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Impact of Minimum Wage on Inter-Provincial Labor Migration in Indonesia

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Abstract:
Background*: Based on 2015 data of recent migration in Indonesia, the number of inter-provincial in-migration tends to decline while the minimum wage rate continues to increase every year. This is contrary to the theory that an increased minimum wage can increase migration. Therefore, this study analyzes the effect of the minimum wage on labor migration by using data only migrants that moved for job reasons and looked for a job. If other reasons such as moving because of joining the family are included into the datasets, then the result will be biased. This study only examines the pull-factors side of destination region or province.*
Materials and Methods*: In this study, the data used were secondary data published by BPS-Statistics Indonesia. It includes aggregate provincial panel data of 30 provinces in Indonesia from 2005 to 2015. The data is analyzed using fixed effect model, namely least square dummy variable.*
Results*: We found that in general, minimum wage has a negative and significant effect on inter-provincial labor migration in Indonesia. Migrants tend to move to provinces that have a low minimum wage. Migrants also avoided moving to provinces that have a higher level of education. It confirms that labor migration in Indonesia dominated by low-skilled labor migrants.*
Conclusion: *High minimum wage can reduce the amount of in-migration toward a province in Indonesia.*
Key Word*: labor migration, minimum wage, pull-factors, recent migration*

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I. Introduction

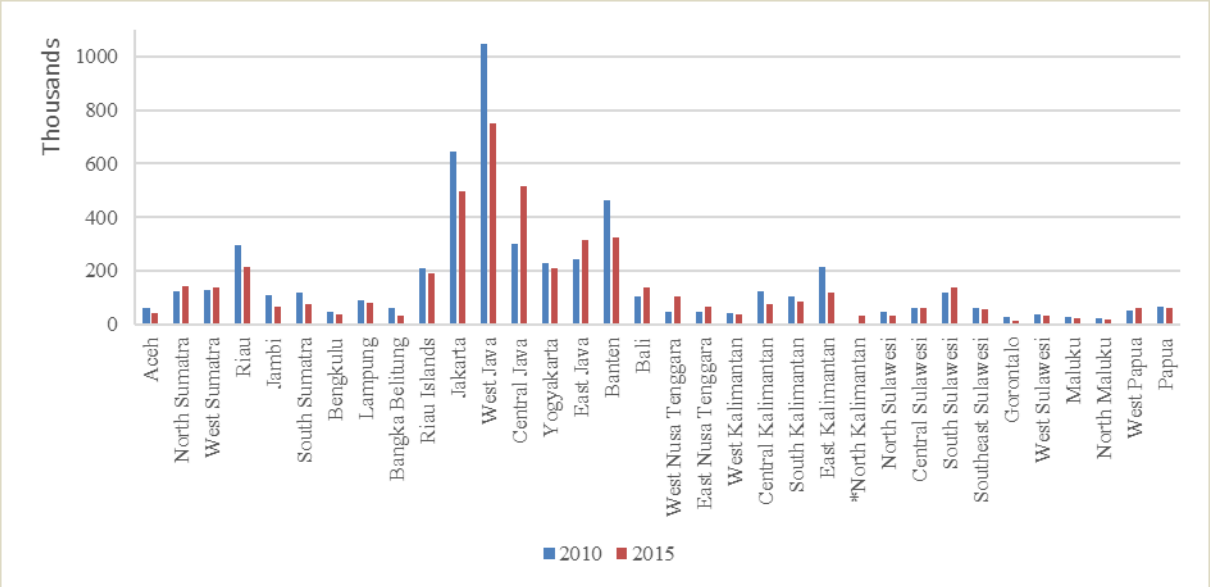
Migration studies are generally in the form of international migration in developed countries. Discussions on internal migration in developing countries still tend to be few and limited[1]. Indonesia is one of the important countries to be used as an object of study on migration. It is the second largest exporter of migrants from Asia after the Philippines[2]. therefore, there is a need for migration studies at the Indonesian internal level. There was a decrease in the number of interprovincial in-migration in Indonesia from 2010 to 2015 according to BPS-statistic Indonesia data. However, the data counts migrants who moved for all reasons, including those who moved for non-economic reasons. Such as migrants who moved because of joining spouses or parents, or because of continuing their education. While the minimum wage has no relationship with migrants who moved because they joined the family.

Many factors are taken into consideration in the migration process. Much of the literature concludes that the main factor for a person to migrate is the economic factor[3,4,5]. The purpose of migrants to move is to get a job and earn a higher income or wage[6]. Some literature divides these mobility factors into the categories of pull factors and push factors between the two regions. Pull factor as a pulling factor from the destination area and push factor as a driving factor from the area of origin. In addition, there is also a network factor that provides information for potential migrants to consider[7,8].

