

The Role of Remittances and Other External Factors on Poverty Dynamic Among Thai Households: Evidence from a Panel Data Survey 2007–2017

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Abstract

This study aimed to analyze the determinants of poverty in Thailand using Thai Socio-Economic Survey (SES) panel data from 2007 to 2017. Employing the multinomial logit models, the study demonstrated the significance of several external factors influencing poverty incidence and its severity. On the one hand, receiving remittances and having a secondary source of income proved effective in reducing the likelihood of falling into poverty and lessening the severity of poverty. On the other hand, households primarily reliant on non-wage or agricultural sectors as their income sources faced an increased risk of being classified as poor households. This study proposed a poverty reduction policy focusing on enhancing human capital among people experiencing poverty. It also advocates promoting and implementing public employment programs to mitigate volatility and uncertainty, particularly among vulnerable households.

Keywords

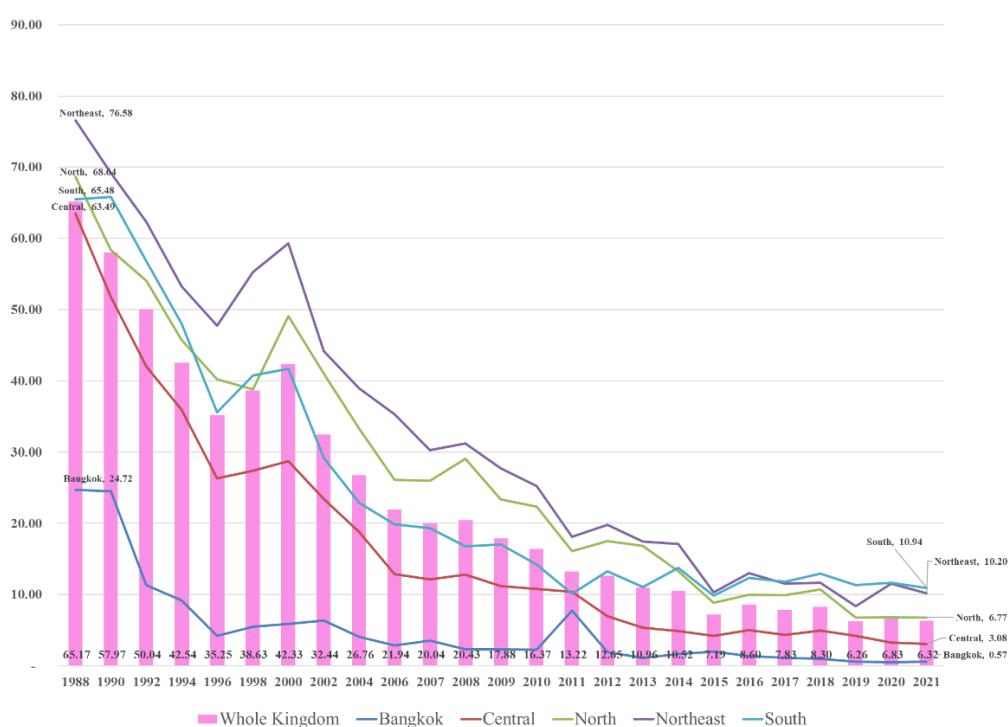
Panel data; poverty; poverty gap; remittance; Thailand; volatilities

Introduction

A key objective of economic development and global public policies is to address poverty. This imperative is rooted not just in the ethical belief that no individual should experience deprivation, which would infringe upon principles of justice and human rights, but also in acknowledging poverty's significant impact on various economic aspects. This dedication is emphasized through the United Nations' Sustainable Development Goals (SDGs) (United Nations Statistics Division [UNSD], 2023), which outline an extensive plan to eradicate poverty in all its dimensions by 2030. While progress has been notable in reducing child mortality, decreasing unemployment rates, and improving access to electricity in many developing nations, poverty reduction seems comparatively slower. Despite considerable efforts since the commencement of the SDGs in 2015, the global fight against poverty has faced obstacles. These challenges have led to a noticeable slowdown in the pursuit of poverty alleviation across numerous countries, as highlighted in the United Nations Statistical Division's 2023 report (UNSD, 2023).

Since 1967, Thailand has consistently prioritized poverty eradication through the National Economic and Social Development Plan (NESDP). Essential programs have evolved, starting with infrastructure support and progressing to provincial and regional development. The sixth NESDP introduced the Jor-Por-Tor program, a rural development program designed to provide rural residents access to fundamental social services for their living conditions. The ninth and tenth NESDPs shifted towards investment in human capability and a sufficient economy. The eleventh NESDPs focused on well-being policies targeting specific groups, such as the Debt Moratorium and the National Welfare Card. This reflects Thailand's dynamic approach to poverty eradication across various stages of economic and social development (National Economic and Social Development Council [NESDC], 1967–2022).

Figure 1: Poverty Incidence in Thailand Between the Years 1988–2021



Note: National Economic and Social Development Council (2022)

According to the poverty incidence at the regional level presented by the Office of the National Economic and Social Development Council (NESDC) (2022), as shown in Figure 1, a discernible positive trend is evident. The northeastern and northern regions, historically recognized as the two poorest areas, have undergone substantial improvements. Notably, the poverty rate in the northeast region has plummeted from 77% in 1988 to 10% in 2021, while the northern region has reduced from 69% to 7% over the same period. It is crucial to emphasize that the sluggish pace of poverty reduction since 2015 underscores the need to focus on the poorest households and those at risk of falling into a poverty trap. These groups may not automatically escape poverty solely through economic growth, signifying targeted interventions and comprehensive policies to address their specific challenges.

While cross-sectional data offer valuable insights into the current distribution of poverty, they may fall short of providing a comprehensive understanding of poverty dynamics. This includes crucial questions such as whether impoverished households can escape poverty and what factors place them at risk of falling into poverty. Consequently, research utilizing longitudinal data on poverty dynamics has experienced significant expansion since the 1990s. This growth is evident in studies by Bane and Ellwood (1986), Duncan et al. (1993), Stevens (1994), Baulch and Hoddinott (2000), Finnie and Sweetman (2003), Justino and Verwimp (2012), Baulch and Davis (2008), Neilson et al. (2008), Dhamija and Bhide (2010), and Tabuga et al. (2011).

While numerous studies have examined poverty in Thailand, research remains scarce, delving into poverty dynamics utilizing longitudinal panel data gathered from the same households across annual surveys. The utilization of panel data to study poverty dynamics is infrequent in Thailand. Examples include Isvilanonda et al. (2000), Cherdchuchai and Otsuka (2006), Rigg et al. (2012), Jitsuchon (2013), Sakondhavat (2013), Rigg and Salamanca (2015), and Pawasuthipaisit (2017). Furthermore, most poverty dynamics studies in Thailand have been either area-based or case studies, such as the Townsend Thai data, which has been referenced in various studies exploring poverty and household financial research.

Despite the constraints posed by the Townsend Thai data, characterized by its limited number of households and regional focus only on Northeast Thailand, this study explores poverty dynamics. To achieve this, the study employs Socio-Economic Survey (SES) panel data curated by the National Statistical Office of Thailand (NSO), which encompasses households from across the entirety of the kingdom. Nonetheless, this SES dataset sheds light on the poverty dynamics in Thailand over three years of the survey, with the 2017 data marking the NSO's last survey.

In addition, the study on the impact of external factors is becoming more critical for policymakers to construct poverty reduction policy more accurately. For instance, the benefit of human capital investment, the lengthening workweek, the significance of receiving remittances from family members, the impact of government subsidies, and so forth. Therefore, a study on the effects of external factors using a panel dataset can be helpful for long-term public policy on poverty reduction in times of turbulence and unstable conditions.

Literature review

Determining factors of being poor and non-poor households

Poverty dynamics have indicated that the state of being poor is not stable; households can move into and out of poverty depending on various factors such as improvements in their economic situation, changes in demographic traits, or experiencing fortunate or unfavorable occurrences. These factors can be classified into four categories: demographic considerations, economic factors, the long-term impact of unexpected occurrences, and institutional issues.

