INTERNATIONAL JOINT POLISH-SWEDISH PUBLICATION SERVICE
IJPSPS.COM

International Journal of Management Review

The Impact of Financial Inclusion on Poverty in Vietnam

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IJMR 2023, Vol, 9(1): 1-12

ABSTRACT

This paper is aimed at analyzing the cross-sectional data of 47000 observations from the Vietnam Household Living Standard Survey 2018 to determine Vietnam's financial inclusion's impact on poverty. The Logistic Regression Model was applied in this research. For this paper, we constructed a composite index for financial inclusion, and for the multidimensional poverty index, the methodology of Alkire-Foster was applied. Key findings were that: (i) financial inclusion had a significant negative impact on poverty in Vietnam; (ii) A lower poverty rate is seen in people with higher education level; (iii) in areas with favorable conditions and economic development, the poverty rate decreases; (iv) people in urban areas have a higher chance of escaping from poverty than in rural areas; and (v) for households that are ethnic minorities, the poverty rate is higher. These results demonstrate that financial inclusion is one of the factors that have the strongest impact on the poverty rate in Vietnam. The article also proposes several practical solutions to further develop financial inclusion in Vietnam and thereby reduce poverty.

Key words: Financial Inclusion, Poverty, Banking, Insurance, Credit, Vietnam

INTRODUCTION

Poverty is a global condition that threatens humanity's survival. It transcends religion, ethnicity, and geography. Poverty is a multifaceted natural phenomenon having physical, economic, social, and psychological aspects [1]. While we are in a period of strong and rapid economic development, the world still has parts of the population living in extreme poverty.

Poverty has long been focused on improved by countries and institutions around the world. Specifically, India is a country that has made great strides toward decreasing poverty. Saansad Aadarsh Gram Yojana (SAGY) is one of the initiatives focusing on the social and cultural development of villages. The overall purpose of the program is to improve the living conditions and overall quality of life for all residents. Like other countries in the world, Vietnam also considers poverty reduction as an important goal throughout the country's socio-economic development. Although the poverty rate in Vietnam has decreased from 16.8% in 2010 to 5% in 2020, poverty remains a key concern among the population [2]. New solutions always need to be devised, evaluated, and implemented to improve poverty both in Vietnam and around the world.

Financial inclusion is a new trend in overcoming poverty, attracting great attention from countries around the world and promoting development, including Vietnam. Since 2010, more than fifty-five nations have announced financial inclusion promises, and more than 30 have initiated or are creating a national plan [3]. In 2022, the Prime Minister of Vietnam approved Decision No. 149/QD-TTg about the National Financial Inclusion Strategy for 2025, with an orientation to 2030. Even though financial inclusion is only a new concept in Vietnam, it has attracted the attention of researchers.

There has been some research on the impact of financial inclusion on alleviating poverty in Vietnam utilizing country-level data, however, there is not much evidence on how financial inclusion directly helps the poor. Using household-level data, this research set its purpose to elucidate the effect of financial inclusion on the poor.

Due to the aforementioned importance, the topic of "The impact of financial inclusion on multidimensional poverty reduction in Vietnam" is carried out in this research.

Literature review

Poverty

The concept of poverty can sometimes be thought of as unambiguous and straightforward. In common usage, "poverty" arises when one or more persons fall short of a tolerable minimal degree of economic wellbeing, either by an absolute definition or by other societal criteria [4]. However, this definition of "economic welfare" is limited in nature. It may reveal nothing about job insecurity, length of life, health, risk, etc. [4].

The concept of poverty or the identity of poverty depends on each country, region, and population group because poverty is closely related to the surrounding situation. Therefore, there are many different opinions about the meaning of poverty. Different poverty scales and definitions of are used for different applications. Whatever the definition of poverty, a prerequisite for an effective policy is a rational application of that definition [5]. Vic George writes that: "Poverty includes the core elements of basic necessities as well as a list of necessities that vary over time and place" [6]. Deleeck and Karel (1992) argue that "poverty is not limited only by a frame of reference, such as income, but it includes all problems surrounding life such as housing, education, and health [7].

In this paper, poverty is defined as "a state in which depending on the degree of socioeconomic development, customs, and habits of the people, a portion of the population cannot enjoy and satisfy fundamental human needs recognized by society" [8] as this definition was considered appropriate for the major parts of the world, including Vietnam.

