

# Poverty and Migrant Selectivity in South-south Cross-border Migration: Evidence from Cambodia

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## Abstract

Through analyzing determinants of cross-border migration, the present study aims to shed more light on current theoretical and empirical debates on migration-poverty linkages. The study collected retrospective household data in the year 2000 for 80 non-migrant households and prior to migration for 154 migrant households from four villages in a Cambodia-Thailand border commune. Probit and censored Tobit regressions are used to analyze factors that influence a household's decision to undertake cross-border migration and whether determinants vary among households depending on the number of migrants and the year of migration. Overall, the study reveals that the education level of the household head and household composition are significant in explaining decision to migrate and the number of initial migrants in a household. The study also finds that migration decision and high number of migrants are induced by poor house quality and the small size of landholding. Regarding the relative probability to migrate, the poorest households are the most likely to migrate. When compared to those who migrated earlier (2000–2005), non-poor households are less likely to have migrated recently (2006 and later) than the poorest and poor households. Strikingly different from the general belief that migration is not accessible to the poorest, the present findings undoubtedly indicate that migration from the research site, especially recent migration, is dominated by the poorest and poor households.

**Keywords:** cross-border migration, poverty, migrant selectivity

## 1. Introduction

Despite its often considerable benefits, labor migration remains a subject of heated debates among development planners, policy makers, and scholars regarding its inequality and poverty-reducing potential. Migration optimists have constantly pointed to the associated remittances, skills and knowledge acquired abroad as development potential for sending countries (de Haas 2005). When compared to other development programs or official development assistance, remittances were said to be more effective (de Haas 2008). However, many studies, particularly at the micro level, have raised

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many counter-arguments on the effects of labor migration on development, especially regarding its poverty and inequality-reducing potential (see, for example, de Brauw & Rozelle 2008, de Haas, Bakewell, Castles, Jonsson, & Vezzoli 2009, de Brauw 2010). One important explanation for the inconsistent findings on the effects of labor migration is that research tends to study causes and effects of migration separately (de Haas 2008). Ability to migrate is conditioned by varying degrees of systemic constraints, and this differential in turn limits the extent to which migration can promote structural change (de Haas et al. 2009). This argument has led to a renewed interest in understanding the causes of migration.

A key question then is who migrates. Notwithstanding the prevalent belief that poverty causes migration, discussions on migrant selectivity suggest that different income groups have different propensities to migrate. There seems to be theoretical and empirical regularity that the poorest are less capable of migrating due to burdens of migration-associated costs and risks (de Haas et al. 2009). In other words, the poorest are extremely limited in their ability to undertake migration as a livelihood strategy. The constraints are even greater in the case of international migration. This consensual understanding casts doubt on the effects of migration on poverty reduction and income redistribution since migration is not accessible to the poorest and the poor.

However, Durand and Massey (1992) and de Haan and Yaqub (2009) have raised three caveats regarding the conclusion on migrant selectivity. Firstly, while selectivity is visible in the case of South-North migration, South-South migration is less costly and thus could be more affordable for the poor and the poorest (de Haan 2009). The constraints are further minimized in the case of cross-border migration between countries sharing a porous border and historical and cultural similarities. Secondly, the socio-economic class composition of migration is determined by the growth and elaboration of migrant networks, and thus study on migrant selectivity should take migration networks into account (Durand & Massey 1992). Thirdly, modest representation of the poorest in surveys and censuses is probably due to the limitation of those tools rather than the actual low propensity of the poorest to migrate (de Haan 2009). Because of the very low human capital and less access to networks, the poorest might not be able to undertake a formal migration through recruitment agencies but rather migrate through illegal channels, which pose great challenges for the survey or census to capture. Therefore, a further study that considers these two caveats can enrich the understanding of migration-poverty nexus.

Using retrospective data of 80 non-migrant households and 154 migrant households in four Cambodian rural villages bordering Thailand, this paper aims to explain factors that influence household's decision to undertake cross-border migration to Thailand and whether determinants vary among households with different number of migrants and depending on the year of migration. Thailand is the only destination country of migrants in this study.

Cambodia is a good case study for three main reasons. Firstly, it has been estimated that the

stock of Cambodian migrants in Thailand was 248,000 in 2008 of which the majority were irregular cross-border migrants, and that by 2018, the number will increase to 316,000 (Maltoni 2010). Secondly, although there have been numerous studies on labor migration in Cambodia, many of them are rather descriptive and thus could not provide rigorous evidence on determinants of migration. Finally, facing a challenge to create more local jobs and to tackle the demographic pressure of new entrants into the labor market every year, the Royal Government of Cambodia (RGC) has included the promotion of international labor migration as one element of the employment generation policy. Simultaneously, the government is also working cooperatively with Thailand to reduce the illegal border crossing of Cambodian people as it frequently leads to problems such as smuggling, human trafficking, and violation of workers' rights. Hence, the RGC needs to be well informed about the causes of migration, so that it can take appropriate corrective measures.

The remainder of this paper is organized into five sections. Continuing from this introduction, Section 2 reviews relevant theoretical perspective and empirical evidence regarding poverty and migrant selectivity. Section 3 provides an overview of labor migration and its significance for Cambodia. Section 4 describes the data and the methods used to analyze the data in this study. Section 5 presents research findings. Finally, Section 6 concludes the paper.

## **2. Poverty and Migrant Selectivity**

The neo-classical micro economic theory predicts that migration is an outcome of individual's rational decision making after the cost-benefit calculation (Todaro 1969). A person will move if benefits of moving exceed the costs. The benefits associated with migration can be enhanced through education, skills, and the labor market experience of the individuals, which make them more comparatively advantageous in the destination area (Waddington & Sabates-Wheeler 2003). Moreover, such human capital also enhances individual's capacity to move. The poorest and the poor tend to have lower human capital in this sense than the non-poor; thus, it is more difficult for the poor and the poorest to migrate (Skeldon 2002, de Haas 2005). This issue of poverty and capability to move becomes more serious for international migration because it involves more risks and higher costs than the internal migration. These financial and physical burdens tend to exclude, if not the poor, the poorest from international migration (Waddington & Sabates-Wheeler 2003, de Haas 2008, Vargas-Lundius, Lanly, Villarreal, Osorio 2008). Based on this theory, it can be expected that migrant households should have better economic conditions than non-migrant households.

