



Determinants Of Interprovincial Income Disparity In Java: An Analysis Of Fiscal, Macroeconomic, And Demographic Variables

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ABSTRACT

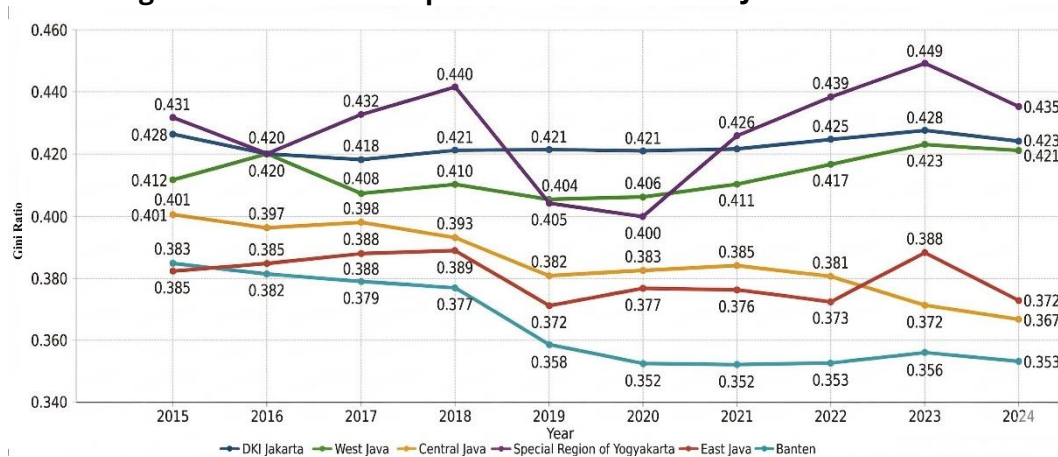
This study aims to empirically analyze the fiscal, macroeconomic, and demographic determinants of interprovincial income disparities in Java from 2015 to 2024, specifically focusing on the General Allocation Fund, economic growth, the Provincial Minimum Wage, and total population. Utilizing a quantitative approach, the research applies panel data regression with a Random Effect Model framework to analyze 60 observations across six provinces. The findings reveal that the General Allocation Fund exerts a statistically significant negative influence, effectively reducing interprovincial income inequality. In contrast, economic growth demonstrates a significant positive correlation, indicating that current economic expansion actually widens regional income gaps. Furthermore, both the Provincial Minimum Wage and total population do not show a statistically significant impact on aggregate disparity. The research concludes that decentralized fiscal support provides a crucial buffer against inequality, while the inherently exclusionary nature of Java's modern economic expansion remains a structural catalyst for disparity. Consequently, policymakers must focus heavily on structural economic reforms and inclusive growth strategies that integrate marginalized workforces, moving beyond reliance on basic demographic indicators and formal wage regulations.

INTRODUCTION

Ideal economic development goes beyond merely achieving aggressive growth rates, encompassing the equitable distribution of welfare across all spatial dimensions and layers of society. The failure to balance the growth rate and the equitable distribution of development outcomes triggers a recurring widening of income disparities among groups and regions

(Sugiasuti and Pratama, 2022). Wealth accumulation concentrated in a few areas is prone to creating long-term social instability (Amico, 2025). This imbalance ultimately erodes aggregate purchasing power and hinders the macroeconomic engine (Mdingi and Ho, 2023). The continuously widening gap risks locking peripheral regions into a cycle of economic stagnation. This structural inequality phenomenon is evident in Indonesia, particularly in Java. Java's status as the epicenter of the national economy, contributing more than 50 percent to the Gross Domestic Product, is accompanied by a Gini ratio that fluctuates in the moderate category (Attala, 2022). This massive concentration of capital circulation has apparently not been fully capitalized into proportional welfare equalization across provinces. This disparity fluctuation is clearly recorded in Figure 1, which serves as the empirical foundation for the urgency of this research.

Figure 1 Trends in Interprovincial Gini Ratio on Java Island 2015–2024



Source: BPS (processed), 2025

Prolonged welfare gaps indicate that economic capacity and regional resources have not been distributed inclusively. This reality demands a comprehensive evaluation of the macroeconomic, fiscal, and demographic determinants driving disparities in Indonesia's primary economic growth center (Julihanza and Khoirudin, 2023).

