Explicit Equations to Determine the Variances of Regression Coefficients of OLS and GLS Estimators In An Auto-Correlated Regression Models

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Abstract:

We have derived explicit equations to determine the variances of the regression coefficients of ordinary least squares (OLS) and generalized least squares (GLS) estimators in regression models containing an auto-correlated disturbance term for any covariance matrix and design vectors. In addition, we have proved that scaling or shifting the design vector has no effect in the relative efficiency of the variance of GLS to that of OLS.

Keywords: Variance; Ordinary Least Squares; Generalized Least Squares; Efficiency.