Demographic factors

Many studies have examined the influence of demographic characteristics on the likelihood of falling into poverty. Booth (1889), Diagne (2017), Haddad and Ahmed (2003), and Jalan and Ravillion (2007) discovered that increasing family size, number of dependent members, and dependence ratio raised the likelihood of slipping into poverty. Furthermore, research conducted by McKernan and Ratcliffe (2005), Sakondhavat (2013), Stevens (1994), and Vaalavuo and Sirniö (2022) discovered that the gender of the family's head increased the risk of poverty. To be more specific, female-headed households were more likely to become impoverished than male-headed households. Cellini et al. (2008) discovered that single-mother households in some developed countries, such as the United States, were more likely to slip into poverty than other groups. This discovery was supported by research conducted in Canada and other developed countries (see Curtis & Rybczynski, 2014; Duncan et al., 1993; Finnie & Sweetman, 2003; McKernan & Ratcliffe, 2005)

According to the United Nations Development Programme (UNDP) (1995) and Food and Agriculture Organization (FAO) (2019) data, 60 to 70% of female-headed households had low-income levels. According to McKernan and Ratcliffe (2005) and Jalan and Ravillion (2007), gender seems to be a more consistent cause of chronic poverty than transitory poverty. Except for the discovery that widows and single women often faced more significant challenges, Klasen et al. (2010) revealed minimal evidence suggesting that female-headed households in Thailand were more vulnerable to shock than male-headed households.

Differences in race and ethnicity also increased the likelihood of poverty. Corcoran and Chaudry (1997) presented that 90% of poor and vulnerable children in the United States in 1992 were African-American. This is similar to the finding by Duncan et al. (1993), where black female-headed households were more likely to remain in poverty than white female-headed households.

Another factor that impacts one's poverty status is their place of residence. According to Christiaensen and Subbarao (2005), living in rural Kenya increased one's chance of falling into poverty by 39%. Furthermore, Bumrungrkit (2014) published research in Thailand indicating that while residing in urban areas increased the likelihood of becoming poor, living in rural areas made one more vulnerable to chronic poverty.

Socioeconomic factors

Household and individual income serve as key indicators of poverty status. Therefore, transitions within the labor market and the influence of employment significantly correlate with the likelihood of entering or escaping poverty. Diagne's (2017) meta-analysis identified various variables contributing to households falling into poverty, such as unemployment, labor force participation, and other dependent factors. Moreover, the education level of the head of the household is an essential element that positively corresponds with the likelihood of escaping poverty. Curtis and Rybczynski (2014) discovered that higher education enhanced the possibility of escaping poverty in Canada. This conclusion is consistent with Diagne (2017), who utilized the meta-analysis approach to examine 36 research articles on developing nations in Africa, Asia, and Latin America.

Diagne (2017) determined that education, household size, and physical assets influenced the likelihood of escaping poverty. Nonetheless, compulsory education alone is insufficient to keep families out of poverty. The research highlighted the importance of improving the quality of mandatory education as an educational policy goal. This outcome aligns with the conclusions of the Thai study. Sakondhavat (2013) examined the poverty dynamics of Thai farmers in Thailand's northeastern region and proposed that the degree of education of the household head enhanced the likelihood of exiting poverty. Pawasuthipaisit (2017) also stressed the importance of years of schooling as another critical factor for escaping poverty.

Booth (1889), Duncan et al. (1993), McKernan and Ratcliffe (2005), and Ojha (2007) all indicated that households suffering job loss or underpayment were more likely to fall into poverty. Conversely, households that attained secondary sources of income stood a better chance of escaping poverty. This conclusion is analogous to Vaalavuo and Sirniö (2022) on the significance of gaining employment in Europe and the comparatively minor impact of shorter employment and part-time jobs on escaping poverty. Furthermore, the type of work was significant. Working hours serve as an indicator of the likelihood of overcoming poverty.

The Organisation for Economic Cooperation and Development (OECD) (2023) revealed the working hours needed to exit poverty indicator, which displayed the weekly hours households earning the minimum benefit must work to escape poverty. For instance, a single household without children in Japan requires eight working hours per week to surpass poverty. The required weekly hours vary based on the household type. To lift a single household comprising a husband and wife with no children, 22 hours per week are necessary. A jobless couple without children needs 30 hours per week to escape poverty, whereas an unemployed couple with two children requires the most hours, 35 hours per week. It's important to note that Thailand was not included in this study.

The source of income is also important. When an agricultural job serves as the primary income source of a household, it seems to raise the chances of being a poor household. According to a UN report (2020) by Yang et al., the rural extremely poor are more vulnerable to climatic shocks and weather catastrophes due to their reliance on agriculture. This finding affected the impoverished households, predominantly living in rural areas, whose primary income relied on agricultural activities.

In Thailand, poor rural households may face various constraints, such as landlessness or owning a limited plot of land. Several Thai studies demonstrate the culture of land allocation. Rabibhadana et al. (1995) discovered a decrease in the quantity of land, particularly in the

North and Northeast, where land allocation was based on the number of sons and daughters in the household. This approach led to a decrease in land productivity in marginal areas. Finally, when the profit is less than the opportunity cost, rural poor households shift their income from agricultural to non-agricultural activities. Moreover, Bumrungrkit (2014) confirmed that land ownership is an essential factor that reduces the vulnerability of people experiencing poverty. This finding is consistent with Yang et al. in 2020, who indicated similar research results in South Asia and Sub-Saharan Africa.

Many studies have presented the impact of remittances on poverty dynamics. Several studies have demonstrated the importance of remittance for poor households. For example, Acharya and Leon-Gonzalez (2012) emphasized the influence of remittances on Nepal's headcount ratio and poverty severity. According to Imai et al. (2017), remittances boost economic growth and influence poverty reduction in Asia. Arapi-Gjini et al. (2019) examined the role of remittances in poverty alleviation in Kosovo. The findings agreed with Abduvaliev and Bustillo (2020), who discovered that a 1% increase in remittance flows reduces poverty severity by 2%. Furthermore, Musakwa and Odhiambo (2020) affirmed the impact of remittances by demonstrating that remittances have a negative effect on poverty in South Africa in both the short and long run.

In Thailand, research on the impact of remittances has been limited. Poapongsakorn et al. (2011) presented income transfer from daughters to parents who lived in rural areas using cross-sectional data of SES data. Furthermore, Disney et al. (2022), who employed Townsend Thai data, illustrated the decline in inequality caused by remittances households received from their children who lived outside their hometowns.

Unexpected event

Unexpected occurrences are another element that raises the risk of becoming a poor household. These unforeseen occurrences include a family member's death or illness, job loss, a natural disaster, and an economic downturn. According to Booth (1889), Narayan et al. (2009), and Ojha (2007), the loss of an active household member due to illness or death reduced the household's labor force, increased the number of dependents, and raised the opportunity cost for the active member who had to quit their job to care for the patient. Families unable to handle unforeseen circumstances are more likely to become impoverished.

The most unexpected events in Thailand were climatic disasters like floods and droughts because agriculture is the primary income source for rural households. According to the Thailand Development Research Institute (TDRI) (2020), rapid climate fluctuations have a negative effect on the volatility of Thai farm revenue. For instance, the Big Flood 2011 incurred agricultural losses of 140 million USD. The Thai government promptly adopted the National Catastrophe Insurance Fund Decree, which provided public-private partnership funding to mitigate flood-related hazards. This initiative was also supported by Poontrakul (2022). They proposed the adoption of non-life insurance against floods and drought to lessen poverty.

Government and political factors

Government policy and political considerations also impact the likelihood of sliding into poverty. According to Valletta (2006), decreasing government transfers increased the likelihood of sliding into poverty in Canada, Germany, the United Kingdom, and the United States. Furthermore, Narayan et al. (2009) proved that a drop in national and local affluence

affected the likelihood of slipping into poverty. In Thailand, Pawasuthipaisit (2017) highlighted the impact of village funds, one of the government initiatives that can boost the possibility of escaping poverty.

This study employed the multinomial logit model to analyze poverty determinants. However, the limitations of the socioeconomic status (SES) panel questionnaire resulted in the exclusion of key factors such as ethnicity, race, and government policies surveyed by the National Statistical Office (NSO). Additionally, the study explored the impact of other factors that reflect the characteristics and culture of Thai households, including skipped-generation households, the primary source of household income, receipt of remittances, and the presence of secondary income sources. The following section provides a detailed examination of these factors within this investigation.