- **Measurement of poverty**

Based on the difference of views on poverty, the poverty measurement method also has different opinions. Each measure will find different results and influence the policy direction of countries in the face of poverty. The most common measure is the percentage of the population that is considered poor. This approach would assume that one should only be concerned with getting people above the poverty line. Some other methods would make the point that the poorest people's living standards should be raised first. Recently, poverty has been widely agreed to be a multi-faceted phenomenon and the multidimensional poverty approach has become increasingly popular when applied in poverty monitoring, analysis, and policymakers in many countries, and nations. Multidimensional poverty is caused by many factors that create the shortage of poor people such as poor health, lack of education, inappropriate living conditions, lack of income, lack of empowerment, poverty in the quality of work, and threats from violent acts.

Among the multidimensional poverty assessment methods, the Alkire-Foster method of Sabina Alkire and James Foster attracted great attention from the international community thanks to its simple but effective, highly feasible tool for ranking and measuring multidimensional poverty [9]. This method starts with determining the basic social needs people need to access or the number of aspects in the multidimensional poverty analysis. Fundamental aspects might include health, education, living standards, and so forth. Each of these poverty dimensions will be measured based on component indicators (symbol *Ik*). For each household *I*, we will estimate the deprivation score according to the formula:

$$c_i = \sum_{k=1}^{K} w_k I_{ki} \quad (1)$$

Where *wk* is the weight of the component index *Iki*, *Iki* is the value of the component index *k* of the family *i*, and *K* is the total number of component indices. The *Iki* component indices are defined as binary indices, with a value of 1 corresponding to a deficiency in that component and 0 corresponding to no deficiency. The number of dimensions and component indices in each dimension determine the weighted value of the component index.

The identification of poor households in Vietnam is a combination of the multidimensional poverty assessment method and the traditional method of income poverty. The identification of poor households is specified in the Prime Minister's Decision 59/2015/QD-Ttg. As the research is carried out in Vietnam, this paper will be using this identification as the measurement for poverty.

- **Problem of poverty**

Poverty comes with numerous problems, such as mental health. It is evident that low income tends to put a higher risk for mental health problems [10], poor physical health, and family violence [11]. Furthermore, children living in poverty can have much more drawbacks compared to others. Child poverty can be detrimental to one's future life. On the other hand, poverty can also hinder economic growth. Poverty and economic growth are negatively and strongly associated throughout time [12].

Financial inclusion

Financial inclusion, despite being a novelty concept, has been explained in different ways in scientific studies, but most of them agree on the notion of financial inclusion as a way of gaining access to and using financial products and services. Financial inclusion is defined as the process of ensuring that all members of society have easy access to, availability of, and usage of financial services [13]. Amidžić, *et al*. (2014) argue that financial inclusion is an economic state where individuals and institutions are not denied access to basic financial services [14]. The World Bank (2018) in compounded financial inclusion as when individuals and companies have access to usable and cheap financial goods and services that satisfy their needs for payments [15], credit, savings, transactions, and sustainably insured [16]. QĐ149/2020 of the Vietnam government (2020) stated that "Financial inclusion means that all individuals and firms can access and use financial products and services conveniently, per their needs, at a reasonable cost, and provided responsibly. and sustainability, with a focus on the poor, low-income people, the disadvantaged, small, medium-sized, and micro enterprises."

- **Measurement of financial inclusion**

According to Camara and Tuesta (2014), there are currently two main approaches to measuring financial inclusion that is [17]; by using aggregated data of service providers to measure usage and access to services in formal finance [14, 18] and using disaggregated data of households to measure usage and barriers affecting individuals' use of financial services [19].

Regarding the aggregated data-based approach to service provision, the most popular indicator was introduced by Sarma (2008) - the Financial Inclusion Index (FII) is calculated on the basis of 3 elements: depth of access, availability, and usage [18]. This methodology was later used to calculate the FII by several researchers such as Sarma and Pais (2011); Kumar and Mishra (2010) [13, 20].

