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CHARACTERISTICS OF MIGRANT WORKERS AND ECONOMIC GROWTH: AN INTERREGIONAL MIGRATION IN INDONESIA[5]

Migration bears a significant relationship with the dynamics of economic growth in developing countries. This study aims to investigate whether the allocation of internal migrant workers to specific regional units, as conducted in this research within East Java Province, Indonesia, yields the anticipated effects. The Heckman two-step estimation method was used in analyzing the impact of migrant workers on economic growth in developing countries. The results of this study indicate that the determinants of migrant workers in East Java are significantly influenced by age, gender, level of education, marital status, presence of family members under the age of 5, description of the category of origin, Gross Regional Domestic Product Based on Current Prices (PDRB ADHK), region of origin, and the number of poor people. The results of the analysis of the significant impact of migrant workers on the economic sector (PDRB ADHK in destination areas) on migrant workers in East Java are migrant workers of productive age, male migrant workers, migrant workers with bachelor/diploma's degree, migrant workers who come from areas with the widest type of floor is in the form of non-timber/soil housing, and migrant workers originating from small-town areas contribute the most to the PDRB of the destination region.
Keywords: Heckman two-step estimation; migrant workers; PDRB
JEL: J60; J61; J62

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1. Introduction

Large population growth followed by unequal distribution between regions and the economy which tends to be concentrated in one area encourages people to migrate (Purnomo, 2004). Migration aims to support a better economy due to differences in the economic structure of one city to another. According to Todaro & Stilkind (2006), migration is influenced by the push factor of a region and the pull factor of other regions. Regional thrust causes people to go elsewhere, for example, due to a lack of jobs in the area of origin and the pull factors of other regions is the hope that there will be an opportunity to improve the standard of living (Lee, 1966). In addition, another pull factor for someone deciding to migrate is the opportunity to obtain a better education (Todaro, Stilkind, 2006).

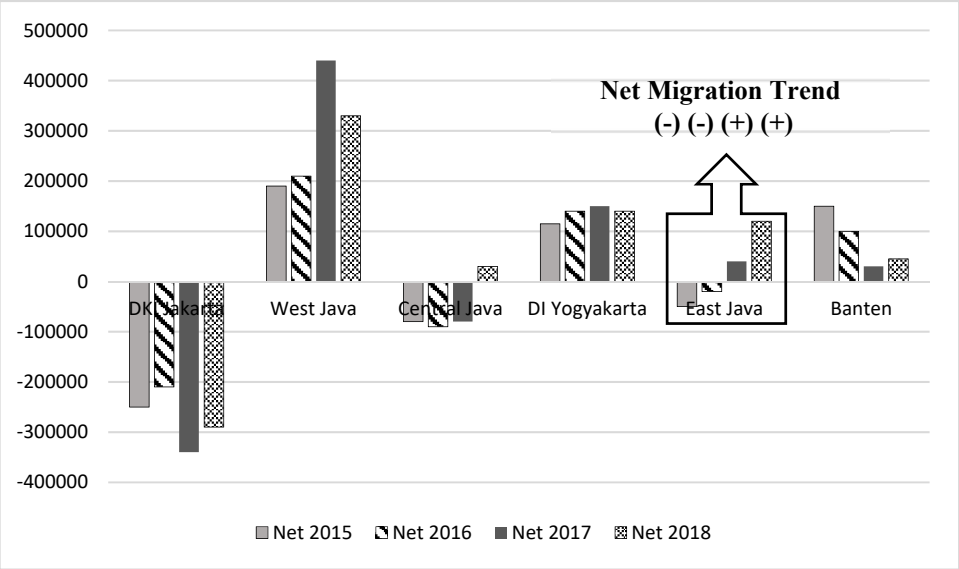
According to Todaro and Smith (2012), economic factors are the main reason for population migration. This means that there will be a flow of migration from areas with fewer economic opportunities to areas that provide more economic opportunities. Hamid (1999) also considered economic motivation to be the main ground for migration, while other factors are only derivative considerations which are ultimately related to this economic motivation. There are four factors that cause a person to migrate, namely individual factors, factors in the area of origin, factors in the area of destination, and obstacles between the area of origin and the area of destination (Lee, 1966). In most cases, migration is triggered by economic opportunities and a better life at the destination (pull factors) or by the relatively low available economic opportunities that exist in the location of origin (push factors) and is influenced by similar variables i.e. differences in income, probability of obtaining occupation, area, level of education and marital status (King, Skeldon, 2010). The work of Manning and Pratomo (2013) showed that migration benefits those who live in cities for a long time and the duration of migration affects socio-economic mobility. Furthermore, d'Albis et al. (2018) showed that net migrant flows have been shown to increase both per capita Gross Domestic Product (GDP) and fiscal balance by increasing the share of the labour force and reducing per capita transfers.

