

Factors Affecting Labor Mobility Indonesia in 2022

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ABSTRACT

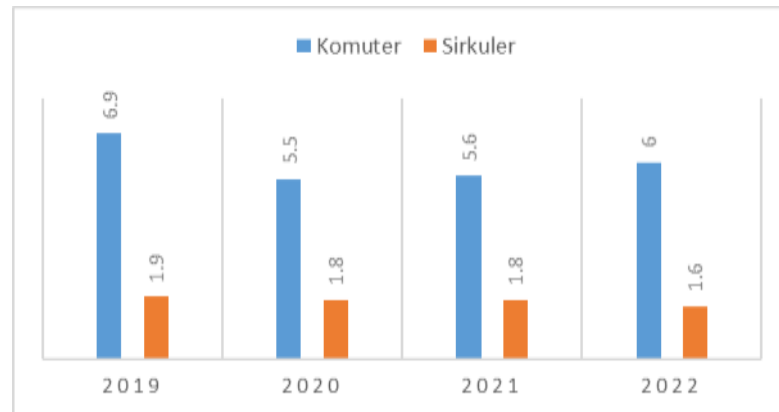
This study aims to determine the characteristics and factors that influence labour mobility. The secondary data used is sourced from BPS, which is the National Labour Force Survey (SAKERNAS) data in 2022. Data analysis was conducted using quantitative methods, with descriptive and inferential approaches through multinomial logistic regression. The results of the analysis show that all independent variables, namely education, marital status, gender, age, employment sector, and income, have a significant influence on labour mobility decisions. In particular, workers with a higher level of education, productive age, who work in the formal sector, and have an income above the poverty line tend to prefer non-permanent mobility, both in the form of commuting and circular mobility.

INTRODUCTION

Indonesia is one of the most populous countries in the world after China, India, and the United States (Databoks, 2022). Based on data obtained from the Central Statistics Agency (BPS), the total population in Indonesia in 2022 was recorded at 275,773.8 thousand people. In addition, the national population growth rate in the same year reached 1.17% per year. This figure shows that Indonesia experienced a significant increase in population in 2022. The population problems faced by Indonesia today are not only limited to the size of the population and the high growth rate, but also include the uneven distribution of the population in various regions (Irsyadi et al., 2022).

One factor that contributes to the dynamics of population growth is population mobility, which is an important component in addition to births and deaths. The phenomenon of population mobility has become a common trend in many countries, including Indonesia. Mobility refers to the movement of people from one region to another without the intention of permanently settling in the destination area (Syamsuddin, 2020). Migration is a phenomenon that is influenced by various factors, including economic, political, social, environmental and cultural aspects. As part of social dynamics, migration plays an important role in societal change and can have significant impacts, both for individuals who migrate and for communities in origin and destination areas (Zaky et al., 2023). Basically, migration occurs due to inequality in economic development between regions, which is influenced by limited access to natural resources and economic disparities within the community. In general, population movements occur because individuals seek better livelihoods. These better living standards can be measured through various indicators, such as economic aspects, social conditions, availability of health facilities, access to education, and political and cultural factors that are more conducive in a region compared to the area of origin (Mujiburrahmad et al., 2021).

Demographically, when viewed from the vulnerable length of stay in the destination area, population mobility is divided into migration or permanent mobility and non-permanent mobility (Syamsuddin, 2020). According to Tjiptoherijanto, the pattern of population mobility in the future is expected to experience many changes along with the improvement of the socio-economic conditions of the community. Internal mobility, which involves moving between regions, is expected to continue until a reduction in income disparities and social facilities between regions is achieved. Meanwhile, non-permanent mobility, such as commuting for work or education, is predicted to show a consistent increase, while permanent mobility, which involves moving to a fixed place of residence, tends to decrease due to the dynamics of individual needs and choices that are increasingly flexible (Ahsan et al., 2016)..



