

**DETERMINANTS OF INTERNATIONAL MIGRATION:
APPLICATION OF THE GRAVITY MODEL**

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Abstract

This study aims to analyze the application of the gravity model by looking at the effect of the Destination Country Labor Force, Home Country Labor Force, Inter-Country GDP Ratio, and Inter-Country Distance on the Number of Indonesian Labor Migration. The data used are time series data from 2013 to 2022 and cross section data on 15 destination countries for Indonesian workers with panel data regression analysis techniques. Based on the results of the Fixed Effect Model (FEM), the Destination Country Labor Force and Inter-Country Distance have a negative and significant effect on the Number of Indonesian Labor Migration, while the Home Country Labor Force and Inter-Country GDP Ratio have a positive and significant effect on the Number of Indonesian Workers. The West Asia region and Saudi Arabia have the lowest intercept values, while the highest intercept values are in the East Asia region and in China. The difference in intercepts shows the difference in the number of Indonesian workers as a whole caused by the different characteristics of each region and country. This study contributes to the existing literature by providing a comprehensive analysis of both the pull and push factors of international labor migration in both origin and destination countries. By including both perspectives, this study offers a more holistic insight and can serve as a reference for future research as well as for policy makers in formulating effective migration strategies.

Keywords: Labor Force, GDP Ratio, Distance, Number of Indonesian Worker

1. INTRODUCTION

According to the World Bank (2022), Indonesia is a country with a large population of 275 million in 2022 (World Bank, 2022). The large population that is not followed by employment opportunities has triggered many Indonesians to engage in labor international migration. According to the ILO (2020), labor international migration is the movement or movement of a person from the individual's home country to another country which generally aims to work or look for work.

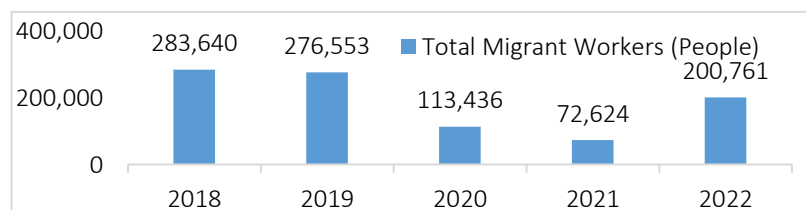


Figure 1 Development of the Number of Migrant Workers (Year 2018-2022)

Source: BP2MI (Badan Perlindungan Pekerja Migran Indonesia)

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Irawanti et al. (2020) state that different economic conditions in each country are the main phenomena that trigger international labor migration. In Figure 1, in 2019, the total number of migrant workers was 276,553, which decreased to 113,436 in 2020 and further decreased to 72,624 in 2021. According to Artina (2022), the COVID-19 pandemic has caused inter-city and inter-country flights to be temporarily suspended, hampering various activities including the economic sector.

According to Juaningsih (2022), during the pandemic there were many companies that carried out layoffs. These layoffs were carried out by companies to minimize losses. To improve the economy, many individuals undertook international migration when international flights reopened, which triggered an increase in the number of migrant workers in 2022, where in 2021 there were only 72,624 migrant workers, but in 2022 it increased to 200,761 people (Fikriansyah & Julia, 2023).

Table 1 GDP, Labor Force, Distance, and Number of Migrant Workers in 15 Destination Countries for Indonesian Workers in 2022

No.	Country	GDP (US\$)	Labor Force (People)	Distance from Indonesia (KM)	Number of Migrant Workers (People)
1	China	17.963.170.521.080	781.831.676	3.819,45	63.489
2	Hong Kong	359.838.598.806	3.814.661	3.263,36	60.069
3	Malaysia	406.305.924.656	17.309.921	1.182,49	43.163
4	Singapura	466.788.539.652	3.492.851	893,36	6.624
5	Jepang	4.231.141.201.863	68.931.322	5.786,85	5.832
6	Saudi Arabia	1.108.148.978.218	15.913.705	7.348,93	4.676
7	Italia	2.010.431.598.465	25.481.769	10.823,57	3.582
8	Turki	905.987.824.096	34.427.719	9.475,14	1.489
9	Korea Selatan	1.665.245.538.595	29.203.428	5.390,35	1.154
10	Qatar	237.295.575.171	2.003.258	6.920,58	848
11	Kuwait	184.558.274.289	2.419.833	7.417,85	718
12	UAE	400.218.529.748	6.579.221	6.465,02	548
13	Russia	2,240.422.438.363	75.000.000	9.307,46	273
14	Oman	114.667.360.208	2.243.287	6.192,19	115
15	Bahrain	44.390.820.479	842.278	7.048,55	8

