WAGE INEQUALITY AMONG MYANMAR IMMIGRANT AGRICULTURAL WORKERS IN THAILAND

by

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ABSTRACT

Myanmar is the largest migration source country in the Greater Mekong Sub region. Thailand is the major destination for immigrants in mainland Southeast Asia, and Myanmar immigrants are the most populated in Thailand in every sector. Myanmar immigrants generally receive less or often far less than the minimum wage, and their wages vary across demographic and job characteristics. This paper aims to shed light on the characteristics of Myanmar immigrants who have been working in agricultural and agro-industry sectors in Thailand, and identifies the relationship between characteristics of immigrant workers and their wages. This study used multiple regression analysis and comparative analysis to analyze interrelationships among variables and focused on the Myanmar agricultural workers who have worked in Tak province in Thailand. The results show that the daily wage and fringe benefits of agro-industry workers were higher than those of farm workers. Legal status, gender and working areas of immigrant also were significantly related to their earnings. Human capital characteristics, such as language skill and education level, also were found to be related to wage of agro-industry workers although they were not related to the wage of farmworkers.

KEY WORDS: Wage inequality, wage differentials, agricultural workers, Myanmar immigrant

INTRODUCTION

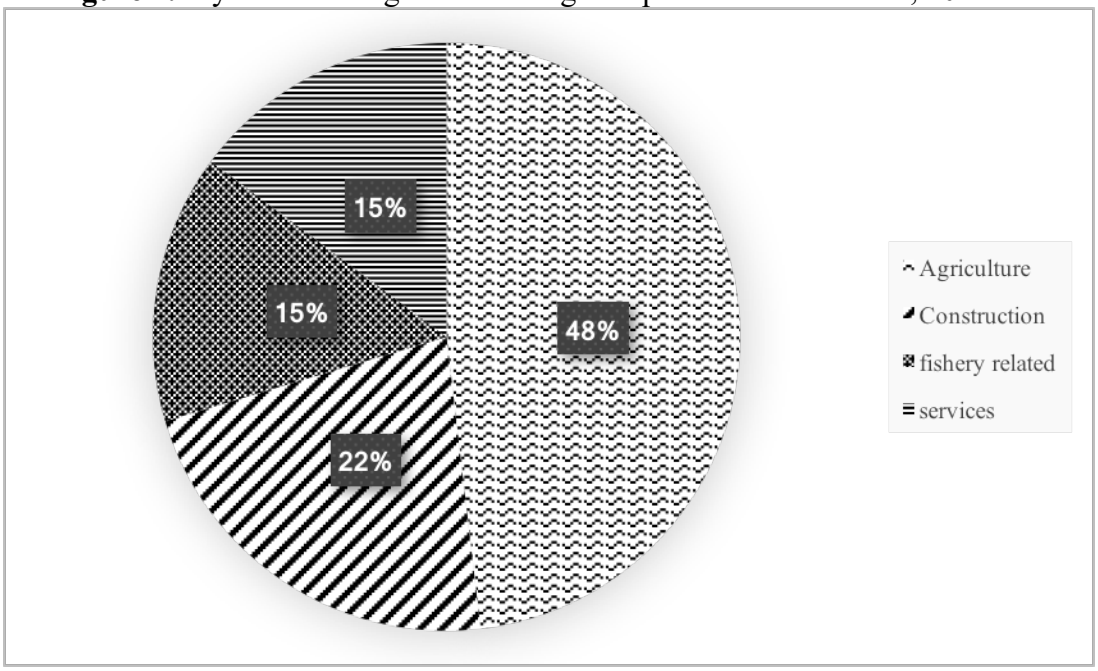
Most people have been migrating from one area to another for their survival, food, land, peace or economic security (Petersen, 1978). About 10% of Myanmar population migrated to other countries due to inability to earn enough money to survive as well as political and/or ethnic conflict (Hall, 2012). About 70% of immigrant workers in Thailand was from Myanmar and was accounted as the largest migration flows (Chantavanich & Vungsiriphisal, 2012). Thailand is one of the largest labor receiving countries, especially low-skilled immigrants in order to update

economic acceleration and labor-intensive industrial sectors. These immigrants were predominately employed in low-skilled jobs in fishing, agriculture, construction, manufacturing, domestic work and other services (Chantavanich & Vungsiriphisal, 2012). The estimated number of immigrants was 350,185 persons by memorandum of understanding (MOU), 964,130 persons by completed national verification and 1,049.326 persons through by one stop services; among them, Myanmar immigrants accounted for 48%, 82% and 42%, respectively (International Labor Organization, 2016). The economic development, better job opportunities are the main pull factors for working in Thailand from the neighboring countries, Myanmar, Laos, and Cambodia (Thet & Pholphirul, 2015). The largest population of immigrants were Myanmar, accounting to about 80% of total immigrants in Thailand (Mon, 2010).