Data and methodology

Data

This study used the panel data from the Socio-Economic Survey (SES) in 2007, 2012, and 2017 conducted by the National Statistical Office of Thailand (NSO), Thailand. The panel SES is a national survey observing households from 76 provinces in rural and urban. There are 3,567 households that remained in all three waves. To accurately express each household's status, the study used the regional and area poverty lines as a benchmark for dividing poor and non-poor households.

The study's results differ from the NSO's for two main reasons. Firstly, this study employs regional and area poverty lines in defining the poverty line, whereas the NSO uses the national poverty line. Consequently, the criteria for identifying impoverished households in this study differ. Secondly, the analysis excludes institutional households from the sampling and selects a balanced panel dataset from three waves, resulting in a smaller sample size than the NSO. While the sample size may not fully represent the population, the study's outcomes can be valuable for in-depth research into poverty dynamics.

According to the literature reviews, the explanatory variables utilized in this model are detailed in Table 1, spanning three primary categories: demographic, socioeconomic, and unforeseen occurrences. Household variables encompass various aspects, including demographic composition (household size, head of household age, female household head declaration, rural living status, household types such as skipped-generation or single-household, the proportion of individuals below 15 or above 60 years old, presence of chronic diseases or cancer in individuals, and the health condition of the household head), human capital (average years of schooling among household members), socioeconomic factors (proportion working in agriculture, weekly working hours, receipt of remittances, presence of a secondary income source, primary occupation in agriculture, non-wage income, household business, and wages), and unforeseen events (count of positive and negative shocks).

Table 1: List of Explanatory Variables

Variable	Description	Related study
Demographic factor		
<i>Hmem</i>	Household size (i) in year t	Booth (1889); Diagne (2017); Haddad & Ahmed (2003); Jalan & Ravallion (2007)
<i>Agehead</i>	Age of household head of household i in year t	
<i>Rural</i>	[Dummy] Place of living, rural = 1	Bumrungrkit (2014); Christiaensen & Subbarao (2005)
<i>Female</i>	[Dummy] Household head (i) in year (t) is female	Stevens (1994); McKernan & Ratcliffe (2005); Klasen et al. (2010); Sakondhavat (2013); Vaalavuo and Sirniö (2022)
<i>Skiph</i>	[Dummy] Type of household: skipped-generation household = 1, else = 0	
<i>Singh</i>	[Dummy] Type of household: single-household = 1, else = 0	Cellini et al. (2008)
<i>Pchild</i>	Children (< 15 years)/household members (%)	Booth (1889); Diagne (2017); Haddad & Ahmed (2003); Jalan & Ravallion (2007)
<i>Pelder</i>	Older person (> 60 years)/household members (%)	Booth (1889); Diagne (2017); Haddad & Ahmed (2003); Jalan & Ravallion (2007)
<i>Dchro</i>	[Dummy] At least one member having a chronic disease.	
<i>Dcanc</i>	[Dummy] At least one member having cancer.	
<i>Hsick</i>	[Dummy] Household head's health is bad or very bad	Neilson et al. (2008)
Socioeconomic factor		
<i>Avy</i>	Average year of schooling of household I in year t	Pawasuthipaisit (2017); Sakondhavat (2013)
<i>Pagri</i>	% of members who work in the agriculture sector	
<i>Hwork</i>	Household head's hour of work per week	OECD (2023)
<i>Remitt</i>	[Dummy] Receive remittances	Acharya & Leon-Gonzalez (2012); Imai et al. (2017); Arapi-Gjini et al. (2019); Abduvaliev & Bustillo (2020); Disney et al. (2022); Poapongsakorn et al. (2011)
<i>Secondinc</i>	[Dummy] Household has a secondary source of income	Vaalavuo and Sirniö (2022)
<i>Agriculture</i>	Main source of household income: Agriculture	Yang et al. (2020)
<i>Non wage</i>	Primary source of household income: Non-wage income	
<i>Household business</i>	Primary source of household income: Household business or non-farm business	

Variable	Description	Related study
<i>Wage</i>	Primary source of household income: Wage income and salary	
Unforeseen occurrence		
<i>Hnumpsh</i>	Number of Positive shocks (Getting a job, income increase, promotion, etc.)	Bane & Ellwood (1986); Booth (1889)
<i>Hnummsh</i>	Number of Negative shocks (Job loss, income decrease, member illness, etc.)	Booth (1889); Duncan et al. (1993); McKernan & Ratcliffe (2005); Ojha (2007); Narayan et al. (2009); TDRI (2020)

Note: Research Data (SES year 2007, 2012, and 2017)

Analysis technique

This study employed multinomial logit models to investigate the factors contributing to poverty. The research approach was inspired by Sakondhavat’s (2013) seminal study, which is recognized as the initial exploration of poverty dynamics using panel data in Northeast Thailand. Sakondhavat’s work effectively depicted the characteristics of Thai households, particularly among farmers, and was subsequently referenced in Pawasuthipaisit (2017). Additionally, research on poverty dynamics often utilizes multinomial logit models (MNLs) or binary choice models, such as those seen in studies like Justino and Verwimp (2012), Baulch and Dat (2010), and others. These models are favored by researchers for examining the components of poverty. The fundamental model, wherein all other factors are treated as independent variables, can be represented in the following form:

$$P_{it} = \sum_k \beta_k X_{kit} + \varepsilon_{it} \dots\dots\dots (1)$$

Where P_{it} is a poverty indicator of the i^{th} household at time t , X_{kit} is the determining factors related to poverty, as Table 1, β is the parameter of the factors, $i = 1, 2, 3, \dots, n$ represents the i^{th} household, and ε is the residuals.

This study uses the poverty line as the primary criterion to differentiate between poor and non-poor households, determining their poverty status. The study categorizes the poverty line based on regional and residential areas (urban & rural) as primary indicators to accurately ascertain the poverty status of each household.

The poverty line in Thailand (Z_t) was established using the new demographic structure derived from Thailand’s population census in 2010, utilizing the consumption patterns of the poorest in the 1st decile. It specifically aimed to discern consumption variations between municipal and non-municipal areas. This revised poverty line represents the authentic minimum expenditure necessary for survival among the impoverished in Thailand, serving as the monetary benchmark to differentiate between poor and non-poor households.

This study employed multiple variables to gauge poverty incidence and dynamics, encompassing simple poverty status and the poverty gap.

Poverty status

The household simple poverty status ($hpov_{it}$) is defined by the difference between household income per capita (Y_{it}) and regional poverty lines (Z_t).

$$hpov_{it} = \begin{cases} 1, & \text{if } Y_{it} < Z_t \\ 0, & \text{if } Y_{it} \geq Z_t \end{cases} \quad (\text{Equation 1})$$

When ($hpov_{it}$) is the state of household poverty status (1= poor and 0= non-poor), (Y_{it}) is the household income per capita, (Z_t) is defined as the poverty line in year t of the region and area where the household lived (urban and rural), and t is the year of survey (denoted by 2007, 2012, and 2017)

Poverty gap

For the second measure, the Foster–Greer–Thorbecke (FGT) poverty gap is employed to explain the severity of poverty of household i^{th} at time t. The dependent variable ($hgap_{it}$) is calculated as the average ratio of the shortfall of i^{th} household's average income per head (Y_{it}^*) from the poverty line and the regional poverty line at time t, (Z_t) and t is the year of survey (denoted by 2007, 2012 and 2017).

$$hgap_{it} = \frac{1}{N} \sum_{i=1}^q \left(\frac{Z_t - Y_{it}}{Z_t} \right) \quad (\text{Equation 2})$$

Results and analysis

The characteristics of poor households in Thailand

This study utilized the Panel SES dataset, covering 3,567 households surveyed in three waves: 2007, 2012, and 2017. Poverty classification relied on regional and area poverty lines as thresholds for distinguishing between poor and non-poor households. It was found that there was a substantial increase in all poverty indicators, particularly in 2017. The headcount ratio surged from 14.69% in 2007 to 25.82%, and the poverty gap nearly tripled, indicating not only a heightened incidence of poverty but also a more severe state of impoverishment.

Contrary to the National Economic and Social Development Council (NESDC) (2018), which used national poverty lines as the benchmark in its poverty report, this study employed regional and area poverty lines to accurately capture the nuanced nature of poverty in specific locales. The NESDC, in contrast, used the national poverty line. Additionally, the NESDC utilized a cross-sectional SES dataset, incorporating weights for each household calculated by the NSO. At the same time, this study grappled with small sample sizes. It did not apply any weights due to data limitations, rendering it unable to represent households in Thailand nationally. Estimates of poor and non-poor households in Thailand using panel SES data from 2007 to 2017 found that the headcount ratio, the degree of poverty, and the poverty gap had all substantially grown, particularly in 2017 when the poverty gap had nearly tripled from 2007 (Table 2) Furthermore, the proportion of poor households in Thailand climbed from 14.69% in 2007 to 25.82% in 2017.

