



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*



## **Rural-Urban Migrants in Vietnam: Should we Stay in the Cities or Return Home?**

Nguyen Duc Loc,

Southern Center of Agriculture Policy and Strategy (SCAP), Vietnam

Email: [loc.nguyen@scap.gov.vn](mailto:loc.nguyen@scap.gov.vn)

Ulrike Grote

Institute of Environmental Economics and World Trade, Hannover University, Germany

Email: [grote@iuw.uni-hannover.de](mailto:grote@iuw.uni-hannover.de)

### ***Abstract***

This paper investigates the factors determining the length of migration and return plans of rural migrants within Vietnam. The findings shows that migrants coming from rural households that faced a higher number of idiosyncratic shocks increase their stays in the cities, while those from original households that experienced transient shocks shorten the length of their stays in the cities. An increased length of migration is also observed among migrants and households with higher human capital. A decreased income gap between destination and original provinces due to the higher economic growth of original places also increases the duration of migration. The results of the analysis on the migration intensity imply that the plans of migrants to return not only increase in case they face shocks in the cities, but also with the improvement of the living conditions at their original places.

Keywords: Migration Intensity, Length of Migration, Random-Effect Tobit Regression, Vietnam

JEL codes: D13, J28, J61, O15, O18, Z13

## 1. Introduction

Internal migration in emerging countries such as Vietnam increasingly attracts scientists' and policy-makers' attention. Industrialization and urbanization create employment opportunities motivating labor to move out of the agricultural sector which is characterized by labor surplus problems. The nexus between migration and development has been widely discussed in the literature. Migration may influence the socioeconomic development of both, departure and destination regions.

In the literature, decisions to migrate may not simply reflect the goals or needs of the migrant, but the household decision to maximize household incomes or minimize risks (Dercon, 2002; Stark and Bloom, 1985). Thus, migration is not only a coping strategy in response to shocks, including income and environmental shocks, but also a strategy for livelihood diversification of original households. Our previous research discussed rural-urban migration as well as its welfare effects in Vietnam (Nguyen et al., 2013). It confirmed that migration is a livelihood support strategy for rural households coping with agricultural and economic shocks. It is more likely to occur in educated households being more financially stable. Then, migration helps reducing poverty and improving the welfare of rural households by increasing their per capita income.

Although migration strongly contributes to economic development in destination areas by providing labor with low wage, it is also a source of several development problems. Due to the limitations of infrastructure in urban areas, migration exerts pressure on existing infrastructure and urban services such as housing, education, health care, water, sanitation and transportation with numerous economic, social and health consequences (UNFPA, 2010). The Government, both at the national and provincial levels are concerned that overcrowding and poverty in major cities which tend to worsen because of migration from the countryside. There have also been concerns about migrants contributing to social disorder, including crime, drug or vulnerability to HIV/AIDS (UNFPA, 2010). Therefore, a household registration system is still considered as an important tool to regulate the population movement, although this regulation may limit migrants' access to social protection programs which makes them more vulnerable (Le et al., 2011).

Therefore, studying migration in emerging market economies such as Vietnam must assess the costs and benefits of the multi-faceted migration phenomenon. Lipton (1980) argued that the impact of migration not only depends on the transfer of remittances and the number of migrants involved but also the length of absence. However, most empirical studies only focus on the impact of remittances (Lucas and Stark, 1985). At the same time, most studies on migration in Vietnam focus on determining the decision to migrate and the effect of this decision on the welfare of rural

communities (Nguyen et al., 2008; Nguyen et al., 2009). Studies on the extent and length of rural-urban migration are still lacking.

Obviously, the length of migration is seen to be important for the development strategy of both, rural and urban places. The duration of migrants living outside of communities directly affects labor supply for rural production. The temporary migrants return to the villages to reduce the labor shortage at harvesting time, while a longer absence of migrants makes rural communities change their long-term production strategies moving towards less labor-intensive activities. At the same time, the longer the length of migrants' stays, the higher may be the pressure of an overcrowded population on infrastructure, social problems, and environmental pollution in the cities.

Against this background, the migrants in the cities have to decide whether to stay longer in the cities or to return to the countryside. This decision affects not only their rural households, but also determines the socio-economic development strategies of both, rural and urban authorities. Accordingly, the overall objective of this paper is to analyze the decision on the length of rural-urban migration in Vietnam.

The paper is structured as follows: in the next section a brief review of the literature is presented. In section III the data base used for the descriptive and econometric analysis is introduced followed by section IV that describes the methodology including the econometric models. Section V presents the results of the study including the factors that determine whether migrants stay or return. Finally, section VI concludes.

## **2. Literature Review**

The migration literature widely focused on determining the decisions of migrants (whether to migrate or not) and the impact of related remittances on development. There are only a few studies on the length of migration. Djajic and Milbourne (1988), Galor and Stark (1990) and Dustmann (1995) analyzed the importance of migration as part of a lifetime utility maximization plan with given budget (and liquidity) constraints. The decision on whether to migrate or not as well as the optimal point to return is considered as the decision of the individual with the purpose to achieve a lifetime utility maximization. Dustmann (2003) added different macro factors to this basic framework. He used data from the German Socio-Economic Panel and a simple dynamic model to determine the optimal migration duration. He found that the duration of migration decreases when the economic disparity between the sending region and the receiving region increases. An increase in the receiving region wage will increase the marginal value of stay (relative wage effect). At the same time, it decreases the marginal utility of wealth since the migration costs such as the living costs at destination increase. Migrants, on the one hand, would like to remain at their destination as

a response to increasing wages; on the other hand, the gain from staying decreases and this has a counteracting effect. Therefore, higher wages in destination areas may have a positive or negative effect on the optimal duration of migration.

Borodak and Tichit (2013) determined the duration of stay of migrants from Moldova and found that the expected wage difference between Moldovan and destination places (mostly in EU) had no effect on the duration of migration. Instead, individual characteristics including age and education level have a positive effect on the length of migration. Family ties (migrant as a household head, or the spouse or having a child at home), however, have a strong negative influence on the duration of stay of a migrant.

