


International migration in Indonesia and its influencing factors

Yuwida Salma Lova¹, Siti Aisyah²

^{1,2}Faculty of Economics and Business, Universitas Muhammadiyah Surakarta

Article Info	ABSTRACT
Keywords: International migration, poverty, education, open unemployment, human development index	The issue of international migration is still a concern, especially for developing countries like Indonesia, one of which is because the flow of migrants abroad can help overcome the problem of unemployment and bring large remittances to the country. This study analyzes the impact of poverty, education completion rate, open unemployment, and human development index on international migration in Indonesia from 2000 to 2021. This observation uses secondary data obtained from the Central Bureau of Statistics (BPS). The research method used in this study is multiple regression analysis using the OLS (Ordinary Least Square) method. The results showed that poverty, education completion rate, and open unemployment affect international migration, while the human development index does not affect international migration. Although a number of studies have examined the factors that influence international migration by Indonesian migrant workers, they have yielded inconsistent results. Therefore, further research should be conducted to fill this knowledge gap and provide a deeper understanding of the factors that influence international migration by Indonesian migrant workers.
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INTRODUCTION

International migration is facilitated by the ever-increasing flow of people between countries, including modern information and communication technology. On the one hand, due to globalization, many countries have opened up to the flow of commodities and capital. On the other hand, many countries perceive migration as a threat to national identity and sovereignty due to cultural differences (Dewi, 2013). Migration is one of the causes of population growth in areas with certain irregular manifestations, which are very different from the effects of natural population growth, which is more regular in nature (Aisyah & Atmojo, 2022). There are two types of migration, namely internal migration, which conform to the Central Statistics Agency (BPS) is a form of migration that involves spatial aspects that lasts for a long time (at least six months), and international migration is the movement of people across national borders (Priyono & Herdianti, 2019). This study examines international migration, especially *out migration* that occurs in Indonesia.

In many parts of Indonesia, the phenomenon of migration is determined by factors such as poverty, education level, unemployment rate, and human development index. International migration can facilitate the achievement of goals and targets on the 2030

agenda, including those related to poverty alleviation, and facilitating access to health services (UN, 2022). The capacity migrate is decided by the macro-level around boundaries and event, which the demonstrate alludes to as the migration interface. The interface encompasses a row of probable types of migration, including fulfillment with or disregard of diverse immigration rules such as legitimate labor movements, family reunification, asylum migration, and visa extensions. Each model has different obstacles and requisite, which are reflected in individual differences in migration capabilities (Carling & Schewel, 2018).

The phenomenon of migration is caused by several factors, especially poverty. International migration carried out by Indonesian migrant workers not only has a positive impact on the economic improvement of PMI families, but also contributes to the development of the Indonesian economy through PMI remittances. Therefore, Indonesian migrant workers are called a hero of the country's foreign exchange (Sinaga, 2020). International migration carried out by Indonesian migrant workers (PMI) has a significant effect on the Indonesian economy. Based on the Indonesian Migrant Workers Protection Agency report (2020), migrant workers can generate remittances of around 10% of the value of the Indonesian state budget, which is IDR 186.5 trillion. Migrant workers can also reduce the unemployment of one person and can support five family members in their home area (Caroline, 2022). In Indonesia, the rights of international migrant workers are protected. This is also confirmed in Law No. 6/2012 which regulates the ratification of international conventions to secure the rights of all vagrant laborers and their families.



Source: Indonesian Migrant Workers Protection Agency (BP2MI)

Figure 1. Number of Indonesian Migrant Workers 2012-2021 (in thousand)

Based on Figure 1, the number of Indonesian migrant workers has decreased on average every year. Based on data from BP2MI, there was an increase in 2013 to 512.168 people. However, 3 years later there was a decrease, namely in 2014 amounting to 429.872 people, in 2015 amounting to 275.737 people, and in 2016 amounting to 234.451

people. This decline was most likely caused by a government policy in 2015 that postponed the sending of vagrant specialists, particularly residential specialists, to Middle Eastern countries. This policy is in accordance with the Decree of the Minister of Manpower Number 260 of 2015 concerning the Termination and Prohibition of the Placement of Indonesian Workers on Individual Use in Countries in the Middle East region. The Ministerial Decree stipulates that 19 countries, including Saudi Arabia, Kuwait, Oman, Qatar, and the United Arab Emirates, are prohibited from hosting migrant workers in these countries (Noveria & Romdiati, 2022).