Notwithstanding the general belief, empirical evidence on migrant selectivity is mixed. For example, studies on India and sub-Saharan Africa found that due to limited ownership of economic assets, the poor but not the poorest were represented highly among migrants (Waddington & Sabates-Wheeler 2003). Bhandari (2004) studied migration from Nepal and reported that most relatively

deprived households in terms of landholding were more likely to send a member away than the reference group, and the relatively well-off households were less likely to have a migrant when compared to the reference group. Sabates-Wheeler, Sabates and Castaldo (2008) studied migration from Ghana and Egypt and found that subjectively poor and very poor individuals are more likely to migrate than subjectively non-poor individuals. Clark, Hatton and Williamson (2003) studied determinants of cross-border migration in Latin America and concluded that international migration, regardless of its legality, is expensive and unaffordable for the poorest. By conducting a review on findings regarding migration and poverty in the participatory poverty assessments of 14 countries, Azcona (2009) suggested that migration of the poorest tends to be rural-rural or rural-urban but not across borders. However, de Haan and Yaqub (2009) stressed that while selectivity is visible in the case of South-North migration, South-South migration is less costly and thus could be more affordable for the poor and the poorest. The constraints are further minimized in the case of cross-border migration between countries sharing a porous border and historical and cultural similarities. Therefore, more studies on determinants of migration in the cross-border context are needed to add more evidence of migrant selectivity.

### **3. Understanding Labor Migration in the Cambodian Context**

Getting an accurate understanding of the causes of labor migration is a pressing issue for Cambodia. The trend of labor migration has been observed since the mid 1990s, which was also a time when Cambodia experienced successive natural disasters (Chan 2009). From 1998 to the end of 2007, there were 20,630 workers legally recruited to Malaysia, South Korea and Thailand. However, it has been estimated that the pool of Cambodian migrants in Thailand was 248,000 in 2008 and that by 2018, the number will increase to 316,000 (Maltoni 2010). Moreover, Cambodian migrant workers are the second largest group among migrant workers in Thailand after Burmese (RGC 2010). The amount of remittance flowing into Cambodia accounted for approximately 3.23 percent of the Cambodian Gross Domestic Products (GDP) in 2005 and 3.40 percent in 2008 (GDP in 2008 was US\$ 9.57 billion) (Chan 2009, RGC 2010). About 40 percent of Cambodian migrants in Thailand stated that remittance was the main source of income for their left-behind households in Cambodia (RGC 2010). Cambodian workers migrating to Thailand are involved in a wider range of jobs, including fishing, fisheries related, agriculture, rice milling, brick kiln, ice production, transport, construction, mining, domestic work and others (RGC 2010).

Existing studies consistently reported that labor migration from rural Cambodia is mostly caused by push factors, such as the lack of employment, inability to access markets, and environmental degradation, poverty and landlessness (Chan & So 1992, Acharya 2003, Asian Migration Centre 2005, Dahlberg 2005, Maltoni 2007, Cambodia Development Resource Institute: CDRI 2007, Chan 2009).

The only pull factors for Cambodian workers are a high demand for low-skilled or unskilled labor and higher wages in urban areas and foreign countries (Chan 2009). In particular, the negotiation between business people and the Thai government has paved a way for migration of foreign unskilled laborers. In 2005, the quota for admission of workers from Myanmar, Laos and Cambodia was 1,086,653, 198,659 and 227,275 respectively. However, the percentage of work permits issued against the set quota was just 58 percent, 53 percent, and 48 percent respectively (Chan, 2009). This indicates that there are still plenty of jobs available in Thailand for migrant workers.

## 4. Data and Method

### 4.1 Data

To analyze determinants of migration, this study used retrospective household data collected through a field survey in Cambodia during two periods: August-September 2010 and December 2010–January 2011. The survey included data of 234 households, of which 154 are migrant households. The study focuses on ‘long-term cross-border labor migrants’. Regardless of the actual duration of stay in Thailand, a long-term migrant is a person whose intended length of work in Thailand is for years. When asked for how long migrants plan to work in Thailand, respondents from migrant households responded that it would be for some years, but they did not know the exact duration. On average, the actual migration duration of the samples is 4.67 years (ranging from less than a year to 11 years). Therefore, a household from which one or many of its members have left for long-term work in Thailand since 2000 was considered as a migrant household. In the same vein, a household member is defined as a person who shares income, expenditure, and workload regardless of whether he or she is present or absent. Those who stayed in the same house but did not share these characteristics were not considered household members.

All the 234 households were selected from four villages in Nimith Commune, which is located in Ou Chrov District, Poi Pet City, Banteay Meanchey Province. The province is a major sending province and transit spot for migrants from other provinces to Thailand. A migration study in Banteay Meanchey has revealed that Nimith Commune is a major sending commune of migrants to Thailand (ILO 2005). Based on information from in-depth interviews with staff of a local organization working on migration-related issues and the leader of Nimith Commune, four out of 15 villages in Nimith Commune were selected as research sites. The four villages – Dong Aranh, Soriya, Thmor Sen and Nimith Mouy – were chosen according to two main criteria: prevalence of long-term migration and different socioeconomic characteristics.

