

The Wage Factors of Indonesian Work Erin Japan

Norma Risydan AlAnshori¹, Dwi Prasetyani², Akhmad Daerobi³

¹Sebelas Maret University, Faculty of Business and Economics, Economics of Development's Program, Ir. Sutami No.36Street, Kentingan, Jebres, Surakarta City, Central Java 57126

²Sebelas Maret University, Faculty of Business and Economics, Economics of Development's Program, Ir.SutamiNo.36Street,Kentingan, Jebres, Surakarta City, Central Java 57126

³Sebelas Maret University, Faculty of Business and Economics, Economics of Development's Program, Ir.SutamiNo.36Street, Kentingan, Jebres, Surakarta City, Central Java 57126

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Abstract

Opportunities to work abroad with high wages are a driving factor for Indonesian workers to work abroad. The state of Japan is one of the goals of the Indonesian people to work in exchange for a fairly high wage. This study aims to analyze the factors that influence the wage level of Indonesian workers working in Japan in 2020. This study uses seven independent variables, namely gender, age, education level, work experience, type of work, training, and certification. While the dependent variable is the level of wages of Indonesian workers working in Japan. The type of data used in this study is primary data, the analytical method used in this study is cross section data regression analysis. The data regression analysis method used is Ordinary Least Square (OLS) which is the most appropriate panel data regression model. Based on the results of the effect validity test or t test, that there are three variables that have a significant effect on the wage level of Indonesian workers working in Japan, namely education, experience and training variables with appositve influence.

Keywords: Indonesian workers, work experience, human resources, employment

1. Introduction

1.1 Introduce the Problem

The low wages earned by Indonesian workers are factors that influence people to work in other countries that are more developed than Indonesia. The high demand for Indonesian Migrant Workers abroad, the rate of population growth so that employment opportunities are narrowing which results in the large number of unemployed in Indonesia are factors for people to work abroad. In this case, there is an opportunity for the workforce in Indonesia to work abroad with relatively high wages. The high demand for Indonesian Migrant Workers abroad, this increasingly encourages Indonesian Migrant Workers to become migrant workers abroad. This is supported by the increasing number of services for distributing Indonesian workers abroad and various offers that range from ease of requirements to the lure of high salaries.

An important factor that determines economic growth is the number and quality of the workforce, where this component in an area can grow to be large if an area has a large population as well, on the other hand this large population growth tends to disrupt the economic growth of the region, so that The economic growth will be slow if the number of workers cannot be absorbed properly into employment. The delay in economic growth has a close relationship with the education level of the population which is still relatively low.

Competitiveness and labor productivity in Indonesia are relatively low. This makes the work force in Indonesia still low-income. To obtain quality human resources, efforts are needed to improve the quality of human resources. Improving the quality of human resources can be done by investing in human capital. The higher the human capital owned by a person causes the ability to produce goods and services also increases. Human capital will not arise by itself without a process of investment activities in education, both formal and non-formal. Education is a process of investment activities that increase skills (investment in human capital).

According to Becker (1975: 17), the productive power of labor has a positive relationship with the level of education and training. The higher the level of education and training a person has, the more productive the individual is. In research that has been conducted by Losina, Daru, Mustofa (2015) shows that the year of education has a positive influence on income. The results showed that every 1 year increase in length of education would increase income by 4.96%. Furthermore, this situation creates a positive relationship between the level of education and income because the real wages received by workers mainly depend on the productivity of the workforce.

The increase in the number of Indonesian migrant workers in Japan is influenced by several factors such as the wages offered in Japan are higher than in Indonesia, good job security guarantees, the low crime rate in Japan, government policies in Japan that support Indonesian migrant workers to work in Japan, as well as factors of the existence of networks such as relatives and friends in Japan (social capital). In addition to the factors that motivate Indonesians to become migrant workers in Japan, there are also problems experienced by migrant workers in Japan.