In general, the number of PMI placements increased in 2017 and 2018 following a significant decline in 2016. The reason was the suspension of departures to countries in the Middle East. This policy has resulted in a change in destination countries, which are currently dominated by countries in Asia, including Malaysia, Hong Kong, Singapore, and Taiwan. Meanwhile, in 2019, the number of PMI decreased from 283,640 people to 276,553 people or a decrease of 2.50 percent. This is due to the uncertain global economic situation and the procedures of sending countries will also have an impact on the submission of PMI (Yusuf Sukman, 2017).

In 2019, the Covid-19 pandemic occurred all over the world, including in PMI placement countries, which greatly impacted PMI both in terms of health and economy. Loss of income due to termination of employment and lack of additional financial compensation for working holidays are the impacts felt by PMI from a financial point of view. In 2020, the Minister of Manpower Decree No.151 of 2020 was issued regarding the Temporary Suspension of Placement of Indonesian Migrant Workers. From March 20, 2020, until the policy was revoked on July 30, 2020, there were still shipments of migrant workers abroad. However, the number was lower than before the COVID-19 pandemic (Noveria & Romdiati, 2022). In 2021 there was a drastic decrease in the number of migrant workers, which amounted to 72,624 people. This is because in 2021 the Covid-19 pandemic occurred which caused the remittances of Indonesian migrant workers to decline.

Poverty is one of the factors that can drive international migration. According to the World Bank, poverty is the incapability to meet minimum living standards. Poverty is an indicator of economic problems that must be addressed or resolved immediately (Pratama, & Aisyah, 2023). Although the poverty rate continues to decline, there are still many pockets of poverty that make international migration a solution to the problem of the low welfare they experience. This is also the case in India, based on research arranged by Mohanty, et al., (2016) at the national level, nonimmigrant poverty is deeper and more severe than immigrant poverty. This indicates that migration has a positive effect on reducing household poverty. In addition, in Ecuador, a country located in South America, migration has a positive effect on poverty reduction (Bertoli, et al., 2015) revealed that the migration wave was triggered by the economic conditions of The crisis in Ecuador in the late 1990s led to an estimated 17.4–20.8 percent reduction in migrant household poverty, which may also reflect positive selection in unobservables.

According to Law Number 20 of 2003 Article 1, education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality,

intelligence, noble character, and skills needed by themselves, society, nation and state. Education is an important aspect for the future of the nation, especially in the economy. The level of education completion in Indonesia is still uneven. Indonesia has a low level of education in underdeveloped areas. The difference in educational development between the western and eastern regions of Indonesia is very real. Although the HLS in Maluku and North Maluku has become an indicator for the whole country. However, these four provinces in eastern Indonesia are still far adrift of western Indonesia such as the Special Region of Yogyakarta. This is due to differences in social levels, geographical conditions, and uneven distribution of schools (Kahar, 2018). Therefore, the high interest in working abroad is due to the low level of education, making it difficult to get a job with high wages in Indonesia. On the other hand, many skilled and highly educated workers in Indonesia are willing to work and migrate abroad to achieve a higher standard of living and income. A similar case also occurs in Ethiopia, for example, in the analysis of cross-border international migration. This cross-country international migration analysis discusses the determinants of "potential" and "actual" international migration, finding that higher education level is one of the strongest predictors of whether "potential" migration will be realized (Schewel & Fransen, 2018).

Another factor affects the level of international migration flows is unemployment. As is the case in EU countries, large wage gaps often exist between regions within a country, and low-wage regions also have relatively high unemployment rates. In Germany, in 2004, the special labor costs of industry in the eastern region were 65 percent of the national average, while the unemployment rate in East Germany was approximately 20 percent, which is 8 percentage points higher than the national unemployment rate (Institut der German Wirtschaft, 2006). In the same year, unemployment rose in Southern Italy to approximately 14.5%, above the national average of 6.5%, despite low labor costs of less than 85% of the national average.

