

Nonparametric Path Analysis with Truncated Spline Approach in Modeling Rural Poverty in Indonesia

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Abstract : Nonparametric path analysis is a statistical method that does not rely on the assumption that the curve is known. The purpose of this study is to determine the best nonparametric truncated spline path function between linear and quadratic polynomial degrees with 1, 2, and 3-knot points and to determine the significance of estimating the best nonparametric truncated spline path function in the model of the effect of population migration and agricultural economic growth on rural poverty through the variable unemployment rate using the t-test statistic at the jackknife resampling stage. The data used in this study are secondary data obtained from statistical publications issued by the Badan Pusat Statistik in 2022. The results showed that the best model of nonparametric truncated spline path analysis is quadratic polynomial degree with 3-knot points. In addition, the significance of the best-truncated spline nonparametric path function estimation using jackknife resampling shows that all exogenous variables have a significant influence on the endogenous variables.

Keywords : nonparametric path analysis, truncated spline, linear, quadratic, rural poverty, jackknife resampling

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