
ISABEL MOLINA, Universidad Carlos III de Madrid, Spain

Empirical Best Estimation under a Nested Error Linear Regression Model with Log Transformation

Log transformation of the response is often needed when fitting models to socio-economic variables. The reason is that monetary welfare variables such as income are markedly skewed and this transformation might make their distribution approximately normal. However, typical parameters of interest are the area means of the untransformed welfare variables, which will be means of the exponentials. For these particular non-linear parameters an exact analytical expression for best predictor is obtained. An analytical expression for the mean squared error of the new empirical best predictor that is second order correct for large number of areas is also derived.