Source: World Bank and BP2MI (Badan Perlindungan Pekerja Migran Indonesia)

According to Lewer (2008), a country's GDP level plays an important role in influencing migrants' decision to migrate. Comparisons of economic size between countries are often made through the use of GDP ratios between countries and in general migrants from Indonesia tend to choose countries that have higher GDP ratios. In Faizin (2020) research it was found that the GDP of a region has a negative and significant effect on labor migration abroad. In Table 1, it is shown that the country with the highest GDP level, namely China at US\$17,963,170,521,080 has 63,489 migrant workers in 2022 and inversely proportional to Bahrain, which is the country with the lowest GDP level in this study, namely US\$44,390,820,479 which only has 8 migrant workers in 2022.

Lewer (2008) also states that the population in the destination and origin countries can be used as a reference in the gravity model to see the level of international labor

DETERMINANTS OF INTERNATIONAL MIGRATION: APPLICATION OF THE GRAVITY MODEL

migration. Newton (1687) gravity model was developed by Hirschman (1958) on economic phenomena to see how the interaction of international trade between two or more countries including international migration by labor. This includes distance which is also used as a basic principle because the greater the distance between places, the less likely labor migration will occur. According to Kwilinski et al. (2022) in general, migrant workers will migrate to countries with a small labor force. As in Table 1, Hong Kong with a high GDP level of US\$359,838,598,806 but a low labor force of only 3,814,661 people makes many migrant workers migrate to the country reaching 60,069 people.

One of the factors that influence an individual's decision to undertake further international migration is the distance between individual regions (Lewer, 2008). In Beyer (2022) research, it was found that distance has a negative and significant effect on labor international migration, which means that if the distance between countries is closer, more workers will migrate because it will be easier for workers to migrate. As shown in Table 1, migrants prefer to migrate internationally to Singapore rather than Italy. The distance between Indonesia-Singapore is about 893.36 KM with a total of 6,624 migrant workers, while the distance between Indonesia-Italy is about 10,823.57 KM with a total of 3,582 migrant workers.

Although previous studies have discussed various aspects of international labor migration using the gravity model, there are still several things that need to be examined in more detail so that in this study so that different variables, years of research, and several different countries are made. This research is also more specialized on how the influence of the number of labor force in both the origin and destination countries of migrants where previous research on this matter focused on the population in the country. The ratio between the GDP of the migrant's country of origin and destination country, which also influences the migrant's decision to migrate, has not received adequate attention. These things make researchers interested in examining international labor migration with the application of this gravity model.

2. LITERATURE STUDY

Lee (1966) stated that the number of individuals who migrate in a region will continue to increase in line with the level of diversity in various regions within the region. Everett S. In this theory, an illustration is also provided that in both the region of origin and destination of migrants, there are various factors that can influence an individual's decision to choose to migrate internationally. Positive factors in this theory include elements that provide beneficial values, such as access to education, job opportunities, and better climate conditions. On the other hand, negative factors refer to aspects that provide a negative assessment of an area. In general, these negative factors will encourage individuals to leave the area. These existing differences ultimately tend to trigger population migration flows.

Lee stated that there are four factors that influence an individual's decision to migrate, namely (a) individual factors; (b) factors in the region of origin, such as restrictions on land ownership, lower wages, time lag in planting and harvesting periods, limited employment due to rapid population growth, and limited types of employment; (c) factors in the destination region, such as higher wage levels and diversity of employment; (d) barriers between the region of origin and the destination region, such as transportation facilities, regional topography, and inter-regional distance. The judgement of whether a region is considered positive or negative depends on an individual's perspective, and this condition then affects the region to which migration is directed.