Table 2: Headcount Ratio, Poverty Gap, and Poverty Severity by Region, 2007–2017

Region/Whole Kingdom	Headcount ratio			Poverty gap			Poverty severity		
	2007	2012	2017	2007	2012	2017	2007	2012	2017
Bangkok and others ¹	0.77	5.43	5.19	0.12	1.55	2.96	0.03	0.74	2.12
Central	11.64	13.28	21.37	3.11	4.25	10.76	1.46	2.10	7.23
North	16.18	15.09	28.82	4.68	4.37	13.63	2.25	1.97	8.68
Northeastern	22.97	21.98	35.63	8.08	6.56	17.86	4.20	3.08	11.91
South	12.95	8.98	28.40	3.40	2.44	14.94	1.86	0.98	10.13
Total	14.69	14.72	25.82	4.64	4.38	12.90	2.31	2.05	8.56

Note: SES Panel data with 3,567 households; Others included Nakhon Pathom, Nonthaburi, Pathum Thani, Samut Prakarn, and Samut Sakhon

The majority of Thai households were located in rural areas. Table 3 presents a perceptible trend toward labor migration from rural to urban areas. The percentage of households residing in urban areas has risen from 31.65% in 2007 to 41.74% in 2012 and 47.55% in 2017. Urban poor households increased their population share from 16.98% in 2007 to 33.98% in 2017. This proportion, on the other hand, more than doubled in size within a decade.

Table 3: Characteristics of Thai Households Based on Demographic, Social, and Economic Between Years 2007–2017 in Percent

Category	2007			2012			2017			Total		
	Household poverty status			Household poverty status			Household poverty status			Household poverty status		
	Poor	Non-poor	Total	Poor	Non-poor	Total	Poor	Non-poor	Total	Poor	Non-poor	Total
Area of resident: Urban	16.98	34.18	31.65	29.90	43.79	41.74	33.98	52.27	47.55	28.38	43.01	40.31
Rural	83.02	65.82	68.35	70.10	56.21	58.26	66.02	47.73	52.45	71.62	56.99	59.69
Gender of leader: Male	64.89	61.03	61.59	64.95	62.03	62.46	56.99	54.44	55.10	61.22	59.39	59.72
Female	35.11	38.97	38.41	35.05	37.97	37.54	43.01	45.56	44.90	38.78	40.61	40.28
Average age of leader	52.38	45.99	46.93	53.29	48.7	49.38	55.63	48.02	49.98	54.14	47.55	48.76
(SD)	(15.92)	(13.27)	(13.88)	(14.95)	(13.26)	(13.62)	(16.25)	(14.92)	(15.63)	(15.88)	(13.84)	(14.46)
Household size	2.88	2.9	2.89	3.93	3.59	3.64	3.26	3.45	3.4	3.34	3.3	3.31
(SD)	(1.18)	(1.3)	(1.28)	(1.85)	(1.71)	(1.73)	(1.62)	(1.82)	(1.77)	(1.63)	(1.64)	(1.64)
of Active member	61.08	72.64	70.94	42.92	60.43	57.85	49.18	62.42	59.00	50.68	65.29	62.60
(SD)	(35.55)	(29.57)	(30.79)	(30.75)	(28.48)	(29.48)	(34.70)	(29.72)	(31.62)	(34.58)	(29.74)	(31.21)
Dependency ratio	18.86	9.96	11.26	41.45	25.85	28.15	36.02	24.48	27.46	32.9	19.9	22.29
(SD)	(30.26)	(21.4)	(23.13)	(29.89)	(25.61)	(26.85)	(33.28)	(27.52)	(29.55)	(32.79)	(25.9)	(27.76)
Average year of schooling	5	7.19	6.87	4.81	7.12	6.77	5.68	7.96	7.38	5.27	7.4	7.01
(SD)	(2.91)	(3.87)	(3.82)	(2.51)	(3.36)	(3.35)	(2.73)	(3.48)	(3.45)	(2.75)	(3.60)	(3.56)
Household generation												
One generation	42.37	42.79	42.72	22.86	24.88	24.59	32.14	28.16	29.18	32.39	32.12	32.17
Two generation	44.85	48.80	48.22	29.52	43.00	41.01	32.79	42.03	39.64	35.13	44.73	42.96
Three generation	10.11	7.46	7.85	32.57	26.20	27.14	23.56	25.36	24.89	22.39	19.41	19.96
Skipped-generation	2.67	0.95	1.21	15.05	5.92	7.26	11.51	4.46	6.28	10.10	3.75	4.92
Marital status												
Single	8.21	11.86	11.33	8.95	13.35	12.70	12.27	19.84	17.89	10.30	14.80	13.97
Married	72.14	74.27	73.96	72.00	71.24	71.35	65.47	62.66	63.39	68.98	69.69	69.56
Widowed	14.89	9.50	10.29	13.71	10.06	10.60	17.16	10.02	11.86	15.63	9.85	10.91
Divorced	1.91	1.91	1.91	1.90	2.66	2.55	2.71	3.74	3.48	2.28	2.73	2.64
Separated	2.86	2.46	2.52	3.43	2.70	2.80	2.39	3.74	3.39	2.79	2.93	2.91
Health welfare												
None	2.67	3.15	3.08	0.57	0.59	0.59	0.00	0.00	0.00	0.86	1.31	1.22
Universal Healthcare: UC	92.37	60.53	65.21	93.52	65.61	69.72	91.53	55.78	65.01	92.28	60.86	66.65
Social Security	1.53	16.14	13.99	3.43	17.46	15.39	2.61	27.10	20.77	2.54	19.92	16.72
Government	2.67	14.30	12.59	1.90	13.91	12.14	5.10	15.38	12.73	3.60	14.49	12.48
Others	0.76	5.88	5.13	0.57	2.43	2.15	0.76	1.74	1.49	0.71	3.42	2.93

Category	2007			2012			2017			Total		
	Household poverty status			Household poverty status			Household poverty status			Household poverty status		
	Poor	Non-poor	Total	Poor	Non-poor	Total	Poor	Non-poor	Total	Poor	Non-poor	Total
Employed Leader	76.15	88.47	86.66	73.90	89.41	87.13	70.36	89.42	84.50	72.84	89.08	86.09
Unemployed: waiting seasonal	18.40	16.24	16.81	14.60	11.80	12.64	6.59	3.21	4.88	11.40	10.91	11.09
Unemployed: Retired	52.80	48.43	49.58	56.20	56.21	56.21	62.64	62.86	62.75	58.69	55.30	56.52
Unemployed: Sickness/Disable	12.80	9.40	10.29	13.87	9.63	10.89	15.38	10.71	13.02	14.39	9.86	11.49
Unemployed: Job loss	6.40	5.98	6.09	2.19	4.04	3.49	2.20	2.50	2.35	3.18	4.30	3.90
Unemployed: Caregiver	8.80	13.11	11.97	9.49	11.18	10.68	6.96	10.71	8.86	8.04	11.75	10.42
Unemployed: Others	0.80	6.83	5.25	3.65	7.14	6.10	6.23	10.00	8.14	4.30	7.87	6.59
Occupation												
Agriculture activity	49.81	21.56	25.71	48.76	31.30	33.87	47.01	11.87	20.94	48.22	22.01	26.84
Production	1.72	4.07	3.73	1.52	2.43	2.30	3.58	2.76	2.97	2.54	3.10	3.00
Business	9.92	22.21	20.41	11.62	19.36	18.22	7.38	20.90	17.41	9.19	20.82	18.68
Government	2.67	12.65	11.19	2.10	11.11	9.78	1.09	15.91	12.08	1.78	13.10	11.02
Private enterprise	8.78	24.55	22.23	9.71	23.83	21.75	6.19	31.22	24.75	7.82	26.32	22.91
Labor	9.54	7.20	7.54	4.76	3.68	3.84	4.67	6.31	5.89	5.99	5.70	5.76
Non-working and others	17.56	7.76	9.20	21.52	8.28	10.23	30.08	11.04	15.95	24.47	8.93	11.79
Main Source of Income												
Agriculture activity	37.98	14.43	17.89	34.10	16.80	19.34	17.05	0.42	4.71	27.16	11.01	13.98
Non-wage	27.67	13.93	15.95	32.76	13.28	16.15	57.76	20.86	30.39	43.10	15.81	20.83
Household business	8.40	19.78	18.11	10.67	19.56	18.25	8.03	18.82	16.04	8.83	19.41	17.47
Wage and salary	21.95	45.74	42.25	17.33	41.16	37.65	16.07	56.76	46.26	17.97	47.49	42.05
Multi-source of income	4.01	6.11	5.80	5.14	9.20	8.61	1.09	3.14	2.61	2.94	6.29	5.67
Secondary source of income	26.15	50.31	46.76	25.52	52.53	48.56	16.72	59.03	48.11	21.57	53.73	47.81
Household income per capita (Baht/month)	1,245	7,953	6,968	1,639	10,273	9,002	1,260	12,547	9,632	1,357	10,154	8,534
Amount of Remittances	547	893	842	795	1,188	1,130	851	1,727	1,501	755	1,248	1,158
Remittance/ HH income	15.06	4.04	4.34	12.19	3.58	3.86	20.65	4.41	4.98	16.31	4.01	4.41