Previous literature explorations have extensively examined the determinants of income inequality, yet the findings continue to show divergent conclusions that spark academic debate, particularly regarding fiscal interventions and macroeconomic achievements. Regional fiscal capacity, represented by the General Allocation Fund, is designed to close the gap of interregional inequality, but its empirical effectiveness remains contradictory. Ridho and Wijayanti (2022) found that the allocation of the General Allocation Fund has a negative and significant impact on reducing income inequality in Indonesia. Conversely, other research demonstrates that these fund transfers exert a significant positive influence on the widening of regional income disparities (Jamiel et al., 2022; Sari, 2025). On the other hand, the rate of economic growth also exhibits anomalous patterns. Panggabean (2025) concludes that economic growth is significantly capable of reducing inequality, while a series of other empirical studies find evidence that economic acceleration significantly widens the gap (Ridho and Wijayanti, 2022) or even yields no meaningful impact at all (Helmy, Nujum and Selong, 2024).

The dynamics of regional income distribution are also highly sensitive to labor market policies and demographic pressures. Wage policies through Provincial Minimum Wage regulations, idealized as worker protection instruments, have yielded varied empirical findings in previous studies. Anshari, Azhar and Ariusni (2018) indicate that minimum wage increases are effective in significantly reducing income inequality across provinces. However, other studies suggest that higher minimum wages may instead widen the gap (Helmy, Nujum and Selong, 2024) or show no statistical significance in explaining aggregate inequality variations.

(Panggabean, 2025). A similar divergence occurs regarding demographic indicators. Suci and Srinita (2025) found that rapid population growth triggers widening inequality in urban regions due to limited labor absorption capacity. Nevertheless, competing research suggests that population expansion can significantly reduce disparity (Duarsa and Wijaya, 2023) or even have no relevant correlation with regional income distribution (Saputro, 2018).

The inconsistency of findings from various literatures confirms a research gap requiring further investigation, particularly in the context of regions with highly concentrated economic agglomeration characteristics. Previous research tends to limit aggregate observations to the national level, focus on single provincial entities, or analyze variables in a fragmented manner. The novelty of this research lies in the multidimensional integration of determinants combining fiscal, macroeconomic, labor structure, and demographic proxies into a single panel data regression model exclusive to the six provinces of Java. The observation period from 2015 to 2024 offers a unique observational portrait capturing the pre pandemic phase, the pandemic recession, and the acceleration of structural recovery. This study aims to empirically analyze the influence of the General Allocation Fund, economic growth, the Provincial Minimum Wage, and total population on interprovincial income disparities in Java. The findings obtained are projected to make a crucial contribution to enriching regional development economics literature and serve as a scientific reference for policymakers in designing fiscal architectures and more inclusive growth strategies.

LITERATURE REVIEW

Income Disparity

Income disparity is a structural reality in regional economic dynamics that reflects unequal capabilities among individuals or groups in accessing available economic resources. According to Todaro and Smith (2020), income represents the total receipt of money obtained by individuals or groups from various sources, including wages, investments, and business activities. Therefore, an evaluation of development success is considered inadequate if it relies solely on aggregate economic growth without ensuring the equitable distribution of these development outcomes across society. High levels of disparity can trigger negative socio economic consequences, such as an increase in poverty rates, heightened social jealousy, and a reduction in overall economic stability (Todaro and Smith, 2020).

Cumulative Causation Theory

The Cumulative Causation Theory proposed by Myrdal (1957) explains that regional inequality tends to expand and persist over time because economic changes operate in a mutually reinforcing cause and effect process. This theoretical framework fundamentally rejects the classical assumption that free market mechanisms will automatically create interregional equity in the long run. Instead, growth in a core region often creates backwash effects, where migration, capital movement, and trade continuously benefit the expanding region while draining productive resources from lagging areas.

Although there are spread effects that might bring benefits and technological advancements to surrounding regions, these positive impacts are often too weak to counter the dominant backwash effects. Without strong public policy interventions from the government, the free market will continuously drive cumulative regional disparities, making it increasingly difficult for underdeveloped areas to catch up with the central growth hubs (Myrdal, 1957).

General Allocation Fund

The General Allocation Fund or Dana Alokasi Umum (DAU), is a crucial financial transfer sourced from the State Budget (APBN) and distributed to autonomous regional governments (Peraturan Pemerintah RI, 2004). It operates as a block grant, meaning its utilization is not

restricted to specific central programs, allowing local governments the flexibility to allocate funds based on their unique regional priorities and public service needs. By calculating the fiscal gap between a region's financial needs and its actual financial capacity, the central government ensures that areas with lower revenues receive a larger proportion of the funds.