The theoretical basis for this research is the law of gravity by Newton (1687). His discovery revealed the result that all particles in the universe experience a force of attraction to each other. The important thing to note is that the law of gravity is inversely proportional to the square of the distance between the centers of mass of two objects. This means that if the distance between two objects doubles, the gravitational force will decrease to a quarter of what it was before. In its development, Newton's gravity model was developed by Hirschman (1958) on economic phenomena to see how the interaction of international trade between two or more countries. Basically, this gravity model is often used to analyze the movement of goods and services, capital in the economy, and international migration by labor.

In this gravity theory in the context of labor, distance is also a basic principle, where the greater the distance between places, the less likely there will be labor migration. This applies to the opposite, where the closer the distance between places, the greater the possibility of labor migration. In addition, areas with large populations tend to have more people migrating because areas with populations that are too large for the available resources may trigger demographic pressures that encourage people to seek employment opportunities elsewhere.

Labor demand theory according to Borjas (2006) generally describes the complexity and interaction between the labor market and international migration. In his perspective, Borjas suggests that international migration arises in response to changes in labor demand. If there is a growing economic sector in a country, it can attract migrants to seek employment opportunities in that sector, so the level of migration can be seen as an indicator or result of changes in the layout of labor demand.

Borjas' theory also incorporates the concept of human capital, which emphasizes that education and skill levels play an important role in determining the value and competitiveness of labor in the global market. Migrants who have the appropriate qualifications will have a comparative advantage that can change the dynamics of the labor market in certain sectors. In addition, in this theory Borjas highlights the impact of international migration on income distribution in migrant-receiving countries. Highly educated migrants who migrate to sectors with high salary levels can lead to high income inequality.

Faizin (2020) used Gross Regional Domestic Product as one of the independent variables in his research. This study uses a quantitative method of panel data regression, where the data used includes the number of people who migrate internationally from several districts in East Java province during the observation period from 2011 to 2018. In his research, it was found that the Gross Regional Domestic Product of a region has a negative and significant influence on labor migration abroad. In this context, the low level of Gross Regional Domestic Product of a region will trigger an increase in labor migration from that region. This result is in line with Khoiriyah & Mardia (2021), Takenaka dkk (2020), and Beyer (2022) it was found that the GDP level of the migrant destination country has a positive and significant effect on the level of international labor migration. Higher GDP levels in migrant destination countries will be accompanied by new business opportunities and expand certain economic sectors and can expand employment opportunities and increase labor demand (Borjas, 2006). While a high GDP ratio creates expectations of higher wages, factors such as migration policies, labor provisions and labor market conditions also influence this comparison. Jobs that demand a high level of skill are generally rewarded with higher wages, which can be attractive to migrants with certain skill backgrounds.

DETERMINANTS OF INTERNATIONAL MIGRATION: APPLICATION OF THE GRAVITY MODEL

Research by Palupi et al. (2021) shows that the variable population of migrant destination countries has a negative and significant effect on international migration which is in line with research by Manzoor et al. (2021), Dharmadasa & Herath (2020), and Cameron & Poot (2019). Irawanti et al. (2020) and Devi & Sudarsan (2021) The results concluded that the migrant destination country population variable has a negative and significant influence on international migration of Indonesian workers. In other words, an increase in the population of the destination country tends to reduce the level of international migration of migrant workers, because the basic motives of migrants to migrate are often related to economic problems, such as unemployment and poverty. The high population also reduces the opportunity for migrants to obtain jobs in other countries because the government will prioritize local labor. Their research shows that the population in migrant destination countries has a positive and significant influence on the level of migrant workers. Thus, the higher the population of the destination country, the greater the number of international migration of Indonesian workers. The high population in the destination country implies that the country tends to have strong economic centers along with more job opportunities and facilities that make migrants often interested in moving to big cities in countries with large populations to get the benefits of migration. As in Lee (1966) theory, the population in the migrant's home country is a factor that encourages individuals to make the decision to migrate to leave their home country. This is consistent with a study conducted by Kyunghun (2022) where in his research it was found that the population in the home country of immigrants who moved to Korea had a positive and significant impact on their decision to migrate.

