ETHNICS INCOME INEQUALITY IN THE THREE SOUTHERNMOST PROVINCES OF THAILAND

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Abstract

This study investigates income inequality between Malay ethnic and other ethnics in the three southernmost provinces of Thailand – Yala, Pattani, Narathiwat. The result showed that Malay ethnic variable has a significantly negative relationship with income even after control for age, gender, year of schooling, marital status, urbanity, industry and occupations in the ordinary least square model. Using quantile regression to reveal situation along the distribution found that the impact of being Malay ethnic is more negative among those in the lower quantile. The study also applied the Oaxaca-blinder decomposition technique to measure how much of the income gap between Malay and non-Malay ethnics belongs to the explained part (differences in characteristics) and the unexplained part (differences in return to characteristics or discrimination effect) – this part is including effect of unobserved characteristics. The finding showed that 47 percent of the gap is attributed to explained part, and the most influential factors are occupation and education. On the other hand, age or experience variable has the highest impact in unexplained part of income gap. Briefly, Non-Malay group has better endowment and get higher return to their characteristic

Key words: Inequality Measurement, Labor Discrimination, Economics of Minorities

Introduction

Inequalities and discriminations among groups are pointed out as one of causes that lead to unrest and incentive to participate the movement in the Deep South provinces of Thailand. However, very few researches go further than comparing average income between ethnics. This study tries to figure out the relationship of ethnic and income when controlling relevant factors that could affect income - age, gender, marriage status, years of schooling, education level, urbanity, occupation and industry. Rather than measuring only at mean, quantile regression will be applied to investigate income inequality in various percentile of population. The most important part is to reveal how much of the income gap can be explained by characteristic difference, and how much of the gap is left unexplained.

Unlike other parts of Thailand, a majority population of the three southernmost provinces is Malay ethnic (70 to 80 percent). The rest includes Thai, Chinese, Thai-Muslim and Indian ethnics which are more assimilated to Thai culture and speak Thai as their first language. But Malay ethnic still keep their own identity; Salam (2009) cited out three important components of Malay ethnic are Islam religion, Malay language (Yawi) and culture. Having Yawi as a first language, a number of them are not fluent in Thai which the official language of Thailand, and leads to disadvantage in labor market.

Many researches emphasize that Malay ethnic has average lower income than other ethnics without considering characteristic differences between groups. According to table 1, Malay earn two times less than non-Malay ethnics and concentrated in agricultural sector that earn lower than other sector, while non-Malay ethnics are more concentrated in services sector that earn higher. Selwey (2007) is the only paper that investigated the relationship between ethnicity and level of income in Thailand when controlling for income-relevant variables. Using the Democratization and Value Change in East Asia (DVCEA) survey data in 2001, he concluded that being Malays was not significantly related to income but has a negative effect on income through levels of education, urbanity, and formal civil society factors. It is possible to have a multicollinearity problem since he included both ethnic and religion variables which have correlation more than 0.9 for Malay ethnic.

Table 1 Descriptive statistic by ethnic groups in the three southernmost provinces of Thailand in 2006

Variable	Non-Malay		Malay	
	Mean	S.D.	Mean	S.D.
Income (Baht/Month)	10,596	10,863	5,183	10,981
Age	41.50	12.48	39.95	13.18
Female (=1 if not =0)	0.46	0.50	0.41	0.49
Married (=1 if not =0)	0.68	0.47	0.76	0.43
Rural (=1 if not =0)	0.46	0.50	0.85	0.36
Years of education	10.09	4.94	6.81	3.68
Industry (=1 if not =0)				
Agro food	0.23	0.42	0.49	0.50
Consumer	0.17	0.37	0.15	0.36
Financials	0.01	0.10	0.00	0.04
Industrials	0.08	0.27	0.11	0.32
Construction	0.06	0.24	0.07	0.25
Resources	0.01	0.09	0.00	0.05
Services	0.45	0.50	0.17	0.38
Observations	700		1,369	

Note: Use survey weight to calculate mean.
Source: Author's estimation using Thai SES 2006 by National Statistical Office (NSO).

