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Influence of Credit on the Income of Households Borrowing from Banks: Evidence from Vietnam Bank for Agriculture and Rural Development, Kien Giang Province

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Abstract

This paper investigates the determinants of credit accessibility and the effect of credit on the income of farm households borrowing from Vietnam Bank for Agriculture and Rural Development, Giong Rieng District Branch, Kien Giang Province. Based on the primary data of 200 farming households who are the customer of the bank, the study applied the Probit regression model to examine determinant factors of credit accessibility of farm households and employed the Propensity score matching method to investigate the impact of credit on households' income. The findings of the Probit regression shown that three independent variables that significantly influence the access to credit of households are household size, income source, and farm size. Besides that, the Propensity score matching method results showed a difference of 23.799 million VND/year between the income of borrowing households and that of non-borrowing households at the significance level of 1%. The difference in the imcome from the interval and central matching methods are VND 24.700 million VND/year and VND 24.633 million VND/year, respectively. Given empirical findings suggetsted that several recommendations to increase the credit accessibility of farm households, thereby creating favorable conditions for improving their income.

Keywords: Credit Accessibility, Income, Farm Household, Propensity Score Matching Method, Probit Regression Model

JEL Classification Code: E51, G51, H81, Q14, O12

1. Introduction

Although numerous studies in Vietnam and other countries have investigated the effect of credit on household income, the results have not reached a consensus. The research of Morduch and Haley (2002) and Barslund and

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Tarp (2008) provided evidence of the positive impact of rural credit programs on household income. However, the study of Diagne et al. (2000) conducted in Malawi did not find any statistically significant effect of microcredit programs on household income. Similarly, the study conducted by Coleman (1999) found a negligible effect of microcredit programs on household welfare in Thailand. In Vietnam, the research of Dinh and Dong (2015) using the OLS regression model combined with the Difference-in-differences (DID) method showed that the agricultural credit program from the formal sector has a positive impact on the income of Vietnamese farmers. However, the DID method is limited in that how the program participants are involved can distort the outcome of the impact (Baker, 2000). In detail, as farmers can choose to participate in loan programs, farmers with more resources can be favored in choosing credit programs, and these resources also contribute to increasing their income. Therefore, the final estimation results are not only brought about by the credit program.

The study by Nguyen et al. (2014) indicated that the age of the household head, arable land, production expenditure,

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rice price, and rice production strongly affect the income of rice farmers in Can Tho city, Vietnam, but this article did not study the influence of credit on the income of these rice farmers. Prior research conducted by Vuong and Le (2012) used the Probit regression model and the pairwise comparison method to examine the role of formal credit in household life in the Mekong Delta region. The results of this study pointed out that borrowing households have better conditions to increase their income, asset value, spending on education, and food expenditure than non-borrowing households. The impact of impacts of three types of credit – formal, semi-formal, and informal credits – on the well-being of households in Vietnam's rural areas (Truong et al., 2020), and the study by Chavali et al. (2021) attempts to investigate the extent to which financial behavior influences financial well-being in the Indian scenario. Lastly, Ratnawati (2020) analyzes the influence of financial inclusion on micro-, small-, and medium-sized enterprises (MSMEs) performance and examines the mediation role of financial intermediation and access to capital.

These authors also found several factors affecting the household's ability to access credit, such as ethnic group, land area, number of family members, number of dependents, family member's social position, and the influence of access to capital on SMEs. Stemming from the vital role of credit on household income and the inconsistent findings from previous studies, the study is carried out to investigate factors affecting credit accessibility and to analyze the impact of credit on the income of households borrowing from Vietnam Bank for Agriculture and Rural Development, Giong Rieng District Branch, Kien Giang Province. The findings and contributions from this study will be useful for both banks and borrowers, but specifically for farm households. The results of this study will provide empirical evidence to serve as a foundation for the bank to consider whether to increase lending to farm households. Besides that, the results will present important information for farm households to consider whether borrowing from banks increases their income.

