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The impact of migration on income poverty: A Case Study in Vietnam

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ABSTRACT

In Vietnam, migration, especially migration for employment, is a livelihood support strategy for households exposed to agricultural and economic shocks. This study examines the impact of migration on income poverty in rural Vietnam. The analysis uses panel data of 2800 rural households in Vietnam from the Viet Nam household living standards survey (VHLSS) data set in 2016 and 2018. Using econometric regression with the probit model for dependent variables, which is a binary variable, the empirical evidence shows that migration has a positive effect on poverty reduction. This implies that strengthening and promoting migration will help people to improve their welfare.

Keywords: *Poverty, migration, Vietnam*

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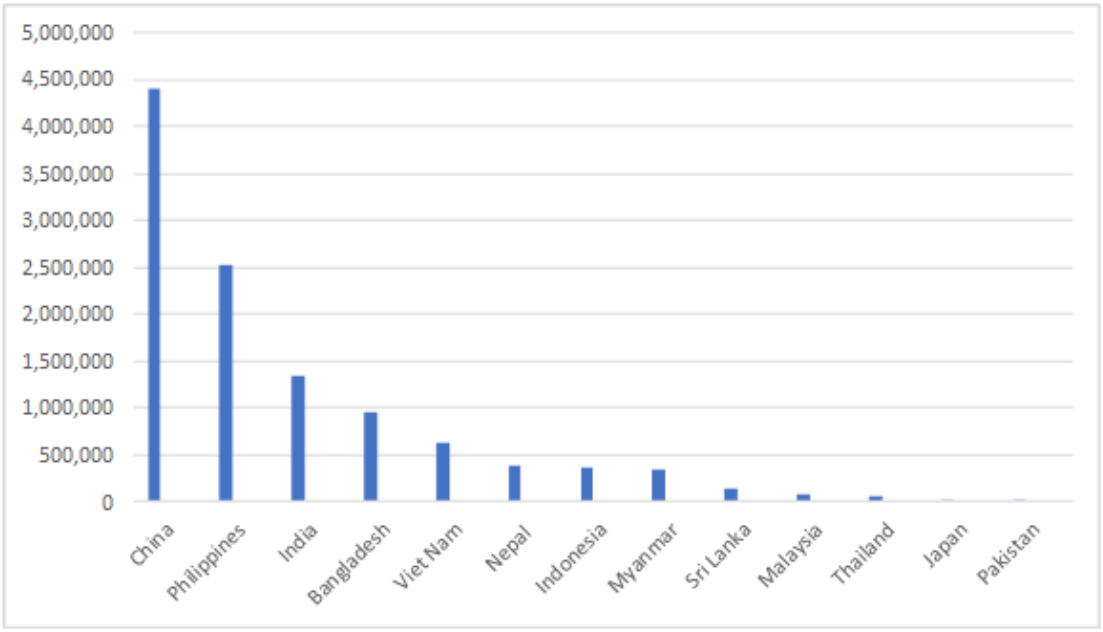
1. Introduction

Migration is inevitable in countries experiencing rapid economic and social development. China, Indonesia, India, Thailand and other countries in the Asian region have recently seen significant increases in internal migration, especially inter-provincial migration. Migration has a remarkable effect on reducing poverty by meeting labor needs but risks to migrants and their home communities due to limited access to social services and employment information, welfare and health (Deshingkar, 2006).

In Viet Nam, migration is increasingly important as it is the main cause of socio-economic inequality and population growth among regions (Dang et al., 2017). Since Doi Moi in 1986, the transformation from a centrally planned economy to a multi-sector commodity economy has increased personal income. In addition, the Vietnamese economy has grown noticeable and contributed to poverty reduction. However, the benefits of Doi Moi are not equal across regions: While big cities such as Ho Chi Minh and Hanoi as well as surrounding areas have received high levels of industrial capital, high income while regions such as the Northern mountainous region, the North Central Coast, the Central region, the Highlands and other rural areas have lagged behind. This disparity especially in income among those regions has created an influx of rural-to-urban migrants (Phan and Coxhead, 2010). In recent years, Vietnam has been a country with a high rate of internal migration in Asia.

Fig 1. Internal displacement in Asia



Source: Global Report on Internal Displacement

In order to make relevant policies and to provide better support for the lives of internal migrants, especially rural-to-urban migrants in Vietnam, as well as their families, it is necessary to understand the effects of migration on income poverty.

2. Literature review

Around the world, many researchers are interested in the impact of migration on poverty, especially income poverty. In 2020, Agza et al. have pointed out that migration as a livelihood strategy has a positive or negative impact on socio-economics, especially in terms of poverty and ability to manage migration of households having migrants.