This study will reexamine relationship between ethnicity and income using Socio Economics Survey (SES) data of Thailand. If being Malay ethnic has significantly negative impact on income, the next step is to speculate differential of income between ethnics groups with Oaxaca-Blinder decomposition model. The model provides explanation on what factors are related to income gap, and whether ethnic bias exists in the labor market. In addition, quantile regression will be applied to investigate situation along the distribution.

Defining Discrimination

There are two types of inequalities – vertical and horizontal inequalities. Vertical or within group inequality is concerned about the difference between rich and poor people in the same group. Horizontal or between group inequalities is trying to measure the difference outcome among groups. This study interested in the second type of inequalities because inequality between permanent group such as gender, ethnic and religion is possibly leads to violent conflict. Moreover, the social that have between groups inequalities, especially by discrimination will have less efficiency (Stewart, 2009).

In labor market, discrimination is said to be exist when equal productivity labors have different wage and opportunities to entry in the same job. The concept to explain discrimination with employer preference was developed by Becker (1957) called taste discrimination. He suggested that employer who is prejudiced will have a segregated work force and have higher costs if labors are equally productive. In perfect competition market, discrimination firm will be replaced by non-discriminating firms and will have no wage gap. Another framework was propose by Phelps (1972) and Arrow (1973) known as statistic discrimination. The employer will use explicit characteristic such as gender or race average productivity to "statistically discriminate" applicants if cost of determining productivity of individual is higher than the benefit. However, the human capital theory suggested that there is no discrimination. Income difference is the causes by the differences in 'human capital' investment – education, training and work experience, and the differences in family background – parental education and occupation, home environment and school. Loads of econometric test control human capital and relevant factors still found unexplained residual or wage gap. In this study, covering all human capital factors cannot be committed due to the data available.

Data and Methodology

The data used in the empirical part are from Thailand Socio-economic Survey (SES) in 2006[1] which is the first year that religion and language spoken in household was collected. Population will be defined as Malays ethnic if they speak Malay in household and practice Islam. In order to investigate an ethnic income gap, the unit used will be an individual whose age is 15 years old and over. Note that Thai workers can work legally at the age 15.

This study will use the following methods to investigate income inequality between Malay and non-Malay ethnics in the 3 southernmost provinces of Thailand:

(1) Ordinary Least Squared (OLS) Regression

Firstly, uses an OLS model to examine whether Malay ethnic earn lower income if relevant variables, namely age, gender, marriage status, years of schooling, education level, area of living (urban or rural), industry that working in, and occupation are controlled. The model can be expressed as follows:

$$\ln(\text{income}) = \beta_0 + \beta_1\text{malay} + \beta_2\text{age} + \beta_3\text{age}^2 + \beta_4\text{schooling} + \beta_5\text{female} + \beta_6\text{rural} + \beta_7\text{industries} + \beta_8\text{occupation} + u$$

The model is possibly suffered from omitted variable bias since some factors such as ability and quality of education are unobserved.

(2) Quantile Regression
The same variables as the OLS regression will be used to estimate at 10^{th}, 25^{th}, 50^{th}, 75^{th} and 90^{th} quantiles to analyze ethnicity and income along the distribution.

