

Economic Prospects and International Labor Migration

Joko Susanto¹, Nor Fatimah Che Sulaiman^{2*}

¹ Faculty of Economics and Business, UPN Veteran Yogyakarta, Jl. Padjadjaran, Sleman 55283, Indonesia

² Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, Kuala Nerus 21030, Malaysia

Corresponding Author Email: n.fatimah@umt.edu.my



<https://doi.org/10.18280/ijstdp.170815>

ABSTRACT

Received: 6 October 2022

Accepted: 20 December 2022

Keywords:

migration, prospects, wage, unemployment, poverty

The expectation was a crucial element in the decision-making process about migration, so this study analyzed the impact of economic prospects on international labor migration on Java Island. The data sourced from the Indonesian Statistics includes international labor migration, economic prospects, unemployment, wage difference, and poverty in six provinces on Java Island from 2011 to 2020. This study utilized regression analysis based on the Panel Fully Modified Ordinary Least Square (FMOLS) and the Panel Dynamic Ordinary Least Square (DOLS). This method was complemented by expert judgments summarized in the Delphi analysis to identify the causes of international labor migration. The result shows that improving economic prospects negatively affects international labor migration. The better economic prospects would be followed by lower international labor migration. Meanwhile, increased unemployment and poverty rates lead to a rise in international labor migration. However, the wage difference has no impact on international labor migration. The Delphi analysis revealed that international labor migration is associated with some causes, such as vacancies in the home country, poverty, economic prospects in the home province, language similarity with the home country, distance to the destination country, and living costs in the destination country. Nevertheless, the wage difference between the wage rate in home country and the destination countries unrelated to international labor migration.

1. INTRODUCTION

Indonesia is the country with the fourth-largest population in the world. The large population causes Indonesia to face the problem of labor surplus. The number of job seekers is much higher than the job available. Some job seekers are not accommodated in the domestic job vacancies. The limited job vacancies in the home province encourage job seekers to migrate to other areas, even abroad. International migration refers to the movement of people from one country to another. A common reason for those is to get a job to improve their standard of living.

Migrant workers have families in their home countries, so they must send a remittance to them. The migrants' remittances are the most tangible link between migration and development. According to official estimates, migrants from developing countries sent over \$315 billion to their home countries in 2009, three times the size of official development assistance [1]. Evidence from Latin America, Africa, South Asia, and other regions suggests that remittances reduce the depth and severity of poverty and indirectly stimulate economic activity [2-4].

International migration still occurs when some Indonesian worker does not get a job yet. Due to the labor surplus, job seekers fail to acquire a job in their home country. Even though the Indonesian government tries to expand employment vacancies through increased investment, the job available is fewer than what job seekers want. Therefore, they moved to the foreign labor market to search for a job. International labor

migration will reduce the unemployment rate in the home country [5]. On the other hand, migrant workers fill labor shortages in the destination countries [6]. Skilled migrants are desirable immigrants who can fill shortages and contribute to economic growth and innovation. However, if these migrant workers do not get a job in the destination countries, this will create social problems in these countries.

International labor migration is an act that cannot be prohibited. Globalization causes information about job vacancies abroad to reach Indonesia quickly. Workers have some alternatives and choose whether to work in their home country or abroad. Migrating international workers consider the revenue and costs if they work abroad. The high wage in the foreign labor market boosts workers to work abroad. However, they also consider the costs of migrating, especially transportation costs and higher living costs abroad.

Besides, migrant workers face cultural shock due to the difference between their culture and destination country. If culture shock is not handled correctly, it will prolong for a long period. Similarly, Smith [7] also stated that culture shock is one of the most significant barriers to international travel. Most workers were affected by culture shock due to the difference in traditional issues [8]. Moreover, Indonesian foreign workers who worked overseas experienced a cultural shock [9]. These problems include inappropriate salaries, absence of vacation, and violence that often afflicts migrant workers. For this reason, the government regulates international labor migration so that migrant workers get protection. The government established the Indonesian

Migrant Worker Protection Agency (BP2MI) as an institution tasked with implementing policies in the integrated service and protection of Indonesian migrant workers. This institution is tasked with realizing the improvement of the protection and welfare of Indonesian migrant workers.

In the labor market, most job seekers are vocational high school graduates. Unlike senior high school graduates designed for higher education, vocational high school graduates are educated to enter the job market. However, job vacancies are limited, then some graduates of vocational schools are forced to work in the informal sector. Indeed, the ability of the informal sector to absorb labor is more than that of the formal sector. However, the working environment in the informal sector is unfavorable, mainly associated with low wages due to low productivity [10]. This makes educated people refuse to work in this sector. They want to work in the formal sector with adequate income, good facilities, comfortable work environment, and a prestigious job.

If they cannot get a formal job and refuse to work in the informal sector, another option is to work as an entrepreneur. However, becoming an entrepreneur is not easy for vocational high school graduates because they are too young. They have not received sufficient entrepreneurial learning, so they have difficulty trying to be entrepreneurs. In reality, business activity is different from what is obtained in entrepreneurship learning, so it needs much adjustment. This adjustment requires extra effort and a long time.

The Indonesian labor market is constantly changing in line with the economic outlook. Labor demand is derived from the demand for goods and services. If the economy improves, the demand for goods and services increases, so the demand for labor also rises. However, when economic prospects deteriorate, the demand for goods and services decreases, which results in a drop in labor demand. This decrease causes unemployment. So far, the unemployed do not get income due to the absence of an unemployment benefits scheme. Meanwhile, they still must consume to meet their needs.

