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The Determinants of Poverty in the Four Southern Border Provinces of Thailand

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Abstract: Along decades of high economic growth, Thailand like many developing countries has experienced the problems of poverty. One of the areas that have felt the impact is the Southern border provinces: Yala, Pattani, Narathiwat, and Songkhla. This paper examines factors which determine poverty in the area via the Fixed Effect Model. We focus on the Gross Provincial Product per capita (GPP), unemployment rate, inflation, annual budget for provincial administration, and the number of insurgencies. Results show that both GPP and increased annual budget for provincial administration can significantly decrease poverty while inflation and insurgency have no statistical significance.

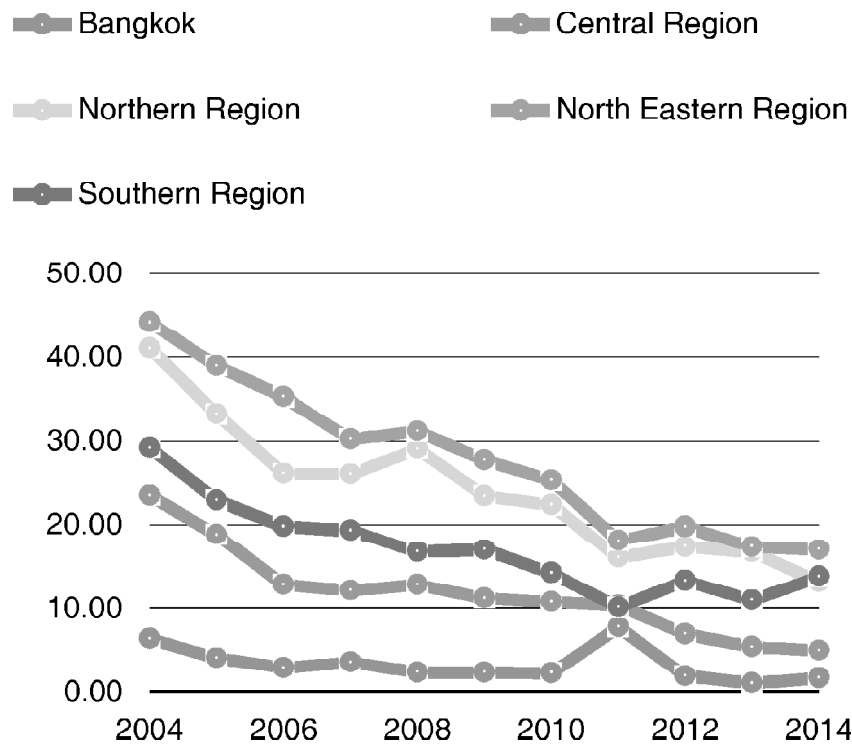
Keywords: Poverty, Southern border provinces, Thailand

1. INTRODUCTION

Poverty is one of the global issues which need to be effectively tackled since it has obstructed international economic growth. There have been many attempts to examine poverty in numerous topics so as to better understand the issue. Thailand, as a developing country, is also affected by poverty. Research on the topic started in 1974 by Methee Krongkaew and Chintana Chernsiri. Other scholars who share the same interest are Auey Meesook (1979), Suphawadee Kordamrong (1980), Sukanya Hutaseranee and Somchai Jitsuchon (1988), Kusanya and Pornchai (1990), and Isra Sarntisart (1995).

Currently, the tool used to evaluate national poverty is the *Poverty line*; those whose expenditure is below this standard are considered poor. In the past, Thailand has used the poverty line which is calculated based on income. However, in 2002, the National Economic and Social Development Board in collaboration with the Thailand Development Research Institute have implemented a new method to evaluate poverty rate by examining expenditure instead of income since the latter factor is less stable, especially in the case farmers. In addition, expenditure reflects more accurately whether the person receives sufficient nutrition while income only shows if he or she has access to it. Also, consumers are more willing to reveal their expenditure compared to their income.

