The Impact of Economic Growth, Global Peace Index, and Inflation on International Immigration to Indonesia

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ABSTRACT

International immigration plays an increasingly important role in shaping Indonesia's demographic structure and economic development trajectory. Alongside traditional economic determinants, national security conditions have emerged as critical factors influencing cross-border migration decisions. This study aims to examine the effects of economic growth, the Global Peace Index (GPI), and inflation on international immigration to Indonesia. Annual time series data covering the period 2005–2024 were analyzed using multiple linear regression, incorporating dummy variables to represent different levels of GPI classifications.

The empirical results reveal that economic growth has a positive and statistically significant effect on international immigration ($\beta = 164{,}908$; $p < 0.001$), indicating that improved economic performance enhances Indonesia's attractiveness as a destination country. In contrast, high instability conditions (D2) have a significant negative impact on migration inflows ($\beta = -657{,}414$; $p < 0.001$), suggesting that deteriorating security conditions discourage international migrants. Meanwhile, moderate instability (D1) and inflation do not exhibit statistically significant effects, implying that migrants may be less sensitive to moderate fluctuations in peace conditions and price levels.

The overall model demonstrates strong explanatory power, accounting for 93.3% of the variation in international immigration ($R^2 = 0.933$; $p < 0.001$). These findings underscore the importance of both economic performance and national security in shaping migration patterns to developing countries such as Indonesia. This study contributes to the migration literature by integrating peace and security indicators into an economic-demographic framework, offering a more comprehensive understanding of the determinants of international migration.

Keywords: International immigration; Economic growth; Global Peace Index; National security; Inflation

INTRODUCTION

International migration is a growing global phenomenon, driven by individuals seeking better living standards through improved employment and welfare opportunities (Todaro, 1969). Economic growth is a key determinant, as it expands labor market capacity, reduces unemployment, and alleviates poverty (World Bank, 2013; Islam & Nazara, 2000). Empirical studies indicate a negative relationship between economic growth and unemployment—for instance, in the United States, a 1% increase in real GDP reduces the unemployment rate by approximately 0.42 percentage points (Kitov & Kitov, 2023), and Okun's Law has been confirmed in Algeria (Louail & Benarous, 2021).

In Indonesia, economic growth has remained relatively stable at around 5% during 2022–2024, while labor force participation increased from 139.85 million in 2023 to 144.64 million in 2024 (BPS, 2024). These trends enhance the country's potential to attract international migrants. In 2023, Indonesia hosted 168,048 foreign workers, up from 133,327 in 2022, particularly from China, Japan, and South Korea. However, rising economic activity may generate inflationary pressures, reducing real household income and increasing economic uncertainty, which can deter migration (Dornbusch et al., 2014; World Bank, 2022; Beine et al., 2016; Tualaka et al., 2023; Indirwan, 2015).

Regional economic disparities, including high unemployment and poverty in certain provinces, may further influence migration decisions (Djuwita & Suryanto, 2021; Grogger & Hanson, 2011). In addition to economic factors, national security significantly affects migration flows. The Global Peace Index (GPI) measures peace based on conflict, safety, and militarization, with higher scores indicating lower peace (Institute for Economics and Peace, 2024). Migrants generally prefer safe and politically stable destinations, while insecurity and conflict tend to discourage migration (Czaika & de Haas, 2013; Bove & Böhmelt, 2016).

Despite previous research on economic, security, and inflationary determinants, few studies examine their combined impact on international immigration to Indonesia, particularly incorporating GPI as a peace indicator. Indonesia's moderate migration inflow relative to regional peers further highlights the need for focused empirical analysis. Therefore, this study investigates how economic growth, GPI, and inflation jointly influence international immigration to Indonesia from 2005 to 2024, aiming to enhance understanding of migration dynamics and inform evidence-based demographic and labor market policies.

Research Method

This study employs a quantitative explanatory research design to examine the effects of economic growth, national security conditions, and inflation on international immigration to Indonesia. The analysis uses annual time series data from 2005 to 2024, focusing on national-level immigrant inflows.