Irawanti et al. (2020) which uses quantitative methods with panel data regression on 5 countries in ASEAN in 2007-2018 has results that are in line with Devi & Sudarsan (2021) suggests that the population in the country of origin has a positive and significant influence on the number of migrant workers. The population in the country of origin is a factor that encourages individuals to make the decision to migrate leaving their home country generally with the aim of finding work to a country with a higher level of employment opportunities. As in Lee (1966) theory, the population in the migrant's home country is a factor that encourages individuals to make the decision to migrate to leave their home country. This is consistent with a study conducted by Kyunghun (2022) who examined immigrants entering Korea with a quantitative method using panel data in 2000-2019 consisting of 36 countries of origin of immigrants. His research found that the population in the country of origin of immigrants moving to Korea has a positive and significant impact on their decision to migrate. According to him, if the immigrant's home country has a high population, it will also affect the individual's decision to look for work in other countries such as Korea with the aim of finding work.

Research by Xu (2023) regarding labor international migration, a quantitative method with panel data regression is used, which consists of 58 counties in California as cross section data and 2014-2021 as time series data. This study found that distance has a significant negative effect on the level of labor international migration. This study has results that are in line with research conducted by Basu et al. (2022), therefore closer distance between countries will trigger more individuals to migrate, as there will be fewer barriers for migrants to migrate. In a study conducted by Zhang (2020) in the context of inter-provincial migration using the panel data regression method in several provinces during the 2005-2014 period, it was found that distance has a negative and significant effect on the level of inter-provincial migration in China. If the distance between provinces is closer, it will result in more individuals migrating, for example the provinces of Sichuan and Tibet.

3. RESEARCH METHODOLOGY

The data collection method in this research is literature study. Literature study is a data collection method carried out by reading and studying all reading sources related to what is being studied. The data needed in this study were obtained from the publications of several institutions, namely: Badan Perlindungan Pekerja Migran Indonesia (BP2MI) on the web page www.bp2mi.go.id, World Development Indicators at the World Bank with the web page www.databank.worldbank.org, and Distance Between Cities and Places which uses the web page <https://distancefromto.net>.

The analysis technique in this research is quantitative descriptive analysis technique using panel data regression analysis. The analysis technique using panel data is carried out because panel data allows researchers to control variables that cannot be observed and are likely to differ between individuals but remain constant over time. This helps reduce bias that may arise due to unobserved individual heterogeneity and allows dynamic analysis, such as changes in behavior that cannot be done with cross-sectional data. The combination of cross-sectional and time-series data in panel data can increase the number of observations, which in turn increases the accuracy and efficiency of model parameter estimation. However, a potential limitation of using panel data is that panel data analysis is more complex than cross-sectional or time-series data, which requires an in-depth understanding of the statistical and econometric methods used. Although panel data can control for unobserved heterogeneity, there is still a risk that the model used cannot fully capture all relevant variation among the units of analysis.

The time series data in this study is the period 2013-2022, while the cross-section data in this study is the 15 highest migrant destination countries, namely Hong Kong, China, Japan, Singapore, South Korea, Saudi Arabia, Malaysia, Italy, Turkey, United Arab Emirates, Qatar, Bahrain, Kuwait, Russia, and Oman. Data calculations in this study were carried out with the help of the ninth version of the Econometric Views (Eviews) program and Microsoft Excel 2021. The econometric model in this study refers to the model by Lewer (2008) which can be written as follows:

$$imm_{ij} = a_0 + a_1 (pop_i . pop_j) + a_2 (rely_{ij}) + a_3 (dist_{ij}) + u_{ij} \dots \dots \dots (1)$$

description: i = Migrant country of origin; j = Migrant country of destination; imm_{ij} = The log of immigration to migrant country of destination; $rely_{ij}$ = GDP ratio between migrants country of origin and destination; and $dist_{ij}$ = Distance between migrant country of origin and destination.

Although Lewer (2008) describes immigration in his research, in this study the model is used to see how it applies to the context of international migration. The size of the country in the model is expressed by the level of GDP where the GDP of the country of origin is compared with the GDP of the migrant's destination country to obtain the GDP ratio. In order to concentrate more on labor migration, this study uses the labor force variable of each country, both destination and origin countries, to replace the population variable of a country. With these modifications, the following econometric model will be used in this study:

$$TKI_{ta} = a_0 + a_1 (lbf_t . d(lbf_a)) + a_2 (rely_{ta}) + a_3 d(r_{ta}) + u_{ta} \dots \dots \dots (2)$$

description: t = Migrant destination country; a = Migrant origin country; TKI = Total of Indonesian Labor Migration; lbf_t = Labor force of Indonesian labor destination country;

DETERMINANTS OF INTERNATIONAL MIGRATION: APPLICATION OF THE GRAVITY MODEL

$d(lbf_a)$ = First difference result of labor force of Indonesian labor destination country;
 $rely_{it}$ = First difference result of distance between countries; $d(r)_{it}$ = Distance between migrant origin and destination countries; α_0 = Constanta; $\alpha_1 \alpha_2 \alpha_3$ = Regression coefficients and variables; dan u = *Error Term*.