A third example is the southern region of Spain, where the unemployment rate in 2004 was 16 percent, five percentage points higher than the national average. This high unemployment area has relatively low labor costs, below 90% of the Spanish industrial average (Eurostat, 2007). In all these cases, similar relationships persist over long periods of time, often without clear convergent trends. In any case, it has to be celebrated that this around the world nature of relocation is frequently obliged by affluent countries. In addition, high-wage areas have more highly skilled workers. Due to the high demand for skilled workers, they offer jobs that attract both natives and foreigners (Eggert, et al., 2010).

Open unemployment is still a problem in many countries around the world, a large population implies a large labor force. This means that some are looking for work, while others are unemployed (Dewi, 2017). Open unemployment is a situation where people are looking for a job, people who are unemployed and starting a business, and people who are unemployed or not yet working, as well as individuals who have a work but have not however begun working (Putri & Azzahra, 2021). The phenomenon of unemployment can occur due to a lack of jobs in an area which causes a low number of employment opportunities. Unemployment not only affects an economy, but also affects the education

and social fields. Unemployment can also be caused by a mismatch of skills. Sometimes, the skills and qualifications required by the labor market do not match the skills and qualifications of job seekers. This can lead to a mismatch between the demand and provide of labor. Unemployment is a driving factor for international migration, due to the difficulty of finding work in the country so they choose to work abroad. As is the case in six districts in East Java, there is a significant contrast between the number of individuals who migrate and the number of unemployed. This happens when people are unable to compete for jobs in the country, so some of them are willing to ended up migrant laborers and migrate abroad, with the hope of getting a job and not becoming unemployed (Nadya & Hermawan, 2018).

In 1990, the United Nations Development Program (UNDP) introduced the Human Development Index (HDI). The HDI was created to emphasize that people and skills are the most important criteria for evaluating a country and its development, not just economic growth. The HDI can too be utilized to address national approach choices approximately how two nations with the same gross domestic product (GDP) per capita can accomplish distinctive human improvement results (Handalani, 2018). HDI could be a composite record based on three pointers, to be specific life hope at birth, education rate and normal a long time of tutoring of the grown-up populace , and purchasing power (Simarmata & Iskandar, 2022). The quality of human resources is also assessed by the high and low HDI value of a region (Helvira & Rizki, 2020). The Human Development Index greatly affects international migration, this is because if you live in a country that has a low HDI, its population will seek better economic opportunities in a country that has a high HDI. This is done to obtain welfare and a betterlife for themselves and their families.

Indonesia is classified as a country with high population growth and a moderate human development index, so consequently the availability of quality labor is still limited. Currently in Indonesia, the quality of human development still determines whether a worker can be absorbed in the formal or informal sector. The labor force that finds it difficult to find work domestically often turns to international migration as an option. Typically an opportunity to illuminate existing labor issues in Indonesia and sending Indonesian transient laborers will have a coordinate impact on the national economy as a source of outside trade (Shavitry, 2019).

International migration is in the spotlight from year to year, along with the development of globalization and significant economic, social, and political changes in various parts of the world. This study was conducted to determine the effect of poverty, education completion rate, open unemployment rate, and human development index (HDI) on international migration in Indonesiaduring 2000-2021. This study needs to be conducted to contribute to the exploration of factors affecting international migration in Indonesia, which so far has not found consistent results. Policy makers can use this study as a reference in formulating regulations related to migration and migrants.

METHODS

The research method used in this research is Multiple Regression Analysis with the Ordinary Least Square method. The data used is a type of time series data sourced from the Indonesian Central Bureau of Statistics.