In 2011, immigrant workers from Myanmar in Thailand mainly worked in agriculture, construction and fishing industry (Figure 1), and spread across the country, with the highest concentration in the Central and Northern provinces bordering with Myanmar (Figure 2). Martin (2007) compared the wages of immigrant workers by district, the wages were significantly higher than average wage in southern Thailand because of rubber production districts. Wages can vary depending on their occupational and gender differential (Nielsen et al, 2004; Pozo et al, 2011; Thrane, 2008). In January 2013, Thailand raised the minimum wages to 300 THB/day (about 9USD/day) uniformly regardless of age, gender, industry and nationality. However, immigrant workers in agriculture earned the lowest wage, and female and unregistered immigrants rewarded less than their counterparts (Baron & Lee, 2015). For example, the registered immigrants received more monthly wages about 4000 baht by half compared to unregistered immigrants wages about 1500 baht especially in agricultural sectors in 2004 (Sciortino, 2009). In 2010, while registered immigrants received wages about 6095 baht less than half those of native workers' wages about 13265 baht, female registered immigrants received monthly wages 5264 baht less than immigrants male and native workers (International Labor Organization, 2013). There have been no evidences explaining the cause of wage discrimination among agricultural workers, especially immigrants. Thus, in order to provide appropriate policy implications related to unskilled agricultural workers in Thailand, it is important to explore the characteristics influence wage of agricultural and agricultural-related or agro-industry workers.

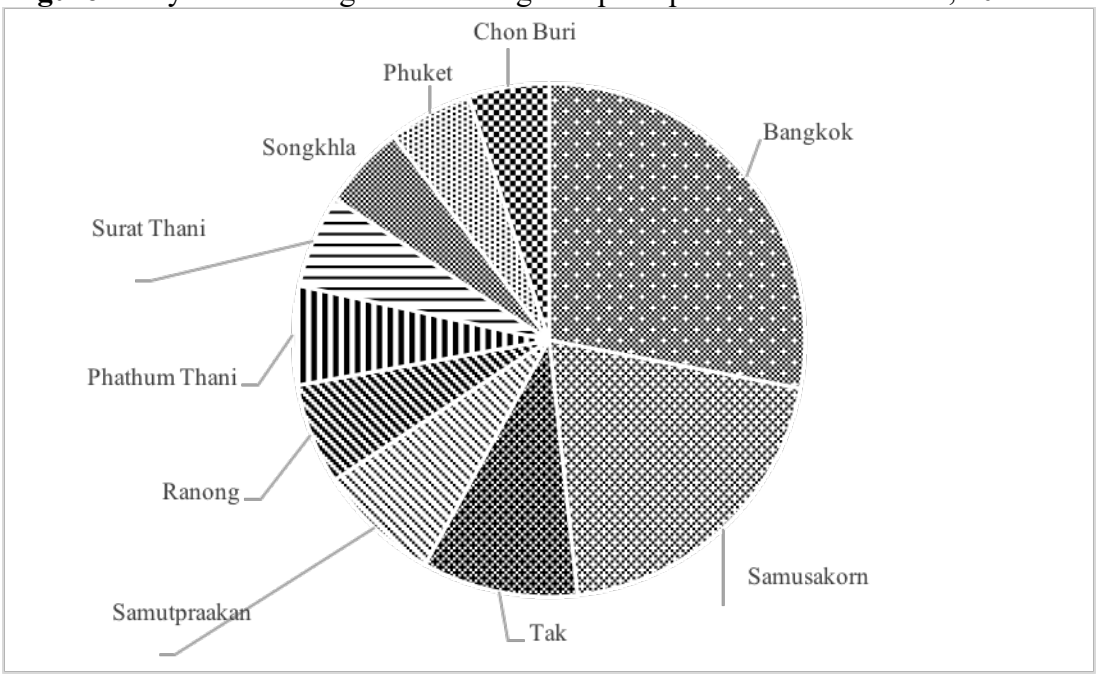
The objective of this paper was to identify determinants of wage inequality among Myanmar immigrants who work in Thailand, especially in agricultural and agricultural-related industries. This study used a comparative analysis of the earning among agricultural workers such as farm workers and agro-industry workers. The survey areas were chosen in Tak province, Thailand. which is one of the top populated areas of Myanmar immigrants, one of a special economic zones in the border areas, and also the first phase of the special economic development zones. Furthermore, agricultural practices in Tak province are still labor-intensive.

Figure 1. Myanmar immigrants working in top sectors in Thailand, 2011.



Source. Chantavanich (2012**)**

Figure 2. Myanmar immigrants working in top ten provinces in Thailand, 2012.



Source. Chantavanich & Vungsiriphisal (2012)

There were many explanations of wage differentials depending on their human capital characteristics, job characteristics, and demographic characteristics. Human capital characteristics, such as education, work experience and language are the most important characteristics of improving immigrants' earnings (Kwon, 2009). Mincer (1997) explained that different wages among workers were due to differences in human capital characteristics. In other words, workers who have greater human capital are associated with greater income and higher salaries. Job characteristics are also one of the reasons for the earnings inequality. For example,

two individuals with the same personal characteristics could have different incomes if they work in different industries or occupations (Pozo, Mera, & Ollero, 2011). Workers who have longer hours of work can improve their wages in the future and receive the promotion. The worked hours is positively related to earnings (Gurung & Bell, 2013). Several of demographic and background characteristics, such as age, gender, race and ethnicity, geographic region, marital status, and legal status are found to influence the immigrant wages (Thrane, 2008).

