

ABSTRACT

Panel regression is a statistical analysis method used to measure the impact of independent variables on a dependent variable, taking into account both time and individual dimensions simultaneously. However, when the assumption of homoscedasticity is not met in panel regression, it may indicate spatial heterogeneity, which refers to differences in characteristics across regions or locations. Therefore, Geographically Weighted Panel Regression (GWPR) is used, a method for analyzing spatial panel data that accounts for location variations in model parameter estimation. This study aims to model the Open Unemployment Rate (OUR) in 27 districts/cities of West Java Province from 2021 to 2024 using GWPR with a fixed Gaussian kernel weighting function. The analysis results indicate that the GWPR model outperforms the global panel regression model based on model fit tests, with a coefficient of determination (R^2) of 0.8360. Furthermore, since the analysis shows spatial heterogeneity, the districts/cities can be grouped into nine clusters based on the combination of significant variables affecting OUR in each region. These variables include the number of poor people, population growth rate, realization of domestic investment, average length of schooling, labor force participation rate, and the district/city minimum wage.

Keywords: GWPR, *Fixed Gaussian Kernel*, Open Unemployment Rate