In this study the focus of research on the human capital side. Human capital theory explains the importance of improving the quality of human resources by improving education, quality human resources can provide a multiplier effect on the development of a region, especially economic development. If the quality of human resources can be improved through education, the productivity of the population will increase. (Todaro, 2011). Several studies have used the human capital side but applied it to Japanese domestic workers such as Liu (2019) and Indonesian domestic workers (Adhitya et.al (2019; Gesti (2016)). While this study focuses on the human capital side related to compensation for the difference in wages of Indonesian workers. In Japan.

Based on the background of the problem above, the author raised the topic in this study with the title " Analysis of Determinants of the Wage Level of Indonesian Workers in Japan".

2. Method

This research was conducted in the territory of Indonesia with the focus of research on Indonesian workers working in Japan. The time span that will be used as a reference is 2020. This study analyzes the factors that affect the wages of Indonesian migrant workers working in Japan as measured by education, work experience, type of work, gender, age, training, and certification. The sampling technique used is a combination of random sampling, namely convenience sampling and snowball sampling. Convenience Sampling is sampling based on the availability of elements and the ease of obtaining them. While snowball sampling is a sampling technique that is initially small in number, then the sample is spread in to the environment to be used as a sample. And so on until the number of samples increases. This sampling technique eislike a rolling snowball, getting bigger and bigger.

This study uses cross section data. The data analysis method used to determine the effect of the independent variable on the dependent variable is using Ordinary Least Square. The use of the Ordinary Least Square method is used to find a straight line that passes through a set of observation points. The criterion used is to minimize the number of residual squares.

Gujarati (1993) states that the general model of multiple linear regression analysis can be written as follows:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_n X_{ni} + \epsilon_i$$

Y: Dependent Variable

i: Period

β_0 : Intersep (Y when X= 0)

X_{1i}, X_{2i}, X_{ni} : Independent variable $\beta_1, \beta_2, \beta_n$: Parameter of X_1, X_2, X_n : Error term ϵ_i

This study adopted a modified Mincerian model. The basic Mincerian model used in this study is as follows:

$$\text{Log}W_i = \beta_0 + \beta_1 \text{Edu}_i + \beta_2 \text{Exp}_i + \beta_3 \text{Exp}_i^2 + \epsilon_i$$

Where W_i , is the individual wage i . Edu_i is individual education level i , Exp_i is individual work experiences i , and is “error term”. In addition to these basic variables, several control variables will be integrated into the model, such as: type of work, gender, age and job training. The data analysis technique used regression analysis techniques. So, the equation of the logit model is obtained:

$$\text{Log (wage)} = \beta_0 + \beta_1 \text{Edu}_i + \beta_2 \text{exp}_i + \beta_3 \text{exp}_i^2 + \beta_4 \text{job}_i + \beta_5 \text{sex}_i + \beta_6 \text{age}_i + \beta_7 \text{train}_i + \beta_8 \text{crtf}_i + \epsilon_i$$

description:

L_i =logit/Indonesian workers in Japan

B_1 =constant

B2, B3, B4,...B10=coefficient of equationlogit

EDU = Variable length of respondent's education

EXPR =Indonesian Migrant Workers work

EXPR² =Indonesian Migrant Workers work experiences quared JOB

=Dummy variable type of respondent's job

D=0 =agriculture/livestock

1=industry/service/other

GEN = respondent's gender dummy

variable D =0=female

1= male

AGE = age of respondent

TRAIN= Indonesian worker's trained

CRTF= how many respondent's have certificate ϵ_i =

Errorterm

3. Results

The level of willingness of respondents used in this analysis is all Indonesian citizens who are currently working as Indonesian Migrant Workers in Japan. In filling out data, respondent's are given freedom and openness to the data being filled in.