2. Literature Review

2.1. Credit Accessibility

So far, numerous studies have investigated factors affecting the ability of individuals and households to access credit from commercial banks or financial companies. Okurut (2006) research investigated the factors impacting access by the poor and Blacks to credit in the segmented financial sector in South Africa, using income and expenditure survey data from 1995 and 2000. Using multinomial logit models and Heckman probit models with sample selection suggested that the poor and Blacks have limited access to the formal

and semi-formal financial sectors. At the national level, access to formal credit is strongly influenced by gender, age, household size, education level, household per capita expenditure, and race. Additionally, the findings of this study pointed out that being poor has a negative impact on access to formal credit. For the semi-formal credit market, access to this type of credit is positively influenced by household size, household per capita expenditure, and restricted location. Meanwhile, factors that negatively impact access to semi-formal credit are gender, rural location, poverty, and race. Finally, this study stated that education level and race negatively affect informal credit access.

The research of Motsoari et al. (2015) analyzed the determinant factors of the ability of smallholders to access finance by using a logistic regression model. The findings revealed that the ability of smallholders to access finance, and the potential to make the transition towards a more scientific and technology-based agriculture sector, is affected by the level of farm and non-farm income, remittances pension and, farm size, availability of family labor, land ownership, savings, and repayment ability. The study of Kiros and Meshesha (2022) examined the factors affecting farmers' access to formal credit in Basona Worana District, North Showa Zone, Amhara Regional State, Ethiopia. By using a logistic regression model to analyze the data collected from 299 smallholders' farmers, the regression result reveals that age, sex of household head, family size, extension contacts, off-farm income, interest rate, lending procedure, group lending and Rapid Repayment Period are the determinant factors of formal financial credit access at the household level. The other remaining variables such as education status, attitude towards credit risk, experience on credit use, farm land size, livestock ownership and distance from lending institutions, are also statistically insignificant.

In Vietnam, the research conducted by Vuong et al. (2010) studied the decisive factors of the access to formal credit of farm households in the Mekong Delta region. By using data from a direct survey of 288 farmer households in 2009 and employing the Heckman Selection Model, the research proved that Kinh (or purely Vietnamese) origin of household head, the locality where householder lives, household size, the proportion of dependants, householder's participation in local authorities, and land area owned by the householder are influencing factors of their access to formal credit supply. The study by Vuong and Dang (2015) provided insights into the factors affecting access to official pig production households' official credit in O Mon district, Can Tho city. Using data from a survey of 223 households and Probit models, the findings indicated that the characteristics of the household owner (including gender, education level, age) and the properties of households (such as income, social status) greatly impact the accessibility to official credits of households. The study of Nguyen et al. (2021) identified

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factors influencing access to formal credit for the surveyed shrimp farmers in Quang Dien district, Thua Thien Hue province. Based on 100 shrimp farmers interviewed, the results of the Probit model showed that factors influencing access to credit are the assessment of the increase in food prices, the Household's capital needs, the age of the household head, the satisfaction of the loan amount, the level of satisfaction with bank staff. The study also pointed out that the loan limit has not met the demand of the Household because the investment rate for this activity is quite high.

Through the comprehensive review of prior studies related to credit accessibility, 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 credit at credit institutions. Prior studies have suggested numerous factors influencing the credit accessibility of households, such as the household head's gender, age, education level, social status, race, household size, household per capita expenditure, the proportion of dependants, householder's participation in local authorities, provincial location, the level of farm and non-farm income, remittances and pension, availability of family labor, land ownership, savings, and repayment ability, interest rate, lending procedure, group lending. Based on the inheritance of related studies, this paper builds a quantitative research model and applies the Probit regression model to analyze the factors influencing credit accessibility from commercial banks of farm households.