METHODOLOGY

Empirical model

Previous studies had found that wage differential among immigrants were determined by human capital characteristics, job characteristics and demographic characteristics (Rivera-batiz, 1999) which was taken into account in this study. Daily wages, the dependent variable, were transformed into the logarithm because the highest earnings or the extreme earnings could give misleading outcomes (Dodoo, 1991). Using the logarithm transformation reduced the effect of distribution earnings of different types of workers such as farm workers and agro-industry workers as in equations 1 and 2 (Petersen, 1989).

Human capital, job, and demographic factors including age, gender, daily wage, working time, over time hours, and total fringe benefits reflect skills and knowledge were acquired and valued mainly for their productivity potential in an economic sense (Becker, 1962). The explanation of earnings differentials or inequality was that people of different characteristics received the payment they deserved according to their human capital investments. Within this framework, a great number of studies in labor economics had aimed to disentangle various ways in which earnings or wage differentiation arises (Mincer & Polachek, 1974).

The determinants of wage differentials were included as explanatory variables of the wage model as follows:

$$\begin{aligned}\ln Y_i = a + b_{1i}Edu_{1i} + b_{2i}Exp_{2i} + b_{3i}Speaking_{3i} + b_{4i}Reading_{4i} + b_{5i}Writing_{5i} \\ + b_{6i}Age_{6i} + b_{7i}Gen_{7i} + b_{8i}Married_{8i} + b_{9i}Political_{9i} + b_{10i}Social_{10i} \\ + b_{11i}Economic_{11i} + b_{12i}Job_{12i} + b_{13i}No.Household_{13i} + b_{14i}Legal_{14i} \\ + b_{15i}Area_{15i} + b_{16i}Working\ hours_{16i}\end{aligned} \quad (1)$$

$$\begin{aligned}\ln Y_j = a + b_{1j}Edu_{1j} + b_{2j}Exp_{2j} + b_{3j}Speaking_{3j} + b_{4j}Reading_{4j} + b_{5j}Writing_{5j} \\ + b_{6j}Age_{6j} + b_{7j}Gen_{7j} + b_{8j}Married_{8j} + b_{9j}Political_{9j} + b_{10j}Social_{10j} \\ + b_{11j}Economic_{11j} + b_{12i}Job_{12j} + b_{13j}No.Household_{13j} + b_{14j}Legal_{14j} \\ + b_{15j}Area_{15i} + b_{16i}Working\ hours_{16i} + b_{17i}Overtime\ hours_{17i}\end{aligned} \quad (2)$$

where

$\ln Y_i$ = the natural logarithm of the combination of total fringe benefits and daily wages for i farm workers group

$\ln Y_j$ = the natural logarithm of the combination of total fringe benefits and daily wages for j agro-industry workers group

a = the initial earning capacity

$b_1, b_2, b_3, \ldots\ldots, b_{17}$ are estimator coefficients of explanatory variables in Table 1.

Table 1.

Variables, definition and unit of measurement of wage model

Variables	Definition	Unit of measurement
	Human Capital characteristics	
Edu	Education	0 if no education, 1 if primary school, 2 if middle school, and 3 if high school
Exp	Experience years of working in current job	years
Speaking	Speaking skill of Thai language	0 if very poor, 1 if poor, 2 if normal, 3 if well, and 4 if excellence
Reading	Reading skill of Thai language	0 if very poor, 1 if poor, 2 if normal, 3 if well, and 4 if excellence
Writing	Writing skill of Thai language	0 if very poor, 1 if poor, 2 if normal, 3 if well, and 4 if excellence
	Demographic characteristics	
Age	Age	years
Gen	Gender	0 if female, 1 if male
Married	Marital status	1 if mirage and 0 if other such as single and divorce/window
Political	Political reason is the primary reason to migrate	0 if no , and 1 if yes
Social	Social reason is the primary reason to migrate	0 if no , and 1 if yes
Economic	Economic reason is the primary reason to migrate	0 if no , and 1 if yes
Job	Job creation reason is the primary reason to migrate	0 if no , and 1 if yes
No. Household	Number of immigrant household	persons
Legal	Legal status Legal workers are those who have the work permit documents or temporary residential status.	0 if illegal and 1 if legal status
Area	Immigrant worker working area.	0 if Mae Sot district and 1 if Phop Phra district
	Job characteristics	
Overtime hours	Over time working hours per day	Hours per day
Working hours	Working hours per day	Hours per day

