ABSTRACT

Papua and West Papua are two provinces that are geographically located in Papua Island. That two provinces Under Law No. 21 of 2001 and Law No. 35 of 2008 have given status as special autonomous regions and obtain budget supplies from the central government greater than other areas in Indonesia with the aim to stimulate development in both province. But the empirical reality from information obtained in 2009 SUSENAS results showed that the education outcome (as seen from the literacy rate and the average length of schooling) in both provinces are still low. With the background of that issue, this study was held with the aim to create a model of education outcome determinants in Papua Island. The method which used is a nonparametric biresponse regression with spline approach. Then Generalized Cross Validation (GCV) method is used to select the optimal knots point on the regression spline. Biresponse spline methods approach was taken because of the exploration data showed a significant correlation between these two response variables, and also the scatter plot between determinants variable and response variables showed no clear pattern. In this study also formed a programming algorithm and software based on MATLAB software to perform data analysis using nonparametric biresponse spline regression methods. The best model with the smallest GCV and MSE is the nonparametric biresponse spline regression model with 1 knots points.

Keywords: Biresponse, Nonparametric Regression, Spline, GCV