Quantifying the Poverty Paradox: Indonesian Labor Migration

Dini Yuniarti[1], Herlin Astuti[2], Fajar Agung Triatmojo[3], Muhammad Safar Nasir[4], Hassan Swedy Lunku[5]

[1,2,3,4]Faculty of Economics and Business, Universitas Ahmad Dahlan, Indonesia

[5]Local Government Training Institute, Tanzania

Corresponding Author: dini.yuniarti@ep.uad.ac.id

Abstract

The relationship between poverty and labour migration often reflects a paradox: while poverty pushes households to seek opportunities abroad, migration also requires resources that the poorest can't easily afford. This study explores the poverty paradox in the context of Indonesian labour migration by analysing district/city-level panel data from 2021 to 2023. Using fixed effect data panel, the research examines how poverty, Gross Regional Domestic Product (GRDP), male education, female education, and minimum wage influence the number of Indonesian migrant workers. The results reveal a positive but not significant effect of poverty on the number of migrant workers. In contrast, regional income has a strong positive influence, confirming that migration is facilitated by economic capacity. Female education emerges as a significant driver of migration, reflecting the gendered structure of Indonesia's overseas labour markets, while minimum wages exert a significant negative effect, indicating that improved local wage conditions can partially reduce migration incentives. Overall, the findings highlight with the COVID-19 pandemic and the post-COVID period, Indonesian labour migration is driven less by poverty alone than by the interaction of regional economic capacity, gender-specific human capital, and local labour market conditions. Policy efforts should therefore focus on inclusive regional development, gender-responsive education, and the expansion of decent domestic employment to reduce long-term dependence on international labour migration

How to Cite: Yuniarti, D., Astuti, H., Triatmojo, F. A., Nasir, M. S., Lunku, H. S. (2025). Quantifying the Poverty Paradox: Indonesian Labor Migration, *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi dan Pembangunan, 26*(2), 233-249. doi: https://doi.org/10.23917/jep.v26i2.13174

1. INTRODUCTION

Researching international migrant workers is a critical endeavour because these individuals exist at the intersection of global economic opportunity and extreme personal

vulnerability. The phenomenon of labour migration to other countries is often considered an alternative solution to address issues such as unemployment within a nation (Puspitasari & Kusreni, 2017). However, this movement of people is not spontaneous; instead, it is influenced by a multitude of factors. Migration is often explained through the push–pull framework. There are a myriad of economic and non-economic forces behind the decision to migrate. Migrants can be "pushed" out of their home countries due to deteriorating economic conditions or political unrest. Conversely, migrants are often "pulled" into destinations that offer high wages, good health care, strong educational systems, or linguistic proximity. In making their decision, individuals compare the net benefits of migration to the costs.

Migrant workers have an important role in the economy. Indonesian migrant workers are often hailed as "remittance heroes" for sending home billions of dollars, yet they return to an unproductive period where they struggle to compete in local job markets (Maksum, 2021; UNDP, 2024). Based on Bank Indonesia data and information released by the relevant ministry (BP2MI/Ministry of P2MI), total remittances from Indonesian Migrant Workers (PMI) in 2024 reached USD 15.7 billion, equivalent to approximately IDR 251.5 trillion to IDR 263.8 trillion. It is the second-largest contributor to the country's foreign exchange after oil and gas. However, these "heroes" often remain in a precarious position, facing habitual abuse during recruitment, work, and repatriation (Maksum, 2021). For this reason, it is necessary to study what factors influence the decision to become an international migrant worker. By better understanding the forces that affect specific migrant flows (e.g., demographic characteristics, migrant networks, and economic conditions), policymakers can set policies to target (or reduce) certain types of migrants.

Data presents the placement of Indonesian Migrant Workers by District/City for the period 2021-2023. The 26 districts/cities are due to the highly concentrated nature of Indonesian labor migration. BP2MI data only record formal migrant worker deployments, which are geographically clustered in specific sending regions. Indonesian Migrant Workers (PMI) originate from 25 cities/districts. Figure 1 illustrates the number of migrant workers by their district/city of origin. The number of Indonesian international migrant workers has increased significantly from 2021 to 2023, based on data from several districts and cities. The total number of migrant workers grew from 50,816 in 2021 to 125,947 in 2022, and further to 171,634 in 2023. This rapid increase is particularly evident in key regions. Indramayu consistently had the highest number of migrant workers throughout this period, with its numbers rising from 5,262 in 2021 to 19,178 in 2023. Other districts like Lombok Timur, Cilacap, and Lombok Tengah also showed a substantial surge in their migrant worker populations. These figures highlight a strong and growing trend of Indonesians seeking employment abroad, with a few specific regions serving as major hubs for this migration.
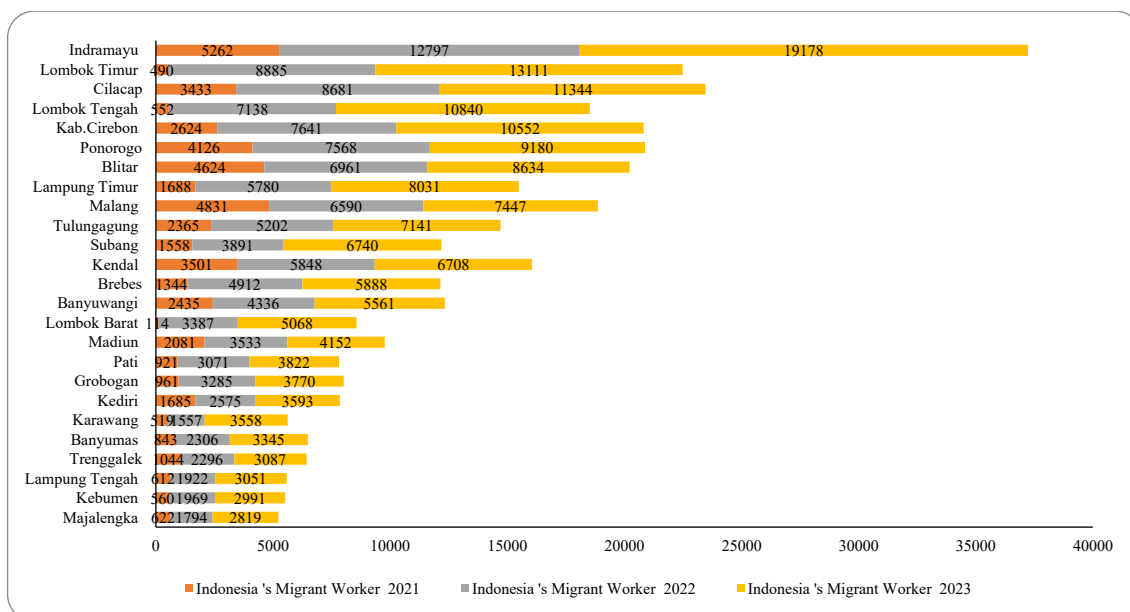
Figure 1.The Number of Migrant Workers by Their District/City of Origin.
Source: The Placement and Protection of Indonesian Migrant Workers
Data/BP2MI (2023)