Variables and Operational Definitions

The dependent variable is international immigration**,** defined as the annual number of foreign nationals legally entering and residing in Indonesia. The independent variables include:

1. Economic Growth (GDP)**:** Annual percentage change in Indonesia's Gross Domestic Product, reflecting overall economic performance.

2. Inflation (INF): Annual percentage change in the Consumer Price Index, representing macroeconomic stability.

3. Global Peace Index (GPI): Indicator of national security and peace conditions.

To capture variations in security, the GPI was transformed into two dummy variables:

D1**:** Equals 1 for years with moderate instability, 0 otherwise.

D2: Equals 1 for years with high instability, 0 otherwise.

Years with stable conditions serve as the reference category.

Data Sources

All variables in this study are derived from secondary data obtained from reputable international institutions:

1. International immigration (2005–2024): United Nations Population Division (2024), International Migrant Stock 2024, Total International Migrant Stock (mid-year estimates).Available at: https://www.un.org/development/desa/pd/

2. Economic growth (2005–2024): World Bank (2024), GDP growth (annual %), indicator code: NY.GDP.MKTP.KD.ZG.

3.Inflation (2005–2024): World Bank (2024), Inflation, consumer prices (annual %), indicator code: FP.CPI.TOTL.ZG. Available at: https://data.worldbank.org/indicator

4.Global Peace Index (GPI) classification, 2005–2024**:** Institute for Economics and Peace (IEP, 2024). Available at: https://www.visionofhumanity.org/maps/

In this study, the Global Peace Index (GPI) represents Indonesia's national security conditions as a destination country, rather than conditions in migrants' countries of origin. To ensure transparency and replicability, the classification of GPI into dummy variables is based on the following thresholds: Stable (GPI ≤ 1.70), moderately unstable (1.70 < GPI ≤ 1.84), and highly unstable (GPI > 1.84). These thresholds are derived from the observed distribution of Indonesia's GPI scores during the study period.

All numeric values were harmonized into a consistent annual time series format to ensure comparability across variables.

Data Analysis Technique

The study employs multiple linear regression to estimate the effects of economic growth, inflation, and national security conditions on international immigration in Indonesia. The econometric model is specified as follows:

$IMMt = \beta0 + \beta1GDPt + \beta2INFt + \beta3D1t + \beta4D2t + \varepsilon i$

Where:

IMMt = number of international immigrants in year_t

GDPt = economic growth rate in year_t

INFt = inflation rate in year_t

D1t and D2t = GPI dummy classifications

εi = stochastic error term

The model is estimated using the Ordinary Least Squares (OLS) method. To ensure that the OLS estimator satisfies the BLUE (Best Linear Unbiased Estimator) properties, classical assumption tests were conducted, including tests for normality, multicollinearity, heteroskedasticity, and autocorrelation (Gujarati & Porter, 2009; Wooldridge, 2013).

After confirming that assumptions were satisfied, the model was evaluated using t-tests**,** F-test, and the coefficient of determination (R^2) to assess the partial and simultaneous effects of the independent variables on immigration. Hypothesis testing was conducted at a 5% significance level ($\alpha = 0.05$). All statistical analyses were performed using EViews (alternative software such as SPSS or Stata may also be applied).

Research Framework

The analytical framework of this study is based on the following assumptions:

1.Economic performance**:** Higher economic growth enhances Indonesia's attractiveness to international migrants by expanding labor market opportunities and improving living standards.

2.National security: Deteriorating peace or security conditions, as indicated by higher GPI scores, discourage inward migration.

3.Inflation: Rising inflation may reduce migration by weakening purchasing power and increasing economic uncertainty.

Based on these assumptions, the study hypothesizes that economic growth, national security conditions, and inflation jointly influence the volume of international immigration to Indonesia. This framework guides the formulation of the regression model and the interpretation of empirical results.