Fiscal Federalism Theory

In the framework of the Fiscal Federalism Theory formulated by Musgrave (1959) government intervention in the economy involves three main functions, which are allocation, distribution, and stabilization. The distribution function is considered more effective when handled by the central government because high interregional mobility could undermine local redistribution efforts. The DAU serves as an unconditional grant utilized by the central government to execute this distribution function, transferring wealth from relatively richer jurisdictions to poorer ones to ensure that decentralized governments can provide adequate public services without facing severe budget constraints.

Agency Theory

The Agency Theory introduced by Jensen and Meckling (1976) views organizations as a nexus of contracts between principals and agents. In the context of regional finance, the central government acts as the principal who delegates authority and funding mandates to the regional governments, who serve as the implementing agents. The primary goal is for the agents to utilize these fiscal transfers to maximize public welfare and reduce income disparity. However, information asymmetry can lead to agency costs, where local governments might misallocate funds away from the principal's intended goals, highlighting the need for strict supervision and transparency to ensure the funds effectively reduce regional disparities (Ivana, Hardiwinoto and Nurcahyono, 2021).

Economic Growth

Economic growth is defined as a dynamic process reflecting a continuous expansion in a region's production capacity over a specific period (Fauziah, 2025). It indicates a strengthening of sectoral performance and a progressive increase in real output, which are essential for creating broader employment opportunities and raising public income. However, a high rate of economic growth does not automatically guarantee equitable development outcomes across all societal layers. When growth is heavily concentrated in specific sectors or regions, it risks leaving marginalized communities behind, making the equitable distribution of these economic gains just as important as the growth itself (Lestari, Robiani and Sukanto, 2023).

Kuznet's Theory

The relationship between economic growth and income distribution is prominently explained by the Inverted U Hypothesis (Kuznets, 1955). Kuznets argued that during the initial phases of economic development, income inequality naturally widens as the economy transitions from a less productive traditional sector to a highly productive modern sector. Not all groups can participate in this transition equally due to differences in skills, capital availability, and access to education, causing a temporary spike in societal disparity. As the economy reaches a more mature stage, the benefits of growth begin to spread more widely, educational access improves, and public policies become more effective, which eventually leads to a decline in inequality.

Provincial Minimum Wage

The Provincial Minimum Wage or Upah Minimum Provinsi (UMP), is the lowest legally mandated monthly wage that employers must pay to formal workers within a specific province (Pemerintah Provinsi Jawa Timur, 2021). It is established annually by the governor based on

prevailing economic and labor conditions, serving as a critical policy instrument to protect the purchasing power of low income workers. By ensuring that workers earn enough to meet decent living standards, the minimum wage is expected to stimulate public consumption, which can subsequently encourage the creation of new business units and support regional economic stability.

Neo Classical Labor Market Theory

Rooted in the late nineteenth century marginalist revolution, the Neo Classical Labor Market Theory treats labor as a standard factor of production traded in a competitive market, where the wage represents the price of labor. According to this framework, companies operate rationally to maximize profits by hiring workers up to the point where the cost of wages equals the marginal value of the output produced (Vercherand, 2014; Borjas, 2020). When a minimum wage policy artificially sets wages above this natural equilibrium, it creates an excess supply of labor, leading to increased unemployment (Stigler, 1946). Employers will likely adjust by halting the recruitment of low productivity workers or replacing them with technology, which disproportionately harms vulnerable groups and can ultimately widen the income gap between formal and informal sector workers.

Population

Population refers to the total number of individuals or groups residing within a specific administrative boundary for a significant duration. According to the Badan Pusat Statistik (2022), a person is classified as a resident if they have lived in the country for at least one year or intend to stay for that duration. A large population size is not inherently problematic if it is matched by high workforce productivity and adequate job creation. However, challenges arise when a massive population coincides with high unemployment and limited economic opportunities, a scenario that can severely exacerbate the unequal distribution of income within a region (Rahmadi, 2021).

Population Trap Theory

The Population Trap Theory formulated by Malthus (1798) highlights the inherent risks of unchecked demographic expansion. Malthus argued that population numbers tend to grow exponentially, significantly outpacing the linear growth of economic and food production capacities. In the labor market context, this means that the supply of job seekers continuously exceeds the creation of formal employment opportunities, which places immense downward pressure on wages. This structural imbalance forces excess labor into the low paying informal sector, increasing the vulnerability of the poor to economic shocks and widening the disparity between those with formal jobs and those trapped in low productivity roles.