Table1.Results of Multiple Regression Analysis
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
		B	Std. Error			
1	(Constant)	32.187	11.080		-2.905	.008
	GENDER	-1.287	2.977	-.056	-.432	.670
	AGE	.312	.520	.142	.600	.555
	EDU	2.534	.799	.464	3.172	.004
	EXP	.921	.379	.473	2.432	.024
	JOB	.137	1.600	.011	.086	.933
	TRAIN	10.753	4.211	.322	2.554	.018
	CERT	-1.753	1.902	-.117	-.922	.367

a. Dependent Variable: WAGE

The equations of the model used in this study are as follows:

$$\text{Log}(\text{wage}) = \beta_0 + \beta_1 \text{Edu} + \beta_2 \text{expri} + \beta_3 \text{expri}^2 + \beta_4 \text{jobi} + \beta_5 \text{geni} + \beta_6 \text{agei} + \beta_7 \text{traini} + \beta_8 \text{crtfi} + \epsilon_i$$

So, from the results of the analysis of the data above, the equation of the model is as follows:

$$Y=32,187+2,534EDU+0,921EXP+0,848EXP^2+0,137JOB-1,287GEN+0,312AGE+10,753TRAIN-1,753CERT+e$$

1. Multicollinearity Test

This is a test conducted to determine whether there is a linear relationship between Independent variables or not. The following are the results of the Multicollinearity Test:

Table2.MulticollinearityTestResults

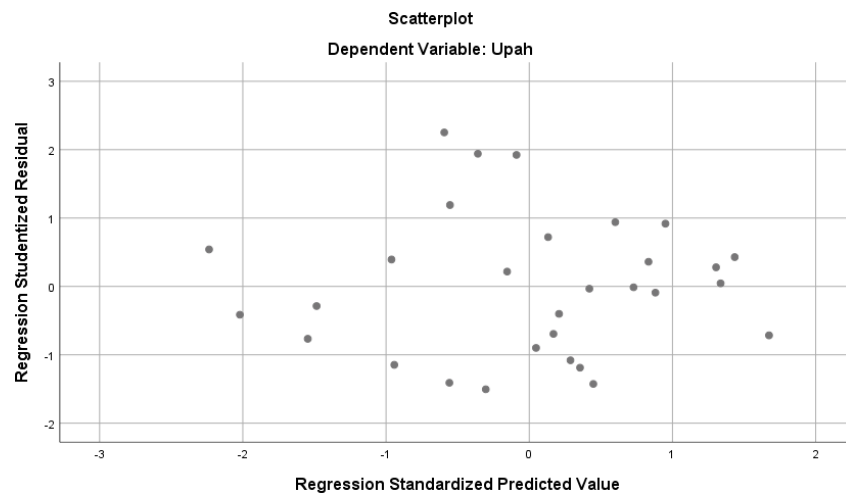
Variabel	Tolerance	VIF
GENDER	0,637	1,570
AGE	0,191	5,222
EDU	0,501	1,996
EXPERIENCE	0,283	3,528
JOB	0,636	1,573
TRAINING	0,676	1,479
CERTIFICATE	0,664	1,506

This test is conducted to detect multicollinearity of Value Inflation Factor (VIF), if the VIFvalueislessthan10 then this research model does not occur multicollinearity.

2. Heteroscedasticity Test

Heteroscedasticity is a condition where there is an inequality of variance from the residuals in the regression model. A good regression model requires the absence of heteroscedasticity problems. This test aims to determine whether the variance of the residual data from one observation to another is different or fixed. If the variance of the residual data is the same, it is called homoscedasticity and if it is different, it is called heteroscedasticity.

To detect the presence or absence of heteroscedasticity by looking at the pattern of dots on the regression scatter plot. If the points spread with an unclear pattern above and below the number 0 on the Y axis, then there is no heteroscedasticity problem, on the contrary if the points spread with a regular pattern then there is a heteroscedasticity problem. The results of the scatter plot graph in the regression model between the factors that influence wages, namely gender, age, education, experience, economic sector, training and the number of certificates held by respondents on the wages of Indonesian workers in Japan are as follows:



3. Hypothesis Test

To prove the hypothesis in this study whether the independent variable has an effect on the dependent variable, a partial t test and a simultaneous F test are used.

a. t test

This t-test is used to test whether each independent variable has a positive effect on the dependent variable partially and also the acceptance or rejection of the hypothesis. The basis for decision making if t count > t table then H_0 is rejected and vice versa H_a is accepted. Based on the results of hypothesis testing using the IBM SPSS 25 program, the t-test results obtained from the results of data processing or table 1 Coefficients of multiple linear regression analysis results. The following are the results of the independent variables hypothesis, namely gender, age, education, experience, economic sector, training and the number of certificates owned by respondents on the wages of Indonesian workers in Japan.