Table 1. Operational Variables

Variables	Definition	Symbol	Unit	Source
International Migration (Dependent)	The international migration discussed in this study is international migration carried out by Indonesian Migrant Workers (PMI).	MI	People	BPS
Poverty (Independent)	Poverty is a shortage that a person faces to live as a normal society (Gopal, et al., 2021).	POV	Percent	BPS
Level of education completion (Independent)	The level of educational completion has a role in determining the advancement of a country, because the higher the level of educational achievement, the more positive the development of a country (Basalamah & Setyadi, 2023). The level of educational completion discussed in this study is the completion of education in accordance with the 12-year compulsory education program recommended by the government. So that the data used is the level of completion of high school education.	EDUC	Percent	BPS
Open unemployment (Independent)	Open unemployment is the labor force that does not actually have a job. These unemployed people are quite numerous because they still have not found a job despite trying, and the result is an increase in employment that is less than the labor force growth. (Roring, et al., 2020).	PT	Percent	BPS
Human Development	The Human Development Index is a composite index calculated as	IPM	Index	BPS

Index (Independent)	purchasing power parity expressed as the average of the life expectancy index, the education index and the decent standard of living index (Yektiningsih, 2018).
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The form of this research model equation is as follows:

$$\text{Log}MI_t = \beta_0 + \beta_1POV_t + \beta_2EDUC_t + \beta_3PT_t + \beta_4IPM_t + \varepsilon_t$$

Where:

MI_t	: International Migration (People)
POV_t	: Poverty (Percent)
$EDUC_t$: Education Completion Rate (Percent)
PT_t	: Open Unemployment (Percent)
IPM_t	: Human Development Index (Index)
ε	: Error Term
β_0	: Constant
$\beta_1 \dots \beta_4$: Independent variable regression coefficient
t	: Time series

The analysis technique in this study uses multiple regression analysis which is processed using Eviews 10 software. MI_t is an international migration variable explained by the percentage of international migration with units of percent, POV is a poverty rate variable with units of percent, EDUC is an education completion rate variable with units of percent, PT is an open unemployment rate variable with units of percent, and HDI is a human development index variable with units of index

Data Collection Techniques and Sources

In this study, the data used is secondary data obtained from the Central Bureau of Statistics in 2000-2021 in the form of time series data. In this study, international migration is the dependent variable, while poverty, education level completion, open unemployment and population density are independent variables.

Data Analysis Method

This research uses the OLS (Ordinary Least Square) analysis method and classical hypothesis testing, multicollinearity test, residual normality test, autocorrelation test, heteroscedasticity test and model specificity test and model existence test. This classic assumption test determines whether the model shows multicollinearity, heteroscedasticity, and autocorrelation (Nisa, 2019).

The remaining typicality test is carried out to decide whether the remaining esteem is ordinarily disseminated or not. A ordinarily conveyed remaining esteem shows that the relapse demonstrate is nice. One way to identify it is to see at the dispersion of information on the corner to corner source of the Ordinary P-P Plot of relapse standarized chart as a premise for choice making (Mardiatmoko, 2020). Multicollinearity test may be a condition where there's a relationship between free factors or between free factors that are not independent (Sriningsih, et al., 2018). The heteroscedasticity test is carried out to decide

whether there's heteroscedasticity within the relapse show, this could be done by looking at the scatterplot chart or looking at the anticipated esteem of the subordinate variable (SRESID) with the remaining mistake (ZPRED) (Azizah, et al., 2021). The autocorrelation test could be a infringement of the suspicions of the OLS strategy that happens between mistakes totally different perceptions (Imro'ah, et al., 2020). The linearity test utilized in this think about is the Ramsey Reset test. The linearity test expect that the impact of the autonomous variable and the subordinate variable shapes a direct bend utilizing the Ramsey Reset test (Sianturi, 2020).

RESULT AND DISCUSSION

The estimation results of the above econometric model and its complementary tests are summarized in Table 2.