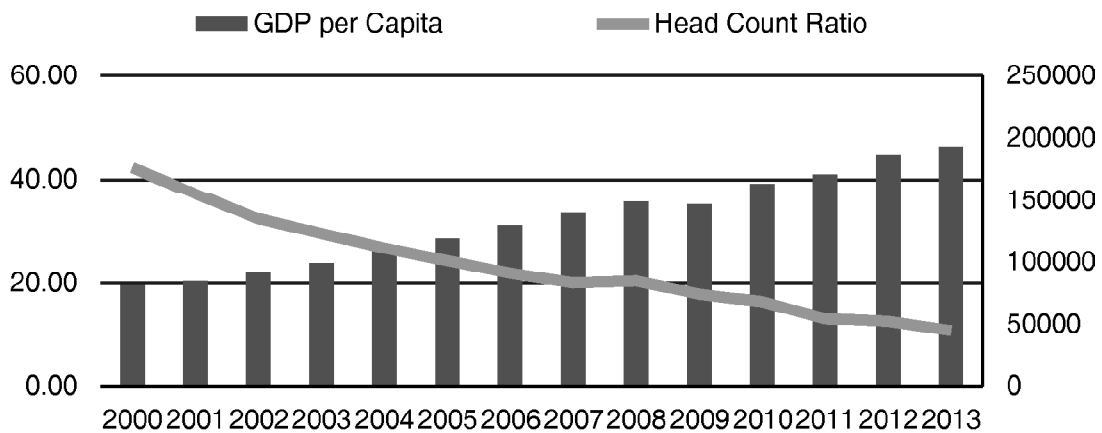
Continuous development and national policies have targeted poverty causing it to decline as can be seen from the graph below



Picture 1.1: Head Count Ratio (based on expenditure) via region during 2004 to 2014

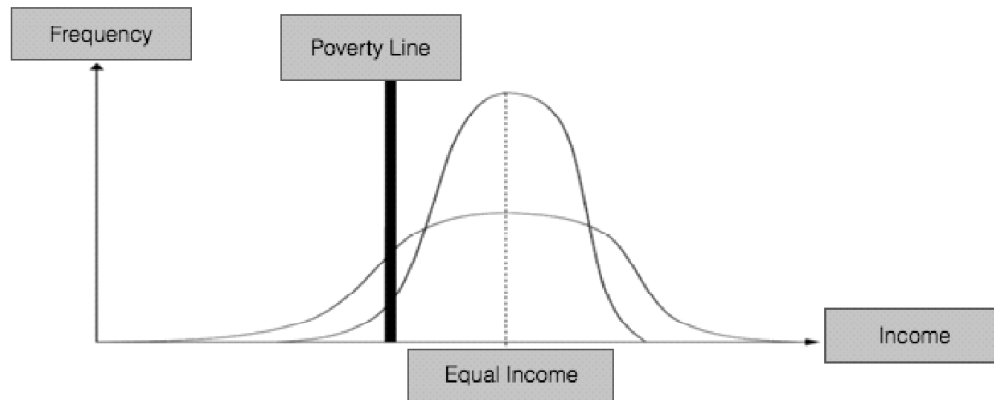
Although poverty has declined but its level in the North East, the North, and the Southern region is still quite high. This information coincides with the work by Oey Astra Meesook (1979) which evaluated the poverty situation during 1962/63, 1968/69, and 1975/76.

In general, poverty will tend to decrease as the level of economic development increases. By increasing household income, this allows the consumption of more goods and services, including food above the minimum nutrition requirement. The relationship between economic growth and poverty is shown in picture 1.2.



Picture 1.2: Relationship between economic growth and poverty

As mentioned earlier, economic growth can help decrease poverty via higher income. But between two societies that have the same average income, the one that has higher inequality will have a higher level of poverty.

