Expenditure Patterns of Households Receiving Remittances in Thailand

Miss Sha Ma

A Thesis Submitted in Partial Fulfillment of the Requirements

for the Degree of Master of Arts in Labour Economics and Human Resource Management

Field of Study of Labour Economics and Human Resource Management

Faculty of Economics

Chulalongkorn University

Academic Year 2018

รูปแบบค่าใช้จ่ายของครัวเรือนที่ได้รับเงินโอนในประเทศไทย

น.ส.ชา มา

Thesis Title	Expenditure Patterns of Households Receiving Remittances in Thailand
By	Miss Sha Ma
Field of Study	Labour Economics and Human Resource Management
Thesis Advisor	JESSICA VECHBANYONGRATANA

Accepted by the Faculty of Economics, Chulalongkorn University in Partial Fulfillment of the Requirement for the Master of Arts

.... Dean of the Faculty of Economics

(WORAWET SUWANRADA)

THESIS COMMITTEE

.... Chairman

(YOON YONG)

.... Thesis Advisor

(JESSICA VECHBANYONGRATANA)

.... External Examiner

(Sasiwimon Warunsiri Paweenawat)

ชา มา : รูปแบบค่าใช้จ่ายของครัวเรือนที่ได้รับเงินโอนในประเทศไทย. (Expenditure Patterns of Households Receiving Remittances in Thailand) อ.ที่ปรึกษาหลัก : เจสสิกา เวชบรรยงรัตน์

งานวิจัยนี้ได้อ้างอิงตัวเลขจากฐานข้อมูลของสำนักงานสถิติแห่งชาติ (ประเทศไทย) ในระหว่างปี 2550 - 2558 วิจัยนี้ได้ศึกษาถึงผลกระทบต่อค่าใช้จ่ายในครัวเรือนที่เกิดจากการโอนเงินระหว่างประเทศของแรงงานข้ามชาติ

งานวิจัยนี้ศึกษาพฤติกรรมการใช้จ่ายของแรงงานข้ามชาติที่สำคัญ 3 หมวด คือ หมวดค่าใช้จ่ายในการศึกษา หมวดค่าใช้จ่ายเกี่ยวกับที่อยู่อาศัย รวมถึงหมวดค่าอาหารและเครื่องดื่ม

จากผลการสำรวจพบว่า การโอนเงินระหว่างประเทศของแรงงานข้ามชาติไม่ได้ส่งผลกระทบต่อค่าที่อยู่อาศัยและเครื่องใช้ภายในบ้าน ความเหลี่ยมล้ำในด้านค่าใช้จ่ายของผู้ที่มีฐานะดีหรือผู้ที่มีรายได้ปานกลางจะใช้จ่ายในด้านการศึกษามากกว่าผู้ที่มีรายได้น้อย และผู้ที่มีรายได้น้อยจะใช้จ่ายเกี่ยวกับอาหารและเครื่องดื่มเป็นส่วนมาก

| สาขาวิชา	เศรษฐศาสตร์แรงงานและการจัดการทรัพยากรมนุษย์	ลายมือชื่อนิสิต ....
ปีการศึกษา	2561	ลายมือชื่อ อ.ที่ปรึกษาหลัก ....

6085564329 : MAJOR LABOUR ECONOMICS AND HUMAN RESOURCE MANAGEMENT

KEYWORD: Economic Migration, Remittances, Expenditure Patterns

Sha Ma : Expenditure Patterns of Households Receiving Remittances in Thailand. Advisor: JESSICA VECHBANYONGRATANA

This article, through the data of the Statistics Bureau of Thailand in 2007 and 2015, examines whether remittances brought about by economic migration will affect household expenditure patterns. This study includes three expenditure patterns: education expenditure, housing expenditure, food and beverage expenditure. The result shows remittances have no effect on housing expenditures. Families receiving remittances, the non-poor households pay more on education than the poor households. And poor households always have more expenditure on food and beverage than non-poor households.

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY
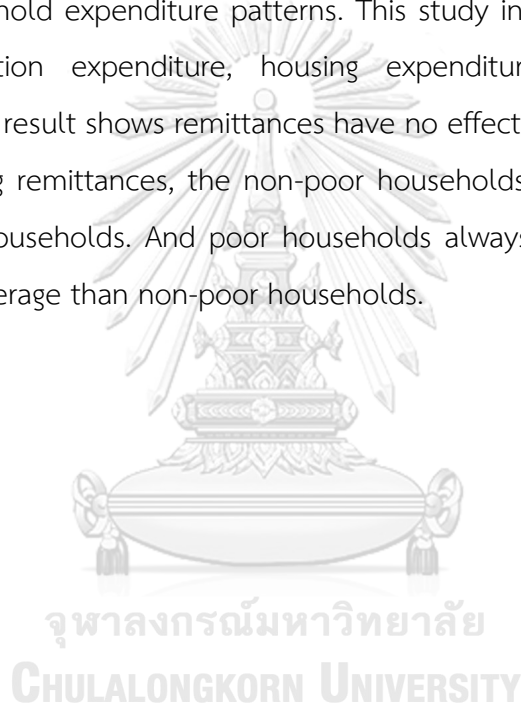
Field of Study:	Labour Economics and Human Resource Management	Student's Signature ....
Academic Year:	2018	Advisor's Signature ....

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY

Chapter 1 Introduction

1.1 Research Questions

The problem studied in this paper is whether the remittances brought by economic migration will affect household expenditures for labor-sending households. Secondly, this study assesses whether households under different economic conditions have different expenditure patterns after receiving remittances.

1.2 Research Objective

First of all, this paper wants to understand the internal migration situation in Thailand. Secondly, the analysis of the results using Thai data is compared with the existing literature results. It is hoped that the impact of remittances brought by internal migration in Thailand on domestic household expenditure will be obtained and add to our understanding the importance of remittances for left-behind families.

1.3 Conceptual Framework

| Remittance | | 1. Income: Six Categories 2. Debt | | 1. Region 2. Area |

Expenditure Patterns:

1. Housing Expenditure

2. Education Expenditure

3. Food and Beverage Expenditure

Household Characteristics:

1. Number of Household Member

2. Number of Children

3. Number of Agriculture Households
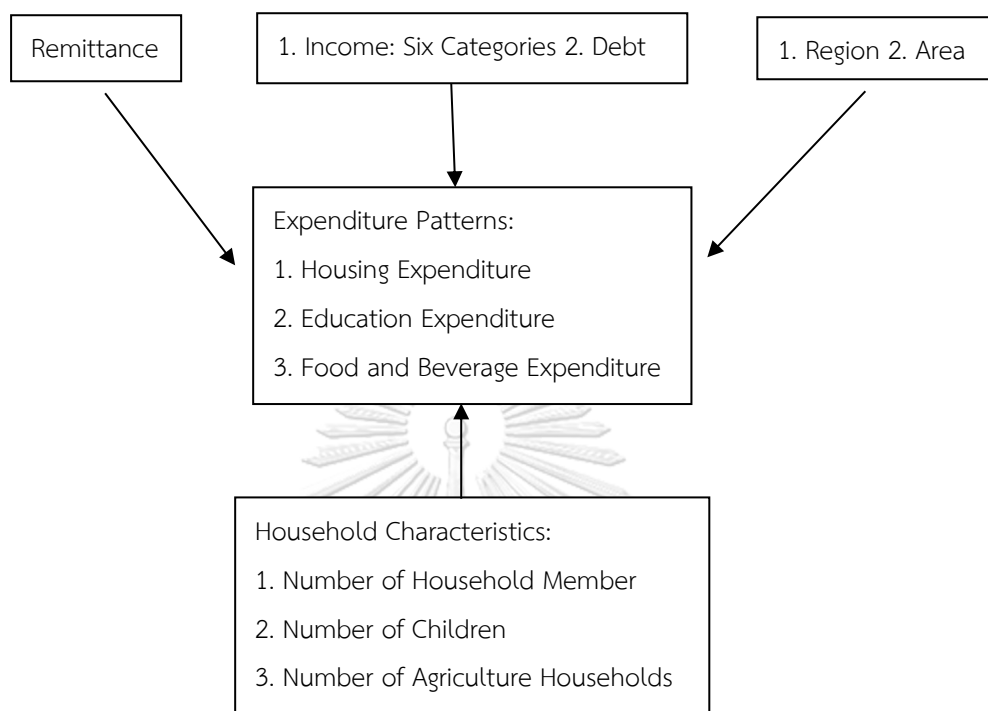
This is the research framework diagram. "Remittance" is the independent variable and refers to the total amount of money sent by the migrants to families who stay at the emigration place on a monthly basis. "Expenditure Patterns" are the dependent variables, which consists of three parts: housing expenditure, education expenditure, and food and beverage expenditure. "Income" and "debt" are control variables. "Income" includes: labor income, business profit, farming profit, pension income, government assistance, and insurance. "Household characteristics" is also a control variable in the study, which includes the number of family members, the number of children, and the number of families engaged in agriculture. "Area" and "region" are dummy variables that indicate whether left-behind households reside in municipalities and which area of the country.

1.4 Importance of Research

With regard to remittances brought about by migration and the economic impact of remittances on the recipient families, many scholars have already elaborated (R. H. Adams Jr & Cuecuecha, 2010; Cardona-Sosa & Medina-Durango, 2006; Castaldo & Reilly, 2007; Tabuga, 2007). However, the literature in Thailand is mostly aimed at international migration, while the study of internal migration is in the minority. Secondly, few scholars have analyzed the relationship between remittances and Thai household expenditures. Based on the existing research, I hope that through regression analysis and comparison, we can find out the impact of remittances on the expenditure patterns in Thai households.

Chapter 2 Background

2.1 Labor Migration

Labor resources are a major part of economic development, mainly due to the imbalance of economic development between regions, and the flow of labor between regions. In the Asian region, the Philippines and Sri Lanka are typical labor exporting countries, while Hong Kong and Singapore are typical labor receiving regions. The main reason for this pattern is attributed to the level of economic development. South Korea experienced a shift from labor output to labor reception in the 1980s. Since the 1990s, rapid economic growth has gradually led to a situation in Thailand where incoming and outgoing labor coexist. The migrant labor force comes from countries around Thailand, such as the Philippines, Vietnam, Bangladesh, and Myanmar. The reasons for labor migration cannot be ignored. There are two main reasons for labor migration: economic factors and non-economic factors. The most obvious of the economic factors are wages and income. The economy of the receiving country is generally relatively superior, with more employment opportunities and quality educational resources. Non-economic factors mainly refer to the process of labor flow and the establishment of a broader social network where workers can get more new information by making new friends. On the other hand, it is forced by armed conflicts, such as immigrants from Myanmar to enter Thailand (Wickramasekara, 2002).

2.2 Labor Migration and Remittances in Thailand

As the capital of Thailand, Bangkok is an important economic development center in Southeast Asia and one of the international activity centers. The booming economy of Bangkok has increased the demand for labor, thus attracting workers from other parts of Thailand to work in Bangkok and other economically developed regions.

From the migration survey report in 2007, I compiled data on migrants' previous location and present location in 2007 (see Table 1 in Appendix). Figure 1 is based on this data. In this chart, it shows the internal migration data within Thailand. Migrants from municipal and non-municipal areas move to Bangkok. Most migrants move to Bangkok from the northeastern area. Among migrants in other areas except the central area, the number of migrants from non-municipal areas is greater than the number of migrants from municipal areas. In general, most of the migrants come from areas with weak economic development.

