The objective of this study is to compare the parameter estimation methods for forecasting in simple linear regression with autocorrelation and outliers in disturbance term. The methods are Ordinary Least Squares method (OLS), Least Absolute Value method (LAV) , OLS using Prais-Winten Transformation method , Combine Forecast and LAV using Prais-Winten Transformation method. The comparison was done under conditions of severity of the distribution of random errors : Normal Distribution, Contaminated Normal Distribution at scale factors equal to 5 and 10, Normal Distribution and scale contaminated Laplace Distribution at β equal to 8 and 15. Severity of autocorrelation at 0.1, 0.3, 0.5, 0.7 and 0.9, percent of contaminations are 5%, 8% and 10% , two forms of indepedent variable are Normal and First Order Autoregressive, sample size at 20, 30, 40, 50 and 60. The data of this experiment were generated through the Monte Carlo Simulation technique. The experiment was repeated 700 times under each condition to calculate the square root of the mean squared forecast errors (RMSFEs) of each method.

Results of the study are as follows:-
1) In case of the distribution of random errors having no outliers (Normal Distribution). When the level of autocorrelation is 0.1, the RMSFE of OLS method is lowest, and when the level of autocorrelation is 0.3, 0.5, 0.7 and 0.9, the RMSFE of OLS using Prais-Winten Transformation method is lowest.
2) In case of the distribution of random errors having outliers (Contaminated Normal Distribution , Normal Distribution and scale contaminated Laplace Distribution). In general , when the level of autocorrelation is 0.1 , the RMSFE of LAV method is lowest. But when the level of autocorrelation is 0.3, 0.5, 0.7 and 0.9, in general , the RMSFE of LAV using Prais-Winten Transformation method is lowest. But in case of the level of autocorrelation are 0.3 and 0.5, scale factor equals to 5 , β equals to 8 , percent of contaminate equals to 5% , and for small and middle sample size (20, 30 and 40) , the RMSFE of Combine Forecast method is lowest.
3) The RMSFE varies with the level of autocorrelation , size of the outliers , and percent of contaminate, but the RMSFE vary inversely with sample size.

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