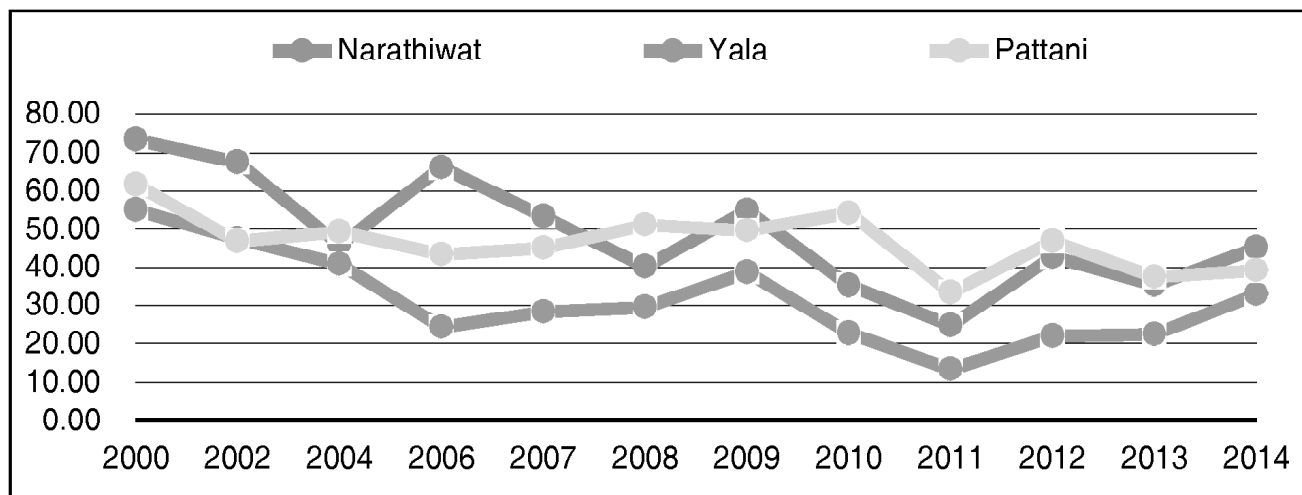


Picture 1.3: The Relationship between Income and Poverty Distribution

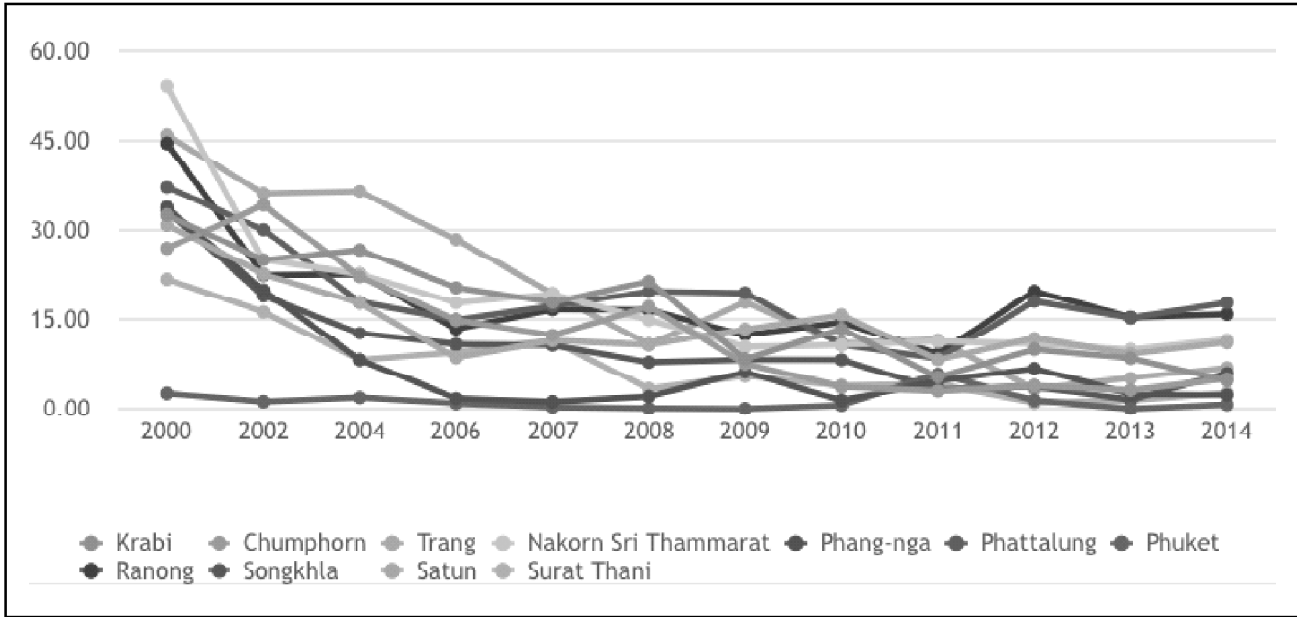
Source: KomsanSuriya (2011) “Development Economics: theories for research”, p. 50.

It would be easier to decrease poverty if the distribution of income is more equal. This is because when the population has similar levels of income per capita, a small increase in income per capita can help decrease poverty (Bourguignon (2002), Son and Kakwani (2004)).

Despite the fact that poverty is not a severe issue in most of the Southern provinces, the three border provinces (Pattani, Yala, and Narathiwat) still suffer from this difficulty. A study conducted by IsraSarntisart in 2005 shows that poverty reduction in the Southern border provinces are less than other provinces within the region and also other regions due to budget distribution for poverty eradication which doesn’t correspond with the intensity of local insurgency.



Picture 1.4: Poverty in the three Southern border provinces of Thailand during 2000 - 2014



Picture 1.5: Poverty in other Southern provinces of Thailand during 2000 to 2014

According to the two graphs above, from 2000 to 2014, the headcount ratio in the Southern border provinces is the highest compared to other provinces in the region. Moreover, during the same period, the headcount ratio in these provinces was similar to those of other regions in the country.