Figure 1 Migrants from Five Areas Move to Bangkok
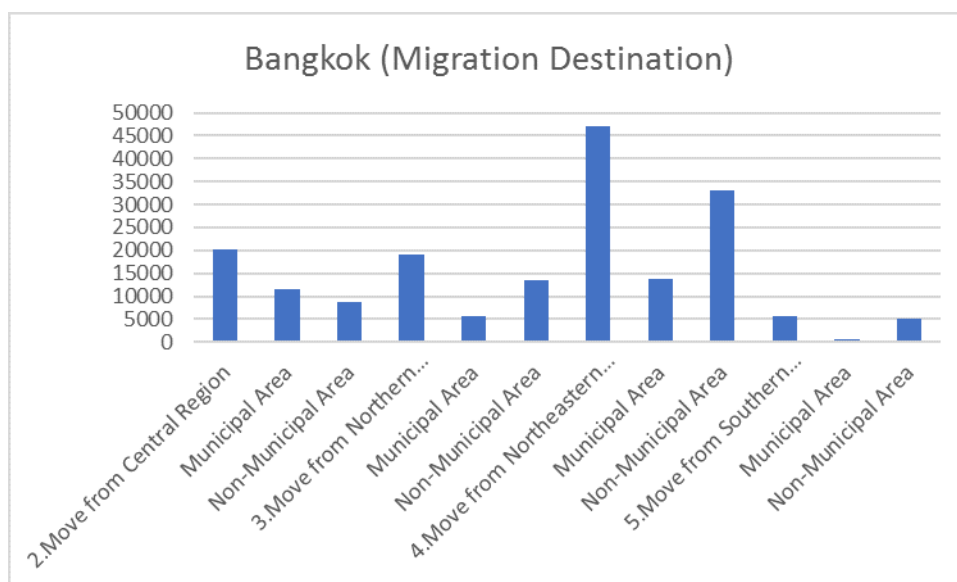
The internal migration of the Thai labor force is generally the flow of rural to urban areas. At the same time, there are also seasonal migrants that move from northern and northeastern Thailand to Bangkok and the central region during the dry season. This is a temporary migration of workers, and workers will return after the dry season. As a well-developed region of Thailand, Bangkok and the Central Region provide education, job opportunities, health equipment, living and wages that are superior to other regions. The main motives of migration are related to employment. For migrants, they want to get better jobs and incomes in the immigration area. The educational background cannot be ignored. So many migrants start the migration for study, when the study is completed, they can find a job in the city (Anant, 2010).

Through migration, workers not only improve their living standards and work skills, but also affect family members who stay in their hometown. The main source

of impact is that through remittances. Labor migrants earn income through work, keep some income as their own deposits, and the other part as remittances to their families. Thai female labor migrants have more frequent remittances than male laborers. When the family only have the husband move outside for work, the frequency and quantity of remittances are greater than those of husband and wife go out to work together. Migrants with higher educational backgrounds can find better work and income, and thus can send more remittances to their families. Remittances brought by the migration have a significant positive effect on the per capita income of the households in the emigration area, and also reduce the income inequality (Katewongsa, 2015).
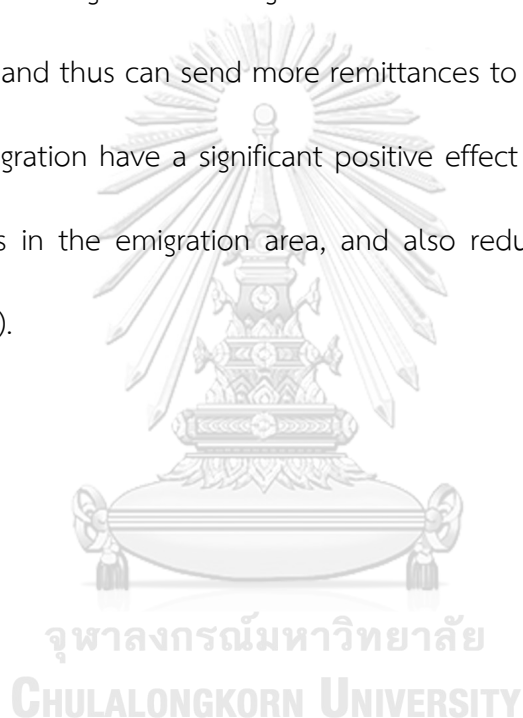
Chapter 3 Literature Review

3.1 Economic Migration

The most famous economic theory of migration decision pointed out that the reason for the impact of labor migration is not the difference in real wage, but based on the expected value of income. Belief that the income in the city will be higher than current income in the rural area will promote the migration of rural labor to the city. The stated formula of labor mobility is: rural labor occupancy probability * urban average wage > rural average wage (Todaro, 1969).

Sahota (1968) conducted a study of internal mobility in 19 regions of Brazil by summarizing three theories about internal mobility. The first theory states that the cost and return of human capital investment affects flows. The second theory is about human motivation and economic development. The third theory is important for this study. The third theory explains that "pull" and "push" factors affect labor mobility. The "push" factors stem from the economic underdevelopment and low income of the emigration place; "pull" factors stem from education and employment. The author draws on the first theory, and studies the wages and education of the emigration and immigration areas, the regional per capita income growth during the two years (1949-1951), and the impact of the distance on migration. The author shows that the regional wage difference is the most important factor affecting migration. Secondly, the distance of the migration area will also affect the

migration choice of workers.

The reasons for population mobility are widely used based on theories of "push" and "pull". According to a study by the Asian Development Bank, data on 2,000 household surveys from three provinces in northeastern Thailand from 2008 to 2010, and survey data on 650 migrants living in Bangkok in 2010 were collected. The results of the study show that among the migrants living in Bangkok, the number of people who migrated because of job opportunities accounted for the largest, reaching 46.81%. Second, the higher the level of education or the lower the income level, the greater the likelihood of mobility. Population movements increase the income of rural residents, but have little effect on narrowing regional development differences (Amare, Hohfeld, Jitsuchon, & Waibel, 2012). Under the same theory of migration theory, Fan (1996) studied the internal mobility of Guangdong Province in China in the 1990s. Due to economic reforms, the special economic zones and open zones owned by Guangdong. At the same time, the opening of national policies and the acquisition of foreign investment in some parts of the province have further promoted economic development. Unbalanced spatial economic development has promoted population movements. Foreign investment has created more jobs, thus promoting population mobility. Although different scholars define the meanings of "push" and "pull", their role in population mobility cannot be ignored.

In the study of economic migration in Thailand, the NMS (National Migration

Survey) set two "five-years" to define migration in order to achieve census and obtain more comprehensive comparability data. The first one, living in the current location between 6 months and 5 years, can be considered migration. However, it is worth noting here that the change of residence area is within the urban area and cannot be counted as migration. Second, moving to the current residence for a period of one month to five years can also be called migration. In the first definition, the results of the survey found that only 15% of the population can be called immigrants. At the same time, using the second definition to define the migration population, the results show that 22% of the population is considered immigrants, an increase of 7% over the previous results. Therefore, NMS uses a shorter time residence change to define the migration phenomenon. Thailand is a country dominated by agriculture, so the internal migration of Thailand has seasonal characteristics, not all of which are permanent migration. In seasonal migration, men dominate, and male laborers enter the Bangkok and Central regions during the dry season, and flow back in the wet season to return to their hometowns for agricultural production (Guest et al., 1994).

3.2 Remittances

As labor migrants enter a better environment to seek higher incomes and development, migrants will help their families through remittances. According to VanWey (2004) , she concluded migrants can be seen as acting altruistically and a contractual arrangement with non-migrant members of their families. Adams (2011)

studied the impact of international remittances on household economies in developing countries. Driven by altruistic thinking, migrants will send money to their families to help members who stay at home. The results find that remittances generally have a positive impact on poverty and health. Remittances can also have negative effects on labor supply, education and economic growth.

In the analysis of the motivation for remittances, in addition to altruism, there are two other motives: asset accumulation and insurance. Insurance motives fall into two categories. On the one hand, self-insurance, which overlaps with asset accumulation, can be understood as a migrant who treats remittances as a deposit. On the other hand, it is insurance for family members and remits remittances to family members (Amuedo-Dorantes & Pozo, 2006).

As for the use of remittances, remittances are generally regarded as an income, from developed countries to less developed countries, and families receiving remittances treat them as part of household income and for household expenditures, even for Investment in human capital, such as education spending (Airola, 2007). In the next chapter, it can be found that most scholars view remittances as a special type pf income and study the impact of remittances on household expenditures.

3.3 Expenditure Patterns

Economic migration affects households. On the one hand, it affects households through remittances, and on the other hand, it is not directly attributable to remittance. For example, McKenzie (2005) pointed out that under the direct effect of non-remittance, mobility will improve the health knowledge of migrants. Especially the migrants who are mothers, they increase the health care of their children. And the mobility of the population reduces the educational level of children who are not accompanied by their parents. According to research hypotheses, this study focuses on the remittance, to study the impact of economic migration on household through remittances.

Remittances affect the family's economic situation. Garip (2014) studied the impact of internal migration and remittances of Nang Rong in Thailand on family wealth accumulation and distribution. Under the influence of remittances and flows, households with different wealth status have no significant changes in their consumption capital, but production capital will have the opposite result. Rich families will reduce production capital, and poor families will increase production capital. However, in the context of conflict, the impact of remittance on poor families is particularly prominent, and the impact of remittance on wealthy families is not significant. Poor households have increased their living conditions and food safety after receiving remittances, and poorer households invest mostly in non-productive assets (Fransen & Mazzucato, 2014).

Remittances have an impact on household expenditure patterns. Adams Jr. and Cuecuecha (2010) studied the impact of remittances on household expenditure and investment in Guatemala. They divided households into three types for comparative research: unreceived remittance, internal remittance, and international remittance (from the United States). Compared to household expenditures for households that do not accept remittances, households receiving international remittances will reduce food consumption expenditures at the margin. However, households that do not receive remittances are also used as comparison groups. Households that accept internal remittances and accept international remittances will increase spending on education and increase investment in housing. Remittances affect economic development by increasing the level of investment in human and physical capital. Sosa and Medina (2006) also studied the impact of remittances on household consumption by observing the 2003 household data in Colombia. Firstly, it distinguishes whether the family has received remittances from international migrants, and secondly, for families with remittances received, the scholars studied the impact of remittances on consumption patterns, including education expenditures, health expenditures, consumer expenditures, and investment expenditures. The consumer expenditure studied by the author is food consumption expenditure. The analysis shows that the impact of remittances on household food consumption expenditure is not significant, and remittances only affect education expenditures. Démurger and Wang (2016)　utilized the PSM (Propensity Score

Matching) to analyze the relationship between remittances and expenditure patterns of the left behinds in rural China. In their study, the expenditure includes: business expenditure, consumption expenditure (refers to food, education, medicine and housing), and other expenditure. The results showed in the distribution of remittances, the share of business expenditures is the least, while the share of consumer expenditures is the largest. Second, among households with remittances, the smallest proportion of business expenditures is due to the migration of young labor, while the proportion of consumer expenditures is reflected in the increase in expenditures on durable goods and housing. In addition, the unique finding of the study is that compared to households with no remittances, households with remittances account for a small proportion of education expenditure. The authors explained that one reason is that there are more children in high school education than in families with remittances, and another reason is that children with remittance families are more likely to drop out of school. Tabuga (2007) studied the international remittances and household expenditures in Philippine. This paper also examines the impact of remittances on food expenditures, but food expenditure here refers to expenditures for eating out, and remittance income will reduce the frequency of eating out. While remittances have a positive effect on education and housing expenditure.