De Haas (2006) when studying remittances and regional, through qualitative research and a survey among 507 non-migrant, internal and international migrant households, in the Moroccan Todgha oasis has shown that migration and international remittances have considerably contributed to economic development, improving living standards, facilitation and the lives of the ethnic groups at the seaside. The study states that international migrant households invest more than non-migrant households in housing, agriculture and other types of business.

Besides, McCarthy et al (2006), in their study on the impact of migration on agriculture, showed that the benefits from labor migration are numerous, as it has a positive effect on increasing rural household income and reducing poverty through agriculture. Using data from two waves of the Albania Panel Survey carried out between 2002 and 2003, the also suggests that the loss in household labor in agriculture is compensated by increased access to capital, leading to overall improvements in both agricultural and total incomes. This view is also supported by Hull (2007) in a research on migration, remittances and the monetization strategy of agricultural workers in self-sufficient areas.

On the other hand, negative reviews suggest that migration is a win- lose situation and do not mention its role in reducing poverty. The result of some studies show that labour migration leads to poverty as the loss of productive labour lessens income from agriculture. (Todaro, 1969; Mazambani, 1990; Gunjan & Chinnappa, 2015).

Besides, the increase in migration size presents a paradox to many people. Unsecured migration makes migrants well-off, some even become poorer after moving from one place to another. This may partly be due to migration pressure, as a result of 'an oversupply of people willing to migrate relative to the demand of destinations' (Skeldon 1997, p. 7). Because migration is understood as a strategy to escape poverty, there is no guarantee that this strategy will be successful. It is not always expected that finding suitable jobs and having better standards of living come true. As a result, the poor who migrate may become chronically poor.

In Viet Nam, there are many scholars analyzing the impact of migration on income poverty. Nguyen, V.Cuong (2008), when examining the link between international remittances and poverty in Vietnam, has shown that receiving remittances increases remarkably household income and consumption, but only partially reduces poverty. The author also suggest that foreign remittances have increased inequality, albeit at a small magnitude.

Nguyen, H.L. and Mont (2010) argue that Vietnam considers labor export to be an important tool for job creation, poverty reduction, and sustainable economic development. The government has promulgated many policies to support labor exports including incentives exist to encourage workers to go work abroad and various types of training and preferential loans. However, the result of the research shows that the majority of remittances go to non-poor families, so the impact of migration on poverty reduction is limited.

Another study about the effect of employment or non-employment migration on household welfare, poverty and inequality by Nguyen, C.V. et al. (2011) have shown that both types of migration have positive impacts on per capita expenditure of households with migrants. Accordingly, labour migration significantly reduces the incidence and severity level of national poverty. Although employment migration does not help people get out of poverty, it does make their poverty less severe.

3. Data and method

3.1. Data

This study uses the Viet Nam household living standards survey (VHLSS) 2016 and 2018, with the support of the World Bank. To evaluate living standards for policy-making and socio-economic development planning, from 1993 to now the General Statistics Office (GSO) conducts the VHLSS. The purpose of the VHLSS in order to systematically monitor and supervise the living standards of different population groups in Viet Nam; to monitor and evaluate the implementation of the Comprehensive Poverty Reduction and Growth Strategy; and to contribute to the evaluation of achievement of the Millennium Development Goals (MDGs), Sustainable Development Goals (SDGs) and Vietnam's socio-economic development goals.

Respondents include selected households, household members and communes/ wards in 63 provinces. The VHLSS in 2016 and 2018 were conducted nationwide with a sample size of more than 9000 households per year in 1699 communes/ wards, representing urban/ rural areas and 6 geographic regions of Viet Nam. Specifically, the data is as follows:

Table 1. Vietnamese household's characteristics from VHLSS

	2016		2018	
	Quantity	%	Quantity	%
Ethnicity	**9399**	**100**	**9399**	**100**
Kinh	7719	82,13	7713	82,41
Other ethnic minorities	1680	17,87	1653	17,59
Economic region	**9399**	**100**	**9399**	**100**
Red river delta	1992	21,19	1992	21,19
Northern Midlands and Mountains	1662	17,68	1659	17,65
North Central and Central Coast	2067	21,99	2067	21,99
Central Highlands	651	6,93	651	6,93
Southeast	1122	11,94	1122	11,94
Mekong River Delta	1905	20,27	1905	20,27
Household size	**9399**	**100**	**9399**	**100**
Less than 3 members	2085	22,18	2330	24,8
3 members	1820	19,36	1871	19,91
4 members	2701	28,74	2480	26,39
5 members	1547	16,46	1458	15,52
More than 5 members	1246	13,26	1257	13,38
Economic status	**9399**	**100**	**9399**	**100**
Poor household	1126	11,98	840	8,94
Not poor household	8273	88,02	8556	91,06
Economically active population	**35787**	**100**	**35076**	**100**
Working-Age	22826	63,78	21944	62,56
Out of working-Age	12961	36,22	13132	37,44

Source: Authors' estimations

At the household level, the data includes several demographic characteristics of household members, including: age, sex, ethnicity, marital status; Household income; Household expenditure; .... In this study, data on migration, income, and household characteristics are collected from household data. Particularly, migrant is defined as a person who lives less than or equal to 6 months in the household.