There are both advantages and disadvantages of conducting fieldwork in Cambodia and choosing Nimith Commune as a research site. Due to their illegal working status, Cambodian migrant workers are afraid to reveal their identity. Hence, it is not possible to approach them in Thailand. Even in

Cambodia, local authorities also do not have any record of where migrant households are. Data enumerators, therefore, tried to select households as randomly as possible by walking around the villages in all directions and approaching the houses regardless of their conditions. Because Nimith Commune is a major sending commune of irregular migrants to Thailand, selecting the commune as a research site enables a wide access to migrant households. However, due to long social and economic exchange between people in this province and Thais, it requires caution when applying findings of determinants of migration in this research site to migration from other parts of the country.

The present study used retrospective data to deal with the problem of reverse causality, which is a prevalent challenge faced by existing studies in the attempt to examine determinants of migration. Household's current economic condition is potentially affected by migration of household members. Caution on this issue is clearly warranted since past migration studies tend to show consistent results that left-behind households are most likely to spend remittances on housing and consumer goods. Hence, using the current economic condition to investigate the economic determinants of migration potentially raises the problem of reverse causality. Most past studies commonly use ready-collected survey or census data and thus are less flexible in terms of solution to the problem. Following Sabates-Wheeler et al. (2008) who used recalled data on subjective past poverty of migrants from Ghana and Egypt, this study used recall method to collect household information prior to migration for migrant households and in the year 2000 for non-migrant households. This study selected only migrant households whose member(s) started migration in the year 2000 or later. This is because some past studies on Cambodia showed that migration to Thailand increased sharply in 1996 and peaked in the first half of 1997 but declined in 1998 due to the Thailand's economic downturn and illegal migrant repatriation policy (Chan & So 1999). As the Thai economy started to recover in around 2000, it is reasonable to assume that new out-flow of labor migration from Cambodia should have been noticeable since then.

Data enumerators conducted semi-structured interviews with members of migrant and non-migrant households by using questionnaires with closed and open-ended questions. The questionnaires were designed to collect detailed data on household members, including their gender, age, education, marital status, and migration experience; decision to migrate or not to migrate; and household economic condition and economic activities prior to migration for migrant households and in the year 2000 for non-migrant households. In addition to respondents from both groups of households, the study also interviewed the commune leader and staff of a local organization in order to collect information of the commune and overall migration situation in the commune.

## **4.2 Methods**

As mentioned earlier, the objective of this study is to explain factors that influence a household's decision to undertake cross-border migration and whether determinants vary among households

depending on numbers of migrants and years of migration. Accordingly, the unit of analysis in this study is 'household' since the new economics of labor migration (NELM) theory suggests that migration is a household decision (Stark 1991). To achieve the stated objective, the study did three separate analyses. The first analysis used Probit regression to analyze general determinants of migration, and the dependent variable is 'dummy for migration status', which was dichotomously coded as '1' for migrant household and '0' for non-migrant household.

The second analysis applied censored Tobit regression to examine whether determinants of migration vary depending on number of migrants. The dependent variable in this regression is 'number of initial migrants'. To tackle the problem of reverse causality as mentioned in Section 4.1, the total number of migrants is a sum of number of initial migrants. For example, migration in some households might be started by only one person, while in other households it was started by two or more people at the same time. Although households had subsequent migrants, they were not included in the analysis.

Finally, the third analysis also used Probit regression to analyze whether determinants of migration vary depending on year of migration. The dependent variable here is 'dummy for year of migration', which has value '1' if the household started first migration in year 2006 or afterwards and '0' if the year of first migration was before 2006. Year 2006 was deliberately chosen as a split point for analysis for two reasons. First, despite several macro events, such as the conflict between Thai and Cambodia in 2003, the military coup in Thailand in 2006, and the prolonged conflict over the border between Cambodia and Thailand since 2008, the distribution of selected sample shows that migration has kept increasing. Thus, migration from the research site might have been affected by micro-level factors in household or community rather than macro factors; therefore, choosing any year for comparison seems not to matter. Second, the sample in this study covered 12 years of migration started from 2000 to 2011; thus, using 2006 as a cut-off point can inform whether migration in the first six years (2000–2005) and in the last six years (2006–2011) have any similar or different determinants.

General literature on micro-level analysis of migration has revealed that the determinants of migration are inherent in individual, household, and community. However, as this study focuses on the household level, the independent variables include only household and community factors as presented in Table 1 below. Based on the poverty study in Cambodia, these household and community variables can also provide information on the poverty status of the sampled households. Related to household, variables are as follows: sex of household head (1 if female), age of household head (years), education of household head (years of schooling), household size (persons), number of household members aged 16 and over, number of household members still in school, index of house quality (ranging from value '4' for the poorest household and '16' for the richest household), number of economic activities, number of hand tractors owned, and dummies for household economic condition (the poorest, the poor, and the non-poor). The community variables are village population (number of

**Table 1 Definition of Variables**

<b><i>Dependent variables</i></b>	
Dummy for migration status	'1' if the household had any long-term migrant
Number of initial migrants	Total number of migrants who firstly undertook migration in the household
Dummy for year of migration	'1' if initial migrant(s) left in year 2006 or afterwards
<b><i>Independent variables: household factors</i></b>	
HHH_sex	'1' if female
HHH_age	Years
HHH_edu	Years of schooling of household head
HH_size	Total number of household members (persons)
HMM_16andover	Total number of household members aged 16 and over (persons)
MMinSch	Total number of household members enrolling in school
Index_house	Quality of the house prior to migration/in year 2000 for non-migrant household, which is a sum value of four indicators: 1) floor, 2) wall, 3) roof, and 4) size of the house. The sum value of index of house quality for each household ranges from 4 (the poorest) to 16 (the richest).*
Tot_activity	Total number of economic activity the household had prior to migration/in year 2000 for non-migrant household (numbers)
Hand_tractor	Total number of hand tractors the household had prior to migration/in year 2000 for non-migrant household (numbers)
D_nonpoor	'1' if the household owned two or more hectares of land prior to migration/in year 2000 for non-migrant household
D_poor	'1' if the household owned from one to less than two hectares of land prior to migration/in year 2000 for non-migrant household
D_poorest	'1' if the household owned no or less than one hectare of land prior to migration/in year 2000 for non-migrant household
<b><i>Independent variables: community factors</i></b>	
VillagePopu	Total number of people in the village (persons)
Dist_market	Kilometer