Source: BPS

Figure. 1 Non-permanent mobility data in Indonesia 2019-2022

Population mobility patterns in Indonesia are generally divided into two main categories, namely permanent and non-permanent mobility. Rapid developments in digital technology, especially in access to information, as well as innovations in the transportation sector have had a significant impact on changes in population mobility patterns. In line with Lee's theory (1966), which states that the magnitude of migration flows is influenced by various obstacles, such as the cost of moving and limited means of transportation, so that with the development of permanent and non-permanent mobility, the population will be more likely to move.

Improvements in the quality of transportation infrastructure can lead to changes in population mobility patterns, such as a shift from permanent to non-permanent (Ilham et al., 2023). Progress in this aspect of accessibility allows movement between regions to be carried out in a shorter and more efficient time. Based on data released by the Central Statistics Agency (BPS), before the COVID-19 pandemic, the percentage of non-permanent mobility showed a relatively high figure. However, since the pandemic hit Indonesia in 2020, labor mobility has decreased quite drastically. Nevertheless, the trend of non-permanent mobility has shown a gradual increase from 2020 to 2022, indicating that this type of mobility remains an option for some workers in meeting their economic and social needs.

The increase in labor mobility also had an impact on the decrease in the percentage of stayer workers, which are workers who remain in their home region without mobilizing. In 2022, the percentage of stayer workers was recorded at 92.4%, a decrease of 0.2% compared to the previous year. This decline is in line with the increase in the number of workers who chose to move during the same period. With the increasing trend of non-permanent mobility after the pandemic, a deeper understanding of the factors that influence labor decisions to migrate non-permanently is needed. Therefore, this study aims to analyze the main determinants that drive non-permanent labor mobility in Indonesia and its implications for labor market dynamics and regional economic development.

THEORETICAL REVIEW

According to Yuliasih, (2018) migration is one part of the concept of population mobility. Population mobility refers to the movement of individuals or groups across the boundaries of an area within a certain period, known as horizontal or geographic mobility. These boundaries can be in the form of government administration, such as provinces, cities/districts, or sub-districts. There are several forms of mobility, namely, recurrent movement, non-permanent or temporary movement, and movement with the intention of staying or not returning to the place of origin (non-recurrent movement) (Adioetomo et al., 2023). According to the theory of Everett S. Lee (1966), there are four factors that influence a person in making a decision to migrate:

- a) Factors originating from the region of origin
- b) Factors in the destination
- c) Obstacles that hinder
- d) Personal factors

Regions of origin and destination have positive factors that cause a person to decide to stay or make a move migration. Conversely, there are negative factors that encourage a person to move from a region, and neutral factors that are not a problem in influencing the decision to migrate. In making a move, there are also obstacles that hinder the decision to move, one form of obstacle is in the form of cost, distance between the area of origin and the destination area, where these obstacles have different influences, for some people these obstacles are easy to deal with but for some others consider it a big challenge that prevents people from moving. Another factor that is the most important factor according to Lee, is the individual factor, where this factor provides a positive, negative and obstacle assessment of the destination or origin area (Adioetomo et al., 2023).

- a. Furthermore, research on migration behavior in England developed by
- b. E. G. Ravenstein (1885), in the study formulated seven laws of migration as follows:
- c. Migration and distance, many migrants move within a fairly short distance, so that when the distance to the destination area gets longer, fewer migrants decide to move.
- d. Gradual migration, a person who lives in the vicinity of a big city will migrate when the economy in the big city is growing. In other words, people will migrate gradually from villages to small towns and then to big cities.
- e. Flows and return flows, each main migration flow generates a replacement return flow
- f. The difference between rural and urban areas means that people living in rural areas are more likely to migrate than those living in urban areas.
- g. Women are more dominant in short-distance migration, the majority of women prefer to migrate to areas that are quite close. When compared to women, men will migrate more over longer distances.
- h. Technology and migration, technological advances tend to encourage an increase in the number of migrations.

- i. Economic motives are more dominant, although there are many driving factors that can lead to migration, motivation to improve economic conditions is one of the dominant driving factors.

