On decomposing the Watson efficiency of ordinary least squares in a partitioned weakly singular linear model

Ka Lok Chu\textsuperscript{1}, Jarkko Isotalo\textsuperscript{2}, Simo Puntanen\textsuperscript{2,0} and George P.H. Styan\textsuperscript{1}

\textsuperscript{1}McGill University, Montréal (Québec), Canada
\textsuperscript{2}University of Tampere, Tampere, Finland

Abstract

We consider the estimation of regression coefficients in a partitioned weakly singular linear model and focus on questions concerning the Watson efficiency of the ordinary least squares estimator of a subset of the parameters with respect to the best linear unbiased estimator. Certain submodels are also considered. The conditions under which the Watson efficiency in the full model splits into a function of some other Watson efficiencies is given special attention.

Keywords

BLUE, efficiency multiplier, Frisch–Waugh–Lovell theorem, linear sufficiency, OLSE, reduced linear model, splitting the efficiency.

References:


\textsuperscript{0}Presenting author