The number of Indonesian migrant workers during the 2021-2023 period, which coincided with the COVID-19 pandemic and the post-COVID period, rose from 50,816 in 2021 to 125,947 in 2022, and further to 171,634 in 2023. The average number of PMIs also increased from 1,952 in 2021 to 6,784 in 2023. In essence, while the pandemic initially led to mass repatriations and a halt in migration, the subsequent global economic recovery created a renewed demand for labor, coinciding with continued economic pressures and limited opportunities within Indonesia. This combination has driven the significant increase in Indonesian labor migration post-COVID. Figure 2 presents both the average and total number of PMIs
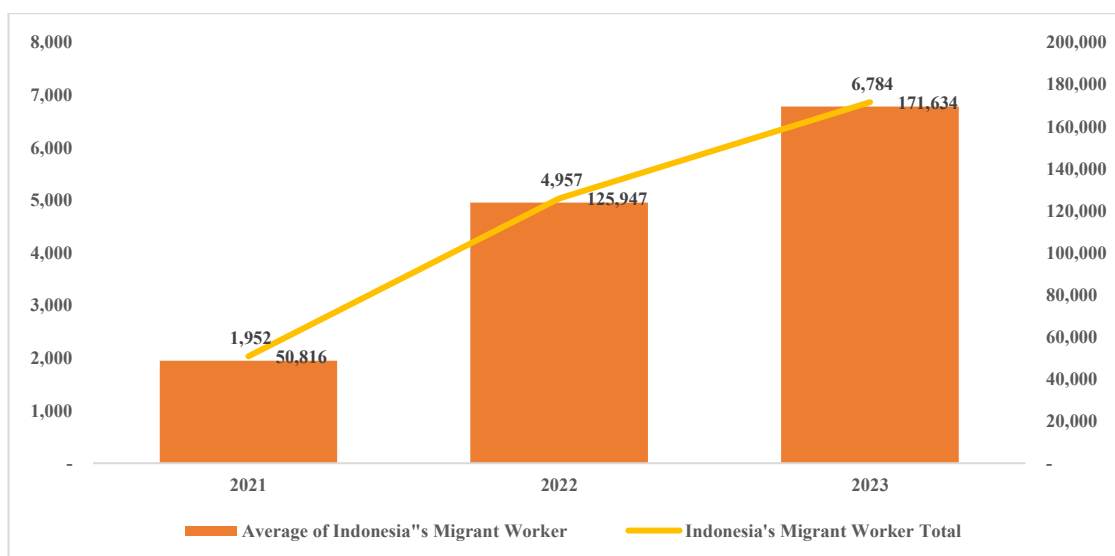
Figure 2. Average and Total Indonesian Migrant Workers by Origin District/City (2021-2023)

Individuals' decisions to migrate for labor are influenced by a complex interplay of various socio-economic factors, often categorized as "push" factors (reasons to leave the origin country) and "pull" factors (attractions of the destination country). These factors can be broadly grouped into economic motivations (Sayono et al., 2018), social dynamics, and individual characteristics, with some influence from governmental and institutional policies. Poverty has long been recognized as one of the strongest push factors in migration decisions. Households living in poverty tend to perceive migration as a survival strategy to secure better income and reduce vulnerability. Poverty emerges as a significant and consistently identified determinant influencing the number of Indonesian migrant workers. Poverty is a substantial and multifaceted factor influencing labor migration, often acting as a primary push factor from countries or regions of origin (Nababan et al., 2022)