Education Variable

In a study conducted by Budiarty et al. (2023), education refers to the highest level of formal education completed by an individual, as evidenced by the possession of a diploma. Education acts as a form of investment or capital for workers in obtaining employment opportunities. The higher a person's level of education, the greater their tendency to engage in job mobility. Higher education also increases an individual's chances of being accepted into a workplace that matches their preferences and qualifications. This encourages most respondents to complete their education to a higher level in order to strengthen their competitiveness in the labor market (A. Wales et al., 2018).

Marital Status Variable

The phenomena of migration and marital status are closely related in determining a person's decision to migrate. Married employees tend to be more responsible in their work, based on their increased needs and responsibilities to their families. Married employees are also more satisfied with their jobs. Employees who are not bound by marital status tend to prioritize personal interests because they only fulfill their own needs. However, this cannot be generalized and used as a comparative factor because there are other related factors, namely the formative factors within the employee's personality (Paramita, 2022).

Gender Variable

Based on the model proposed by E. G. Ravenstein, gender is a variable that has a significant influence on a person's decision to commute, especially male workers who are more likely to commute longer distances than female workers. This is consistent with the research conducted by Rajaya & Chotib (2020), which found that male workers are more likely to engage in commuter mobility than female workers.

Age Variable

According to the Central Statistics Agency (BPS), the working-age population is defined as those aged 15 years or older. The working-age population is further divided into two categories: the labor force and the non-labor force. To assess the productivity level of workers, the first step is to examine their age. An individual is considered to be of productive age if they are between 15 and 64 years old. Age is one of the important factors considered when seeking employment. Younger workers are more likely to be accepted in the labor market because they are perceived to have higher productivity and better ability to perform tasks.

Research by A. Wales et al. (2018) shows that the labor force engaged in circular mobility is dominated by workers of productive age. The researchers

state that workers of productive age are physically stronger in moving to other areas. In addition, respondents aged 21-31 are married workers, so the high cost of supporting a family encourages them to seek suitable employment in other areas.

Employment Status Variable

Employment status is classified into two categories: the formal sector and the informal sector. The formal sector includes workers with the status of laborers/employees/civil servants and those assisted by permanent laborers, while the informal sector includes workers with the status of self-employed, those assisted by temporary laborers, freelancers, and family workers/unpaid workers. The labor market in the formal sector consists of various institutions, including government agencies and large companies such as banks, insurance companies, factories, and the trade sector. Workers in this sector can enjoy more modern facilities compared to other labor markets. The main attraction of this sector lies in the high wage levels and more promising job opportunities. Research by Budiarty et al (2023) states that workers who engage in circular mobility and work in the formal sector are greater in number than workers who work in the informal sector. The researchers state that this occurs because there is an assumption that income above the district/city minimum wage is earned by workers who work in the formal sector, thus attracting workers to migrate to other regions to work in the formal sector.

Income Variables

Research by Ranita & Herlambang (2023) states that workers who commute are workers with higher income levels. The amount of income or compensation received by workers can influence their decisions to engage in non-permanent mobility between their place of residence and place of work. This aligns with Ravenstein's Migration Principle, which asserts that economic factors are the primary drivers of migration phenomena, including labor mobility. There is a positive correlation between wage or salary levels and workers' decisions, where higher income levels increase the likelihood of workers engaging in non-permanent mobility.

Based on a review of the relationships between variables conducted by several previous researchers, the following variables were used in this study: education level, marital status, gender, age, income, and employment status. The combination of these factors determines labor mobility patterns and impacts population distribution and labor market dynamics in Indonesia.