Another factor that drives international labor migration is poverty and the wage difference between domestic and abroad. Poverty indicates people with low income that cannot fulfill their needs. The insufficient income forces them to search for another job that provides a higher wage. Higher income allows them to fulfill their needs and escape from poverty. Generally, wages abroad are higher than those in Indonesia. Therefore, they search for jobs abroad to get a higher income. After getting a job, they transferred a part of their income to their family in Indonesia, while the rest was utilized to fulfill the needs of living abroad.

Along with the disclosure of information, both job seekers and those already working have expectations about the economic prospects. They assess whether, in the future, the economy will improve or worsen. The better economic prospects in the home country indicated that there are many job vacancies, so the job seeker does not need to search job abroad. However, if the economy deteriorates, workers perceive domestic job vacancies are limited, so they have difficulty finding work. Besides, the drop in economic performance can also lead to layoffs, so many workers become unemployed. Therefore, they try to search for a job abroad.

In the ASEAN context, the existing literature about economic prospect and labor migration are quite limited. Therefore, this research aims to contribute to the empirical literature on economic prospect and labor migration in ASEAN particularly on Indonesian context.

This paper is organized as follows. Section 2 describes the literature. Section 3 introduces methodology utilized throughout this paper. Sections 4 describe the results. Further, these results will be discussed in Section 5. Finally, Section 6 presents the conclusions.

2. LITERATURE REVIEW

This section covers the literature review on economic prospects and labor migration. Based on findings from past studies and theoretical reviews, the conceptual framework for this study was developed.

2.1 Migration

Migrant workers go from one place to another in search of work. Migrant workers penetrate all economic sectors, including agriculture, manufacturing, and services. Workers migrate for various reasons [11]: 1). People can immigrate to expect better pay and working conditions. 2). People migrating for reasons of kinship allow them to obtain information about job vacancies. 3). People may migrate because employers recruit them. Recruitment can involve friends, private employment agencies, and the government. 4). Migrants can be illegally recruited and often trafficked. Therefore, some migrants are likely to be in low-paying and highly exploitative work.

Besides the skill factor, the problem for international migrant workers is their ability to adapt to the traditions and culture of the destination country. Migrants face complex affiliations and multiple loyalties to people, places, and traditions [12]. However, migrant workers often maintain various social, economic, and cultural ties to their countries. Various industrial relations problems often afflict migrant workers, such as late salaries and vacation absence. Failure to make adjustments leads to bad industrial relations.

Remittances play an important role in solving the problems of past financial shortages and providing the necessary resources for social and economic development. Generally, migrant workers send remittances to families in their home countries. Remittances from migrant workers encouraged a rise in their families' lives in their home countries [13]. Remittances are essential for international capital flow, especially in labor-exporting countries [14]. This delivery involves economic and non-economic resources, including exchanging money, knowledge, and universal ideas [15].

In summary, workers migrate because they expect to get a job or better job and better pay. Therefore, they can send remittances to families in their home countries. Some of them might be illegally recruited in low skilled, low paying and highly exploitative work. They also might have difficulties to adapt to the culture of the destination country.

2.2 Economic prospects

The economic prospects are related to information on current and future macroeconomic performance. This information is crucial for decision-making in investment, including Domestic Direct Investment (DDI) and Foreign Direct Investment (FDI). The government and the business sectors need the latest information about the economic conditions. The government needs this data for planning and policymaking in investment. Meanwhile, the business sector

utilizes information for evaluating and predicting market demand to assist in making market expansion and investment decisions. Better information helps some business actors to anticipate the circumstances change to minimize the possibility of loss. They must consider the possible risks when making decisions for themselves [16]. Also, accurate information increases synergies between the government and the business sector, which is expected to bring a higher quality of economic growth to improve public welfare.

One of the theories that discuss economic prospects is prospect theory. This theory explains how a person makes decisions in uncertain conditions. In the face of uncertainty, someone looks for information. Information is data that has been processed into a form essential to the recipient and has real value that can become the basis for future decisions. Based on the information, someone makes several decision frames. After the decision concept is made, he chooses one of them that produces the greatest expected utility [17]. The worse economic prospects indicate the possibility of a lower standard of living. People respond to poorer economic prospects by migrating to other areas that provide a better perspective. Migration flows respond more strongly to negative than equal-sized positive economic prospects, indicating loss aversion of potential migrants [18].

Therefore, worker will migrate to the countries that have better economic prospect and good economic performance. The increase in economic prospects in the home countries will result in lower international migration.

2.3 Wage difference

The facts of the empirical relationship between wages and productivity are consistent with traditional microeconomic theory [19]. The wage rate is closely related to marginal value products. This theory states that if labor productivity increases, labor demand rises as further expansion of production. These expansions have an impact on increasing business scale, revenues and profits. The higher profit allowed employers to give higher wages to their employees.

The wage rate is determined by the interaction between labor demand and supply. However, the labor surplus in Indonesia's labor market causes the wages rate from the market mechanism to be too low. For this reason, the government imposes a minimum wage higher than the market wage to increase workers' welfare. Higher welfare encourages increased discipline, loyalty, and responsibility of workers. Based on this thought, in some companies that employ skilled workers, the wages received by workers often exceed the minimum wage. This policy is called the efficiency wage. The basic premise for the efficiency wage model is that firms have an advantage by paying higher wages to their workers. High wages create a high cost of losing a job for a worker. Workers worry about losing their jobs, so they work harder. Therefore, high wages can reduce the number of lazy workers and increase worker productivity. An increase in worker productivity reduces labor costs per unit of output.