Table 2. Econometric Model Estimation Results

$$\widehat{\log MI}_t = 19,64994 + 0,187816POV_t - 0,164916EDUC_t - 0,398611PT_t - 0,016979IPM_t$$

(0,0590)** (0,0008)* (0,0017)* (0,6530)

$$R^2 = 0,926378; DW\text{-Stat.} = 1,372828; F\text{-stat} = 37,74842; Prob. F\text{-stat} = 0,000001$$

Uji Diagnosis

- (1) Multicollinearity (*VIF*)
 $POV = 22,15099; EDUC = 9,641555; PT = 12,37985; IPM = 1,673396$
- (2) Residual Normality (Jarque Bera)
 $JB(2) = 0,632522; Prob. JB(2) = 0,728869$
- (3) Autocorrelation (Breusch Godfrey)
 $\chi^2(3) = 5,946794; Prob. \chi^2(3) = 0,1142$
- (4) Heteroscedasticity (White no Cross Term)
 $\chi^2(8) = 9,936910; Prob. \chi^2(8) = 0,2695$
- (5) Linearity (Ramsey Reset)
 $F(2,10) = 1,972018; Prob. F(2,10) = 0,1897$

Source: Appendix 1. Notes: * Significant at $\alpha = 0,01$; ** Significant at $\alpha = 0,05$; *** Significant at $\alpha = 0,10$. The number in parentheses is the empirical probability (*p value*) of the statistic *t*.

From the diagnosis test, the empirical probability values of the Residual Normality, Autocorrelation, Heteroscedasticity, and Linearity test statistics are 0.728869 (> 0.10), 0.1142 (> 0.10), 0.2695 (> 0.10) and 0.1897 (> 0.10) respectively, showing that the estimated model has a normal residual distribution, is free from autocorrelation and heteroscedasticity problems, and has the right model specification (linear). The estimated model seems to experience multicollinearity problems because there are *VIF* values > 10 on the Poverty variable and the Open Unemployment variable.

92.63% of the variation in the International Migration variable can be explained by the variables of Poverty (POV), Education Completion Rate (EDUC), Open Unemployment

(PT), and Human Development Index (HDI). The remaining 7.37% is influenced by other variables not included in the model.

Separately, the variables of Poverty (POV), Educational Completion Rate (EDUC), Open Unemployment (PT) have an influence on International Migration, each with an empirical t probability of 0.0590 (<0.10), 0.0008 (<0.01) and 0.0017 (<0.01). The Human Development Index(HDI) variable has no effect on International Migration, because it has an empirical probability of 0.6530 (> 0.10).

The poverty has a regression coefficient of 0.187816. The pattern of the relationship between poverty and international migration is logarithmic-linear (log-lin), meaning that if poverty increases by 1 percent, international migration will increase by $0.187816 \times 100 = 18.7816$ people. Conversely, if poverty decreases by 1 percent, international migration will decrease by $0.187816 \times 100 = 18.7816$ people.

The education level has a regression coefficient of - 0.164916. The pattern of the relationship between the level of educational completion and international migration is logarithmic-linear (log-lin), meaning that if the level of educational completion increases by 1 percent, international migration will decrease by $0.164916 \times 100 = 16.4916$ people. Conversely, if the education completion rate decreases by 1 percent, international migration will increase by $0.164916 \times 100 = 16.4916$ people.

The open unemployment has a regression coefficient of - 0.398611. The relationship pattern between open unemployment and international migration is logarithmic-linear (log-lin) meaning that if open unemployment increases by 1 percent, international migration will decrease by $0.398611 \times 100 = 39.8611$ people. Conversely, if open unemployment falls by 1 percent, international migration will increase by $0.398611 \times 100 = 39.8611$ people.

International migration in Indonesia during the period 2000-2021 is influenced by poverty (*POV*), education completion rate (*EDUC*) and open unemployment (*PT*). Meanwhile, the Human Development Index (HDI) variable does not affect international migration (*MI*). The poverty has a positive effect, indicating that if poverty increases, international migration will also increase. This explains that poverty triggers international migration. Research Maria & Oli, (2023) in East Nusa Tenggara province in 2015-2020 found that increasing poverty affected international migration. Similar to research Sinaga, (2020) which explains that difficult economic conditions have encouraged people on the island of Java to migrate internationally to get a better livelihood.