Steiner and Velling (1994) analyzed the expected duration of guest workers staying in Germany. They showed that, apart from employment, the expected length of stay is strongly affected by the family context in the host country, e.g. education stage of the children, possessing a property at home or abroad, and the amount of remittances delivered to the country of origin. In addition, social networks increase the length of migration, especially through the support and information that are provided on the economic and labor market conditions in the host country (Constant and Massey, 2003). Carrion-Flore (2006) examined the optimal migration duration of Mexican immigrants in the United States and found that an expected labor wage increase in the US acts as a “pull” factor being the main reason for increasing the duration of migration. Social networks in destination areas also increase, while family ties with original household decrease, the duration of migration.

Demurger and Xu (2013) examined the effect of left-behind children on the length of internal migration, or the optimal duration migration in China, by determining several factors of individual and family and origin hometown characteristics. They found that on the one hand, both economic (having a job at destination) and non-economic factors (education level and household size) have a positive effect on the duration of migration. On the other hand, leaving behind children has a negative impact on the length of stay and the intention of parent migrants to settle in cities.

In order to measure the extent to which migrants are engaged in the destination area, Kaufmann (2007) developed the concept of migration intensity; this is defined as the degree to which a migrant shifts his or her attachment, association and engagement from his or her place of origin to the place of destination. According to Kaufmann (2007), remittance behavior, choice of migration pattern, and localized investment behavior are likely to be correlated; these behaviors also depend on the location of origin or destination of migrants, consequently affecting the intention of migrants to return or stay. Sending remittances to original households may be evidence that migrants remain attached to the origin and that they plan to return home. Similarly, the selected location (original or

destination place) of investment regarding physical, human and social capital would be correlated with the return plan of a migrant (Steiner and Velling, 1994; Kaufmann, 2007).

In summary, in order to address the question whether a migrant should continue to stay in cities or return to the countryside, this paper will follow two specific steps. In the first step, the factors that motivate the decision of temporary migrants to stay longer in the cities are identified. In the second step, the migration intensity is constructed and determined.

### **3. Data and Methodology**

#### *3.1. Data*

The empirical analysis of the study is mainly based on a data set from the project “Vulnerability to poverty: A consequence for development of emerging Southeast Asian countries” (DFG 756) of the German Research Foundation.

This data set includes some 2,000 rural households from Vietnam, who had been surveyed in 2007, 2008 and 2010 in Ha Tinh, Thua Thien Hue and Dak Lak provinces. The dataset is unique as it combines comprehensive household level data, including information on household composition and dynamics, occupation, education, income by source, assets, consumption as well as several types of shock experiences. The household head or a representative also provides information on migrant household members. Migration information includes the duration that a migrant was absent from his or her original household, the migration destination and the remittances transfers between migrants and their households. In this study, only adult members are included in the sample. In total, about 7,000 individual household members of about 10,000 are available for the analysis in each survey wave.

Simultaneously, a migrant tracking survey of about 300 migrants of those rural households was carried out in 2010 in Ho Chi Minh City and two surrounding provinces, namely Dong Nai and Binh Duong. This survey explored the migrants’ history, working and living conditions, their social integration, remittances transfers between migrant members and their families, and their shock experiences in the cities.

Moreover, a village head survey was carried out in the local communities of the rural households to collect general information about the communities, including geographical situation, living and production physical infrastructure, and demographic characteristics of the community.

To identify the effect of macro level indicators on the length of migration, secondary data such as GDP growth and income gap between the main destination and original provinces were also

included in the analysis. This data was taken from the Vietnam General Statistics Office (GSO) and the World Bank database.

### 3.2. Methodology

In this study, two specific estimation models have been developed to determine the length of migration and the migration intensity.

#### 3.2.1. Determining the length of migration

In the literature, most studies on the duration of migration were based on the decision of migrants to return home and the proportion hazard model was then used to identify whether migrants changed their situation to be non-migrants or how long a migrant remained a migrant (Demurger and Xu, 2013; Borodak and Tichit, 2013; Carrion-Flore 2006). Migration, especially internal migration, however, is a dynamic activity in which a person could change between a migration and non-migration situation several times. Therefore, the proportion hazard model is not suitable for measuring the length of temporary migration, which is characterized by household members moving away from their families during several months in a year to find a job.

Moreover, the distribution of the length of migration is left as a censored variable, in which the length of those who did not participate in migration were all reported as zero (80-90 percent of the observations). In addition, migration is a self-selected rather than a randomly assigned process, in which the unobservable variable may affect both, the decision of migration and the decision regarding the length of migration. A Tobit regression is developed to deal with the censored dependent variable. Since the study used panel data, a random-effect Tobit model is employed in this study. According to Boman (2011), a Tobit I model with random effect estimations produces less biased results than heckit or double hurdle models, or than using instrumental variables. Our model is described as:

$$y_{it}^* = \beta x_{it} + v_i + \epsilon_{it} \quad (1)$$

Where  $y_{it}^*$  is the latent variable that is observed for values greater than zero and censored otherwise. The observed  $y_{it}$  is defined by the following measurement equation:

$$y_{it} = \begin{cases} y_{it}^* & \text{if } y_{it}^* > 0 \\ 0 & \text{if } y_{it}^* < 0 \end{cases} \quad (2)$$

$y_{it}$  is the length of migration of household members staying outside of their original household each year. The decision on how long a migrant remains at a destination depends on several factors such as employment opportunity, the migrant's characteristics, and the household and community situation. The employment opportunity at destination and original places can lengthen or shorten the duration of migration. In this study, the growth of GDP per capita at national level, the disparity of

income between the main destinations and original provinces, and the share of agricultural production value in total GDP are used as indicators of employment opportunity. The economic growth in Vietnam increased significantly, and the heterogeneity of economic growth among the regions motivates population mobility (UNFPA, 2010). However, its effect on the length of migration is still ambiguous (Dustmann, 2003).

Similar to Demurger and Xu (2013), Borodak and Tichit (2013), and Carrion-Flore (2006), independent variables such as individual household members, household characteristics and village characteristics are used to determine the length of migration. The descriptive statistics of these variables are presented in Appendix 1.

