



Decoding Poverty in Yogyakarta: The Roles of Inequality, Unemployment, and Minimum Wage

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ARTICLE INFO

Keywords: Poverty, Income Inequality, Open Unemployment Rate, Minimum Wage

Received : 16, August

Revised : 30, August

Accepted: 24, September

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ABSTRACT

This study aims to analyze the influence of income inequality, open unemployment rate, and minimum wage on poverty in the Special Region of Yogyakarta during the period 2015–2024. Using a quantitative approach with panel data regression analysis, the study utilizes secondary data from the Central Bureau of Statistics (BPS) and is analyzed using Eviews 12 software. The estimation models employed include the Common Effect Model, Fixed Effect Model, and Random Effect Model, with model selection based on the Chow test, Hausman test, and Lagrange Multiplier test. The results indicate that income inequality has a positive and significant effect on poverty, while the effects of the open unemployment rate and minimum wage vary depending on the estimation model used. These findings suggest that policies focusing on improving economic welfare, job creation, and income distribution can play a crucial role in reducing poverty in the Special Region of Yogyakarta.

INTRODUCTION

The phenomenon of the economy, particularly poverty, remains one of the greatest challenges faced by countries around the world today (Rispan et al., 2025). Millions of people continue to live in dire conditions amid the rapid advancement of technology and globalization. The poverty line used to measure this condition varies from country to country but generally reflects the minimum standard of living necessary for survival.

According to Statistics Indonesia (BPS, 2022), poverty is a condition in which an individual or group is unable to meet their basic needs. In Indonesia, poverty rates have continued to fluctuate with a general downward trend, yet the numbers remain relatively high. This is due to spatial development that is not always systematically planned, which has failed to address inequality comprehensively (Wahed et al., 2022).

The trend of poverty in Indonesia has tended to decline in recent years. According to Millenia Putri & Zaini Putri (2021), real wages, unemployment, and other macroeconomic factors are common causes of poverty in Indonesia. The poverty rate in Indonesia has ranged between 9–10% over the past five years—still considered high for a country. Although the poverty level fluctuates annually, it has generally shown a declining trend over several periods (Sekarwati, 2024).

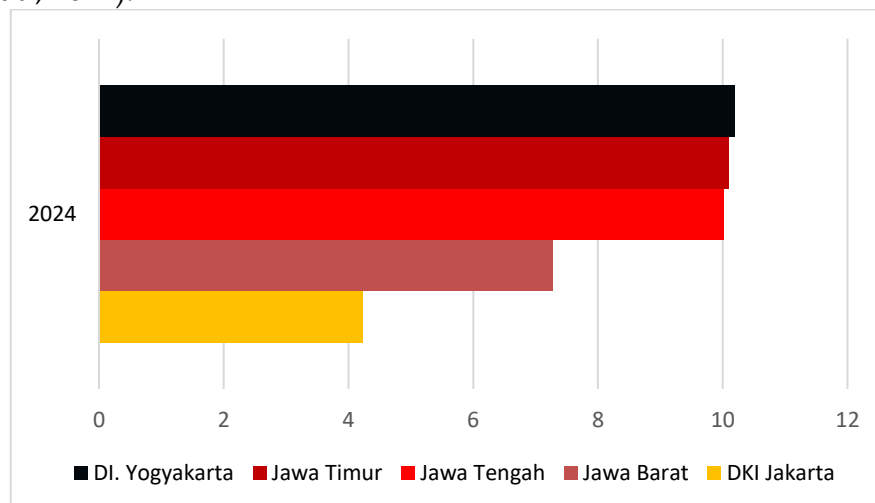


Figure 1. Poverty Percentage in Java Island

Based on Figure 1, the Special Region of Yogyakarta (DIY) is the poorest province in 2024 among the five provinces on the island of Java, despite being known as the center of culture, education, and tourism in Indonesia. Behind this image, however, DIY faces significant economic challenges, particularly concerning its status as the province with the highest poverty rate in Java. Based on various economic indicators such as the Gini ratio, open unemployment rate (TPT), and minimum wage, economic disparity in the province has become a serious concern.

This condition is worsened by a high unemployment rate, which directly affects the reduction of household income (Julianti, 2022). Unemployed individuals face serious macroeconomic problems where increasing income is key to overcoming them. Income can only increase if labor is optimally utilized,

while high unemployment instead worsens overall welfare and prosperity (Aleffin, 2024). Therefore, the interconnection between poverty, unemployment, and low income further reinforces the poverty trap in DIY, which can only be broken through increased employment opportunities, investment, and the development of a more inclusive economic sector.