4. RESULT AND DISCUSSION

Descriptive statistic

Based on Table 2, it can be seen that the total data from this study is 150 observation data. The test results show the mean value, median value, maximum value, minimum value, and standard deviation of each variable.

Table 2 Statistical Description Results

	LBFT	LBFA	RELY	R	TKI
Mean	7.077133	8.052447	3.209185	8.538061	3.346753
Median	7.150000	8.113000	0.389025	8.774161	3.201500
Maximum	8.893000	8.138000	15.01930	9.289481	5.177000
Minimum	5.859000	7.102000	0.032690	6.794990	0.903000
Std. Dev.	7.077133	0.240451	1.780285	0.702359	1.036835
Observations	150	150	150	150	150

Source: Data processed, 2024

The destination country labor force variable (LBFT) has a mean and median value of 7.077133 and 7.150000. The standard deviation value is 0.758571 which is smaller than the mean, indicating that the LBFT variable is homogeneous. The minimum value on this variable is 5.859000 with a maximum value of 8.893000.

The mean and standard deviation values of the Home Country Labor Force variable (LBFA) are 8.052447 and 0.240451. The mean value which is greater than the standard deviation and variance means that the LBFA variable is homogeneous with a median of 8,113000. The maximum and minimum values on this variable are 8,138000 and 7,102000.

In the Inter-Country GDP Ratio (rely) variable, it can be seen that the maximum and minimum values are 15.01930 and 0.032690. The mean value which is greater than the standard deviation ($3.209185 > 1.780285$) indicates that the rely variable is homogeneous with a median of 0.389025.

The Distance variable (r) in this study has a median of 8.774161 with an average of 8.538061 which is greater than the standard deviation of 0.702359. This means that the data on the Distance variable in this study are homogeneous. In this variable, the maximum value is 9,289481 and the minimum value is 6,794990.

The mean value of the TKI variable in this study is 3.346753 which is greater than the standard deviation of 1.036835 so that the TKI variable is homogeneous, followed by a mean value of 3.201500. In this variable, the maximum and minimum values are 5,177000 and 0,903000.

Estimation Output

The final model selection used in this study is the Fixed Effect Model as the Chow Test and Hausman Test prove that the best model is Fixed Effect. Based on the results of data management in Table 4, the regression equation model can be obtained as follows:

$$TKI = 104.2887 - 14.26609 + 40.78523 + 0.146669 - 0.061706.....(3)$$

The constant value obtained is 104.2887, which means that if the independent variable increases by one unit evenly, the dependent variable will also increase by 104.2887 percent.

Table 3 Estimation Result

Dependent Variable: TKI				
Variable	Coefficient	Std. error	t-stat	Prob.
<i>C</i>	104.2887	16.73661	6.231176	0.0000***
LBFT	-14.26609	2.360836	-6.042815	0.0000***
D(LBFA)	40.78523	5.586718	2.300393	0.0000***
RELY	0.146669	0.054909	3.671138	0.0086***
D(R)	-0.061706	0.028680	-2.151558	0.0335**
Cross-section fixed (dummy variables)				
<i>Obs.</i>	135			
<i>R</i> ²	0.902026			
<i>R</i> ² <i>adjusted</i>	0.886823			
F-statistic	59.33245			
Prob(F-statistic)	0.000000			
Method Selected				
<i>Chow-test</i>	0.0000			
<i>Hausman-test</i>	0.0000			

Source: Data processed, 2024

Description: ***: significant at $\alpha = 1\%$; **: significant at $\alpha = 1\%$