3.2. Model and method

Firstly, after merging the household data sets, we compute the necessary indicators for the study in STATA 16. The data is formed as panel data. When using panel data, the data will be improved in both quantity and quality, making it possible to compare and evaluate relationships between the studied groups (Gujarati, 2004).

Then, we filter the data and have a study data set of 1419 households in 2016 and 1381 households in 2018, for a total of 2800 research households in rural areas. Specifically, the data for each year are listed in the table.

Table 2. Research sample in 2016 and 2018

	Research sample			
	2016		2018	
	Quantity	%	Quantity	%
Ethnicity	**1419**	**100**	**1381**	**100**
Kinh	1034	72.9	1076	77.9
Other ethnic minorities	385	27.1	305	22.1
Economic region	**1419**	**100**	**1381**	**100**
Red river delta	170	12	240	17.4
Northern Midlands and Mountains	271	19.1	259	18.8
North Central and Central Coast	465	32.8	421	30.5
Central Highlands	131	9.23	104	7.53
Southeast	107	7.54	101	7.31
Mekong River Delta	275	19.4	256	18.5
Household size	**1419**	**100**	**1381**	**100**
Less than 3 members	320	22.6	338	24.5
3 members	252	17.8	276	20
4 members	398	28.1	340	24.6
5 members	247	17.4	240	17.4
More than 5 members	202	14.2	187	13.5
Household head's sex	**1419**	**100**	**1381**	**100**
Male	1113	78.4	1097	79.4
Female	306	21.6	284	20.6
Economic status	**1419**	**100**	**1381**	**100**
Poor household	1106	77.9	1163	84.2
Not poor household	313	22.1	218	15.8

Source: Authors' estimations

Table 2 shows that there are 1034 Kinh households occupying 72.87% of the total in 2016 and 77.91% in 2018. About economic region, North Central and Central Coast takes the most part in both 2 years, folowed by Northern Midlands and Mountains, Mekong River Delta, Red river delta, Central Highlands. The last one is Southeast with 7.54 and 7.31 in 2016, 2018, respectively. Most of households in research sample have 4 members and just 14.24% in 2016 13.54% in 2018 households have more than 5 people. Men is usually household head, occupying 78.44% of the total in 2016 and that number of 2018 is 79.44%. Poor households take the majority in the research sample with 1106 samples in 2016 and 1163 observations in 2018.

Secondary. we examine the impact of migration on poverty through the general model as follows:

$$P_{ijt} = \alpha_0 + \alpha_1 M_{ijt} + \alpha_2 C_{ijt} + \varepsilon_{ijt} \quad (1)$$

Whereas:

P_{ijt} is the income poverty status of household i in commune j in year t (P = 1 if the household has an income of less than VND 1 million/ person/ month; P = 0 if the household has an income of more than VND 1 million / person / month.)

M_{ijt} is the migration status of household i in commune j in year t (dicu = 1 if household has at least 1 migrant; dicu = 0 if household has no migrant)

Cijt are control variables (Household size, Economic region, Ethnicity, Square of age of household head)

εijt are unobservable variables.

Thirdly. to test this model, we use the Probit model with a binary independent variable (income poverty). The formula to determine the probability of the independent variable Y = 1 as follows:

$$P_i = P(I^*_i \leq I_i) = P(Z_i \leq \beta_1 + \beta_2 X_i) = F(\beta_1 + \beta_2 X_i)$$

F is the Cumulative Distribution Function (CDF) of the standard normal distribution; I is the utility of the variable Y; I * is the limit of I.

In fact, there were many scholars using Probit model for variable "poverty" such as Sackey (2005) when examining the effects of human capital, financial capital and physical assets on the incidence of poverty in both urban and rural Ghana. Besides, Minot (2000) used probit regression analysis with the VLSS data to estimate the probability that a rural household is poor as a function of 19 household characteristics and six regional dummy variables. Whereas, the dependent variable (poor) is 0 or 1 depending on whether the household is below or above the 30th percentile of per capita consumption expenditure among rural households. Alem and Demeke (2020) also use a probit estimator on three rounds of panel data from urban Ethiopia to estimate a model of the probability of being energy poor and to investigate the persistence of energy poverty.