During the 2021-2023 period, the number of poor residents in the 25 origin districts/cities of Indonesian migrant workers is shown in Figure 3. The three districts/cities with the highest number of poor residents among the 25 were Brebes, Malang, Cirebon, Banyumas, and Indramayu. The districts with the smallest number of poor residents during 2021-2023 were Tulungagung, Ponorogo, Madiun, and Trenggalek. According to Statistics Indonesia (BPS), the poverty rate has generally shown a decreasing trend. Recent reports (even as of July 2025, which would cover your 2021-2023 period) indicate that Indonesia's poverty rate has fallen to historic lows in some measurements. For example, a recent BPS report stated the poverty rate dropped to 9.03% in March (year not specified but implies a recent period), which was lower than the 9.22% in 2019 (pre-pandemic record). The World Bank also noted that Indonesia's headcount poverty rate continued its decline in 2022 as economic recovery resumed, falling to 9.5% in March 2022 from March 2021.
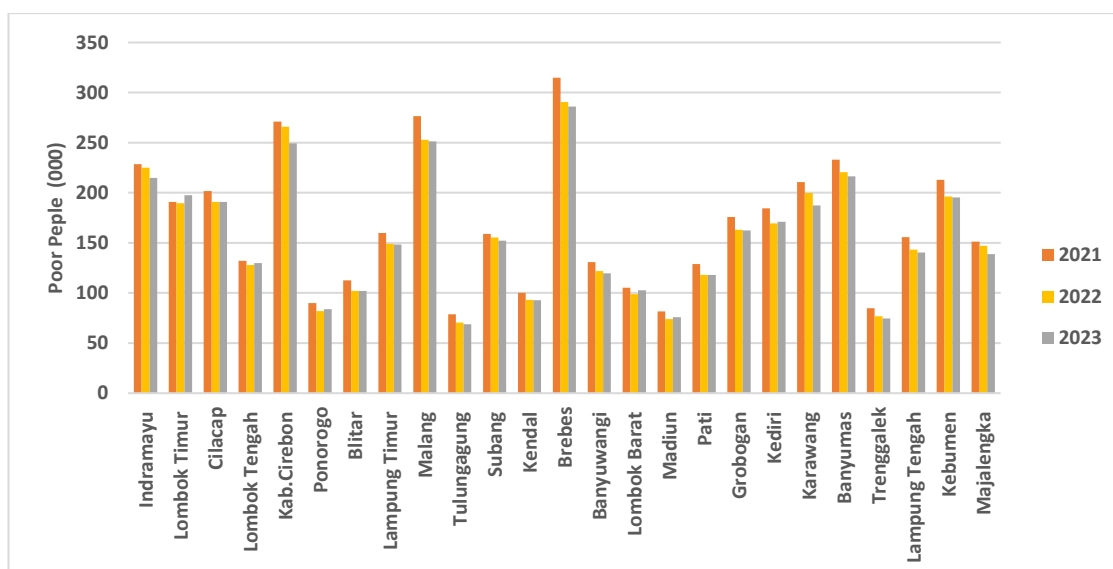
Figure 3. The Poverty Rate (Number of poor people in thousands)
Source: Statistics Indonesia (BPS)

The influence of poverty on migrant workers presents a two-sided coin that creates the 'poverty paradox' for migrant workers from developing countries (Uddin & Mohammed, 2022). This indicates that while poverty is a strong driver of migration, prompting individuals to seek economic improvement and send crucial remittances, this pursuit often comes at the cost of significant human security challenges (Kusumawati, 2024). Migrants often face poor living conditions and economic hardships in host countries, which can perpetuate their poverty status. This is particularly true for illegal migrants who live in precarious conditions. Migrants frequently face exploitation, unsafe working conditions, and social marginalization, both abroad and upon their return, sometimes leading to a cycle where the initial escape from poverty can trap them in new forms of vulnerability and hardship.

Migration is a means to improve social and economic conditions, but living conditions are still poor. There are many uncertainties, such as refugees and asylum seekers in welfare states may still experience poverty due to ineffective social policies and high levels of unemployment, and discrimination in certain regions (Suryaningsih et al., 2023). The conditions make it more difficult to escape from poor living conditions. Moreover, the economic shock of COVID-19 has created challenges and vulnerabilities during and beyond it. There is a push for a decrease in the number of migrants observed as a border control approach in Indonesia's migration policy (Arifin et al., 2024)

Migration is often explained using the push-pull framework, which identifies poverty, income gaps, education, and wage differences as key factors. Poverty is widely seen as one of the main reasons people decide to migrate. Some scholars argue that extreme poverty may also limit migration because households cannot afford the upfront costs of migration (Lukasiewicz, 2017). Previous studies also highlight that poverty often acts as a structural driver of migration, particularly in rural and less developed provinces of Indonesia

(Puspitasari & Kusreni, 2017). Households in poverty often view migration as a way to survive, seeking better income and reducing their vulnerability. Research shows that poverty in rural and underdeveloped areas of Indonesia has led to an increase in migrant workers going abroad (Xu et al., 2024). However, extreme poverty can also prevent migration because individuals may not be able to pay for the initial costs of moving. Therefore, it is expected that poverty has a significant effect on the number of Indonesian migrant workers. Figure 4 shows a counterintuitive inverse relationship between poverty and migrant worker deployment over 2021–2023. While the number of migrant workers increases sharply, the poverty headcount steadily declines. At face value, this contradicts the classic push-factor narrative where higher poverty is expected to generate higher migration. Instead, the pattern suggests a poverty–migration paradox: migration expands as poverty falls, not rises. This is interesting to study empirically, whether the paradox of migrant poverty is proven during the pandemic and post-pandemic transition.
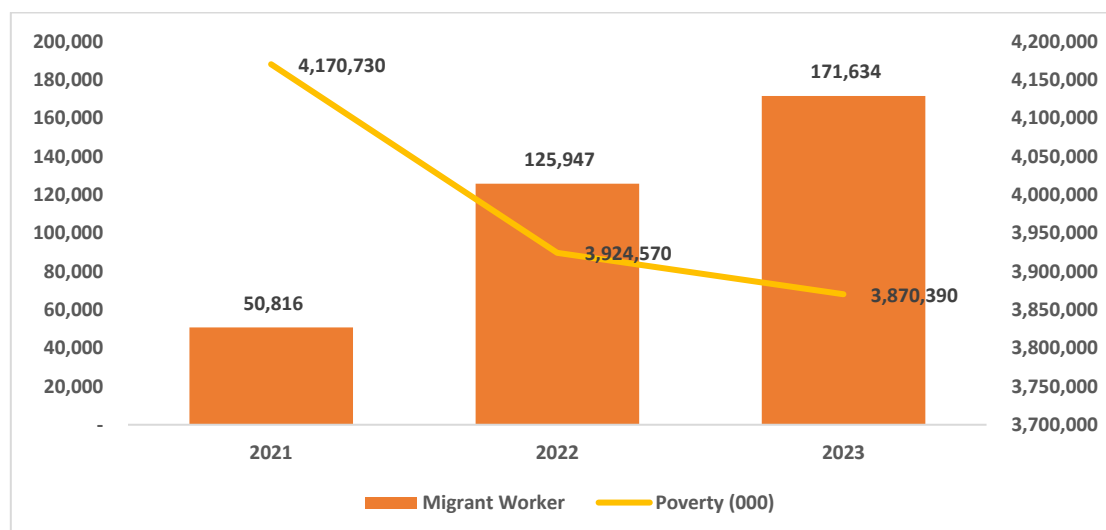