RESULTS

Classical Assumption Tests

Before conducting the inferential analysis, classical assumption diagnostics were performed to ensure the robustness and reliability of the Ordinary Least Squares (OLS) estimates, including normality, multicollinearity, heteroskedasticity, and linearity.

The Results Show That:

Normality (Shapiro–Wilk test) was 0.838 (p = 0.005), indicating that the assumption is not fully satisfied; The Shapiro–Wilk test indicates that the residuals deviate from normality (p = 0.005). Given the relatively small sample size (n = 20), this may affect statistical inference. However, OLS estimates are generally robust when other assumptions are satisfied. Nevertheless, this limitation should be acknowledged, and future research may apply robust standard errors or bootstrapping techniques to ensure the stability of the results.

- Multicollinearity was not a concern, with VIF values for economic growth (X1 = 1.37), moderate instability (D1 = 1.51), high instability (D2 = 1.78), and inflation (X3 = 1.41), all well below the threshold of 10.
- Heteroskedasticity was absent (Breusch–Pagan test, p = 0.284).
- Linearity was satisfied for all variables (ANOVA tests: X1 = 0.383, X2 = 0.275, X3 = 0.425, all p > 0.05).

Although the normality assumption is not fully met, the OLS regression remains robust due to the fulfillment of the other assumptions, use of ratio-scale data, and low VIF values, supporting the stability and reliability of the estimators (Gujarati & Porter, 2009).

Model Fit and Regression Estimates

Model Fit and Regression Estimates

The multiple linear regression analysis reveals a strong relationship between economic growth, national security conditions (GPI), inflation, and international immigration in Indonesia. The goodness-of-fit statistics are presented in Table 1.

Table 1 Model Summary

Statistic	Value
R	0.966
R Square	0.933
Adjusted R Square	0.916
F-Statistic	52.64 (p < 0.001)
N	20 years

The model explains approximately 93.3 percent of the variation in international immigration, indicating a very good fit. The F-statistic is significant at the 1 percent level, confirming that the independent variables jointly exert a statistically significant influence on immigration inflows.

Table 2 Regression Coefficients and Statistical Significance

Variables	Coefficient	Std. Error	t-Statistic	p-Value
Constant	4,077,545	175,854	23.187	0.000
Economic Growth (X1)	164,908	27,547	5.986	0.000
GPI – Fairly Safe (D1)	–85,633	82,481	–1.038	0.316
GPI – Less Safe (D2)	–657,414	87,672	–7.499	0.000
Inflation (X3)	–13,759	15,704	–0.876	0.395

Note: GPI dummy categories are relative to the reference group: safe countries.

Estimated Regression Model

$Y=4{,}077{,}545+164{,}908X1-85{,}633D1-657{,}414D2-13{,}759X3+\varepsilon i$

Where:

X1 = Economic growth

D1 = Fairly safe country category

D2 = Less safe country category

X3 = Inflation

Y = International immigration into Indonesia

εi = stochastic error term

Interpretation of Key Findings

The regression results reveal the following key findings regarding the determinants of international immigration to Indonesia:

1. Economic growth: Exhibits a positive and statistically significant effect on immigration inflows ($p < 0.001$). Higher economic performance appears to attract foreign workers and international migrants.

2. Global Peace Index – High instability (D2)**:** Shows a negative and significant coefficient ($p < 0.001$), indicating that higher levels of insecurity in Indonesia significantly reduce international immigration inflows. This finding confirms that national security conditions function as an important pull factor, where migrants prefer stable and secure destination countries.

3. Global Peace Index – Moderate instability (D1)**:** Has no significant effect on immigration ($p > 0.05$). Moderate variations in security conditions do not strongly influence migration decisions toward Indonesia.

4. Inflation**:** Exhibits a negative but statistically insignificant effect ($p > 0.05$). Inflation does not appear to directly affect foreign immigration decisions in Indonesia, suggesting that its impact may be overshadowed by employment opportunities and economic performance.