### 3.2.2. Determining the migration intensity

This section includes both subjective and constructed indexes to measure the migration intensity or the return plans of migrants. The subjective index is based on questions from both, the household questionnaire and the migrant questionnaire; it refers to the plan to stay in the destination, or return home or to some other place in the future.

Similar to Kaufmann (2007), the constructed migration intensity index indicates the extent to which a migrant shifts his or her attachment, association and engagement from his or her place of origin to the migration destination. This includes both, economic and social variables related to the behavior of the migrant regarding the length of migration in the destination, remittances transfer behavior and localized physical assets and social capital. In this study, these variables are defined as follows:

*The length of migration:* indicate the average proportion of total time that a migrant spends in the destination in a year. In general, a migrant spends more time at his or her original place, indicating that he/she intends to return to the village and the migration intensity is lower than for those spending more time in the destination area.

*Remittances transfers:* is defined as the proportion of the income of a migrant remitted to the original household in the village in a year.

*Localized physical assets:* indicate whether a migrant owns a house in the place of destination, and is less likely to return home than those that do not have a house.

*Localized social capital:* is defined as the social integration in the place of destination. It is characterized by the proportion of close friends living in the destination area based on the question asked to migrants to indicate their five best friends. It is hypothesized that a migrant with a higher level of social integration is less likely to return home.

A principal component analysis approach is used to construct the migration intensity index, as follows:

$$Y = a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 \quad (3)$$

where Y is the constructed migration intensity index,  $a_i$  are the principal component coefficients and  $X_i$  is a set of variables including the length of migration, remittances transfers, localized physical assets and localized social capital.

Finally, the Ordinary Least Squares (OLS) regression is used to determine the factors affecting the migration intensity index.

$$Y = f(IND_i, HH_j, Vill_k) \quad (4)$$

where  $IND_i$  are the individual characteristics of migrant i,  $HH_j$  is the migrant household characteristics j and  $Vill_k$  refer to the village characteristics k. For achieving robust estimated results, a bootstrap technique is used. The descriptive statistics of these variables are presented in Appendix 6.

#### 4. Results and Discussion

This section presents the results of the study with the first sub-section discussing the determinants of the length of migration, and the second one presenting the results on the migration intensity.

##### 4.1. Determining the length of migration

Figure 1 describes the length of migration by month in 2007, 2008 and 2010. As can be seen, the percentage of non-migrants has declined from 88 percent to 81 percent indicating that migration has become an important activity of rural households. The number of migrants increased from 854 migrants in 2007 (12 percent of total sample) to 1,323 migrants in 2010 (19 percent of total sample). In addition, rural-urban migrants prefer moving out for longer periods, more than nine months, rather than for shorter ones; this is indicated by 57 percent, 52 percent and 62 percent of the total migrants in 2007, 2008 and 2010, respectively.

[\(Insert Figure 1\)](#)

Considering the macro indicators, the growth of GDP per capita and the share of agricultural production value in total GDP were collected from the World Bank dataset. The growth of GDP per capita indicates the economic development and is hypothesized that it ‘pulls’ people out of rural areas into urban ones. According to the World Bank dataset, the GDP per capita in Vietnam has increased from 784 USD in 2007 to 820 USD in 2008 and to 900 USD in 2010. This process is expected to spur further rural-urban migration.

[\(Insert Figure 2\)](#)

The share of agricultural production value in total GDP mainly comes from rural areas, or it represents the share of income from rural areas in total GDP. The increase in income in rural areas indicates that living conditions may be improving; combined with concerns about migration risks in the new places, it could make rural residents become less likely to move out of their village. However, rural residents with higher incomes who live under poor living conditions, such as low quality of transportation, communication infrastructure, and education and health services, may prefer to migrate out to the cities with better living conditions. Therefore, the effect of this variable is ambiguous.

Finally, Table 1 presents the disparity of income between the main destinations (Ho Chi Minh City, Dong Nai and Binh Duong provinces) and the original provinces (Ha Tinh, Thua Thien Hue, and Dak Lak). Since VHLSS was not conducted in 2007, this study depends on data from 2006 for this year. On average, the income disparity is about 2.5 times but has slightly narrowed down over time. This implies that the growth rate of income in the original provinces is higher than the growth rate of income in destination places. Therefore, it has also positive and negative effects on the length of migration.

[\(Insert Table 1\)](#)

The random-effect Tobit regression model of determinants of the length of migration is presented in Table 2. Model 1 represents individual, household, and village characteristics and provincial dummy variables. In models 2, 3 and 4, macro indicators are included separately as explanatory variables.

With respect to individual characteristics in model 1, the variables “Number of years in school” and “Marital status” are positive and statistically significant; this indicates that single migrated household members with higher education are more likely to stay longer in the cities. Moreover, the higher the age of migrants, the longer they stay in the cities. However, the older they are, the less time they spend in the cities, indicated by the negative and statistical significance of variable “Squared of age”.

With regard to household characteristics, the variable “Female household head” is negative and statistically significant. Households with female heads account for about 13 percent of total households, and migrants from these households leave their village for shorter periods than the ones who come from households with a male head. This can be explained by the fact that migrants of

these households work outside of their village for not only supporting their household income, but they also return home to the village for supporting their households with activities such as harvesting crops.

[\(Insert Table 2\)](#)

In addition, more educated household heads support their migrants by motivating them to stay longer in the cities with the expectation of improving knowledge and achieving a better quality of life. The higher the age of household heads, the longer migrants tend to stay in the cities. However, the high dependency ratio significantly reduces the length of migration. This result is consistent with Demurger and Xu (2013), namely the higher the number of elderly and children in the original households, the shorter the length of migration.

Migrants of households who engage in non-farm activities tend to stay longer in the cities. Engaging in non-farm activities makes household members familiar with non-farm jobs, which are popular in the cities. Migrants could then find a better job and improve their living conditions and therefore, prefer to stay in the cities longer. At the same time, the variable “Total own land”, which refer to agricultural production, is negative but statistically insignificant. Agricultural production is considered as a labor-intensive activity, therefore, the more land a household has, the more labor is required which could shorten the length of migration. Unfortunately, this variable is statistically insignificant in this model.