To summarize, the impact of remittances on various types of household expenditures differs across different contexts, but overall remittances seem to have

positive impacts on household expenditures in several categories. Therefore, this paper argues that remittances have a positive impact on the household expenditures. That is, remittances increase residents' education expenditures, housing expenses, and food and beverage expenditures.

Chapter 4 Data

4.1 Data source

I will use data for 2007 and 2015 from the Thai Socio-economic Survey (SES) collected by the National Statistical Office (NSO).

Table 1 The Information of Data

Variable Type	Variable	Measurement Data
Dependent Variable	Housing Expenditure (HE)	House rent / Estimated rental value (House & Land) (Baht/Month)
Dependent Variable	Education Expenditure (EduE)	Expense on education (tuition/school fees, uniform, books, expense on transportation) (for the whole academic year of the previous educational level), so it needs to divide 12 to get one-month value
Dependent Variable	Food and Beverage Expenditure (FBE)	Average monthly expenditure on food and beverage per household (cash payment)
Independent Variable	Remittance	The amount of money had sent to the household in average per month (Baht)
Control Variable	Remittance Household	This is dummy variable, when the household with remittance as "1"
Control Variable	Labor Income	Average monthly money income
Control Variable	Business Profit	Net profit from business in average per month
Control Variable	Farming Profit	Net profit from farming in average per month
Control Variable	Pension Income	Average monthly income from pensions/annuities, other assistances
Control Variable	Gov Assist	Average per month income from elderly and disability assistance from government and other organizations
Control Variable	Insurance	Average monthly proceeds from health, accidents, fire or life insurance
Control Variable	Debt	Debt repay averagely per month
Control Variable	Region	As the dummy variable, it includes: BKK, Central, North, Northeast, South
Control Variable	Area	As the dummy variable, "urban" as 1, "rural" as 0
Control Variable	HH member	Number of household members
Control Variable	Num Children	Number of household members under 15
Control Variable	Agricultural HH	Number of household members worked in farm

For the analysis, the money variables will be calculated as real values. The function is real value = (nominal value/ CPI) *100. I will use the CPI in 2010 as base

CPI (100). According to the base CPI, the values in 2007 and 2015 are comparable (the CPI of 2007 is 92.62; the CPI of 2015 is 110.35).

4.2 Descriptive statistical analysis of data

Tables 2 and 3 present descriptive analysis over all households for 2007 and 2015. In the table, it includes the mean and standard deviation for all the variables used for analysis.

Table 2 Summary Statistics in 2007

| | 1a: 20% | | | | 2b: 30% | | | | 3c: 40% | | | |
| | Poor Household | | Non-Poor Household | | Poor Household | | Non-Poor Household | | Poor Household | | Non-Poor Household | |
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
HE	54.97	275.408	282.38	775.45	71.07	319.337	307.92	812.463	91.79	378.922	333.6	849.507
EduE	211.91	365.663	399.96	1021.546	224.27	392.516	421.49	1077.527	241.41	427.365	442.95	1143.365
FBE	2685.39	1612.178	4528.15	3024.677	2871.47	1748.298	4711.31	3106.146	3045.47	1869.418	4902.06	3203.277
Remittance	492.67	1139.82	684.07	2806.776	552.35	1310.153	685.8	2939.53	571.55	1413.042	695.25	3099.789
Remittance Household	0.25	0.434	0.17	0.372	0.25	0.435	0.15	0.36	0.25	0.431	0.14	0.348
Labor Income	1476.66	2524.873	10002.59	16634.85	1940	3118.304	11020.44	17485.46	2397.37	3714.769	12229.49	18508.65
Business Profit	641.5	2656.355	5808.14	23147.15	952.24	2833.996	6412.11	24657.09	1285.41	3250.097	7100.31	26518.38
Farming Profit	926.83	2576.185	1824.15	12482.38	1038.93	2530.853	1904.13	13309.85	1100.41	2620.849	2007.4	14326.41
Pension Income	1.29	72.575	797.04	6508.902	4.46	213.931	909.21	6949.212	10.78	322.383	1055.84	7493.115
Gov Assist	114.04	240.122	57.51	319.174	108.11	246.037	51.99	326.701	103.29	251.126	45.84	335.458
Insurance	4.75	86.625	66.58	1084.191	7.61	116.599	74.18	1157.172	12.62	220.205	81.94	1239.522
Debt	39334.2	193703.5	177580.3	577883	41052.19	169082.9	196568	614153.6	43623.29	157676.5	220783.1	658561.7
HH member	3.92	1.627	3.05	1.559	3.8	1.617	2.98	1.543	3.71	1.617	2.9	1.524
Num Children	1.22	1.095	0.6	0.83	1.13	1.054	0.56	0.802	1.05	1.03	0.51	0.772
Agricultural HH	1.33	1.202	0.49	0.908	1.2	1.185	0.43	0.857	1.09	1.174	0.37	0.803
BKK	0.01	0.071	0.07	0.255	0.01	0.085	0.08	0.269	0.01	0.099	0.09	0.284
Central	0.16	0.366	0.32	0.467	0.19	0.392	0.33	0.471	0.21	0.411	0.34	0.473
North	0.32	0.467	0.23	0.422	0.32	0.466	0.22	0.414	0.31	0.463	0.21	0.406
Northeast	0.4	0.49	0.23	0.42	0.37	0.482	0.22	0.414	0.34	0.475	0.21	0.408
South	0.11	0.314	0.15	0.356	0.12	0.32	0.15	0.359	0.12	0.325	0.16	0.362
Urban	0.41	0.492	0.67	0.471	0.44	0.496	0.69	0.462	0.47	0.499	0.71	0.452
Valid N (listwise)	8616		34439		12916		30139		17223		25832	

Table 3 Summary Statistics in 2015

| | 1a: 20% | | | | 2b: 30% | | | | 3c: 40% | | | |
| | Poor Household | | Non-Poor Household | | Poor Household | | Non-Poor Household | | Poor Household | | Non-Poor Household | |
	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd	mean	sd
HE	87.08	436.468	353.55	945.233	99.34	451.128	386.39	989.899	119.69	491.852	420.64	1037.427
EduE	250.88	485.893	398.36	1391.213	253.84	505.826	418.17	1472.018	266.66	548.379	437	1566.253
FBE	4475.07	2696.241	6260.46	4105.895	4618.04	2795.761	6454.43	4208.531	4799.07	2905.797	6639.67	4332.132
Remittance	593.57	1635.462	677.87	2919.138	632.14	1777.022	673.38	3025.114	654.33	1898.124	665.46	3139.054
Remittance Household	0.18	0.382	0.12	0.326	0.18	0.383	0.11	0.316	0.18	0.381	0.1	0.304
Labor Income	2432.56	4222.847	12351.54	19875.55	3036.8	4996.183	13510.61	20868.26	3630.79	5765.459	14859.48	22052.75
Business Profit	52.96	25805.74	6545.84	34426.26	692.41	21239.78	7199.99	36720.84	1205.37	18626.56	7942.12	39547.94
Farming Profit	1494.2	5090.507	2894.77	14794.91	1707.13	4774.863	3003.73	15740.36	1871.06	4770.69	3110.43	16889.01
Pension Income	12.31	449.805	1045.32	6218.101	18.79	525.94	1190.23	6630.553	37.62	733.86	1372.83	7129.887
Gov Assist	655.13	715.944	430.34	983.11	639.25	707.311	405.01	1015.756	625.34	722.677	375.26	1048.734
Insurance	6.88	108.794	90.53	1690.73	8.82	183.035	101.66	1804.246	13.16	235.298	114.23	1943.302
Debt	2005.27	6182.253	4301.18	11601.6	1971.22	5493.299	4644.02	12283.58	2019.11	5236.322	5057.37	13101.27
HH member	3.62	1.612	2.71	1.47	3.49	1.602	2.63	1.443	3.4	1.59	2.55	1.413
Num Children	0.95	1.016	0.41	0.706	0.86	0.972	0.37	0.673	0.8	0.937	0.33	0.643
Agricultural HH	1.21	1.212	0.54	0.939	1.12	1.187	0.48	0.897	1.04	1.169	0.43	0.851
BKK	0.01	0.072	0.07	0.251	0.01	0.078	0.08	0.265	0.01	0.096	0.09	0.279
Central	0.18	0.387	0.32	0.465	0.2	0.398	0.33	0.47	0.22	0.411	0.34	0.473
North	0.28	0.448	0.23	0.42	0.28	0.451	0.22	0.413	0.29	0.452	0.21	0.405
Northeast	0.39	0.488	0.24	0.425	0.37	0.483	0.22	0.417	0.35	0.476	0.21	0.41
South	0.14	0.348	0.15	0.359	0.14	0.35	0.15	0.36	0.14	0.351	0.15	0.361
Urban	0.47	0.499	0.65	0.477	0.49	0.5	0.67	0.471	0.5	0.5	0.69	0.464
Valid N (listwise)	8680		34720		13023		30377		17361		26039	

In the Table 4, the number of total households in 2007 is 43,055, and 7,878 households with remittances. In 2015, the total household number is 43,400, but the amounts of households with remittances is lower than in 2007 with only has 5,742 households. Although the total number of samples surveyed has increased, the number of households actually receiving remittances has decreased, perhaps because some of the migrants ended their work outside and chose to return home to work.

Table 4 The Dependent Variables of Total Household and Household with Remittance

Year	2007	2015
Total HH (N)	43055	43400
With Remittances HH (N)	7878	5742

In this study, the households are divided into poor and non-poor based on the percentile of per capita household income. In this paper, there are 3 ways to distinguish poor and non-poor households using three different percentiles: 20% (1a), 30% (2b), 40% (3c). Per capita household income for households at the 20th percentile in 2007 is 2,226 baht per month. Per capita household income lower than this value are considered to belong to poor households. In contrast, per capita household income larger than this value are considered to be non-poor. Figure 2 and Figure 3 are histograms that show the distribution of the natural log of per capita household income.