Overall, economic conditions and national security factors emerge as the primary drivers of international immigration to Indonesia during the study period.

DISCUSSION

This section provides a comprehensive interpretation of the empirical findings by linking them to relevant theoretical perspectives and previous studies. The discussion is organized thematically according to each research variable, facilitating a clear comparison between the expected theoretical relationships and the results obtained from the multiple regression analysis.

The theoretical and policy implications of the findings are evaluated, highlighting supporting or contradictory evidence from prior research. Each hypothesis is assessed to determine whether it is accepted or rejected.

A key focus of the discussion is the relationship between economic growth and international immigration to Indonesia. The positive and significant effect of economic growth observed in this study aligns with labor market theories suggesting that higher economic performance enhances employment opportunities, reduces

unemployment, and attracts foreign workers (Todaro, 1969; World Bank, 2013). This result is consistent with empirical evidence from both developed and developing countries, indicating that economic expansion serves as a major pull factor for international migrants (Kitov & Kitov, 2023; Louail & Benarous, 2021).

The Relationship Between Economic Growth and International Immigration

Economic growth, defined as a sustained increase in the output of goods and services, reflects a country's economic performance and is influenced by capital accumulation, population growth, and labor productivity (Smith, 2007). According to neoclassical migration theory (Todaro, 1969; Harris & Todaro, 1970), individuals are drawn to countries offering higher expected earnings and better employment opportunities. Sustained growth relies on technological progress and innovation to offset diminishing returns in production (Solow, 1956; Romer, 1990). Higher economic growth expands employment, reduces unemployment, and alleviates poverty (IMF, 2016), thereby enhancing both the aspiration and capability of individuals to migrate (de Haas, 2021). In this context, economic progress serves as a strong pull factor for international migrants.

Descriptive analysis of Indonesia over a 20-year period shows a clear association between economic growth and international immigration. Years of high economic growth (above 5.21%) were mostly accompanied by high migration, with five out of seven high-growth years recording over 4.84 million migrants. Low-growth years (≤4.74%) were predominantly associated with low migration, occurring in four out of seven years, while medium-growth years (4.74–5.21%) showed more mixed migration levels. Overall, seven years had low immigration, six years medium, and seven years high, indicating that stronger economic performance generally coincides with increased international migration. Inferential results support this pattern, showing that a 1% increase in economic growth corresponds to roughly 164,908 additional international migrants ($p < 0.001$).

These findings are consistent with prior research. In developed countries, migrant inflows enhance economic growth by boosting the labor force and overall output (Cantarero et al., 2023; Erkisi, 2023). In developing contexts, migration fosters growth through knowledge transfer, investment, and remittances (Chernobay et al., 2023; Docquier & Rapoport, 2012), while a 1% increase in migration raised Poland's GDP by €1.43 million (Kulinich et al., 2024). In Southeast Asia, countries experiencing higher GDP growth similarly attract more foreign labor and skilled migrants (World Bank, 2021; Lim & Koo, 2019).

These patterns suggest that Indonesia can leverage international migration as part of a development strategy. Policy measures such as expanding productive sectors, promoting technological innovation, improving social services, and facilitating labor market integration for foreign workers can enhance economic attractiveness while ensuring migration contributes to inclusive and sustainable development. Stable and inclusive growth thus positions Indonesia as a competitive destination for international migrants in the region.

The Relationship Between the Global Peace Index (GPI) and International Immigration

National security is a critical determinant of international migration. The Global Peace Index (GPI), compiled by the Institute for Economics and Peace (IEP), measures a country's level of peace, with lower scores indicating higher security and stability, and higher scores reflecting lower security. According to migration and conflict theory (Czaika & de Haas, 2013; Bove & Böhmelt, 2016), countries with low security tend to receive fewer voluntary international migrants due to perceived risks and uncertainty.