Figure 4. Migrant Worker vs Poverty 2021-2023

Other factors also affect migrant workers, including income, education, and wage differentials. Regional income, represented by Gross Regional Domestic Product (GRDP), reflects the economic capacity of a region. A higher GDP may reduce labor outmigration by providing more employment opportunities domestically. Conversely, greater household income can also increase migration, since it provides the necessary financial resources to finance overseas job placement (Uddin & Mohammed, 2022). Empirical evidence suggests (Wajdi et al., 2017). Therefore, regional income is hypothesized to significantly affect the number of migrant workers.

Regional income, represented by Gross Regional Domestic Product (GRDP), reflects the economic capacity of a region. Higher GRDP may reduce labor outmigration by providing more domestic employment opportunities. Conversely, greater household income can also increase migration, since it provides the necessary financial resources to finance overseas job

placement (Uddin & Mohammed, 2022). Empirical evidence suggests that regional income disparities across provinces in Indonesia strongly shape labor migration flow (Wajdi et al., 2017).Therefore, regional income is hypothesized to significantly affect the number of migrant workers.

Education is another important determinant of migration. However, in the Indonesian case, male and female education show different patterns. Male education tends to have a weaker connection with international migration because overseas employment sectors are predominantly dominated by female workers, especially in domestic and care work(Nababan et al., 2022). In contrast, female education has been found to strongly encourage migration, as it increases confidence, access to information, and employability abroad (Arifin et al., 2024);(Robiyatin et al., 2024). This means that while education for men may not have a strong effect, education for women is likely to have a big impact on the number of Indonesian migrant workers. Indonesia provides a unique and massive case study due to its scale and the specific demographics of its workforce (UNDP, 2024). There is feminization of migration, as Indonesia's migration flow is heavily dominated by women, and recent data from 2021 to 2023 reveals that female education is one of the strongest positive predictors of migration (Nisa et al., 2023).

Finally, the minimum wage is an important labor market policy instrument intended to improve domestic workers' welfare. However, despite adjustments in Indonesia's minimum wage, the income differential with destination countries remains substantial. This wage gap continues to encourage international migration, as overseas employment still promises significantly higher earnings (Puspitasari & Kusreni, 2017). Thus, minimum wage is hypothesized to significantly affect the number of migrant workers

The research indicates that migration in Indonesia is directed towards more developed regions, suggesting that regional disparities in development are a significant factor in interregional migration (Wajdi et al., 2018). These areas are controlled by social and economic factors (Suryaningsih et al., 2023). The "paradox of poverty" for migrant workers, where migration driven by poverty simultaneously brings benefits and creates new vulnerabilities, was significantly amplified by the COVID-19 pandemic. The pandemic not only highlighted the pre-existing economic and social precariousness of migrant workers but also introduced new layers of hardship and challenges. In essence, the post-COVID era is not merely a continuation of pre-pandemic trends; it's a period shaped by unprecedented disruptions and evolving economic realities. Researching the poverty-migration nexus in this specific context provides timely, critical insights for academic understanding and evidence-based policy interventions. Researching the influence of poverty on migrant workers during and post-COVID-19 is essential because the pandemic significantly exacerbated pre-existing vulnerabilities and introduced new layers of challenges, highlighting critical gaps in support systems and policy that require urgent attention (Huang et al., 2024). Therefore, this research aims to determine the influence of poverty on migrant worker placement during and post-COVID. Apart from examining the influence of poverty, we will also examine the influence of other factors, namely regional income, gender-specific education, and minimum wages.

Focusing on the Indonesian context between 2021 and 2023 is vital for understanding the structural and individual forces that drive global labor patterns. Researching this field is essential because it unpacks the poverty paradox, where the most vulnerable households feel the strongest push to migrate but face significant barriers. After all, they lack the initial resources to afford the move (Kusumawati, 2024). The timing of this research is critical as the world enters a transition pandemic era to the post-COVID-19 era, which radically shifted the dynamics of labor mobility and exposed new vulnerabilities (Arifin et al., 2024)

Existing studies on labour migration often analyse poverty or income as separate drivers, offering limited empirical testing of the poverty paradox within a unified framework, particularly at the subnational level. In Indonesia, most evidence is based on cross-sectional or pre-pandemic data, limiting insights into the transition from the pandemic era to the *post-COVID-19* period migration dynamics and unobserved regional heterogeneity. Moreover, despite the feminisation of overseas employment, gender-disaggregated education is rarely incorporated into migration models, while evidence on the role of minimum wages remains inconclusive. This study addresses these gaps by employing district-level panel data from 2021–2023 and a fixed effects model to jointly examine poverty, regional income, gender-specific education, and minimum wages in shaping Indonesian labour migration.

The main contribution of the proposed research lies in its unique combination of scale (utilizing panel data from 25 districts/cities in Indonesia) and its specific focus on the *post-COVID-19* period, aiming to empirically and phenomenologically explore the influence of poverty on migrant workers. While individual components are present in the literature, their integration within this precise research design for the Indonesian context would represent a significant, distinct contribution. Researching the influence of poverty on migrant workers during and post-COVID-19 is essential because the pandemic significantly exacerbated pre-existing vulnerabilities and introduced new layers of challenges, highlighting critical gaps in support systems and policy that require urgent attention (Huang et al., 2024). Therefore, this research aims to examine whether the poverty migrant paradox occurs in Indonesia during the pandemic and post-pandemic. This study aims to examine whether the poverty migrant paradox exists in Indonesia during and after the pandemic. In addition, it will also investigate the influence of Gross Regional Domestic Product (GRDP), female education, and minimum wages on the number of Indonesian migrant workers during and post-COVID.