Note: \* The rating of each indicator of house material is made based on general observation of house quality in rural Cambodia as reported in the poverty study conducted by the ADB (2001). The rating is as below:

- Roof: 1) straw/bamboo/palm leaves, 2) other metal sheets, 3) tile, and 4) cement sheet
- Wall: 1) bamboo/thatch/palm leaves, 2) wood/plywood, 3) other metal sheets, and 4) concrete/brick/stone
- Floor: 1) earth/clay, 2) bamboo strips, 3) wood, and 4) cement/brick/stone
- Size of the house: 1) house is on the ground, 2) house is high above the ground but not yet in the form of two floors, 3) it has two floors, and 4) if the household owns two house buildings.

persons) and distance to the nearest market (kilometers).

Dummies for household economic conditions, which were created based on household's size of landholding, were specifically included to test the relative probability to migrate of people with different level of economic conditions. The study divided size of landholding into three groups – the poorest (owning less than a hectare of land), the poor (owning from a hectare to less than two hectares of land), and the non-poor (owning from two hectares of land) – according to findings of the Asian



Development Bank (ADB) on participatory poverty assessment in Cambodia (ADB 2001). In this study, the size of landholding equals the size of agricultural land plus the size of residential land. Those who lived on other people's land or rented the agricultural land are considered as being landless on the respective type of land. Pearson test of correlation between variables 'size of landholding', 'index of house quality', 'number of economic activity' and 'number of hand tractor' was run to confirm the validity of 'size of landholding' as an indicator representing household economic condition. The result shows that 'size of landholding' has a positive and significant correlation with index of house quality (t-value=0.16, significant at 5 percent), number of economic activity (t-value=0.16, significant at 5 percent), and number of hand tractor (t-value=0.35, significant at 1 percent). Therefore, 'size of landholding' is a valid indicator to represent household economic conditions in measuring the relative probability to migrate among the three groups of households: poorest, poor and non-poor.

## 5. Results and Discussions

### 5.1 Description of Respondents

Table 2 presents descriptive statistics of variables used in regression analyses. As mentioned earlier, the sample size of this study is 234 households, of which 154 are migrant households. On average, there are 1.76 initial migrants per household. Out of 154 migrant households, 88 households (57 percent) had their first migration trip in 2006 or afterwards, whereas the first migration in 66 households was undertaken earlier between 2000 and 2005.

Migrant and non-migrant households were different in terms of socio-demographic characteristics. The representation of female-headed households in the sample was only one fourth, but the figure was quite high if compared to overall statistics of the commune. According to the commune statistics in 2009, out of 3,764 households, there were only 426 households (11.32 percent) headed by women.<sup>1</sup> The percentages of sampled migrant and non-migrant households managed by women were not much different (27 percent and 25 percent respectively). However, with statistical significance, migrant households had older but less-educated household heads than non-migrant households (48.44 vs. 45.40 years old and 3.95 vs. 5.20 years of schooling). Moreover, when compared to non-migrant households, migrant households had bigger household size (5.79 vs. 5.06 persons), more household members aged 16 and over (4.44 vs. 3.29 persons), but fewer household members enrolling in school (1.11 vs. 1.49 persons). The differences were also statistically significant.

However, in terms of economic condition, non-migrant households seemed to be more well-off when compared to migrant households. Because the big value of the index of house quality implies a good economic condition of the household, economic conditions of non-migrant households on average were better than those of migrant households with the index of house quality 8.31 vs. 7.38, with the difference being statistically significant. Regarding landholding, despite the statistical insignificance,

**Table 2 Descriptive Statistics of Variables Used in Regression Analyses**

Variables	Total (N=234)		Non-migrant HHs (N=80)		Migrant HHs (N=154)		t-test for equality of mean
	Mean	S. D.	Mean	S. D.	Mean	S. D.	
<i>Dependent variables</i>							
Number of households	234	–	80	–	154	–	–
Number of initial migrants	–	–	–	–	1.76	0.94	–
Number of households whose first migration just started recently (2006 or later) (1 if yes)	–	–	–	–	88 (57%)	–	–
<i>HH demographic and human capital variables</i>							
HHH_sex (1 if female)	61 (26%)	–	20 (25%)	–	41 (27%)	–	–
HHH_age	47.40	12.38	45.40	12.97	48.44	11.98	–1.79*
HHH_edu	4.38	3.54	5.20	3.55	3.95	3.47	2.58***
HH_size	5.54	2.01	5.06	1.84	5.79	2.05	–2.67***
HHM_16andover	4.04	1.78	3.29	1.62	4.44	1.74	–4.90***
MMinSch	1.24	1.23	1.49	1.34	1.11	1.15	2.24**
Index_house	7.70	1.74	8.31	1.52	7.38	1.76	4.03***
Tot_activity	1.98	1.06	1.96	1.05	1.99	1.07	–0.21
Hand_tractor	0.16	0.37	0.24	0.43	0.12	0.32	2.42**
<i>Dummies for household economic condition</i>							
D_nonpoor	95 (41%)	–	37 (46%)	–	58 (38%)	–	–
D_poor	39 (17%)	–	17 (21%)	–	22 (14%)	–	–
D_poorest	100 (43%)	–	26 (33%)	–	74 (48%)	–	–
<i>Village characteristic variables</i>							
VillagePopu	1911.53	211.81	1870.80	226.37	1932.68	201.37	–2.14**
Dist_market	3.90	1.15	3.86	1.10	3.92	1.17	–0.36

Note: S. D.: Standard Deviation; statistical significance: \*\*\* at 1%, \*\* at 5%, \* at 10%

Source: household survey conducted by the author

non-migrant households on average owned a bigger size of land than migrant households (2.15 vs. 1.62 ha). The division of size of landholding into the poorest, the poor and the non-poor has shown that majorities of both migrant and non-migrant households were either the poorest or the non-poor.