Data

This study focused on Myanmar immigrants who had been working in agricultural and agro-industry sectors in Thailand, especially the main gateway between Thailand and Myanmar i.e., Tak province. Because Tak province is one of the top populated area of Myanmar immigrants, one of a special economic zones in the border areas, and also the first phase of the special

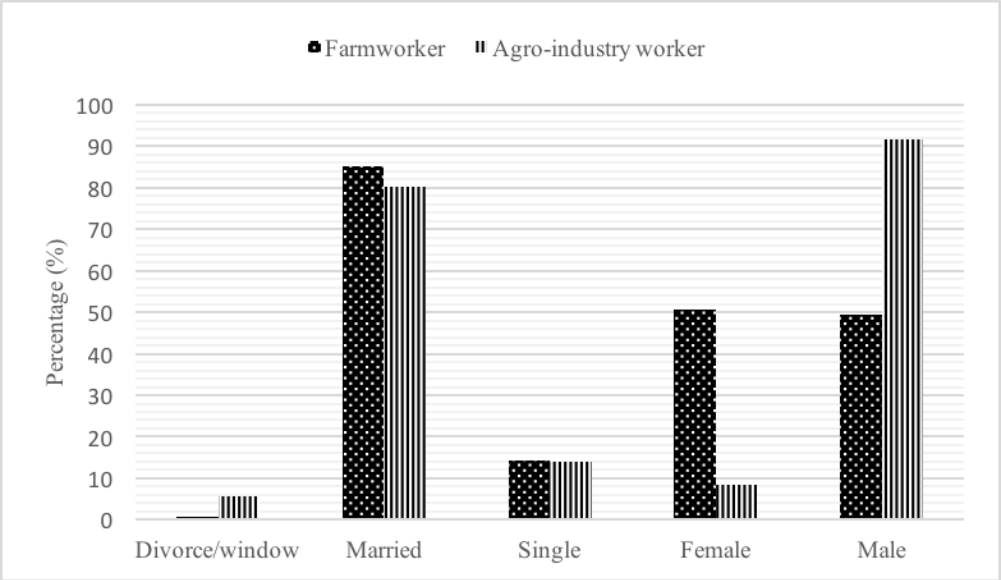
economic development zones. Furthermore, agricultural practices in Tak province are still labor-intensive. Hence, almost hundred Myanmar immigrants were hired for pre-harvest and harvesting activities in Thailand (Kulkolkarn & Potipiti, 2009). Data were collected from the agricultural workers who worked in crop production and agricultural related industries in Mae Sot and Phop Phra districts, Tak Province. Using snowball sampling, the data were collected from a small group of agricultural workers and other participants who had the experience in crop production and agricultural related works in these areas from November to December in 2016. This method was used in response to overcoming the problems related with hidden populations (Faugier and Sargeant, 1997). The snowball sampling method has several advantages in hidden populations such as drug consumers, people with deviant sexual behavior, illegal immigrants, or people working in the black market (Dragan and Isaic-Maniu, 2013). The total sample was 368 persons. Two hundred and sixty-one were farm workers and one hundred and seven were agro-industry workers who worked in the combined use of agricultural and industrial processes or methods such as in the production of food, chemicals and fertilizers and seed production industries.

RESULTS AND DISCUSSION

Demographic Characteristics

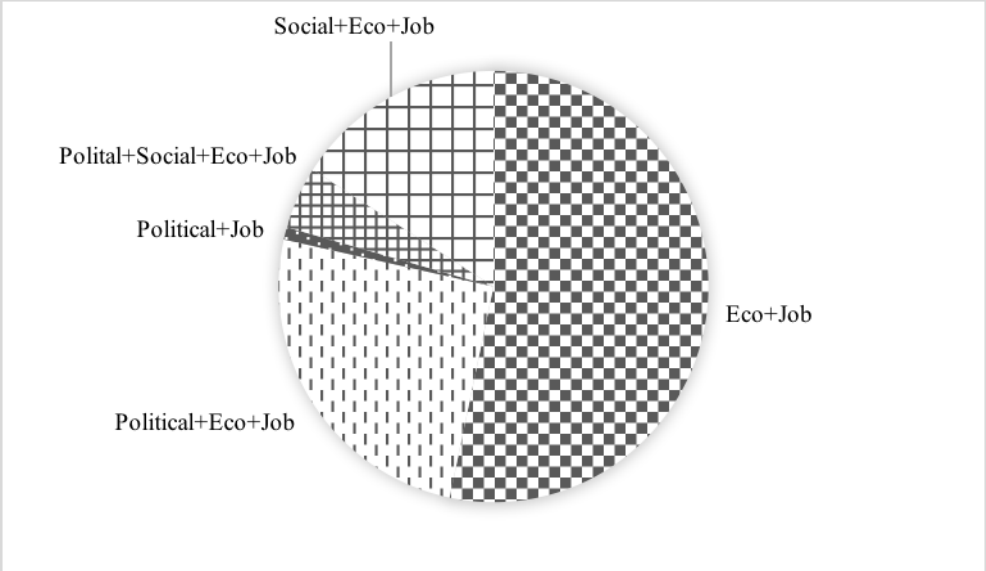
Among farm workers, 49.43% was male and 50.57% was female, while 91.59 % was male and 8.41% was female in the agro-industry workers. The number of female agro-industry workers was relatively low because some agro-industries such as chemical industry working with hazardous chemicals, working with equipment and for prolonged hours, including late night and outdoor tasks, loading and unloading working did not allow female workers. More than 80% of respondents were married in both groups of farm workers and agro-industry workers (Figure 3). Moreover, 48.66 % of farm workers and 53.27% of agro-industry workers migrated to Thailand mainly because of economic reasons and job creations, and the second reason was the combination of social, economic and job creations accounting for 38.70% of farm workers. However, the second reason to migrate among agro-industry workers was the combination of political, economic and job creation, accounting for about 25.23% as shown in Figure 4. Furthermore, 82.75 % of farm worker were illegal. Other 17.25 % had temporary residential card or Tor Ror 38/1 (TR.38/1) that was non-Thai identification card including 13 digits with temporary work permits for two years (Huguet & Chamratrithirong, 2011). Conversely, 65.42% of agro-industry workers had no document at all, but one third of them had temporary residential cards (Figure 5).