Labor productivity is positively related to wage rate [19], so lower labor productivity is associated with a lower wage. The lower wage is also associated with excess labor supply, so the wage rates resulting from the market mechanism are too low. Even though the government issued a minimum wage regulation, it could not realize a significant wage increase. Low wages cause some workers to feel dissatisfied, searching for jobs abroad. They go abroad for searching high-paying

jobs to improve their welfare. Therefore, the wage difference between Indonesia and abroad encourages international labor migration.

Thus, based on the facts above, the wage difference between the home countries and destination countries will encourage international labor migration.

2.4 Unemployment

One measure of labor market performance is the unemployment rate. Unemployment arises due to an imbalance between the demand for labor and labor supply. The imbalance in the labor market is indicated by an excess labor supply so that some job seekers do not get the job they want. The absence of adequate job vacancies causes some job seekers to become unemployed. Unemployment is one macroeconomic indicator that describes the success or failure of government policies. If the unemployment rate is high, it reflects the failure of government policies in the employment sector. So far, in Indonesia, the unemployed have no income. Indonesia has just enacted the provision of social benefits for the unemployed through the Job Creation Law of 2021. This is different from Western countries, which have long implemented the provision of unemployment benefits so that the unemployed in these countries still receive income from their government.

The unemployment rate is affected by institutional systems such as social security, employment protection, minimum wages, trade unions, and market regulations [20-23]. Meanwhile, Stijepic [24] stated that cognitive skills positively affect worker performance. Due to incomplete information, it is more difficult for a company to find a worker with the skills needed for a new job. This results in fewer job vacancies being created. The skills mismatch contributes to an increase in long-term unemployment [25]. The absence of income causes the unemployed to seek work elsewhere. It means that unemployment boosts international labor migration.

Hence, unemployment is the result of mismatch of supply and demand in the labor market, skill mismatch and also success or failure of government policies. Therefore, unemployment will increase the international labor migration.

2.5 Poverty

Poverty indicates the inability of households to meet a decent standard of living. This inability is characterized by low income, so they have difficulty meeting their basic needs such as food, clothing, housing, education, and health. The causes of poverty are so complex and interconnected that there is no magic formula for alleviating them. Some experts argue that education is an element of poverty reduction that prevents the next generation from becoming poorer. If public education is insufficient, the government has difficulty alleviating poverty [26].

Apart from education, poverty is also related to poor infrastructure. Many studies exhibited that infrastructure development is significantly associated with economic growth, especially in low and middle-income countries [27-31]. Moreover, Hooper et al. [32] found that investment in physical infrastructure and human capital reduces income inequality (Gini index) in the United States. The study also found that investments in highways are more effective at reducing inequality. Infrastructure investment is essential in reducing poverty and income inequality in developing and developed

countries. The low level of education and the absence of adequate infrastructure have caused some people to fall into poverty. Their income is insufficient to meet their needs, so they look for a job in other areas, including abroad.

Poverty is characterized by low income, low education level and the absence of adequate infrastructure. Therefore, poverty also leads to international labor migration.

3. METHODOLOGY

3.1 Data

This study utilizes secondary data published by the Central Bureau of Statistics (BPS) and the Indonesian Migrant Workers Protection Agency (BP2MI). The scope of the research includes international labor migration and the variables that affect it in all provinces in Java from 2011 to 2020. In this study, international labor migration is the dependent variable, while the independent variables include economic prospects, unemployment, wage differences, and poverty in six provinces in Java. Thus, the research data is in panel data, a combination of time series and cross-sectional data.

Furthermore, this research is complemented by primary data to analyze the causes of international labor migration. Primary data is obtained from the opinion of several labor economists on the causes of international labor migration. Every labor economist gives his opinion on the factors that cause the migration of Indonesian workers abroad. Based on the views of several labor economists, a Delphi analysis was carried out to identify the possibility of opinion convergence among these experts. If there is convergence among experts on a causal factor, all experts agree that it is the cause of international job migration.

3.2 Operational Variables

In this study, operational variables are defined as follows:

a. International labor migration

International labor migration is the number of Indonesian who work abroad (people).

b. Economic Prospect

Economic prospects are measured by the Consumer Tendency Index, which describes economic conditions based on consumer perceptions (points).

c. Unemployment

Unemployment refers to the open unemployment rate, which shows the percentage of unemployed to the total labor force (percent).

d. Wage rate difference

The wage difference is the difference between the wage rate

abroad and the wage in Indonesia. This variable is calculated from the wage rate in Malaysia (in rupiah) minus the average regency/municipality minimum wage in all provinces in Java, except the Special Capital Region of Jakarta. For this province, the wage difference is measured by the difference between the wage rate in Malaysia and the provincial minimum wage (rupiah).

e. Poverty

Poverty exhibits the percentage of people who live below the poverty line (percent).