Regarding the types of shocks, demographic shocks refer to illness or death of a household members; social shocks to a household facing problems of theft or conflict with neighbors in the village; agricultural shocks include floods, droughts, crop pests or livestock diseases; whereas economic shocks relate to job loss, collapse of business, strong increase of input prices, or strong decrease of output prices. Households that experienced a higher number of demographic and social shocks make their migrated members stay longer in the cities, while households that experienced a higher number of agricultural shocks reduce the length of absence of their migrated members. It can be said that idiosyncratic shocks of rural households such as illness (demographic shocks) or social unsafety (social shocks) determine if migrants stay longer in the cities. In contrast, transient shocks such as weather damages, or crop and livestock epidemics shorten the length of stay of migrants in the cities.

Considering the village characteristics, the variable “Access to internet” is positive and statistically significant, which indicates that better communication infrastructure in the village could

improve the capacity of communication of rural households and their migrants in the cities. This makes migrants willing to increase their length of migration.

Finally, migration is more likely to occur in Ha Tinh and Thua Thien Hue provinces (Nguyen et al., 2013), and the duration of migration of these migrants is more likely longer than the duration of migration of migrants from Dak Lak province. Since Dak Lak province is located in the High Land region where the job opportunities are plenty in coffee and wooden processing sectors, rural residents are less likely to outmigrate to find a job and migrants also have to return home for taking care their household's business. Ha Tinh and Thua Thien Hue provinces (located in the Central Coast region) are characterized by small-scale agricultural production and scarce non-farm job opportunities, making migrants staying longer in the cities to earn money (UNFPA, 2010).

In model 2, the income gap between destination and original provinces is included as a macro indicator in the model. Consistent with Dustmann (2003), this indicator is negative and statistically significant. It can be said that the wider the income gap between destination and original places, the shorter the length of migration in a year. The widening of income gap between the destination and original places can be explained by the fact that the income growth at the destination place is faster than the growth of income at the original rural place. Since migrants are considered to be a low income group in the cities (UNFPA, 2010), the increase of their income also leads to increasing living cost. Therefore, they are more likely to shorten the length of migration to reduce cost.

In other words, the negative and significance of this variable can also explain that the narrowing income gap between destination and original provinces increases the length of migration. The narrowing of the income gap resulted from the higher income growth in original provinces in comparison to the growth of income in destination places. Therefore, it can be said that migrants would also stay longer in the cities even if the economic growth at original provinces is faster than the economic growth at destination places.

This argument is supported by model 3, where the variable "Share of agricultural production in total GDP" is positive and statistically significant. Agricultural production occurs in rural areas and the increase in agricultural production in total GDP reflects increasing income at the original places, thus increasing the length of migration. Finally, in model 4, as expected, economic growth at the national level is indicated by the growth of GDP per capita and this causes an increase in the length of migration.

## 4.2 Migration intensity

In this section, we first discuss the subjective return plan of migrants and their households' expectations of living places for their children in the future. This is followed by the construction of migration intensity and its determinants.

Table 3 presents the subjective return plan of migrants in the cities and households' expectations of living places for their children in the future. On the one hand, both migrants and household representatives do not want to stay in large cities in the future; only about 17% of migrants plan to stay in the cities, and 26% of household representatives consider large cities as a living place for their children. On the other hand, rural households are also less likely to expect their children to live in their home village in the future; they prefer their children to stay in the provincial city. This result indicates how important it is to consider the characteristics of the family since family members want to stay close to each other. Although, living in large cities such as Ho Chi Minh City or its surrounding provinces, rural-urban migrants could have a chance to improve their living conditions, they may also face several unpredictable events, which make them more vulnerable (Le et al., 2011). Therefore, they are more likely to return to their home villages. On the other hand, the instability of rural household livelihoods makes rural villages not an ideal place for their children to stay. Finally, the plan to live in the provincial city becomes a reasonable solution for both, migrants and their households.

### (Insert Table 3)

Table 3 indicates that about 13% (32) of migrants plan to return to their home village, although their households expect them to stay in the large cities. On the other hand, 7% (17) of the migrants plan to stay permanently in the destination areas, while their households expect them to return to the village in the future. Therefore, the inconsistency between household expectation and plan of the migrant to return motivates the construction of the migration intensity index, which is a composite index of several indicators presented in Table 4.

In Table 4, the first group with the lowest migration intensity index reflects migrants who are more likely to return to their home village, while the fourth group with the highest migration intensity index includes migrants who are less likely to return to their home village, or they intend to stay more permanently in the cities.

The results are also in line with the assumptions related to migration intensity. The lowest migration intensity index refers to migrants who spend shorter times in the cities in a year, send large shares of their income to their rural households, and do not own any property in the city. The

highest migration intensity index refers to migrants who stay all their time in the cities (they do not return home within a year), and do not send any remittances and own a house in the cities. The variable of “Social integration in the cities” also illustrates the same trend meaning that the higher the migration intensity, the higher the social integration of migrants in the cities; however it is not too clear since the value of this indicator in the first group is higher than the value in the second group.

[\(Insert Table 4\)](#)

The comparison of the migration intensity index, the subjective return plan of migrants, and the household expectations of a future living place for their children are presented in Appendices 4 and 5.

In the following part, the result of what determines migration intensity is presented. The independent variables include the characteristics of migrants in the cities, household characteristics and rural village characteristics.

The results show that migrant characteristics such as the number of years in school or experienced with shocks in the cities are statistically significant. The positive sign of the variable “Number of years in school” indicates that migrants with more education are more likely to stay permanently in the cities. The variable “Experienced to shocks in the cities” is negative showing that the more the migrants experience shock in the cities, the less likely they settle in the cities or they are more likely to return to their home village. It can be explained that migrants with higher levels of education can find better jobs with higher salary and better working conditions. This will enable them to achieve better living conditions. They prefer to stay in the cities instead of returning home where less job opportunities and vulnerable living conditions exist. At the same time, migrants experiencing shocks tend to return home, since it is too risky for them to stay longer in the cities, especially in case the government support is not working well.

In contrast to Kaufmann (2007), the variable “Total household members” is positive and statistically significant implying that migrants from households with a higher number of members tend to stay longer in the cities. A high number of household members characterized by small-scale cultivated land motivate the re-allocation of rural citizens; therefore, migrants tend to not return to their home village.

