

JADET SAWANTRANON : A COMPARISON OF METHODS FOR SELECTING THE BEST REGRESSION EQUATION. THESIS ADVISOR : ASSO. PROF. SORACHAI BHISALBUTRA, Ph.D. 242 PP.

The objective of this study is to present a comparison of Methods for selecting the best regression equation of 5 methods namely; Backward elimination, Forward selection, Stepwise regression, Stagewise regression, Correlation coefficient elimination. The data for this experiment was obtained through simulation by using Monte Carlo Technique. The distributions of errors were considered at normal, logistic, double exponential and scale contaminated normal, using scale factor of 3, 10 with 5, 10, 25 percent contaminated. It was used with the sample sizes of 15, 30, 50 and 100, The number of independent variables of 3, 5, 7 and 9 at the significant level of .01 and .05 respectively.

The comparison of Methods were considered by sum squares of error, Mean squares of error and the Theil's statistic. The results of this research can be described as follows:

1) When the distribution of error was under the assumption: Stepwise regression is the best method, followed by Forward selection, Stagewise regression, Correlation coefficient elimination and Backward elimination, respectively.

2) When the distributions of errors were not under the assumption: in the case of the logistic distribution, Stepwise regression is the best Method, followed by Forward selection and Stagewise regression. The two worst methods were backward elimination and Correlation coefficient elimination. For the double exponential and Scale contaminated normal distributions, Stepwise regression is the best method, followed by Forward selection, Correlation coefficient elimination, Stagewise regression and Backward elimination, respectively.