This work was conducted in East Java Province and this province has a higher number of incoming migrants than outgoing migrants. This can be seen through the total net migration for each province in Java Island which is presented in Figure 1.

Total net migration shows that the number of incoming migrants to East Java Province has increased up to three times. Thus, East Java Province has the highest increase in in-migration every year of the six provinces in Java Island, without experiencing a decline. One of the factors influencing the rise in migrants in East Java Province is the development of economic growth centres which can be seen that East Java has the area unit development of Gerbangkertosusila (Gresik, Bangkalan, Mojokerto, Surabaya, Sidoarjo, and Lamongan), then the gini ratio index decreased in 2017-2020 which indicates that inequality in East Java is declining which makes East Java Province more attractive to migrants (BPS, 2020). Research on migration has been carried out by several researchers, including Katikar (2020) empirical findings showing that immigrants, and especially those with high skills, have a positive and statistically significant impact on regional economic growth and labour productivity in Thailand. Therefore, it is suggested that more attention should be paid to the role of regional area-based development policies and the ability of destination countries to

absorb high-skilled migrant workers. In-depth migration research was conducted by Chakraborty and Kuri (2017) with results showing that factors such as the experience of the head of the family, level of education of the family, family income, differences in income prior and after migration and the network to the village are the main factors in family migration decision making. A study conducted by Ilnicki (2020) also discussed migration and the results of the study showed that the areas that attract migration are very similar in terms of their spatial extent. Based on the description above, empirical data is not in line with theory and there are differences in the results of previous studies related to migrant workers which were mostly carried out using a macro approach. However, studies from the micro side are still limited. Therefore, this research was conducted with the aim of knowing the impact of migrant workers on economic growth in East Java Province using the Heckman two-step estimation method.

Figure 1. Total Net Migration of Provinces in Java Island



Source: Central Bureau of Statistics (2019).

The first part of this work discusses the literature on migration theory, the concept of migration, and the socio-economic determinants of migrant populations. This section draws attention to several features of the urban labour market in East Java Province that may be important for migrant mobility. The second section briefly describes the sample included in the Inter-Census Population Survey (SUPAS) in East Java Province and the data set used for this study. This section then examines the descriptive analysis of migrant workers based on the 10 independent variables used in this study. The third part discusses research results related to the determinants and impacts of migrant workers on the economic sector. The final section examines the conclusions of the research.

2. Literature Review

The New Economics of Migration Theory states that migration is not just the pursuit of higher incomes, but also a decision based on the needs and conditions of the family, people who migrate try to minimize the risks associated with the migration process (Gheasi and Nijkamp, 2017). The theory used as the grand theory in this study is the Neoclassical microeconomic theory which states that labour migration occurs not only because of differences in wages, but also because migrants make rational cost-benefit decisions (Gheasi and Nijkamp, 2017). The theory of Rural Migration from a Microeconomic by Todaro claims that migrants will move to cities even if they don't get a job (Todaro, 2000). The driving force in this explanation is that the wages expected of migrants in cities are higher than those in villages (Gheasi and Nijkamp, 2017).

2.1. Migration concept

According to Purnomo (2004), the factors that encourage the majority of the population to migrate to an area include greater employment opportunities with various types, various facilities, and the expectation to get a decent life with higher income compared to the area of origin. Migration is triggered by economic opportunities and a better life at the destination (pull factors) or by the relatively low available economic opportunities available at the location of origin (push factors), and is influenced by similar variables, namely differences in income, probability of getting a job, area size, level of education and marital status (King and Skeldon, 2010).

2.2. Determinants of Interregional Labor Migration

The work of Wajdi (2017) was the latest research on labour migration between regions in Indonesia through several macro and micro approaches. Some of the micro variables used in this research are age, gender, level of education, marital status, family members, floor area, minimum wage, description of area, PDRB, and population.

McConnell, et al. (2016) revealed that the older a person is, the less likely they are to migrate, this is due to several reasons, among which could be a decrease in net income or an increase in switching costs. In addition, gender is also a factor that influences migration (Regmi et al, 2019). According to the population census (2010), the gender characteristics of migrants show that there are more male migrants than female migrants.