Violence in the Southern border provinces of Thailand began in 1948 due to racial and religious discrimination. The situation, however, worsened in 2004. Srisompob Jitpiromsri and Panyasak Sobhonvasu (2006) explained that Muslim communities in the area encountered numerous problems such as poverty, unemployment, the lack of education, infrastructure, land, and other related economic problems.

Numerous studies found that violence and conflicts caused poverty to rise, for example, Patricia Justino and Philip Verwimp (2013) stated that violent conflicts have a direct affect towards the dynamics of poverty. Furthermore, N. L. Valencia (2013) conducted research on poverty and conflict in Colombia, the second poorest in South America. Results revealed that insurgency significantly causes poverty in rural but not urban areas. In the case of Thailand, the number of incidents in the Southern border provinces can be seen in Table 1.

According to Table 1, there are more incidents in the three Southern border provinces than in Songkhla. However, the situation in these provinces peaked during 2004 to 2008 and 2012 to 2013 while in Songkhla the situation became worse during 2012 to 2014.

This paper studies the determinants of poverty in the four Southern border provinces of Thailand. The paper is organized as follows. In section 2 we discuss the related theories and literature. Section 3 describes the research methodology. Results are explained in section 4. In section 5 we extend the topic and discuss about an alternative tool that could help decrease poverty. Finally, the conclusion is laid out in section 6.

Table 1
The number of incidents in the Southern border provinces during 2004 to 2013

<i>Year/Province</i>	<i>Pattani</i>	<i>Yala</i>	<i>Narathiwat</i>	<i>Songkhla</i>
2004	607	423	763	41
2005	603	647	911	12
2006	613	540	594	100
2007	403	745	632	70
2008	277	321	210	13
2009	397	305	323	5
2010	348	255	343	9
2011	320	229	351	6
2012	514	243	412	21
2013	506	335	424	32
2014	295	188	279	41
2015	196	207	243	26

Source: Incidents record published by *Deep South Watch*

2. RELATED THEORIES AND LITERATURE

Definition of Poverty

Poverty has been differently defined throughout the history. It was firstly explained as lack of vital necessities which causes incapability of nutrition obtain and money shortage. Booth (1889) studied poverty of households in London. He created a poverty line to measure fundamental needs of each Londoner and transformed it into monetary terms. In other words, those who are below the poverty line were regarded as *poor*. Moreover, Rowntree (1901) conducted a research about poverty in York, England. He categorized the poverty into two levels. First are those who do not have access to fundamental resources to satisfy basic needs and second are those who have those resources but lack the capability in using them. The concept of poverty was later redefined in 1970 as the lack of fundamental resources. In addition, UNDP (1991) and World Bank (2000) gave a broader definition of poverty to cover economic, social, and cultural dimensions.

One of the most prominent definitions is the one of Amartya Sen, a Nobel Laureate of Economics in 1999. Sen viewed poverty not just about income but also ones value in the society which covers their ability and freedom in choosing what they want to achieve in life.

In 1977, UNDP has launched new definition of poverty. It is more than the lack of income and resources to ensure a sustainable livelihood. Its manifestations include hunger and malnutrition, limited access to education and other basic services, social discrimination and exclusion as well as the lack of participation in decision-making

Theories of poverty measurement

1. Absolute Poverty

This concept seeks to distinguish between the rich and the poor by employing the poverty line which portrays a human's minimum standard of living. At present, this can be measured the minimum wage, minimum food intake and basic needs.

Rowntree *et al.* (1950) were the very first scholars who initiated the study of poverty. During that time, poverty signified any household which couldn't gain adequate revenue to satisfy their basic needs. To evaluate this revenue, minimum nutrition intake based on age and sex was calculated. Afterwards, the minimum nutrition intake was converted to monetary terms. This revenue was called the 'minimum nutrition need' or the 'minimum budget for food provision'.

Mehdi Krongkaew(1994) created the New Poverty Line for 1988. Afterwards, the Office of the National Economics and Social Development Board launched numerous Poverty Lines by collaborating with Deloitte &Touche Management Consultants (1995) and Methee and Kakwani (1998). These Poverty Lines became the official poverty line. Despite the fact that each poverty line differed in figures, they all established fundamental criteria of poverty estimation based on nutrition need.

2. Relative Poverty

The theory compares the income of people from different groups to examine revenue distribution. Poverty can be defined by determining the percentage of the distribution which be called the first type of Relative Poverty. This method shows that even in rich societies there are also poor people. The second type can be defined by the percentage of the average income per capita. For example, the income per capita is 15,000 THB. It can be determined that those with revenues lower than 50% of it (7, 500 THB) are classified as poor.