1) The effect of gender on the wages of Indonesian migrant workers in Japan.

Based on the calculation results summarized in table 1, the results of multiple linear regression analysis show that for the gender variable, the t count is 0.432 with a probability of 0.000. Because the value of t count = 0.432 < t table = 0.683 and the probability obtained is less than 0.05, then H_0 is accepted, meaning that the gender variable has no effect on the wages of Indonesian workers in Japan.

2) The effect of age on the wages of Indonesian workers in Japan.

Based on the calculation results summarized in table 1, the results of multiple linear regression analysis show that for the age variable, the t count is 0.600 with a probability of

0.000. Because the value of t count = 0.600 < t table = 0.683 and the probability obtained is less than 0.05, then H_0 is accepted, meaning that the age variable has a positive effect on the wages of Indonesian workers in Japan.

3) The effect of education on the wages of Indonesian workers in Japan.

Based on the results of the calculations summarized in table 1, the results of multiple linear regression analysis show that for the education level variable, the t_{count} is 3.172 with a probability of 0.000. Because the value of $t_{count} = 3.172 > t_{table} = 0.683$ and the probability obtained is less than 0.05, then H_0 is rejected, meaning that the education level variable affects the wages of Indonesian workers in Japan.

4) The effect of work experience on the wages of Indonesian workers in Japan.

Based on the results of the calculations summarized in table 1, the results of multiple linear regression analysis show that for the work experience variable, the t_{count} is 2.432 with a probability of 0.000. Because the value of $t_{count} = 2.432 > t_{table} = 0.683$ and the probability obtained is less than 0.05, then H_0 is rejected, meaning that the respondent's work experience variable affects the wages of Indonesian workers in Japan.

5) The effect of the type of work/economic sector on the wages of Indonesian Migrant Workers in Japan.

Based on the calculation results summarized in table 1, the results of multiple linear regression analysis show that for the variable type of work/economic sector of the respondents, the t_{count} is 0.086 with a probability of 0.000. Because the value of $t_{count} = 0.086 < t_{table} = 0.683$ and the probability obtained is less than 0.05, then H_0 is accepted, meaning that the variable type of work/economic sector has no effect on the wages of Indonesian workers in Japan.

6) The effect of job training on the wages of Indonesian workers In Japan.

Based on the results of the calculations summarized in table 1, the results of multiple linear regression analysis show that for the job training variable, the t_{count} is 2.554 with a probability of 0.000. Because the value of $t_{count} = 2.554 > t_{table} = 0.683$ and the probability obtained is less than 0.05, then H_0 is rejected, meaning that the training variable affects the wages of Indonesian workers in Japan.

7) The effect of the number of certificates on the wages of Indonesian workers in Japan.

Based on the calculation results summarized in table 1, the results of multiple linear regression analysis show that for the variable number of certificates, t_{count} is -0.922 with a probability of 0.000. Because the value of $t_{count} = -0.922 < t_{table} = 0.683$ and the probability obtained is less than 0.05, then H_0 is accepted, meaning that the certificate variable has no effect on the wages of Indonesian workers in Japan.

b. F Ujite test

The F test is used to determine the effect of the independent variable on the dependent variable simultaneously by comparing F_{count} with F_{table} . The basis for decision making if the value of $F_{count} > F_{table}$ then H_0 is rejected and H_a is accepted otherwise. Based on the results of hypothesis testing with multiple linear regression analysis using the IBM SPSS 25 program, the F_{test} results are obtained in table 3 as follows.