Note: SES Panel data with 3,567 households

About 60% of Thai families had a male head of household. However, the percentage of homes with a female head increased from 38.4% in 2007 to 44.9% in 2017, showing that women are increasingly essential as household heads. With about 3.3 people per household, there was no significant difference in household size between poor and non-poor households except for the gender of the family leaders. There were substantial disparities in the dependency ratio and the percentage of active members between poor and non-poor households. Approximately 42.9% of poor households had active members in 2012, compared to 60.43% of non-poor households. Additionally, compared to non-poor households, poor households had a greater dependency ratio. Poor households' reliance ratio increased from 18.8% in 2007 to 36% in 2017 (see Table 3).

Compared to non-poor households, which had an average of 7.4 years of secondary education, poor households had 5.2 years of schooling (primary or less). This study found that wealthier households can achieve higher levels of education than poorer ones. In 2017, the average number of years poor households spent in school rose from 5 to 5.68, while the average number of years non-poor households spent in school rose from 7.1 to 7.96. However, the 15-year free education policy established in 2009 may alter this trend. This is one of the national welfare programs that supports Thai households in buying books, uniforms, and school supplies.

One of the government welfare programs in Thailand that offers health services to Thai citizens is universal health care. This plan might considerably lessen financial pressures, especially for people experiencing poverty. The study found that 92% of low-income households regularly used universal health care (UC) as their primary source of medical care. Conversely, just 60.86% of non-poor households utilized UC. Nevertheless, it did show that at least 1.2% of Thai households lack access to the healthcare system.

The preliminary data showed differences in working status between poor households and those that were not. Compared to 89% of non-poor household leaders, only 73% of poor household leaders were employed overall. Retirement (56.5%) was the most cited factor for inactivity or unemployment. This number is consistent with Thailand's aging population. The result is compatible with a rise in the percentage of workers who cannot work owing to illness or disability, from 10.3% in 2007 to 13% in 2017. Furthermore, from 18.4% in 2007 to 6.59% in 2017, the percentage of unemployed adults looking for seasonal work has decreased. This statistic confirmed that rural household behavior shifted from agricultural to non-agricultural activity during the non-harvesting season.

One-fourth of poor households were economically inactive, while 48.2% worked in agriculture, 9.2% ran their enterprises, and enterprises employed 7.8%. The non-poor family heads, in contrast, worked in industry (26.3%) and agriculture (22%) and ran a business (20.8%), demonstrating differences in occupations between the two groups of households. This data highlighted the poor households dealing with the effects of climate change and unstable agricultural markets. This finding aligns with a report from the Food and Agriculture Organization (FAO) (2019), which identified that environmental shocks and fluctuations in food prices increase the risk of living in a poor household, especially for the very poor.

Poor households' primary sources of income were the agricultural sector (27.16%), where the majority of them are profit-based (seasonal), and non-wage income (43.10%), such as remittances and government transfers. On the other hand, the primary source of income for non-poor households is typically from wages and salaries (47.49%). Additionally, compared to only 21.57% of poor households, 53.7% of non-poor households often have a secondary

source of income. This result supported the claim that low-income households frequently lack access to credit, human resources, and opportunities to pursue new careers.

Finally, the average per capita income of low-income households increased steadily, going from 1,245 THB per head (USD 41.1) in 2007 to 1,260 THB per head (USD 41.6) in 2017 when non-poor households that rely on wages and salaries had their average annual income increase by 1.57 times in a decade, from 7,953 THB to 12,547 THB in 2017.

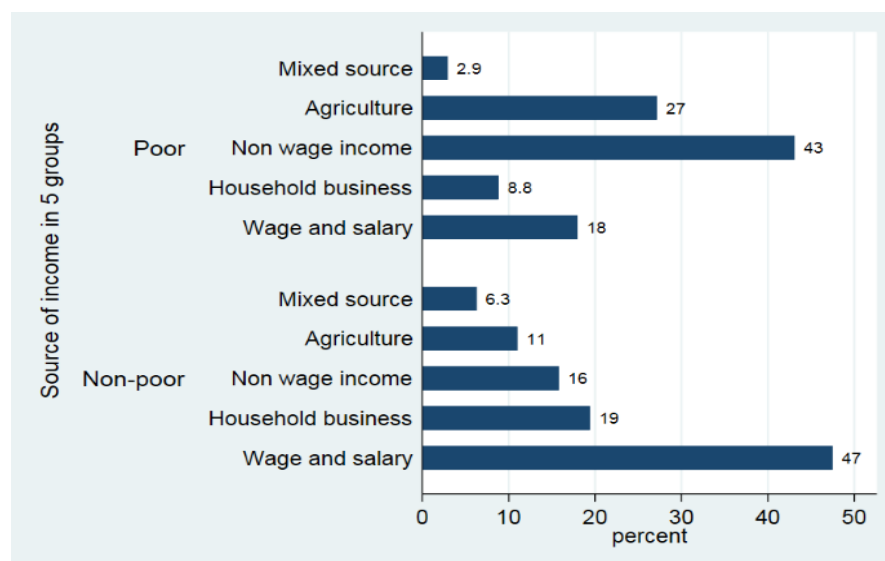
The multinomial logit model: Effect of remittances and other determining factors

Table 4 reveals that the multinomial logit model (MNLs) delineated significant factors, such as demographics, socioeconomic status, human capital, and the influence of unforeseen occurrences associated with the likelihood of Thai households falling into poverty.

For demographic characteristics, it was found that an additional family member could raise the likelihood of becoming poor by 5.25%. Because living expenses in rural locations were lower than in urban areas, households residing in rural areas tended to have a lower likelihood of falling into poverty, compared to urban households, by 10.47%. Moreover, this study confirmed that female-headed households suffered more from poverty than households headed by men. This result is consistent with Klasen et al. (2010) using Townsend Thai Data, which discovered that households with female heads were more vulnerable to shock than those with male heads.

The socioeconomic factors were as important as the demographic ones in determining the likelihood of poor households. This study demonstrated that the agriculture sector had a negative impact on the probability of becoming a poor household. Specifically, for every 1% increase in the percentage of active members employed in the agricultural sector, the chance of slipping into poverty rises by 10.9%. This finding is consistent with Sakondhavat (2013), which found that having a higher share of farmers in the household increased the chance of being impoverished.

Figure 2: Main Source of Household Income of Thailand by Household Poverty Status



Note: SES panel 2007-2017

The primary source of income also played a significant role in determining the incidence of poverty. If the primary source of income for households was non-wage income or agriculture, the likelihood of being a poor household increased by 31.57% and 17.2%, respectively. Given that non-wage income was defined as revenue not derived from labor productivity, such as interest, rent, NGOs or government subsidies, remittances, lottery winners, and so on, households that rely on non-wage income were more vulnerable than others. According to the SES panel data during 2007–2017, non-wage income was the principal source of income for 43% of impoverished households (Figure 2). The findings also revealed that households relying on agricultural income increased the severity of the poverty gap by 141%.