With regard to the village characteristics, the variable “Access to internet” is negative and statistically significant. This can be explained by the fact that access to the internet improves the possibility of communication with the migrants. Access to information and knowledge could also

reduce the migration intensity or make migrants more likely to return to their home village. It can be said that improving the living conditions in the villages motivates migrants to return in the future. This argument is slightly supported by the positive sign of the variable “Access to public water” though it is statistically insignificant.

[\(Insert Table 5\)](#)

The variable “Number of enterprises” is positive and statistically significant which indicates that the higher the number of enterprises in the village, the higher the migration intensity or migrants’ intention to stay in the cities. This could be explained by the fact that rural households in the village with higher number of enterprises have a chance to improve their income, thus, causing migrants not to send any remittances. These migrants can focus on improving their living conditions in the cities. Therefore, improving living conditions is more important than providing job opportunities to attract migrants to return to their home villages.

## **5 Conclusions**

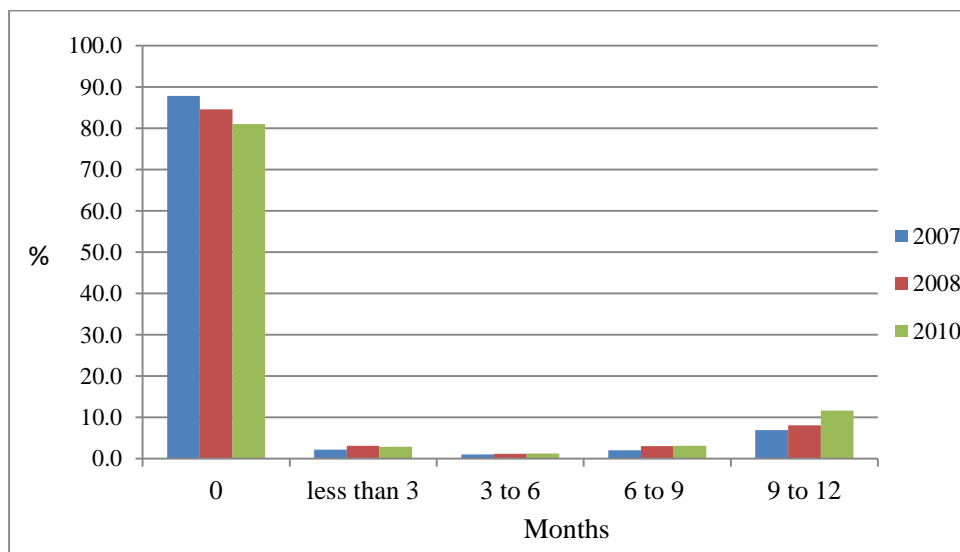
In order to address the research gap on the length of migration in Vietnam, this study used a random-effect Tobit regression model to analyze panel data of about 2,000 households in Vietnam from 2007, 2008 and 2010, and to determine the factors affecting the number of months that rural-urban temporary migrants live outside of their village. Moreover, the study tracked about 300 migrants from the household data set with principal component analysis and Ordinary Least Squares regression model to construct and explore the migration intensity measuring the intent of the return plan of migrants.

The empirical evidence from random-effect Tobit regression suggests that single migrants with higher education levels tend to stay longer in the cities. In addition, household characteristics such as education level of household head and household engagement in non-farm activities also increase the length of migration. However, households with female heads and with higher number of elders and/or children do not support the choice of migrants to remain longer in the cities. The length of migration is likely to be longer for households experiencing idiosyncratic shocks as illness or personal reasons, and the shocks of unsafety in the communities. However, transient shocks such as weather damage, or crop and livestock epidemics shorten the length of their stay in the cities. In general, migrants tend to stay longer in the cities if their villages have internet access and if they are from Ha Tinh and Thua Thien Hue provinces where the job opportunities are scarce. Finally, the evidence of macro indicators show that the national economic growth and the narrow income gap

between destination and original places indicated by the higher growth rate of income of the original provinces (in comparison to the growth rate of the destination places) increases the time of stay in the cities.

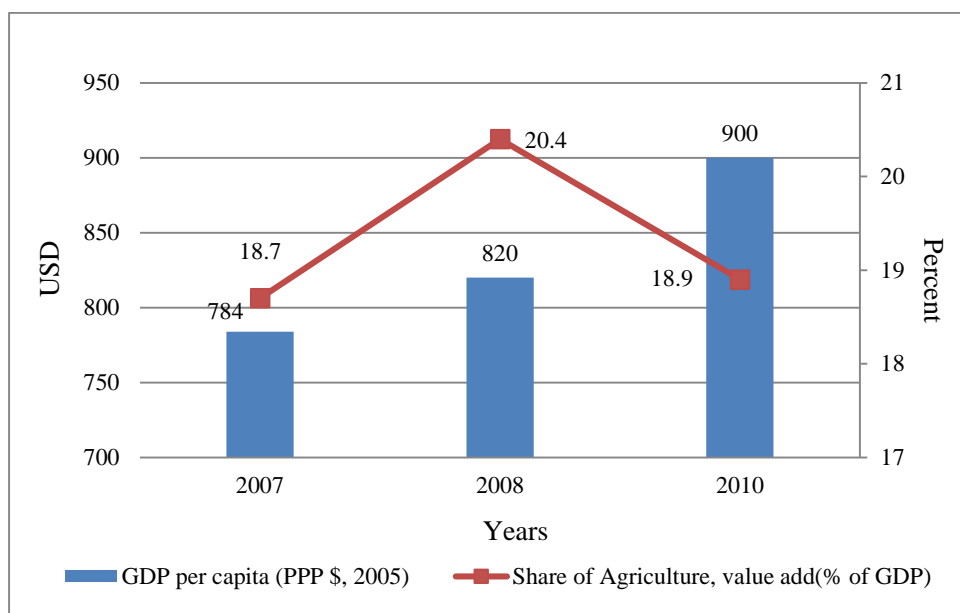
With respect to the migration intensity, the descriptive analysis shows that migrants do want to stay permanently in the cities, while most household representatives prefer provincial towns to the original village. The result of the constructed index of migration intensity also indicates that most migrants plan to return home in the future. The education level of migrants is an important factor increasing their plan to stay in the cities. The larger the household size, the longer the migrants tend to stay in the cities. Moreover, migrants from villages with higher number of enterprises also plan to stay in the cities longer. On the other hand, the plan of migrants to return to their home village increases with their experience of facing shocks in the cities. Additionally, the plan to return to the home village of migrants also increases with the improvement of the living conditions at the original places.