Internal migration in Indonesia has been going on since before Indonesia's independence. In 1930, there were 11.5% of the Indonesian population living outside their birthplace. In 1971 (after Indonesia became independent) it fell to 5% and increased again in 1990 and 2000 to 8.2% and 10.1%[1]. Based on data from 2010 and 2015, the number of in-migrations by province in Indonesia tends to decrease. Only 10 of the 34 provinces have an increase in number of inter-provincial in-migration. All provinces on the Sumatra Island experienced a decrease in the number of in-migration except North Sumatra and West Sumatra. All provinces in Java Island experienced a decrease in the number of in-migration except Central Java and East Java. All provinces on Sulawesi Island experienced a decrease in the number of in-migrations except Central Sulawesi and South Sulawesi.

The decline in the number of migrations could be due to an increase in non-permanent mobility factor such as commuter migration or circular migration[9]. Better infrastructure on the urban side will stimulate

residents from outside the province to move into urban areas. According to Pravitasari and Damayanti[10], Infrastructure can facilitate the movement of labor between regions and it will affect the labor supply in urban



areas so that capital inflows occur.

Table no 1: Records the number of total recent in-migration toward provinces in Indonesia since 2010 to 2015[11,12]. The data shows that generally provinces in Indonesia have a decrease in the number of totals in-migrations between provinces. The highest number of in-migration in 2015 were West Java, Central Java, Jakarta, Banten, and East Java.

Todaro[13] explains that migration decision depends on expected wage differences. Wage differences between regions can trigger labor migration. Low wages in the home region are a driving factor for migrants to leave the region. Likewise, high wages will attract migrants to move into that region. However, according to Giulietti[14], the minimum wage only affects low-skilled migrants. The high-skilled migrants will be absorbed in the labor market in their home region. The government of Indonesia sets the minimum wage to protect the workers so that the wages received are sufficient for their daily life. The minimum wage by province in Indonesia continues to increase every year. Provinces on the Java Island (except Jakarta as capital) tend to have low minimum wage rates from other regions. But that provinces have highest in-migration rate between provinces in Indonesia.

Many studies on migration in Indonesia use total migration data regardless of the reason they moved. This study tries to separate migrants who move for employment reasons or are looking for jobs that have a relationship with wages. If we use total migration data, then migrants who move for reasons such as joining the family have no relationship with wages, so the conclusion becomes dubious. Based on 2015 BPS-statistic Indonesia data, 40% of migrants tend to be dominated by those who moved for family reasons. So, if we use total migration data, it will result in biased conclusions.

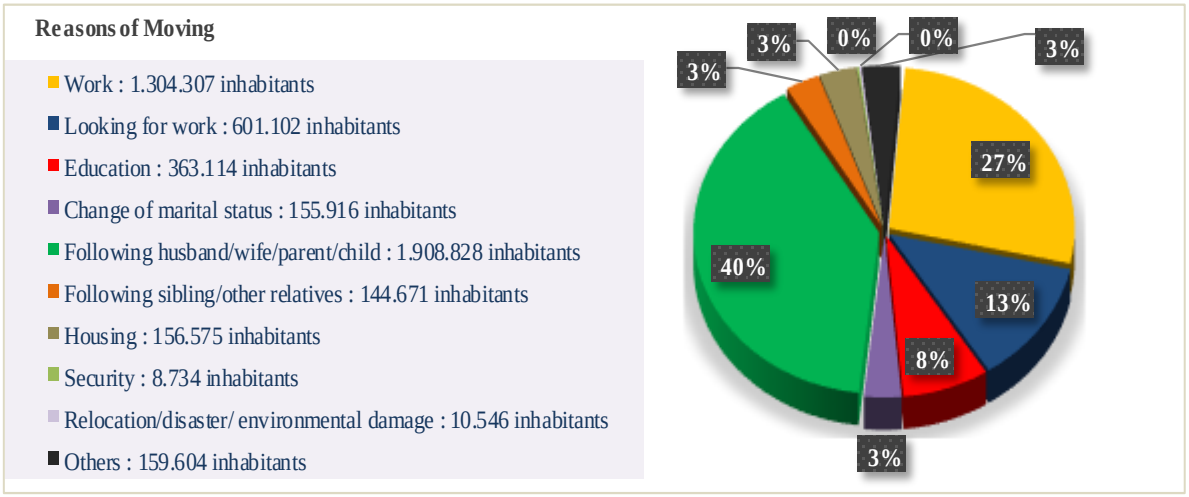


Table no 2: Shows the main reasons the migrants moved from their provinces of residence 5 years ago in Indonesia in 2015[12]. 40% of migrants moved because of following husband/wife/parent/child. The migrants who move for work reason only 27% and moved because of looking for work only 13%.

