RLS STEIN-RULE IN GRETL

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Abstract

The paper documents a Gretl function package that is used for the RLS Stein-rule estimator. Judge and Bock (1981, pp. 240-42) proposed a family of Stein-rule estimators that dominates the MLE of β in the CNLRM under weighted quadratic loss. The estimator is a linear combination of the unrestricted and restricted MLEs, where the degree of shrinkage is controlled using a conventional Wald test of the implied hypothesis restrictions. The Gretl function computes the positive-part version of the RLS Stein-rule which allows user to specify the desired linear restrictions on the model and to select a loss function under which to compute the RLS-Stein rule. In the absence of specific prior information about parameter values Lindley's version of the James-Stein rule is particularly attractive; accordingly, it is offered as a user specified option. The final version of the paper will also provide options for computing bootstrap standard errors [see Adkins (1990); Adkins and Hill (1990)].

A simple Monte Carlo simulation is performed to explore the risk characteristics of the RLS-Stein rule vs. those of pretest, restricted mle, and unrestricted mle. All of the computations are preformed in gretl.

References

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