METHODS

This research employs a quantitative approach using annual data covering a ten year period from 2015 to 2024 (Sugiyono, 2023). The units of analysis consist of six provinces on Java Island, including DKI Jakarta, West Java, Central Java, DI Yogyakarta, East Java, and Banten, totaling 60 observations. The variables are categorized into the dependent variable, Income Disparity measured by the Gini Ratio, and independent variables comprising the General Allocation Fund, Economic Growth, Provincial Minimum Wage, and Total Population. Data were gathered through the documentation technique using secondary sources from Statistics Indonesia (BPS) and the Central Government Financial Reports (LKPP) issued by the Ministry of Finance. The analytical method applied is panel data regression, which is deemed the most suitable for analyzing the relationship between variables across multiple entities over time.

(Ghozali, 2018). All statistical data processing, including model estimation and hypothesis testing, was executed using the EViews 13 software package.

To determine the best estimation model and validate the results, several processing tests were performed, including: 1) Chow Test, 2) Hausman Test, 3) Lagrange Multiplier (LM) Test, 4) Multicollinearity Test, 5) Heteroskedasticity Test, 6) Coefficient of Determination (R squared), 7) Simultaneous Significance Test (F-test), and 8) Partial Significance Test (t-test).

According to the methodological principles of Gujarati and Porter (2015), if the selection process establishes the Random Effect Model (REM) as the best model, separate classical assumption tests are not required. This is because the Generalized Least Squares (GLS) method used in REM inherently produces the Best Linear Unbiased Estimator (BLUE) while accounting for panel data disturbances such as heteroscedasticity and autocorrelation. The panel data regression model for this study is formulated as follows:

$$GR_{it} = \beta_0 + \beta_1 DAU_{it} + \beta_2 EG_{it} + \beta_3 UMP_{it} + \beta_4 TP_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

In Equation (1), GR represents the Gini Ratio, while the independent variables consist of General Allocation Fund (DAU), Economic Growth (EG), Provincial Minimum Wage (UMP), and Total Population (TP). The term β_0 is the constant, β_1 to β_4 are the regression coefficients, ε is the error term, and the subscripts i and t denote the provincial unit and time period respectively.

Following the model estimation, the validity and reliability of the results are evaluated through a series of statistical significance tests. The goodness-of-fit of the model is assessed using the Coefficient of Determination (R^2), which indicates the proportion of the variation in the Gini Ratio that can be explained by the independent variables. Furthermore, the F-test is employed to examine the simultaneous effect of the General Allocation Fund, economic growth, Provincial Minimum Wage, and total population on income disparity. To determine the influence of each specific determinant, the t-test is utilized to test the partial significance of each independent variable. All hypotheses are tested at a 5% significance level to ensure the statistical robustness of the empirical findings.

RESULTS

Regression Model Selection Test Results

The selection of an estimation model is essential to identify the framework that best captures the empirical characteristics of the data and fulfills the analytical requirements. This selection process is systematically executed through three testing stages comprising the Chow test, the Hausman test, and the Lagrange Multiplier (LM) test.

Based on the Chow test results presented in Table 1, the probability value was found to be 0.0000, which is significantly lower than the 0.05 threshold. Such statistical evidence suggests that the Fixed Effect Model is more suitable than the Common Effect Model (Ghozali, 2018). Nonetheless, the Chow test outcome alone is insufficient to finalize the Fixed Effect Model as the optimal framework, thus necessitating further diagnostic testing to confirm the most robust model for the analysis.

Table 1. Chow Test Result

Effects Test	Statistic	d.f.	Prob.
Cross-section F	35.096.919	-5,5	0.0000
Cross-section Chi-square	90.373.730	5	0.0000

Source: Secondary data (processed), 2026

Within the framework of panel data analysis, the Hausman test serves as a pivotal tool for model selection, specifically implemented to compare the suitability between the Random Effect Model and the Fixed Effect Model. The statistical results presented in Table 2 indicate that the Hausman test yielded a probability value of 0.5937, which exceeds the 0.05 threshold. This statistical outcome suggests that the Random Effect Model is the more appropriate framework for the study (Ghozali, 2018). The divergence in selection compared to the previous test outcome highlights the necessity for further verification, thus leading the analysis toward the Lagrange Multiplier (LM) test.

