

EFFECTS OF MISSPECIFICATION OF THE LINK FUNCTIONS IN BETA REGRESSION MODEL WITH VARYING DISPERSION

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- **ABSTRACT:** *The beta regression model with varying dispersion is used to model continuous data in the interval (0,1), assuming beta distribution for the variable of interest. In this model, regression structures are considered for the mean and dispersion parameters involving covariates, unknown parameters and link functions. This paper addresses the problem of the misspecification in the dispersion submodel of beta regression. Coverage rates and balancing of the regression parameters in the mean submodel were evaluated by Monte Carlo simulations, considering different link functions. Coverage rate and maximum and minimum average balance of the predicted mean and dispersion values were also assessed. The misspecification of the link function of the dispersion submodel influences on the inferences of the model. An application to real data is also presented and discussed.*
- **KEYWORDS:** *Beta regression models with variable dispersion; confidence intervals; link function; Monte Carlo simulations.*

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