Human capital theory explains that experience, expertise, and education will determine the migration of labour (McConnell et al., 2016). Workers with higher education are also more likely to be transferred to new geographic locations in terms of employment, if not transferred, these workers are more likely to find employment opportunities than those with shorter years of schooling (McConnell et al., 2016). Migrant decisions to enter the workforce are also influenced by marital status. There is a different pattern between individuals who are not married and individuals who are married (Castelli, 2018). Saepudin (2006) stated that individuals who are not married tend to be more mobile than those who are married.

However, this perspective is challenged by the findings of Hatab's (2022) research, which stated that migrants with married status are more likely to migrate than migrants with single, divorced, widowed, or widower status.

Wijaya (2018) found that someone who is already working and married has a lower tendency to migrate than someone who is already working but still unmarried, provided that other factors such as age and education remain constant. This is because the potential costs of migration are directly proportional to increasing family size (Wijaya, 2018). Even though the presence of children also inhibits migration due to increased costs, the presence of children under five years of age has a positive impact on migration (Wajdi N, 2017). In addition, an increase in per capita floor area tends to reduce opportunities for labour migration with risk reduction motives, this condition illustrates that labour migrants who are poor have a higher opportunity to migrate with risk motives (Joan, et al., 2020). These findings are also supported by previous work that has been conducted in several other countries in Asia (Wu, 2010).

Boffy-Ramirez (2013) explained that the minimum wage can affect workers in migration and the size of the minimum wage that changes in a district/city greatly determines how migrant workers migrate. Ren, et al. (2020) also agree in stating that a high minimum wage in an area can attract workers to migrate to the region, by focusing on rural to urban workers. Thus, the minimum wage is thought to influence the size of migrant workers entering a region in this study. The description of the area has the potential to influence economic activities in rural/local areas (Joan, et al., 2020). The economy is not as advanced as the economy in the city centre, which triggers migration. Kleemans (2015) stated that negative shocks, for example, agricultural shocks due to drought, natural disasters, and price fluctuations, households in rural areas may decide to send people elsewhere to earn additional income.

Faizin (2020) stated that regional PDRB has a significant influence on labour migration abroad. The PDRB of the destination area is higher, encouraging people to migrate in the hope that it will improve their economic welfare. Hermawan (2018) produced research that the number of poor people influences people to work abroad, one of which is due to economic factors. Community initiatives to work abroad have the hope of getting higher wages so that their living needs will be fulfilled. This is reinforced by Harahap's research (2020) which stated that the amount of poverty has a significant influence on labour migration from Indonesia to overseas.

2.3. Migration and Gross Regional Domestic Product per Capita

Jaumotte et al. (2016) explained that migration can have an impact on the level of GDP or GRDP per capita in two ways. First, migration can increase the proportion of the working-age population to the total population in the destination area, considering that migrants are dominated by the working-age population. Second, migration has an impact on the level of worker productivity. Most countries want to attract highly educated migrants because they feel it has direct benefits to high productivity (McConnell et al., 2016).

3. Methodology

This research was conducted to analyze the determinants and the impact of the decisions of migrant workers in East Java Province on economic growth using the two-step Heckman correction approach model. Stage 1 will show the results of the analysis for the determinants of migrant workers' status and stage 2 will indicate the results of the analysis for the impact of migrant workers. The quantitative research approach is utilized because the collected data encompass various quantitative and qualitative variables. Nevertheless, this approach places greater emphasis on the analysis of data based on numerical statistics, and statistical methodologies are often employed to process and analyze the data in order to produce meaningful outcomes. The sample in this study were workers who migrated internally or between regions within East Java Province in 2015. The sample was selected based on the characteristics that fit the research needs to be taken from secondary data sourced from the 2015 East Java SUPAS data. The unit of analysis in this study refers to individuals who undergo residential relocation and originate from East Java, with the characteristic that the targeted geographic area for these individuals is districts/cities as migration destinations. Type of data used in this research is cross-sectional data. A purposive sampling method was used to obtain data on migrants originating and aiming for districts/cities in East Java Province.