In Table 3, the regression coefficient on the Destination Country Labor Force variable is negative at -14.26609, which means that for every one percent increase in the Destination Country Labor Force, the number of migrant workers will decrease by -14.26609 percent. Meanwhile, the Home Country Labor Force variable has a positive coefficient of 40.78523, which means that if the Home Country Labor Force increases by one percent, the number of migrant workers will also increase by 40.78523 percent. Furthermore, the coefficient value on the Inter-Country GDP Ratio variable is positive at 0.146669, which means that if the Inter-Country GDP Ratio increases by one percent, the number of migrant workers will decrease by 0.146669 percent. Then, the Inter-Country Distance variable has a negative coefficient of -0.061706 which can be interpreted as if the distance between countries increases by one percent, the number of migrant workers will decrease by -0.061706 percent.

The classic assumption test in this study was carried out using the multicollinearity test and heteroscedasticity test. According to Rosadi (2011), if the correlation coefficient value exceeds the value of 0.9, it can be stated that there is a multicollinearity problem, and vice versa. The multicollinearity test results in this study show that the correlation coefficient value of each independent variable does not exceed 0.9 so that the model in this study is free from multicollinearity problems. In addition, the heteroscedasticity test

DETERMINANTS OF INTERNATIONAL MIGRATION: APPLICATION OF THE GRAVITY MODEL

also obtained a probability value of the independent variable $> \alpha = 5\%$, which means that the variables in this study do not affect the absolute residuals or residuals so that the model in this study is free from heteroscedasticity problems.

Based on the probability values in Table 3, it can be seen that the t-test in this study each variable has a significant effect, but the variable of the Labor Force of the Destination Country and the Inter-Country Distance found negative results, while the other variables, namely the Labor Force of the Home Country and the Inter-Country GDP Ratio, have a positive effect. Furthermore, the F-test shows that together the independent variables in this study have a significant influence on the dependent variable. This criterion can be met because the probability of the F-statistic shows a result of $< 5\%$.

Discussion

An increase in the labor force in the destination country may result in a decrease in the number of Indonesian workers migrating to that country. The increase in the number of local workers in the destination country can create more intensive competition in the labor market. With the increase in local workers, the tendency of companies to recruit domestic labor increases, potentially reducing the opportunity or need for companies to recruit workers from abroad, including migrant workers. According to Tanthowy & Wardani (2018), changes in demographic characteristics related to the population in destination countries also play a role. An increase in the population in the productive age group can result in an increase in the availability of local labor that can fill positions in the labor market. Governments in destination countries can implement policies that give priority to local workers to reduce unemployment rates and increase employment. Such policies may include preferences in the granting of work visas or labor regulations that give preference to domestic workers.

Research by Palupi et al. (2021), Manzoor et al. (2021), Dharmadasa & Herath (2020), and Cameron & Poot (2019) revealed the results that the variable population of migrant destination countries has a negative and significant effect on labor international migration. The labor force, which is an important element of a country, has a growth rate in line with the growth of the country's population. The government's decision to prioritize local labor over migrant workers can be seen through various perspectives, including economic, social, and policy. Economically, the policy of prioritizing local labor is often emphasized as a strategy to reduce unemployment and encourage internal economic growth. Providing employment opportunities to citizens is considered to strengthen the foundation of the domestic economy and support the achievement of long-term economic development goals. Policies that support local labor are thought to prevent social and economic inequalities and reduce the potential for conflict in the labor market. Policy factors are also a major consideration, with the government having the responsibility to protect the interests of its citizens (Irawanti et al., 2020).

In the East Asia region, which is dominated by developed countries, strong economic growth and high demand for labor affect the interest of Indonesian workers to migrate to countries in the region. Developed countries with a limited labor force tend to open the door to accept foreign workers, including Indonesian workers, to fill job vacancies that cannot be fulfilled by the local labor force. The existence of migration policies can be influenced by labor shortages in certain sectors.

The flow of migrant workers in the Southeast Asia region is dominated by Singapore and Malaysia. The main factor in the high destination of migrant workers to these

countries is the significant cultural and linguistic similarities between Indonesia and the two countries, facilitating the process of adaptation and integration of workers (Suyatno dkk, 2020). Construction, agriculture, plantations, light manufacturing and domestic work are often considered less attractive by local workers for various reasons, including working conditions, relatively low salaries and the social status of the job. In contrast to Malaysia, Singapore has a smaller labor force. Singapore is a city-state with a limited area and a relatively small population. This small population means that the size of the local labor force is also limited, especially when compared to the needs of the country's highly developed industrial and service sectors.