2.2. Impact of Credit on Household's Income

So far, several studies conducted in Vietnam and other countries have analyzed the impact of credit on household income. The study of Gobezie and Garber (2007) examined the impact of microcredit on the lives of the poor in Ethiopia. The research results proved that microfinance has a positive impact on living standards and the ability to reduce poverty in households in this area. Using the OLS regression method, the study identified factors affecting household living standards (including average income and expenditure) such as age, gender, education level, health status, marital status of household head, loan volume, number of employees over 18 years old, and living area. Akwaa-Sekyi's (2013) research paper determined the impact of microcredit on labor employed, working capital, output, and farmers' income. This study collected data from 103 farmer clients of a rural bank and ran Paired samples *t*-test to identify the differences and effects of the credit intervention on the four dependent variables. This study also applied a modified Eta squared formula and paired samples correlation to determine the impact of the independent on the dependent variables. The results proved the significant effect of the micro-credit

intervention on the labor employed, working capital, output, and income of farmers.

The study conducted by Chen et al. (2021) investigated the effect of formal credit on rural household income and examined the mechanism that underlies this impact. This study found that formal credit significantly boosts rural households' income in 6 poverty-stricken counties in western China, including counties in Guizhou, Yunnan, and Shaanxi provinces. Besides that, formal credit promotes the reallocation of household labor from the agricultural sector to the non-agricultural sector and changes rural households' decisions about investment-consumption behavior, which are the drivers of changes in the amount and structure of household income. Additionally, the individual characteristics of rural households, such as different levels of material capital, human capital, and social capital, bring about differences in the effects of formal credit on income growth.

In Vietnam, research conducted by Dinh and Dong (2015) on the impact of formal credit on the income of Vietnamese farm households used panel data drawn from the VARHS (Vietnam Access to Resources Household Survey) dataset during 2006–2012. The impact of formal credit on income is determined based on the DID method combined with the Pooled-OLS regression model. Regression results confirmed the role of participation in formal credit programs in improving household income. Agricultural credit programs from the formal sector are positively impact Vietnamese household income. Joining a credit program leads to an increase of 9.5% in farm households' monthly per capita income. Besides credit, other factors such as Kinh ethnicity, education level, household size, the proportion of dependants, shock in agriculture, rate of labor engaged in off-farm activities, rate of labor participation in agricultural production activities, arable land area, savings also have a strong correlation with household income. The effect of the formal credit program on total household income is not strong, but the positive effect on household income is clear. Hence, the findings of this study proved the important role of credit for Vietnamese farm households through increasing household resources, thereby increasing productivity and improving rural household income. It can be said that formal credit programs in rural areas strongly contribute to the development of agriculture and rural areas in Vietnam.

The research conducted by Duong and Antriyandarti (2022) examined the impact of the preferential credit provided by the Vietnam Bank for Social Policies on poverty reduction and identified the barriers to accessing credit in Ninh Binh province, Vietnam. This paper applied the fixed-effects method to handle the panel data to examine the impact of preferential credit on poverty reduction. The empirical findings showed that the credit represented by loan volume positively impacts household income, but it does not help to

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improve household consumption. In addition, by using face-to-face interviews and group discussions, this study found major barriers to accessing credit, including the time spent to get to the nearest bank branch, banking support services provided to clients, and the transparency of household poverty status assessment.

Through the comprehensive review of previous studies, it is important to address that prior research papers have provided relatively diverse empirical frameworks and theoretical models on the influence of credit on a Household's income. Prior studies have proved that credit is a reasonable source to help eliminate poverty by improving household income, especially in rural areas. Based on the inheritance of related studies, this paper builds a quantitative research model and applies the Propensity score matching (PSM) method to investigate the impact of credit on households' income.

3. Research Methods

3.1. Sample Selection

This article uses primary data surveyed from 200 farming households who made loan requests at Vietnam Bank for Agriculture and Rural Development, Giong Rieng District Branch, Kien Giang Province II. The research sample is randomly selected. Respondents are directly interviewed based on the designed questionnaire. The respondents under the survey are divided into two groups, including a group of borrowers whose loan applications got approved and a group non-borrwers whose loan applications did not get approved. Getting a loan application approved means that the borrower is allowed to participate in a formal credit program, whereas not getting a loan application approved implies that the Household is not allowed to join a credit program.