Table 5 The Value of Per Capita Household Income under different percentiles

	2007		2015	
	PerCapitaHH	Ln (PerCapitaHH)	PerCapitaHH	Ln (PerCapitaHH)
20% (1a)	2226	7.71	3812.20	8.25
30% (2b)	2861.80	7.96	4696	8.45
40% (3c)	3594	8.19	5696	8.65

Figure 2 The Histogram of Per Capita Household Income for Total Household in 2007
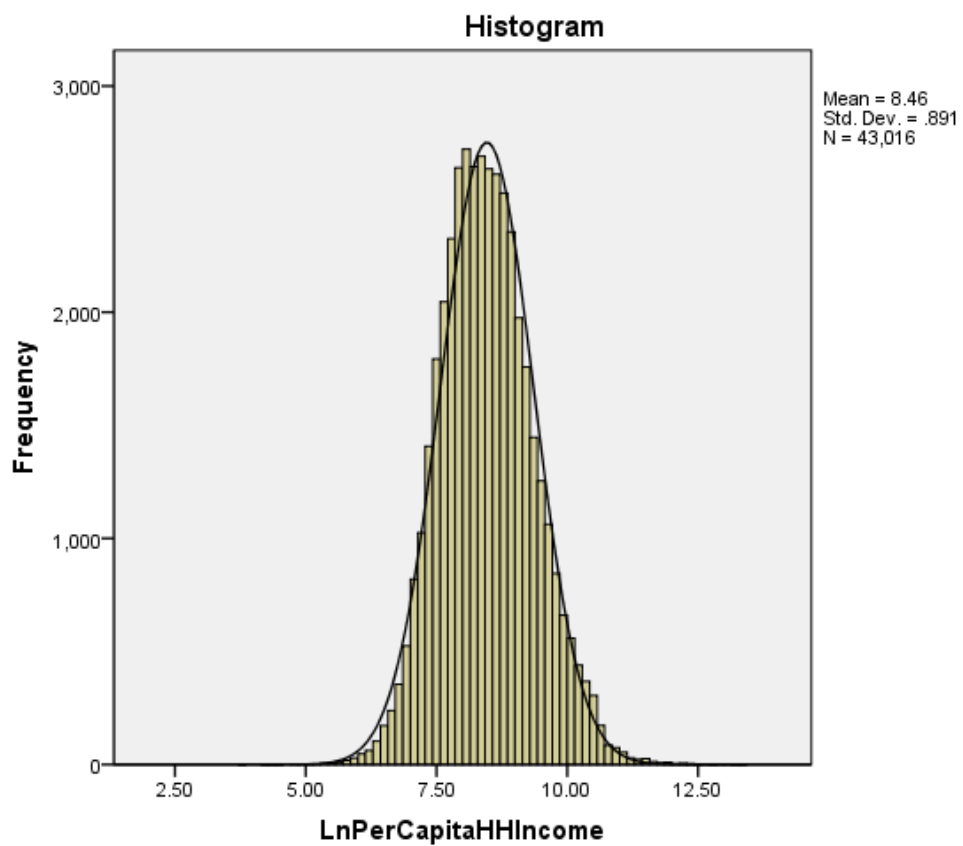
Figure 3 The Histogram of Per Capita Household Income for Total Households in

2015
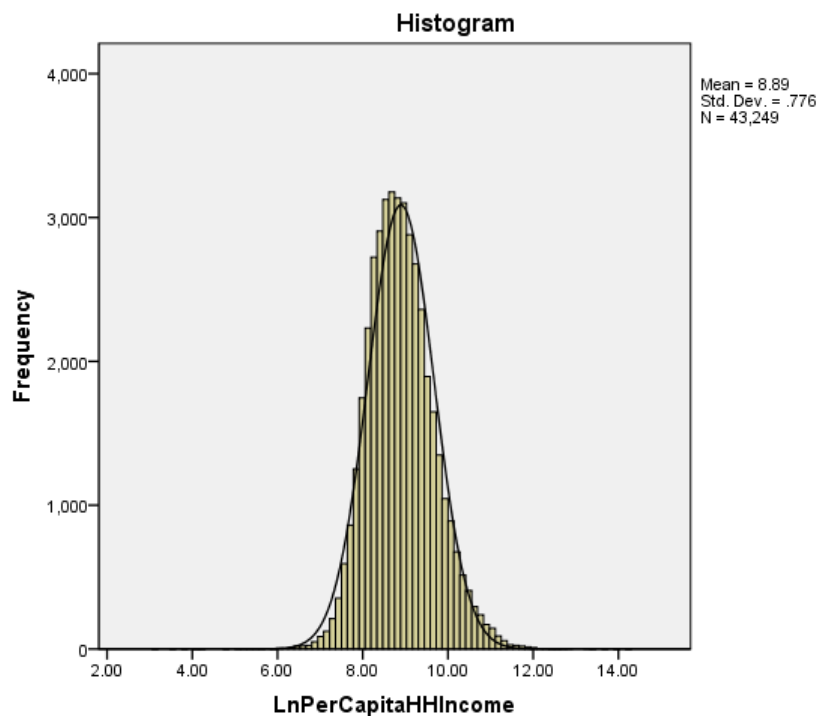
In the Table 6, under the "1a" situation, 5,710 households with remittances

are considered non-poor households and 2,168 households are considered as poor

households. The mean of remittances received by non-poor households is 4,125.87

baht, which is more than in poor households. The poor households have a mean

remittance of 1,957.96 baht. Under the "2b" situation, 3,271 households are poor

households, and they have an average remittance per month of 2,181.04 baht. The

number of non-poor households is 4,607 and the mean remittance is 4,486.52. Under

the "3c" situation, 3,633 households with remittances are considered non-poor

households, and 4,245 households are considered poor households. The mean

remittance received by poor households is 2,318.91 baht per month, and for the

non-poor households the remittance is 4,943.52 per month.

Table 6 Household Remittance Statistics under Different Economic Conditions in 2007

	N	Mean	Std. Deviation
PoorHH-1a	2168	1957.96	1514.82
PoorHH-2b	3271	2181.04	1796.129
PoorHH-3c	4245	2318.91	2012.353
Non-PoorHH-1a	5710	4125.87	5772.259
Non-PoorHH-2b	4607	4486.52	6283.559
Non-PoorHH-3c	3633	4943.52	6879.714

Table 7 shows poor households and non-poor households in 2015. It is the same set-up with the 2007 with 3 different percentiles to classify poor and non-poor households. Under the first percentile (20%), the number of poor households is 1,535, and the non-poor households is 4,207 households. The average remittance of non-poor households is 5,594.36 baht, and is larger than the poor households' average remittance. Under the second percentile (30%), the number of poor households is 2,325, and the number of non-poor households is 3,417. The mean remittance that received by poor households is 3,540.79 baht, and is smaller than non-poor households. Under the third percentile (40%), the poor household is 3,056 households, the non-poor household is 2,686 households. The mean remittance for the non-poor household is 6,451.17 baht, and is more than the mean remittance of 3,717.21 baht for the poor household.

Table 7 Household Remittance Statistics under Different Economic Conditions in 2015

	N	Mean	Std. Deviation
PoorHH-1a	1535	3356.46	2419.383
PoorHH-2b	2325	3540.79	2718.584
PoorHH-3c	3056	3717.21	3013.998
Non-PoorHH-1a	4207	5594.36	6544.433
Non-PoorHH-2b	3417	5986.34	7039.994
Non-PoorHH-3c	2686	6451.17	7630.077

จุฬาลงกรณ์มหาวิทยาลัย

CHULALONGKORN UNIVERSITY

Chapter 5 Methodology

I will use linear regression analysis for this study. The independent variable of interest is "remittance," and there are three dependent variables: housing expenditure (HE), education expenditure (EduE), and food and beverage expenditure (FBE).

The first step is to build the basic model; the equations are as follows:

$$\ln HE = \alpha + \beta_1 \ln Remittance + \beta_2 RemittanceHousehold + \mu$$

$$\ln EduE = \alpha + \beta_1 \ln Remittance + \beta_2 RemittanceHousehold + \mu$$

$$\ln FBE = \alpha + \beta_1 \ln Remittance + \beta_2 RemittanceHousehold + \mu$$

The second step is to build an extended model, the equations are as follows:

$$
\begin{aligned}
\ln HE = \alpha &+ \beta_1 \ln Remittance + \beta_2 RemittanceHousehold + \beta_3 \ln LaborIncome \\
&+ \beta_4 \ln BusinessProfit + \beta_5 \ln FarmingProfit \\
&+ \beta_6 \ln PensionIncome + \beta_7 \ln GovAssist + \beta_8 \ln Insurance \\
&+ \beta_9 \ln Debt + \beta_{10} HHmember + \beta_{11} NumChildren \\
&+ \beta_{12} AgriculturalHH + \beta_{13} Central + \beta_{14} North + \beta_{15} Northeast \\
&+ \beta_{16} South + \beta_{17} Urban + \mu
\end{aligned}
$$

$$
\begin{aligned}
\ln EduE = \alpha &+ \beta_1 \ln Remittance + \beta_2 RemittanceHousehold \\
&+ \beta_3 \ln LaborIncome + \beta_4 \ln BusinessProfit \\
&+ \beta_5 \ln FarmingProfit + \beta_6 \ln PensionIncome + \beta_7 \ln GovAssist \\
&+ \beta_8 \ln Insurance + \beta_9 \ln Debt + \beta_{10} HHmember \\
&+ \beta_{11} NumChildren + \beta_{12} AgriculturalHH + \beta_{13} Central \\
&+ \beta_{14} North + \beta_{15} Northeast + \beta_{16} South + \beta_{17} Urban + \mu
\end{aligned}
$$

$$
\begin{aligned}
\ln FBE = \alpha &+ \beta_1 \ln Remittance + \beta_2 RemittanceHousehold \\
&+ \beta_3 \ln LaborIncome + \beta_4 \ln BusinessProfit \\
&+ \beta_5 \ln FarmingProfit + \beta_6 \ln PensionIncome + \beta_7 \ln GovAssist \\
&+ \beta_8 \ln Insurance + \beta_9 \ln Debt + \beta_{10} HHmember \\
&+ \beta_{11} NumChildren + \beta_{12} AgriculturalHH + \beta_{13} Central \\
&+ \beta_{14} North + \beta_{15} Northeast + \beta_{16} South + \beta_{17} Urban + \mu
\end{aligned}
$$

Chapter 6 Results

By using SPSS, regression analysis was conducted on households across different years and different economic conditions, and the impact of remittances and other control variables on the household expenditure model was obtained.

In this study, there are three ways to define poor and non-poor households based on the 20th (1a), 30th (2b), and 40th (3c) percentiles of per capita household income. I analyzed the data for all classifications and the results show similar results in the cases of 1a, 2b, and 3c. So, I present the result of 3c in the main text and report the results for 1a and 2b in the Appendix.

In these tables, it shows the two models: the basic model and the extended model. For the basic model, it only checks the relationship between remittances and dependent variables: HE, EduE, and FBE. And for the extended model, it adds control variables, which are additional variables that may affect the dependent variables. The results in Table 8 suggest that remittances are not correlated to housing expenditures in poor households in 2007. Labor income and business profit have positive effects on housing expenditure. However, the number of household members has negative relationship with housing expenditure, which means that as the number of family members increases, the household do not have extra money to do housing investment.

Table 8 The Regression Analysis Result of Poor Household in 2007: HE

	Basic Model	Extended Model
(Constant)	0.116***	1.025***
	(0.004)	(0.029)
Remittance	0.002	0.005
	(0.007)	(0.006)
Remittance Household	-0.111***	-0.059***
	(0.021)	(0.019)
Labor Income		0.006***
		(0.002)
Business Profit		0.028***
		(0.003)
Farming Profit		-0.004
		(0.003)
Pension Income		-0.004
		(0.026)
Gov Assist		-0.034***
		(0.005)
Insurance		0.043***
		(0.015)
Debt		-0.002
		(0.001)
HH member		-0.019***
		(0.004)
Num Children		0.021***
		(0.005)
Agricultural HH		-0.018***
		(0.004)
Central		-0.843***
		(0.028)
North		-0.951***
		(0.028)
Northeast		-0.933***
		(0.028)
South		-0.871***
		(0.028)
Urban		0.281***
		(0.01)
R Square	0.01	0.195
N	17223	17223

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

In the Table 9, remittances are associated with education expenditures in poor households in 2007. For the basic model, the remittance elasticity is 0.127, and in the extended model, the elasticity is 0.067. Meanwhile, labor income and number of children have negative relationship with education expenditures. The negative result on labor income may means that in poor households, an increase in labor

income will make family members think that work is more useful than learning, and that work will bring in income. Thus, family members may be forced to drop out of school in order to work and earn money. The negative coefficient on the number of children in consistent with higher household expenses leading to lower money support for their children to go to school.

