

INTISARI

MODEL REGRESI *ROBUST HURDLE POISSON* UNTUK MENGATASI OVERDISPERSI DAN *OUTLIER*

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Analisis regresi yang dapat digunakan untuk memodelkan data cacah adalah regresi Poisson. Model regresi Poisson memiliki asumsi equidispersi, dimana *mean* variabel respon sama dengan variansinya. Apabila data variabel respon mengalami overdispersi, yaitu kondisi variansi data lebih besar dari *mean* data, maka digunakan metode alternatif yaitu regresi *Hurdle Poisson*. Model ini terdiri atas dua bagian yang independen, yaitu model logit dan model *Truncated Poisson*. Namun metode tersebut tidak dapat mengontrol *outlier* pada data. Oleh karena itu, untuk mengatasi overdispersi dan *outlier* secara bersama-sama dapat digunakan model regresi *Robust Hurdle Poisson*. Berdasarkan studi kasus diperoleh kesimpulan bahwa regresi *Robust Hurdle Poisson* lebih baik dibandingkan regresi *Hurdle Poisson* melalui perbandingan kurva sensitivitas.

Kata kunci : regresi Poisson, overdispersi, *outlier*, *robust Hurdle Poisson*

ABSTRACT

ROBUST HURDLE POISSON REGRESSION MODEL TO OVERCOME OVERDISPERSION AND OUTLIERS

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A regression analysis that can be used to model count data is the Poisson regression. This regression model assumes equidispersion, in which the mean and the variance of the response variable data, namely the variance is greater than the mean, then an alternative method, the Hurdle Poisson regression, is used. This particular model consists of two independent components, namely the logit model and the Truncated Poisson model. However, this method cannot control outliers. Therefore, to overcome both overdispersion and outliers, the Robust Hurdle Poisson regression model can be used. Based on the case study that had been conducted, it can be concluded that the Robust Hurdle Poisson regression is better than the Hurdle Poisson regression by comparing the sensitivity curves.

Keywords: Poisson regression, overdispersion, outliers, robust Hurdle Poisson