3.2. Estimation Method

Many methods have been used to evaluate the impact of microcredit on income, such as the DID method, the PSM method, the two-stage regression method with instrumental variables, and the transformation regression method. Since farm households choose whether to participate or not to participate in credit programs, a selection bias problem may occur. Hence, this study employs the PSM method to overcome this issue (Dehejia & Wahba, 2002). Besides that, to examine the determinants of credit accessibility of farm households, the study applies the Probit regression model. In detail, these two methods are explained as follows.

3.2.1. Probit Regression Model

To analyze the factors affecting the credit accessibility of farm households in the research area, the study uses a binary Probit regression model. The research model is proposed as follows:

$$CREDIT = \beta_0 + \beta_1 GENDER + \beta_2 AGE \\ + \beta_3 ETHNIC + \beta_4 MEMBER \\ + \beta_5 DEPENDANT + \beta_6 INCOME \\ + \beta_7 FARM + \varepsilon \qquad (1)$$

Where CREDIT is the dependent variable, which is the credit accessibility from Vietnam Bank for Agriculture and Rural Development, Giong Rieng District Branch, Kien Giang Province II of farm household; GENDER, AGE, ETHNIC, MEMBER, DEPENDANT, INCOME, FARM are independent variables in the Probit regression model; β are the estimated coefficients of the regression model. Table 1 summarizes the characteristics of the variables in the Probit research model and the expected signs about the impact of the independent variables on the dependent variable (Table 1).

3.2.2. Propensity Score Matching Method

The study uses the PSM method to evaluate the impact of microcredit on the income of farm households in the research area. Baker (2000) stated that the basic steps to perform the PSM method are summarized as follows:

Step 1: Conduct a sampling survey of two groups: a group of participants and a group of non-participants. This survey must have the same questionnaire and conduct in the same location simultaneously.

Step 2: Building a Probit model from the survey data in which the dependent variable takes the value of 0 for non-participants and 1 for participants, while the independent variables are factors that can affect the possibility of participating in the program of both groups.

Step 3: Run regression for the Probit or Logit model and then calculate the predicted value or probability for each individual in the two groups. The predicted probability value is called the propensity score, which ranges from 0 to 1.

Step 4: Eliminating individuals whose prediction probability is too low or too high compared to the whole sample.

Step 5: Identifying the support zone for comparison.

Income impact is calculated from the difference between the pairs of households participating and not participating in the microcredit program under similar conditions of propensity scores.

The average impact of the formal credit program on households participating in the program compared to

Table 1: Description of Variables in Binary Probit Regression Model

Variables	Measurement Method	Expected Signs
Credit accessibility (CREDIT)	Dummy variable, 1 = Loan is approved, 0 = Loan is not approved	
Gender (GENDER)	Dummy variable, 1 = Male-headed household, 0 = Female-headed household	+
Age (AGE)	Age of household head, years old	+
Ethnic group (ETHNIC)	Dummy variable, 1 = Khmer, 0 = Otherwise	+
Household size (MEMBER)	Number of family members in Household (person)	+
Dependants (DEPENDANT)	Number of dependants in Household (person)	–
Income source (INCOME)	Dummy variable, 1 = Household relies purely on agriculture, 0 = Household has diversified income source (farm income and off-farm income)	–
Farm size (FARM)	Size of cultivated land (1000 m²)	+

Table 2: Descriptive Statistics of the Variables used in the Regression Model (Obs. = 200)

Panel A: Quantitative Variables				
Variables	Mean	Standard Deviation	Minimum	Maximum
Age (years old)	48.36	5.52	35	59
Member (person)	4.38	1.30	2	7
Dependant (person)	1.49	0.66	0	3
Farm (1000 m²)	15.60	8.20	1	31

