

ABSTRACT

Poverty in Central Java is still relatively high. In 2023, Central Java ranked 2nd as the province with the most poverty in Java Island. The distribution of poverty spans across 35 regencies/cities in Central Java. MARS biresponses is a non-parametric regression that can handle high-dimensional data, flexible, and can model two responses with strong relationships, both logically and mathematically. Poverty indicators use the percentage of poor people and the poverty gap index as response variables, while the poverty factors include the average years of schooling, labor force participation rate, open unemployment rate, population growth rate, and life expectancy as predictor variables. The best MARS biresponses model for the percentage of poor people and the poverty gap index, using the GUI R application, resulted in a minimum GCV value of 0.00034 with BF of 15, MI of 2, and MO of 4 for MARS response 1, and BF of 20, MI of 2, and MO of 4 for MARS response 2. The coefficient of determination was 0,8901 indicating the percentage influence of the predictor variables on the Percentage of Poor People (y_1) and the Poverty Gap Index (y_2). This coefficient of determination, being greater than 0,67 concludes that the model is a good and strong model

Keywords: Poverty in Central Java, MARS biresponse, GCV, Determinaion Coefficient, GUI.