGE)	Age of borrower, years	+
Education level (EDU)	Education level of borrower, schooling years	+
Marital status (MS)	Dummy variable, 1= Married, 0 = Single	+
Income (INC)	Monthly income, Million VND	+
Working area (WORK)	Dummy variable, 1 = Working in the public sector, 0 = Freelance worker or work in the non-state sector	+
Access to credit information (INFO)	Dummy variable, 1= Have access to information about consumer loans, 0 = Never receive information about consumer loans	+
Loan term (TERM)	Dummy variable, 1= Loan term over 12 months, 0 = Loan term up to 12 months	-

Source: Authors' own work

## 4. RESULTS AND DISCUSSION

### 4.1. Empirical Results

Table 3 illustrates the descriptive statistics of the variables used in the regression model.

**Table 3: Descriptive statistics (Obs. = 141)**

Panel A: Quantitative Variables				
Variable	Mean	Standard deviation	Minimum	Maximum
AGE (year)	39.29	10.84	22.00	65.00
EDU (year)	8.50	3.27	2.00	20.00
INC (million VND)	8.04	3.22	3.00	20.00
Panel B: Dummy Variables				
Variable	Value	Number of observations	Proportion (%)	
MS	1= Married	89	63.12	
	0 = Single	52	36.88	
WORK	1 = Working in the public sector	81	57.45	
	0 = Freelance worker or work in the non-state sector	60	42.55	
INFO	1= Have access to information about consumer loans	82	58.16	
	0 = Never receive information about consumer loans	59	41.84	
TERM	1= Loan term over 12 months	7	4.96	
	0 = Loan term up to 12 months	134	95.04	
ACCESSIBILITY	1 = Loan is approved	108	76.60	
	0 = Loan is not approved	33	23.40	

Source: Authors' own work



Based on the results of the correlation matrix in Table 4 it can be seen that all the pairs of correlation coefficients among the variables in the model are less than 0.8 (Farrar & Glauber, 1967). Hence, it can be concluded that there is no serious multicollinearity phenomenon.

**Table 4: Pearson's correlation matrix**

	ACCESSIBILITY	AGE	EDU	MS	INC	WORK	INFO	TERM
ACCESSIBILITY	1.000							
AGE	0.277	1.000						
EDU	0.192	-0.232	1.000					
MS	0.237	0.238	-0.037	1.000				
INC	-0.061	-0.048	0.265	0.129	1.000			
WORK	0.270	-0.071	0.171	-0.093	0.046	1.000		
INFO	0.448	0.127	0.076	0.037	-0.041	0.171	1.000	
TERM	-0.182	-0.097	-0.175	-0.096	-0.047	-0.067	-0.005	1.000

Source: Authors' own work

Table 5 presents the estimation results by using the Probit regression model.

**Table 5: Estimated results of the Probit regression model**

Variable	Coefficient	Standard error	Z	dY/dX
AGE	0.0507***	0.0161	3.15	0.0098
EDU	0.1666***	0.0621	2.69	0.0323
MS	1.0476***	0.3451	3.04	0.2382
INC	-0.0638	0.0499	-1.28	-0.0124
WORK	0.9113***	0.3329	2.74	0.1928
INFO	1.3926***	0.3314	4.20	0.3103
TERM	-0.5932	0.8746	-0.68	-0.1526
Constant	-3.6566***	1.0319	-3.54	
Number of observations	141			
Prob > chi2	0.0000			
LR chi2(7)	65.76			
Pseudo R2	0.4285			
Percentage of correct prediction of the model	86.52%			

Notes: \*\*\* indicates statistical significance at the 1% level.

Source: Authors' own work

## 4.2. DISCUSSIONS

The results from Table 5 show that the Likelihood Ratio (LR) test has a p-value of 0.0000, which implies that independent variables simultaneously have significant effect on the accessibility to consumer credit of individual borrowers at the significance level of 1%. Moreover, the model's Pseudo-R<sup>2</sup> coefficient is 0.4285, indicating that the explanatory degree of the variables in the model is relatively good. The correct prediction rate of the whole model is quite high, at 86.52%. The results from Table 5 show that age (AGE), education level (EDU), marital status (MS), working area (WORK), access to credit information (INFO) have a significant effect on consumer credit accessibility from financial companies of individual customers (ACCESSIBILITY). The influences of these variables on consumer credit accessibility can be explained as follows:

Firstly, as expected, age (AGE) is statistically significant at the significance level of 1% and has a positive impact on consumer credit accessibility ( $\beta_1 = 0.0507$ ). This finding implies that financial companies are more willing to approve consumer loan for the elderly. This result is similar to the study of Kim & DeVaney (2001). For credit institutions, age is the first evaluation criterion among the important factors for approving credit applications because older people tend to have a lot of experience, stable income, many accumulated assets, more reputable and responsible for debt repayment. In fact, young people are less inclined to save money, so their access to credit is lower than that of older people. When young clients borrow at credit institutions in general and financial companies in particular, credit officers always make lending decisions based on more information as this group of borrowers is considered to have higher risk than the elderly group.