Panel B: Dummy Variables			
Variables	Value	Number of Observations	Proportion (%)
Gender	1 = Male-headed Household	169	84.50
	0 = Female-headed Household	31	15.50
Ethnic	1 = Khmer	131	65.50
	0 = Otherwise	69	34.50
Income	1 = Household relies purely on agriculture	48	24.00
	0 = Household has a diversified income source	152	76.00
Credit	1 = Loan is approved	141	70.50
	0 = Loan is not approved	59	29.50

households not participating in the program, denoted by $\delta^{ATE}PSM$, is defined as follows:

$$\delta^{ATE}PSM = E\left(Y_1 \mid X, D = 1\right) - Ex\left[E(Y_0 \mid X, D = 0) \mid D = 1\right] \quad (2)$$

Next, four comparison techniques, namely nearest proximity comparison, radius comparison, nuclear comparison, and stratified comparison, are used in this study. The level of impact in this study is defined as the increase in income of rice farm households.

4. Results and Discussion

4.1. Characteristics of Surveyed Farm Households

Table 2 illustrates the descriptive statistics of the variables used in the regression model.

According to the survey results from 200 households in the study area, all of these households have the demand for loans and make loan requests at Vietnam Bank for Agriculture and Rural Development, Giong Rieng District Branch, Kien Giang Province. However, only 141 households

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(accounting for 70.5%) get loans from the bank, while 59 households (accounting for 29.5%) could not borrow money due to lack of collateral, impractical production plan, and bad debt repayment history. Out of the 200 observations, 169 respondents (accounting for 84.5%) are male, and 31 (accounting for 15.5%) are female. This indicates that most rural families in Giong Rieng district, Kien Giang province, are households headed by men. These male household heads have an important role and great influence in the family, whereas women play a supporting role in households. The results from Table 2 also show that in the research sample, the average age of the household head is 48 years old, the oldest respondent surveyed is 59 years old, and the youngest is 35 years old. Turning to an ethnic group, with the policy of the Vietnam Bank for Agriculture and Rural Development that credit borrowers can prioritize ethnic minorities, 65.5% of the respondents in the survey are Khmer people.

According to the number of family members in a household, the average figure is 4 people. The highest and lowest number of members in a household are seven people and two people, respectively. Turning to the number of dependants in a household, dependants are individuals under 18 or over 60 years old or who have lost their working capacity or have difficulties working. The average number of dependants in a household is 2 people. The Household with the highest number of dependants has up to 3 dependants. Households with many dependants might face many difficulties in production and business activities. Land area is considered collateral to guarantee loan repayment when the households borrow money from the bank. The average land area of a household is 15,600 m². There is a large difference between households with the largest land area and those with the smallest land area. In detail, the smallest and largest land size is 1,000 m² and 31,000 m², respectively. In terms of income generation, most households under investigation diversify their income source, at 76% of the total. Only about ¼ of the surveyed households rely purely on agriculture.

4.2. Factors Affecting Credit Accessibility

Table 3 presents the estimation results using the Probit regression model.

The results from Table 3 show that the Likelihood Ratio (LR) test has a p-value of 0.0004, which implies that independent variables simultaneously have a significant effect on the accessibility to the credit of households at the significance level of 1%. Moreover, the model's Pseudo-R^2 coefficient is 0.1160, indicating that the explanatory degree of the variables in the model is relatively low. The results from Table 3 show that household size (MEMBER), income source (INCOME), and farm size (FARM) have a considerable influence on credit accessibility (CREDIT) from Vietnam Bank for Agriculture and Rural Development,

Giong Rieng District Branch, Kien Giang Province II of farm households. The impacts of these variables on credit accessibility can be explained as follows:

Firstly, as expected, household size (MEMBER) is statistically significant at the significance level of 1% and positively impacts the credit accessibility of farm households ($\beta^4 = 1.1516$). This finding implies that the bank is more willing to approve loans for large-sized households. In other words, if the number of family members in the household increases, the ability to access credit increases. This result is similar to the study of Truong and Dang (2011) and To and Nguyen (2019). The main activity of farm households in the survey area is agricultural production, specifically rice farming and shrimp farming, so in the situation of limited arable land, an increase in household size often leads to an increase in revenue from operations. Thus, the ability of large-sized households to have a business plan that meets the needs of credit records might increase, so their loan application is easily accepted.