Non-migrant households on average had more hand tractors (0.24 vs. 0.12 units) but fewer numbers of economic activities (1.96 vs. 1.99). However, only the difference in terms of the number of hand tractors was statistically significant. While rice farming was the main income activity, the sampled households still engaged in additional supporting activities, which were mostly waged labor, livestock farming and vegetable growing.

Finally, compared to non-migrant households, on average migrant households tend to come from

bigger and more distant villages.

## 5.2 Determinants of Migration

As described earlier, the objective of this study is to explain factors that influence a household's decision to undertake cross-border migration and whether determinants vary among households depending on numbers of migrants and years of migration. The analyses were done through Probit and censored Tobit regressions. Probability to migrate was measured by whether a dummy for migration status, which takes value '1' if a household has any member crossing the border to work in Thailand for long-term duration. The number of migrants was a sum of total initial migrants per household, and a dummy for year of migration was coded '1' if initial migrant(s) moved recently (2006 and afterwards) or '0' if they moved earlier (2000–2005). Estimation equations for Probit and censored Tobit regressions are all significant, and coefficients of several variables are also statistically significant. The study also estimated marginal effects of significant variables (complete results not shown). Table 3 above presents complete regression results, and below is a summary of significant variables and their marginal effects.

Regarding household heads, only their education had a significant negative effect on the probability to migrate of their household members but not on the number of initial migrant or when to migrate. An additional year increase in education of household head from the average of 4.38 years of schooling is associated with a 1.8 percent decrease in the probability to migrate of household member (Probit Model 1). There are two possible explanations for this result. Firstly, people in the research site cross the border illegally to work in Thailand, so educated household heads or parents might not approve of migration. Secondly, based on the existing studies on poverty in Cambodia which says that poor households tend to be managed by low-educated heads (RGC 2006), it is conceivable that households with educated heads probably had good living conditions, which made illegal migration unnecessary and unattractive. Therefore, in terms of education of household heads, migrants from the research site are negatively selected.

It seems that rather than household size what matters is household composition. The regression results showed that probability to undertake migration and number of migrant, except year of migration, are positively affected by number of household members aged 16 and over. An additional person increase in household member aged 16 and over from the average of 4.04 persons is associated with a 9.2 percent increase in the probability to migrate (Probit Model 1) and a 7.5 percent increase in the probability to have an additional migrant (Tobit Model). Regarding migrant selectivity, the positive coefficient of variable 'HHM\_16andover' indicates that migrants in the study are positively selected because the poverty study in Cambodia has revealed that non-poor households tend to have a greater number of working-age adults (15–59 years old) than poor and poorest households.

On the other hand, number of household members still in school had a significant negative effect

**Table 3 Results of Regression Analyses on Determinants of Migration**

Independent variables	Y= Dummy for migration status (1 if migrant household)		Y=Number of initial migrants (persons)		Y= Dummy for year of migration (1 if first migration started in 2006 or later)	
	Probit Model 1 Coef.	t-value	Censored Tobit Coef.	t-value	Probit Model 2 Coef.	t-value
HHH_sex	-0.17	-0.70	-0.17	-0.69	0.10	0.36
HHH_age	-0.01	-0.60	-0.01	-1.37	0.02	1.49
HHH_edu	-0.05*	-1.71	-0.03	-1.01	-0.02	-0.16
HH_size	0.07	0.60	0.03	0.24	-0.16	-1.25
HHM_16andover	0.26**	2.35	0.31***	2.64	0.05	0.40
MMinSch	-0.27**	-2.33	-0.26**	-2.12	0.21	1.49
Index_house	-0.21***	-3.54	-0.19***	-3.18	-0.09	-1.40
Tot_activity	0.07	0.68	0.06	0.63	-0.17	-1.43
Hand_tractor	0.01	0.04	-0.05	-0.15	0.06	0.16
D_nonpoor <sup>1</sup>	-0.56**	-2.27	-0.43*	-1.71	-0.49*	-1.82
D_poor <sup>2</sup>	-0.59*	-2.09	-0.37	-1.20	0.21	0.60
VillagePopu	0.00	1.66	0.00	0.26	-0.00	-0.16
Dist_market	0.06	0.69	0.16*	1.72	-0.23**	-2.26
Constant	-0.06	0.05	1.22	0.97	2.12	1.47
Sigma			1.41	16.22		
Observations (HH)	234		234		154	
LR Chi <sup>2</sup>	63.75		56.45		23.72	
Prob > Chi <sup>2</sup>	0.00		0.00		0.04	
Pseudo R <sup>2</sup>	0.21		0.08		0.11	

Note: See definition of each variable in Table 1. <sup>1</sup> and <sup>2</sup>: base group is the poorest household. \*\*\*, \*\*, and \* represents significance level at 1%, 5% and 10% respectively.

Source: household survey conducted by the author

on both the probability to migrate and number of migrant but has insignificant effect on year of migration. An additional person increase in number of household member enrolling in school from the average of 1.24 persons is accompanied by a 9.5 percent decrease in the probability to migrate and a 6.3 percent decrease in the probability to have another migrant. In contrast to the variable 'HHM\_16andover', the negative coefficient of variable 'MMinSch' reveals negative selectivity of migrants since the poor and poorest households in Cambodia tend to have a greater number of young members currently enrolled in school (World Bank 2009). The contrasting effect of household composition suggests that either non-migrant households did not have available labor to migrate, or they prioritized education of young household members who are often children of household heads.