Another approach to measure financial inclusion is using disaggregated data. Using The Global Findex Database, several researchers evaluated financial inclusion through dimensions such as ownership of a formal financial institution account, savings, and credits [17, 21]. To shed light on how financial inclusion directly impacts the poor, this paper will be using household-level data to calculate the financial inclusion index. Following the use of multidimensional approaches to measure financial inclusion in recent studies [22, 23], we will use three dimensions of financial inclusion. These dimensions include the ownership of a formal financial institution account, insurance coverage, and credit/loans. The following formula will be used if each dimension is given an equal weight of ⅓:

$$FI_i = \sum_{k=1}^{3} w_k I_{ki} \quad (2)$$

Where FIi represents a household's financial inclusion score, Ii = 1 if a household provides an affirmative response for the indicator i, and Ii = 0 if otherwise. wi is the weight attached to indicator i with $\sum_{i=1}^{K} w_k = 1$.

Although previous studies [22, 23] use a 0.5 cut-off to create a binary variable that is 1 when a household's score is more than 0.5 and 0 when it is not. Because the ratio of the poor to the non-poor household would be extremely small as a fraction of households in Vietnam has access to more than one financial service.

The impact of financial inclusion on poverty

Access to formal financial institutions has a significant impact on poverty [24, 25]. Many low-income families are not only cash-strapped, but they often have little to no savings and no access to low-cost borrowing [26]. As a result, when confronted with revenue deficits, they are frequently obliged to reduce spending, even on necessities like as food and housing, and to pay exorbitant interest rates on loans [27]. Therefore, access to financial services enables the poor to fight the various dimensions of poverty and make improvements in their lives which provides momentum for growth and development [28].

Based on Sarma (2008)'s methodology, Park and Mercado (2015) examine the relationship between financial inclusion, along with other control variables, on poverty and income inequality [18, 29]. The results confirm that financial inclusion reduces income inequality and the poverty index.

The use of macro-level statistics, on the other hand, may ignore subtle and deep insights into how people and families are effected by their participation or exclusion from the financial system [22]. Thus, the use of this microdata is vital to the evaluation of the impact of financial inclusion on the poor. Churchill and Marisetty (2020) utilize data on 45,000 households across India, to measure the impact of financial inclusion on poverty. The results have shown that financial inclusion contributes to reducing multidimensional poverty.

Park and Mercado (2018) posit that comprehensive finance aids in poverty reduction because when more individuals have increased access to financial services, they can engage in entrepreneurial activities [30]. Agyemang-Badu's (2018) research findings also support the inverse relationship between comprehensive finance and poverty and inequality in Africa [31]. Inoue (2019) identifies the contrasting impact of comprehensive finance on the poverty rate in public banks, but not in private banks [32]. Khan *et al*. (2022) examine the effects of comprehensive finance on poverty, income inequality, and financial stability by employing unbalanced data from 54 African countries over the period from 2001 to 2019 [33]. The results demonstrate that comprehensive finance diminishes poverty, reduces income inequality, and enhances financial stability.

Current research in Vietnam only assesses the impact of comprehensive finance on poverty through macro-level data [34, 35]. These studies have yet to delve into evaluating the effect of household-level comprehensive financial access on poverty alleviation.

Studies on financial inclusion in Vietnam also show similar results when assessing the impact of financial inclusion on poverty. Hương, *et al*., (2022) have shown that promoting financial inclusion facilitates access to financial services for all classes of the population and through that, can help people get out of poverty [36]. The influence of financial inclusion on poverty reduction may be seen both directly and indirectly [36]. The study "Financial Inclusion and Poverty: A Case in Vietnam", finds a strong negative impact of financial inclusion on poverty.

Impact of other factors on poverty

Vietnam has 6 economic regions including the Southeast, the Northern Midlands and Mountainous, the Highlands, the North Central and Central Coast, the Red River Delta, and the Mekong River Delta. Different regions have different socio-economic conditions and different access to basic social services. UNICEF (2021) found the Northern Midlands and Mountainous, the North Central and Central Coast, the Highlands, and the Mekong River Delta have higher deprivation in all dimensions of poverty than average in Vietnam [37]. This is because, in these regions, the climate and the topography are detrimental to economic growth. Similar to the economic region factor, whether the household is in an urban or rural area also has an impact on access to basic social services, employment opportunities, and income-earning capacity. Churchill and Marisetty (2020) found that the location of the household has a significant impact on multidimensional poverty [22].

The fundamental opportunity of the family is mostly controlled by the head of the home, thus the key variables pertaining to the head of the household, such as the household head's education level or ethnicity, are among the basic elements that considerably impact household income. The inverse relationship between education level and poverty has been researched by many papers [38]. Statistics on living standards show that households headed by Kinh/Hoa people have higher incomes and better conditions when accessing services such as health, education, information, living, or housing conditions [37].