Secondly, according to the results in Table 3, income source (INCOME) has a statistically negative influence on the ability to access credit of farm households in the study area at the significance level of 5% ($\beta_6 = -0.8495$). This indicates that assuming that all other variables remain constant, the ability of purely agricultural Households to get a loan from the bank is significantly reduced by 84% compared to that of households involved in income diversification activities. This empirical result confirms the expectation and the finding of the study conducted by To and Nguyen (2019).

Table 3: Estimated Results of the Probit Regression Model

Variables	Coefficient	dY/dX
GENDER	0.2344	0.0476
AGE	0.0052	0.0010
ETHNIC	−0.3424	−0.0671
MEMBER	1.1516***	−0.0238
DEPENDANT	−0.2162	−0.0424
INCOME	−0.8495**	−0.1812
FARM	0.0384*	0.0075
Constant	1.0444	
Number of observations	200	
Log the value of the approximate function	−107.24706	
LR chi²	28.13	
Prob > chi²	0.0004	
Pseudo R^2	0.1160	

***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

Last but not least, based on the regression results in Table 3, farm size (FARM) has a positive relationship with credit accessibility of farm households with the positive estimated coefficient ($\beta_7 = 0.0384$) at the significance level of 10%. This indicates that assuming that other factors are held constant when farming size increases by 1%, the credit accessibility of farm household increases by 3.8%. In agricultural production, households mainly use manual labor, and their production strongly depends on the natural land area. Farm households with large land areas can easily access credit from Vietnam Bank for Agriculture and Rural Development, Giong Rieng District Branch, Kien Giang Province II, as they can use their land as collateral assets to secure their Loan when taking on loans at the bank. Thus, they can avoid borrowing from informal credit markets with high-interest rates. This result is in line with the expectation and the previous study of Vuong et al. (2010), Truong and Dang (2011), and To and Nguyen (2019).

However, this study has not found the effects of gender (GENDER), age (AGE), ethnic group (ETHNIC), or dependants (DEPENDANT) on credit accessibility of farm households in the study area since the estimated coefficients of these variables are not statistically significant.

4.3. Impact Assessment of Access to Credit

Before performing the impact assessment, several tests are performed to ensure the appropriateness of the propensity score model. The results from testing the significance of the Probit model and the correct prediction rate of the whole model (11.60%) indicate that the observed factors are significant in determining the propensity score.

Estimation results from the Probit model in Table 3 show that three variables greatly affect farm households' ability to access formal credit, household size, income source, and farm size. The effects of these factors on the credit accessibility of farm households are similar to the results of the research conducted by Vu (2001), Tran (1998), and Pastrapa (2009). Hence, the Probit model results used to determine the propensity score value for the comparison methods in the next step are completely consistent.

The influence of credit on the income of farm households in the study area is assessed using the mean comparison method and the PSM method. Table 4 presents the results of the impact assessment of credit on households' income.

Applying the PSM method, the propensity scores of individuals based on the set of characteristics (independent variables) are estimated. The analysis results only take the predicted probability value from 0.1409 to 0.9999. Households whose probability is outside the probability range of 0.1409–0.9999 are eliminated. Households are matched according to stratified probability, central, and interval matching methods. Then, the comparison results of each pair of individuals above are used to calculate the average treatment effect on the treated (ATT). The ATT value is the difference in income between the group of borrowing households and the group of non-borrowing households.

According to Table 4, the comparison results using the stratified probability matching method show that the difference in income between the two groups is 23.799 million VND/year at the significance level of 1%. For the main and interval matching methods, the disparities are 24.700 million VND/year and 24.633 million VND/year, respectively. Meanwhile, the results using the normal mean comparison method between the group of 141 borrowing households and 59 non-borrowing households show that the difference in income between the two groups is about 28.280 million VND/year at the significance level of 1%. Thus, it can be concluded that the normal mean comparison and the PSM methods give relatively similar results, showing that borrowing households use loans effectively, increasing their income. In other words, credit, specifically borrowing capital from Vietnam Bank for Agriculture and Rural Development, Giong Rieng District Branch, Kien Giang Province II, positively impact household income.