Unlike numbers of economic activities and hand tractors, index of house quality was of considerable importance in explaining the probability to migrate and number of initial migrant but had no significant effect on year of migration. As the bigger index implies a better economic condition, the

negative coefficient of the variable indicates that migration and high number of migrants are induced by poor house quality and that migrants in the study are negatively selected. Regarding the marginal effect, an additional value increase in the index of house quality from the average of 7.7 is associated with a 7.3 percent decrease in the probability to migrate and a 4.5 percent decrease in the probability to have an additional migrant.

Strikingly different from the theoretical and empirical regularity, the regression results manifestly showed that the poorest, measured by size of landholding, had the highest probability to migrate among the three groups of households and higher probability to migrate recently and to have more initial migrants than non-poor households. As seen in the result of Probit Model 1, when compared to the poorest households, the coefficients of variables 'D\_nonpoor' and 'D\_poor' were negatively significant. Non-poor and poor households have 20 and 22 percent lower probability to migrate than the poorest households respectively. This shows that migrants in this study are generally negatively selected. Similarly, the high number of initial migrants is also affected by poverty level of the household. The result of Tobit Model has shown that non-poor households have 10.4 percent lower probability to have an additional migrant than the poorest households. This means that the poor and poorest households tend to send a greater number of members to work in Thailand than the non-poor households. When compared to migrant households in the early period (2000–2005), the result of Probit Model 2 suggests that non-poor households have a 49 percent lower probability to migrate recently than the poorest households. Findings from the three regression models have jointly indicated that migrants from the research site are negatively selected, especially recent migration. People decide to migrate because of poverty, and meanwhile poverty is also an important explanatory factor for the high number of initial migrants sent out by a household. With time, the negative selectivity of migrants has become stronger since the economic condition of recent migrants (2006–2011) is worse than that of migrants in the early period (2000–2005) of migration history.

The changing pattern of migration between the early and recent migration as shown in Probit Model 2 can be explained by the competition among informal brokers, which has led to the reduction in costs and risks of migration. In the early period of migration, the existence of informal brokers was not widely known to villagers because brokers tried to hide their identity since by law they are not allowed to help people crossing the border illegal to work in another country. However, as the service is a lucrative business, more and more people including former and current migrants have become informal brokers, and they compete among themselves in terms of fee and safety of their services. The interview with staff of a local organization revealed that the cost of migration from the research site has significantly decreased from 3000–4000 Baht (US\$ 97–130) in the early 2000s to only around 1800 Baht (around US\$ 58) since 2006 because people now have easier access to brokers.<sup>2</sup> Moreover, information from interviews with respondents from migrant households showed that majority of recent migrants crossed the international border gate by using a border pass bought for them by

brokers, whereas brokers tended to instruct migrants in the early 2000s to cross the border stream and forest into Thailand. Some migrants had to sleep in the forest for two or three days before they could get into Thailand.<sup>3</sup> It seems that now people are more aware of risks and dangers associated with migration, so they are more careful in choosing informal brokers to facilitate their journey. Evidently, a respondent reported that she was not so much worried about the migrant because neighbors and relatives who used to migrate told her which broker is good and reliable for her to contact.<sup>4</sup> Information from the interviews, therefore, suggests that recent migration is less costly and risky and thus results in the high representation of the poor and poorest households.

Finally, regarding community characteristics, only distance to the nearest market was significant in explaining the difference in number of initial migrant and year of migration, but not the probability to migrate. The significant positive coefficient of distance to the nearest market in Tobit Model suggests that those who live near the market tend to have more initial migrants than those who reside far from the market. An additional kilometer increase in the distance to the nearest market from the average of 3.9 kilometers is associated with a 3.7 percent increase in the probability to have an additional migrant. However, compared to those who migrated earlier, those who live near the market had an 8.9 percent lower probability to migrate recently than those who live far from the market (Probit Model 2). In sum, a short distance to the nearest market reduces the probability to migrate recently but increases the probability to have more number of initial migrants. The development level of community, therefore, has countervailing effects on migration from the research site.

Generally, there are two plausible reasons that explain the high representation of the poorest migrant households in the research site. First, informal brokers, who are also a type of migrant network, helped reduce considerable costs of migration to Thailand. Compared to the legal migration to Thailand through labor recruitment companies, the financial cost of illegal border crossing was much cheaper. According to Chan (2009), it costs a migrant US\$ 700 to migrate legally to work in Thailand. Out of this cost, workers could pay US\$ 600 (approximately 20,000 baht) in ten installments during their work in Thailand, but they must pay US\$ 100 (about 4,000 baht) for the processing of documents in Cambodia. On the other hand, the surveyed households usually paid around US\$ 80 (about 2,500 baht) or even less for each migrant to cross the border, and there was no additional payment in Thailand.

Second, with the help of informal brokers, some migrants did not have to pay for the broker fees before they left Cambodia. There were many instances where migrants secretly left Cambodia with brokers without paying the broker fees and without their parents' knowledge. For example, an interviewee said that because he strongly disagreed with his daughter about the idea of migration, on the day he was not at home, his daughter secretly followed the broker to Thailand. He learned the news of his daughter's departure from his neighbors and from her phone call from Thailand.<sup>5</sup> Due to the close cooperation between brokers and Thai employers, brokers could help take migrants to

Thailand and receive the fees from Thai employers upon arrival in Thailand. Migrants had to pay the costs in installments to the employers, but the costs were just around 3,000 baht and the period of salary deduction was not as long as that of the legal channel.

### 5.3 Discussions

By analyzing retrospective data of 154 migrant and 80 non-migrant households in border area through Probit and censored Tobit regressions, this study sheds more light on determinants of cross-border migration in South-South direction, which ultimately contributes to the current debates on migration-poverty linkages.