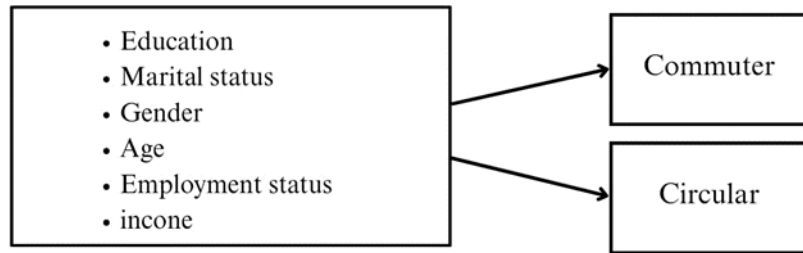


Figure. 2 Income Variabels

Table. 1 Hypothesis

H1 :	The variable of educational level has a significant effect on non-permanent mobility.
H2 :	The variable of marital status has a significant effect on non-permanent mobility.
H3 :	The variable of gender has a significant effect on non-permanent mobility.
H4 :	The variable of age has a significant effect on non-permanent mobility.
H5 :	The variable of income has a significant effect on non-permanent mobility.
H6 :	The employment sector variable has a significant effect on non-permanent mobility.
H7 :	The variables of education, marital status, gender, age, income, and employment status simultaneously have a significant effect on non-permanent mobility.

METHODOLOGY

The data used in this study is secondary data with a sample of all workers with non-permanent mobility with demographic and non-demographic characteristics including education, marital status, gender, age, employment status, and income. While the population used in this study is employment data in Indonesia in 2022. The following are the variables used in this study:

Table. 2 Variabels

Variables		Category
Dependent Variable		
1	Status Mobility	Nonstayer workers
	Permanent	commuting workers
		circular workers
Free Variable		
1	Education	Not yet graduated from primary school & elementary school

		SMP/SMA/MAK
		Diploma and above
2	Marital Status	Unmarried/ dead divorce/ life divorce
		Mating
3	Gender	Female
		Male
4	Age	Non-Productive
		Productive
5	Employment Status	Informal sector
		Formal sector
6	Revenue	Poor
		Not poor

Source: Researcher, 2025

The data analysis methods used were descriptive and inferential quantitative. Descriptive analysis was carried out by cross tabulation testing. While inferential analysis used to determine the relationship between variables is done using multinomial logistic regression, where the dependent variable is polycotomous or has more than two categories. Stages in quantitative research are carried out by collecting data first, then the data is analyzed using statistical tools in the form of Stata 17. The following is the form of the logistic multinomial regression equation:

$$\pi(x) = \frac{e^{\beta_0 + \beta_1 x_1 + \dots + \beta_p x_p}}{(1 + e)^{\beta_0 + \beta_1 x_1 + \dots + \beta_p x_p} (1 + e)^{\beta_0 + \beta_1 x_1 + \dots + \beta_p x_p}}$$

By using logit transformation, two logit functions will be obtained as follows :

$$\begin{aligned} \ln \left(\frac{P(Y=1|x)}{P(Y=0|x)} \right) &= \beta_{j0} + \beta_{j1} \text{ Education} + \beta_{j2} \text{ Marriage} + \beta_{j3} \\ &\quad \text{Gender} + \beta_{j4} \text{ Age} + \beta_{j6} \text{ Sector} + \beta_{j5} \text{ Income} \\ &\quad + \varepsilon \\ \ln \left(\frac{P(Y=2|x)}{P(Y=0|x)} \right) &= \beta_{j0} + \beta_{j1} \text{ Education} + \beta_{j2} \text{ Marriage} + \beta_{j3} \\ &\quad \text{Gender} + \beta_{j4} \text{ Age} + \beta_{j6} \text{ Sector} + \beta_{j5} \text{ Income} \\ &\quad + \varepsilon \end{aligned}$$

β_{j0} = intercept, where j (1 and 2)
 β_{ji} = slope, where j (1 and 2); i (1,2...n)
 Education = education level of respondents
 Marriage = marital status of the
 respondent Gender = gender of the respondent
 Age = age of respondent
 Sector = employment status of respondents
 Income = respondent's income