Figure 3. Marital status and gender of Myanmar immigrant agricultural workers in Tak province, Thailand, 2016



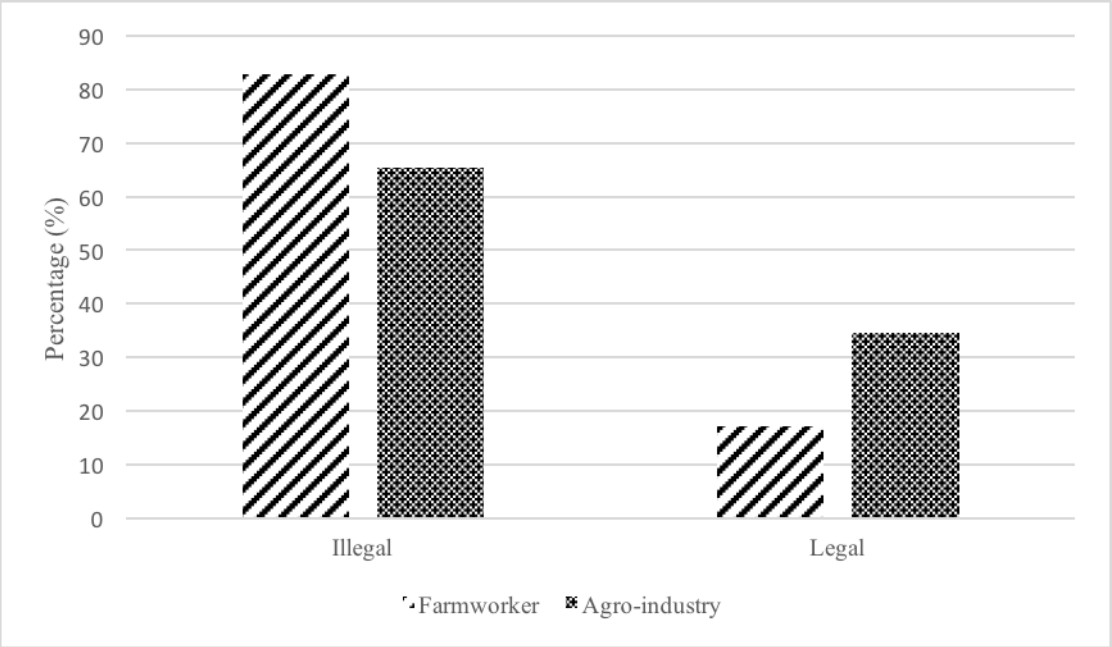
Source. Authors

Figure 4. Share of reasons to migrate among Myanmar immigrant agricultural workers in Tak province, Thailand, 2016



Source. Authors

Figure 5. Share of Myanmar immigrant agricultural workers by legal status in Tak province, Thailand, 2016