Table 2. Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.789.149	4	0.5937

Source: Secondary data (processed), 2026

Table 3. Lagrange Test Result

	Cross-section	Test Hypothesis Time	Both
Breusch-Pagan	1513099 (0.0000)	2410425 (0.1205)	1537204 (0.0000)

Source: Secondary data (processed), 2026

The Lagrange Multiplier (LM) test is utilized to validate the accuracy of the model choice between the Common Effect and Random Effect frameworks. This procedure is specifically conducted when the outcomes of the two preceding selection tests provide inconsistent indications or fail to yield a uniform decision. The evidence presented in Table 3 shows that the Breusch–Pagan LM test resulted in a probability value of 0.0000, which is significantly lower than the 0.05 threshold. This finding indicates that the Random Effect Model is more appropriate than the Common Effect Model and consequently it can be concluded that the Random Effect Model is the most robust framework for analyzing the research data in this study (Priyatno, 2022).

Model Suitability and Statistical Assumption Results

The application of the Random Effect Model in this research follows the methodology of Gujarati and Porter (2015), stating that models estimated via Generalized Least Squares (GLS) or a Random Effect Model framework do not require separate classical assumption tests. The GLS mechanism operates by incorporating the disturbance structure of the panel data, effectively addressing potential issues of heteroskedasticity and autocorrelation during the estimation process. This estimation method generates results satisfying the Best Linear Unbiased Estimator (BLUE) criteria, obviating the need for further classical assumption testing.

Statistical Test Results

The coefficient of determination (R^2) represents the proportion of variation in the dependent variable, Income Disparity (Gini Ratio) explained by the independent variables comprising General Allocation Fund, economic growth, Provincial Minimum Wage, and total population. The coefficient value ranges from 0 to 1, where results approaching 1 signify that the independent variables provide nearly all information necessary to predict variations in the dependent variable whereas low R^2 values indicate a highly limited explanatory capacity (Ghozali, 2018). Based on the results in Table 4, the R-squared value of 0.175407 indicates that the variation in Income Disparity explained collectively by the General Allocation Fund, Economic Growth, Provincial Minimum Wage, and Population is only 17.5% with the remaining 82.5% being influenced by external factors not included in this research.

Table 4. Random Effect Model (REM) Estimation Results

Method = Panel EGLS (Cross-section random effects)	
Total Observations = 60	
Dependent Variable = Income Disparity (GR)	
Variable	Coefficient
C	0.403940
General Allocation Fund/DAU (X1)	-6.30E-12
Economic Growth/EG (X2)	0.001409
Provincial Minimum Wage/UMP (X3)	-4.73E-06
Total Population/TP (X4)	-5.75E-06
<i>R-Squared</i> = 0.175407	
<i>F-statistic</i> = 2.924887	
<i>Prob(F-statistic)</i> = 0.028960	

Source: Secondary data (processed), 2026

The F-test is utilized to assess whether all independent variables within the model significantly influence the dependent variable when considered simultaneously (Aprilyanti, 2017). This research adopts a 5% (0.05) significance level whereby a probability value lower than 0.05 leads to the rejection of the null hypothesis and confirms that the independent variables simultaneously exert a significant influence on the dependent variable. Based on the results in Table 4, the calculated F-statistic of 2.924887 exceeds the F-table value of 2.540 derived from degrees of freedom $df_1 = 4$ and $df_2 = 55$ at a 5% significance level. The probability value of 0.028960 being lower than 0.05 indicates that the General Allocation Fund, Economic Growth, Provincial Minimum Wage, and Total Population collectively exert a significant influence on Income Disparity.

Table 5. t-Test Analysis Results

Variable	t result		Sig.
	Statistic	Table	
General Allocation Fund (X1)	-2.144070	2.00324	0.0365
Economic Growth (X2)	2.147545	2.00324	0.0362
Provincial Minimum Wage (X3)	-0.469552	2.00324	0.6405
Total Population (X4)	-0.008433	2.00324	0.9933

Source: Secondary data (processed), 2026

The t-test is utilized to examine the individual contribution of each independent variable in explaining variations within the dependent variable (Ghozali, 2018). This procedure evaluates whether each explanatory variable comprising the General Allocation Fund, economic growth, Provincial Minimum Wage, and total population exerts a significant influence on Income Disparity measured by the Gini Ratio. Table 5 displays the t-test results used to evaluate the significance of each individual variable's influence with the detailed findings provided below.