(3) Oaxaca-Blinder Decomposition
The Oaxaca (1973) and Blinder (1973) has developed a decomposition method to determine the gender earning gap and examine the discrimination in labor market against female workers. The technique is wildly used to estimate the labor market outcome between two groups, such as gender (male and female) and race (black and white).
Given subscript n for a non-Malay group, subscript m for a Malay ethnic group, w is an outcome variable (log of income), and X is a vector of individual characteristics. The separate equations for non-Malay and Malay ethnic can be written in a reduced form as follows:

$$\ln w_n = \beta_n X_n + \varepsilon_n ,$$

and $$\ln w_m = \beta_m X_m + \varepsilon_m$$

Therefore, the difference in income between non-Malay and Malay is ($\ln w_n - \ln w_m$) and can be expressed as

$$E(\ln w_n) - E(\ln w_m) = E(\beta_n X_n) - E(\beta_m X_m) + E(\beta_n X_m) - E(\beta_n X_m)$$

or $$E(\ln w_n) - E(\ln w_m) = (EX_n - EX_m)'\beta_n + EX_m'(\beta_n - \beta_m)$$

The first terms $(EX_n - EX_m)'\beta_n$ is characteristic difference between non-Malay and Malay with non-Malay coefficient, or the income gap that cause by "characteristic effect" called explained part. The second term $EX_m'(\beta_n - \beta_m)$ is the difference between coefficient of non-Malay and Malay with Malay characteristic, or the income gap that cause by "coefficient effect" called unexplained part. This part is including unobserved characteristic, then signaling this part as discrimination effect should be careful.

[1] The results have the same direction throughout the years.

Results

(1) Ordinary Least Squared Regression:

The OLS result in model 1 of table 2 suggests that being Malay ethnic is significantly reduce expected income by 38.6 percent even when controlling for factors that related to income. The age, marriage status and urbanity variables have non-statistically significant effects on income in the Deep South provinces of Thailand. A year of education gives 3.5 percent higher income but being female lead to 25.8 percent lower income than male on average.

It is important to note that many important variables that determine the level of income are unobserved such as education quality, Thai language fluency, and ability. Then the result compare Malay and non-Malay ethnics who do not have exactly the same characteristic, but most likely. Since Malay ethnic way of life is dissimilar to the Chinese and Thais that could also affect income, excluding those factors left the effect appear in ethnicity variable. For example - quality of education which is highly affected to earning has not been including. And parents in Malay ethnic is more likely to send their children to private Islamic schools which is comparatively academics disadvantage (Office of the Education Council, 2011), so this different still appear in Malay ethnic variable in the ordinary least square and quantile regression results.

(2) Quantile Regression

The results in Model (2) to (6) of table 1 showed that being Malay ethnic in has significantly negative related to income for the whole distribution. At 10^{th} quantile Malay ethnic with equal characteristic as non-Malay would gain 64 percent lower income, while income of Malay ethnic at 90^{th} quantile is only 34.3 percent lower. Moreover, quantile regression showed that one year of education give higher return in the richer group.

Table 2 Ordinary least squared and quantile regression results

VARIABLES	(1) OLS	(2) q10	(3) q25	(4) q50	(5) q75	(6) q90
malay	-0.386**	-0.640***	-0.443***	-0.419***	-0.387***	-0.343***
	(0.050)	(0.090)	(0.057)	(0.043)	(0.043)	(0.064)
age	0.060	0.102***	0.064***	0.054***	0.058***	0.055***
	(0.021)	(0.032)	(0.016)	(0.010)	(0.011)	(0.011)
age2	-0.001	-0.001***	-0.001***	-0.001***	-0.001***	-0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
schooling	0.035**	0.026**	0.031***	0.031***	0.032***	0.034***
	(0.006)	(0.011)	(0.009)	(0.004)	(0.007)	(0.009)
female	-0.258*	-0.267***	-0.290***	-0.252***	-0.278***	-0.320***
	(0.077)	(0.067)	(0.048)	(0.036)	(0.063)	(0.092)
married	0.213	0.146	0.168***	0.190***	0.147***	0.108**
	(0.158)	(0.101)	(0.036)	(0.043)	(0.041)	(0.047)
rural	-0.053	-0.143*	-0.020	-0.046	0.023	0.016
	(0.123)	(0.074)	(0.046)	(0.046)	(0.038)	(0.048)
Constant	7.061***	5.889***	6.804***	7.283***	7.553***	7.974***
	(0.410)	(0.580)	(0.348)	(0.177)	(0.231)	(0.283)
R-squared	0.320					

Notes: 1. *** p<0.01, ** p<0.05, * p<0.1, Robust standard errors in parentheses (clustered for provinces in OLS regression).