Descriptive analysis of Indonesia over the 20-year period shows that 7 years (35%) were classified as safe (GPI ≤1.70), and another 7 years (35%) as moderately safe (GPI >1.70–≤1.84), while 6 years (30%) experienced lower security (GPI >1.84). During safe and moderately safe years, international immigration mostly remained low to medium, not exceeding 4.84 million migrants. In contrast, high immigration levels (over 4.84 million) occurred predominantly during less secure years. These patterns indicate that periods of higher insecurity in Indonesia are associated with reduced immigration inflows, reinforcing the role of national security as a key pull factor in shaping destination choice. This suggests that international migrants are sensitive to safety and stability conditions in destination countries.

Inferential results further reveal that a transition from safe to moderate instability reduces migrant inflows by approximately 85,633 people, although this effect is not statistically significant ($p > 0.05$). By contrast, a shift to high instability significantly decreases immigration by 657,414 people ($p < 0.001$). These findings suggest that only substantial deteriorations in national security meaningfully discourage international migration to Indonesia, while moderate variations have limited impact.

International comparisons support this pattern. Countries with high security, such as Singapore (GPI 1.36), Chile (1.80), and South Korea (1.78), host relatively low numbers of refugees and displaced persons, whereas countries with lower security, including Myanmar (GPI 2.95), Ethiopia (2.94), Yemen (3.32), and South Sudan (3.36), experience substantial refugee inflows and internal displacement, ranging from tens of thousands to several million. This aligns with prior studies indicating that peaceful nations are less affected by forced migration yet remain attractive to skilled and voluntary migrants (Kovalchuk, 2019; Bren, 2019). Furthermore, Das (2024) found a significant negative relationship between GPI and outbound migration in Asia and the Americas, emphasizing that national security conditions shape migration patterns differently across regions.

These findings underscore the importance of maintaining stable and secure conditions in Indonesia to attract international migrants, particularly those migrating for economic or professional reasons. While economic growth serves as a strong pull factor, high insecurity can substantially deter skilled migration and foreign investment. Accordingly, government policies should prioritize enhancing national security, law enforcement, and political stability, ensuring that international migration contributes positively to the country's demographic and economic development.

The Relationship Between Inflation (X3) and International Immigration

Inflation affects the cost of living, economic well-being, and may contribute to unemployment and poverty, influencing migration decisions (Meo et al., 2018; Lisani et al., 2020). In Indonesia over 20 years, low to moderate inflation years accounted for 17 out of 20 years (85%), during which international immigration was generally higher, while years with high inflation (>4.30%) corresponded to lower migration inflows. Inferential analysis indicates that a 1% increase in inflation reduces international immigration by approximately 13,759 individuals, though this effect is statistically insignificant ($p > 0.05$), suggesting that inflation alone does not dominate migration choices.

International evidence aligns with these findings. Salisu et al. (2024) reported that inflation negatively affects long-term migration in OECD countries, while short-term effects are minimal. Similarly, IMF (2025) found that in the United States, increased immigration slightly reduces local inflation. From a theoretical perspective, these results support the economic–cost migration decision model, which posits that migration decisions are based on individuals' evaluation of economic risks and benefits. High inflation reduces purchasing power and raises living costs, but in Indonesia, other factors such as employment opportunities, political stability, investment climate, and quality of public services appear more decisive in shaping international migration inflows.

Simultaneous Effects of Economic Growth, GPI, and Inflation on International Immigration

Multiple regression analysis shows that economic growth, national security (GPI), and inflation jointly influence international immigration to Indonesia. Economic growth has a positive and statistically significant effect, while GPI exhibits a negative relationship: moderate instability (D1) is not significant, whereas high instability (D2) significantly reduces migration. Inflation also has a negative effect, though its statistical significance is limited.

The combined effect of these variables is strong, with $R = 0.966$ and $R^2 = 0.933$**,** indicating that 93% of the variation in international immigration is explained by economic growth, GPI, and inflation, while the remaining 7% is attributable to other factors. The overall model is statistically significant ($p < 0.001$), confirming the joint influence of these determinants.