II. Research Methods

This study uses descriptive and quantitative methods. The descriptive method is to describe the conditions of the minimum wage and interprovincial labor migration in Indonesia. While the quantitative method is an analysis at the provincial level using static panel data to see the relationship between independent variable and dependent variable. The object used is 30 provinces in Indonesia from 2005 to 2015. The application of static panel data is because of the short period of time used as much as 3 periods so that it is not possible to analyze using dynamic panel data. The data has an interval of 5 years because the analysis in this study uses recent migration data which only surveyed every 5 years.

Conceptual Framework

Based on data 2015 of recent in-migration in Indonesia, the provinces within Java Island tend to have high number of in-migration. But, as many theories say that high wages can motivate migrants to move in[4,13,15], the minimum wage in these provinces tends to be lower than the others except Jakarta as capital. It is contrary to the theory that migrants tend to move to the regions that have high wage policy. Many studies draw different conclusions regarding the effect of the minimum wage on migration. Some said that minimum wage has positive effect on migration[14,16,17,18]. Another study said that wages have a negative effect on migration[19,20]. Even recent study in India shows that minimum wage has no effect on migration[21]. Therefore, this study wants to confirm the effect of minimum wage toward labor migration in Indonesia.

Previous studies in Indonesia used total migration for their analysis without excluding the migrant that moved because of non-employment reasons. Minimum wage doesn't have relation to the migrant that moved for continuing their study, joining their family, or changing marital status. So, the results could be biased conclusions. So, this study analyzes the migrants that have employment reasons of moving namely reason of work and reason of finding a work. This study limited to pull-factors from destination regions only. It doesn't capture the push factors from home region for migrants to move out. The research question on this study is whether the minimum wage that applied by provincial government has any influence on labor migration or not to that province.

Hypothesis

The hypothesis of this study follows most of the theory that minimum wage has a positive effect on labor migration toward a province in Indonesia. Although the data shows different things, it is to be expected that minimum wage has a positive effect after we separate migrants based on employment reasons of moving dataset.

Data and Sources

The sample used in this research is a balanced panel data covering 30 provinces in Indonesia for the period of 2005-2015. The time-series data has 3 series with 5 years interval because of recent migration data that surveyed every 5 years. The cross-section data is 30 provinces. Explanations of these data are written in the table below.

Table no 3: Shows the data used in this study and its sources.

Variables	Definitions	Sources
Migration	Inter-provincial labor in-migration by employment reasons of moving	BPS-statistic Indonesia
Minimum Wage	Provincial minimum wage	BPS-statistic Indonesia
Population	Population of the provinces	BPS-statistic Indonesia
Growth	Growth rate of provincial GDP based on constant price	BPS-statistic Indonesia
Employment Rate	Rate of working labor forces	BPS-statistic Indonesia
Poverty	The numbers of poor people in a province	BPS-statistic Indonesia
Education	Average year of schooling of residents in a province	BPS-statistic Indonesia

The table above shows that migration as dependent variable, minimum wage as main independent variable, and others as control variables. The table also shows the sources of the data used in this study which is sourced from BPS-statistic Indonesia. There are also the definitions of the variables used in this study. The unit values of these variables are different. Such as migration variable calculated in number of migrants, or growth in percentage. All these variables will be converted into a natural logarithm so that the units change to percent value except growth and employment rate variables. It is because these two variables are already in percentages.

Empirical Model

The analysis of this panel data uses fixed effect model with the least square dummy variable approach or LSDV. After being tested to get the best model in this panel data analysis, the model of pooled least square and random effect model can be denied. The best model is *fixed effect* model. But, before estimating the result, the model must pass Gauss-Markov assumptions to get the best, consistent, and unbiased conclusion.

Giulietti[14] used the concept of the relation between wage and migration that can be describe below:

$$M = f(z, x) \quad \text{..... (1)}$$

The formula above shows that migration (M) is the function of wage (z) and other factors (x). Assume that the wage is expected earning like what Harris-Todaro[22] explained, thus in this study, the wage is assumed to be minimum wage. So, the formula can be written as:

$$M = f(W_m, X) \quad \text{..... (2)}$$

Based on the formula above, it can be arranged for a new formula for the model on this study to be estimated in regression. It can be written as:

$$M_{it} = \beta_0 + \beta_1 MW_{it} + \beta_2 X_{it} + \varepsilon_{it} \quad \text{..... (3)}$$

Where M is inter-provincial labor in-migration. MW as minimum wage by province, and X is other factors that have a relation with migration. Coefficient β_0 as intercept while β_1 and β_2 as a slope for independent variables. The notation i can be explained as an individual object of cross-section data which means that it is provinces and t is year for time-series data. Then ε is error term or residual.