The level of educational completion has a negative effect on international migration, indicating that the level of educational completion provides a response and is effective in reducing the level of international migration carried out by migrant workers in Indonesia. The results of this study are in line with the study conducted by Maria & Oli, (2023) in East Nusa Tenggara province in 2015-2020 which explains that a high level of education will reduce a person's interest in international migration. If you have a high education and skills, there is a possibility that you are not interested in working abroad because your skills can be used to open up your own job opportunities (Tresilo, et al., 2015).

The open unemployment has a negative effect on international migration, meaning that as open unemployment increases during the period 2000-2021, international migration

tends to decrease. This is often in line with investigate conducted by Mihi-Ramírez, et al., (2014) that unemployment has a negative effect on international migration. Therefore, when unemployment increments, movement will diminish, and bad habit versa.

CONCLUSIONS

International migration by Indonesian Migrant Workers (PMI) is driven by several factors such as poverty, education completion rate, open unemployment, and Human Development Index (HDI). This study aims to analyze the impact of poverty, education completion rate, open unemployment and human development index on international migration in Indonesia from 2000 to 2021. This observation uses secondary data obtained from the Central Bureau of Statistics (BPS). The research method used in this study is multiple regression analysis using the OLS (Ordinary Least Square) method. Based on the results of the study, it can be concluded that the variables of poverty, education completion rate and open unemployment affect international migration, while the Human Development Index variable does not affect international migration. The limitation of this study is the limited scope that only focuses on Indonesia, without explaining the conditions of international migration in each province. Therefore, future research should cover a wider scope by explaining the conditions of international migration in each province in Indonesia. From this research, it is expected that the government can conduct more targeted and effective policies in addressing the problem of international migration. First of all, special attention needs to be given to efforts to reduce poverty levels, as the results show that poverty has a significant influence on international migration. Increased efforts in reducing poverty levels can be realized through economic development programs, skills training, and social assistance to vulnerable groups. In addition, the government also needs to focus on improving education completion rates. By improving access and quality of education, it can be expected that international migration rates will decrease. Education policies that target groups that still have low levels of education can be a strategic step in reducing migration pressure. Managing open unemployment is also a priority in efforts to control international migration. Policies that support job creation, skills training, and a holistic approach to unemployment issues can help reduce migration tendencies due to economic instability. Although the Human Development Index (HDI) is not shown to be influential in this study, the government still needs to maintain efforts to improve people's welfare. Although it does not directly affect international migration, an increase in HDI can create more stable social and economic conditions, which in turn can help reduce migration pressure. By digging deeper into the results of this study, the government can design more targeted and efficient policies in managing the phenomenon of international migration. In addition, cross- sectoral and international cooperation is also important so that efforts to overcome migration problems can be carried out holistically and sustainably.

REFERENCES

- Aisyah, S., & Atmojo, A. T. (2022). Analysis of Migration Determinants in Java Island : A Panel Data Analysis Analisis Determinan Migrasi Masuk di Pulau Jawa, 198–205.
- Azizah, I. N., Arum, P. R., & Wasono, R. (2021). Model Terbaik Uji Multikolinearitas untuk

