Pioneer Journal of Theoretical and Applied Statistics
Volume 1, Issue 1, Pages 51-62 (January 2011)

ISSN: 2230-9837

THE ANALYSIS OF RESIDUALS FOR SOME LINEAR RESTRICTED ESTIMATORS IN THE RESTRICTED LINEAR MODEL

Mustafa I. Alheety

Received January 5, 2011

Abstract

The residual is a manifestation of the adequacy of fit of the model. For a given data set, when the model is chosen, the residual changes according to the estimator used. Also, to assess the appropriateness of the linear model for a given multicollinearity, it is necessary to determine whether the assumptions about the errors are reasonable. Since the errors are unobservable, this must be done indirectly using residuals. In this paper, the residuals of some new restricted estimators in the restricted linear model are analyzed and compared with the restricted least squares estimator (RLS). We illustrate our findings with a numerical example.

Keywords and phrases: restricted least squares estimator, restricted ridge regression estimator, restricted Liu estimator.