The analysis reveals that the General Allocation Fund (DAU) exerts a statistically significant negative influence on interprovincial income disparity in Java. This is evidenced by a t-statistic of -2.144070 (where the absolute value comfortably exceeds the critical t-table limit) and a p-value of 0.0365, which falls below the 0.05 threshold. The empirical data clearly supports the premise that higher DAU distributions help reduce inequality, leading to the acceptance of the first hypothesis (H1).

Conversely, the findings for economic growth demonstrate a notable positive correlation with regional income imbalances. Generating a t-value of 2.147545 alongside a significance level

of 0.0362 ($p < 0.05$), the statistical output shows that current economic expansion actually widens the income gap between provinces. Because these metrics strongly meet the criteria for statistical significance, the second hypothesis (H2) is confirmed.

Regarding the Provincial Minimum Wage (UMP), the third hypothesis (H3) must be rejected due to a lack of statistical backing. Although the variable recorded a t-value of -0.469552, which hints at a potential inverse relationship, this calculated figure is smaller than the required critical value. Furthermore, the p-value stands at a high 0.6405 ($p > 0.05$), proving that minimum wage variations do not meaningfully alter income disparity in this specific context.

Finally, total population proved to be the least impactful variable in the model. With a negligible t-statistic of -0.008433 and an exceptionally high p-value of 0.9933, the results fall far short of the required 0.05 alpha level. This indicates that demographic volume has no proven effect on shaping income distribution across Java's provinces, thereby providing solid grounds for the rejection of the fourth hypothesis (H4).

DISCUSSION

The Effect of the General Allocation Fund on Income Inequality

Based on the empirical testing, the General Allocation Fund (DAU) is proven to significantly affect interprovincial income disparity in Java from 2015 to 2024. The estimation reveals a negative coefficient for DAU, indicating that higher fund allocations correlate with reduced levels of income inequality. These findings substantiate the premise that DAU exerts a negative influence on the income gap across Java's provinces, resulting in the acceptance of the hypothesis.

This negative relationship between DAU and income disparity can be explained through Musgrave's Theory of Fiscal Federalism. The allocation function emphasizes the responsibility of local governments to provide public goods and services tailored to local needs, making the enhancement of regional spending capacity a crucial element. DAU expands the fiscal space available to local governments for financing infrastructure, basic services, and productive sector development. Concurrently, this role reflects the central government's distribution function in mitigating interregional inequality through fiscal transfer mechanisms. Ultimately, DAU operates as a tool for vertical redistribution and acts as an equalization grant to balance fiscal capacities across different regions.

The significance of this negative impact becomes highly rational when examined against the backdrop of economic inequality in Java. Even though the region registers high economic growth and dominates the national Gross Regional Domestic Product (GRDP), its income distribution remains uneven. This is reflected in the persistently high Gini Ratios observed in provinces such as DKI Jakarta, DI Yogyakarta, and West Java. Within this context, DAU interventions function concretely as a socioeconomic equalizer. According to a report by the Indonesian Ministry of Finance (2024), DAU is systematically and massively channeled to regions that possess low fiscal capacities alongside large populations, including numerous municipalities and regencies in East Java and Central Java. Historically, East Java Province has consistently stood as one of the largest aggregate recipients of DAU allocations at the national level to sustain its local territories.

This injection of trillions of Rupiah from the central government compels a spatial redistribution of welfare. In accordance with Government Regulation No. 2 of 2018, the fiscal resources provided by DAU are utilized by local governments to finance regional necessities and basic services, particularly in the health and education sectors, along with priority programs aimed at poverty reduction. By strengthening regional spending capacities, the benefits of DAU are disproportionately felt by low-income groups who rely heavily on essential public services (Syathi, Fitriyani and Ernawati, 2020). This dynamic effectively alleviates the financial burden on vulnerable communities, preserves public sector employment opportunities in remote areas, and ultimately succeeds in narrowing the income disparity gap across Java's provinces.

The results of this study align with the work of Ridho and Wijayanti (2022), who concluded that DAU exerts a significant negative influence on income inequality. Expanding these allocations bolsters regional fiscal capacity, particularly in areas constrained by limited financial resources, which consequently provides local governments with broader fiscal space to finance public expenditures and development programs (Mustiani, Effendy and Nurabiah, 2022).