Index of Poverty Measurement

To measure the proportion of the poor, this can be done by examining the number of those earning less than the Poverty Line. These figures show the proportion of the poor from total population. Such method, which is the basic index to measure poverty, can be used to merely specify the Head Count Ratio but not its intensity.

$$P_0 = \frac{q}{n}$$

P0 Head Count Ratio

q Number of people whose income are below the Poverty Line

N Total Population

LITERATURE REVIEW

Manatchanok Rattanathammaporn (2002) conducted a research about the rate of unemployment and inflation in Thailand during 1986 to 2000 which caused unequal revenue and lead to poverty. The author employed the Multiple Regression Analysis via Ordinary Least Squares (OLS). Results revealed that unemployment and inflation significantly affected the ratio of the poor, increasing poverty.

Later on, Methee Krongkaew, Suchittra Chamnivickorn, and Isriya Nitithanprapas (2006) focused on the relationship between economic growth, employment, and poverty reduction in Thailand during 1980 to 2002. Their results show that economic growth leads to poverty reduction by increasing employment

and production. Other studies in this domain include the one of agricultural household in Thailand conducted by Sanirat Kaewmee and Prapinwadee Sirisuphalak (2007) and the relationship between poverty and economic factors of Thailand by Pawitra Kabilpatara (2012).

Also, there are many works conducted in other countries which study the determinants of poverty. Peter G. Warr (2001) analyzed the relationship between poverty reduction and the growth in various sectors including the service, agricultural, and industrial sectors in South East Asia. Warr used Time Series data of the head count ratio of Thailand, Indonesia, Malaysia, and the Philippines during 1960 to 1990 in both urban and rural areas. In addition, he used the Pooled Data method to find economic factors that affect poverty. Results proved that poverty reduction is due to growth in the service and agricultural sector, but not the industrial sector. These results are similar to those found in India.

The result of a study conducted by Warr and Wang (1999) in Taiwan reveals that growth in the industrial sector is important for the reduction of poverty. This difference from his earlier study could be due to the role of industrial policies.

Furthermore, Peter Warr (2002) looked at economic recovery and poverty reduction in Thailand. He examined the relation between poverty, economic growth, and inflation. Results show that rapid growth and the reduction of inflation help reduce poverty rate in this specific year.

Anil B. Deolalikar (2002) analyzed the effects of economic growth and changes in income distribution on poverty reduction in Thailand during 1992 to 1999. The author pointed out that high income growth significantly leads to poverty reduction. On the other hand, an increase in income inequality causes poverty to increase and decreases the aspects of future economic growth.

Pradeep Agrawal (2007) examined the relation between economic growth and poverty reduction in Kazakhstan during 1998 to 2003. Results showed that provinces with high economic growth significantly led to poverty reduction as it increases the rate of employment and higher real wage.

Rashid Mehmood and Sara Sadiq (2010) conducted a research in Pakistan in order to examine the relation between government budget deficit and poverty during 1976 to 2010. Results showed a negative relation between government expenditure and poverty; higher government expenditure leads to lower poverty.

Muhammad Irfan Chani *et al.* (2011) conducted a study on the relation between poverty, inflation, economic growth, investment and trade openness in Pakistan during 1972 to 2008 via finding co-integration. They explained that in the long run, economic growth and higher investment causes poverty to decrease significantly while an increase in inflation led to opposite results. In addition, trade openness is insignificant. In the short run, economic growth had a significant negative effect while inflation had a positive effect. In contrast, investment and trade openness are insignificant.

John Anyamwu *et al.* (2013) conducted a research by using *Cross-Section Time Series* to study the forms of inequality, economic growth, and income inequality in the Middle East and North Africa during 1985-2009. Results showed that income inequality causes economic growth to decrease and increased poverty in the region. Other factors which caused poverty were foreign direct investment, population growth, inflation, and the number of those who completed compulsory education. Furthermore, factors which decrease poverty are domestic investment, trade openness, exchange rate, income per capita, and oil rent.

3. RESEARCH METHODOLOGY

Data Collection

This research was conducted based on Secondary Data from various sources including:

1. **Head Count Ratio** (collected from the Socio-Economic Survey of the National Statistical Office and evaluated by the Social Data-based and Indicator Development Office of the National Economic and Social Development Board: 2004 - 2013) This data is calculated by dividing the number of people whose consumption expenditure is below the Poverty Line with the total population and multiply by 100.
2. **Gross Provincial Product at Current Market Price per capita** (collected from the Office of the National Economic and Social Development Board, The Prime Minister Office: 1996 - 2013).
3. **Unemployment Rate** (collected from the Statistical Forecasting Bureau, the National Statistical Office: 2004 - 2013) We use the total unemployment rate which includes both male and female. It can be calculated by dividing the number of unemployed with the labor force and multiply by 100.
4. **Core Inflation** (collected from the Bureau of Trade and Economic Indices, the Ministry of Commerce: 2004 - 2013) This data is calculated by excluding fresh food and energy from the headline Consumer Price Index.
5. **Provincial Budget** (collected from the Bureau of Budget, the Ministry of Finance and from the Ministry of Interior, 2004 - 2013) This data also includes the budget for poverty eradication and the budget for conflict resolution in the Southern border provinces.
6. **Number of Insurgencies** (collected from the Deep South Watch, 2004-2013).