Table 9 The Regression Analysis Result of Poor Household in 2007: EduE

	Basic Model	Extended Model
(Constant)	0.589***	0.267***
	(0.008)	(0.056)
Remittance	0.127***	0.067***
	(0.013)	(0.013)
Remittance Household	-0.516***	-0.253***
	(0.04)	(0.038)
Labor Income		-0.01**
		(0.004)
Business Profit		0.026***
		(0.005)
Farming Profit		0.049***
		(0.005)
Pension Income		0.036
		(0.052)
Gov Assist		-0.083***
		(0.011)
Insurance		-0.041
		(0.03)
Debt		0.031***
		(0.002)
HH member		0.191***
		(0.007)
Num Children		-0.026***
		(0.01)
Agricultural HH		-0.147***
		(0.008)
Central		-0.372***
		(0.055)
North		-0.383***
		(0.055)
Northeast		-0.402***
		(0.055)
South		-0.354***
		(0.056)
Urban		0.098***
		(0.021)
R Square	0.011	0.137
N	17223	17223

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

In the Table 10 below, remittances have a positive and significant effect on food and beverage expenditures. In the basic model, the elasticity is 0.185, and in the extended model, the elasticity is 0.163. Income also has a positive influence on FBE, it includes: labor income, business profit, farming profit, pension income. When income increases, households will have more money to support their daily life. The

results also suggest that when the number of family members increases, food expenditures will rise.

Table 10 The Regression Analysis Result of Poor Household in 2007: FBE

	Basic Model	Extended Model
(Constant)	3.25***	2.627***
	(0.007)	(0.037)
Remittance	0.185***	0.163***
	(0.01)	(0.008)
Remittance Household	-0.678***	-0.365***
	(0.032)	(0.025)
Labor Income		0.089***
		(0.003)
Business Profit		0.075***
		(0.003)
Farming Profit		0.062***
		(0.003)
Pension Income		0.092***
		(0.034)
Gov Assist		-0.11***
		(0.007)
Insurance		0.005
		(0.019)
Debt		0.028***
		(0.002)
HH member		0.184***
		(0.005)
Num Children		-0.013**
		(0.006)
Agricultural HH		-0.061***
		(0.005)
Central		-0.212***
		(0.036)
North		-0.522***
		(0.036)
Northeast		-0.527***
		(0.036)
South		-0.211***
		(0.036)
Urban		0.158***
		(0.013)
R Square	0.027	0.438
N	17223	17223

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

For the non-poor household in 2007, remittances are positively correlated with housing expenditures. This is a different result than with poor households in 2007. Compared to non-poor households, it seems that poor households do not

have extra money to invest in housing. Labor income and business profits also affect housing expenditures. The relationship with labor income and housing expense is positive; this is the same pattern with the business profit. Increased labor income and business profits means the households have more money available to investment on housing. It is same with poor household in 2007 that the number of household members has a negative effect on housing expenditures.

Table 11 The Regression Analysis Result of Non-Poor Household in 2007: HE

	Basic Model	Extended Model
(Constant)	0.664***	1.143***
	(0.008)	(0.029)
Remittance	0.03**	0.035**
	(0.015)	(0.014)
Remittance Household	-0.659***	-0.386***
	(0.055)	(0.05)
Labor Income		0.031***
		(0.004)
Business Profit		0.039***
		(0.004)
Farming Profit		-0.049***
		(0.006)
Pension Income		-0.1***
		(0.007)
Gov Assist		-0.091***
		(0.016)
Insurance		-0.009
		(0.014)
Debt		-0.019***
		(0.002)
HH member		-0.154***
		(0.007)
Num Children		0.061***
		(0.012)
Agricultural HH		0.022
		(0.012)
Central		-0.164***
		(0.021)
North		-0.583***
		(0.026)
Northeast		-0.544***
		(0.025)
South		-0.402***
		(0.026)
Urban		0.4***
		(0.016)
R Square	0.031	0.201
N	25832	25832

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

Table 12 shows that remittances affect education in non-poor households. In the extended model, the elasticity is 0.068, meaning that a household with 1% higher remittances will pay 0.068% more on education. For the household's members and the number of the children, they have a positive and significant effect on education expenditures. The impact of the number of children on education spending is the opposite of poor families in 2007. It means non-poor household have enough money to support children to gain education, and the poor household total income is not stable, they are not sure if their child can always receive education.

Table 12 The Regression Analysis Result of Non-Poor Household in 2007: EduE

	Basic Model	Extended Model
(Constant)	0.815***	0.194***
	(0.008)	(0.029)
Remittance	0.159***	0.068***
	(0.016)	(0.014)
Remittance Household	-0.778***	-0.363***
	(0.058)	(0.051)
Labor Income		-0.052***
		(0.004)
Business Profit		-0.036***
		(0.004)
Farming Profit		0.007
		(0.006)
Pension Income		-0.049***
		(0.007)
Gov Assist		-0.055**
		(0.016)
Insurance		-0.047**
		(0.014)
Debt		0.026***
		(0.002)
HH member		0.31***
		(0.007)
Num Children		0.235***
		(0.012)
Agricultural HH		-0.212***
		(0.013)
Central		-0.297***
		(0.021)
North		-0.196***
		(0.026)
Northeast		-0.368***
		(0.025)
South		-0.322***
		(0.026)
Urban		0.081***
		(0.016)
R Square	0.009	0.253
N	25832	25832

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

According to the results in Table 13, remittances also affect food and beverage expenditure. The relationship between remittances and food and beverage expenditures is positive and significant. A 1% increase in remittances is associated with a 0.126% increase in food and beverage expenditures. Other types of income, such as labor income, business profit, and farming profit, all have a positive

relationship with food spending.

Table 13 The Regression Analysis Result of Non-Poor Household in 2007: FBE

	Basic Model	Extended Model
(Constant)	3.806***	2.898***
	(0.005)	(0.015)
Remittance	0.127***	0.126***
	(0.01)	(0.007)
Remittance Household	-0.854***	-0.512***
	(0.035)	(0.027)
Labor Income		0.076***
		(0.002)
Business Profit		0.029***
		(0.002)
Farming Profit		0.032***
		(0.003)
Pension Income		0.051***
		(0.004)
Gov Assist		-0.14***
		(0.009)
Insurance		-0.026***
		(0.007)
Debt		0.018***
		(0.001)
HH member		0.198***
		(0.004)
Num Children		0.005
		(0.006)
Agricultural HH		-0.083***
		(0.007)
Central		-0.081***
		(0.011)
North		-0.361***
		(0.014)
Northeast		-0.355***
		(0.013)
South		-0.098***
		(0.014)
Urban		0.184***
		(0.009)
R Square	0.049	0.453
N	25832	25832

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

The results in Table 14 show that remittances do not affect housing expenditures. It is same result for poor households in 2007. For control variables, labor income and business profits affect housing expenditures and the relationship is positive. It is clear that an increase in income from other sources will raise housing

investment. The relationship between the number of family members and expenditures on housing is negative. As the number of family members increases, the daily expenses of the family increase, which restricts the investment on the house.

Table 14 The Regression Analysis Result of Poor Household in 2015: HE

	Basic Model	Extended Model
(Constant)	0.19***	1.326***
	(0.006)	(0.033)
Remittance	-0.001	0.011
	(0.014)	(0.013)
Remittance Household	-0.154**	-0.088*
	(0.046)	(0.042)
Labor Income		0.016***
		(0.003)
Business Profit		0.029***
		(0.003)
Farming Profit		-0.012**
		(0.004)
Pension Income		-0.043*
		(0.019)
Gov Assist		-0.075***
		(0.004)
Insurance		0.001
		(0.023)
Debt		-0.005
		(0.003)
HH member		-0.012**
		(0.005)
Num Children		0.005
		(0.008)
Agricultural HH		-0.035***
		(0.006)
Central		-0.983***
		(0.032)
North		-1.171***
		(0.032)
Northeast		-1.15***
		(0.032)
South		-1.074***
		(0.033)
Urban		0.251***
		(0.011)
R Square	0.007	0.209
N	17361	17361

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

In Table 15, remittances influence education expenditures in positive way, and the effect of labor income is the same with the poor households in 2007. The

results are suggestive that there is a tradeoff between working for income and studying. For household characteristics, the number of family members and children have a positive impact on education expenditure.

Table 15 The Regression Analysis Result of Poor Household in 2015: EduE

	Basic Model	Extended Model
(Constant)	0.531***	0.217***
	(0.008)	(0.047)
Remittance	0.161***	0.065***
	(0.019)	(0.018)
Remittance Household	-0.542***	-0.192***
	(0.064)	(0.06)
Labor Income		-0.031***
		(0.004)
Business Profit		0.001
		(0.005)
Farming Profit		0.016***
		(0.006)
Pension Income		0.002
		(0.026)
Gov Assist		-0.071***
		(0.006)
Insurance		0.036
		(0.032)
Debt		0.042***
		(0.004)
HH member		0.222***
		(0.008)
Num Children		0.034**
		(0.011)
Agricultural HH		-0.123***
		(0.009)
Central		-0.275***
		(0.045)
North		-0.306***
		(0.045)
Northeast		-0.384***
		(0.045)
South		-0.224***
		(0.047)
Urban		0.056***
		(0.015)
R Square	0.004	0.17
N	17361	17361

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

For poor households in 2015, food and beverage expenditure is influenced by remittances. When remittances increase, the household will spend more on food

and beverage. At the same time, other types of income, including labor income, business profit, and farming profits, also have a positive relationship with food and beverage expenditures. Also, as the number of children increases, the cost of spending on children reduces the food expenditure of the family. It is same with poor households in 2007.

Table 16 The Regression Analysis Result of Poor Household in 2015: FBE

	Basic Model	Extended Model
(Constant)	3.557***	2.882***
	(0.006)	(0.031)
Remittance	0.199***	0.176***
	(0.015)	(0.012)
Remittance Household	-0.654***	-0.405***
	(0.051)	(0.04)
Labor Income		0.062***
		(0.003)
Business Profit		0.057***
		(0.003)
Farming Profit		0.053***
		(0.004)
Pension Income		0.074***
		(0.018)
Gov Assist		-0.067***
		(0.004)
Insurance		-0.025
		(0.022)
Debt		0.034***
		(0.003)
HH member		0.235***
		(0.005)
Num Children		-0.068***
		(0.007)
Agricultural HH		-0.031***
		(0.006)
Central		-0.134***
		(0.03)
North		-0.367***
		(0.03)
Northeast		-0.392***
		(0.03)
South		-0.111***
		(0.031)
Urban		0.088***
		(0.01)
R Square	0.01	0.417
N	17361	17361

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

The results in Table 17 show that the remittances do not have an impact on housing expenditures. This is the same result with non-poor households in 2007. Also, labor income and business profits have positive impacts on housing expenditures, and the number of household members affect housing expenditures in a negative way. It means that the increase in the number of families will increase household consumption expenditures, resulting in no extra money for housing investment.