- Analisis Faktor-Faktor yang Mempengaruhi Produksi Padi di Kabupaten Blora Tahun 2020. *Prosiding Seminar Nasional UNIMUS*, 4, 63.
- Basalamah, A. T., & Setyadi, R. (2023). Penerapan Algoritma K-Means Clustering Pada Tingkat Penyelesaian Pendidikan Di Provinsi Indonesia. *Jurnal Informatika Dan Teknologi Komputer*, 4(2), 114–121. Retrieved from <https://ejournalunsam.id/index.php/jicom/>
- Bertoli, S., Marchetta, F., Bertoli, S., & Migration, F. M. (2015). Migration , remittances and poverty in Ecuador To cite this version : HAL Id : halshs-00964332.
- Carling, J., & Schewel, K. (2018). Revisiting aspiration and ability in international migration. *Journal of Ethnic and Migration Studies*, 44(6), 945–963. <https://doi.org/10.1080/1369183X.2017.1384146>
- Dainty Juliet Roring, G., Kumenaung, A. G., & Ch P Lopian, A. L. (2020). Pengaruh Pertumbuhan Ekonomi Dan Pendidikan Terhadap Tingkat Pengangguran Terbuka (Tpt) 4 Kota Di Provinsi Sulawesi Utara. *Jurnal Pembangunan Ekonomi Dan Keuangan Daerah*, 20(4), 70–87.
- Dewi, E. (2013). Migrasi Internasional dan Politik Luar Negeri Indonesia. *Jurnal Ilmiah Hubungan Internasional UNPAR*, 9(1), 99452. <https://doi.org/10.26593/jihi.v9i1.535.%p>
- Dewi, S. (2017). Pengangguran Terbuka: Kasus Di Indonesia. *Jurnal Mitra Manajemen*, 9(1), 43–46.
- Pratama, F. F., & Aisyah, S. (2023). Pengaruh IPM, Jumlah Penduduk Dan Upah Terhadap Tingkat Kemiskinan Di Bali Tahun 2018-2021. *Ekonomikawan: Jurnal Ilmu Ekonomi dan Studi Pembangunan*, 23(1), 1-1
- Eggert, W., Krieger, T., & Meier, V. (2010). Education, unemployment and migration. *Journal of Public Economics*, 94(5–6), 354–362. <https://doi.org/10.1016/j.jpubeco.2010.01.005>
- Handalani, R. T. (2018). Determinant of Human Development Index in Southeast Asia. *Jurnal Kebijakan Pembangunan Daerah*, 2(2), 118–137. <https://doi.org/10.37950/jkpd.v2i2.44>
- Helvira, R., & Rizki, E. P. (2020). Pengaruh Investasi, Upah Minimum, dan IPM terhadap Tingkat Pengangguran Terbuka di Provinsi Kalimantan Barat. *Journal of Islamic Economy and Business (JIsEB)*, 1(1), 53–62. Retrieved from <http://e-journal.iainptk.ac.id/index.php/jiseb>
- Kahar, A. M. (2018). Analisis Angka Harapan Lama Sekolah di Indonesia Timur Menggunakan Weighted Least Squares Regression. *Jurnal Matematika "MANTIK,"* 4(1), 32–41. <https://doi.org/10.15642/mantik.2018.4.1.32-41>
- Mardiatmoko, G. (2020). Pentingnya Uji Asumsi Klasik Pada Analisis Regresi Linier Berganda. *BAREKENG: Jurnal Ilmu Matematika Dan Terapan*, 14(3), 333–342. <https://doi.org/10.30598/barekengvol14iss3pp333-342>
- Maria, F., & Oli, Y. (2023). Analisis Pengaruh Pertumbuhan Ekonomi, Pendidikan, Pengangguran Dan Kemiskinan Terhadap Migrasi Tki Keluar Negeri, 2(1), 182–193.
- Mihi-Ramírez, A., Rudžionis, A., & Kumpikaitė, V. (2014). European Economic Migration Flow, Earnings and Unemployment in Decade of 2000. *Procedia - Social and*