This study uses panel data analysis so, the basic formula above can be described more, and we get panel data analysis with individual unobservable variable γ and time unobservable variable δ.

$$ln M_{it} = \beta_0 + \beta_1 ln MW_{it} + \beta_2 ln X_{it} + \gamma_i + \delta_t + \varepsilon_{it} \quad \text{..... (4)}$$

Some tests must be applied to the panel data analysis to get the best model to be constructed. Firstly, we must examine between *Pooled Least Square* (PLS) model versus *Fixed Effect Model* (FEM) by using *Chow* test. Secondly the test for PLS versus *Random Effect Model* (REM) by using *Lagrange Multiplier* (LM) test. The last is the test for FEM versus REM by using *Hausman* test. The result of these tests is FEM as the best model to be estimated. Then, the FEM analyzed by using *Least Square Dummy Variables* (LSDV) approach.

LSDV approach shows that the individual effects of data have a fixed value for every single province. Therefore, the unobserved individual effect for province in the model becomes dummy intercepts. The model has 29 dummy intercepts for 30 provinces. So, the complete formula for LSDV model with *one-way component error* is as shown below:

$$ln M_{it} = \alpha_0 + \alpha_i D_i + \beta_1 ln MW_{it} + \beta_2 ln POP_{it} + \beta_3 G_{it} + \beta_4 ER_{it} + \beta_5 ln POV_{it} + \beta_6 ln EDUC_{it} + \varepsilon_{it} \quad \text{..... (5)}$$

$$\begin{aligned} ln M_{it} = {} & \alpha_0 + \alpha_1 D_1 + \alpha_2 D_2 + \alpha_3 D_3 + \alpha_4 D_4 + \alpha_5 D_5 + \alpha_6 D_6 + \alpha_7 D_7 + \alpha_8 D_8 + \alpha_9 D_9 + \alpha_{10} D_{10} + \alpha_{11} D_{11} \\ & + \alpha_{12} D_{12} + \alpha_{13} D_{13} + \alpha_{14} D_{14} + \alpha_{15} D_{15} + \alpha_{16} D_{16} + \alpha_{17} D_{17} + \alpha_{18} D_{18} + \alpha_{19} D_{19} + \alpha_{20} D_{20} + \\ & \alpha_{21} D_{21} + \alpha_{22} D_{22} + \alpha_{23} D_{23} + \alpha_{24} D_{24} + \alpha_{25} D_{25} + \alpha_{26} D_{26} + \alpha_{27} D_{27} + \alpha_{28} D_{28} + \alpha_{29} D_{29} + \\ & \beta_1 ln MW_{it} + \beta_2 ln POP_{it} + \beta_3 G_{it} + \beta_4 ER_{it} + \beta_5 ln POV_{it} + \beta_6 ln EDUC_{it} + \varepsilon_{it} \quad \text{..... (6)} \end{aligned}$$

where:

M	interprovincial labor in-migration
D	dummy intercept for province
MW	minimum wage
POP	population
G	growth
ER	employment rate
POV	poverty
EDUC	education
i	province
t	year
ε	error term

Equation 5 is the formula for *fixed effect* models in general and equation 6 is the formula for LSDV model which describes dummy variables on its intercepts. Individual unobservable variables and time unobservable variables no longer appear in the equation. It becomes an intercept as dummy for provinces as we can see in equation that have 29 dummy intercepts.

Statistical Analysis

Data was analyzed by using STATA version 15 software. The t-test was performed to explain the effect of each independent variable toward migration partially. While F-test is used to explain the effect of all

independent variables simultaneously toward migration. The constructed hypothesis is if the statistical probability test shows the value below 0.05, its mean that the independent variables have a significant effect on migration. The effect can be positive or negative depending on the value of each variable's coefficient. Before the LSDV model was estimated, there were some assumptions that must be applied. The model passed the *autocorrelation* test and *multicollinearity* test but not the *heteroscedasticity* test. So, the model used robust standard error to fix this problem.

III. Result

Internal Labor Migration in Indonesia

This research focuses on migration, that the migrants moved for employment reasons, namely for work reasons and finding work. In the table no 4, we can see that all provinces in Indonesia in 2015 have a smaller number of in-migrants for employment reasons than non-employment reasons except the Provinces of Riau Islands, Jakarta, Bali, and Papua. This causes the author to only include migrant data which moved for employment reasons that have a relationship with the minimum wage.