2. RESEARCH METHOD
2.1. The Data

This research employs secondary quantitative data, the number of Migrant Workers obtained from the Placement and Protection of Indonesian Migrant Workers Data (BP2MI), poverty rates, Gross Regional Domestic Product (GRDP), average years of schooling, and minimum wage, which are sourced from the Statistics Indonesia (BPS) from Statistic Indonesia (BPS) and The time dimension utilized is panel data comprising cross-sectional data for 25 districts/cities that are origin areas for Indonesian Migrant Workers (PMI), with a time series ranging from 2021-2023. The 25 districts/cities for this study were selected based on data availability in the report. The analysis is restricted to 26 districts/cities due to

the highly concentrated nature of Indonesian labor migration. BP2MI data only record formal migrant worker deployments, which are geographically clustered in specific sending regions. Many districts exhibit zero or missing migration flows during the observation period, making them unsuitable for panel estimation. Table 1 presents the operational definitions of the variables.

Table 1. Operational Definition of Variables

Variable	Measurement	Source
Indonesian Migrant Workers (LnIMW)	Number of Indonesian Migrant Workers Placement by district/city (individuals)	The Placement and Protection of Indonesian Migrant Workers Data (BP2MI)
LnPoverty (Pov)	The poverty rate is measured by using the number of poor people in thousands.	Statistics Indonesia(BPS)
Gross Regional Domestic Product (LnG)	Gross Regional Domestic Product by Regency/City (million rupiah)	Statistics Indonesia(BPS)
Education_fimale (EF)	Average years of schooling for girls, a measure that indicates the average number of years the population aged 25 and over has completed formal education for girls (year)	Statistics Indonesia(BPS)
Minimum wage (LnMW)	Minimum wage by Regency/City (million rupiah)	Statistics Indonesia(BPS)

2.2. Analytical Tools: Panel Data

This research employs panel data analysis to test the hypotheses regarding the influence of poverty, Gross Regional Domestic Product (GRDP), average years of female schooling, and minimum wage on the number of Indonesian migrant workers during and post Covid-19, the 2021-2023 period across 25 districts/cities. This study employs a fixed effects panel data model to account for unobserved, time-invariant heterogeneity across Indonesian districts/cities that may influence labour migration outcomes. Such heterogeneity includes historical migration networks, institutional capacity, geographic characteristics, and local socio-cultural norms, all of which are likely correlated with poverty, regional income, and female educational attainment.

By exploiting within-district variation over the 2021–2023 period, the fixed-effects model mitigates omitted-variable bias and yields more consistent estimates of the poverty–migration relationship. Given the short time dimension and the likelihood that key regressors are endogenous to persistent district characteristics, the fixed-effects specification is more appropriate than pooled OLS or random-effects models for examining the poverty

paradox in Indonesian labour migration. The analysis is restricted to 26 districts/cities due to the highly concentrated nature of Indonesian labor migration. BP2MI data only record formal migrant worker deployments, which are geographically clustered in specific sending regions. Many districts exhibit zero or missing migration flows during the observation period, making them unsuitable for panel estimation

In general, the equations of panel data are as follows:

$$LnIMW = \beta_0 + \beta_1 lnPov_{it} + \beta_2 LnG_{it} + \beta_3 EF_{it} + \beta_4 lnMW_{it} + \varepsilon_{it} \qquad (1)$$

Where:
$LnIMW$: Indonesian Migrant Workers
LnPov   : Poverty
LnG   : Log Gross Regional Domestic Product
EF   : Education female
LnMW   : Minimum wage
i : cross-section identification
t   : time series identification
ε_{it} : Error term
$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$: coefficient

Where IMW_{it} denotes the number of Indonesian migrant workers originating from the district/city i in the year t. POV_{it} captures the poverty rate as an indicator of livelihood vulnerability, while $GRDP_{it}$ proxies for regional economic capacity and households' ability to finance migration. EF_{it} represents male and female educational attainment, reflecting gender-differentiated migration channels, and MW_{it} is the district's minimum wage. Poverty (β_1) is hypothesised to exert a positive effect on migration by increasing income risk and livelihood insecurity, thereby encouraging households to seek overseas employment as a coping strategy. Regional income (β_2) is also expected to be positive, reflecting the role of higher GRDP in relaxing liquidity constraints and financing migration costs, consistent with the poverty–migration paradox. Female education (β_3) is hypothesised to have a strong positive effect due to Indonesia's gendered migration structure, where overseas labour demand is concentrated in female-dominated sectors. Finally, the minimum wage coefficient (β_4) is expected to be significant, as local wage adjustments are insufficient to offset the persistent earnings differentials between Indonesia and major destination countries.

A semi-log functional form is employed for migration, poverty, GRDP, and minimum wage to address right-skewed distributions and to allow coefficients to be interpreted as elasticities or semi-elasticities, which is standard in migration and labour economics literature.

Furthermore, before hypothesis testing, several stages of examination will be conducted. First, a model specification test will determine the most appropriate model (Fixed Effect, Random Effect, or Common Effect Model). Subsequent tests include statistical tests, comprising the F-test, the coefficient of determination (R-squared), and the partial t-statistic

test. To ensure the validity of statistical inferences, classical assumption tests were performed. The Wald test for heteroscedasticity and the Wooldridge test for autocorrelation. Following these tests, a discussion of the results and recommendations will be provided.