## Tables and Figures



Source: Based on the DFG Rural Household Surveys 2007, 2008 and 2010.

Figure 1. The length of migration (percent)



Source: World Bank Data.

<http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS/countries>

Figure 2. GDP per capita and share of the agricultural sector in total GDP

Table 1. Disparity of income of main destinations and original provinces

Original provinces	2006	2008	2010
Ha Tinh	2.97	3.05	2.86
Thua Thien Hue	2.30	2.26	2.27
Dak Lak	2.34	2.31	2.25
<b>Average</b>	2.54	2.54	2.46

Source: Vietnam General Statistics Office.

<http://www.gso.gov.vn/default.aspx?tabid=417&idmid=4&ItemID=12428>

Table 2. Random Effect Tobit regression

	<b>model1</b>	<b>model2</b>	<b>model3</b>	<b>model4</b>
	<b>coef/se</b>	<b>coef/se</b>	<b>coef/se</b>	<b>coef/se</b>
<i><b>Individual characteristics</b></i>				
Female (1-Yes; 0-No)	0.113 (0.357)	0.089 (0.356)	0.117 (0.357)	0.056 (0.356)
Number of years in school	0.599*** (0.045)	0.588*** (0.045)	0.603*** (0.045)	0.578*** (0.045)
Marital status (1-Single; 0-Others)	6.584*** (0.463)	6.592*** (0.461)	6.487*** (0.464)	6.549*** (0.460)
Age (Years)	1.746*** (0.094)	1.693*** (0.094)	1.752*** (0.094)	1.610*** (0.094)
Square of age	-0.028*** (0.001)	-0.027*** (0.001)	-0.028*** (0.001)	-0.026*** (0.001)
<i><b>Household characteristics</b></i>				
Female head (1-Yes, 0-No)	-0.920* (0.514)	-0.866* (0.513)	-0.934* (0.514)	-0.895* (0.511)
Number of years in school of HH head (Years)	0.113** (0.051)	0.109** (0.050)	0.110** (0.051)	0.094* (0.050)
Age of HH head(Years)	0.277*** (0.018)	0.264*** (0.018)	0.276*** (0.018)	0.243*** (0.018)
Dependency ratio	-8.158*** (0.909)	-8.485*** (0.908)	-8.674*** (0.935)	-9.484*** (0.915)
HH engaged in non-farm activities (1-Yes; 0-No)	0.666* (0.340)	0.538 (0.339)	0.684** (0.340)	0.380 (0.339)

Total own land (ha)	-0.084 (0.082)	-0.079 (0.081)	-0.087 (0.083)	-0.109 (0.084)
Total number of demographic shocks	0.396** (0.198)	0.194 (0.199)	0.513** (0.203)	0.204 (0.197)
Total number of social shocks	1.179** (0.527)	0.675 (0.529)	1.277** (0.529)	0.049 (0.531)
Total number of agricultural shocks	-0.489*** (0.150)	-0.673*** (0.152)	-0.351** (0.160)	-0.709*** (0.150)
Total number of economics shocks	0.346 (0.438)	0.140 (0.437)	0.440 (0.439)	0.172 (0.434)
<b><i>Village characteristics</i></b>				
Number of enterprises	-0.102 (0.091)	-0.092 (0.091)	-0.101 (0.091)	-0.078 (0.091)
Access to internet (% of households)	0.074*** (0.023)	0.061*** (0.023)	0.079*** (0.023)	0.023 (0.024)
Log of distance to district town	-0.168 (0.210)	-0.080 (0.209)	-0.175 (0.210)	-0.057 (0.209)
Ha Tinh province (1-Yes, 0-No)	3.052*** (0.466)	14.439*** (1.554)	3.081*** (0.466)	3.092*** (0.465)
Thua Thien Hue province (1-Yes, 0-No)	3.511*** (0.454)	3.077*** (0.455)	3.563*** (0.454)	3.576*** (0.452)
<b><i>Macro indicators</i></b>				
Income gap between destination and original provinces		-17.402*** (2.266)		
Share of agricultural production in total GDP			0.422** (0.173)	
Growth of GDP per capita				25.645*** (2.126)
Constant	-59.197*** (1.983)	-17.372*** (5.694)	-67.365*** (3.924)	-227.072*** (14.219)
/sigma_u	9.099*** (0.239)	9.111*** (0.238)	9.099*** (0.239)	9.129*** (0.236)
/sigma_e	8.955*** (0.162)	8.877*** (0.160)	8.951*** (0.162)	8.793*** (0.158)

Number of observations	21,045	21,045	21,045	21,045
------------------------	--------	--------	--------	--------

---

Note:       \*, \*\*, \*\*\* indicate statistically significant levels at 10%, 5% and 1%.

Source:      Own calculations based on the DFG Rural Household Surveys 2007, 2008, 2010.

Table 3. Subjective plan of future location of migrants and their households

		Subjective return home village plan of migrant			Total
		yes	undecided	no	
Household's	Village	58	12	17	87
expectation of	Provincial city	65	19	9	93
living place of	HCM/Hanoi	32	17	14	63
children	Total	155	48	40	243

Source:      Own calculations based on the DFG Migrant Survey in 2010.

Table 4. Migration intensity index

	1	2	3	4	Average
Share of time in the cities	0.928	0.999	0.999	1.000	0.981
Social integration in the cities	0.179	0.058	0.330	0.790	0.269
Share of remittances	0.022	0.001	0.000	0.000	0.006
Own house in the cities	0.000	0.000	0.000	0.153	0.030
Average score	-1.53	0.290	0.505	0.984	
Number of migrants	70	150	25	43	

Source:      Own calculations based on the DFG Migrant Survey in 2010.