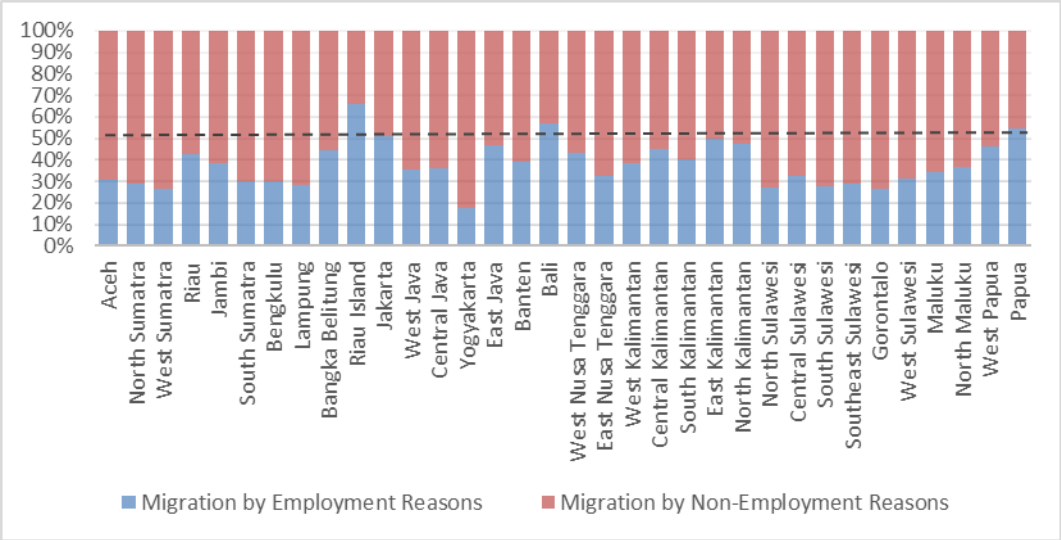


Table no 4: Shows percentage between migrants who moved because of employment reasons and non-employment reasons by province in 2015[12]. All provinces except Riau Island, Jakarta, Bali, and Papua, have lower in-migration numbers for employment reasons than another.

The inter-provincial labor in-migration in Indonesia tends to decrease from 2005 to 2015. The data shows that total recent in-migrations in 2005 was 3.96 million and 39.77% were labor migrants. Meanwhile, in 2015, the number of migrants entered was 4.81 million and 39.59% were labor migrants. We can see it on table no 5. According to Chotib[9], the decrease in this percentage is due to changing in migration patterns that occur in Indonesia from permanent to temporary such as commuter and circular migrations.

Table no 5: Records the percentage of labor in-migration toward total in-migration in Indonesia from 2005 to 2015.

Year	Total In-Migration	Labor In-Migration	%
2005	3.963.822	1.576.521	39,77
2010	5.396.419	3.146.394	58,31
2015	4.813.397	1.905.409	39,59

The table above shows the percentage of labor in-migration toward total in-migration in Indonesia from 2005 to 2015[11,12,23] that has a decreased in number from 39,77% in 2005 to 39,59% in 2015. Although the number of total migrants increased from 3.9 million in 2005 to 4.8 million in 2015, but still the percentage of labor migrant toward total migrant had decreased.

Selection of the Best Model

The analysis of labor migration and minimum wage in this study used panel data so it is necessary to select the best model to be used in the estimation. In static panel data, there are three kinds of approaches to be considered to get the best model. Firstly, *Pooled Least Square* or PLS model or usually also called *Common Effect* model. Secondly, *fixed effect* model or FEM and the last is *Random Effect* model or REM. To compare

the selection of PLS models with FEM model, a *Chow* test approach is used. Then to compare the FEM model with the REM model used *Hausman* test. Finally, to compare between choosing a REM or PLS model, a *Lagrange Multiplier* or LM test approach is used.

Table no 6: Shows the result of *Chow* test, LM test, and *Hausman* test

	Prob>Chi2	Conclusion
Chow Test	0,000	FEM is better than PLS
LM Test	0,000	REM is better than PLS
Hausman Test	0,000	FEM is better than REM

The table above **s**hows the results of *Chow* test, LM test, and *Hausman* test in static panel data test to get the best model to be estimated. Based on each test, FEM is the best model to be used to estimate the data. The *Chow* test concludes that if statistical probability value ≤ 0,05 then FEM is better than PLS to be used in estimation and vice versa. Then, in LM test, if statistical probability value ≤ 0,05 then REM is better than PLS to be used and vice versa. Last, in *Hausman* test, if statistical probability value ≤ 0,05 then FEM is better than REM to be used and vice versa. Based on the test results as shown in table 6, the *fixed effect* model approach is better to be used. This model states that each province analyzed has its own unobserved variable value that is fixed.

Result of Estimation

The approach used in fixed effect model to analyze the impact of minimum wage on labor migration in this study is LSDV (*least squares dummy variable*) model. This model shows that intercepts in regression can be distinguished between individuals because each province has its own characteristics that vary. Meanwhile, the slope or regression coefficient (β) of each observation does not change (fixed) for each observation time. It means that all provinces have their own value or characteristics of migration. The results of estimating panel data using the LSDV model are explained in table 7.