The independent variables used in stage 1 are age (X1), gender (X2), level of education(X3), marital status (X4), presence of family members under the age of 5 (X5), type of the widest floor (X6), district/city minimum wage of region of origin (X7), category description of region of origin (X8), PDRB ADHK of region of origin (X9), and number of poor people in region of origin (X10). While the independent variables used in stage 2 are age (X1), gender (X2), level of education (X3), widest floor type (X6), and category description of region of origin (X8). The dependent variable applied in the first stage is the employment status of migrants (Y1), where the value of 0 represents migrants who are non-workers, and the value of 1 represents migrants who are workers. In the second stage, the observed dependent variable is the level of PDRB per capita (ADHK) in the destination area (Y2), a measure of gross income per capita. The differences in the variables used in stages 1 and 2 are statistical considerations, namely variables that are not significant in stage 1 are ignored in stage 2 and are considered economically.

Heckman (1979) argued that bias resulting from a non-random selection process can be considered a specification error. Heckman has two stages of estimation to correct the bias which became known as the Heckman Two Step Estimation. Heckman Two-Step Estimation is a two-step estimation using the selection equation which is estimated with probit, and the main equation using the inverse mills ratio derived from the probit equation as one of the control variables. The Heckman method has a coefficient obtained by regressing all information from each working and non-working respondent in the migration model by including all dependent variables plus additional variables that influence a person's decision to work.

This model arises for several reasons, including the opportunity for selection to enter or exit the sample by individuals being observed in research and sample selection decisions by researchers applied in much the same way as self-selection (Heckman, 1979). The Heckman

model is used in the case of a biased and inconsistent estimator which is handled by the sample selection process. This sample selection is carried out on the variable Z_i^* where the value of Z_i^* is denoted to be a value of 0 for a value of Z_i^* which is equal to zero and a value of 1 for a value of Z_i^* which is more than zero which is then symbolized as a variable Z. The probit model assumes that the dependent variable under study follows a normal cumulative distribution function.

To estimate the parameters of the Heckman model, the Heckman Two-Step Estimator procedure is used. The equation used to estimate a Y regression model for a series of explanatory variables X is as follows.

$$Z_i^* = W^T\gamma + u > 0 \tag{1}$$

$$Y = X\beta + \varepsilon\,; E(\varepsilon|X) = 0 \tag{2}$$

The following is a model for estimating the Heckman two-step correction parameter for the PDRB impact estimation model in East Java Province.

$$Y_1^* = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + \beta_8 X_{8i} + \beta_9 X_{9i} + \beta_{10} X_{10i} + \gamma\lambda_i + u \tag{3}$$

$$\begin{aligned} Y_1^* = {} & \beta_0 + \beta_1 Age_i + \beta_2 Gender_i + \beta_3 Level\ of\ Education_i + \beta_4 Marital\ Satus_i \\ & + \beta_5 Family\ Members\ Under\ the\ Age\ of\ 5_i \\ & + \beta_6 The\ Widest\ Floor\ Type_i + \beta_7 UMK_i \\ & + \beta_8\ Region\ of\ Origin_i + \beta_9 PDRB\ of\ Region\ of\ Origin_i \\ & + \beta_{10} Number\ of\ Poor\ People_i + \gamma\lambda_i + u \end{aligned} \tag{4}$$

$$Y_2^* = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_6 X_{6i} + \beta_8 X_{8i} + \gamma\lambda_i + u \tag{5}$$

$$\begin{aligned} Y_2^* = {} & \beta_0 + \beta_1 Age_i + \beta_2 Gender_i + \beta_3 Level\ of\ Education_i \\ & + \beta_6 The\ Widest\ Floor\ Type_i + \beta_8\ Region\ of\ Origin_i + \gamma\lambda_i \\ & + u \end{aligned} \tag{6}$$

where:

Y_1 : migrant worker status

Y_2 : PDRB per capita ADHK

β, γ : Parameters

X : Independent variables

λ : Value of inverse mills ratio in the first model

u : Error

The population in this study consists of migrant workers in East Java, totalling 271,667 individuals. The sample used comprises migrants residing in and originating from the East Java region, with a recorded count of 24,823 migrants in the year 2015.

The results of the descriptive analysis of the characteristics of migrant workers in East Java Province can be seen in Table 1 below.