Table 5. Determinant of migration intensity (OLS regression)

	Coef	se
<b><i>Migrant characteristics</i></b>		
Female migrant (1-Yes,0-No)	-0.052	0.191
Marital status (1-Single, 0-Others)	-0.120	0.239
Age (Years)	0.161	0.131
Squared of age	-0.002	0.003
Number of years in school (years)	0.053**	0.027
Government support (1-Yes, 0-No)	0.292	0.272
Experienced to shocks in the cities (1-Yes, 0-No)	-0.334*	0.185
<b><i>Household characteristics</i></b>		
Female household head (1-Yes, 0-No)	0.164	0.265
Log of total land own (ha)	-0.048	0.118
Total household members	0.087*	0.049
Household participated on non-farm activities (1-Yes, 0-No)	-0.008	0.172
<b><i>Village characteristics</i></b>		
Access to public water supply (% households in village)	-0.001	0.002
Access to internet (% households in village)	-0.011*	0.007
Number of enterprises	0.188*	0.106
Number of social problems	0.139	0.120
<b>Constants</b>	<b>-3.470*</b>	<b>1.811</b>
<b><i>Number of observations</i></b>	<b>243</b>	
<b><i>Replications</i></b>	<b>1000</b>	
<b><i>Wald chi2(1)</i></b>	<b>32.25</b>	
<b><i>Prob&gt;chi2</i></b>	<b>0.006</b>	
<b><i>R-squared</i></b>	<b>0.1068</b>	

Note: \*, \*\* indicate statistically significant levels at 10% and 5%.

Source: Own calculations based on the DFG Rural Household Surveys and DFG Migrant Survey in 2010

## References

- Boman, A., 2011. Does Migration Pay? Earnings Effects of Geographic Mobility Following Job Displacement. *Journal of Population Economics*, 24, 1369-1384.
- Borodak, D., Tichit, A., 2013. Should We Stay or Should We Go? Irregular Migration and Duration of Stay: The Case of Moldovan Migrants. *Migration Studies*.
- Carrion-Flores, C. E., 2006. What Makes You Go Back Home? Determinants of the Duration of Migration of Mexican Immigrants in the United States. *Cambridge, MA: Society of Labor Economists Annual Meeting*.
- Constant, A., Massey, D. S., 2003. Self-Selection, Earnings, and Out-migration: A longitudinal Study of Immigrants to Germany. *Journal of Population Economics*, 16, 631-653.
- Demurger, S., Xu, H., 2013. Left-Behind Children and Return Decisions of Rural Migrants in China. *IZA Discussion Paper No. 7727*. Available at SSRN: <http://ssrn.com/abstract=2363214>.
- Dustmann, C., 1995. Savings Behavior of Migrant workers: A life-Cycle Analysis. *Zeitschrift fuer Wirtschafts- und Sozialwissenschaften*, 115, 511-533.
- Dustmann, C., 2000. Temporary Migration and Economic Assimilation. *Swedish Economic Policy Review*, 7, 213-244.
- Dustmann, C., 2003. Return Migration, Wage Differentials and the Optimal Migration Duration. *European Economic Review*, Vol. 47, 353-369.
- Dercon, S., 2002. Income Risk, Coping Strategies and Safety Nets. Discussion paper, 22. Helsinki: *World Institute for Development Economics Research*, United Nations University (UNU-WIDER).
- Djajic, S., Milbourne, R., 1988. A General Equilibrium Model of Guest-Worker Migration: A Source-Country Perspective. *Journal of International Economics* 25, 335-351.
- Kaufmann, F., 2007. Emigrant or Sojourner? Migration Intensity and Its Determinants. PERI Working Papers, 134. ULR: [http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1125&context=peri\\_workingpapers](http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1125&context=peri_workingpapers), Assessed on October, 2014.
- Le, B. D., Tran, G. L., Nguyen, T. T. P., 2011. Social Protection for Rural-Urban Migrants in Vietnam: Current Situation, Challenges and Opportunities. Research Report, 08. Sussex, UK: *Centre for Social Protection, Institute of Development Studies*.
- Lucas, R., Stark, O., 1985. Motivations to Remit. *Journal of Political Economy*, 93, 901-918
- Nguyen, N. P., Tran, N. T. M. T., Nguyen, T. N., Oostendorp, R., 2008. Determinants and Impacts of Migration in Vietnam. Working paper 01. *Development and Policies Research Center*

(DEPOCEN),

<

[http://depocenwp.org/upload/pubs/TranNgoMinhTam/Determinants%20and%20Impacts%20of%20Migration%20in%20Vietnam\\_DEPOCENWP.pdf](http://depocenwp.org/upload/pubs/TranNgoMinhTam/Determinants%20and%20Impacts%20of%20Migration%20in%20Vietnam_DEPOCENWP.pdf) > Accessed October 2014.

Nguyen, V. C., Den Berg, M. V., Lensink, R., 2009. The Impact of Working Migration and Non-Working Migration on Household Welfare, Poverty and Inequality: New Evidence from Vietnam. *Asia-Pacific Development Journal*, 16, 59–92.

Nguyen, L. D., Raabe, K., Grote, U., 2013. Rural–Urban Migration, Household Vulnerability, and Welfare in Vietnam, *World Development*, <http://dx.doi.org/10.1016/j.worlddev.2013.11.002>. Accessed October 2014.

United Nations Population Fund (UNFPA)., 2010. Internal migration: Opportunities, challenges and social-economic development in Vietnam. The United Nations Population Fund in Viet Nam, < [http://www.un.org.vn/en/component/docman/doc\\_details/173-internal-migration-opportunities-and-challenges-for-socio-economic-development-in-viet-nam.html](http://www.un.org.vn/en/component/docman/doc_details/173-internal-migration-opportunities-and-challenges-for-socio-economic-development-in-viet-nam.html) > Accessed August 2014.

Galor, O., Stark, O., 1990. Migrants' Savings, the Probability of Return Migration and Migrants' Performance. *International Economic Review*, Department of Economics, University of Pennsylvania and Osaka University Institute of Social and Economic Research Association, vol. 31(2), 463-67.