Table no 7: Shows the estimation results of LSDV model

Linear regression				Number of obs	=	90
				F (35, 54)	=	48.45
				Prob > F	=	0.000
				R-squared	=	0.939
				Root MSE	=	0.360
*ln*M	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
*ln*MW	-0.701	0.231	-3.04	0.004	-1.163	-0.239
*ln*POP	3.025	0.716	4.23	0.000	1.591	4.460
G	0.031	0.009	3.65	0.001	0.014	0.048
ER	0.092	0.028	3.31	0.002	0.036	0.148
*ln*POV	-1.539	0.455	-3.38	0.001	-2.451	-0.626
*ln*EDUC	-4.828	1.336	-3.61	0.001	-7.506	-2.149
Province						
Bangka Belitung	0.561	1.048	0.54	0.595	-1.541	2.663
Banten	1.036	0.946	1.09	0.279	-0.862	2.933
Bengkulu	2.136	0.797	2.68	0.010	0.539	3.734
Yogyakarta	2.111	0.728	2.90	0.005	0.650	3.570
Jakarta	2.147	0.825	2.60	0.012	0.493	3.800
Gorontalo	1.366	1.120	1.22	0.228	-0.879	3.611
Jambi	0.875	0.504	1.74	0.088	-0.135	1.884
West Java	-0.392	2.166	-0.18	0.857	-4.735	3.952
Central Java	-1.237	2.102	-0.59	0.559	-5.451	2.977
East Java	-1.829	2.234	-0.82	0.416	-6.308	2.649
West Kalimantan	-1.267	0.636	-1.99	0.051	-2.542	0.007
South Kalimantan	-0.206	0.403	-0.51	0.612	-1.014	0.603
Central Kalimantan	1.134	0.630	1.80	0.078	-0.129	2.398
East Kalimantan	2.452	0.501	4.89	0.000	1.448	3.456
Riau Island	3.838	0.790	4.86	0.000	2.254	5.422
Lampung	0.097	1.105	0.09	0.930	-2.118	2.312
Maluku	3.112	0.966	3.22	0.002	1.176	5.049
North Maluku	1.296	1.091	1.19	0.240	-0.891	3.483
West Nusa Tenggara	0.163	0.913	0.18	0.859	-1.668	1.994
East Nusa Tenggara	-0.027	1.023	-0.03	0.979	-2.078	2.023
Papua	1.400	1.048	1.34	0.187	-0.702	3.502
Riau	2.127	0.685	3.11	0.003	0.754	3.500
South Sulawesi	0.007	0.988	0.01	0.994	-1.974	1.989
Central Sulawesi	1.436	0.718	2.00	0.050	-0.002	2.876

Southeast Sulawesi	1.710	0.732	2.34	0.023	0.243	3.178
North Sulawesi	1.378	0.702	1.96	0.055	-0.029	2.784
West Sumatra	0.741	0.592	1.25	0.216	-0.446	1.927
South Sumatra	0.525	1.040	0.50	0.616	-1.561	2.611
North Sumatra	0.188	1.301	0.14	0.886	-2.421	2.797
_cons	-16.220	10.623	-1.53	0.133	-37.517	5.077

Table no 7 above Shows the result of LSDV estimation with 90 observations that consist of 30 provinces in Indonesia from 2005 to 2015. The F-test result concludes that at least one independent variable has a significant value on in-migration. The t-test result has different conclusion depending on each independent variable. R-squared value indicates that 93,9% of independent variables can explain the dependent variable.

Generally, based on table no 7 we can see that the minimum wage (*ln*MW) variable of a province in Indonesia has a significant effect on in-migration toward that province. P>|t| value or probability of statistic show the value under 0.05 that means the variable significant at α=5%. Likewise, the control variables used in the estimation also have the same statistical probability value. The LSDV model shows the differences in migration characteristics for each province, so the above estimation results also show the values of migration characteristics for all provinces used in the model.

IV. Discussion

The minimum wage at the provincial level in Indonesia has a negative impact on the labor in-migration. The value of *ln*MW coefficient as shown in table 7 indicates that any minimum wage growth of 1% in a province will cause the number of labor migrations entering that province to grow by -0.7%. This means that any increase in the minimum wage rate will lead to a 0.7% decrease in labor in-migration. We can see it at negative value of *ln*MW coefficient which indicates that the impact of that variable is negative. This variable has a significant impact that is shown by statistical probability value 0,004. It means that the variable partially has a significant effect at α = 5%.

This negative effect contrasts with some literature. For example, the results of the Safrida[16] which stated that the minimum wage in Indonesia has a positive effect on in-migration between islands in Indonesia. Or the results of the Allo[18] which states that the ratio of provincial minimum wage to decent living needs has a positive influence on labor migration. The difference in results is due to differences in the data used in the study where this study sorted migrants only those who moved for labor reasons.