First, different from a study of Tunali (2001) which found in the case of Turkey that education of parents had a positive effect on migration of their children, the present study supported findings of a recent study on negative effect of education of household heads on migration in Cambodia (Tong, Hem & Santos 2011). There are two plausible explanations for this opposite finding. Firstly, migration from the research site is undertaken illegally, so more educated household heads might strongly object to it. Secondly, households with more educated heads probably had a relatively good economic condition as suggested by the poverty study in Cambodia conducted by the ADB (2001), which made migration unnecessary or unattractive.

Second, while the finding on effect of number of household members aged 16 and over is in line with many existing studies on the effect of adult household members (Hare 1999, Gray 2009), the finding on effect of number of household members still in school explains the inconsistent findings of Görlich and Trebesch (2008) on the effect of the number of dependents in the case of Moldova. Due to the negative effect of the number of dependents (aged 15 or younger) and the insignificant effect of the number of household members aged 6 and younger, Görlich and Trebesch concluded that young dependents alone do not have a significant effect on migration decision. The finding of this study suggests that the significant effect of number of dependents in the study of Görlich and Trebesch might be because those dependents were still studying as in this study.

Third, only a few studies have examined the effect of house quality on migration and did not find it had a significant effect (Quinn 2001, Arrehag, Sjöberg and Sjöblom 2006). In contrast, the present study used a different combination of house quality (type of floor, type of wall, type of roof, and size of the house) to fit with the situation at the research site and revealed that house quality is a significant determinant of migration.

Fourth, when economic condition is represented by size of landholding, the study offered strikingly different evidence on the effect of poverty on migration. While the conventional wisdom is that the poorest tend to be excluded from migration, especially between countries, due to its excessive costs and risks, this study found that the poorest had the highest probability to cross the border to work in Thailand among the three groups of household (the poorest, the poor and the non-

poor) and higher probability to send many initial migrants than the non-poor households. Moreover, through several years of migration outflow from the village, migration has become more accessible to the poor and poorest to the extent that the poor and the poorest outnumbered the non-poor households in the recent wave of migration. In other words, the negative selectivity of migrants in the research site has become stronger after successive waves of migration. Massey (1988) hypothesizes that the level of positive selectivity will be reduced when there are successive waves of migration from the same location because the increasing number of migrants will expand migration networks who work to reduce the costs of migration for subsequent migrants. Feliciano (2005) used this reasoning to explain his finding on reduced level of positive selectivity of Mexican migrants to the United States. Although this study found negative selectivity of migrants, the increased level of negative selectivity can be explained by the same reasoning.

Finally, in line with many existing studies on the effect of community characteristics (de Haan and Yaqub 2009, Gray 2009), the present study also revealed that development level of community represented by distance to the nearest market has countervailing effects on migration. While the short distance has a positive effect on the number of initial migrants, it reduces the probability of a household sending their member away for work in Thailand recently.

## 6. Conclusions

In conclusion, poverty has led to negative selectivity of migrants in this study. The regression results clearly proved that migration from the research site is undoubtedly widely accessible to the poorest and poor households. In terms of the decision to migrate, the poorest are most likely to migrate among the three groups of households. With regards to the number of initial migrants sent by each household, non-poor households have fewer initial migrants when compared to the poorest and poor households, but there is no significant difference between the poorest and poor households. This indicates that while the poorest households are most likely to undertake cross-border migration to Thailand, their ability in sending more than one migrant might not necessarily be higher than the poor households. Moreover, although the non-poor households also participate in migration, they might not send as many members out as the poor and poorest households. Finally, while migration from the research site in the early stage was dominated by the non-poor households, in the recent wave of migration this is no longer the case. Now it is the poorest and the poor who are more likely to migrate than non-poor households. Increasing migration of the poor and poorest is seemingly facilitated by expanding migration networks after several years of continuous movement of people across the two countries. The findings support the caveats raised by Durand and Massey (1992) and de Haan and Yaqub (2009) that migrant selectivity is less visible in the case of South-South illegal cross-border migration where a porous border and extensive migration networks exist. Thus, the on-going debates



on migration-poverty linkages need to take into account the characteristics of migration.

As for the RGC, the present findings may have significant policy implications. Based on the current debate on migration-poverty linkages, it could be speculated that the high representation of the poorest and poor in migration from the research site might potentially lead to a marked reduction in poverty and inequality level in communities. Therefore, instead of prohibiting migration, the government should take appropriate measures to ensure that people have access to cheap, legal, and safe migration.

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## Notes

- 1 Data is taken from the 2010 Commune Databook (CDB) of Nimith Commune as of December 2009, which was obtained during fieldwork in January 2011. The CDB contains core information regarding demographic, socio-economic and physical assets of each commune and is used to produce the poverty index for the allocation of investment funds for communes (the National Committee for Sub-National Democratic Development, <http://www.ncdd.gov.kh/resources/database/cdb>, last access: 11 August 2011).
- 2 Interview with Mr. Va Kimheang, member of staff of the Social Environment Agricultural Development Organization (SEADO) on 19<sup>th</sup> January 2011
- 3 Interview with migrant household No. 0071 in Soriya Village on 19<sup>th</sup> January 2011
- 4 Interview with migrant household No. 0089 in Thmor Sen Village on 18<sup>th</sup> January 2011
- 5 Interview with migrant household No. 0094 in Thmor Sen Village on 18<sup>th</sup> January 2011