Model

In order to examine factors which determine poverty in the Southern border provinces of Thailand, we employ the Panel Data method. The model is as follows:

$$\text{POV} = f(\text{GPP}, \text{UNEM}, \text{INF}, \text{BUDG}, \text{INSU}) \text{ Where}$$

POV is Poverty (%)

GPP is Gross Provincial Production (Baht)

UNEM is Unemployment Rate (%)

INF is Inflation (%)

BUDG is the Annual Budget for Provincial Administration (Baht)

INSU is the Insurgency (number of times)

The extended form can be written as:

$$\ln(\text{POV}) = \beta_0 + \beta_1 \ln(\text{GPP}) + \beta_2 \ln(\text{UNEM}) + \beta_3 \ln(\text{INF}) + \beta_4 \ln(\text{BUDG}) + \beta_5 \ln(\text{INSU}) + \mu$$

Table 2
Research hypothesis

<i>Independent Variable</i>	<i>Hypothesis</i>
Gross Primary Production (GPP)	An increase in GPP decreases poverty
Unemployment (UNEM)	An increase in unemployment increases poverty
Inflation (INF)	An increase in inflation increases poverty
Budget Distribution per province (BUDG)	An increase of the annual budget decreases provincial poverty
Insurgency (INSU)	An increase in insurgency increases poverty

4. RESULTS

Unit Root Test

As there is a chance that the Time Series Data will be non-stationary, there is a need to conduct the *Unit Root Test* so as to make the analysis more precise. We follow the process done by Levin Lin and Cu. The result is as follows:

Table 3
Result of Unit Root Test

<i>Independent Variable</i>	<i>Result</i>
POV	Non-Stationary
Gross Primary Production (GPP)	Non-Stationary
Unemployment (UNEM)	Stationary
Inflation (INF)	Stationary
Budget Distribution per province (BUDG)	Stationary
Insurgency (INSU)	Stationary

According to the test, POV and GPP are both non-stationary. Hence, we take the First Difference of the variables in order to make them stationary. The corrected model is displayed below.

$$\Delta \ln(\text{POV}) = \beta_0 + \beta_1 \Delta \ln(\text{GPP}) + \beta_2 \ln(\text{UNEM}) + \beta_3 \ln(\text{INF}) + \beta_4 \ln(\text{BUDG}) + \beta_5 \ln(\text{INSU}) + \mu$$

The Model

The results of the panel data fixed-effect model are as follows:

In addition, we conduct the test for multicollinearity via the Pearson correlation coefficient and find no problem among independent variables.

Dependent Variable: DLOG(POV)
 Method: Panel Least Squares
 Sample (adjusted): 2005 2013
 Periods included: 9
 Cross-sections included: 4
 Total panel (balanced) observations: 36

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.237318	0.903149	3.584476	0.0013
DLOG(GPP)	-0.921234	0.350815	-2.625982	0.0141
LOG(UNEM)	0.352843	0.112727	3.130072	0.0042
LOG(INF)	-0.048357	0.047118	-1.026284	0.3139
LOG(BUDG)	-0.187892	0.041617	-4.514835	0.0001
LOG(INSU)	0.073870	0.064696	1.141806	0.2636

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.654435	Mean dependent var	-0.090946
Adjusted R-squared	0.552045	S.D. dependent var	0.338655
S.E. of regression	0.226660	Akaike info criterion	0.081585
Sum squared resid	1.387116	Schwarz criterion	0.477465
Log likelihood	7.531473	Hannan-Quinn criter.	0.219757
F-statistic	6.391606	Durbin-Watson stat	2.497784
Prob(F-statistic)	0.000114		

Picture 1.6: Result of Panel Data - Fixed - Effect Estimation Model

Table 4
 The correlation between independent variables

	DLOG(GPP)	LOG(UNEM)	LOG(INF)	LOG(BUDG)	LOG(INSU)
DLOG (GPP)	1.000	0.1291	-0.1435	0.4208	0.0157
LOG (UNEM)	0.1291	1.0000	0.0267	0.2846	0.1331
LOG (INF)	-0.1435	0.0267	1.000	-0.0897	-0.0289
LOG (BUDG))	0.4208	0.2846	-0.0897	1.0000	-0.1062
LOG (INSU)	0.0157	0.1331	-0.0389	-0.1062	1.0000

In terms of *Heteroscedasticity*, the result shows a probability value of 0.2004 which is more than 0.05 (95% confidence interval). This implies that the null hypothesis H_0 cannot be rejected. In other words, there is no *Heteroscedasticity* issue.