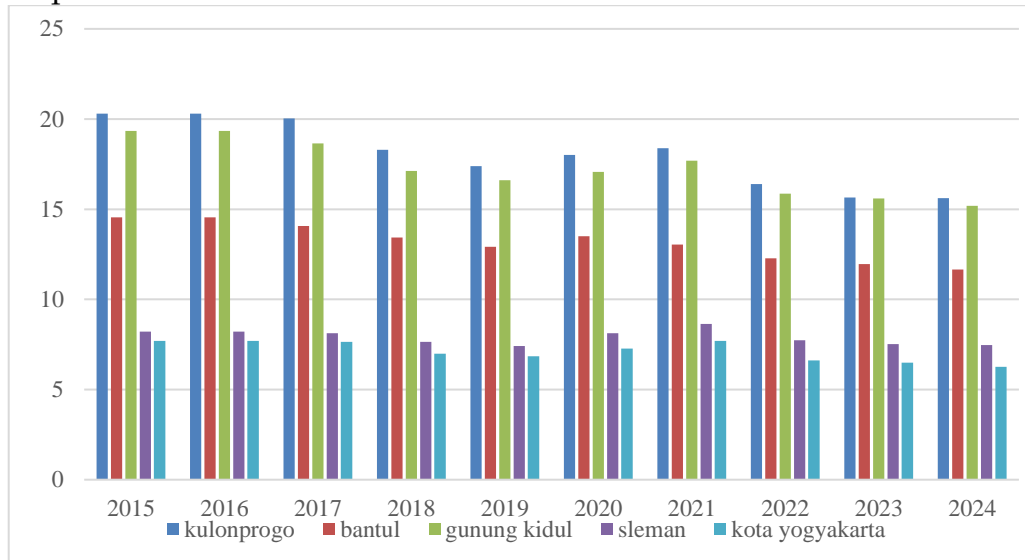


Figure 2. Poverty Percentage in Daerah Istimewa Yogyakarta

Based on the poverty percentage data in the districts and cities of the Special Region of Yogyakarta from 2015 to 2024, the trend shows fluctuations across all regions. Among them, Kulonprogo consistently recorded the highest poverty rate at 15.62 percent and, over the past decade, has remained the district with the largest proportion of poor residents compared to other areas. In contrast, Yogyakarta City showed the lowest percentage at 6.26 percent, reflecting the urban area's relatively stronger economic structure and better access to resources. These disparities highlight the uneven distribution of welfare between urban and rural regions within the province.

Over the last ten years, poverty in the Special Region of Yogyakarta has developed into a more complex socio-economic challenge. It not only undermines productivity and household income but also has broader implications, such as limiting access to education, healthcare, and other essential services, thereby reducing the overall quality of human resources. Addressing this issue requires comprehensive poverty alleviation strategies that go beyond short-term solutions and instead emphasize inclusive economic recovery programs. Such efforts must integrate multiple aspects of community life to break the cycle of poverty and ensure sustainable improvements in social welfare (Mutmainnah & Utomo Jepri, 2024).

Several previous studies have examined the determinants of poverty in Special Region of Yogyakarta. For instance, a study by Alifah K. (2023) found that the open unemployment rate has no effect on poverty in DIY. A contrasting view was expressed by Setya M. (2024), whose study concluded that the open unemployment rate has a negative and significant effect on poverty in the region.

Another study on income inequality conducted by Dongoran et al. (2023) showed that income inequality has a positive and significant effect on poverty in North Sumatra Province. However, a study by Manullang et al. (2024) stated that while income inequality has a positive effect, it is not statistically significant in the same province.

In regard to minimum wage, a study by Desmawan et al. (2024) stated that minimum wage does not have a significant effect on poverty in Banten Province. On the other hand, research by Mauludi et al. (2023) indicated that minimum wage has a positive and significant effect in East Java Province.

The findings from these various studies differ widely. Depending on the chosen location whether the same region or a different one—the results will naturally vary. Therefore, to better understand whether these factors affect poverty in the Special Region of Yogyakarta, this study employs the theory of the poverty cycle and an econometric analysis approach. It is expected to provide deeper insight into the trends and determinants of poverty and help identify appropriate policies to reduce poverty in the region.

LITERATURE REVIEW

According to the World Bank in Wahed et al. (2019), poverty is defined by the extreme poverty line, set at an income below USD 2.15 per capita per day. Meanwhile, BPS (2024) defines poverty as the economic inability to meet basic needs, both food and non-food, with the national poverty line in March 2024 set at IDR 591,164 per capita per month. Supriatna in Oktaviana (2021) further explains that poverty is characterized by low levels of education, productivity, income, health, and nutrition, which ultimately reduce overall welfare and create a cycle of powerlessness. From an economic perspective, Kuncoro in Dimas Sanjaya et al. (2019) highlights three main causes of poverty: inequality in resource ownership leading to uneven income distribution, low quality of human resources resulting in poor productivity and wages, and limited access to capital. These three factors are interconnected and form a vicious circle of poverty that is difficult to break without proper intervention.