Hypothesis:

H0: the independent variable (X) simultaneously has no effect on the dependent variable (Y) Ha: the independent variable (X) simultaneously affects the dependent variable (Y)

Table3. FTest Results
ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2531.326	7	361.618	10.166	,008 ^b
	Residual	782.540	22	35.570		
	Total	3313.867	29			

a. Dependent Variable: WAGE

b. Predictors: (Constant), CERT, JOB, TRAIN, GENDER, AGE, EDU, EXP

From table 3, it can be seen that the value of Fcount= 10.166 > Ftable= 2.33 with a probability of 0.000. Because the probability value is less than 0.05, accept Ha and reject H0 which means that the variables of gender, age, education, experience, job, train and certificate simultaneously affect the wages of Indonesian workers in Japan.

c. Coefficient of Determination

The coefficient of determination R2 aims to measure how large the percentage of variation in the dependent variable can be explained by the independent variable in this study or in other words to determine the amount of contribution or contribution made by the variables gender, age, education, experience, economic sector, training and the number of certificates simultaneously affects the wages of Indonesian workers in Japan. Based on the results of simple linear regression analysis using the IBMSPSS25 program, there sults of the simultaneous determination coefficient (R2) are shown in the following table.

Table4 Simultaneous Coefficient of Determination Test Results (R2)

Model Summary^b

Model	R	RSquare	Adjusted RSquare	Std. Error of the Estimate	Durbin-Watson
1	.874 ^a	.764	.689	5.9641	2.577

a. Predictors: (Constant), CERT, JOB, TRAIN, GENDER, AGE, EDU, EXP

b. Dependent Variable: WAGE

Based on table 4 above, it can be seen that the R square of 0.764 is close to 1, this means that76.4% of the variable wages for Indonesian workers in Japan can be explained by factors such as gender, age, education level, work experience, type of work/economic sector, training.,

and the number of certificates, while the rest ($100\% - 76.4\% = 23.6\%$) is influenced by other variables outside the model.

4. Discussion

1. Factors Affecting the Wages of Indonesian Migrant Workers in Japan

a. Gender

The coefficient of the variable Gender (gender) is -0.432 with a probability of 0.670. It shows that at a significance rate of 5%, the gender variable has no significant effect on the wages of Indonesian migrant workers in Japan. This is because the probability of gender is 67% greater than the significance level of 5%.

b. Age

The AGE variable coefficient (Age) is 0.600 with a probability of 0.555. It shows that at a significance rate of 5%, the age variable has no significant effect on the wages of Indonesian migrant workers in Japan. This is because the probability of gender is 55% greater than the significance level of 5%.

c. Education

The coefficient of the EDU variable (education level) is 3.172 with a probability of 0.004. Shows that at a significance rate of 5%, the education level variable has a significant effect on the wages of Indonesian migrant workers in Japan. This is because the probability of education is 0.4% lower than the significance level of 5%.

d. Work experience

The coefficient of the Experience variable is 2.432 with a probability of 0.024. Shows that at a significance rate of 5%, the work experience variable has a significant effect on the wages of Indonesian migrant workers in Japan. This is because the probability of experience is 2.4% lower than the significance level of 5%.

e. Type of Job/Economic Sector

The variable coefficient of JOB (type of work/economic sector) is 0.086 with a probability of 0.933. Shows that at a significance rate of 5%, the type of work variable has no significant effect on the Wages of Indonesian Migrant Workers in Japan. This is because the probability of the type of work is 93% greater than the significance level of 5%.

f. Training

Statistical test results show that partially the independent variable TRAIN (job training) has an effect on the dependent variable Wages of Indonesian Migrant Workers in Japan. The statistical results show that TRAIN has a coefficient of 2.554. So it can be interpreted that TRAIN decreases by 1 unit, then the Wages of Indonesian Migrant Workers in Japan will

increase by 2,554 units. With a probability of 0.018, it shows that at a significance rate of 5%, the job training variable has a significant effect on the wages of Indonesian workers in Japan. This is because the probability of education is 1.8% greater than the significance level of 5%.

g. Certificate

Statistical test results show that partially the independent variable number of certificates has an effect on the dependent variable Wages of Indonesian Migrant Workers in Japan. The statistical results show that the number of certificates has a coefficient of -0.922. With a probability of 0.367, it shows that at a significance rate of 5%, the variable number of certificates has no significant effect on the wages of Indonesian workers in Japan. This is because the probability of the number of certificates is 36% greater than the significance level of 5%.