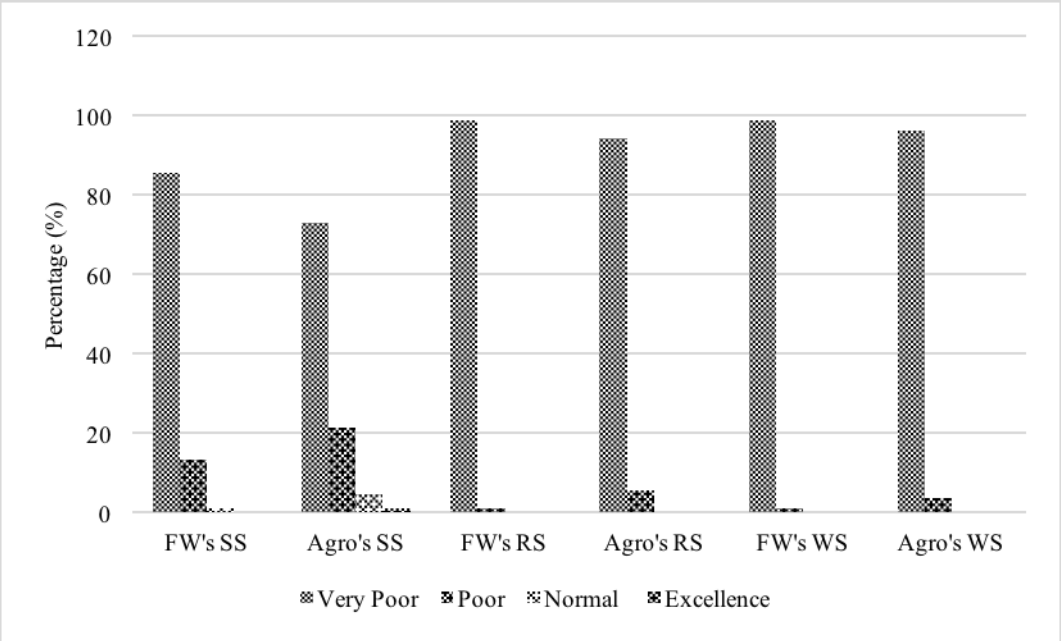


Source. Authors

Human Capital Characteristics

By comparing the human capital characteristics, agro-industry workers were more skillful than farm workers. Firstly, working experience was the main important characteristic for low skilled workers; agro-industry workers had more experience than the farm workers. Moreover, the Thai language skill was divided into three skills including speaking, reading, and writing, and each individual skill was categorized into five levels as level 0 (very poor), level 1 (poor), level 2 (normal), level 3 (well), and level 4 (excellence). Most of both types of workers had level 0 (very poor) in all three skills. However, the agro-industry workers had higher skills than farm workers (Figure 6). In addition, the education level was categorized into four levels: illiterate (no education), primary school, middle school and high school. Primary school level had the largest share for both types of workers. The second largest education level was middle school, followed by illiterate for farm workers and middle school for agro-industry workers (Figure 7).

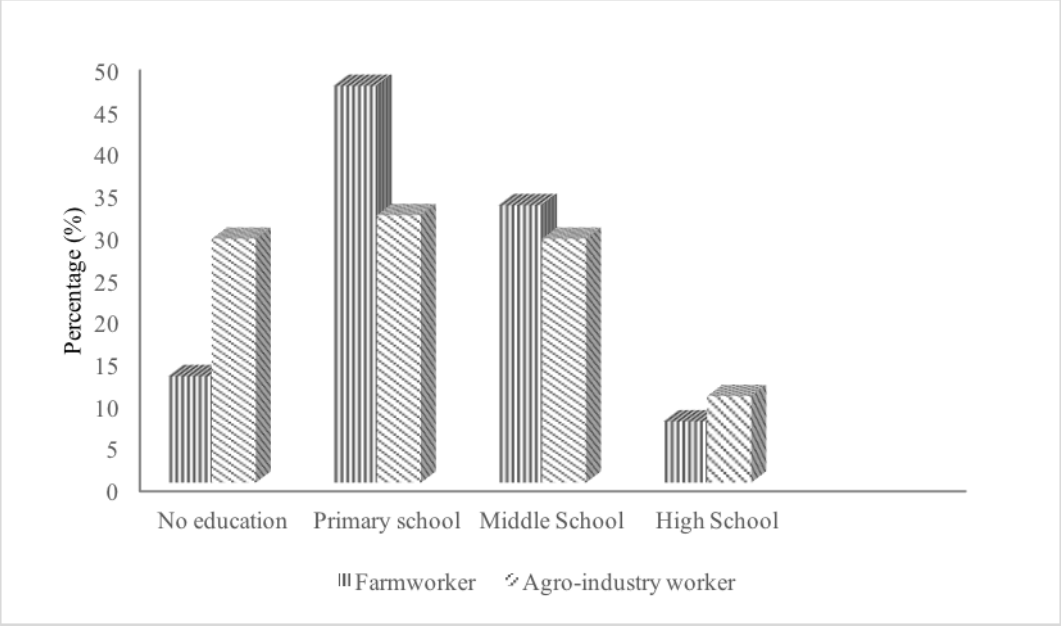
Figure 6. Share of Myanmar immigrant agricultural workers by language skill in Tak province, Thailand, 2016



Source. Authors

Note. FW= farm workers, Agro=Agro-industry workers, SS=speaking skill, RS=reading skill, WS=writing skill

Figure 7. Share of Myanmar immigrant agricultural workers by education level in Tak province, Thailand, 2016



Source. Authors

Comparison of characteristics between farmworkers and agro-industry workers

The estimated results of wage differential model are shown in Table 2. It was found that gender balance was obviously different in these two groups. Share of workers who were legal in farm was significantly less than agro-industry workers. The agro-industry workers' education and Thai language skill were significantly greater than the farmworkers.