The number and type of primary income sources were crucial factors in determining both the incidence and severity of poverty. Having a secondary source of income reduced the likelihood of experiencing poverty by 21.12%. These findings aligned with those in Table 3, indicating that poor households were less likely to have a secondary income source than non-poor households. Specifically, only 21.57% of poor households had a secondary source of income, in contrast to 53.73% of non-poor households. This disparity underscored the challenges low-income households face in diversifying their sources of livelihood. The study further reinforced the importance of a secondary income source in mitigating the severity of poverty.

Additionally, the average years of schooling significantly impacted the likelihood of being poor. The findings also confirmed an increase in the average years of education had a negative effect on household poverty status, reducing the possibility of falling into poverty by 1% for every additional year of schooling.

This study also sheds light on Thai contexts where family ties are partly established through household income transfers or remittances. Receiving remittances reduced the likelihood of becoming a poor household by 18.1%. This finding was in line with the research of Rabibhadana et al. (1995) and Poapongsakorn et al. (2011), which confirmed the familial connections between parents in rural areas and their children working in metropolitan areas, particularly daughters. The significance of remittances was further supported by studies conducted by Acharya and Leon-Gonzalez (2012), Imai et al. (2017), and Arapi-Gjini et al. (2019), all of which confirmed their relevance in poverty reduction.

Finally, external factors, such as unforeseen events, notably influenced the likelihood of falling into poverty. Positive events, such as finding employment and receiving promotions, reduced the risk of slipping into poverty by 11.13% and also lowered the severity of poverty. In contrast, unfortunate events, including the death or illness of a household member, as well as job loss, contributed to a 5.6% increase in the likelihood of falling into poverty.

Table 4: The Being-Poor Household, the Poverty Gap Model, and Its Determining Factors

Indicator	Being a poor household Model I (Poor = 1, Non-Poor = 0)		Poverty gap Model II	
	Coef. (SE)	Marginal effect (dydx)	Coef. (SE)	<i>p</i> > <i>t</i>
Demographic factor				
Household size (i) in year t	0.2752 (0.0591)	0.0525***	0.2601 (0.1547)	.093
Age of household leader of household i in year t	0.0049 (0.0051)	0.0009	0.0132 (0.0083)	.112
[Dummy] Place of living, rural = 1	-0.5490 (0.2119)	-0.1047**	-0.5488 (0.2883)	.057
[Dummy] Household head (i) in year (t) is female	0.0535 (0.1258)	0.0102	0.5335 (0.2711)	.049*
[Dummy] Type of household: skipped household = 1, else = 0	0.2867 (0.2602)	0.0547	1.0958 (0.9764)	.262
[Dummy] Type of household: single household = 1, else = 0	-0.1137 (0.1687)	-0.0217	-0.0928 (0.2424)	.702
Children (< 15 years)/household members (%)	0.6076 (0.4240)	0.1159	0.0478 (0.6266)	.939
Older person (> 60 years)/household members (%)	0.3225 (0.3622)	0.0615	-0.7047 (0.8833)	.425
Human capital and health factor				
Average year of schooling of household i in year t	-0.0524 (0.0239)	-0.01*	0.1102 (0.0527)	.036*
[Dummy] At least one member having a chronic disease.	0.0848 (0.1254)	0.0162	0.1597 (0.1707)	.349
[Dummy] At least one member having cancer.	0.4430 (0.4059)	0.0845	0.6508 (0.5460)	.233
[Dummy] Household head's health is bad or very bad	0.1537 (0.3088)	0.0293	0.0014 (0.1978)	.994
Economic and working factor				
Members working in the agriculture sector (%)	0.5728 (0.2068)	0.1092**	-0.1269 (0.6130)	.836
Household head's hour of work per week	-0.0086 (0.0032)	-0.0016**	-0.0154 (0.0041)	.000***
[Dummy] Receive Remittances	-0.9489 (0.1489)	-0.1810***	-0.8839 (0.4124)	.032*
[Dummy] Household has a second source of income	-1.1074 (0.1407)	-0.2112***	-0.9714 (0.3878)	.012*
Unexpected event/unforeseen occurrence				
Number of Positive events (Getting a job, income increase, promotion, etc.)	-0.5836 (0.1246)	-0.1113***	-0.2245 (0.0906)	.013*
Number of Negative events (Job loss, income decrease, member illness, etc.)	0.2949 (0.0869)	0.0562***	0.2954 (0.1574)	.061
Main Source of Household Income				
Agriculture	0.8324 (0.2393)	0.1720***	1.4118 (0.4952)	.004**
Non-wage Income	1.6496 (0.2493)	0.3157***	0.6309 (0.5901)	.285
Household Business or Non-farm business	-0.1415 (0.2481)	-0.0295	-0.5920 (0.2594)	.023*
Wage Income and salary	0.2255 (0.2247)	0.0474	-0.1492 (0.1523)	.327

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Summary and policy implications

Although cross-sectional data and poverty statistics from the National Economic and Social Development Council (NESDC) (2022) suggested a reduction in Thailand, the SES's panel data from 2007 to 2017 provided a different perspective. The increase in the headcount ratio and poverty gap observed across three waves of random observations demonstrates the persistence of Thailand's poverty problem. The MNL models and preliminary results from the panel survey indicate that external factors influencing the likelihood of being poor and the Thai poverty gap are primarily socio-economic. These factors include the significance of remittances, a secondary household income source, and reliance on agricultural or non-wage income as the primary income source. This emergence holds three significant contributions, as follows:

First and foremost, the study highlights the traits and variables that contributed to household poverty, mainly focusing on socioeconomic determinants. Households whose primary source of income is non-wage income or the agricultural sector are more likely to fall into poverty than others due to the inherent fluctuations and uncertainties. For example, households reliant on agricultural income typically face external factors such as climate change, natural disasters, droughts, market price fluctuations, etc. These external factors are highly unpredictable, mainly when non-wage income households rely on sources like government subsidies, remittances from their children, rent, and others. Consequently, those households are vulnerable to risk and uncertainty.

Secondly, this study demonstrates the significance of Thai family bonds through the lens of remittances. As depicted in Table 3, remittances are crucial for households, predominantly rural and skipped-generation households. It is shown that receiving remittances from a household's offspring reduced the likelihood of falling into poverty. This finding is consistent with previous research conducted in Nepal, Asia, Kosovo, and other nations. Furthermore, these findings validated and reaffirmed the results of Rabibhadana et al. (1995) and Poapongsakorn et al. (2011), highlighting the presence of remittances and income transfers from urban to rural areas. Additionally, the significant increase in the share of remittances in the income of poor households between 2007 and 2017 highlighted the strength of family relationships, particularly among those in poverty.

Finally, results from regression analysis confirmed that obtaining a secondary source of household income significantly reduces the probability of a household falling into poverty. Households relying on a single income source are more susceptible to risks and unpredictability. For example, natural disasters and unexpected events like the COVID-19 pandemic have left many households without income and struggling to sustain their consumption.

Based on these findings, the study suggested the policy recommendation into four central policies;

Promote family ties through the implementation of policies supporting remittances

Given that households constitute the smallest yet most important social unit in providing a safety net for their members, it is imperative to establish policies that encourage remittances. This may involve measures such as increasing the ceiling of parental care allowances, reducing taxes for caregivers, and lowering fees for migrant workers who engaged in remittance transfers to their households. Moreover, the role of government facilities, such as taxation, fiscal law, and regulations, is crucial for long-term remittance support. The importance of remittances in preventing rural-poor households from falling into poverty cannot be overstated. Public policies aimed at promoting remittances should consider measures such as increasing the parental care allowance, relaxing the age criterion for parents from 60 years old to an unlimited range, raising the maximum allowance amount from 30,000 THB per year to the actual disbursement amount, or waiving fees for migrant workers who send remittances to their households. This long-term approach can bolster remittance inflows and reduce the risk of sliding into poverty.

Provide the social safety net by the government program and address the role of local authorities

In the short term, the government must prioritize social safety net programs to mitigate risks and uncertainties for vulnerable households. For instance, implementing part-time or supplementary job opportunities in hometowns, offering temporary employment, initiating workfare programs, or establishing government-funded public labor initiatives tailored for impoverished households can stabilize household consumption. Such government support has been shown by Zimmermann (2014) to alleviate the risk of households falling into poverty, particularly in several developing nations where public works programs effectively reduce income volatility. In the long term, local authorities should be acknowledged as pivotal stakeholders in the fight against poverty. To achieve this, decentralizing the budget from the national government and empowering local authorities to implement tailored poverty action plans and the provincial poverty reduction program at the grassroots level becomes imperative.