General Statistical Office (GSO)., 2011. Results of the Vietnamese Household Standard Survey 2010. <http://www.gso.gov.vn/default.aspx?tabid=417&idmid=4&ItemID=12428> Accessed October 2014)

Steiner, V., Velling, J., 1994. Remigration Behaviour and Expected Duration of Stay of Guest Workers in Germany. In G. Steinmann, and R. Ulric (eds.). The Economic Consequences of Immigration to Germany, Heidelberg, Physica-Verlag.

Stark, O., Bloom, D. E., 1985. The New Economics of Labor Migration. *American Economic Review*, 75(2), 173–178.

World Bank Data. <http://data.worldbank.org/indicator/NV.AGR.TOTL.ZS/countries>

## Appendices

### Appendix 1. Summary statistics of independent variables of random-effect Tobit regression model

Variables	Obs	Mean	Std. Dev.	Min	Max
<i><b>Individual characteristics</b></i>					
Female (1-Yes; 0-No)	21,045	0.50	0.50	0	1.00
Number of years in school	21,045	7.90	4.06	0	20
Marital status (1-Single; 0-Others)	21,045	0.42	0.49	0	1.00
Age (Years)	21,045	30.20	13.38	11	64
Square of age	21,045	1090	905.4	121	4096
<i><b>Household characteristics</b></i>					
Female head (1-Yes, 0-No)	21,045	0.13	0.33	0	1.00
Age of HH head(Years)	21,045	48.55	10.76	20	99
Numbers of years in school of HH head	21,045	6.87	3.99	0	20
Dependency ratio	21,045	0.22	0.20	0	0.8
HH participated in non-farm activities (1-Yes, 0-No)	21,045	0.28	0.45	0	1.00
Total own land (Ha)	21,045	0.95	2.53	0	62.22
Total number of demographic shocks	21,045	0.41	0.67	0	6.00
Total number of social shocks	21,045	0.06	0.24	0	2.00
Total number of agricultural shocks	21,045	0.74	0.91	0	6.00
Total number of economics shocks	21,045	0.06	0.31	0	3.00
<i><b>Village characteristics</b></i>					
Number of enterprises	21,045	0.18	1.77	0	30
Access to Internet (% of households)	21,045	0.98	5.01	0	100
Log of distance to district town	21,045	2.31	0.82	-1.61	4.32
Ha Tinh province (1-Yes, 0-No)	21,045	0.31	0.46	0	1.00
Thua Thien Hue province (1-Yes, 0-No)	21,045	0.33	0.47	0	1.00
Dak Lak province (1-Yes, 0-No)	21,045	0.37	0.48	0	1.00

Source: Own calculations based on the pooled data of DFG Rural Household Surveys 2007, 2008, 2010.

**Appendix 2. The income per capita of selected destination and original provinces (thousand VND per month)**

	<b>2006</b>	<b>2008</b>	<b>2010</b>
Ho Chi Minh City	1,480	2,192	3,653
Dong Nai	867	1,318	1,763
Binh Duong	1,215	1,929	2,698
Ha Tinh	400	595	840
Thua Thien Hue	517	804	1,058
Dak Lak	507	785	1,068

Source: Vietnamese General Statistic Office.

<http://www.gso.gov.vn/default.aspx?tabid=417&idmid=4&ItemID=12428>

### Appendix 3. The correlation of variables using for Principal Component Analysis

	Share of time in the cities in year	Social integration in the cities	Share of remittances in total income	Own house in the cities
Share of time in the cities in year	1			
Social integration in the cities	0.0931	1		
Share of remittances in total income	-0.3958	-0.063	1	
Own house in the cities	0.0439	-0.0694	-0.0451	1

Source: Own calculations based on the DFG Rural Household Surveys and DFG Migrant Survey in 2010

#### Appendix 4. The interaction of migration intensity and the return plan of migrants

		Subjective return plan			Total
		Yes	Undecided	No	
Migration intensity index	1	52	10	8	70
	2	72	19	14	105
	3	15	6	4	25
	4	16	13	14	43
Total		155	48	40	243

Source: Own calculations based on the DFG Rural Household Surveys and DFG Migrant Survey in 2010

#### Appendix 5. The interaction of migration intensity and the expectation of household about the future plan of their children

		Expected living place of children			Total
		Provincial			
		Village	city	HCM/Hanoi	
Migration intensity index	1	28	26	16	70
	2	42	42	21	105
	3	8	12	5	25
	4	9	13	21	43
Total		87	93	63	243

Source: Own calculations based on the DFG Rural Household Surveys and DFG Migrant Survey in 2010

**Appendix 6. Summary statistics of independent variables of OLS regression**

<b>Variables</b>	<b>Obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
Migration intensity	243	-0.09	1.27	-8.92	1.98
<b><i>Migrant characteristics</i></b>					
Female migrant (1-Yes,0-No)	243	0.53	0.50	0.00	1.00
Marital status, 1-Single, 0-Others)	243	0.78	0.41	0.00	1.00
Age (Years)	243	24.40	5.33	15.00	47.00
Squared of age	243	623.58	291.46	196	2209
Number of years in school (Years)	243	10.62	3.75	2.00	19.00
Government support (1-Yes, 0-No)	243	0.05	0.23	0.00	1.00
Experienced to shocks in the cities (1-Yes, 0-No)	243	0.42	0.49	0.00	1.00
<b><i>Household characteristics</i></b>					
Female household head (1-Yes, 0-No)	243	0.16	0.36	0.00	1.00
Total land own (ha)	243	0.74	1.14	0.00	12.05
Total household members	243	6.43	1.65	2.00	11.00
Household participated on non-farm activities (1-Yes, 0-No)	243	0.63	0.48	0.00	1.00
<b><i>Village characteristics</i></b>					
Access to public water supply (% households in village)	243	32.97	40.93	0.00	100
Access to internet (% households in village)	243	3.50	10.93	0.00	100
Number of enterprises in the village	243	0.13	0.54	0.00	5.00
Number of social problems in the village	243	0.42	0.68	0.00	3.00

Source: Own calculations based on the DFG Rural Household Surveys and DFG Migrant Survey in 2010