Secondly, according to the results in Table 5, education level (EDU) has a positive influence on the ability to access consumer credit at financial companies in the study area at the significance level of 1% ( $\beta_2 = 0.1666$ ). This indicates that assuming that all other variables remain constant, when education level of borrower increases by 1 year, consumer credit accessibility of borrower increases by 0.1666 (equivalent to 3.23%). High-educated clients gain a lot of knowledge in many fields and they often have a high position in society, so they could easily grasp information about loan requirements, thus their ability to access consumer credit is higher than that of less-educated customers. More specifically, at financial companies, when borrowers fully know the conditions and procedures of loan applications, their probability of getting a loan will be higher than those who have less information. This empirical result confirms the expectation and the prior study of Chien & DeVaney (2001); Kim & DeVaney (2001).

Thirdly, from the estimated results in Table 5, marital status (MS) has a positive correlation with consumer credit accessibility with the positive estimated coefficient ( $\beta_3 = 1.0476$ ) at the significance level of 1%. This indicates that assuming that all other variables remain constant, married borrowers have a higher probability of getting loans

than unmarried borrowers of 1.0476 (equivalent to 23.82%). This figure is relatively high, so marital status is an important variable affecting consumer credit accessibility from financial companies of individual customers in this study. In fact, marital status impacts the borrowing needs of individuals and households as married people tend to have more expenditures, especially when they have children, thus their demand for loans is higher. When borrowing from credit institutions, their responsibility for debt repayment is also higher than that of unmarried people since when they fulfill their debt repayment obligations, it will be easy for them to get a new loan in the future. This empirical finding is in line with the original assumption and the study of Zhu & De'Armond (2005).

Fourthly, working area (WORK) has a positive impact on consumer credit accessibility. This can be seen from the results in Table 5, working area variable has a positive estimated coefficient at the significance level of 1% ( $\beta_5 = 0.9113$ ). This indicates that assuming that all other variables remain constant, when borrowers work in the public sectors, their probability of getting loans at financial companies is 0.9113 higher than that of borrowers working in non-state sectors (equivalent to 19.28%). People working in the public sectors are considered as having more stable and sustainable income than those working in non-state sectors or self-employed workers. The difference in consumer credit accessibility is relatively high, so working area is also an important determinant factor of customers' ability to access credit.

Last but not least, based on the regression results in Table 5, access to credit information (INFO) has a positive relationship with consumer credit accessibility with the estimated coefficient  $\beta_6 = 1.3926$  at the significance level of 1%. This indicates that assuming that other factors are held constant, when borrowers have access to information about credit products at financial companies, their borrowing capacity increases by 1.3926 (equivalent to 31.03%). Thereby, the factor of access to credit information greatly affects the borrower's ability to borrow money at financial companies. When clients are able to access to credit information, they will have a certain understanding of consumer credit products, the borrowing process and procedures, so they are more likely to get a loan.

However, this study has not found the effects of income (INC) and loan term (TERM) on consumer credit accessibility from financial companies since the estimated coefficients of these variables are not statistically significant. In fact, when the borrower requests a loan at a credit institution, the appraisal department will collect the borrower's information to assess the customer's financial ability as this is also an important decisive factor of customers' ability to access credit. However, according to the analysis results of this study, the income factor has no effect on the ability to access capital at financial companies of individual clients. This can be explained as the risk appetite of financial companies tends to be lower than that of commercial banks.

## 5. CONCLUSIONS

This study aims to analyze the determinant factors of the consumer credit accessibility from financial companies of individual borrowers in Vinh Long province, thereby

proposing several recommendations to increase the consumer credit accessibility from financial companies of individual borrowers in the study area. Based on the primary data of 141 individual clients who make loan requests at financial companies in Vinh Long province in 2022, the study applies Probit regression model to determine the factors influencing the ability of individuals to access consumer credit from financial companies.

The research results show that age, education level, marital status, working area and access to credit information positively affect the customer's ability to access consumer loans from financial companies at the significance level of 1%. Among these variables, three factors that strongly impact the consumer credit accessibility include marital status, working area and access to credit information. However, this study has not found the effects of income and loan term on consumer credit accessibility from financial companies.

Based on the empirical findings, the authors proposed several recommendations to increase the consumer credit accessibility from financial companies of individual borrowers in Vinh Long province. On the client's side, when credit officers at financial companies collect information about borrowers, borrowers need to fully, truthfully and accurately provide personal information related to the borrower's demographic characteristics, financial ability. In addition, borrowers need to determine their loan needs in accordance with their ability to repay loan, clearly identify sources of income and debt repayment plan. On the side of financial companies, financial companies need to focus on marketing and consulting on consumer credit products to approach potential customers. Credit officers of financial companies need to have professional manners in consulting and debt collection. Besides that, financial companies need to organize training course to improve sales skills for their employees.

Although the study has provided empirical evidence of the determinant factors of an individual's ability to access consumer loans at financial companies, it still has some limitations that may provide further opportunities for more in-depth research in Vietnam. Specifically, the size of the sample in this study is still small, therefore, studies with larger number of observations are needed. In addition, the study only adds demographic variables such as age, education level, marital status; financial ability variables such as income, working area; and credit variables such as access to information, loan term in the research model. However, there are many other factors that are also likely to affect the ability to access consumer credit at financial companies such as gender, spending, relationship with credit institutions, place of residence, ... Therefore, future studies could consider the relationship of these factors and the ability of individuals to access loans at financial companies.

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