From a theoretical perspective, these results support the multidimensional nature of migration decisions, consistent with push pull theory (Lee, 1966). High economic growth expands employment and income opportunities, serving as a pull factor. Stable national security enhances attractiveness by reducing perceived

risks, whereas high inflation diminishes real wages and purchasing power, lowering the net economic benefits of migration. Consequently, Indonesia is most appealing when economic growth is strong, peace and security are stable, and inflation is low; deterioration in any of these factors reduces its appeal.

The relative contributions of each factor indicate that high insecurity (D2) dominates, accounting for 60% of the effect on migration flows, followed by economic growth (36%), while moderate insecurity (D1) and inflation have minimal influence, at approximately 2.4% and 0.4%**,** respectively. These findings underscore that national security and economic performance are the primary drivers of international migration to Indonesia, with inflation playing a minor role.

These findings are consistent with neoclassical migration theory (Todaro, 1969; Harris & Todaro, 1970), which emphasizes income differentials and employment opportunities as key drivers of migration. At the same time, the results extend push–pull theory (Lee, 1966) by demonstrating that security conditions in the destination country act as a critical pull factor influencing migration decisions.

CONCLUSION

Based on the analysis of economic growth, the Global Peace Index (GPI), and inflation on international migration to Indonesia during 2005–2024, the following conclusions are drawn:

1. Effect of Economic Growth on International Migration

   Economic growth exerts a positive and statistically significant effect on international immigration inflows. Periods of high growth (≥ 5.21%) correspond to increased migration, while low-growth periods are associated with fewer migrants. These results corroborate previous studies indicating that employment opportunities and potential income act as key pull factors for international migrants (Cantarero et al., 2023; Erkisi, 2023; Kulinich et al., 2024).

2. Effect of Global Peace Index (GPI) on International Migration

   National security, measured by the GPI, is negatively associated with international migration. Less secure conditions (higher GPI scores) reduce migration inflows, whereas safer conditions enhance Indonesia's attractiveness as a destination. In the simultaneous analysis, D2 – high instability accounts for 60% of the variation in migration, making it the dominant factor. These findings are consistent with international evidence emphasizing the critical role of peace and stability in shaping migration flows (Kovalchuk, 2019; Bren, 2019; Das, 2024).

3. Effect of Inflation on International Migration

   Inflation negatively affects migration by increasing living costs and reducing real purchasing power, thereby diminishing economic attractiveness. However, in Indonesia, the effect of inflation is statistically insignificant, suggesting that it is not a primary determinant of migration. Other macroeconomic and political factors, such as employment opportunities and public service quality, appear to play more decisive roles.

4. Simultaneous Effect of Economic Growth, GPI, and Inflation

   The combined effect of economic growth, GPI, and inflation on international migration is substantial, with $R^2 = 0.933$, indicating that 93% of the variation in migration inflows is explained by the interaction of these variables. The remaining 7% is attributed to factors outside the model. These results confirm the multidimensional nature of migration, driven by the joint influence of economic opportunities, national security, and macroeconomic conditions.

5. Policy Implications

The study provides the following recommendations for migration management and national development:

1. Maintain stable and sustainable economic growth to attract skilled international migrants.

2. Strengthen national security and political stability, given its dominant role in migration decisions.

3. Enhance other macroeconomic conditions, including employment opportunities, public service quality, and inflation management, to improve Indonesia's overall attractiveness.

4. Implement integrated policies that concurrently address economic, security, and social factors, consistent with push–pull migration theory, to optimize the benefits of international migration for national development. A stable and secure environment strengthens the positive impact of economic growth in attracting international migrants.

Limitations and Future Research

This study has certain limitations, as it focuses only on three macroeconomic variables and does not include other potential determinants such as education, labor market regulation, visa policies, or international partnerships. Moreover, aggregate data may mask variations by migrants' country of origin or skill level. Future research may expand the model by incorporating additional socioeconomic and demographic indicators, applying a more disaggregated dataset, and employing advanced econometric approaches to better capture causal relationships.

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