The probit model is one of two popular specifications of the linear probability model involving the use of cumulative probability functions. The other specification is the logit model (Pindyck and Rubinfeld, 1976). While the probit model is based on the cumulative normal distribution, the logit model is based on the cumulative logistic distribution. Since the two models are conceptually similar, it is appropriate to note their differences. First, from a purely theoretical standpoint, the logit model appears to be the stronger specification; some statisticians contend that the probit formulation is not quite as flexible. Second, from a more practical standpoint, the cost of parameter estimation may be somewhat greater with probit methods. Both models require nonlinear procedures, but the logit specification is more susceptible to linear approximations (Russell and Rives, 1979). Using probit model can overcome this problem of logit model.

In conclusion, using Probit model to examine the impact of migration on poverty, especially income poverty, is reasonable and coincides with other studies.

4. Results

Table 3 below shows that migration does have an effect on income poverty with the statistical significance being 1% and this relationship is negative. In other words. the more migration increases. the lower the probability of households becoming income poor.

Table 3. The impact of migration on income poverty

Variable		Income poverty	
		coeff	P_value
	Migration	-0.3077***	0.005***
Control variable		Yes	
Constant		-0.5952***	0.000***
Number of observations		2800	
Prob >chi 2		0	
Pseudo r2		0.1339	
Probit regression			
*** p<0.01. ** p<0.05. * p<0.1			

Source: Authors' estimations

To take a closer look at poverty for relevant policies, we use the Anova test to examine whether there are differences in household characteristics between poor and non-poor households.

Table 4. Anova test for income poverty and household characteristics

Household characteristics	F	Prob > F	R- squared	Number of obs
Household head's education	25.19	0.000	0.0594	2,800
Household head's sex	0.00	0.9896	0.0000	2,800
Economic region	35.44	0.0000	0.0596	2,800

Source: Authors' estimations

Table 4 shows that there is a difference in poverty among the household head's education and economic region with the statistical significance being 1%. The difference between households having male and female household head hasn't been demonstrated yet. This conclusion suggests that gaining household head's knowledge and skill may improve these household's lives. Moreover, government should consider policies carefully as each economic region has unique socio-economic characteristics.

5. Conclusion

After analyzing data of 2800 Vietnamese households from VHLSS 2016 and 2018, the study results show that the more migration activity is, the lower the probability of households becoming income poverty.

It can be explained that if the household has migrants, these people send money back to the family, also known as remittances, thereby increasing the household's income. This conclusion agrees with the view of Adams and Page (2005), Lokshin et al (2010) [t5], McCarthy et al (2006), De Haas (2006), Hull (2007). Especially Adams and Page (2005), they demonstrated that both international migration and remittances significantly reduce the level, depth, and severity of poverty in the developing world. Besides, Lokshin et al (2010) also pointed out that one-fifth of the poverty reduction in Nepal occurring between 1995 and 2004 can be attributed to higher levels of work-related migration and remittances sent home. While the increase in international work-related migration was the leading cause of this poverty reduction, domestic migration also played an important role.

From the results mentioned above, we suggest some recommendations to help reduce income poverty and ensure the lives of households which have migrants as follows:

First, the government has policies to protect the rights of migrants and manage migration in each econimic region.

Second, cities/ provinces with large industrial zones or national projects need to improve their infrastructure such as houses, water resources, local health systems and schools for migrant's children or household head.

Thirdly, reducing remittance costs to promote remittance transactions between migrants and those who stay at home.

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Appendix

Table A1. Anova test for income poverty and household head's education

Number of obs = 2,800			R- squared = 0.0594		
Root MSE = 0.380741			Adj R- quared = 0.0570		
Source	Partial SS	df	MS	F	Prob>F
Model	25.560072	7	3.6514388	25.19	0.000
Education	25.560072	7	3.6514388	25.19	0.000
Residual	404.73957	2,792	0.14496403		
Total	430.29964	2,799	0.15373335		

Table A2. Anova test for income poverty and household head's sex

Number of obs = 2,800			R- squared = 0.0000		
Root MSE = 0.392158			Adj R- quared = -0.0004		
Source	Partial SS	df	MS	F	Prob>F
Model	.00002632	1	.00002632	0.00	0.9896
Sex	.00002632	1	.00002632	0.00	0.9896
Residual	430.29962	2,798	.15378828		
Total	430.29964	2,799	.15373335		

Table A3. Anova test for income poverty and household's economic region

Number of obs = 2,800			R- squared = 0.0596		
Root MSE = 0.392158			Adj R- quared = -0.0004		
Source	Partial SS	df	MS	F	Prob>F
Model	25.659536	5	5.1319071	35.44	0.0000
Economic region	25.659536	5	5.1319071	35.44	0.0000
Residual	404.64011	2,794	.14482466		
Total	430.29964	2,799	.15373335		