Table 1. Descriptive Analysis Results of Migrant Workers in East Java Province

Variable		Number of migrant workers		Mean	Standard Deviation
		Frequency	Percentage		
Age	Non-Productive	1,209	8.71%	0.759	0.428
	Productive	12,668	91.29%		
Gender	Male	8,610	62.05%	0.510	0.500
	Female	5,267	37.95%		
Level of Education	Non-Bachelor's /diploma degrees	11,670	84.10%	0.110	0.313
	Bachelor's/diploma degrees	2,207	15.90%		
Marital Status	Single	1,686	12.15%	0.714	0.452
	Married/divorced/widow/widower	12,191	87.85%		
Presence of Family Members Under the Age of 5	None	8,610	62.05%	0.289	0.453
	Yes	5,267	37.95%		
Widest floor type	Non-wood/soil	13,248	95.47%	0.040	0.196
	Wood/board/soil	629	4.53%		
Minimum Wage of Regency/City	Origin < destination	8,459	60.96%	0.387	0.487
	Origin > destination	5,418	39.04%		
Description of the Category of Origin	Small city	4,090	29.47%	0.710	0.454
	Large city	9,787	70.53%		
PDRB ADHK of Origin	Origin < destination	7,546	54.38%	0.454	0.498
	Origin > destination	6,331	45.62%		
Number of Poor People	Origin < destination	4,857	35.00%	0.647	0.478
	Origin > destination	9,020	65.00%		

Based on Table 1, it can be observed that there are 13,877 migrants with worker status originating from and headed to East Java Province. There are more migrant workers of productive age (workforce) than migrant workers of non-productive age (non-workforce). There are fewer female migrant workers than male migrant workers. Migrant workers with undergraduate/diploma education are fewer than migrant workers with non-graduate/diploma education. There are more migrant workers with married/divorced/widow/widower status than migrant workers with single status. Migrant workers who have family members under the age of 5 are fewer than migrant workers who do not have family members under the age of 5. Migrant workers with the widest type of flooring in the area of origin in the form of wood/board/soil are fewer than migrant workers with the widest type of flooring in the area of origin in the form of non-timber/soil. Migrant workers who come from areas with higher UMK than destination areas are less than migrant workers who come from areas with lower

UMK than destination areas. Migrant workers who come from large urban areas are larger than migrant workers who come from small urban areas. Migrant workers who come from regions with PDRB ADHK higher than PDRB ADHK in the destination area are more numerous than migrant workers who come from areas with lower PDRB ADHK than the destination region PDRB ADHK. Migrant workers who come from areas with a higher number of poor people than the number of poor people in the destination area are more numerous than migrant workers who come from areas with a lower number of poor people than the number of poor people in the destination area.

4. Result and Discussion

The dependent variable in this study for stage 1 is the employment status of migrants. It is divided into 2 types, namely non-working migrants and working migrants. The definition of working migrants refers to migrants who hold a specific position in a job, whereas non-working migrants are migrants who do not hold a specific position in a job. Migrant workers have 4 categories namely, paid workers, employers, employees, and casual workers. In 2015, of the 24,823 migrants originating from East Java Province and heading to East Java Province, there were 13,877 migrants (55.90%) with worker status, while the rest, namely 10,946 migrants (44.10%) were not workers. The status of migrant workers is divided into 4 categories namely, paid workers (3.36%), employers (19.07%), employees (29.58%) and casual workers (3.89%).

Furthermore, analysis was carried out using the Heckman two-step estimation to find out the determinants and impacts of migrant workers on PDRB. The determinants of migrant workers use 10 independent variables which can be seen in Table 1. On the other hand, 5 variables namely age, gender, level of education, type of the widest floor, and description of the category of origin were used for the analysis of the impact of migrant workers on PDRB. The results of the analysis of the determinants and impacts of migrant workers on the economic sector in this study can be seen in more detail in Table 2.

Greene (2003) interpreted the probit regression model and the marginal effect was used. The interpretation of the probit regression model is based on the marginal effect, not based on the coefficients of the probit regression model. The marginal effect shows the magnitude of the probability of the predictor variable on the response variable. Based on the Marginal Effect results in Table 2, it can be concluded that the variables are age (X_1), gender (X_2), level of education (X_3), marital status (X_4), presence of family members under the age of 5 (X_5), category description of the region of origin (X_8), area of origin PDRB ADHK (X_9), and the number of poor people (X_{10}) have a significant effect, while the rest, namely the widest floor type variable (X_6) and the district/city minimum wage region of origin (X_7) do not have a significant effect at the real level of 5%.