3.3 Analysis tools

This study utilizes a panel data regression analysis. The panel data method drives analysis to be superior and robust. In recent years, this method has made significant technical progress and is increasingly used in social research [33]. Before further analysis, it is necessary to conduct a cointegration test to determine whether there is a long-term equilibrium relationship between some variables [34]. This cointegration test uses the Kao method. If the test results exhibit an equilibrium relationship between economic variables, then the next step is regression analysis to determine the impact of some causal factors on international labor migration. Regression analysis was performed by the Fully Modified Ordinary Least Square (FMOLS) and Dynamic Ordinary Least Square (DOLS) methods. This method has advantages over the OLS method [35]. The regression model is stated in the following equation.

$$ILMit = \beta_0 + \beta_1 ECOPROSit + \beta_2 UNEMPit + \beta_3 WAGEDIFFit + \beta_4 POVERTit + eit$$

Respectively, ILM is international labor migration, ECOPROS is economic prospects, UNEMP is unemployment, WAGEDIFF refers to wage difference, POVERT refers to the poverty rate, and e is an error term.

Moreover, the Delphi analysis complemented the regression analysis to identify the causes of international labor migration. This identification is carried out through a convergence analysis from the views of some labor economists.

4. RESULTS

This section describes the description of the variables used in this study. The descriptive study was conducted using a numerical method to summarize the information contained in the data. Based on the description study, the possibility of a correlation between variables can be seen. The following is a statistical description of the variables in this research (Table 1).

Table 1. Statistical description of research variables

	ILM	ECOPROS	UNEMP	WAGEDIFF	POVERT
Mean	40.46	109.75	6.628	3.331	9.571
Median	24.80	109.59	6.170	3.055	10.385
Maximum	145.6	116.01	13.060	6.251	16.210
Minimum	0.35	103.25	2.720	0.795	3.470
Std. Dev.	42.24	2.926	2.634	1.356	4.049

Based on Table 1, the highest international labor migration of 145,603 occurred in West Java in 2011. The highest international labor migration is related to the large population and high unemployment rate, thus encouraging the people of

West Java to seek jobs abroad. West Java is the province with the largest population in Indonesia. In 2011 the open unemployment rate in West Java reached 9.83%, the highest unemployment rate during the study period. Meanwhile, the

lowest international migration of 349 people occurred in the Special Capital Region of Jakarta in 2020. This condition is associated with the COVID-19 pandemic. The government restricted worker mobility to prevent the spread of the Corona Virus. The health consideration curtails labor migration, so the lowest international labor migration occurred in 2020 for all provinces in Java.

In general, the best economic prospects occurred in 2014. Meanwhile, the best economic prospect occurred in the Special Capital Region of Jakarta in 2014, with a score as high as 116.010 points. The role of Jakarta as the Indonesian capital and the business center causes this province to obtain the highest score. Conversely, the worst economic prospects, with 103.248 points, occurred in Central Java in 2015. Meanwhile, the lowest unemployment rate was 2.72 percent in the Yogyakarta Special Region in 2016. The low unemployment in this province is associated with this province's economic structure, which is dominated by small-scale economics. Small businesses are labor-intensive, so they absorb much labor. Conversely, the highest unemployment rate occurred in Banten Province in 2011, which reached 13.06 percent.

The largest wage difference between wages abroad and local wages occurred in East Java in 2019, with a wage difference of Rp6,251,000. This wage gap occurred due to the low minimum wage in East Java in 2019. The slightest wage difference occurred in the Special Capital Region of Jakarta in 2016, with a wage difference of Rp795,000. The slight difference in wages between the Special Capital Region of Jakarta and abroad is due to the high minimum wage in this province. Meanwhile, the highest poverty rate of 16.21 percent occurred in Central Java in 2011. This high poverty rate is related to low per capita income in Central Java. The lowest poverty rate occurred in the Special Capital Region of Jakarta in 2019, which reached 3.47 percent. The low poverty rate in the Special Capital Region of Jakarta is associated with this region's high GRDP per capita.

Furthermore, the cointegration test based on the Pedroni model exhibited a cointegration relationship between variables. The indicator of Panel v-Statistic, Panel PP-Statistic, Panel ADF Statistic, Group PP-Statistic, and Group ADF-Statistic are significant (Table 2). The variables in the model, therefore, form a stationary linear combination. The resulting residual is stationary (0). As a result, the estimated model is stable over time, or its variables have a one-way causal relationship.

Table 2. The result of Pedroni cointegration test

Within Dimension	Statistic	Prob.
Panel v-Statistic	5.709686	0.0000
Panel rho-Statistic	2.104538	0.9823
Panel PP-Statistic	-4.357521	0.0000
Panel ADF-Statistic	-3.762617	0.0001
Between Dimension		
Group rho-Statistic	3.245833	0.9994
Group PP-Statistic	-5.806593	0.0000
Group ADF-Statistic	-3.050281	0.0011

There were similar estimation results between Fully Modified Ordinary Least Square (FMOLS) and Dynamic Ordinary Least Square (DOLS). Both models' first, second, and fourth regression coefficients have the same sign, although slightly different values. All independent variables in both models are significant at $\alpha = 5\%$, except for the variable of wage difference. The FMOLS model's coefficient of determination is 0.3078. This means that the variation of all

independent variables explains 30.78 percent of the variation in international labor migration. Meanwhile, the DOLS model's coefficient of determination is 0.3133, indicating that the variation of all independent variables explains 31.33 percent of the variation in international worker migration (Table 3).