5. Conclusion

This study aims to analyze the determinant factors of credit accessibility and the effect of credit on the income of farm households borrowing from Vietnam Bank for Agriculture and Rural Development, Giong Rieng District

Table 4: Results of the Impact Assessment of Credit on Households' Income

Assessment Method		Borrowing Households (Household)	Non-Borrowing Households (Household)	Income Difference (Million VND/Year)	Standard Error	*t*-value
Mean comparison		141	59	28.280		
PSM	Central	141	59	24.700	-	-
	Interval	141	59	24.633	3.862	6.378
	Stratified	126	74	23.799	4.689	5.075

Branch, Kien Giang Province II, thereby proposing several recommendations to increase the credit accessibility of farm households to create favorable conditions for raising their income. Based on the primary data of 200 farming households who made loan requests at Vietnam Bank for Agriculture and Rural Development, Giong Rieng District Branch, Kien Giang Province II, the study applies the Probit regression model to examine determinant factors of credit accessibility of farm households and employs Propensity score matching method to investigate the impact of credit on households' income.

The results of the Probit regression method indicate that three independent variables that significantly influence the access to credit of households are household size, income source, and farm size. More specifically, household size and firm size positively affect the credit accessibility of farm households, whereas income source has a negative relationship with the ability to access credit of households. However, this study has not found the impacts of gender, age, ethnic group, or the number of dependants on the credit accessibility of farm households in the study area. Besides that, the results of the PSM method show that the difference in income between the borrowing households and the non-borrowing households is about 24 million VND/year at the significance level of 1%. Meanwhile, the results by using the normal mean comparison method show that the difference in income between the two groups is about 28.280 million VND/year at the significance level of 1%. Hence, it can be concluded that credit positively impacts household income. Borrowing households at the bank use loans effectively, contributing to an increase in their income. In other words, borrowing capital from a commercial bank, specifically Vietnam Bank for Agriculture and Rural Development, Giong Rieng District Branch, Kien Giang Province II, has contributed to stabilizing the income of farm households in the study area.

Based on the empirical findings, the authors proposed several recommendations to increase the credit accessibility of farm households to create favorable conditions for raising their income. On the side of the credit supply, as credit has a positive impact on the income of rural households, commercial banks in the study area should extend credit to farm households that have borrowing needs, offer more loan programs, diversify loan products to create favorable conditions for households having feasible plans to access cheap capital from the formal credit market. Additionally, banks should improve the appraisal of credit records, streamline the process of approving loan applications of farm households, rationalize the debt collection apparatus, and train credit officers to quickly grasp information related to the borrowing needs and the characteristics of farm households.

On the side of the credit demand, borrowers need to provide full and accurate information about their financial capacity when submitting loan applications. Farm households need to understand the role of collateral assets to improve their ability to access credit from commercial banks. Real estate, specifically lands, and houses, is one type of collateral used to secure a loan that banks will consider when making a lending decision. Large-sized land also benefits farm households from economies of scale, which helps increase their income. Therefore, farm households should own large-sized land as this will make it easier for them to access formal credit. In addition, as the results of this study point out that the credit accessibility of households that have different income sources is greater than that of purely agricultural households, so farm households should diversify their income generation sources. Besides participating in agricultural production consisting of growing agricultural products such as rice and vegetables and raising livestock, household members should engage in off-farm activities such as handicrafts, small-scale manufacturing (domestic and non-domestic), construction, and small trade. Moreover, farm households should increase the number of family members at the working age since they are the main labor force in households. By having more people aged 15–64, households can generate more income from different sources, strengthening their financial capacity and increasing their credit accessibility.

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