Table 17 The Regression Analysis Result of Non-Poor Household in 2015: HE

	Basic Model	Extended Model
(Constant)	0.759***	1.198***
	(0.008)	(0.03)
Remittance	0.031	0.011
	(0.025)	(0.023)
Remittance Household	-0.76***	-0.332***
	(0.095)	(0.087)
Labor Income		0.025***
		(0.004)
Business Profit		0.024***
		(0.004)
Farming Profit		-0.048***
		(0.008)
Pension Income		-0.114***
		(0.007)
Gov Assist		-0.205***
		(0.008)
Insurance		-0.004
		(0.017)
Debt		-0.051***
		(0.004)
HH member		-0.154***
		(0.008)
Num Children		0.093***
		(0.015)
Agricultural HH		0.038**
		(0.016)
Central		-0.057**
		(0.021)
North		-0.472***
		(0.027)
Northeast		-0.408***
		(0.026)
South		-0.26***
		(0.027)
Urban		0.428***
		(0.017)
R Square	0.021	0.208
N	26039	26039

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

From Table 18, it is clear that remittances have a positive impact on education expenditures. For a 1% increase in remittances, spend on average 0.089% more on education. The impact of labor income on education expenditure is consistent with the results for 2007: an increase in labor income will reduce household spending on education.

Table 18 The Regression Analysis Result of Non-Poor Household in 2015: EduE

	Basic Model	Extended Model
(Constant)	0.622***	0.171***
	(0.008)	(0.026)
Remittance	0.265***	0.089***
	(0.023)	(0.02)
Remittance Household	-1.076***	-0.316***
	(0.089)	(0.076)
Labor Income		-0.062***
		(0.003)
Business Profit		-0.034***
		(0.003)
Farming Profit		0.007
		(0.007)
Pension Income		-0.054***
		(0.006)
Gov Assist		-0.148***
		(0.007)
Insurance		-0.107***
		(0.015)
Debt		0.022***
		(0.003)
HH member		0.343***
		(0.007)
Num Children		0.39***
		(0.013)
Agricultural HH		-0.215***
		(0.014)
Central		-0.23***
		(0.018)
North		-0.234***
		(0.024)
Northeast		-0.311***
		(0.023)
South		-0.207***
		(0.024)
Urban		0.067***
		(0.015)
R Square	0.006	0.298
N	26039	26039

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

The results in Table 19 below show that remittances have positive and significant effects on food and beverage expenditures for non-poor households. Other types of income, including labor income, business profits and farming profits, have positive impacts on food and beverage expenditures as well. More children have a negative effect on food and beverage expenditures. This suggests that as the number of children increases, the cost of spending on children reduces food expenditures of the family.

Table 19 The Regression Analysis Result of Non-Poor Household in 2015: FBE

	Basic Model	Extended Model
(Constant)	3.95***	2.98***
	(0.005)	(0.015)
Remittance	0.214***	0.189***
	(0.015)	(0.011)
Remittance Household	-1.095***	-0.682***
	(0.056)	(0.044)
Labor Income		0.06***
		(0.002)
Business Profit		0.031***
		(0.004)
Farming Profit		0.029***
		(0.004)
Pension Income		0.058***
		(0.003)
Gov Assist		-0.074***
		(0.004)
Insurance		-0.037***
		(0.009)
Debt		0.022***
		(0.002)
HH member		0.27***
		(0.004)
Num Children		-0.079***
		(0.008)
Agricultural HH		-0.067***
		(0.008)
Central		0.064***
		(0.011)
North		-0.186***
		(0.014)
Northeast		-0.205***
		(0.013)
South		0.027
		(0.014)
Urban		0.119***
		(0.008)
R Square	0.022	0.42
N	26039	26039

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

Chapter 7 Conclusion

This paper explores remittances of internal migrants in Thailand and how it affects household expenditure patterns using secondary data for 2007 and 2015. The main findings indicate that remittances increase education expenditures and food and beverage expenditures.

7.1 Housing Expenditures and Remittances

By observing the results of the analysis in 2007 and 2015, it can be seen from the elasticities and the p-values that remittances have little impact on housing expenditures. In Table 20 below, only in the results for non-poor households in 2007 found remittances to be positively associated with housing expenditures, with p-value of less than 0.05.

Table 20 The Influence of Remittance on Housing Expenditure

	Remittance
HE of Poor Household in 2007	0.005
HE of Non-Poor Household in 2007	0.035**
HE of Poor Household in 2015	0.011
HE of Non-Poor Household in 2015	0.011

Note: *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

If we only focus on the significant results here, why does remittance have an effect on housing expenses? Perhaps non-poor families have a certain economic base before accepting remittances. With the receipt of remittances, non-poor households have increased their disposable income. After the necessary expenses have been resolved, the remaining disposable income is considered to be an investment fund, thus increasing housing investment. Adams Jr. and Cuecuecha (2010) studied the

impact of remittance on household expenditure and investment in Guatemala. They find households that accept internal remittances and accept international remittances will increase spending on education and increase investment in housing. Although they do not compare households in different economic situations, housing expenditures that can be borrowed are seen as an investment.

7.2 Education Expenditure and Remittance

Remittances can affect education spending. In 2007, the elasticity on remittances for education expenditures of non-poor families was higher than that of poor families. This is the same pattern observed in 2015, however, the elasticity for poor households reduced, while it increased for non-poor households.

In a study by Démurger and Wang (2016), they found that compared to households with no remittances, households with remittances account for a small proportion of education expenditure. The authors explained that one reason is that there are more children in high school education than in families with remittances, and another reason is that children in remittance families are more likely to drop out of school. In this study, education expenditures in non-poor families are more responsive to remittances than for poor families. By drawing on the views of previous scholarship, it is likely that the number of children receiving education in non-poor families is higher than that of poor families. Poor households will first consider spending to meet basic living conditions with limited disposable income, and

educational expenditures cannot be placed as a first priority for household expenditures.

Table 21 The Influence of Remittance on Education Expenditure

	Remittance
EduE of Poor Household in 2007	0.067***
EduE of Non-Poor Household in 2007	0.068***
EduE of Poor Household in 2015	0.065***
EduE of Non-Poor Household in 2015	0.089***

Note: *: P < 0.1, **: P < 0.05, ***: P < 0.01

7.3 Food, Beverage Expenditure and Remittance

Table 22 reveals that remittances have a positive association with food and beverage expenditures. In 2007, poor households' expenditures on food and beverages were more responsive to remittances than in non-poor households. The result in 2015 suggests that the food and beverage responsiveness to remittances is similar, with non-poor households having a slightly higher elasticity than poor households.

Table 22 The Influence of Remittance on Food and Beverage Expenditure

	Remittance
FBE of Poor Household in 2007	0.163***
FBE of Non-Poor Household in 2007	0.126***
FBE of Poor Household in 2015	0.176***
FBE of Non-Poor Household in 2007	0.189***

Note: *: P < 0.1, **: P < 0.05, ***: P < 0.01

For poor families whose food and beverage expenditure elasticity is higher than that of non-poor families, this can be explained by Maslow's hierarchy of needs. Based on Maslow's hierarchy of needs, the first layer is physiological needs, including food and water needs. With limited disposable income of poor families, they first choose to address the basic needs, that is, the cost of food and beverages.

7.4 Limitation

In this study, only the data of 2007 and 2015 were used, and the time span of the data was is limited. Thus, there are limitations in the interpretation of the research questions, especially in studying the impact of remittances on household expenditure patterns. In the future, if the researcher has access to additional years of data, a more comprehensive analysis of the differences in household spending patterns between poor and non-poor households with remittance income could be completed.

Appendix

Table 1. Migrants by Type of Migration, Present Region and Area , Previous Region and Area

Present Region and Present Area																
	Whole Kingdom			Bangkok	Central Region			Northern Region			Northeastern Region			Southern Region		
Previous Region and Previous Area	Total	Municipal	Non-Municipal	Bangkok	Total	Municipal	Non-Municipal	Total	Municipal	Non-Municipal	Total	Municipal	Non-Municipal	Total	Municipal	Non-Municipal
1.Move from Bangkok Metropolis	440,641	80,180	360,461		80,736	44,931	35,805	77,873	10,571	67,302	256,754	20,164	236,590	25,278	4,514	20,764
2.Move from Central Region	234,754	43,973	190,781	20,200				70,141	10,372	59,769	130,095	10,894	119,200	14,318	2,507	11,811
Municipal Area	132,724	27,003	105,721	11,494				48,774	6,577	42,197	68,669	7,432	61,236	3,787	1,500	2,287
Non-Municipal Area	102,030	16,970	85,060	8,706				21,367	3,769	17,572	61,426	3,462	57,964	10,532	1,007	9,524
3.Move from Northern Region	95,179	46,517	48,662	19,124	43,311	19,945	23,366				24,986	5,825	19,161	7,758	1,632	6,135
Municipal Area	28,869	15,397	13,472	5,608	10,766	6,960	3,805				8,068	2,334	5,735	4,427	495	3,932
Non-Municipal Area	66,310	31,120	35,190	13,515	32,545	12,985	19,560				16,918	3,491	13,426	3,331	1,128	2,203
4.Move from Northeastern Region	183,474	122,144	61,330	46,933	111,676	66,433	45,243	12,413	4,273	8,139				12,451	4,504	7,947
Municipal Area	45,500	32,945	12,555	13,739	22,968	15,964	7,044	7,084	2,042	5,042				1,708	1,199	509
Non-Municipal Area	137,974	89,199	48,775	33,194	88,708	50,468	38,239	5,329	2,231	3,098				10,743	3,305	7,438
5.Move from Southern Region	50,031	13,011	37,020	5,617	8,677	3,244	5,432	6,447	1,358	5,089	29,290	2,791	26,499			
Municipal Area	25,154	5,376	19,778	517	3,616	1,933	1,683	4,410	670	3,740	16,611	2,256	14,355			
Non-Municipal Area	24,877	7,635	17,243	5,100	5,061	1,311	3,749	2,037	688	1,349	12,679	535	12,144			

Note: Source from National Statistical Office, Migration Survey, 2007

Table 2.1. The Regression Analysis Result of Poor Household in 2007: HE

	1a: 20% Basic Model	Extended Model	2b: 30% Basic Model	Extended Model
(Constant)	0.059***	1.182***	0.086***	1.112***
	(0.004)	(0.038)	(0.004)	(0.032)
Remittance	0.002	0.007	0	0.001
	(0.007)	(0.007)	-	(0.006)
Remittance Household	-0.055**	-0.042**	-0.076***	-0.041**
	(0.022)	(0.02)	(0.021)	(0.019)
Labor Income		0.003		0.002
		(0.002)		(0.002)
Business Profit		0.02***		0.022***
		(0.003)		(0.003)
Farming Profit		-0.003		-0.004
		(0.003)		(0.003)
Pension Income		-0.037		0.018
		(0.091)		(0.03)
Gov Assist		-0.029***		-0.034***
		(0.005)		(0.005)
Insurance		0.005		0.066***
		(0.025)		(0.018)
Debt		-0.004***		-0.004***
		(0.001)		(0.001)
HH member		0.002		-0.007
		(0.004)		(0.004)
Num Children		0.001		0.01***
		(0.005)		(0.005)
Agricultural HH		-0.018***		-0.018***
		(0.004)		(0.004)
Central		-1.079***		-0.955***
		(0.038)		(0.032)
North		-1.146***		-1.046***
		(0.037)		(0.032)
Northeast		-1.137***		-1.034***
		(0.037)		(0.031)
South		-1.109***		-0.997***
		(0.038)		(0.032)
Urban		0.209***		0.24***
		(0.011)		(0.011)
R Square	0.004	0.206	0.007	0.197
N	8616	8616	12916	12916