Materials and Methods

This study uses cross-sectional data from the Vietnam Household Living Standard Survey 2018. This survey is a sampling survey organized annually by the General Statistics Office to to gather information, synthesize it, and generate national statistical indicators on family living standards in order to satisfy statistical information demands in assessing the living situation of the population.

The research team uses a regression model to analyze the factors affecting the poverty capacity of Vietnamese households. The correlation regression method is applied to study the relationship between the dependent *variable (multidimensional poverty variable)* and one or more independent variables to examine the degree of influence of the independent variables on the dependent variable. In order to build a regression model and analyze the model, it is necessary to clearly define several issues as follows:

**First*, define research objectives and content. Specifically, this study investigates the situation and factors affecting multidimensional poverty in Vietnam. In particular, the group focused on studying the impact of a household's access to financial inclusion on the household's p to be poor.

*Second, after accurately determining the research content, we proceed to select the criteria (called variables) that are related to each other. The criterion that we need to choose must have two types: the outcome criterion and the causal. The dependent variable here is the multidimensional poverty variable. The independent variables here are the variables accessing financial inclusion, economic region, urban-rural area, education level of the household head, and ethnicity of the household head.

*Third, select the appropriate regression model and build the regression model.

As mentioned above, the dependent variable *y* is chosen as the multidimensional poverty variable. The dependent variable *y* is a binary variable that takes 2 values:

+ *y* = 1: the household is multidimensionally poor

+ *y* =0: the household is not multidimensionally poor

Therefore, with the characteristics of the dependent variable, we choose the probit nonlinear probability model to analyze the factors affecting the multidimensional poverty capacity of the household.

The dependent variable is a multidimensional poverty variable with:

- Multidimensionally poor and near-multidimensionally poor households have a value of 1
- Multidimensional non-poor households have a value of 0

The summary of all independent variables in the model is presented in the **Table 1** below.

Table 1: Independent variables used in the model

Variable name	Code	Formula	Hypothesis	References
Poverty	Poverty	(=1) if the household is multidimensionally poor or near-multidimensionally poor (=0) if the household is non-multidimensionally poor	Dependent variable	
Financial inclusion	FI	(=1) if the household has access to financial services (=0) if the household does not have access to financial services	-	[22, 29, 36]
Ethnicity of the head of household	Ethnicity	(=1) if the head of the household ethnicity is Kinh/Hoa (=0) if the head of the household ethnicity is other than Kinh/Hoa	-	[37, 39, 40]
The highest degree of household head	Education	if the household's head : (=1) does not have an educational degree (=2) highest degree is from a primary school (=3) highest degree is from a secondary school (=4) highest degree is from a high school (=5) highest degree is from an elementary/intermediate vocational (=6) highest degree is from a college/university or higher	-	[38, 40-43]
Household location (rural vs. urban)	Location	(=1) if the household lives in urban areas (=0) if the household lives in rural area	-	[22, 37]
Economic regions	Regions	(=1) if the household is living in the Red River Delta (=2) if the household is living in the Northern midland and mountainous (=3) if the household is living in the North Central and Central Coast (=4) if the household is living in the Highlands (=5) if the household is living in the Southeast (=6) if the household is living in the Mekong River Delta	-	[37]

Source: Authors' compilation from literature review

Results and Discussion

Access to financial inclusion

The difference in multidimensional poverty rates between households with and without access to financial inclusion is significant, which are stated in **Figure 1**.

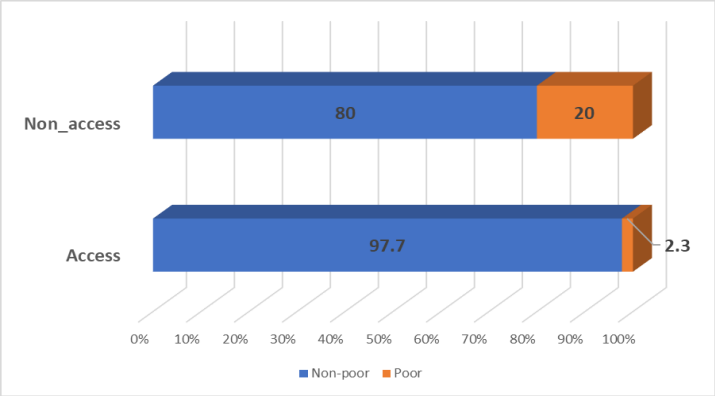

Figure 1: Vietnam's multidimensional poverty through financial inclusion
Source: Authors' compilations and assessments with VHLSS2018 data

Among households having access to financial inclusion, only 2.3% are the poor (which are classified by multimentional criteria). On the other hand, for households without financial inclusion, the proportion of the poor increases about 10 times (20%). It shows the inverse relationship between that full access to financial services and the poverty rate.