Provide long-term investment in human capital

However, government-backed supplemental employment initiatives should be complemented by efforts to enhance the human capital of households in the long run. Human capital, encompassing factors like average years of schooling and participation in training programs, is pivotal in boosting productivity and long-term prospects for lower-income households. Nonetheless, enrolling in training programs often involves opportunity costs, such as the loss of daily income, revenue absence during training, or transportation expenses incurred while transitioning from rural to urban training centers. The government could consider stipends or compensating eligible trainees to address this barrier. Moreover, the government should actively promote training programs focused on emerging innovations and technology for the working class. Such initiatives will indirectly augment human capital and raise the probability of attaining a secondary source of household income.

Implement the national insurance programs for agricultural households

Developing insurance programs for households relying on agricultural income is crucial to mitigating risks and uncertainties, as these earnings are often exposed to climate and weather conditions. Financial innovation can be leveraged to reduce uncertainty and risk for households relying on agricultural income. According to the findings, having a primary source of household income from agriculture increased the probability of becoming an impoverished household. Agricultural earnings are typically sensitive to climate and weather conditions, with unforeseen disasters like droughts and floods impacting market prices and farmers' revenue. To safeguard against losses and unexpected events, the government should consider the development of weather insurance programs tailored for agricultural-based households.

However, a significant limitation of this study is the restricted length of the panel data available for Thailand. The National Statistical Office (NSO) possesses a six-wave panel dataset covering 2005, 2006, 2007, 2010, 2012, and 2017. The 2017 survey marks the final wave of the NSO panel survey. Despite various compelling developments, such as the advent of events like COVID-19 and the implementation of additional government income transfer programs post-2017, these occurrences cannot be elucidated due to the constraints of the dataset.

References

- Abduvaliev, M., & Bustillo, R. (2020). Impact of remittances on economic growth and poverty reduction amongst CIS countries. *Post-Communist Economies*, 32(4), 525–546. <https://doi.org/10.1080/14631377.2019.1678094>
- Acharya, C., & Leon-Gonzalez, R. (2012). *The impact of remittance on poverty and inequality: A micro-simulation study for Nepal* (GRIPS Discussion Papers No 11-26). <https://econpapers.repec.org/RePEc:ngi:dpaper:11-26>
- Arapi-Gjini, A., Möllers, J., & Herzfeld, T. (2020). Measuring dynamic effects of remittances on poverty and inequality with evidence from Kosovo. *Eastern European Economics*, 58(4), 283–308. <https://doi.org/10.1080/00128775.2020.1720517>
- Bane, M. J., & Ellwood, D. T. (1986). Slipping into and out of poverty: The dynamics of spells. *Journal of Human Resources*, 21(1), 1–23. <https://doi.org/10.2307/145955>
- Baulch, B., & Dat, V. H. (2010, March). *Poverty dynamics in Vietnam, 2002-2006*. World Bank, Hanoi. <https://doi.org/10.1596/27728>
- Baulch, B., & Davis, P. (2008). Poverty dynamics and life trajectories in rural Bangladesh. *International Journal of Multiple Research Approaches*, 2(2), 176–190. <https://doi.org/10.5172/mra.455.2.2.176>
- Baulch, B., & Hoddinott, J. (2000). Economic mobility and poverty dynamics in developing countries. *The Journal of Development Studies*, 36(6), 1–24. <https://doi.org/10.1080/00220380008422652>
- Booth, C. (1889). Life and labour of the people in London. In *Poverty* (Vol. 1, pp. 131–171). London.
- Bumrungrkit, S. (2014). *Poverty, vulnerability and food insecurity in Thailand* [Doctoral dissertation, Curtin Business School]. https://espace.curtin.edu.au/bitstream/20.500.11937/2303/2/227230_Bumrungrkit%202015.pdf
- Cellini, S. R., McKernan, S.-M., & Ratcliffe, C. (2008). The dynamics of poverty in the United States: A review of data, methods, and findings. *Journal of Policy Analysis and Management*, 27(3), 577–605. <https://doi.org/10.1002/pam.20337>

- Cherdchuchai, S., & Otsuka, K. (2006). Rural income dynamics and poverty reduction in Thai villages from 1987 to 2004. *Agricultural Economics*, 35(S3), 409–423. <https://doi.org/10.1111/j.1574-0862.2006.00187.x>
- Christiaensen, L., & Subbarao, K. (2005). Towards an understanding of household vulnerability in rural Kenya. *Journal of African Economies*, 14(4), 520–558. <https://doi.org/10.1093/jae/eji008>
- Corcoran, M. E., & Chaudry, A. (1997). The dynamics of childhood poverty. *The Future of Children*, 7(2), 40–54. <https://doi.org/10.2307/1602386>
- Curtis, L. J., & Rybczynski, K. (2014). Exiting poverty: Does sex matter? *Canadian Public Policy-Analyse De Politiques*, 40(2), 126–142. <https://doi.org/10.3138/cpp.2012-001>
- Dhamija, N., & Bhide, S. (2010, March 27). Dynamics of poverty in India: A panel data analysis. *Economic and Political Weekly*, 45(13), 91–96. <http://www.jstor.org/stable/25664283>
- Diagne, A. (2017). *Which factors lead to entry and exit of poverty? A meta-analysis on the dynamics of poverty in developing countries*. (NOPOOR Working Paper 71). <https://basepub.dauphine.fr/handle/123456789/17661>
- Disney, R., McKay, A., & Shabab, C. R. (2022). Household inequality and remittances in rural Thailand: a life-cycle perspective. *Oxford Economic Papers*, 75(2), 418–443. <https://doi.org/10.1093/oep/gpac025>
- Duncan, G. J., Gustafsson, B., Hauser, R., Schmauss, G., Messenger, H., Muffels, R., Nolan, B., & Ray, J.-C. (1993). Poverty dynamics in eight countries. *Journal of Population Economics*, 6(3), 215–234. <https://doi.org/10.1007/bf00163068>
- Finnie, R., & Sweetman, A. (2003). Poverty dynamics: empirical evidence for Canada. *Canadian Journal of Economics/Revue Canadienne D'économique*, 36(2), 291–325. <https://doi.org/10.1111/1540-5982.t01-1-00002>
- Food and Agriculture Organization (FAO). (2019, February 22). *The role of agriculture and rural development in achieving SDG 1.1*. United Nations Expert Group Meeting on Eradicating Rural Poverty to Implement the 2030 Agenda for Sustainable Development. <https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2019/03/FAO-ending-extreme-rural-poverty-1.pdf>
- Haddad, L., & Ahmed, A. U. (2003). Chronic and Transitory Poverty: Evidence from Egypt, 1997–99. *World Development*, 31(1), 71–85. [https://doi.org/10.1016/s0305-750x\(02\)00180-8](https://doi.org/10.1016/s0305-750x(02)00180-8)
- Imai, K. S., Malaeb, B., & Bresciani, F. (2017, July). *Remittances, growth and poverty reduction in Asia: A critical review of the literature and new evidence from cross-country panel data* (Research Series Issue 15). International Fund for Agricultural Development (IFAD). https://www.ifad.org/en/web/knowledge/-/publication/research-series-issue-15-remittances-growth-and-poverty-reduction-in-asia?p_l_back_url=%2Fen%2Fsearch%3Fq%3DRemittances%252C%2Bgrowth%2BAnd%2Bpoverty%2BReduction%2Bin%2BAsia%253A
- Isvilanonda, S., Ahmad, A., & Hossain, M. (2000). Recent changes in Thailand's rural economy: Evidence from six villages. *Economic and Political Weekly*, 35(52/53), 4644–4649. <http://www.jstor.org/stable/4410110>
- Jalan, J., & Ravallion, M. (2000). Is transient poverty different? Evidence for rural China. *Journal of Development Studies*, 36(6), 82–99. <https://doi.org/10.1080/00220380008422655>
- Jitsuchon, S. (2013). ความเหลื่อมล้ำในสังคมไทย [Inequality in Thai Society]. In M. Kao-saard & N. Leamcharaskul (Eds.), *ชีวิตคนไทยในสองทศวรรษแห่งการพัฒนา [Thai Life in two decades of Development]* (pp. 112–119). TUHPP. <https://tdri.or.th/2013/05/khonthai/>
- Justino, P., & Verwimp, P. (2012). Poverty dynamics, violent conflict, and convergence in Rwanda. *Review of Income and Wealth*, 59(1), 66–90. <https://doi.org/10.1111/j.1475-4991.2012.00528.x>
- Klasen, S., Lechtenfeld, T., & Povel, F. (2010). What about the women? Female headship, poverty and vulnerability in Thailand and Vietnam. In *Proceedings of the German Development Economics Conference, Hannover 2010 No. 43*. Association for Social Policy, Committee for Developing Countries, Göttingen. <https://www.econstor.eu/handle/10419/39987>
- McKernan, S.-M., & Ratcliffe, C. (2005). Events that Trigger Poverty Entries and Exits. *Social Science Quarterly*, 86(S1), 1146–1169. <https://doi.org/10.1111/j.0038-4941.2005.00340.x>