The average daily wage of farm workers was 148.59 THB/day, and working hours per day was 8.13 with no overtime payment. Total net fringe benefit that was an addition to wages as the form of cash, goods or services was converted into cash per day. The fringe benefit of farm worker was 28.85 THB/day. On average, agro-industry workers received 188.65 THB/day, and worked about 8.84 hours/day with overtime payment of 49.74 THB/day for 2.12 hours of overtime per day. Thus, overall earning per day of agro-industry workers was nearly 238 THB/day. The daily wage of workers who worked in farm was significantly less than agro-industry workers and there was no overtime payment for farmworkers because agro-industry workers had great human capital characteristics than farmworkers. Furthermore, the benefit provided by the employer for agro-industry workers was significantly different from the farmworkers and was significantly greater than the farmworkers.

Table 2.

Comparison of Agricultural Worker's Characteristics

Variable		Farmworkers		Agro-Industry workers		t-value/ chi^2
Demographic characteristics						
		sample	%	sample	%	t-value/chi^2
Gender	Male	129	49.430	9	8.410	57.080***
	Female	132	50.570	98	91.590	
	Total	261	100.000	107	100.000	
Marital status	Divorce/window	2	0.770	6	5.610	1.219^{ns}
	Married	222	85.060	86	80.370	
	Single	37	14.180	15	14.020	
	Total	261	100.000	107	100.000	
Remittance	Cannot send	213	81.610	88	82.240	0.0205^{ns}
	Can send	48	18.390	19	17.760	
	Total	261	100.000	107	100.000	
Legal status	No document	216	82.750	70	65.420	13.173***
	Tor Ror 38/1	45	17.250	37	34.580	
	Total	261	100.000	107	100.000	

Table 2.

Comparison of Agricultural Worker's Characteristics

Variable		Farmworkers		Agro-Industry workers		t-value/chi^2
Human Capital Characteristics						
		sample	%	sample	%	t-value/chi^2
Language skill						
Speaking skill	Very poor	223	85.440	78	72.900	11.380***
	Speak poor	35	13.410	23	21.500	
	Speak normal	3	1.150	5	4.670	
	Speak Excellence	0	0	1	0.930	
	Total	261	100.000	107	100.000	
Reading skill	Very poor	258	98.850	101	94.390	6.320**
	Read poor	3	1.150	6	5.610	
	Read normal	0	0	0	0	
	Read Well	0	0	0	0	
	Read Excellence	0	0	0	0	
	Total	261	100.000	107	100.000	
Writing skill	Very poor	258	98.850	103	96.260	2.720**
	Write poor	3	1.150	4	3.740	
	Write normal	0	0	0	0	
	Write Well	0	0	0	0	
	Write Excellence	0	0	0	0	
	Total	261	100.000	107	100.000	
Education	No education	33	12.640	31	28.970	17.040***
	Primary school	123	47.130	34	31.780	
	Middle School	86	32.950	31	28.970	
	High School	19	7.280	11	10.280	
	Total	261	100.000	107	100.000	

Table 2.

Comparison of Agricultural Worker's Characteristics

	Farmworkers		Agro-Industry workers		
Job Characteristics					
	Mean	Std.Dev	Mean	Std.Dev	t-value
Daily wage (Baht)	148.590	11.080	188.650	40.050	-14.850***
Working hours per day(Hours)	8.140	0.350	8.840	0. 370	-38.710***
OT per day(Baht)	0	0	49.740	12.610	-17.410***
OT hours per day(Hours)	0	0	2.120	0.370	-44.750***
Total benefit per day (Baht)	28.860	8.890	47.970	26.620	-10.290***

Notes. *, **, and *** are significant levels at 10%, 5%, and 1%, respectively. ns means that non-significant.

Determinants of wage differentials

Table 3 showed the characteristics of immigrant related to wages. The results complied with the human capital characteristics in other studies. Language skill was the important factor related to immigrant earnings. Moreover, language skill such as speaking skill had the positive effect on agro-industry workers earnings similar to what was found by Dustmann & Van Soest (2002). However, education level of farm workers affected on their wages significantly. The same result as Lemieux (2006) as that earning inequality within workers was increased due to the different levels of education.

In this result, male earned more than female in both farm workers and agro-industry workers. Because male workers were more educated and had more Thai language speaking skill than female workers, then female were not allowed or not able to do in some activities such as spraying chemical, loading or unloading the products and so on as the same result as Grybaite (2006) and Hertz, Winters, De La.,et al., (2008). The location of the working area effected on wages. The farm workers who worked in the Mae Sot district earned more than the farm workers who worked in Phop Phra district because Mae Sot district is one of the Special Economic Zone (SEZ) with the implementation to support high labor intensive industries (Sadao & Besar, 2015). However, the agro-industry workers who were in Phop Phra district received the earnings more than who were in Mae Sot district because all agro industry workers in Phop Phra district had the proper documents (Tor Ror 38/1).