RESULTS

Descriptive Analysis

Table. 3 Descriptive Analysis

Characteristics	Stayer Worker	Commuters	Circular	Obs	Mean	Std Deviation	Min	Max
Education				752.688	0.437768	0.667806	0	2
Not/not yet graduated from elementary school	215.770	5.098	2.779					
elementary/junior high school equivalent	99.521	8.204	2.391					
SMA/MA/SMLB/SMK/Paket c								
Diploma I/II/III/IV	44.795	5.777	1.203					
S1 / S2 / S3								
Marriage				752.688	0.6607319	0.4734612	0	1
Not yet/dead divorce/living divorce	89.086	5.385	1.514					
Mating	271.000	13.694	4.859					
Gender				752.688	0.4944147	0.4999691	0	1
Female	126.181	5.776	733					
Male	233.905	13.303	5.640					
Age				752.688	0.9175302	0.2750793	0	1
Non-productive	20.746	231	80					
Productive	339.340	18.848	6.293					
Employment sector				498.451	0.3560149	0.4788202	0	1
Informal	215.935	3.665	1.553					
Formal	144.151	15.414	4.820					
Revenue				752.688	0.9256026	0.2624166	0	1
Poor	38.322	347	132					
No	321.764	18.732	6.250					

1. Worker mobility patterns based on education

Based on descriptive analysis, it shows that higher education levels (diploma and bachelor's degree) tend to have a fairly low value compared to workers with secondary education and primary education.

2. Worker mobility patterns based on marital status

Based on the descriptive analysis, the composition of stayers, commuters and circular workers is equal, with married workers having a higher number than unmarried workers

3. Worker mobility patterns by gender

Based on the descriptive analysis, it was found that workers with male gender have a greater ratio of being stayers, commuters, and circular workers.

4. Worker mobility patterns by age

Based on the distribution pattern of worker mobility, it shows that workers of productive age or younger have a higher value in making decisions as stayers, commuters, and circular workers.

5. Worker mobility patterns by employment sector

In terms of employment sector, commuter and circular workers are more likely to work in the formal sector, while stayer workers tend to work in the informal sector.

6. Worker mobility patterns by income

Income levels show that the composition of stayers, commuters, and circular workers earn wages above the poverty line.

Inferential Analysis

Based on tests carried out using the Stata 17 application, the following analysis results are known:

Table. 6 Inferential Analysis

Description	Commuters		Circular	
	dy/dx	P> z	dy/dx	P> z
Education	0.020681	0.000***	0.00063	0.031**
Marriage	-0.0032911	0.000***	0.0011369	0.018**
Gender	0.0132614	0.000***	0.0221888	0.000***
Age	0.0289976	0.000***	0.014696	0.000***
Employment				
Sector	0.0620273	0.000***	0.0207263	0.000***
Revenue	0.0634967	0.000***	0.0175452	0.000***
* significant pada level 10%				
Description:	** significant pada level 5%			
	*** significant pada level 1%			

Source: Sakernas 2022, processed

Commuter Mobility

The logistic regression results show that education has a positive coefficient with a marginal effect value of 0.020 and a P value of 0.000, which means that H0 is rejected. Therefore, a higher level of education is 0.020 times more likely to be a commuter worker or perform commuter mobility than a worker with lower education.

Based on the results of the logistic regression test conducted, the marital status variable has a negative coefficient value with a reference dummy 1 (married) showing a dy/dx value of 0.003 and a P value of 0.000, which means that H0 is rejected. So workers with married status have a 0.003 times smaller tendency to be commuter workers or do commuter mobility than workers with unmarried status.

The estimation results on the gender variable show a positive coefficient value, with a reference dummy 1 (male) which has a dy/dx value of 0.013 and a P value of 0.013. value of 0.000, meaning that H0 is rejected. So male workers have a tendency 0.013 times more likely to be a commuter worker or engage in commuter mobility than workers with female gender.

The age variable in this study is divided into non-productive age and productive age, where the logistic regression results show a positive coefficient value, with dummy reference 1 (productive age) showing a marginal effect value

of 0.028 and a P value of 0.000 which means that H₀ is rejected. So that workers with productive age have a 0.028 times greater tendency to have commuter worker status or perform commuter mobility than workers with non-productive age.