- Behavioral Sciences*, 110, 122–129. <https://doi.org/10.1016/j.sbspro.2013.12.854>
- Mohanty, S. K., Mohapatra, S. R., Kastor, A., Singh, A. K., & Mahapatra, B. (2016). Does Employment-Related Migration Reduce Poverty in India? *Journal of International Migration and Integration*, 17(3), 761–784. <https://doi.org/10.1007/s12134-015-0436-y>
- Nadya, P., & Hermawan, D. (2018). Tenaga Kerja Indonesia ke Luar Negeri (Studi pada 6 Kabupaten di Jawa Timur)
- Nisa, K. (2019). Analisis Faktor-Faktor yang Mempengaruhi Tingkat Migrasi Tenaga Kerja Indonesia (TKI) (Studi Kasus Pada 6 Provinsi Tahun 2008-2017). *FEB UIN Syarif Hidayatullah*.
- Noveria, M., & Romdiati, H. (2022). Pandemi Covid-19 dan Dampak Ekonomi pada Pekerja Migran Indonesia dan Keluarganya: Sebuah Kajian Pustaka. *Jurnal Ekonomi Dan Kebijakan Publik*, 13(1), 71–84. <https://doi.org/10.22212/jekp.v13i1.1947>
- Imro'ah, N., Aprianto, A., & Debataraja, N. N. (2020). Metode Cochran-Orcutt untuk Mengatasi Autokorelasi pada Estimasi Parameter Ordinary Least Squares. *Bimaster: Buletin Ilmiah Matematika, Statistika Dan Terapannya*, 9(1)
- Priyono, P., & Herdianti, S. (2019). Analisis Migrasi Risen Berdasarkan Hasil Survei. *Prosiding Seminar Nasional Geografi Universitas Muhammadiyah Surakarta 2019 "Pengembangan Wilayah Berkelanjutan Di Era Revolusi Industri 4.0,"* (10), 127–141.
- Putri, A., & Azzahra, A. (2021). Perbandingan Faktor-Faktor Yang Mempengaruhi Tingkat Pengangguran Terbuka di Indonesia Sebelum dan Sesaat Pandemi Covid-19. *Jurnal Kajian Ekonomi Dan Pembangunan*, 3(2), 71. <https://doi.org/10.24036/jkep.v3i2.13605>
- S Gopal, P., Abdul Rahman, M. A., Malek, N. M., Jamir Singh, P. S., & Chee Hong, L. (2021). Kemiskinan Adalah Satu Fenomena Multidimensi: Suatu Pemerhatian Awal. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 6(1), 40–51. <https://doi.org/10.47405/mjssh.v6i1.608>
- Schewel, K., & Fransen, S. (2018). Formal Education and Migration Aspirations in Ethiopia. *Population and Development Review*, 44(3), 555–587. <https://doi.org/10.1111/padr.12159>
- Shavitry, N. O. (2019). *Analisis Determinan Tenaga Kerja Indonesia untuk Bekerja ke Luar Negeri Tahun 2012-2018*.
- Sianturi, V. G. (2020). Analisis Pengaruh Pengangguran Dan Inflasi Terhadap Kemiskinan Di Sumatera Utara Tahun 2009-2017. *Jurnal Manajemen Dan Bisnis*, 20(September), 202–208. <https://doi.org/10.54367/jmb.v20i2.1012>
- Simarmata, Y. W., & Iskandar, D. D. (2022). Pengaruh Pengeluaran Pemerintah, Investasi, Jumlah Penduduk, Kemiskinan Terhadap Pertumbuhan Ekonomi dan Indeks Pembangunan Manusia: Analisa Two Stage Least Square untuk Kasus Indonesia. *Jurnal Dinamika Ekonomi Pembangunan*, 5(1), 78–94. <https://doi.org/10.14710/jdep.5.1.78-94>
- Sinaga, J. P. (2020). *Determinan Migrasi Internasional Penduduk Pulau Jawa*.
- Sriningsih, M., Hatidja, D., & Prang, J. D. (2018). Penanganan Multikolinearitas Dengan Menggunakan Analisis Regresi Komponen Utama Pada Kasus Impor Beras Di Provinsi

- Sulut. *Jurnal Ilmiah Sains*, 18(1), 18. <https://doi.org/10.35799/jis.18.1.2018.19396>
- Carolline, B. R. (2022). Pengaruh Remitansi Tenaga Kerja Indonesia (TKI), Tingkat Pengangguran Terbuka, dan Pertumbuhan Ekonomi Terhadap Kemiskinan di Indonesia Periode 2009Q1–2020Q4.
- Tresilo, Y. B., Sumarsono, S., & Qosjim, A. (2015). Analisis Faktor Yang Mempengaruhi Minat Mantan TKI Untuk Bekerja Kembali Ke Luar Negeri Di Kabupaten Jember. *Jurnal ISEI Jember*, 5(3), 59–72.
- Yektiningsih, E. (2018). Analisis Indeks Pembangunan Manusia (Ipm) Kabupaten Pacitan Tahun 2018. *Jurnal Ilmiah Sosio Agribis*, 18(2), 32–50.
<https://doi.org/10.30742/jisa1822018528>
- Yusuf Sukman, J. (2017). «Эпидемиологическая безопасность» Title. *Вестник Росздравнадзора*, 4, 9–15.