

ABSTRACT**Ordinary Least Square (OLS) Regression and Tobit Regression Model To Analyze Factors Affecting the Incidence of HIV/AIDS In Nganjuk**

Some studies prove that the ordinary least square model is not applicable if multiple linear regression problem meets censored response variable data. If OLS remains in use, it will produce biased and inconsistent estimation of parameters. To overcome this issue Tobit regression model is applied, where Maximum Likelihood Estimation (MLE) method is used to estimate parameters. The purpose of this study to compared the OLS regression and Tobit regression model to analyzed the factors that influence the occurrence of HIV/AIDS in Nganjuk into comparison criteria used MSE and R-Square.

The type of design used non-reactive, performed on the data from 20 subdistricts of Nganjuk Regency in 2015. The study used 7 variables, being included the incidence of HIV/AIDS (Y), prostitutes (X1), homosexuals (X2), high risk age 15-19 years (X3), the high risk age 20-24 years (X4), high-risk age 25-49 years (X5) and health facilities (X6).

The result showed, used the either OLS regression or Tobit model, variable X significantly affects variable Y, while variables that in partial significantly affect the incidence of HIV/AIDS are the prostitutes and homosexuals. Although the equation Tobit model is the same as the OLS regression, but used the calculation method of maximum likelihood in Tobit, parameter values for both variables (prostitutes and homosexual) are greater than the value of the parameter obtained by the OLS method. When viewed from the R-Square and MSEa, Tobit model is better than OLS regression, because the value of R-Square OLS regression (0.726393) is smaller than Tobit regression (0.881692), and the MSE of OLS regression (1787, 55) greater than Tobit (1779.08).

Future studies are expected to raise the censored data in clustering data due to the upper limit, or both, and to increase the number of variables with a broader scope of research area, in order to obtain valid results.

Keywords : censored data, Tobit model, OLS, HIV/AIDS, prostitutes, homosexuals