Constant & Massey (2005) stated that earnings were different depending on the primary migration reasons such as political reason, economic reason and so on although their result showed no clear wage differences related with migration reasons. However, this research found that the primary reasons such as social reason was influent indirectly on wages for both types of workers. The farm workers with the social reasons had higher education levels while the agro-industry workers with the social reasons had better destination speaking skill than their counterparts. The social reasons of

immigrants were the migration of spouse, family, or relatives and the lack of basic infrastructure of the home country, so they decided to migrate in order to improve their social situation.

Legal status impacted on immigrants' earnings positively in both types of workers because the legal workers had the higher human capital characteristics such as education level, host language skill and experience than the illegal workers. Nisbet (2013) and Rivera-batiz (1999) found the same outcomes. Bell & Freeman (2001) examined the hours worked positively affected on the wages of workers and the same result were found in this study.

Table 3.

Coefficient estimates using regression analysis of wages

Ln daily wage	Agro-industry workers			Farmworkers		
	Coef.	Std. Err.	t-value	Coef.	Std. Err.	t-value
Human capital characteristics						
Education(years)	0.009	0.012	0.820^{ns}	0.012	0.005	2.320**
Experience(years)	0.002	0.003	0.490^{ns}	-0.001	0.001	-1.000^{ns}
Thai speaking skill	0.097	0.021	4.580***	-0.006	0.010	-0.560^{ns}
Thai reading skill	0.098	0.096	1.020^{ns}	-0.054	0.036	-1.490^{ns}
Thai writing skill	0.055	0.118	0.470^{ns}	-0.005	0.034	-0.130^{ns}
Demographic characteristics						
Age (years)	0.001	0.001	1.370^{ns}	0.000	0.000	0.840^{ns}
Gender	0.266	0.083	3.20***	0.085	0.008	11.010***
Marital Status	0.024	0.026	0.940^{ns}	0.004	0.012	0.310^{ns}
Political reason	-0.008	0.025	-0.320^{ns}	0.014	0.012	1.150^{ns}
Social reason	0.067	0.025	2.70***	0.013	0.008	1.690*
Economic reason	0.073	0.078	0.950^{ns}	-0.003	0.045	-0.080ns
Job reason	0.022	0.104	0.210^{ns}	-0.038	0.060	-0.620^{ns}
No. of household	-0.004	0.006	-0.620^{ns}	0.003	0.002	1.020^{ns}
Area (working area)	0.086	0.039	2.160**	-0.113	0.012	-9.620***
Legal status	0.080	0.032	2.550**	0.065	0.014	4.620***
Job characteristics						
Working hours per day	-0.063	0.047	-1.340^{ns}	0.036	0.014	2.520**
Overtime hours per day	0.044	0.030	1.470^{ns}	n/a	n/a	n/a
_cons	5.597	0.414	13.500***	4.864	0.136	35.630**

Notes. *, **, and *** are significant levels at 10%, 5%, and 1%, respectively. ns means that non-significant.

CONCLUSION

In Thailand, Immigrants from Myanmar who have been working in agricultural sector earned the lowest earning rate than other sectors. Among these workers, earnings were different because of their characteristics. Earnings were influent on characteristics such as demographic, job and human capital characteristics. One of the most important characteristics was human capital characteristics. However, the human capital characteristics of farm workers did not impact on earnings as farm works did not require any special skills. On the other hand, agro-industry workers' earning was related with human capital characteristics such as language skill because this type of works required more skills such as repairing the machines, and speaking skill of host countries language to learn from the natives.

Location of the working area was influent on the earnings. Agro-industry immigrants who worked in Phop Phra district received more wage than immigrants in Mae Sot district. Farm workers' immigrants who worked in Mae Sot districts received more wages than Phop Phra district. Type of workers who had documents impacted highly significant on the wages among workers. Moreover, male workers were statistically significant on earning because agricultural sector is one the most dangerous sector to handle hazardous materials and to face environmental effect. Migration with the several reasons did not effect on the wage and workers' age were not influent on the wage. However, the levels of immigrants' characteristics were difficult to improve the wages while the legal status improved the wages easily.

The results were calculated based on Tak province which has labor intensive industries such as agriculture. The results might not be generalized to the nation-wide level but were compact and could provide promising conclusions as follow. By the information this paper suggested that Policy makers should mainly focus on legalizing the immigrant worker's legal status documentation. Policy makers must help immigrant workers getting their status legal by cooperating with their respective governments such as Myanmar, Cambodia, and Laos. Immigrant workers having legal status document will not only dramatically improve their income but also ease the security concerns of host country's local communities such as preventing some unwanted crimes. Moreover, the government will be able to collect taxes from immigrant workers and invest those taxes to develop the local region by building the required infrastructures which will make the local region to a more developed economic zone. Accordingly, those developed economic zone with minimal security concerns will invite more investors from domestic or international. In addition, for improving the income of immigrant workers, the local community's economic market will also blossom. The immigrant workers will also have some income to spend on learning host country languages which will improve their characteristics. As a result, the productivity of the industry or farm in those region will increase.

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