In the West Asia Region, the destinations where Indonesian workers migrate are predominantly Saudi Arabia, UAE, Qatar, Bahrain, Turkey, Oman, and Kuwait. These countries in West Asia are generally very dependent on foreign labor. According to Latifah & Ghozali (2019) this is because economic life is dominated by the oil and gas sector, which generates wealth but does not always provide enough local labor for all economic sectors. This condition, along with large-scale infrastructure development and efforts to diversify the economy, opens up many job opportunities that are attractive to foreign workers, including Indonesian workers. Another factor at play is the region's wage levels which tend to be higher than Indonesian standards, offering significant economic incentives for Indonesian labor.

The countries in the European Region that are destinations for migrant workers in this study are Russia and Italy. Migrant workers' migration to European countries such as Russia and Italy can also face barriers such as language differences, strict immigration regulations, and the expansion of local labor protectionist policies. The labor force in Russia is characterized by a strong industrial sector and abundant natural resources (Ryazantsev et al., 2019). However, Russia also faces demographic challenges such as population decline and aging of the population, which can create labor needs in certain sectors, as well as Italy, making it attractive for migrant workers to migrate to the country.

The results of the research on labor force variables in this study are in line with Irawanti et al. (2020) and Kyunghun (2022) who used the variable Population in the Home Country of migrants. The study found that the population in the country of origin has a positive and significant effect on the number of migrant workers. This is because the population in the country of origin can be one of the factors that encourage individuals to choose the decision to migrate, as explained in Lee (1966) theory. In this theory, individual factors that influence migration decisions can be classified into two main categories, namely push factors and pull factors. Push factors include conditions or pressures that encourage a person to leave their place of origin.

The high labor force in Indonesia can be one of the push factors for individuals to choose to migrate internationally as the intensity of competition for jobs in the labor market increases. With the availability of an abundant labor force, competition for decent jobs becomes more intense. In response to this situation, some individuals may choose to seek employment opportunities abroad as an alternative option to meet their economic needs, especially if domestic job opportunities are limited or competition is fierce (Palupi et al., 2021).

Countries with high GDP ratios when compared to Indonesia tend to offer better economic opportunities. Economic growth that involves an increase in GDP often results in a situation where people have greater purchasing power thus driving demand for goods and services. Along with this, companies tend to increase their production to meet the increased market demand which leads to the need for more labor to assist in the production process. High GDP ratios between countries have a significant impact on the

DETERMINANTS OF INTERNATIONAL MIGRATION: APPLICATION OF THE GRAVITY MODEL

wage levels of migrants. The existence of such comparisons creates an attraction for migrants who expect to earn higher wages in the destination country. The comparison of migrant wages with local labor is an important consideration. While a high GDP ratio creates the expectation of higher wages, factors such as migration policies, labor laws, and labor market conditions also influence this comparison. Jobs that require a high level of skill are generally rewarded with higher wages, which can be attractive to migrants with certain skill backgrounds.

Borjas (2006) labor demand theory, which emphasizes the importance of human capital or skills possessed by workers. Improved skills and education levels are thought to strengthen workers' position in the international labor market. Migrants who acquire better human capital are believed to have better access to better job opportunities and higher wages in the destination country. Borjas' theory also emphasizes that economic differences between home and destination countries such as differences in GDP per capita are the main factors that drive labor migration. Countries with higher GDP usually offer higher wages compared to the workers' home countries. This wage differential reflects differences in productivity and economic welfare between countries, which incentivizes migrant workers to migrate.

By the high GDP of migrant workers' destination countries, so the results of research by Faizin (2020), Khoiriyah & Mardia (2021), Takenaka et al. (2020), and Beyer (2022) have results that are in line with this study. In these studies, it was found that the GDP level of the migrant destination country has a positive and significant influence on the level of international labor migration, which means that the higher GDP level in the migrant destination country will be accompanied by new business opportunities and expand certain economic sectors so that it can trigger more labor needed in the country.