Table 3. The estimation result

Number	Variable	FMOLS	DOLS
1	ECOPROS	-0.950* (0.126)	-0.962* (0.474)
2	UNEMP	9.158* (1.063)	8.981* (3.769)
3	WAGEDIFF	0.371 (1.437)	1.719 (5.653)
4	POVERT	8.566* (0.645)	8.435* (2.267)
R2		0.3078	0.3133

* significant at ($\alpha=5\%$)

Numbers in parentheses are standard errors

Furthermore, the regression results are complemented by primary data representing the opinions of nine labor economists regarding the causes of international labor migration. Delphi analysis was conducted to identify the possibility of opinion convergence from several experts. Convergence of opinion from several experts shows a common opinion regarding the determinants of international labor migration.

Based on the views of some labor economists, eight factors have been identified as the causes of international labor migration. These factors include low wages in the home province, no job vacancies in the home province, poverty, higher wage levels in the destination country, economic prospects in the home province, a common language with the home province, distance to the destination country, and living costs in the destination country (Table 4).

The results of the Delphi analysis show that all variables have an interquartile range (IR) value of less than 2.5, but the standard deviation varies. Opinion convergence occurs on several factors, such as the absence of vacancies in the home province, poverty, economic prospects in the home province, the language similarity with the home province, the distance to the destination country, and living costs in the destination country. The standard deviation for these variables is less than 1.5. All labor experts agree that these factors induce the worker's decision to migrate abroad. All labor economists agree that the absence of vacancies in the home province makes workers have no choice except to migrate abroad. In addition, all labor experts also believe that poverty makes workers change their job. If they cannot get a better job and higher income in their home province, they are interested in searching for a job in another country.

Moreover, economic prospect indicates the employment condition next year. The poor economic prospect reveals a lower employment rate, so fewer vacancies are available. All labor experts state that poor economic prospects make workers migrate abroad due to the minor job vacancies in their home province. Besides, language similarities make essay communication between migrant workers and employers in the destination country. Better communication leads to more minor problems in industrial relations. All labor expert agree that labor migrant tends to choose the destination country with a language similarity.

Table 4. Results of the Delphi analysis on the causes of international labor migration

Causes of Migration	Average	Std. Dev	Decision	IR	Decision
Low wages in the home province	7.00	1.87	<i>Divergent</i>	2	Convergent
No job vacancies in the home province	8.11	0.78	Convergent	1	Convergent
Poverty	7.67	1.22	Convergent	1	Convergent
High wage in the destination country	7.22	1.79	<i>Divergent</i>	1	Convergent
Economic prospects in home province	7.44	0.88	Convergent	1	Convergent
Language similarity	8.00	0.50	Convergent	0	Convergent
Distance to destination country	7.56	1.42	Convergent	0	Convergent
Living cost in destination country	6.78	1.45	Convergent	2	Convergent

International labor migration is also associated the high transportation cost, so all labor experts stated that the worker wants to minimize this cost by choosing the nearest destination country. Generally, the migrant workers realize that the living costs in the destination country are higher than that in the home country. All labor experts agree that living cost is one of the worker's considerations for working abroad.

On the other hand, low wages in the home province and high wages in the destination country have a standard deviation of more than 1.5. Therefore, experts disagree that these variables are the causes of international labor migration. A part of some labor expert state that low wages in the home province boost the worker to search high wage jobs through work abroad. However, other labor expert state that although there is a low wage in the home province, the workers do not want to migrate abroad. Likewise, some labor expert state that high wages in destination countries attract Indonesian workers to work there. However, others disagree with this statement. Although there is a higher wage in the destination country, the Indonesian worker is not necessarily interested in working abroad due to the higher living cost.

5. DISCUSSION

The economic prospects are negatively associated with international labor migration. This means a better economic outlook is followed by a decrease in international labor migration. The improvement in the economic prospects of 1 point was followed by a decrease in international labor migration by 0.950 thousand people (FMOLS model) and 0.962 thousand people (DOLS model). Improved economic prospects indicate an increase in economic activity, especially investment. Investors consider improving economic prospects as a sign of increasing demand for goods and services. An increase in demand for output indicates a larger market demand. Therefore, the companies invest more capital in operating on a larger scale or opening new branches to increase their revenue and profits. They try to meet the increase in market demand by supplying more output.

The investment exhibits additional capital goods used in the production process. In addition to capital, the production process requires other inputs, including labor. Labor is a complementary input for other inputs, so the production process can occur. Almost no production process can run without labor. Increased investment leads to a rise in job vacancies. It makes it easier for workers to find a job and earn an income. They do not need to look for a job elsewhere, including migrating abroad.

International labor migration needs extra effort. An effort to find a job abroad requires high costs due to the long distance between residence and the destination countries. In addition, they have to bear higher transportation costs when living in a

new area. Besides, married workers, by working abroad, must temporarily separate from their families in Indonesia. This is a new problem, so as long as job vacancies in Indonesia still exist, they tend to choose to work in Indonesia. International labor migration tends to be the last choice for some people who cannot find jobs in the domestic labor market. The absence of job vacancy force some resident to try to find jobs abroad [36] through international labor migration. It means that improving economic prospects reduces the number of international labor migrations.

Furthermore, the unemployment rate has a positive impact on international labor migration. An increase in the unemployment rate of 1 percent led to a rise in international labor migration by 9.158 thousand people (FMOLS model) and 8.981 thousand people (DOLS model). Indonesia is a country with an excess supply of labor. The labor supply is much greater than the demand for labor. As a result, people looking for work will also find it harder to become employed. Another alternative is to become an entrepreneur, but it is not easy. Becoming an entrepreneur requires sufficient capital and expertise. Most job seekers are vocational or high school graduates who are not accommodated in tertiary institutions. Their educational background does not sufficient to start a business. This limitation forced them to choose to become workers. Generally, they want to work in the formal sector with comfortable working conditions. However, there are insufficient job vacancies in the formal sector to accommodate all job seekers.