The Effect of Economic Growth on Income Inequality

Another key finding of this research indicates that economic growth significantly impacted interprovincial income disparity across Java between 2015 and 2024. The estimation yielded a positive coefficient, suggesting that an acceleration in economic growth is generally accompanied by a widening income gap. This outcome provides solid evidence to support the hypothesis that economic growth positively affects interprovincial income inequality in Java.

This discovery aligns with the Inverted U-Curve hypothesis framework proposed by Simon Kuznets. The theory postulates that during the initial stages of economic development, growth frequently occurs in tandem with rising income inequality. As an economy transitions toward modernization, access to capital, advanced technology, and skilled labor tends to concentrate within specific demographic groups or geographic areas. Consequently, pioneering regions and upper middle class populations who are better equipped will capture the benefits of this transformation earlier and more substantially than marginalized communities.

The significance of this positive correlation becomes highly logical when evaluated against the structural economic realities of Java. According to Badan Pusat Statistik (2026), although the island serves as the primary engine of the national economy by contributing over 56.93% to Indonesia's Gross Domestic Product, the distribution of this growth is extremely centralized. According to data from Statistics Indonesia, economic expansion in Java is heavily dominated by provinces that act as industrial and financial epicenters, namely DKI Jakarta, West Java, and East Java. The rapid development in these specific areas is primarily fueled by massive inflows of Foreign Direct Investment (FDI) and Domestic Direct Investment (DDI). These investments are highly concentrated, with DKI Jakarta receiving 16.54%, West Java 13.11%, East Java 9.20%, and Banten 5.84% of the national totals (Ministry of Investment and Industry/BKPM, 2025).

These structural conditions create an anomaly where increased regional output actually exacerbates interprovincial inequality. Economic growth driven by capital intensive investments and modern technology tends to absorb a highly specific and educated workforce. Conversely, this dynamic alienates informal sector workers and unskilled labor, who predominantly reside in the rural areas of other provinces. The failure of the trickle down effect ensures that the fruits of economic expansion accumulate almost exclusively among capital owners and high income cohorts in metropolitan zones (Farhan and Sugianto, 2022). As a result, rising regional output does not automatically alleviate disparity but rather concretely widens the income gap across different regions in Java.

The results of this study corroborate the findings reported by Ridho and Wijayanti (2022), their work concluded that economic growth exerts a significant positive influence on income inequality. Expanding regional output is not inherently accompanied by a proportional broadening of economic opportunities. When the engines of growth operate exclusively within specific geographic enclaves and heavily favor capital intensive sectors, the resulting economic benefits overwhelmingly accrue to upper income demographics. This empirical reality clarifies exactly why accelerated economic growth in Java throughout the observation period remains correlated with rising interprovincial income disparity.

The Effect of the Provincial Minimum Wage on Income Inequality

Based on the analytical results, the Provincial Minimum Wage variable does not exert a significant influence on interprovincial income disparity across Java from 2015 to 2024. Although the regression coefficient presents a positive value, its significance level fails to satisfy the

designated statistical criteria. This condition suggests that variations in the UMP do not tangibly correlate with shifts in income inequality during the observation timeframe. The hypothesis proposing an impact of UMP on income disparity lacks empirical backing. Because the statistical testing does not provide adequate evidence, this hypothesis cannot be sustained.

These outcomes imply that the UMP has not emerged as a key factor capable of explaining the differences in interprovincial income disparity levels across Java. In practice, minimum wage regulations apply specifically to formal sector workers, while the proportion of the workforce engaged in the informal sector remains massive and operates outside these standards. The limited reach of this policy renders changes in the UMP insufficiently powerful to drive shifts in aggregate income distribution. Consequently, interprovincial variations in the Gini Ratio are not heavily influenced by minimum wage fluctuations.

Differences in UMP amounts across regions primarily reflect variations in the cost of living and the distinct economic conditions of each province, rather than serving as a direct instrument to suppress cross-regional inequality. Minimum wage adjustments are most acutely felt by formal workers whose salaries hover near the lower limit, whereas informal workers and unemployed groups experience no direct impact. As a result, modifications to the UMP are not substantial enough to visibly alter the pattern of interprovincial income disparity.

These findings follow the same pattern observed in the research by Panggabean (2025), which indicates that the UMP does not have a significant effect on income inequality in Indonesia. This corroboration confirms that adjustments to the minimum wage standard cannot adequately explain variations in aggregate inequality levels. The UMP policy functions predominantly as a baseline wage protection for formal workers, keeping its broader influence on widespread changes in income disparity highly limited.