Vicious Circle of Poverty



Figure 3. Vicious Circle of Poverty

The phenomenon observed in the Special Region of Yogyakarta aligns with Ragnar Nurkse's (2012) theory of the **vicious circle of poverty**, which explains that poverty persists due to low income, resulting in low savings and investment, which in turn hampers economic growth. Poverty remains high because many people work in the informal sector with low wages, limited access to capital, and low competitiveness. Additionally, the growing tourism sector has not fully benefited the lower-income population in DIY.

Structural Theory of Poverty

The structural theory of poverty, as proposed by Oscar Lewis (cited in Marien Pinontoan, 2020), argues that poverty does not stem from individual shortcomings but rather from an unjust social structure. In this system, impoverished groups lack equal access to economic resources, education, employment opportunities, and public services. Although these resources exist, their distribution is often skewed in favor of certain groups while marginalizing others, resulting in systemic inequality. Consequently, poverty becomes a recurring and inherited issue, as disadvantaged communities are denied equal opportunities to improve their living conditions within an unequal social framework.

Chambers' Theory

According to Robert Chambers, poverty arises from the economic structural gap between urban and rural areas, creating inequality in living standards and welfare. Poverty is not only material but also involves social exclusion, powerlessness, and limited access to basic services. Rural poverty is often hidden and neglected, while unplanned urbanization generates new poverty pockets in cities and drains villages of their productive workforce.

Friedman's Theory

John Friedman views poverty as the inability to access five bases of social power: (1) productive assets (land, property, health), (2) financial resources (stable income, credit), (3) social/political organizations, (4) social networks, and (5) access to information. The lack of access to these aspects limits people's ability to develop their potential and traps them in a cycle of structural poverty.

METHODOLOGY

This research adopts a quantitative method through panel data regression analysis to investigate the connection between poverty levels and the independent variables—namely unemployment, income disparity, and minimum wage—in the Special Region of Yogyakarta from 2015 to 2024. The study utilizes secondary data sourced from Statistics Indonesia (BPS) and is processed using Eviews 12 software. The regression models employed include the CEM, FEM, and REM, with the model selection process guided by the results of the Chow test, Hausman test, and Lagrange Multiplier test.

RESEARCH RESULT

The independent variables used in this study include the Gini Ratio, Open Unemployment Rate (TPT), and Minimum Wage. The dependent variable examined is the Poverty Rate.

Model Selection Tests

1. Chow Test

Table 1. Chow Test

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	154.462591	(4,42)	0.0000
Cross-section Chi-square	137.717173	4	0.0000

Based on the table above, the F-statistic value is 154.462591 with a probability value of 0.0000, which is less than the alpha level of 5% ($0.0000 < 0.05$). This means that H_0 is rejected and H_1 is accepted. These results indicate that the appropriate model to use for hypothesis testing is the Fixed Effect Model (FEM).

2. Hausman Test

Table 2. Hausman Test

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	43.692005	3	0.0000

Based on the table above, the Chi-square value is 43.692005 with a probability of 0.0000, which is less than the 5% alpha level ($0.0000 < 0.05$). This means rejecting H_0 and accepting H_1 , indicating that the more appropriate model to use is the Fixed Effect Model (FEM).

Best Model: Fixed Effect Model (FEM)

Table 3. Fixed Effect Model (FEM)

Dependent Variable: Y
 Method: Panel Least Squares
 Date: 02/08/25 Time: 09:52
 Sample: 2015 2024
 Periods included: 10
 Cross-sections included: 5
 Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.11822	1.838559	8.766769	0.0000
X1	0.043234	5.072419	0.008523	0.9932
X2	-2.69E-06	3.30E-07	-8.154375	0.0000
X3	0.314643	0.125068	2.515770	0.0158

Effects Specification

Cross-section fixed (dummy variables)			
R-squared	0.980192	Mean dependent var	12.70080
Adjusted R-squared	0.976891	S.D. dependent var	4.733684
S.E. of regression	0.719597	Akaike info criterion	2.325395
Sum squared resid	21.74841	Schwarz criterion	2.631318
Log likelihood	-50.13487	Hannan-Quinn criter.	2.441892
F-statistic	296.9133	Durbin-Watson stat	0.874702
Prob(F-statistic)	0.000000		

From the fixed effect estimation results above, the regression equation model can be obtained as follows:

$$Y = 16.11822 + 0.043234 X1 - 2.69e-06 X2 + 0.314643 X3 + e$$

Where:

X1 = Income Inequality (%)

X2 = Minimum Wage (Rupiah)

X3 = Open Unemployment Rate (%)

Hypothesis Tests

1. Coefficient of Determination (R²)

From the regression results using the Fixed Effect Model, the R-squared value obtained is 0.980192, indicating that 98.02% of the variation in the poverty rate in DIY Province can be explained by the variables Gini Ratio, Open Unemployment Rate (TPT), and Minimum Wage included in the model. The remaining 1.98% of the variation is due to factors not accounted for by these variables in the model.