The economic sector that absorbs much labor is the informal sector. The informal sector refers to businesses without legal entities. Indeed, the informal sector is built from all limitations. Several obstacles often hinder the growth and development of the informal sector. The most common problems experienced by the informal sector are the problem of limited capital, especially working capital. Another obstacle is the difficulty in marketing and getting raw materials, limited human resources, minimal knowledge about business, and lack of technical mastery. The low performance of the informal sector led to uncertainty about the future of workers, whereas workers want job security. It causes job seekers to refuse to work in the informal sector. They try to get a job in other areas, including abroad. Thus, unemployment encourages international labor migration. The finding supports the results of Matouskova [37] in Slovenia that many people solve the problem of unemployment and low wages by working abroad.

Furthermore, differences in wage rates do not impact international labor migration. This means that workers' migration is not caused by differences between wages abroad and wages in the home province. The motivation of Indonesian workers to go abroad is not because they seek high wages but because there is no sufficient employment opportunity. The unemployed have no income, whereas they still have to fulfill their needs. They are forced to look for a job abroad because

they cannot get it in their homeland. Although the wage difference increased due to the increase in wages abroad exceeding the increase in the provincial minimum wage, this was not followed by an increase in the number of workers migrating abroad.

Overseas workers face various risks. The risk often occurs related to cultural differences (culture shock). Often, the culture of the home region clashes with the destination country's culture. This problem causes Indonesian workers to receive unfair treatment, including violence against female workers. The other unfair treatment is lower wages than the promised salary, salaries not on time, work overload, and no vacation. This unfair treatment causes Indonesian workers to be reluctant to work abroad. It can be seen based on the number of Indonesian migrant workers tends to decrease. These results support Hatton and Tani [38] that wage differentials are less critical for migration into contiguous regions.

Furthermore, poverty affects international labor migration. An increase in the poverty rate by 1 percent led to a rise in the migration of workers abroad of 8.566 people (FMOLS model) and 8.435 people (DOLS model). International labor migration occurs because of poverty. Their income is insufficient to meet their needs, so they search for other jobs, including becoming international migrant workers. This means that international migration is carried out because they desire income to meet their needs.

The link between international labor migration and poverty rates can be detected based on the origin of the migrant worker. Most of the migrant workers come from poor regencies. In the Yogyakarta Special Region, migrant workers mostly come from the Kulonprogo Regency, a relatively poor regency. Likewise, most migrant workers from East Java come from Ponorogo, Blitar, and Banyuwangi. Similarly, in Central Java, some international migrant workers came from Kendal, Banyumas, and Cilacap regencies. Migrant workers from West Java mostly come from Krawang, Indramayu, and Cianjur. Meanwhile, in the Banten province, most of the migrant workers came from Padeklang and Lebak. Thus, the increase in the poverty rate is followed by an increase in migrant workers. Conversely, a decrease in the poverty rate is followed by a decrease in international labor migration.

The poverty rate is associated with economic growth. The growth encourages an increase in people's income to reduce the poverty level. A wealthy society has no desire to become migrant workers. The number of migrant workers in all provinces in Java decreases with a drop in poverty rates. The results contrast with the findings of Bazzi [39] that when poor households receive positive income shocks, they react by migrating more. Moreover, this finding also contradicts the results of Dao et al. [40], which show an inverse U-shaped pattern between income levels and emigration rates.

Furthermore, the Delphi analysis showed some causes, such as job vacancies in home, poverty, economic prospects in the home country, language similarity with the province, distance to the destination country, and living costs in the destination country, are associated with international labor migration. There are low standard deviations and small interquartile ranges on these causes. Therefore, all experts agree that some causes, such as the absence of job vacancies in home country, poverty, economic prospects, language similarity with the home country, distance to the destination country, and living costs in the destination country, are factors causing international labor migration [41, 42]. Some causes, such as

the absence of vacancies in the home country, poverty, poor economic prospects in the home country, and language similarity boost international labor migration. On the other hand, the distance and living costs in the destination country discourage international labor migration.

However, the Delphi analysis also exhibits disagreement between experts that the low wage in the home province and higher wage rates in the destination country are causes of international worker migration. These factors are not related to international labor migration. The standard deviation of these causes is more than 1.5, although the interquartile ranges (IR) are less than 2.5. This outcome supported the regression result that wage differences between domestic and abroad have no impact on international labor migration. Therefore, the migration of workers abroad is not in search of higher-paying jobs, but they search for jobs and earn income.

6. CONCLUSION

There is negative relationship between international labor migration and economic prospects in home country. The better economic prospects in home country would be followed by lower international labor migration. Due to a better economy, workers do not want to move abroad to search for jobs. Meanwhile, increased unemployment and poverty rates lead to a rise in international labor migration. Unemployment and poverty indicate that residents do not have adequate income, so they look for jobs in other areas, including abroad. However, the wage difference between domestic and abroad has no impact on international labor migration. The migration of workers abroad is not associated with wage differences. Some workers move to a foreign country for searching a job and get an income to fulfill their needs.

