

ABSTRACT

This study analyzes the spatial heterogeneity of poverty determinants across 119 regencies and cities in Java during the 2020–2024 period. The study employs secondary data in the form of an unbalanced panel consisting of 548 complete observations. The poverty rate is used as the dependent variable, while the independent variables include Mean Years of Schooling (MYS), Labor Force Participation Rate (LFPR), Gini ratio, population density, and Regency/City Minimum Wage. The analysis employs descriptive statistics, a Fixed Effect Model (FEM) as the global panel model, diagnostic tests, and Geographically Weighted Panel Regression (GWPR). The FEM diagnostic results indicate the presence of heteroskedasticity, leading the analysis to proceed with a local approach to accommodate potential differences in relationships across regions. The GWPR model using an adaptive Gaussian kernel produces an Adjusted R^2 of 0.6097, higher than the FEM value of 0.4246, indicating that the local model has a better ability to explain variations in poverty rates. The GWPR estimates show that Mean Years of Schooling has a negative and significant effect in 53 regencies/cities, or 44.54 percent of the study areas, but a positive and significant effect in 3 regencies/cities, or 2.52 percent. The Labor Force Participation Rate has a negative and significant effect in 40 regencies/cities, or 33.61 percent, while the Gini ratio has a positive and significant effect in 25 regencies/cities, or 21.01 percent. Population density has a positive and significant effect in 30 regencies/cities, or 25.21 percent, indicating a direction contrary to the initial hypothesis. The minimum wage has the widest local influence, with a negative and significant coefficient in 105 regencies/cities, or 88.24 percent of the study areas. These findings demonstrate that the direction, magnitude, and extent of significance of poverty determinants vary across regencies and cities in Java, indicating that poverty reduction strategies should take into account the specific local characteristics of each region.

Keywords: Poverty, spatial heterogeneity, panel data, GWPR, and Java Island.

JEL: I32, C23, C21, R12