3. RESULTS AND DISCUSSIONS
3.1 Results

Based on Table 2, model specification tests were conducted before hypothesis testing. Based on the Chow Test, the Chi-square probability indicated that the Fixed Effect Model is appropriate. Subsequently, the Hausman Test was used to compare the Fixed Effects Model with the Random Effects Model, confirming the Fixed Effects Model as the appropriate model. Since diagnostic tests indicate violations of classical assumptions, including heteroskedasticity and serial correlation, the empirical model is re-estimated using robust standard errors clustered at the panel level. This approach yields consistent inference without altering the coefficient estimates. This study uses Clustered Robust Standard Errors at the observation unit level at the regional level. This method produces consistent standard errors despite heteroscedasticity and autocorrelation issues, thus ensuring the coefficient significance remains valid and reliable (Colin Cameron & Miller, 2015).

Table 2. Fixed Effect Model Estimation Result

Variable	Coefficient	Std. Error	t-Statistic	Prob
C	-111.4	54.05	-2.06	0.050
Poverty (LnPov)	3.446	3.300	1.04	0.307
Log GRDP (LnG)	17.01	4.329	3.39	0.001*
Education female (RF)	1.627	0.703	2.31	0.030**
Minimum wage (lnMW)	-7.436	2.094	-3.55	0.002*
Adjusted R-squared	0.680			
F-statistic (4,46)	24.48			
Prob(F-statistic)	0.000*			
Chow test (24,46)	7.70			
Prob (F statistic)	0.000*			
Hausman test(Chi square)	139.67			
Prob (Chi square statistic)	0.000*			

Note: * significant $\alpha = 1\%$; **$\alpha = 5\%$,

The estimation results show that poverty, average years of female schooling, and district/city minimum wage passed the a priori test. Poverty exhibited a positive coefficient, aligning with the hypothesis that increased poverty motivates workers to seek employment abroad to improve their livelihoods. Average years of schooling for females showed a positive coefficient, indicating that higher education correlates with a higher number of Indonesian migrant workers. District or city minimum wage had a negative coefficient, suggesting that an increase in the minimum wage leads to a decrease in the number of Indonesian migrant workers (PMI). However, Gross Regional Domestic Product (GRDP) has a positive coefficient. Theoretically, a higher GRDP should lead to a decrease in migrant workers; however, its

coefficient was positive, implying that a higher GRDP is associated with a higher number of migrant workers.

Statistically, the panel data analysis results from the Fixed Effect Model show an adjusted R-squared value of 0.680, meaning that 68.0% of the variation in Indonesian migrant workers can be explained by the variables in the model. The F-test value indicates that the independent variables simultaneously influence the number of Indonesian migrant workers. Regarding individual statistical tests, poverty has no significant effect; average years of female schooling and GDRP have positively influenced the increase in migrant workers. On the contrary, minimum wage has negatively influence on migrant workers.

3.2   Discussions
3.2.1 Poverty

Figure 4 reveals a clear poverty–migration paradox in Indonesia during and the post-pandemic period. Between 2021 and 2023, the number of international migrant workers increased sharply, while the national poverty headcount declined continuously. This inverse descriptive relationship challenges the conventional push-factor hypothesis, which predicts higher migration under worsening poverty conditions, and instead suggests that migration expands alongside improving economic conditions.

The econometric results in Table 3 reinforce this paradox. Poverty (LnPov) exhibits a positive but statistically insignificant coefficient, indicating that variations in poverty levels do not directly drive migrant worker deployment once unobserved regional heterogeneity is controlled for. The absence of a significant effect of poverty on the number of migrant workers in Indonesia suggests that international migration is not primarily a response to extreme deprivation but rather a selective household strategy constrained by liquidity and institutional barriers. Consistent with the New Economics of Labor Migration (NELM), migration entails substantial upfront costs—including recruitment fees, documentation, training, and placement—which tend to exclude the poorest households (Stark & Bloom, 1985). Consequently, migration is more feasible for moderately poor or near-poor households with access to credit, social networks, or intermediary support, weakening the direct poverty–migration linkage. Moreover, Indonesian migrant outflows are strongly shaped by institutional mechanisms such as bilateral labor agreements, recruitment quotas, and destination-country labor demand, which further dilute the role of local poverty conditions. This finding aligns with evidence from international organizations showing that labor migration flows are driven more by structural and policy factors than by poverty alone (International Labour Organization, 2021); (World Bank, 2020).This finding implies that the poorest households are not the primary participants in international migration, consistent with the New Economics of Labour Migration (NELM), which emphasizes liquidity constraints and household capacity rather than absolute deprivation. This finding is inconsistent with a previous study that poverty has a significant positive effect on the number of workers sent abroad, indicating that districts with higher poverty levels send more workers abroad as a crucial livelihood strategy (Muslihatinningsih,Fivien; Sinaga, Juan Palem; Istiyani, 2020). During the period of study showed different results.

The results reveal that poverty has no significant effect on the number of migrant workers. The relationship between poverty and labor migration is often paradoxical; poverty is a primary push factor for households to seek opportunities abroad, yet migration requires significant financial resources that the poorest often cannot afford. This paradox is central to understanding Indonesian labor migration dynamics.

The positive association between poverty and migration can be explained by the intensified livelihood insecurity following the pandemic. COVID-19 disproportionately affected informal workers and low-income households, particularly in rural and semi-urban districts, reducing local employment opportunities and increasing income volatility. In this context, overseas employment functions as a household risk-coping strategy, consistent with the New Economics of Labour Migration (NELM), whereby migration serves to diversify income sources rather than merely maximise wages

3.2.2 Regional Income (GRDP)

In contrast, regional economic capacity variables play a decisive role. Factor GRDP (LnG) has a positive and highly significant effect, suggesting that economically stronger regions send more migrant workers. This supports the interpretation that international migration functions as a household investment and income-diversification strategy rather than a survival response. As regional economies recover post-pandemic, households are better positioned to finance migration costs and absorb associated risks. Similar findings are noted in studies of Indonesia's interregional and international migration, where income disparities play a crucial role in shaping labor mobility (Niua et al., 2022). This result aligns with the notion that migration is not only driven by poverty but also by the capacity to finance the migration process (Uddin & Mohammed, 2022). Regional affluence provides the capability to finance the high costs involved. (Ben & Schneiderheinze, 2024). This phenomenon is known as the "migration hump," where emigration rates in developing countries tend to rise with economic growth before eventually declining at higher income levels. Economic progress can relax budget constraints that previously prevented migration, meaning that development does not always reduce migration in the short to medium term.