The ratio of Indonesia's GDP to that of Southeast Asian countries such as Singapore and Malaysia provides a perspective on relative economic conditions and their relationship to the flow of Indonesian workers to these countries. The difference in GDP between Indonesia and these Southeast Asian countries reflects differences in wage levels and economic opportunities. Migrant workers tend to migrate to countries with better economic opportunities, including higher salaries and more favorable working conditions.

The GDP ratio between Indonesia and East Asian countries such as Hong Kong, China, Japan, and South Korea reveals economic disparities that affect labor migration flows. Specifically, Hong Kong as a global financial center shows a very high GDP per capita. China, with its position as a global economic power, has a large total GDP although its GDP per capita is lower than other East Asian countries. Japan and South Korea, both advanced economies, offer high levels of prosperity thanks to their growing manufacturing and technology sectors. These are factors that attract migrant workers to migrate to these countries in the East Asia Region.

In the West Asia Region where countries such as Saudi Arabia, United Arab Emirates (UAE), Qatar, Bahrain, Turkey, Oman, and Kuwait are the main destinations for migrant workers, significant differences in economic levels and prosperity influence labor migration. Countries in the West Asia Region such as Saudi Arabia, UAE, Qatar, Bahrain, Oman, and Kuwait stand out with economies dominated by oil and gas revenues, resulting in high GDP. Meanwhile, Turkey has a more diversified economy and is not entirely dependent on oil and gas. Then, in the West Asia Region, many migrant workers are employed in the construction and infrastructure sectors. This is because rapid economic growth and massive development projects have a high demand for labor in this field.

In Europe, particularly in countries such as Russia and Italy, the situation of Indonesian migrant workers (TKI) is different compared to countries in West Asia. Many migrant workers in Europe work as nannies, domestic workers, or in elderly care. The tourism and hospitality sector also offers some opportunities. Different climatic barriers are a major challenge for migrant workers in Russia, as well as immigration policies that may be less supportive of foreign labor compared to other European countries (Colucci, 2019). However, the GDP ratio between Indonesia and these European countries indicates the potential for higher wages and better economic opportunities in Russia and Italy, which are attractive to Indonesian migrant workers.

The Inter-Country Distance variable of this study is in line with the labor gravity theory by Hirschman (1958). In research by Xu (2023), Beyer (2022), dan Basu et al. (2022) the same results were obtained. This significant negative relationship is due to the fact that closer distance between countries will make it easier for migrants to migrate because there are fewer obstacles for migrants. The theory states that the greater the distance between places, the less likely labor migration will occur. Lee (1966) theory illustrates that there are barriers between the migrant's region of origin and the migrant's destination. Apart from the cost, adaptation to a new culture and language is also a complex hurdle. Differences in culture, social norms and language can create difficulties in daily interactions, both in work and social settings. This is because countries with linguistic or cultural similarities to Indonesia can facilitate migrant workers in communicating and integrating with local communities, which in turn affects employment opportunities and social integration. These considerations contribute to migrant workers' decision to migrate to countries closer to Indonesia, such as the Southeast Asian region of Singapore and Malaysia, rather than Europe.

5. CONCLUSION

Based on the results of the research and analysis that has been carried out, it can be concluded that the variable of the Labor Force of the TKI's Country of Origin has the most dominant and positive influence in influencing the number of migrant workers to conduct international migration compared to other variables. The labor force variable of the migrant workers' destination country and the distance between countries show negative coefficients. However, it is the Destination Country Labor Force that has the greater influence. Similar to the Home Country Labor Force, the Inter-Country GDP Ratio also has a positive influence, but is not more dominant. The coefficient of determination (R^2) test in this study shows that 90.2 percent of the variables of the Destination Country Labor Force, Home Country Labor Force, Inter-Country GDP Ratio, and Inter-Country Distance affect the number of migrant workers and the remaining 9.8 percent is explained by variations in variables not included in the model. Recognize those who helped in the research, especially funding supporter of your research. Include individuals who have assisted you in your study: Advisors, Financial supporters, or may other supporter i.e. Proofreaders, Typists, and Suppliers who may have given materials.

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DETERMINANTS OF INTERNATIONAL MIGRATION: APPLICATION OF THE GRAVITY MODEL

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Volume 9, No 1 (2024)

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