International labor migration is associated with several causes, such as economic prospects, unemployment, and poverty. For this reason, the government needs to use all policy instruments to realize better economic prospects. Thus, both labor and employers are optimistic about the economic outlook. This optimistic assessment encourages economic growth so there are more job vacancies. Increased job vacancies reduce unemployment, poverty rates, and international labor migration.

The managerial implications in this research are, in order to discourage the international labor migration, government and other related agencies in Indonesia should prepare the labor market for the better job and better pay that will create more productive workers. On top of that, the government should improve the economic prospects in Indonesia to increase the employment rate, thus lead to a higher income rate and then, resulting in lower international immigration.

ACKNOWLEDGMENT

The authors would like to thank Universitas Pembangunan Nasional Veteran Yogyakarta, Indonesia and Universiti Malaysia Terengganu for the support and assistance throughout this research.

REFERENCES

- [1] Ratha, D., Mohapatra, S., Silwal, A. (2010). Migration

- and Development Brief, No. 12. World Bank Informal Briefing Notes.
- [2] Adams, R.H.J. (2006). Remittances and Poverty in Ghana. World Bank Policy Research Paper, No 3838, Washington.
- [3] Anyanwu, J.C., Erhijakpor, A.E.O. (2010). Do international remittances affect poverty in Africa? *African Development Review*, 22(1): 51-91. <https://doi.org/10.1111/j.1467-8268.2009.00228.x>
- [4] Gupta, S., Pattillo, C., Wagh, S. (2007). Impact of remittances on poverty and financial development in Sub-Saharan Africa, working paper 07/38. International Monetary Fund, Washington DC. <https://doi.org/10.5089/9781451866025.001>
- [5] Prymachenko, Y., Fregert, K., Andersson, F. (2013). The effect of emigration on unemployment: evidence from the central and eastern European EU member states. 33(4): 2692-2697. <https://EconPapers.repec.org/RePEc:ebl:ecbull:eb-13-00345>.
- [6] Constant, A. (2014). Do migrants take the jobs of native workers? In *IZA World of Labor*. <https://doi.org/10.15185/izawol.10>
- [7] Smith, D. C. (2008). Pulling the plug on culture shock: a seven step plan for managing travel anxiety. *Journal of Global Business Issues*, 2(1): 41-46.
- [8] Rajasekar, J., Renand, F. (2013). culture shock in a global world: Factors affecting culture shock experienced by expatriates in Oman and Omani expatriates abroad. *International Journal of Business and Management*, 8(13). <https://doi.org/10.5539/ijbm.v8n13p144>
- [9] Rafika, D.A., Syahri, I., Susanti, R. (2018). Culture shock experienced by foreign workers. *Archives of Business Research*, 6(4): 115-129. <https://doi.org/10.14738/abr.64.4331>
- [10] Rothenberg, A.D., Gaduh, A., Burger, N.E., Chazali, C., Tjandraningsih, I., Radikun, R., Sutera, C., Weilant, S. (2016). Rethinking Indonesia's Informal Sector. *World Development*, 80: 96-113. <https://doi.org/10.1016/j.worlddev.2015.11.005>
- [11] Samers, M., Collyer, M. (2016). *Migration* (2nd ed.). Routledge. <https://doi.org/10.4324/9781315684307>
- [12] Cohen, R. (2006). *Migration and its Enemies: Global Capital, Migrant Labour and the Nation-State* (1st ed.). Routledge. <https://doi.org/10.4324/9781315595313>
- [13] Mas'udah, S. (2019). Remittances and lifestyle changes among Indonesian overseas migrant workers' families in their hometowns. *Journal of International Migration and Integration*, 21(2): 649-665. <https://doi.org/10.1007/s12134-019-00676-x>
- [14] Al-Assaf, G., Al-Malki, A.M. (2014). Modelling the macroeconomic determinants of workers' remittances: The case of Jordan. *International Journal of Economics and Financial Issues*, 4(3): 514-526. <https://www.econjournals.com/index.php/ijefi/article/view/800>.
- [15] Bailey, A.J. (2010). Population Geographies, Gender, and the Migration-Development Nexus. *Progress in Human Geography*, 34(2): 375-386. <https://doi.org/10.1177/0309132509344269>.
- [16] Zhang, X.Y., Liu, Y., Chen, X.Y., Shang, X.S., Liu, Y.F. (2017). Decisions for others are less risk-averse in the gain frame and less risk-seeking in the loss frame than decisions for the self. *Frontiers in Psychology*, 8: 1-10. <https://doi.org/10.3389/fpsyg.2017.01601>
- [17] Moscati, I. (2016). Retrospectives: How economists came to accept expected utility theory: The case of samuelson and savage. *Journal of Economic Perspectives*, 30(2): 219-236. <https://doi.org/10.1257/jep.30.2.219>
- [18] Czaika, M. (2015). Migration and economic prospects. *Journal of Ethnic and Migration Studies*, 41(1): 58-82. <https://doi.org/10.1080/1369183X.2014.924848>
- [19] Katovich, E.S., Maia, A.G. (2018). The relation between labor productivity and wages in Brazil: A sectoral analysis. *Nova Economia*, 28(1): 7-38. <https://doi.org/10.1590/0103-6351/3943>
- [20] Arpaia, A., Mourre, G. (2012). Institutions and performance in European Labour markets: Taking a fresh look at evidence. *Journal of Economic Surveys*, 26(1): 1-41. <https://doi.org/10.1111/j.1467-6419.2009.00623.x>
- [21] Belot, M., van Ours, J.C. (2004). Does the recent success of some OECD countries in lowering their unemployment rates lie in the clever design of their labor market reforms? *Oxford Economic Papers*, 6(4): 621-642. <https://doi.org/10.1093/oeq/gpf057>
- [22] Boeri, T., Conde-Ruiz, J.I., Galasso, V. (2012). The political economy of flexicurity. *Journal of the European Economic Association*, 10(4): 684-715. <https://doi.org/10.1111/j.1542-4774.2012.01065.x>
- [23] Launov, A., Wälde, K. (2016). The employment effect of reforming a public employment agency. *European Economic Review*, 84(3): 140-164. <https://doi.org/10.1016/j.eurocorev.2015.08.008>
- [24] Stijepic, D. (2021). A cross-country study of skills and unemployment flows. *Journal for Labour Market Research*, 55(1): 2-30. <https://doi.org/10.1186/s12651-021-00289-x>
- [25] Restrepo, P. (2015). Skill mismatch and structural unemployment. Working Paper, Massachusetts Institute of Technology. <https://doi.org/10.13140/RG.2.1.4201.2242>
- [26] Mihai, M., Țițan, E., Manea, D. (2015). Education and poverty. *Procedia Economics and Finance*, 32: 855-860. [https://doi.org/10.1016/s2212-5671\(15\)01532-4](https://doi.org/10.1016/s2212-5671(15)01532-4)
- [27] Calderón, C., Servén, L. (2010). Infrastructure and economic development in Sub-Saharan Africa. *Journal of African Economies*, 19(supl): 113-187. <https://doi.org/10.1093/jae/ejp022>
- [28] Chakamera, C., Alagidede, P. (2018). The nexus between infrastructure (quantity and quality) and economic growth in Sub Saharan Africa. *International Review of Applied Economics*, 32(5): 641-672. <https://doi.org/10.1080/02692171.2017.1355356>
- [29] Kodongo, O., Ojah, K. (2016). Does infrastructure really explain economic growth in Sub-Saharan Africa? *Review of Development Finance*, 6(2): 105-125. <https://doi.org/10.1016/j.rdf.2016.12.001>
- [30] Sahoo, P., Dash, R.K. (2012). Economic growth in South Asia: Role of infrastructure. *The Journal of International Trade & Economic Development*, 21(2): 217-252. <https://doi.org/10.1080/09638191003596994>
- [31] Sasmal, R., Sasmal, J. (2016). Public expenditure, economic growth and poverty alleviation. *International Journal of Social Economics*, 43(6). <https://doi.org/10.1108/IJSE-08-2014-0161>
- [32] Hooper, E., Peters, S., Pintus, P.A. (2018). To what extent can long-term investments in infrastructure reduce