Education level of household head

The greater the level of education (diploma) of the household head, the lower the multidimensional poverty and near-poor rate. This relationship is presented in **Figure 2**.

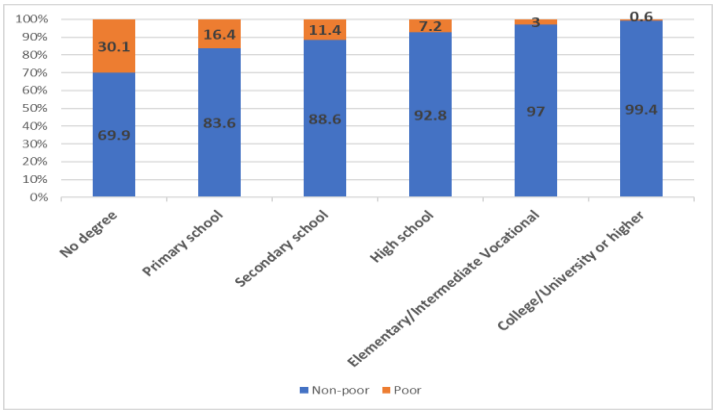

Figure 2: Vietnam's multidimensional poverty ratios versus the education level of household's head
Source: Authors' compilations and assessments with VHLSS2018 data

Households with the heads having no degree have the highest poverty rate of up to 30.1%. It means that 3 out of 10 households with a head of household without a degree are poor. However, when the head of the household has a primary school diploma, the poverty and near-poor rate has nearly halved.

Ethnicity of household head

Ethnicity of household head has strong impacts on the poverty. Among households from the Kinh group (85.32% of Vietnamese population) or Hoa ethnic group (0.78% of Vietnamese population but have the high income level), the poverty rate is only 8.6%. However, the poverty rate among households belonging to 52 other ethnic minorities in Vietnam is 5 times.

Socio-economic area

Multidimensionally assessing poverty and near-poor across economic areas, we find that the two most developed areas in the country, the Red River Delta and the Southeast, have the lowest poverty rates, at 6.1% and 1% respectively.

Table 2: Vietnam's multidimensional poverty across economic regions

Economic area	Not poor	Poor
Unit	%	%
Red river delta	93.9	6.1
Northern Midlands and Mountains	68.9	31.1
North Central and Central Coast	82.5	17.5
Highlands	76.5	23.5
South East	99	1
Mekong Delta	88.5	11.5

Source: Authors' compilations and assessments with VHLSS2018 data

Urban and rural

Through the data results, we also clearly see the poverty rate in urban areas is only 6% with 94% of households meeting the standard in the non-poor category. Meanwhile, the poverty rate in rural areas is much higher with 18.5% of households being poor. The difference in poverty rate between the two areas is understandable because, in urban areas, where economic centers are concentrated, it will create favorable conditions for people to access jobs and increase income.

Correlation

The correlation among poverty, financial inclusion, education, ethnicity and location via correlation test are expressed in **Figure 3** below.

	Poverty	FI	Educat~n	Ethnic~y	Regions	Location
Poverty	1.0000					
FI	-0.2285*	1.0000				
	0.0000					
Education	-0.2526*	0.3455*	1.0000			
	0.0000	0.0000				
Ethnicity	-0.3849*	0.1924*	0.1962*	1.0000		
	0.0000	0.0000	0.0000			
Regions	-0.0599*	-0.0255*	-0.2122*	0.1301*	1.0000	
	0.0000	0.0000	0.0000	0.0000		
Location	-0.1618*	0.2880*	0.2813*	0.1941*	0.0458*	1.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	

Figure 3: Correlation coefficients among variables in the regression model

Source: Authors' compilations and assessments with VHLSS2018 data

With the significant levels of 0%, it is confirmed that the all independent variables (financial inclusion, education, ethnicity, regions and location) are correlated with poverty. Therefore, we can include all these variables in the regression model

Probit regression model

First, we will run a univariate linear regression model between the two variables we are most interested in, namely, the multidimensional approach to poverty (poor) and the household's access to financial inclusion.