The employment sector variable is stated to have an influence on the tendency of workers to perform commuter mobility. When viewed from the results of the logistic regression test conducted, the employment sector variable has a positive coefficient value with a reference dummy 1 (formal sector) showing a marginal effect value of 0.062 and a P value of 0.000, which means that H₀ is rejected. So that the variable of workers in the formal sector has a 0.062 times greater tendency to have the status of commuter workers or perform commuter mobility than workers in the informal sector.

Based on the results of the logistic regression test that has been carried out, the income variable has a positive coefficient value with reference dummy 1 (income above the poverty line) showing a marginal effect value of 0.063 and a P value of 0.000, which means that H₀ is rejected. So that workers with income above the poverty line have a 0.063 times greater tendency to be commuter workers or perform commuter mobility than workers with income at the poverty line.

Circular Mobility

Based on the results of the logistic regression test, the education variable has a positive coefficient value with reference dummy 2 (higher education) showing a dy/dx value of 0.0006 and a P value of 0.000, which means that H₀ is rejected. So workers with a high level of education have a 0.0006 times greater tendency to be a circular worker or perform circular mobility compared to workers with secondary education and primary education.

The marital status variable has a positive coefficient value with reference dummy 1 (married) showing a marginal effect value of 0.001 and a P value of 0.000, which means that H₀ is rejected. Workers with married status have a tendency to 0.001 times more likely to be a circular worker or engage in circular mobility than workers with unmarried status.

The gender variable has a positive coefficient value, with a reference dummy of 1 (male) which shows a marginal effect value of 0.022 and a P value of 0.000, meaning that H₀ is rejected. So male workers have a tendency of 0.022 times more likely to be a circular worker or engage in circular mobility than female circular workers.

The age variable has a positive coefficient value, with reference dummy 1 (productive age) showing a marginal effect value of 0.014 and a P value of 0.000 which means that H₀ is rejected. Therefore, workers with productive age have a 0.014 times greater tendency to be a circular worker or perform circular mobility compared to circular workers with non-productive age.

The employment sector variable has a positive coefficient value, with reference dummy 1 (formal sector) showing a marginal effect value of 0.020 and P value of 0.000, which means H₀ is rejected. Therefore, workers in the formal sector are

0.062 times more likely to be a circular worker or perform circular mobility than workers in the informal sector.

The income variable has a positive coefficient value, with a reference dummy of 1 (income above the poverty line) showing a marginal effect value of 0.017 and a P value of 0.000, which means that H_0 is rejected. so it can be concluded that workers with income above the poverty line have a tendency of 0.017 times more likely to be a circular worker or engage in circular mobility than workers with incomes at the poverty line.

DISCUSSION

The following is a discussion of factors affecting worker mobility in Indonesia based on labor characteristics:

The effect of education on labor mobility in Indonesia

In this study, the education variable is divided into three levels of education. The results show that the independent variable, namely education, has a positive significant effect on the dependent variable (commuter mobility and circular mobility). This means that workers with a high level of education have a greater tendency to have the status of commuter workers or perform commuter mobility than workers with secondary education and primary education. This is in line with previous research (Sukowati, 2020; Subanti et al., 2021; Muara Setyanti et al., 2021; Wardhana et al., 2020; Budiarty et al, 2023).

The effect of education on commuter mobility is in line with the research of Muara Setyanti et al. (2021) which states that the education level variable has a positive and significant effect on labor mobility. The positive effect occurs because the higher the level of education of workers will facilitate access to engage in economic activities. In contrast to the research of Subanti et al., (2021); Rahim et al., (2022) which states that the education variable has no significant effect on commuter mobility. Papp et al. (2019) found similar results in their research in Hungary, where 89% of workers who migrated to Hungary had a background as higher education. These results are also supported by the assumptions of human capital theory, where the education that has been taken can affect the size of the commute income that will be received (Huzaimi & Arisetyawan, 2023). Subanti et al. (2021) also mentioned the same thing that education level is one of the important factors in determining the amount of wages of workers who perform circular mobility. Individuals with junior high school education will receive a higher average income than individuals with elementary school education, while high school and college education tend to get higher income than other education.