- Musakwa, M. T., & Odhiambo, N. M. (2020). Remittance inflows and poverty dynamics in South Africa: An empirical investigation. *SAGE Open*, 10(4). <https://doi.org/10.1177/2158244020983312>
- Narayan, D., Pritchett, L., & Kapoor, S. (2009). *Moving out of poverty, Volume 2: Success from the bottom up*. Palgrave Macmillan. <https://doi.org/10.1596/978-0-8213-7215-9>
- National Economic and Social Development Council (NESDC). (1967–2022). *The National Economic and Social Development Plan (First Plan–Thirteenth Plan)*. Office of the National Economic and Social Development Council. https://www.nesdc.go.th/nesdb_en/main.php?filename=develop_issue
- National Economic and Social Development Council (NESDC). (1987). *The National Economic and Social Development Plan (1987 - 1991): Vol. Sixth Plan*. Office of the National Economic and Social Development Council. https://www.nesdc.go.th/nesdb_en/ewt_dl_link.php?nid=3781
- National Economic and Social Development Council (NESDC). (2018, September). รายงานการวิเคราะห์สถานการณ์ความยากจนและความเหลื่อมล้ำในประเทศไทย [Analysis of Poverty Situation and Inequality in Thailand Report]. https://www.nesdc.go.th/ewt_dl_link.php?nid=10855
- National Economic and Social Development Council (NESDC). (2022). ตาราง 1.2: สัดส่วนคนจนเมื่อวัดจากรายจ่ายเพื่อการอุปโภคบริโภค จำนวนตามภาคและพื้นที่ ปี 2531-2564 [Table 1.2 Poverty incidence via household expenditure by region and areas 1988–2021] [Dataset]. https://www.nesdc.go.th/ewt_dl_link.php?nid=3518&filename=social
- Neilson, C., Contreras, D., Cooper, R., & Hermann, J. (2008). The dynamics of poverty in Chile. *Journal of Latin American Studies*, 40(2), 251–273. <https://doi.org/10.1017/s0022216x08003982>
- Ojha, R. K. (2007). Poverty dynamics in rural Uttar Pradesh. *Economic and Political Weekly*, 42(16), 1453–1458. <http://dx.doi.org/10.2307/4419498>
- Organisation for Economic Cooperation and Development (OECD). (2023). *Working hours needed to exit poverty* [Dataset]. <https://doi.org/10.1787/77505058-en>
- Pawasuthipaisit, A. (2017). การเปลี่ยนแปลงของความยากจนในชนบทไทย: กรณีศึกษา Townsend Thai Data: รายงานวิจัยฉบับสมบูรณ์ [Poverty Dynamic in Townsend Thai Data]. Thailand Science Research and Innovation (TSRI). https://digital.library.tu.ac.th/tu_dc/frontend/Info/item/dc:138975
- Poapongsakorn, N., NaRanong, V., Chalamwong, Y., Chandoevhit, W., Jitsuchon, S., & Plangpraphan, J. (2011). ชีวิตคนไทยในสองทศวรรษแห่งการพัฒนา [Thai Life in two decades of development] (M. Kaosa-ard & N. Leamcharaskul, Eds.). TUHPP. <https://tdri.or.th/2013/05/khonthai/>
- Pontirakul, P., Tsusaka, T. W., Pal, I., Szabo, S., & Roy, J. (2022). Does insurance work? Dynamic assessment of insurance, poverty, and climatic hazard outcomes in Thailand. *Climate Risk Management*, 37, Article 100449. <https://doi.org/10.1016/j.crm.2022.100449>
- Rabibhadana, A., Koanantakool, P. C., Nathalang, S., Vaddhanaphuti, C., Chatchawan, S., Satayanuruk, A., & Mettariganond, D. (1995). การพัฒนาโครงการวิจัยเรื่องครอบครัวและเครือญาติไทย: อดีต ปัจจุบัน และอนาคต: ผลการประชุมเชิงปฏิบัติการ [The results of the workshop on leading a research project on the Thai families and kinship: past, present, and future.] https://digital.library.tu.ac.th/tu_dc/frontend/Info/item/dc:85955
- Rigg, J., & Salamanca, A. (2015). The devil in the detail: Interpreting livelihood turbulence from a 25-year panel study from Thailand. *Area*, 47(3), 296–304. <https://doi.org/10.1111/area.12188>
- Rigg, J., Salamanca, A., & Parnwell, M. J. G. (2012). Joining the Dots of Agrarian Change in Asia: A 25-Year View from Thailand. *World Development*, 40(7), 1469–1481. <https://doi.org/10.1016/j.worlddev.2012.03.001>
- Sakondhavat, A. (2013). *Understanding poverty dynamics using a mixed-method study: Evidence from the rural village in the Northeast and Central Regions of Thailand*. University of Sussex. <https://hdl.handle.net/10779/uos.23398592.v1>
- Stevens, A. H. (1994). The dynamics of poverty spells: Updating Bane and Ellwood. *The American Economic Review*, 84(2), 34–37. <https://www.jstor.org/stable/2117797>
- Tabuga, A. D., Mina, C. D., Reyes, C. M., Asis, R. D., & Datu, M. B. G. (2011). *Dynamics of Poverty in the Philippines: Distinguishing the Chronic from the Transient Poor* (PIDS Discussion Paper Series No. 2011-31). Philippine Institute for Development Studies (PIDS). <http://hdl.handle.net/10419/126852>
- Thailand Development Research Institute (TDRI). (2020, November 25). การออกแบบการจัดการความเสี่ยง ภัยพิบัติทางภูมิอากาศสำหรับการผลิตข้าวของไทย [Risk Management design: The weather crisis of rice farming] [Presentation].

- <https://tdri.or.th/wp-content/uploads/2020/11/24-11-AFFP-final-v3-South-Boontida-Pac-noo-edit2.pdf>
- United Nations Development Programme (UNDP). (1995, December). *Human Development Report 1995: Gender and Human Development*. <https://doi.org/10.18356/152cdfb3-en>
- United Nations Statistics Division (UNSD). (2023). *The Sustainable Development Goals: Progress Chart 2023*. Department of Economic and Social Affairs (DESA). <https://unstats.un.org/sdgs/report/2023/progress-chart/>
- Vaalavuo, M., & Sirniö, O. (2022). Jobs against poverty: A fixed-effects analysis on the link between gaining employment and exiting poverty in Europe. *European Societies*, 24(4), 431–462. <https://doi.org/10.1080/14616696.2022.2088821>
- Valletta, R. G. (2006). The ins and outs of poverty in advanced economies: Government policy and poverty dynamics in Canada, Germany, Great Britain, and the United States. *Review of Income and Wealth*, 52(2), 261–284. <https://doi.org/10.1111/j.1475-4991.2006.00187.x>
- Yang, J., Wang, S., & Dewina, R. (2020, July 24). บทสรุปสำหรับผู้บริหาร จับชีพจรความยากจนและความเหลื่อมล้ำในประเทศไทย [Taking the Pulse of Poverty and Inequality in Thailand (Vol. 2): Executive Summary (Thai)]. World Bank Group. <http://documents.worldbank.org/curated/en/841701595602517692/Executive-Summary>
- Zimmermann, L. (2014). Public works programs in developing countries have the potential to reduce poverty. *IZA World of Labor*, Article 25. <https://doi.org/10.15185/izawol.25>