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

Table 2.2 The Regression Analysis Result of Poor Household in 2007: EduE

	1a: 20% Basic Model	Extended Model	2b: 30% Basic Model	Extended Model
(Constant)	0.519***	0.27***	0.554***	0.258***
	(0.011)	(0.101)	(0.009)	(0.073)
Remittance	0.131***	0.085***	0.129***	0.076***
	(0.019)	(0.018)	(0.015)	(0.014)
Remittance Household	-0.468***	-0.291***	-0.492***	-0.267***
	(0.055)	(0.052)	(0.044)	(0.043)
Labor Income		-0.005		-0.004
		(0.007)		(0.005)
Business Profit		0.02***		0.025***
		(0.008)		(0.006)
Farming Profit		0.037***		0.048***
		(0.007)		(0.006)
Pension Income		-0.101		0.062
		(0.243)		(0.068)
Gov Assist		-0.065***		-0.077***
		(0.014)		(0.012)
Insurance		-0.059		-0.113***
		(0.067)		(0.041)
Debt		0.04***		0.032***
		(0.003)		(0.003)
HH member		0.188***		0.178***
		(0.01)		(0.009)
Num Children		-0.058***		-0.033***
		(0.013)		(0.11)
Agricultural HH		-0.143***		-0.133***
		(0.011)		(0.009)
Central		-0.425***		-0.38***
		(0.101)		(0.072)
North		-0.393***		-0.362***
		(0.1)		(0.071)
Northeast		-0.425***		-0.398***
		(0.1)		(0.071)
South		-0.424***		-0.333***
		(0.102)		(0.073)
Urban		0.056		0.084***
		(0.031)		(0.024)
R Square	0.009	0.117	0.01	0.12
N	8616	8616	12916	12916

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

Table 2.3. The Regression Analysis Result of Poor Household in 2007: FBE

	1a: 20%		2b: 30%	
	Basic Model	Extended Model	Basic Model	Extended Model
(Constant)	3.126***	2.675***	3.191***	2.607***
	(0.009)	(0.066)	(0.007)	(0.047)
Remittance	0.187***	0.165***	0.195***	0.169***
	(0.015)	(0.012)	(0.012)	(0.009)
Remittance Household	-0.545***	-0.312***	-0.641***	-0.356***
	(0.043)	(0.034)	(0.035)	(0.028)
Labor Income		0.078***		0.085***
		(0.004)		(0.003)
Business Profit		0.078***		0.077***
		(0.005)		(0.004)
Farming Profit		0.068***		0.064***
		(0.005)		(0.004)
Pension Income		-0.001		0.079
		(0.159)		(0.044)
Gov Assist		-0.09***		-0.099***
		(0.009)		(0.008)
Insurance		0.009		0.002
		(0.044)		(0.026)
Debt		0.036***		0.032***
		(0.002)		(0.002)
HH member		0.169***		0.177***
		(0.007)		(0.006)
Num Children		-0.017**		-0.008
		(0.009)		(0.007)
Agricultural HH		-0.056***		-0.058***
		(0.007)		(0.006)
Central		-0.29***		-0.232***
		(0.066)		(0.047)
North		-0.63***		-0.542***
		(0.066)		(0.046)
Northeast		-0.58***		-0.522***
		(0.065)		(0.046)
South		-0.291***		-0.212***
		(0.067)		(0.047)
Urban		0.164***		0.157***
		(0.02)		(0.016)
R Square	0.019	0.398	0.025	0.425
N	8616	8616	12916	12916

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

Table 3.1. The Regression Analysis Result of Non-Poor Household in 2007: HE

| | 1a: 20% | | 2b: 30% | |
	Basic Model	Extended Model	Basic Model	Extended Model
(Constant)	0.546***	1.057***	0.603***	1.087***
	(0.006)	(0.023)	(0.007)	(0.026)
Remittance	0.027**	0.026***	0.03**	0.034***
	(0.011)	(0.01)	(0.013)	(0.012)
Remittance Household	-0.564***	-0.283***	-0.618***	-0.338***
	(0.038)	(0.035)	(0.046)	(0.042)
Labor Income		0.032***		0.032***
		(0.003)		(0.003)
Business Profit		0.04***		0.041***
		(0.003)		(0.003)
Farming Profit		-0.034***		-0.04***
		(0.005)		(0.005)
Pension Income		-0.094***		-0.097***
		(0.006)		(0.007)
Gov Assist		-0.079***		-0.085***
		(0.011)		(0.013)
Insurance		-0.002		-0.006
		(0.012)		(0.013)
Debt		-0.014***		-0.015***
		(0.002)		(0.002)
HH member		-0.137***		-0.146***
		(0.005)		(0.006)
Num Children		0.067***		0.067***
		(0.009)		(0.01)
Agricultural HH		0.013		0.013
		(0.008)		(0.01)
Central		-0.236***		-0.202***
		(0.018)		(0.02)
North		-0.608***		-0.596***
		(0.021)		(0.023)
Northeast		-0.563***		-0.553***
		(0.021)		(0.022)
South		-0.442***		-0.412***
		(0.021)		(0.023)
Urban		0.413***		0.412***
		(0.013)		(0.014)
R Square	0.032	0.215	0.032	0.208
N	34439	34439	30139	30139

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

Table 3.2 The Regression Analysis Result of Non-Poor Household in 2007: EduE

	1a: 20% Basic Model	Extended Model	2b: 30% Basic Model	Extended Model
(Constant)	0.78***	0.185***	0.8***	0.189***
	(0.007)	(0.025)	(0.008)	(0.027)
Remittance	0.15***	0.052***	0.154***	0.058***
	(0.012)	(0.011)	(0.014)	(0.012)
Remittance Household	-0.731***	-0.289***	-0.754***	-0.319***
	(0.042)	(0.038)	(0.049)	(0.044)
Labor Income		-0.039***		-0.047***
		(0.003)		(0.003)
Business Profit		-0.016***		-0.027***
		(0.003)		(0.003)
Farming Profit		0.023***		0.014**
		(0.005)		(0.006)
Pension Income		-0.034***		-0.042***
		(0.007)		(0.007)
Gov Assist		-0.087***		-0.071***
		(0.012)		(0.014)
Insurance		-0.035***		-0.036***
		(0.013)		(0.013)
Debt		0.028***		0.027***
		(0.002)		(0.002)
HH member		0.279***		0.296***
		(0.006)		(0.006)
Num Children		0.137***		0.186***
		(0.009)		(0.01)
Agricultural HH		-0.195***		-0.202***
		(0.009)		(0.01)
Central		-0.319***		-0.311***
		(0.02)		(0.02)
North		-0.282***		-0.248***
		(0.023)		(0.024)
Northeast		-0.39***		-0.369***
		(0.022)		(0.023)
South		-0.337***		-0.336***
		(0.023)		(0.024)
Urban		0.115***		0.098***
		(0.014)		(0.015)
R Square	0.012	0.221	0.01	0.241
N	34439	34439	30139	30139

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

Table 3.3. The Regression Analysis Result of Non-Poor Household in 2007: FBE

| | 1a: 20% | | 2b: 30% | |
	Basic Model	Extended Model	Basic Model	Extended Model
(Constant)	3.706***	2.811***	3.758***	2.852***
	(0.005)	(0.014)	(0.005)	(0.015)
Remittance	0.165***	0.146***	0.144***	0.134***
	(0.008)	(0.006)	(0.009)	(0.007)
Remittance Household	-0.969***	-0.519***	-0.917***	-0.514***
	(0.028)	(0.021)	(0.031)	(0.024)
Labor Income		0.088***		0.082***
		(0.002)		(0.002)
Business Profit		0.043***		0.036***
		(0.002)		(0.002)
Farming Profit		0.041***		0.036***
		(0.003)		(0.003)
Pension Income		0.064***		0.058***
		(0.004)		(0.004)
Gov Assist		-0.15***		-0.149***
		(0.007)		(0.007)
Insurance		-0.012		-0.017**
		(0.007)		(0.007)
Debt		0.02***		0.018***
		(0.001)		(0.001)
HH member		0.189***		0.194***
		(0.003)		(0.003)
Num Children		0.002		0
		(0.005)		
Agricultural HH		-0.075***		-0.076***
		(0.005)		(0.006)
Central		-0.101***		-0.09***
		(0.011)		(0.011)
North		-0.4***		-0.376***
		(0.013)		(0.013)
Northeast		-0.422***		-0.396***
		(0.012)		(0.013)
South		-0.117***		-0.107***
		(0.013)		(0.013)
Urban		0.204***		0.195***
		(0.008)		(0.008)
R Square	0.061	0.479	0.056	0.467
N	34439	34439	30139	30139

Note: standard errors reported in parentheses. *: $P < 0.1$, **: $P < 0.05$, ***: $P < 0.01$

Table 4.1. The Regression Analysis Result of Poor Household in 2015: HE

	1a: 20% Basic Model	Extended Model	2b: 30% Basic Model	Extended Model
(Constant)	0.121***	1.306***	0.15***	1.364***
	(0.007)	(0.05)	(0.006)	(0.04)
Remittance	0.007	0.012	-0.008	0.005
	(0.016)	(0.015)	(0.014)	(0.013)
Remittance Household	-0.118**	-0.081	-0.095**	-0.064
	(0.053)	(0.049)	(0.047)	(0.043)
Labor Income		0.007		0.01***
		(0.004)		(0.003)
Business Profit		0.027***		0.029***
		(0.005)		(0.004)
Farming Profit		-0.014***		-0.012***
		(0.005)		(0.004)
Pension Income		-0.11***		-0.103***
		(0.029)		(0.027)
Gov Assist		-0.059***		-0.065***
		(0.005)		(0.005)
Insurance		0.003		-0.041
		(0.036)		(0.029)
Debt		-0.002		-0.007**
		(0.004)		(0.003)
HH member		0.002		-0.005
		(0.007)		(0.006)
Num Children		-0.008		0.005
		(0.009)		(0.007)
Agricultural HH		-0.035***		-0.035***
		(0.007)		(0.007)
Central		-1.084***		-1.081***
		(0.049)		(0.039)
North		-1.17***		-1.216***
		(0.048)		(0.039)
Northeast		-1.166***		-1.211***
		(0.048)		(0.039)
South		-1.084***		-1.146***
		(0.049)		(0.04)
Urban		0.207***		0.225***
		(0.013)		(0.012)
R Square	0.004	0.17	0.006	0.188
N	8680	8680	13023	13023