In terms of testing for *Autocorrelation*, we use the Durbin-Watson Statistics mby comparing it with the critical values shown in the Durbin-Watson table. The conditions are

- If $d_L > D.W. > 4-d_U$ The null hypothesis (H_0) is rejected which implies Autocorrelation.
- If $4-d_U > D.W. > d_U$ The null hypothesis (H_0) is accepted which implies no Autocorrelation.

After testing the model, we find the Durbin-Watson statistic is 2.497784. According to the Durbin-Watson table, when $n = 40$ and $k = 5$, $d_L = 1.230$ and $d_U = 1.786$. Thus, it can be concluded that $2.497784 > 1.786$; the null hypothesis accepted and there are no problems with Autocorrelation.

By running the regression, results show that there are three variables which are statistically significant: Unemployment Rate, Budget for Provincial Administration, and Gross Provincial Product. The first two variables are significant at the 99% confidence interval while the third variable is significant at the 98% confidence interval. Inflation and insurgency are, however, insignificant. Results are displayed in table 5.

Table 5
Result of the Fixed - Effect mode

<i>Variable</i>	<i>Fixed-Effect Model</i>
Constant	3.237318 (3.584476)
$\Delta \log(\text{GPP})$	-0.921234 (-2.625982)**
$\log(\text{UNEM})$	0.352843 (3.130072)***
$\log(\text{INF})$	-0.048357 (-1.026284)
$\log(\text{BUDG})$	-0.187892 (-4.514835)***
$\log(\text{INSU})$	0.073870 (1.141806)

$$\Delta \ln(\text{POV}) = 3.237318 - 0.921234 \Delta \ln(\text{GPP}) + 0.352843 \ln(\text{UNEM}) - 0.048357 \ln(\text{INF}) - 0.187892 \ln(\text{BUDG}) + 0.073870 \ln(\text{INSU})$$

(3.584476) (-2.625982) ** (3.130072) *** (-1.026284) (-4.514835) *** (1.141806)

Note: each value in parenthesis shows the t-statistic

**with statistical significance at a 98 percent confidence interval

*** with statistical significance at 99 percent confidence interval

In sum, GPP, unemployment, inflation, provincial budget, and insurgency can explain 65 percent ($R\text{-squared} = 0.654435$) of poverty in the Southern border provinces of Thailand. When other variables are made constant, if GPP is increased by 1%, the Head Count Ratio will decrease 0.921234%. When the total value of final goods and services produced in the Southern border provinces or the revenues from various production factors such as wage, land lease, interest, and profit rise, this leads to economic growth via the increase in household revenue. When households have more income, they have the ability to consume more than the minimum nutrition requirements.

On the contrary, when other variables are constant, a 1% increase in the unemployment rate would cause the Head Count Ratio to increase by 0.352843%. Higher unemployment means more lost in jobs and a decrease in income causing more people to be below the poverty line and hence the Head Count Ratio increases.

Furthermore, when other variables are constant, a 1% increase in the provincial budget allocation will decrease poverty by 0.187892% as this includes the budget for poverty eradication and the budget for conflict resolution in the Southern border provinces.

5. DISCUSSION

The Thai government has aimed to design development policies in each region that align with the cultural and religious values of people. Besides Islamic banking and the Halal industry, Zakat could be an important tool to reduce poverty in the four Southern border provinces. Zakat, a type of religious giving, is one of the five pillars of Islam. It is a cornerstone of the Islamic economic system and the most important fiscal and distributive mechanism in the economy. Zakat is paid by Muslims who own wealth or income above a certain threshold. As for how much is to be paid depends on the type of wealth. It shares with taxation the aim of achieving social and economic objectives especially towards poverty and income inequality. Where they differ is that taxation is mandatory while Zakat is voluntary depending on one's level of religious belief. It can be paid to an organization or directly to the eight groups of people including the poor and needy, employees of Zakat administration, new Muslims, slaves, debtors, Islamic missionaries, and the wayfarer. It is important to note that Zakat can be spent by the state as an alternative to debt financing. It was actually one of the major sources of revenue during the time of Prophet Mohammad.