However, this conclusion is in line with the results of the Scheven and Light[20] study that the implementation of a high minimum wage will cause migration into the region to decrease. This is because high wages will ask for workers who have high skills as well so that workers who have low skills will choose to move to other regions. In addition, the results of the Darmawan and Chotib[19] study in Indonesia also stated this. Migration between provinces in Indonesia tends to avoid areas that have high minimum wage rates. This is supported by data on the growth rate of labor migration and the growth rate of the minimum wage between provinces in Indonesia as described in table 8.

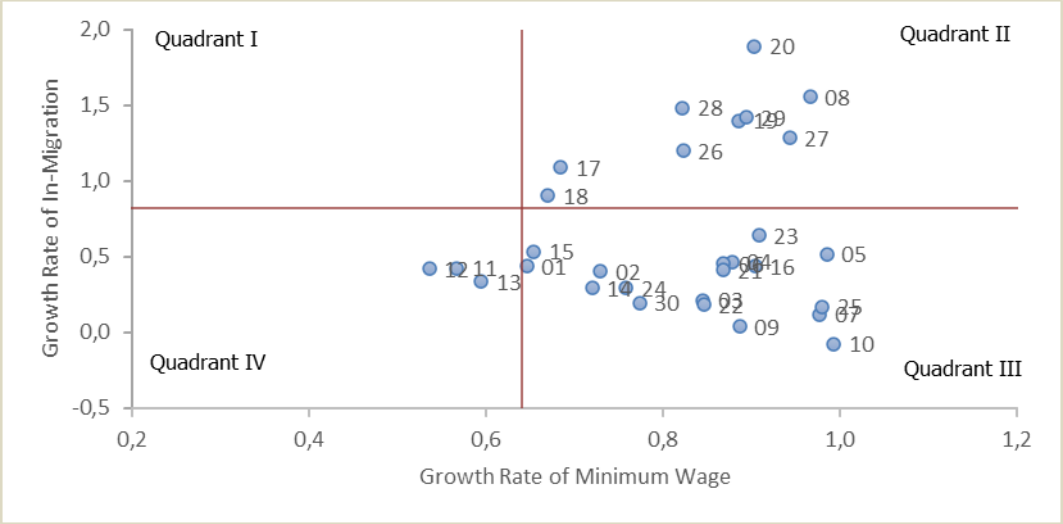


Table no 8: Distribution of provinces by growth rate in migration and minimum wage in Indonesia since 2005-2015 (percent). Quadrant I indicate distribution of provinces that have migration growth rate above the national average and minimum wage growth rate below the national average. Quadrant II shows the distribution of provinces that have both migration and minimum wages growth rates above the national average. Quadrant III

shows the distribution of provinces that have migration growth rates below the national average and minimum wage growth rate above the national average. Quadrant IV shows the distribution of provinces that have migration and minimum wages growth rates below the national average.

Based table no 8 above, the most provinces distribution are in quadrant III which shows the distribution of provinces in Indonesia that have an average provincial minimum wage growth that exceeds the national average. In contrast, the growth rate of labor migration tends to be below the national average. In other words, provinces spread across this quadrant have high minimum wage growth rates, but migration growth rates tend to be low. There are 18 provinces in quadrant III and 9 provinces in quadrant II. This suggests that provinces that have a provincial minimum wage above the national minimum wage tend to have low labor in-migration below the average national migration growth.

On the other hand, education factor is a proxy of skills and based on the results of estimation, education variable has a negative and significant effect. This means that the higher the level of education of the population in a province, the more it will cause in-migration of the province to decrease. As we can see in table 7, the greatest value of the coefficient is education (*ln*EDUC) but the impact of it is negative. Every 1% increase in the average year of schooling of a province's population will result in a 4.82% decrease in in-migration to the region. The variable has a significant value at α=5% which means that the statistical probability value is 0.001 under 0.05 as a tolerance value. It means that the variable has a significant effect on labor in-migration but in negative direction. We can see it at coefficient value of the variable in negative value.

This conclusion is also contrary to several previous studies such as the results of Wajdi et al[24] study between provinces in Indonesia which states that a person will tend to migrate to areas that have a high level of education. It is also the same conclusion of the results of a study by Muhammad and Tjiptoherijanto[25] at the district or regency level which states that the increasing level of education of the population in a district or regency in Indonesia will cause total in-migration to the region to increase. However, the difference with the results of the previous study is that the migration data used into the object of study is a total migration without distinguishing migrants who move due to employment reasons or others.

This indicates that inter-provincial migrants in Indonesia tend to have low levels of education and therefore are unable to compete for jobs or work in the destination area. Labor migrants are unable to compete with the local population, so they avoid moving to the areas where the average education level of the population in that province is high. So, it can be concluded that labor migration between provinces in Indonesia is dominated by workers who have low skills. So, they avoid entering provinces that have a high minimum wage level because high wage requires high skills too.