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

Table 4.2 The Regression Analysis Result of Poor Household in 2015: EduE

	1a: 20%		2b: 30%	
	Basic Model	Extended Model	Basic Model	Extended Model
(Constant)	0.504***	0.343***	0.508***	0.208***
	(0.011)	(0.082)	(0.009)	(0.062)
Remittance	0.101***	-0.01	0.129***	0.036
	(0.026)	(0.025)	(0.022)	(0.02)
Remittance Household	-0.297***	0.044	-0.416***	-0.104
	(0.087)	(0.081)	(0.071)	(0.066)
Labor Income		-0.042***		-0.034***
		(0.006)		(0.005)
Business Profit		-0.012		-0.008
		(0.008)		(0.006)
Farming Profit		0.009		0.014**
		(0.008)		(0.006)
Pension Income		-0.066		-0.005
		(0.048)		(0.041)
Gov Assist		-0.06***		-0.063***
		(0.009)		(0.007)
Insurance		0.072		0.061
		(0.06)		(0.045)
Debt		0.049***		0.05***
		(0.006)		(0.005)
HH member		0.218***		0.222***
		(0.011)		(0.009)
Num Children		0.004		0.012
		(0.015)		(0.012)
Agricultural HH		-0.102***		-0.116***
		(0.012)		(0.01)
Central		-0.433***		-0.304***
		(0.08)		(0.06)
North		-0.49***		-0.318***
		(0.08)		(0.06)
Northeast		-0.526***		-0.4***
		(0.08)		(0.06)
South		-0.321***		-0.211**
		(0.081)		(0.061)
Urban		0.03		0.041*
		(0.022)		(0.018)
R Square	0.002	0.151	0.003	0.162
N	8680	8680	13023	13023

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

Table 4.3. The Regression Analysis Result of Poor Household in 2015: FBE

	1a: 20% Basic Model	Extended Model	2b: 30% Basic Model	Extended Model
(Constant)	3.503***	2.987***	3.515***	2.947***
	(0.008)	(0.054)	(0.007)	(0.042)
Remittance	0.177***	0.136***	0.192***	0.171***
	(0.02)	(0.016)	(0.017)	(0.014)
Remittance Household	-0.506***	-0.27***	-0.572***	-0.365***
	(0.066)	(0.053)	(0.058)	(0.045)
Labor Income		0.048***		0.058***
		(0.004)		(0.003)
Business Profit		0.046***		0.057***
		(0.005)		(0.004)
Farming Profit		0.045***		0.052***
		(0.005)		(0.004)
Pension Income		0.128***		0.113***
		(0.032)		(0.028)
Gov Assist		-0.057***		-0.069***
		(0.006)		(0.005)
Insurance		0.003		-0.006
		(0.039)		(0.031)
Debt		0.041***		0.038***
		(0.004)		(0.003)
HH member		0.211***		0.231***
		(0.007)		(0.006)
Num Children		-0.058***		-0.071***
		(0.01)		(0.008)
Agricultural HH		-0.018**		-0.022***
		(0.008)		(0.007)
Central		-0.243***		-0.239***
		(0.053)		(0.041)
North		-0.47***		-0.465***
		(0.052)		(0.041)
Northeast		-0.444***		-0.468***
		(0.052)		(0.041)
South		-0.123**		-0.168***
		(0.053)		(0.042)
Urban		0.089***		0.083***
		(0.015)		(0.012)
R Square	0.009	0.381	0.01	0.408
N	8680	8680	13023	13023

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

Table 5.1. The Regression Analysis Result of Non-Poor Household in 2015: HE

	1a: 20% Basic Model	Extended Model	2b: 30% Basic Model	Extended Model
(Constant)	0.654***	1.139***	0.706***	1.163***
	(0.007)	(0.025)	(0.007)	(0.027)
Remittance	0.024	0.002	0.032	0.01
	(0.019)	(0.017)	(0.022)	(0.02)
Remittance Household	-0.651***	-0.232***	-0.722***	-0.296***
	(0.071)	(0.064)	(0.082)	(0.074)
Labor Income		0.029***		0.027***
		(0.003)		(0.003)
Business Profit		0.027***		0.025***
		(0.003)		(0.004)
Farming Profit		-0.039***		-0.043***
		(0.006)		(0.007)
Pension Income		-0.109***		-0.111***
		(0.006)		(0.006)
Gov Assist		-0.183***		-0.196***
		(0.006)		(0.007)
Insurance		-0.007		-0.002
		(0.015)		(0.016)
Debt		-0.042***		-0.045***
		(0.003)		(0.003)
HH member		-0.136***		-0.142***
		(0.007)		(0.007)
Num Children		0.082***		0.082***
		(0.012)		(0.013)
Agricultural HH		0.024**		0.03**
		(0.011)		(0.013)
Central		-0.118***		-0.09***
		(0.018)		(0.02)
North		-0.524***		-0.504***
		(0.022)		(0.024)
Northeast		-0.463***		-0.436***
		(0.022)		(0.024)
South		-0.33***		-0.293***
		(0.023)		(0.025)
Urban		0.414***		0.425***
		(0.013)		(0.015)
R Square	0.021	0.221	0.021	0.215
N	34720	34720	30377	30377

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

Table 5.2 The Regression Analysis Result of Non-Poor Household in 2015: EduE

	1a: 20% Basic Model	Extended Model	2b: 30% Basic Model	Extended Model
(Constant)	0.609***	0.177***	0.62***	0.179***
	(0.006)	(0.023)	(0.007)	(0.024)
Remittance	0.25***	0.103***	0.261***	0.091***
	(0.018)	(0.016)	(0.021)	(0.018)
Remittance Household	-0.985***	-0.363***	-1.039***	-0.316***
	(0.068)	(0.059)	(0.078)	(0.067)
Labor Income		-0.053***		-0.058***
		(0.003)		(0.003)
Business Profit		-0.022***		-0.028***
		(0.003)		(0.003)
Farming Profit		0.01		0.004
		(0.005)		(0.006)
Pension Income		-0.044***		-0.049***
		(0.005)		(0.006)
Gov Assist		-0.128***		-0.138***
		(0.006)		(0.006)
Insurance		-0.073***		-0.093***
		(0.014)		(0.014)
Debt		0.031***		0.024***
		(0.003)		(0.003)
HH member		0.312***		0.324***
		(0.006)		(0.007)
Num Children		0.268***		0.338***
		(0.011)		(0.012)
Agricultural HH		-0.203***		-0.2***
		(0.01)		(0.012)
Central		-0.246***		-0.236***
		(0.017)		(0.018)
North		-0.268***		-0.252***
		(0.02)		(0.022)
Northeast		-0.356***		-0.328***
		(0.02)		(0.021)
South		-0.241***		-0.224***
		(0.021)		(0.022)
Urban		0.077***		0.074***
		(0.021)		(0.013)
R Square	0.006	0.265	0.006	0.282
N	34720	34720	30377	30377

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

Table 5.3. The Regression Analysis Result of Non-Poor Household in 2015: FBE

	1a: 20% Basic Model	Extended Model	2b: 30% Basic Model	Extended Model
(Constant)	3.879***	2.941***	3.919***	2.964***
	(0.004)	(0.014)	(0.005)	(0.014)
Remittance	0.22***	0.199***	0.22***	0.191***
	(0.012)	(0.01)	(0.013)	(0.01)
Remittance Household	-1.054***	-0.641***	-1.096***	-0.662***
	(0.046)	(0.035)	(0.05)	(0.039)
Labor Income		0.07***		0.064***
		(0.002)		(0.002)
Business Profit		0.043***		0.036***
		(0.002)		(0.002)
Farming Profit		0.042***		0.035***
		(0.003)		(0.003)
Pension Income		0.069***		0.063***
		(0.003)		(0.003)
Gov Assist		-0.083***		-0.075***
		(0.003)		(0.004)
Insurance		-0.028**		-0.035***
		(0.008)		(0.008)
Debt		0.027***		0.024***
		(0.002)		(0.002)
HH member		0.254***		0.26***
		(0.004)		(0.004)
Num Children		-0.079***		-0.075***
		(0.006)		(0.007)
Agricultural HH		-0.065***		-0.068***
		(0.006)		(0.007)
Central		0.037***		0.054***
		(0.01)		(0.01)
North		-0.238***		-0.203***
		(0.012)		(0.013)
Northeast		-0.267***		-0.23***
		(0.012)		(0.012)
South		-0.018		0.007
		(0.013)		(0.013)
Urban		0.128***		0.124***
		(0.007)		(0.008)
R Square	0.021	0.434	0.023	0.427
N	34720	34720	30377	30377

Note: standard errors reported in parentheses. *: P < 0.1, **: P < 0.05, ***: P < 0.01

REFERENCES

Adams Jr, R. H., & Cuecuecha, A. J. W. D. (2010). Remittances, household expenditure and investment in Guatemala. *38*(11), 1626-1641.

Adams Jr, R. H. J. J. o. D. S. (2011). Evaluating the economic impact of international remittances on developing countries using household surveys: A literature review. *47*(6), 809-828.

Airola, J. J. I. M. R. (2007). The use of remittance income in Mexico. *41*(4), 850-859.

Amare, M., Hohfeld, L., Jitsuchon, S., & Waibel, H. (2012). Rural-urban migration and employment quality: A case study from Thailand.

Amuedo-Dorantes, C., & Pozo, S. J. J. o. P. E. (2006). Remittances as insurance: evidence from Mexican immigrants. *19*(2), 227-254.

Anant, Y. (2010). Overview of Internal Migration in Thailand. Retrieved from https://bangkok.unesco.org/sites/default/files/assets/article/Social%20and%20Human%20Sciences/publications/thailand.pdf

Cardona-Sosa, L. M., & Medina-Durango, C. A. J. B. d. E. (2006). Migration as a safety net and effects of remittances on household consumption: The case of Colombia.

Castaldo, A., & Reilly, B. J. S.-E. E. J. o. E. (2007). Do migrant remittances affect the consumption patterns of Albanian households? *, 5*(1), 25-44.

Démurger, S., & Wang, X. J. C. E. R. (2016). Remittances and expenditure patterns of the left behinds in rural China. *37*, 177-190.

Fan, C. C. J. T. P. G. (1996). Economic opportunities and internal migration: a case study of Guangdong Province, China. *48*(1), 28-45.

Fransen, S., & Mazzucato, V. J. W. D. (2014). Remittances and household wealth after conflict: A case study on urban Burundi. *60*, 57-68.

Garip, F. J. D. (2014). The impact of migration and remittances on wealth accumulation and distribution in rural Thailand. *51*(2), 673-698.

Guest, P., Chamratrithirong, A., Archavanitkul, K., Piriyathamwong, N., Richter, K. J. A., & Journal, P. M. (1994). Internal migration in Thailand. *3*(4), 531-545.

Katewongsa, P. J. T. R. (2015). Benefits of Rural-Urban Migration for Migrants' Better Life: A Case Study in Nang Rong, Buriram Province, Thailand. *18*(1), 6-81.

McKenzie, D. J. (2005). Beyond Remittances: The Effects of Migration on Mexican

Households. *International Migration, Remittances, and the Brain Drain*, 123-147.

Sahota, G. S. J. J. o. p. e. (1968). An economic analysis of internal migration in Brazil. *76*(2), 218-245.

Tabuga, A. D. (2007). *International Remittances and Household Expenditures: The Philippine Case*. Retrieved from

Todaro, M. P. J. T. A. e. r. (1969). A model of labor migration and urban unemployment in less developed countries. *59*(1), 138-148.

Vanwey, L. K. J. D. (2004). Altruistic and contractual remittances between male and female migrants and households in rural Thailand. *41*(4), 739-756.

Wickramasekara, P. (2002). *Asian labour migration: Issues and challenges in an era of globalization*: ILO Geneva.

VITA

NAME	Sha Ma
DATE OF BIRTH	03 November 1995
PLACE OF BIRTH	China
HOME ADDRESS	Yunnan Province, China