3.2.3 Female Education

Human capital and labor market institutions further condition migration decisions. Female education attainment significantly increases migrant deployment, highlighting the role of skills, employability, and gendered labor demand in global care and service sectors. Conversely, higher minimum wages reduce migration, indicating that improved local labor market returns dampen incentives to seek employment abroad. Female education exerts a strong positive and highly significant effect on the number of migrant workers. This confirms that women's education plays a critical role in migration decisions. Better-educated women may have greater access to information, improved confidence, and increased bargaining power, which facilitate their participation in international labor markets (Arifin et al., 2024; Robiyatin et al., 2024). This result also supports previous findings that female education is a significant determinant of labor migration in Indonesia, where women constitute the

majority of migrant workers (Dwi et al., 2022). A prominent finding is the strong positive influence of female education on migration flows. This aligns with the historical dominance of women in Indonesia's international labor migration, particularly in domestic and caregiving sectors.(Awara & Rosalinda, 2023) Education empowers women, granting them greater autonomy in decision-making and motivating them to seek better opportunities abroad to escape restrictive social norms. The demand for labor in gendered sectors in destination countries also plays a significant role. (Awara & Rosalinda, 2023); (Muslihatinningsih,Fivien; Sinaga, Juan Palem; Istiyani, 2020).

3.2.5 Minimum Wage

Labor market institutions further condition migration decisions. Higher minimum wages reduce migration, indicating that improved local labor market returns dampen incentives to seek employment abroad. The study also found that the regional minimum wage is a significant predictor of migration. This suggests that increases in regional minimum wages are sufficient to deter workers from seeking employment abroad. One explanation is the persistent wage gap between Indonesia and destination countries, which remains wide despite domestic wage adjustments (Puspitasari & Kusreni, 2017). This finding is inconsistent with Uddin & Mohammed (2022), who argue that domestic wage improvements are often overshadowed by the much higher earning potential available in destination countries. Although neoclassical theories suggest wage differentials are a primary driver, minimum wage adjustments in Indonesia appear insufficient to offset the substantial earnings gap with destination countries.(Muslihatinningsih, Fivien; Sinaga, Juan Palem; Istiyani, 2020).

3.2.5 Overall Findings

The post-COVID Indonesian poverty–migration paradox reflects a shift from distress-driven to capacity-driven migration, which is consistent with the estimated coefficients. The insignificant effect of poverty (LnPov) indicates that absolute deprivation does not directly trigger international migration once regional fixed effects are controlled for, reflecting binding liquidity and information constraints that exclude the poorest households from formal migration channels. In contrast, the positive and significant coefficient on regional income (LnG) captures a capability mechanism whereby post-pandemic economic recovery relaxes financing constraints, raises migration aspirations, and enables households to treat migration as an investment and risk-diversification strategy rather than a survival response. The positive effect of female education (RF) reflects alignment between Indonesia's human capital endowment and post-pandemic global labor demand, particularly in care and service sectors, where education lowers transaction costs, enhances employability, and facilitates access to regulated migration pathways. Conversely, the negative coefficient on minimum wages (lnMW) captures a countervailing opportunity-cost mechanism: improvements in local labor market returns reduce the relative attractiveness of overseas employment, even in economically expanding regions. These mechanisms jointly explain why migrant deployment

increases amid declining poverty in the post-recovery phase, while also delineating clear boundary conditions: the paradox is unlikely to hold during crisis peaks, in regions with weak migration institutions, or for informal and undocumented migration flows that remain poverty-driven but unobserved in official data. When mobility concerns highly skilled workers, pull factors play a more important role than push factors. The social and economic conditions of the host regions are one of the most important factors determining the mobility of highly skilled workers. (Oliinyk et al., 2021)

4. CONCLUSIONS

This study investigates the poverty–migration paradox in Indonesia using district/city-level panel data for the post-COVID period (2021–2023) and a fixed effects model that controls for unobserved regional heterogeneity. The findings reveal that international labour migration from Indonesia is shaped more by regional economic capacity and gendered human capital than by poverty levels alone. While poverty is often assumed to be a primary push factor, the empirical results show that, after controlling for district-specific characteristics, poverty does not have a statistically significant effect on the number of Indonesian migrant workers. This suggests that extreme deprivation may constrain, rather than stimulate, international mobility due to liquidity and cost barriers.

In contrast, regional income (GRDP) exhibits a strong positive and significant effect on migration, indicating that districts with higher economic capacity are better able to finance migration costs and access overseas labour markets. This finding supports the poverty paradox perspective, in which migration is enabled not by poverty per se, but by the availability of sufficient resources at the regional level. Furthermore, female education emerges as a significant driver of migration, reflecting the feminised structure of Indonesia's overseas employment and the importance of formal skills and credentials in accessing international care and domestic work sectors. Meanwhile, minimum wages show a significant negative effect, suggesting that improvements in local wage conditions can partially reduce migration incentives, although they are unlikely to fully offset international wage differentials.

Overall, the results indicate that post-COVID Indonesian labour migration is driven by the interaction of economic capacity, gender-specific human capital, and local labour market conditions rather than poverty alone. Policy efforts aimed at reducing dependence on overseas employment should therefore prioritise inclusive regional development, expansion of decent local employment, and gender-responsive education and skills policies. At the same time, migration should be managed as a structural feature of development by strengthening worker protection and improving the productive use of remittances. Future research should explore non-linear poverty effects, migration costs, and institutional changes to further refine the understanding of labour mobility dynamics in Indonesia.