The age variable shows that migrant workers of productive age have a 0.3 times higher chance of moving and becoming migrant workers than migrant workers of non-productive age. In line with the work of Regmi et al (2019) which has obtained that the age variable has a positive and significant influence in determining a person's decision to migrate. This is also in line with the study of Roca Paz and Uebelmesser's research (2020) which examined the

relationship between individual attitudes about risk and migration decisions based on several variables, one of which is age.

Table 2. Results of Determinant Analysis and Impact of Migrant Workers on Economic Growth

Variables	*Heckman Two Step Estimation Test*		
	Step 1	*Marginal Effect*	Step 2
X1 Age	0.7013113	0.2669352	85,836.26
	0.000	0.000	0.000
X2 Gender	-1.311848	-0.4993194	-34,612.47
	0.000	0.000	0.000
X3 Level of Education	0.4999912	0.1903081	7,211.17
	0.000	0.000	0.015
X4 Marital Status	0.9688954	0.3687839	
	0.000	0.000	
X5 Presence of Family Members Under the Age of 5	0.3421424	0.1302273	
	0.000	0.000	
X6 Type of Widest Floor	0.0721642	0.0274674	-37,126.96
	0.132	0.132	0.000
X7 Minimum Wage of Regency/City	0.0040795	0.0015528	
	0.880	0.880	
X8 Description of the Category of Origin	-0.3515215	-0.1337972	-14,232.60
	0.000	0.000	0.000
X9 PDRB ADHK of Origin	-0.1028796	-0.0391583	
	0.000	0.000	
X10 Number of Poor People	-0.1708799	-0.0650408	
	0.000	0.000	
Mills lambda		76,813.77	
Wald chi square	2,894.41		
n	13,877		
Rho	0.61		
Sigma	125,785.69		
Prob > chi	0.000 (sign)		

The gender variable shows that female migrant workers have a 0.5 times lower chance of moving and becoming migrant workers than male migrant workers. This agrees with the results of Regmi et al (2019) stating that migration decisions are influenced by the number of male family members.

The level of education variable shows that migrant workers with undergraduate/diploma education have a 0.2 times higher chance of moving and becoming migrant workers than migrant workers with non-graduate/diploma education. This finding is supported by Regmi et al (2019) who stated that education level influences migration decisions positively and significantly.

The marital status variable shows that married/divorced/widow/widower migrant workers have a 0.4 times higher chance of moving and becoming migrant workers than single migrant workers. Roca Paz and Uebelmesser (2020) also claimed that marital status has a significant positive relationship to migration.

The presence of family members under the age of 5 shows that migrant workers who have family members under the age of 5 have a 0.1 times higher chance of moving and becoming migrant workers than migrant workers who have no family members under the age of 5. This finding aligns with the results of Botezat and Pfeiffer (2019) who found that the presence of children can positively and significantly influence parental migration.

The widest floor type variable has a Marginal Effect value of 0.027 with p-value = 0.132, the results of the analysis show that there is not enough evidence to suggest that migrant workers with the widest type of floor area of origin in the form of wood/boards/soil have a 0.03 times higher chance of migrating and being a migrant worker compared to a migrant worker with the widest floor type in the region of origin being non-timber/soil. This contrasts with the results of Martaa et al (2020) claiming that floor area per capita influences migration decisions with a significant negative relationship.

In the regency/city minimum wage variable, the area of origin is 0.0016 with p-value = 0.880, the results of the analysis show that there is not enough evidence to state that migrant workers who come from areas with a higher UMK than the UMK in the destination area have a 0.002 times higher chance of move and become migrant workers rather than migrant workers who come from areas with lower UMK than the UMK of the destination region. Mulholland et al (2013) stated that wages have a significant negative effect on someone deciding to migrate.

The variable category description of the region of origin shows that migrant workers who come from large urban areas have a 0.1 times lower chance of moving and becoming migrant workers than migrant workers who come from small-town areas. According to Krishna (2003), the category of area does not determine whether a person migrates.

The PDRB ADHK variable in the region of origin shows that migrant workers with PDRB ADHK in the region of origin which is higher than the PDRB ADHK in the destination area have a 0.04 lower chance of moving and becoming migrant workers than migrant workers with PDRB ADHK in the region of origin which is lower than the regional PDRB ADHK. Keshri (2013) claimed that the country's net domestic product per capita and the rate of labour migration in large parts of the country, have a significant negative relationship.