2. There are 1,818 observations

3. Controls for occupations and industries.

Source: Author's estimation using Thai SES 2006 by NSO.

(3) Oaxaca-Blinder Decomposition

The decomposition results suggest that ethnic income gaps are more attributable to the effects of the coefficient (or returns to characteristics). While positive of aggregate characteristic imply that non-Malay ethnics have significantly greater endowment.

The decomposition results show that non-Malay ethnics' log of income is 0.73 higher than Malay ethnic. The gap can be divided in to two parts; the explained part accounts for 0.35 or 47 percent of the gap is caused by difference in endowment, the unexplained part accounts for 0.39 or 53 percent of the gap that cause by unobservable factors. The second part is also known as the different return on characteristic and discrimination effect.

In detail decomposition of explained component, occupations accounts for the largest part (46 percent) implied that Non-Malay ethnics are working in occupations that give higher income more than Malay ethnic. The next is education with 0.12 log of income or 34 percent indicates the higher average years attending school by non-Malay ethnics. Only gender and married status are Malay advantage characteristics – female is negatively related to income and Malay has less female than non-Malay, while married status is positively related to income and Malay has higher number of married.

In the unexplained gap, the most influential component is age as a proxy of experience means that Non-Malay ethnics have higher return to their experience. This section holds an effect of unobserved characteristic and discrimination effect. Age might not perfectly represent experience since Malay worker is more likely to drop their work for family reason (author interview). Malay at the same age of and non-Malay might have lower experience and get lower paid. For schooling variable, unobserved education quality lead to overestimate in unexplained part of schooling variable.

Table 3 Oaxaca-Blinder Decomposition results

Log of non-Malay income = 8.907
Log of Malay ethnic income = 8.176
Income gap = 0.731

	Explained		Unexplained	
Independent Variables	Coef.	% of Income Gap	Coef.	% of Income Gap
age	0.0342	9.92	1.3418	347.29
schooling	0.1170	33.91	0.2307	59.70
female	-0.0212	-6.14	-0.0131	-3.39
married	-0.0140	-4.05	-0.0317	-8.20
rural	0.0215	6.22	-0.1068	-27.64
industry	0.0481	13.95	0.0735	19.03
occupation	0.1594	46.20	0.0806	20.87
constant	-	-	-1.1887	-307.67
Total	0.3450	47.17	0.3864	52.83

Source: Author's estimation using Thai SES 2006 by NSO.

Discussion and conclusion

The research attempts to examine income inequality between ethnics in the three southernmost provinces of Thailand. The statistics show that Malay ethnic has two times lower income than non-Malay ethnics. They also have many disadvantage characteristics such as lower education on average, more concentrated in rural area and in lower paying occupations. The ordinary least square regression is used to control other relevant characteristics, and the outcome suggested that Malay ethnic really earn less even when they own the same characteristics with non-Malay ethnics.

It is important to note that some relevant factors such as education quality are unobserved, so the effect of Malay ethnic is probably overestimated. Applying quantile regression to investigate situation along the distribution found that being Malay ethnic reduce income in every quantile, and higher magnitude found in the lower quantile.

Using Oaxaca-Blinder decomposition to figure out what are the factors that cause income gap between Malay ethnic and non-Malay ethnics showed that half of the wage differentials can be explained by observed characteristics of Ethnic Malays. Ethnic Malays are more likely to have characteristics that are negatively correlated with income, and are less likely to have characteristics that are positively correlated with income. However, the estimation result still shows that a significant proportion of the wage differential is not due to the controlled characteristics. We believe that the unexplained wage differential is not entirely accounted by discrimination. Some possible unobserved variables that can possibly account for this differential are cultural differences.

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