This conclusion is supported by the migrant education level data listed in table 9. According to data from Inter-Census Population Survey (SUPAS) in 2015 in Indonesia, migrants moving into a province in Indonesia tend to be dominated by migrants with the highest education attained is junior or senior high school.

Table no 9: Shows the recent in-migration by provinces in Indonesia by migrant education attained in 2015

No	Province	Uneducated	%	High School	%	Undergraduate	%
1	Aceh	3,555	18.94	10,756	57.30	4,461	23.76
2	North Sumatra	14,739	19.79	51,886	69.67	7,854	10.55
3	West Sumatra	14,664	22.61	42,726	65.87	7,476	11.53
4	Riau	18,086	16.76	78,805	73.05	10,990	10.19
5	Jambi	6,122	19.96	20,887	68.11	3,658	11.93
6	South Sumatra	7,454	19.47	27,229	71.12	3,604	9.41
7	Bengkulu	3,217	16.86	13,073	68.52	2,788	14.61
8	Lampung	8,182	19.43	29,862	70.91	4,071	9.67
9	Bangka Belitung	3,054	18.54	10,504	63.76	2,915	17.70
10	Riau Island	9,465	10.04	75,034	79.57	9,801	10.39
11	Jakarta	27,603	10.16	208,265	76.65	35,836	13.19
12	West Java	43,569	11.79	274,404	74.25	51,594	13.96
13	Central Java	45,918	18.48	181,560	73.08	20,966	8.44
14	Yogyakarta	7,604	6.99	79,115	72.78	21,992	20.23
15	East Java	25,761	17.03	108,976	72.03	16,548	10.94
16	Banten	20,075	12.60	114,871	72.10	24,376	15.30
17	Bali	8,667	13.58	47,310	74.11	7,857	12.31
18	West Nusa Tenggara	6,378	20.23	21,639	68.63	3,513	11.14
19	East Nusa Tenggara	6,170	19.83	16,867	54.20	8,085	25.98
20	West Kalimantan	2,606	15.25	11,569	67.69	2,915	17.06
21	Central Kalimantan	7,193	20.28	24,729	69.72	3,547	10.00
22	South Kalimantan	8,478	21.43	25,560	64.61	5,520	13.95
23	East Kalimantan	8,982	16.37	37,390	68.15	8,494	15.48
24	North Kalimantan	3,869	25.17	9,766	63.54	1,734	11.28
25	North Sulawesi	3,018	18.66	11,462	70.88	1,692	10.46
26	Central Sulawesi	8,134	24.93	19,712	60.42	4,781	14.65
27	South Sulawesi	14,822	23.47	40,043	63.39	8,300	13.14

28	Southeast Sulawesi	7,824	27.86	18,462	65.75	1,794	6.39
29	Gorontalo	1,641	21.66	4,995	65.94	939	12.40
30	West Sulawesi	3,089	19.33	10,574	66.17	2,316	14.49
31	Maluku	2,120	20.27	6,134	58.64	2,206	21.09
32	North Maluku	1,191	12.10	6,222	63.23	2,428	24.67
33	West Papua	3,693	14.26	17,231	66.53	4,976	19.21
34	Papua	4,187	15.16	16,290	58.98	7,143	25.86
	Average		17.92		67.63		14.45

Table above shows the recent in-migration by provinces in Indonesia by migrants' level of education in 2015[12]. Total in-migration in Indonesia is dominated by migrants with a junior or senior high school education levels followed by uneducated migrants who did not receive even primary education, and undergraduate migrants such as bachelor, master, or doctor degree.

Based on table 9, on average, 67.63% of migrants are high school graduates followed by 17.92% of uneducated migrants and 14.45% of migrants are undergraduates. This shows that inter-provincial in-migration in Indonesia tends to be dominated by migrants with low levels of education so that they are unable to compete with residents of destination areas who have a higher level of education. As declared by Scheven and Light[20], high minimum wage in a region requires a high labor skill to be hired in labor forces. So that migrants with low skilled will avoid migrating to the region with high minimum wage. Giulietti[14] also stated that minimum wage only affects low skilled migrants because those with high skilled migrants will be absorbed in labor market of their origin area.

V. Conclusion

The provincial minimum wage has a negative and significant effect on labor in-migration toward a province in Indonesia. Mobility of labor migration between provinces in Indonesia tends towards provinces that have a lower minimum wage. Inter-provincial labor migrants in Indonesia are dominated by low-skilled workers. They avoid areas that have a high average year of schooling for the residents. So, they choose the destination of migration to the regions that have a low minimum wage level to be able to compete in the destination labor market. Policymakers should consider migration conditions in each of their regions. In-migration that exceeds the available employment opportunities will lead to an increase in the unemployment rate in the region. This can have an impact on the regional economy. A low minimum wage will also lead to an influx of low-skilled migrants that could affect the average wage level in the region.

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