The model will take the form:

$$Pr(poverty=1) = F(\beta 0 + \beta 1 * FI) \quad (3)$$

The regression result of the (3) model is shown below in the **Figure 4** below.

```
Iteration 0:   log likelihood = -19631.957
Iteration 1:   log likelihood = -18108.349
Iteration 2:   log likelihood = -18033.679
Iteration 3:   log likelihood = -18033.457
Iteration 4:   log likelihood = -18033.457

Probit regression                               Number of obs     =     46,980
                                                LR chi2(1)        =    3197.00
                                                Prob > chi2       =     0.0000
Log likelihood = -18033.457                     Pseudo R2         =     0.0814
```

Poverty	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
FI Access	-1.154826	.0245707	-47.00	0.000	-1.202983	-1.106668
_cons	-.8417295	.0078672	-106.99	0.000	-.8571489	-.8263102

Figure 4: Probit regression with poverty and financial inclusion

Source: Authors' compilations and assessments with VHLSS2018 data

The test results Prob>chi2=0.00000 is very small, so with a significance level of α of 5% or 95% confidence, it is possible to confirm that the coefficient β of the independent variable FI has no value of 0 or the model is statistically significant. Regression model (1) explains 11.34% of the variability of the dependent variable as multidimensional poverty.

The result of the coefficient β1 of the variable FI is 0.0000 (P-value=0.00<0.05) which means that the β1 value of the variable FI is statistically significant. In this regression model, the group of households that do not have access to financial inclusion is the control group (omitted). The coefficient β1 of the group of households with financial inclusion is -1.240883. Thus, we can confirm households that have access to financial inclusion are less likely to be multidimensionally poor.

Next, we will conduct multivariable regression, the regression model includes all the variables that we have selected above. Therefore, we have to build a regression model including variables that can affect multidimensional poverty.

The model will take the form:

$$Pr(poverty=1) = F(\beta 0 + \beta 1FI + \beta 2*education + \beta 3*ethnicity + \beta 4*regions + \beta 5*location) \quad (4)$$

Test Prob>chi2=0.0000 meaning with significance level α equal to 5% or 95% confidence level can confirm that there is no case where all β (regression coefficients) of the independent variables are at the same time equal to zero, or the regression model is statistically significant.

R2 equals 0.272 i.e. the regression model explains 27.2% of the variation of the dependent variable (multidimensional poverty).

The regression result of the (4) model is shown below in the **Figure 5** below.

```
Iteration 0:   log likelihood = -19627.811
Iteration 1:   log likelihood = -15011.244
Iteration 2:   log likelihood = -14581.137
Iteration 3:   log likelihood = -14561.687
Iteration 4:   log likelihood = -14561.514
Iteration 5:   log likelihood = -14561.514

Probit regression                                 Number of obs     =     46,965
                                                  LR chi2(13)       =   10132.60
                                                  Prob > chi2       =     0.0000
Log likelihood = -14561.514                       Pseudo R2         =     0.2581
```

Poverty	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
FI						
Access	-.7716235	.0289124	-26.69	0.000	-.8282907	-.7149563
Education						
Primary school	-.346483	.0211563	-16.38	0.000	-.3879485	-.3050175
Secondary school	-.548039	.0227386	-24.10	0.000	-.5926059	-.5034722
High school	-.6951632	.0358153	-19.41	0.000	-.7653598	-.6249665
Elementary/Inter..	-1.121322	.0460137	-24.37	0.000	-1.211507	-1.031136
College/Universi..	-1.600648	.0858492	-18.64	0.000	-1.76891	-1.432387
Ethnicity						
Kinh/Hoa	-.8053739	.0225823	-35.66	0.000	-.8496344	-.7611133
Regions						
The Northern Mid..	.3884237	.0310567	12.51	0.000	.3275538	.4492937
North Central an..	.3940789	.0274461	14.36	0.000	.3402855	.4478723
Highlands	.3570126	.0369233	9.67	0.000	.2846442	.4293809
Southeast	-.9545295	.0605473	-15.77	0.000	-1.0732	-.835859
Mekong River Delta	-.0439742	.0292784	-1.50	0.133	-.1013587	.0134104
Location						
Urban	-.1723262	.0223465	-7.71	0.000	-.2161246	-.1285279
_cons	-.0452458	.0322625	-1.40	0.161	-.1084791	.0179876