Education plays a role in expanding opportunities in the labor market, besides that higher education will affect the mindset of labor to get a better job and income than before. Thus, the higher the level of education pursued, the greater the impetus for individuals to carry out mobility in order to obtain jobs that are in accordance with their skills and expected income (Sandrianti & Idris, 2020).

The effect of marriage on labor mobility in Indonesia

In this study, the marital status variable is divided into two categories, married and unmarried/divorced. The results show that the marriage variable has

a significant effect and the dependent variable. However, in commuter mobility, the results show a negative coefficient, which means that workers with married status have a smaller tendency to be commuter workers. Meanwhile, the estimation results of circular mobility show a positive coefficient value. These results are in accordance with research conducted by Subanti et al. (2021), Muara Setyanti et al. (2021), Gaffar et al. (2020) which shows a negative coefficient value on commuter mobility and a positive coefficient value on circular mobility, the results of the descriptive analysis carried out also state that the majority of commuter mobility is carried out by workers with unmarried status and circular mobility is dominated by workers with married status.

According to Sukarniati (2019), marital status is one of the factors that influence worker mobility. The decision of married workers to undertake circular mobility is not only due to the unavailability of jobs in the area of origin but also to get better income, some of which can be sent to their families. Families of circular migrants are still highly dependent on remittances from migrating family members, especially to fulfill needs related to prestige or self-esteem. This is due to social changes in society that, along with development, have increased their aspirations and needs. Many people try to improve their social status, one of which is by sending their children to college in the hope that their lives and social status will be better. (Yulianto & Furqan, 2022). Meanwhile, the reasons underlying the large number of married workers who decide not to commute are family conditions and the presence of school-age children (Wardhana et al., 2020). In addition, even though the majority of workers with unmarried or unmarried status have lighter family responsibilities than married workers, it does not rule out the possibility that these workers still choose to do commuter mobility, because they are not married the desire to earn a higher income in the destination city (Sandrianti & Idris, 2020).

The effect of gender on labor mobility in Indonesia

The results showed that the positive gender coefficient means that male workers have a greater tendency to have commuter and circular worker status compared to female workers. This finding is in line with research (Ranita & Herlambang, 2023; Muara Setyanti et al., 2021; Gaffar et al., 2020). The high participation of male workers compared to female workers occurs because of the perception that men have greater responsibilities, especially workers who are married, so they will spend more time working to increase income and get a prosperous life. In contrast, female workers who are married only work voluntarily with the aim of supplementing family income or not becoming the family's main income (Sandrianti & Idris, 2020).

Findings about the gender gap in the workforce have led to gender stereotyping, which has resulted in a lack of jobs for female workers. There is an assumption that women are less committed to work because they have family responsibilities. This can lead to unfair assessments of women's performance. They are often considered more vulnerable, especially when they have to carry out the role of a mother with young children (Subanti et al., 2021). This is supported by the theory of E. G. Ravenstein (1885) according to which women tend to migrate to

closer areas than men. Meanwhile, men migrate more often than women. Although many women also move, their movements generally occur over shorter distances.

The effect of age on worker mobility in Indonesia

The results show that the coefficient of the age variable is positive, meaning that workers with productive age have a tendency to have commuter and circular worker status compared to workers with non-productive age. These results are in line with the research of Rahim et al. (2022) which states that the age variable has a positive and significant effect on commuter mobility. Kelana et al. (2021) also revealed that the characteristics of workers who carry out circular mobility are workers of productive age. Research in Hungary shows similar results where all workers who carry out mobility are workers of productive age (Papp et al., 2019). Generally, younger workers tend to migrate because younger workers are physically strong and have high productivity. In addition, if workers are viewed from age, it can reflect the level of responsibility in doing work, the level of experience, and achievement in the world of work (Muara Setyanti et al., 2021). (Subanti et al., 2021) also argue that age can be used as a proxy and work experience, which linearly and quadratically also has an influence on the amount of income. Which is where every additional year of age will affect the increase in income in both circular mobility and commuting. Different findings were stated by Sundari et al., (2020); Rahim et al., (2022) where the age variable has no effect on income significant to labor mobility in Sumbawa, according to him, whether young or old, is not the main driving factor for someone to undertake circular migration. Increasing age does not always go hand in hand with increasing responsibility in earning a living. This can be seen from the diverse ages of the respondents in this study, which range from 30 to 50 years old.