- inequality? *Journal of Infrastructure, Policy and Development*, 2(2): 1-33. <https://doi.org/10.24294/jipd.v2i2.858>
- [33] Gil-garcía, J.R., Puron-cid, G. (2014). Using panel data techniques for social science research: An Illustrative Case and Some Guidelines. *CIENCIA Ergo-Sum*, 21(3): 203-216. <http://www.redalyc.org/articulo.oa?id=10432355004>
- [34] Hassler, U., Hosseinkouchack, M. (2016). Panel cointegration testing in the presence of linear time trends. *Econometrics*, 4(4): 2-16. <https://doi.org/10.3390/econometrics4040045>
- [35] Arize, A.C., Malindretos, J., Ghosh, D. (2015). Purchasing Power Parity-Symmetry and Proportionality: Evidence from 116 countries. *International Review of Economics & Finance*, 37(C): 69-85. <https://doi.org/10.1016/j.iref.2014.11.014>
- [36] Sulistyono, S.W. (2015). Peran Karakter Sosial-Ekonomi Sebagai Pendorong Menjadi TKI. *Jesp*, 7(2): 51-60.
- [37] Matouskova, E. (2020). Unemployment as factor of international migration. *Journal of International Business Research and Marketing*, 5(2): 16-19. <https://doi.org/10.18775/jibrm.1849-8558.2015.52.3003>
- [38] Hatton, T.J., Tani, M. (2005). Immigration and Inter-regional Mobility in the UK, 1982-2000. *Economic Journal*, 115: F342-F358. <http://www.jstor.org/stable/3590385>.
- [39] Bazzi, S. (2017). Wealth heterogeneity and the income elasticity of migration. *American Economic Journal: Applied Economics*, 9(2): 219-255. <https://doi.org/10.1257/app.20150548>
- [40] Dao, T.D., Docquir, F., Parson, C.P., Peri, G. (2018). Migration and development: dissecting the anatomy of the mobility transition. *Journal of Development Economics*, 132: 88-101. <https://doi.org/10.1016/j.jdeveco.2017.12.003>
- [41] Özçevik, Ö., Tan, P. (2020). The empirical role of social capital on urban transformation: A case study of Istanbul. *International Journal of Sustainable Development and Planning*, 10(3): 281-300. <https://doi.org/10.2495/SDP-V10-N3-281-300>
- [42] Amar, S., Satrianto, A., Ariusni, Kurniadi, A.P. (2022). Determination of poverty, unemployment, economic growth, and investment in West Sumatra province. *International Journal of Sustainable Development and Planning*, 17(4): 1237-1246. <https://doi.org/10.18280/ijstdp.170422>