2. Description of Indonesian Workers Motivation to Work in Japan

Becoming a migrant worker is a form of community effort to earn greater income. Community participation in becoming migrant workers is influenced by several factors, in addition to work opportunities and higher wages, there are also environmental influences that can affect a person in becoming a migrant worker. Based on the results of a survey that has been carried out regarding Indonesian migrant workers in Japan, it is stated that they choose to work in Japan because it offers higher wages in Indonesia. High wages are very important in order to provide a more decent life both for themselves and for their families. In addition to high wages, the following explanation of the motivation of Indonesian Workers to choose Japan is explained as follows:

Table 5. Motivation of Indonesian Workers Interest in Japan Respondents' Motivation to Choose Japan

1. Wages offered by the Japanese state are higher
2. It is easy to find Indonesian Workers distributors to Japan
3. Following in the footsteps/invitations from relatives, friends, and the surrounding environment.
4. Efforts to raise capital for savings in the future.

Source: Questionnaire (2020)

Of the several reasons above, most of the respondents answered that their motivation for choosing Japan was because the wages offered were higher than Indonesia. Easy and detailed information and procedures regarding migrant workers abroad from agencies distributing Indonesian Workers became one of the factors that motivated respondents to decide to become migrant workers. In addition, there are some people who choose to become migrant workers to Japan because they want to follow in the footsteps of relatives, friends, acquaintances, and the surrounding environment who are considered to have a better life after becoming Indonesian migrant workers in Japan. Indonesian Workers who work in Japan usually collect their income to be used as business capital and/or investment when they have to return to Indonesia.

3. Constraints Experienced by Indonesian Migrant Workers in Japan

Working as a migrant worker is a job that has quite a lot of interest at this time. This is due to the high wage offer compared to the area of origin and the participation of the community to

Become migrant workers is influenced by several factors, in addition to work opportunities and higher wages, there are also environmental in fluencies that can affect a person in becoming a migrant worker. Based on the results of a survey that has been carried out regarding Indonesian migrant workers in Japan, it is stated that they choose to work in Japan because it offers higher wages in Indonesia. High wages are very important in order to provide a more decent life both for themselves and for their families. In addition to high wages, the following explanation of the motivation of Indonesian Migrant Workers to choose Japan is explained as follows:

Table 6. Obstacles Experienced by Indonesian Migrant Workers in Japan Respondents' Obstacles When Working in Japan

1. Adapting to the 4 seasons in Japan
2. Workers who do not have a visa have difficulty finding work (illegal)
3. Different languages and cultures
4. Japanese technology is much more sophisticated than Indonesia
5. Taxes are too high
6. Japanese food is not suitable for Indonesian tongue
7. Great work pressure on the workers
8. The cost of living in Japan is expensive
9. Had to part with family

Source: Questionnaire (2020)

From some of the reasons above, most of the respondents experienced difficulties in adapting to the Japanese environment, both from the language, culture, food, and climate in Japan which has 4 seasons. Constraints experienced by respondents are also very diverse, some respondents agree that the tax demanded on migrant workers is also very high. There are also respondents who answered with an individual problem when working in Japan, namely having to be away from family, so that he felt very heavy at work because he experienced feelings of longing for his family in Indonesia.

Acknowledgments

The variables of education, work experience and training have an effect on the dependent variable of the wage level of Indonesian workers working in Japan, while the variables of gender, age, type of work and number of certificates have no effect on the dependent variable of the wage level of Indonesian workers working in Japan.

The results of the R-squared determinant coefficient test show a value of 0.764 or 76.4%, meaning that 76.4% of the variation in the variable wage rate of Indonesian workers working in

Japan can be explained by gender, age, education, type of work/economic sector, experience, job training, and certificates held. And the remaining 23.6% of the variation in the Wage Level of Indonesian Migrant Workers working in Japan can be explained by variations of other independent variables that are not included in the model.

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