This statement is in accordance with the assumptions of the theory put forward by Ravenstein (1885), which argues that a younger population has a higher tendency to migrate. This is due to their prime physical condition and optimal level of productivity in the world of work. Conversely, as age increases, the workforce tends to experience a decrease in mobility, so the probability of migration is getting smaller (Ilham et al., 2023).

The influence of employment sector on worker mobility in Indonesia

The employment sector variable shows a positive coefficient value for both commuter mobility and circular mobility, which means that workers in the formal sector have a greater tendency to be commuter and circular workers compared to workers in the informal sector. This finding is in line with research conducted by Sandrianti & Idris (2020) and Budiarty et al (2023). Workers who do circular mobility work in the formal sector have a greater quantity than workers who work in the informal sector, this happens because there is an assumption that the district / city minimum wage is a worker who works in the formal sector so that it attracts workers to mobilize to other regions to work in the formal sector Budiarty et al (2023).

Generally, workers who carry out mobility have sufficient education and soft skills, so that mobility actors will prefer to work in the formal sector such as

employees, laborers, and employees. In the employment sector, educational background is an important factor, this is because the formal sector requires workers with high skills and competencies, which are generally owned by highly educated women. In addition, highly educated women also tend to have higher expectations of their work. They expect more stable jobs, fixed working hours, and higher salaries. This is not always the case in the informal sector, which often offers low salaries, unstable work, and changing working hours (Huzaimi & Arisetyawan, 2023).

The effect of income on worker mobility in Indonesia

The income variable shows a positive coefficient value for both commuter mobility and circular mobility, which means that workers with income above the poverty line have a greater tendency to be commuter and circular workers compared to workers with income at the poverty line. This finding is consistent with research conducted by Sandrianti & Idris (2020), Budiarty et al (2023).

According to Sandrianti & Idris (2020), workers will choose to carry out mobility on the basis of the level of income received, if the higher the worker's income received, the higher the mobility tend to choose to undertake mobility. Because a high income will increase welfare and improve the worker's economy. Rahim et al. (2022) also added that even though individuals who migrate already have a job in the area of origin, the income they get is often insufficient to meet basic needs. This encourages them to move to other areas to find jobs with more decent income. The effect of income on mobility decisions is in accordance with the theory put forward by Todaro & Smith, which states that a worker's mobility in work is influenced by the comparison of the level of wages earned in the area of origin with those offered in the destination area. The same thing is also mentioned by Ravenstein, where in his view economic factors are the main driver of a person to migrate, so the higher the individual's income, the more often the workforce will perform mobility (Ilham et al., 2023).

CONCLUSIONS AND RECOMMENDATIONS

This article reviews the social and demographic characteristics that influence worker mobility decisions in Indonesia. The results show that all independent variables (education, marriage, gender, age, employment sector, and income) have a significant effect on the dependent variable (commuting and circular), with interaction coefficients that are both negative and positive. Based on the research results, there are dominant variables that contribute to the probability of worker mobility decisions, these variables are the employment sector and income variables. Workers who work in the formal sector and have incomes above the poverty line, tend to prefer non-permanent mobility as an effort to achieve a more decent life and obtain better economic opportunities.

Given the easier access to technology and transportation, it is inevitable that mobility between regions will continue to increase over time, so the importance of the government's role in efforts to equitable development through improving access to education, health, and economic facilities in areas that are still lagging

behind. This is expected to create more equitable employment opportunities and thus reduce migration pressure from resource-constrained regions.

FURTHER STUDY

This study did not include distance and type of transportation as supporting variables in mobility. Therefore, further research could develop this study by considering these two variables. The addition of these variables could serve as a reference for the government in designing more effective policies related to safety guarantees for workers who commute.

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