5. REFERENCES

Arifin, R., Zulfa, E. A., Hanita, M., & Runturambi, A. J. S. (2024). Unveiling Indonesia's migration and border governance: Challenges and imperatives post-pandemic. *Social Sciences & Humanities Open*, *10*, 101202. https://doi.org/10.1016/j.ssaho.2024.101202

Ben, D., & Schneiderheinze, C. (2024). *Higher economic growth in poor countries , lower migration flows to the OECD – Revisiting the migration hump with panel data. 182*(June). https://doi.org/10.1016/j.worlddev.2024.106655

Colin Cameron, A., & Miller, D. L. (2015). A Practitioner's Guide to Cluster-Robust Inference. *Journal of Human Resources*, *50*(2), 317–372. https://doi.org/10.3368/jhr.50.2.317

Huang, T., Zhou, H., Jones, L., & Wen, C. (2024). Us or them: How COVID- - 19 vaccine priority influences perceptions of local- - migrant worker relations . *Asian Journal of Social Psychology Us*, (September), 995–1010. https://doi.org/10.1111/ajsp.12653

International Labour Organization (Ed.). (2021). *ILO global estimates on international migrant workers: Results and methodology*. International labour organization.

Kusumawati, M. P. (2024). Indonesian Migrant Workers (IMW) and human trafficking: perspectives from Islamic and human rights standpoints. *Kanun Jurnal Ilmu Hukum*, *26*(1), 81–100. https://doi.org/10.24815/kanun.v26i1.37153

Lukasiewicz, K. (2017). *Exile to Poverty: Policies and Poverty Among Refugees in Poland. 55*(6). https://doi.org/10.1111/imig.12356

Maksum, A. (2021). Indonesian post-migrant workers: A challenging problem for human security. *Social Sciences & Humanities Open*, *4*(1), 100223. https://doi.org/10.1016/j.ssaho.2021.100223

Muslihatinningsih, F. Sinaga, J. P., & Istiyani, N. (2020). Migrasi internasional penduduk Pulau Jawa menjadi pekerja migran Indonesia di luar negeri. *Jurnal Ekonomi Pembangunan*, *9*(2), 106–115.

Nababan, F., Matin, M., & Suryadi, S. (2022). Are the Migrant Worker Empowerment Program's Objectives Effective? *Journal of International Conference Proceedings*, *5*(1). https://doi.org/10.32535/jicp.v5i1.1479

Nisa, A. K., Soelistijo, D., Susilo, S., & Deffinika, I. (2023). Perempuan pekerja migran: analisis hubungan faktor usia, pendidikan dan status perkawinan terhadap partisipasi kerja migran Hong Kong di Kecamatan Sukun Kota Malang. *DEMOS: Journal of Demography, Ethnography and Social Transformation*, *3*(2), 100–115. https://doi.org/10.30631/demos.v3i2.1976

Niua, A., Handayani, D., & Karma, I. D. G. (2022). Do amenities and economic factors affect migration? Empirical evidence. *Environment and Urbanization ASIA 13*(1), 11–26. https://doi.org/10.1177/09754253221083169

Oliinyk, O., Bilan, Y., Mishchuk, H., Akimov, O., & Vasa, L. (2021). The impact of migration of highly skilled workers on the country's competitiveness and economic growth. *Montenegrin Journal of Economics*, *17*(3), 7–19. https://doi.org/10.14254/1800-5845/2021.17-3.1

Puspitasari, W. I., & Kusreni, S. (2017). Faktor-faktor yang mempengaruhi migrasi tenaga kerja ke luar negeri berdasarkan provinsi di Indonesia. *Jurnal Ilmu Ekonomi Terapan*, *2*(1). https://doi.org/10.20473/jiet.v2i1.5505

Robiyatin, S., Muktiyanto, A., Fatimah, F., & Daulay, P. (2024). Financial management analysis of Indonesian migrant workers: Case study of Indonesian female migrant workers in Singapore. *International Journal of Science and Society*, *6*(3), 358-368. https://doi.org/10.54783/ijsoc.v6i3.1250

Stark, O., & Bloom, D. E. (1985). The New Economics of Labor Migration. *The American Economic Review*, *75*(2,), 173–178.

Suryaningsih, Nulhaqim, S. A., Fedryansyah, M., & Sugandi, Y. S. (2023). Employment opportunities and social networks of Indonesian women migrant workers at the border. *Journal of Law and Sustainable Development*, *11*(2), e403. https://doi.org/10.55908/sdgs.v11i2.403

Uddin, M. S., & Mohammed, A. A. (2022). *Poor Income and Unemployment as Determinants of Labour Migration: Empirical Evidence From Bangladeshi Migrant Workers in Klang , Malaysia*. *12*(3), 22–39. https://doi.org/10.5296/ijhrs.v12i3.20088

UNDP. (2024). *Empowering Migrants: Feasibility Study of Innovative Financing Mechanism on Migration.*

Wajdi, N., Adioetomo, S. M., & Mulder, C. H. (2017). Gravity Models of Interregional Migration in Indonesia. *Bulletin of Indonesian Economic Studies*, *53*(3), 309–332. https://doi.org/10.1080/00074918.2017.1298719

Wajdi, N., Adioetomo, S. M., & Mulder, C. H. (2018). Gravity Models of interregional migration in Indonesia. *Bulletin of Indonesian Economic Studies*. *4918*. https://doi.org/10.1080/00074918.2017.1298719

World Bank (Ed.). (2020). *Trading for development in the age of global value chains* (2020). International Bank for Reconstruction and Development/The World Bank.

Xu, D., Luo, D., He, X., Lin, T., & Wang, C. (2024). *Intensity and Determinants of Rural Migrant Workers' Multidimensional Poverty in China*. *9*(4). https://doi.org/10.20849/ajsss.v9i4.1449