The Effect of Total Population on Income Inequality

The final result of this study reveals that the total population variable is not proven to have a significant effect on interprovincial income disparity in Java during the 2015 to 2024 period. The estimation coefficient indicates a positive direction, yet the probability value lies above the established significance level. This influence fails to meet the required statistical criteria. Changes in total population do not demonstrate a tangible connection to shifts in income disparity levels throughout the observation period. The hypothesis regarding the impact of demographic volume on income disparity lacks empirical support and can therefore be declared rejected.

These research findings suggest that the magnitude of the population does not serve as a primary explanatory factor for variations in interprovincial income disparity across Java. Provinces with massive populations, such as West Java, East Java, and Central Java, do not invariably experience higher levels of disparity simply due to their demographic scale. Conversely, regions with relatively small populations, like DI Yogyakarta, can still record substantially high inequality. This condition indicates that interprovincial income inequality is not solely determined by total population.

The insignificance of this demographic variable can be attributed to the fact that population dynamics are not always directly proportional to changes in interregional income distribution. Demographic impacts tend to be influenced by the capacity of the regional economy to generate employment opportunities and enhance productivity. Throughout this observation period, the data suggests that economic activities in Java remain capable of providing sufficient labor absorption space. As a result, population growth does not automatically trigger a widening of interprovincial income disparity.

The findings of this study demonstrate a tendency consistent with the research conducted by Saputro (2018), which indicated that the total population variable shows no statistically meaningful correlation with income inequality in East Java. The output of this analysis implies that demographic dynamics have not yet become a sufficiently strong determinant to explain

differences in income distribution. This situation highlights that changes in total population do not tangibly correlate with shifts in disparity levels, which appear to be driven more heavily by structural factors within economic development.

CONCLUSION

This highlights that structural economic dynamics and fiscal policy interventions play fundamentally contrasting roles in shaping interprovincial income disparity across Java. Fiscal transfer mechanisms such as the General Allocation Fund successfully operate as crucial socioeconomic equalizers that expand local spending capacities and mitigate regional inequality. The current trajectory of economic growth actively exacerbates the income gap due to its heavy concentration in capital intensive metropolitan epicenters that fail to generate a meaningful trickle down effect. The lack of significant influence from both the Provincial Minimum Wage and total population highlights that statutory wage protections and demographic volume are insufficient determinants of aggregate disparity. This dynamic suggests that formal wage regulations fail to reach the massive informal sector and population growth only impacts inequality when unaccompanied by adequate labor absorption. The evidence indicates that decentralized fiscal support provides a vital buffer against inequality while the inherently exclusionary nature of Java's modern economic expansion remains a structural catalyst for disparity. Any generalization of these results must acknowledge the complex duality of Java's economic landscape. Future efforts to address interregional inequality must look beyond basic demographic indicators and formal wage policies to focus heavily on structural economic reforms and inclusive growth strategies that integrate marginalized and informal workforces.

LIMITATION

It is acknowledged that this research has several methodological and conceptual limitations that must be considered when interpreting the findings. These limitations do not invalidate the results but rather provide boundaries for their application and point toward areas for future academic exploration.

A primary constraint lies in the explanatory power of the estimated model. The Random Effect Model yields a Coefficient of Determination (R squared) of 0.175407 or 17.54 percent. This indicates that the selected independent variables can only explain a small fraction of the variations in the Gini Ratio. The remaining 82.5 percent of the variance is determined by unobserved factors outside the model, suggesting that interprovincial income disparity in Java is heavily driven by other variables such as infrastructure development, investment distribution, or education levels.

Furthermore, this study utilizes aggregate macroeconomic data at the provincial level. While this approach is highly suitable for analyzing interprovincial disparities, it inherently conceals intra provincial inequalities existing at the district and city levels. Consequently, the findings offer a macro perspective but cannot fully capture the localized, micro level dynamics of inequality occurring within each individual province.

Future research should expand its analytical framework to gain a more comprehensive understanding of income disparity. Researchers are highly encouraged to integrate additional variables that potentially influence income distribution such as investment levels, the dependency ratio, and industrial agglomeration. Furthermore, utilizing smaller and more specific units of analysis at the regency or city level is crucial to capture micro level inequalities that are often masked by provincial aggregate data. Expanding the spatial scope or focusing on these localized districts will provide a deeper and more detailed portrait of regional inequality dynamics.

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