Figure 5: Probit regression results of poverty with financial inclusion, and other variables

Source: Authors' compilations and assessments with VHLSS2018 data

For the financial inclusion variable, the regression coefficient for the financial inclusion group is -.8736435. This result shows that other things being equal if a household moves from not having access to financial inclusion to having access to financial inclusion, the probability of that household being poor decreases [44]. This result is consistent with existing research on the topic [22, 29, 36].

For the variable with the highest degree of the head of the household (Education), the "no degree" group is the control group. When the research team alternately replaced the control group of heads of households with different qualifications, it showed that the higher the degree of the household head, the lower the probability that the household was poor.

For the regions variable, with Red River Delta being the control group, it is shown that the Southeast has a negative impact on poverty, Mekong River Delta also has a negative regression coefficient but is not statistically significant as the p-value is higher than 0.05. Other regions have a significant impact on multidimensional poverty.

For the location variable, with households living in rural areas being the control group, living in urban areas have a negative impact on poverty.

For the ethnicity variable of the household headed by Kinh/Hoa, the regression coefficient for the financial inclusion group is -.7313045. The majority of Kinh/Hoa ethnic groups are and the probability of poor households is less than that of other ethnic groups.

As the regression results presented in **Figure 5**, financial inclusion is the third most influential independent variable, whereas education is the most influential. These findings are consistent with our theory and the findings of previous studies [22, 29, 36, 37].

Policy Implications

Via the results and discussions in the model, poverty reduction can be reduced significantly through financial inclusion development. To promote and develop financial inclusion in the digital era, it is necessary to implement appropriate solutions, in which personal finance education is always considered the fundamental solution and also has the strongest impact on poverty reduction. Financial literacy positively and significantly affects financial inclusion because it provides financial knowledge and skills, which could help consumers make financial decisions [45]. Moreover, increased financial literacy can increase account ownership and impact some financial behaviors, including savings and record keeping [46]. The majority of Vietnamese people do not have enough knowledge to understand in-depth financial products and the risks associated with financial products. This

shows that the implementation of financial education for the community is crucial, significantly contributing to promoting financial inclusion in one's country.

In addition to promoting financial education, the introduction of policies to develop the banking agency model also contributes to promoting financial inclusion. According to Lotto (2016), Agent banking's geographical reach is the best supporter of financial inclusion since it reduces travel fees and other hassles such as time spent waiting in long lines at bank branches [47]. Besides, agent banking will help savings and credit to be available to a large portion of the unbanked and financially excluded members of society. Thus, the expansion of the banking agent model helps people, especially those living in rural, distant, or isolated places, easily access a variety of financial services from major financial institutions. The presence of a banking agent will improve the sustainability of the business and facilitate financial transactions. These will increase economic activity, increase employment rates and reduce poverty [48].

Conclusion

In conclusion, this research paper delved into the crucial relationship between financial inclusion and poverty in Vietnam, using a large dataset and a comprehensive analytical approach. The findings have illuminated several significant insights. Firstly, it is evident that financial inclusion plays a vital role in poverty reduction, thus confirming its potential as a powerful tool for economic development. Furthermore, the study highlights the influence of education as the most potent factor in reducing poverty, underscoring the importance of investing in human capital development.

Moreover, the research revealed that geographic location, with urban areas exhibiting greater opportunities for poverty alleviation compared to rural regions, and the impact of ethnicity on poverty rates, provide valuable insights for policymakers seeking to address disparities within the country. The study's multidimensional approach to measuring financial inclusion by considering account ownership, insurance coverage, and credit/loans ownership has provided a comprehensive perspective on the subject.

In light of these findings, the paper recommends a multifaceted approach to poverty reduction in Vietnam. This includes promoting financial education as a fundamental solution and developing policies that facilitate the expansion of the banking agency model. By addressing these key areas, Vietnam has a unique opportunity to enhance financial inclusion, thereby reducing poverty and improving the overall well-being of its population. This research contributes significantly to the ongoing discourse on financial inclusion and poverty alleviation in emerging economies, offering valuable insights for both scholars and policymakers.

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