2. T-Test

- a. The Gini Ratio variable has a probability value of 0.993, which is greater than $\alpha=5\%$ ($0.993 > 0.05$), meaning H1 is rejected and H0 is accepted. Thus, it can be concluded that the Gini Ratio variable does not have a significant

effect on the number of poor people in the 5 regencies/cities of DIY Province.

- b. The Minimum Wage variable has a probability value of 0.0000, which is less than $\alpha=5\%$ ($0.0000 < 0.05$) and a calculated t-value of -8.1543, which is greater than the critical t-value of 2.0129. This means H_0 is rejected and H_1 is accepted. It can be concluded that the Minimum Wage variable has a significant negative effect on the number of poor people in the 5 regencies/cities of DIY Province. With a coefficient of -2.69E-06, it means that an increase of one rupiah in the minimum wage will reduce poverty by 2,690 people.
- c. The Open Unemployment Rate (TPT) variable has a probability value of 0.0158, which is less than $\alpha=5\%$ ($0.0158 < 0.05$) and a calculated t-value of 2.5157, which is greater than the critical t-value of 2.0129. This means H_0 is rejected and H_1 is accepted. It can be concluded that the TPT variable has a significant positive effect on the number of poor people in the 5 regencies/cities of DIY Province. With a coefficient of 0.314643, it means that a one percent increase in TPT will increase poverty by 310 people.

F-Test

The panel data regression results using the Fixed Effect Model show that the F-statistical probability value is 0.0000, which is less than $\alpha = 5\%$ ($0.0000 < 0.05$). Therefore, H_0 is rejected and H_1 is accepted. This proves that all independent variables (Gini Ratio, TPT, and Minimum Wage) simultaneously have a significant effect on the dependent variable (Poverty Rate) in the 5 regencies/cities in DIY Province.

DISCUSSION

The findings of this study indicate that income inequality, open unemployment rate, and minimum wage collectively have a significant impact on poverty levels in the Special Region of Yogyakarta (DIY). However, when examined individually, only unemployment and minimum wage show statistically significant effects, while income inequality does not. This result suggests that while income disparity may not directly influence poverty in a measurable way within this model, the socio-economic realities of DIY reveal that areas with higher inequality tend to experience greater poverty. This supports the idea of a poverty trap, where limited job opportunities and low wages perpetuate cycles of poverty. The findings align with existing theories that emphasize the importance of labor market conditions and wage policies in poverty alleviation. From a policy perspective, the results underscore the need for inclusive economic growth strategies that promote equitable income distribution and reduce regional disparities. Targeted efforts to improve employment opportunities and raise minimum wages could therefore play a pivotal role in sustainably reducing poverty in DIY. Nonetheless, further research is needed to explore other social and economic factors that might influence poverty and to better understand the complex dynamics behind income inequality's indirect effects.

CONCLUSIONS AND RECOMMENDATIONS

Based on the research results, it can be concluded that income inequality, the open unemployment rate (TPT), and minimum wage simultaneously have a significant effect on the poverty rate in the Special Region of Yogyakarta (DIY). However, partially, only the open unemployment rate and minimum wage show a significant influence on poverty, while income inequality does not have a statistically significant effect.

This study emphasizes the importance of equitable income distribution across regions in addressing poverty. Although income inequality is not statistically significant in this model, the socio-economic phenomenon in DIY shows that areas with high inequality tend to have higher poverty rates. Unequal income distribution among regencies/cities within the province can reinforce the poverty trap, especially when low-income groups find it difficult to access economic opportunities.

Therefore, policies that promote inclusive growth, reduce disparities between regions, and create a more equitable income distribution are essential to sustainably reduce poverty in the Special Region of Yogyakarta.

ADVANCED RESEARCH

Further research can expand by including additional variables such as education, healthcare access, infrastructure quality, and financial inclusion to better understand their impact on poverty in DIY. More advanced econometric methods like dynamic panel data or spatial models could capture regional spillover effects between districts. Using household-level longitudinal data would allow analysis of poverty transitions over time. Combining quantitative data with qualitative approaches can provide deeper insights into the challenges faced by vulnerable groups. Finally, evaluating the impact of existing poverty alleviation programs in DIY would help improve policy effectiveness based on empirical evidence.

ACKNOWLEDGMENT

This research is inseparable from various challenges, but thanks to the support, direction, and enthusiasm of many people, these obstacles can be overcome. My thanks go to my beloved parents for their prayers and support, to the lecturers of the Development of economic Program FEB University Of National Development "Veteran" East Java for their guidance, and to all friends who have encouraged me during this research process.

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