The variable number of poor people in the region of origin shows that migrant workers who come from areas with a higher number of poor people than the number of poor people in their destination areas have a 0.07 times lower chance of moving and becoming migrant workers than migrant workers who come from areas with poor people which are lower than the number of poor people in the target area. On the contrary, Du et al (2005) found that poverty has a positive relationship in determining a person to migrate, the worse a person's economic condition will increase the possibility of migrating.

Based on the analysis in Table 2, there are 2 positive significant variables for migrant workers, namely age (X_1) and level of education (X_3). Meanwhile, the variables with significant negative values were gender (X_2), the widest floor type (X_6), and category description of the region of origin (X_8). The influence of the variable category description of the region of origin (X_8) which is significant in influencing the PDRB ADHK of the destination area is in line with the results of Bovea and Elia (2016) stating that the more population or the larger the area category can reduce the economic growth of a region. In

addition, this study also looks at the effect of PDRB on economic growth which has a significant negative result. The age variable that has a significant positive effect is in line with the study of Lobo and Mellander (2020) which has analyzed the positive effects of the economy for individuals who live in neighbouring ethnic neighbourhoods. Table 2 shows the results of the Heckman two-step estimation analysis in stage 2 that has obtained the equation model for PDRB in East Java Province as follows.

$$Y_2^* = 85{,}836.26\ Age_i - 34{,}612.47\ Gender_i + 7{,}211.17\ Level\ of\ Education_i - 37{,}126.96\ Widest\ Type\ of\ Floor_i - 14{,}232.60\ Region\ Category\ Description_i + 76{,}813.77\lambda_i \quad (7)$$

It can be seen from equation 7 that migrant workers of productive age contribute Rp. 85,836.26 billion higher than migrant workers of non-productive age to the PDRB of the destination area. Female migrant workers contribute IDR 34,612.47 billion, which is lower than male migrant workers to the PDRB of the destination area. Migrant workers with undergraduate/diploma education contribute Rp. 7,211.17 billion higher than migrant workers with non-graduate/diploma education to the PDRB of the destination area. Migrant workers originating from areas with the widest type of flooring in the form of wooden/plank/soil housing contribute IDR 37,126.96 billion lower than migrant workers originating from areas with the widest type of flooring in the form of non-timber/soil housing to the PDRB of the destination area. Migrant workers who come from large urban areas contribute IDR 14,232.60 billion lower than migrant workers who come from small urban areas to the PDRB of the destination area. The results of the analysis of the impact of migrant workers on PDRB in the destination area show that migrant workers are of productive age, male migrant workers, migrant workers with bachelor/diploma education, migrant workers who come from areas with the widest floor type in the form of non-timber/land dwellings, and migrant workers who come from small urban areas contribute the most to the PDRB of the destination region.

5. Conclusions

This work focuses on the determinants and impacts of migrant workers in East Java Province on PDRB ADHK in the destination region. It was found that the characteristics of migrant workers and job opportunities in destination areas also determine economic growth in destination areas. Where the rate of population growth must be accompanied by economic growth.

Our findings in East Java Province provide information that an increase in migrant workers is an important source of job mobility to maintain economic stability. In answering the objectives of this article, our analysis shows that the characteristics of migrants are of productive age, male migrants, migrants with an undergraduate/diploma education level, migrants who are married/divorced/widow/widower, migrants who have family members below the age of 5, migrants who come from small urban areas, migrants who come from areas with PDRB ADHK lower than the PDRB ADHK of the destination area, and migrants who come from areas with a lower number of poor people than the number of poor people in

the destination area have greater opportunities to move and become migrant workers. However, the difference in the type of floor in the largest area of origin and the difference in regency/city minimum wages do not have a significant effect on economic growth in the destination region.

We also found that the impact of migrant workers on the economic sector (PDRB ADHK in destination areas) in East Java Province was significantly related to the characteristics of migrant workers, namely migrant workers of productive age, male migrant workers, migrant workers with bachelor/diploma education, migrant workers originating from areas with the widest type of floors in the form of non-timber/land dwellings, and migrant workers originating from small urban areas making the greatest contribution to the GRDP of the destination region.

It is hoped that Indonesian governments can pay attention to migrant groups according to the characteristics of migrant workers so that the policies provided can be on target. It is hoped that the existence of government policies can be implemented properly in the form of holding skills training for migrant workers who can improve their abilities in entrepreneurship, trade or other fields as a participatory measure to improve the family economy, provide health insurance for migrants as well as adequate educational facilities for their children and provide other supporting facilities.

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