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## References

- Acharya, S. 2003. Labor Migration in the Transitional Economies of South-East Asia. Bangkok: Economic and Social Commission for Asia and the Pacific.
- Arrehag, L., Sjöberg, Ö., & Sjöblom, M. 2006. Post-Communist Cross-Border Migration in South-Eastern Albania: Who Leaves? Who Stays Behind? *Journal of Ethnic and Migration Studies*, 32(3), 377–402.
- Asian Development Bank: ADB. 2001. Participatory Poverty Assessment: Cambodia. Manila: ADB.
- Asian Migration Centre. 2005. Asian Migration Yearbook 2005. Asian Migration Centre.
- Azcona, G. 2009. Migration in Participatory Poverty Assessments: A Review. *Munich Personal RePEc Archive (MPRA) Paper No. 19239*.
- Bhandari, P. 2004. Relative Deprivation and Migration in An Agricultural Setting of Nepal. *Population and Environment*, 25(5), 475–499.
- Cambodian Development Research Institute: CDRI. 2007. Youth Migration and Urbanization in Cambodia. Phnom Penh: CDRI.
- Chan, S. 2009. Review of Labor Migration Management, Policies and Legal Framework in Cambodia. Bangkok: ILO/Japan Project on Managing Cross-Border Movement of Labour in Southeast Asia.
- Chan, S., & So, S. 1999. Cambodian Labour Migration to Thailand: A Preliminary Assessment. *Working Paper No. 11*. CDRI.
- Clark, X., Hatton, T. J., & Williamson, J. G. 2003. What Explains Cross-Border Migration in Latin America?
- Dahlberg, E. 2005. Insights into Migration and Spending Patterns Based on a Small-Scale Study of Garment Workers in Phnom Penh. *EIJS Working Paper Series 220*. The European Institute of Japanese Studies (EIJS).
- de Brauw, A. 2010. Seasonal Migration and Agricultural Production in Vietnam. *Journal of Development Studies*, 46(1), 114–139.

- de Brauw, A., & Rozelle, S. 2008. Migration and Household Investment in Rural China. *China Economic Review*, 19(1), 320–335.
- de Haan, A., & Yaqub, S. 2009. Migration and Poverty: Linkages, Knowledge Gaps and Policy Implications. *Social Policy and Development Programme Paper Number 40*. United Nations Research Institute for Social Development.
- de Haas, H. 2005. International Migration, Remittances and Development: Myths and Fact. *Global Migration Perspectives No. 30*. Geneva, Switzerland: Global Commission on International Migration.
- . 2008. Migration and Development: A Theoretical Perspective. *Working Paper 9*. International Migration Institute.
- de Hass, H., Bakewell, O., Castles, S., Jonsson, G., & Vezzoli, S. 2009. Mobility and Human Development. *Working Paper 14*. International Migration Institute.
- Durand, J., & Massey, D. S. 1992. Mexican Migration to the United States: A Critical Review. *Latin American Research Review*, 27(2), 3–42.
- Feliciano, C. 2005. Educational selectivity in U. S. immigration: How do immigrants compare to those left behind? *Demography*, 42(1), 131–152.
- Görlich, D., & Trebesch, C. 2008. Seasonal Migration and Networks-Evidence on Moldova's Labour Exodus. *Review of World Economics*, 144(1), 107–133.
- Gray, C. L. (2009). Rural out-migration and smallholder agriculture in the southern Ecuadorian Andes. *Popul Environ*, 30, 193–217.
- Hare, D. 1999. 'Push' versus 'Pull' Factors in Migration Outflows and Returns: Determinants of Migration Status and Spell Duration among China's Rural Population. *Journal of Development Studies*, 25(3), 45–72.
- International Labour Organization: ILO. 2005. The Mekong Challenge, Destination Thailand: A Cross-Border Labour Migration Survey in Banteay Meanchey Province, Cambodia. Bangkok: ILO.
- Maltoni, B. 2007. Migration in Cambodia: Internal vs. External Flows. *8th ARPMN Conference on "Migration, Development and Poverty Reduction," 25–29 May 2007*. Fuzhou.
- . 2010. Analyzing the Impact of Remittances from Cambodian Migrant Workers in Thailand on Local Communities in Cambodia. Phnom Penh: International Organization for Migration.
- Massey, D. S. 1988. Economic Development and International Migration in Comparative Perspective. *Population and Development Review*, 14(3), 383–413.
- Quinn, M. A. 2001. Haves and Have Nots, Relative Deprivation and Mexican Migration 1987–1997. Chapel Hill.
- Royal Government of Cambodia: RGC. 2006. A Poverty Profile of Cambodia 2004. Phnom Penh: Ministry of Planning.
- . 2010. Labor Migration Policies of Cambodia. Phnom Penh: RGC.
- Sabates-Wheeler, R., Sabates, R., & Castaldo, A. 2008. Tackling Poverty-Migration Linkages: Evidence from Ghana and Egypt. *Soc Indic Res*, 87(1), 307–328.
- Skeldon, R. 2002. Migration and Poverty. *Asia-Pacific Population Journal*, 17(4), 67–82.
- . 2003. Migration and Poverty. *Paper presented at the conference on "African Migration and Urbanization in Comparative Perspective" Johannesburg, South Africa, June 4–7, 2003*.
- Stark, O. 1991. The Migration of Labor. Massachusetts, USA: Basil Blackwell, Inc.
- Todaro, M. P. 1969. A Model of Labor Migration and Urban Unemployment in Less Developed Countries. *The American Economic Review*, 59(1), 138–148.
- Tong, K., Hem, S., & Santos, P. 2011. What Limits Agricultural Intensification in Cambodia? The Role of Emigration, Agricultural Extension Services and Credit Constraints. *Working Paper Series No. 56*. CDRI.
- Tunali, I. 2000. Rationality of Migration. *International Economic Review*, 41(4), 893–920.
- Vargas-Lundlus, R., Lanly, G., Villarreal, M., & Osorio, M. 2008. International Migration Remittances and Rural Development. International Fund for Agricultural Development (IFAD).
- Waddington, H., & Sabates-Wheeler, R. 2003. How Does Poverty Affect Migration Choice? A Review of Literature. *Working Paper T3*. Development Research Centre on Migration, Globalization and Poverty.
- World Bank. 2009. *Poverty profile and trends in Cambodia, 2007*. Poverty Reduction and Economic Management Sector Unit East Asia and Pacific Region: World Bank.