Several Muslim countries including Saudi Arabia, Libya, Jordan, Bahrain, Pakistan, Kuwait, Sudan, Yemen and Malaysia enacted laws of Zakat. Although these countries mostly provide only a voluntary collection of Zakat, the fact that legislations are launched and government organizations are created for the collection and distribution of Zakat is a significant indication that Muslim countries are recognizing the importance of reinstating Zakat as a socio-economic phenomenon. A study by Ahmed (2008) finds that the total collection of Zakat in certain Muslim countries were only around 0.01-0.3 percentage of GDP but could potentially reach up to 1.8-4.3 percentage of GDP. In addition, in countries where Muslims are not the majority but a sizeable minority, Zakat as an institution may also play a role. An interesting example could be the Southern border provinces of Thailand.

The unrest in the three southernmost provinces of Thailand – Narathiwat, Pattani and Yala – and four Malay speaking districts of Songkhla that erupted at the beginning of 2004 is not a stranger to Thai society. The majority of the population in the area is of the Malayu ethnic group whose religion is Islam whereas around 90% of Thailand's populations are Buddhists. The causes of the problem are believed to be past political conflicts between Pattani and Bangkok, the religious gap, unfair treatment of the local people who are mostly of the Malay ethnic group, criminals and, more or less, the socio-economic inequality between people in the area and the rest of the country.

Among other things, many Thai governments believe that poverty reduction is a key solution (Sarntisart, 2005). Economic growth is believed to be a very critical development indicator. But it was only the pre-1996s period where economic growth in the three provinces went, more or less, in harmony with other provinces of Thailand. After the 1997 economic crisis, while the average of the South showed signs of economic recovery, the three provinces as well as other parts of the country were still in recession. The poor growth performance of the three provinces has significant consequences on income, including that of the poor. The distribution of economic benefit among people living in the areas is another factor. Inequality in the distribution of benefit of growth can be a very important cause.

The income gap between the three provinces and other parts of Thailand drastically widened. The per capita GPP of the three provinces that was nearly 60% of the national level in 1981 went down continuously to less than 50% of the national level. This widening income gap points to the deterioration of the average living standards of people in the three provinces in relation to people living in other areas of the country.

Furthermore, the performance of Narathiwat, Pattani and Yala in poverty reduction was critically poor. After the crisis, less than 19% of the population living in the three provinces was brought out of poverty. Over the same period, nearly 20% and more than 28% of the population of Songkhla and Phuket, and other provinces in the South went out of poverty. This calls into question the causes of the poor performance and development strategies, and resources considered to be appropriate to the areas.

The Thai government has been trying to come up with policies to solve these issues. Thailand has established an Islamic bank since 2002. In addition, the Zakat Fund Promotion Act was initiated and drafted by the Well-being Promotion for Muslim Thais Program under the support of the Thai Health Promotion Foundation. The Act is expected to promote the setting and the operation of community Zakat funds in all Muslim communities in Thailand, to alleviate poverty and to reduce the government burden in poverty reduction. It went through serious critiques and long legal process. There is, however, a lack of economic modeling to truly understand the impact of Zakat on the three Southern border provinces and the country as a whole if it were to be implemented in the area. Hence future research on this topic is necessary.

6. CONCLUSION

As poverty is one of the major obstacles for a country's economic development, there have been various attempts to study it in different aspects including its cause and the policies to decrease it. This study is aimed to examine factors which determine poverty in the three southern border provinces of Thailand which are Pattani, Yala, Narathiwat, and Songkhla. These factors consist of the gross provincial product (GPP), rate of unemployment, inflation, annual budget for provincial administration, and insurgency. Panel data used in the study covers the period from 2004 to 2013 and the analysis is conducted by employing the Fixed Effect Model. Results show that an increase in GPP and the annual budget for provincial administration decreases the Head Count Ratio significantly while an increase in unemployment has the opposite effect. Inflation and insurgency, however, have no significant impact.

For future research, we suggest the study could be developed in the following directions. First, the population could be disaggregated in terms of race (Malay and Thai) or religion (Muslims and Buddhists) in order to see how the results differ. Second, as the Northeastern region of Thailand has the highest poverty level, a study to compare the region with the Southern border provinces could lead to interesting policy implications. Third, as the Thai government aims to design development policies that align with cultural and religious values of people, there is a need to conduct a thorough research on the impact of Zakat on poverty in the context of the Southern border provinces and the design of this religious giving as an alternative fiscal policy.

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The Determinants of Poverty in the Four Southern Border Provinces of Thailand

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