Pioneer Journal of Theoretical and Applied Statistics

PSP Pioneer Scientific Publisher

SETTING A GOAL PROGRAMING MODEL FOR OBTAINING EFFICIENT RIDGE PARAMETER
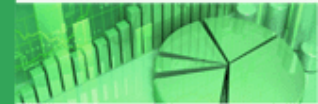
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Abstract

This paper presents a goal programing model which is set for ridge regression in its approach to solving the multicolinearity problems with econometric and statistical data. The model is set from a specified range of a ridge parameter k such that $0 < k < 1$ and the ridge normal equations which consider the Variance Ination Factor (VIF) and the Coefficient of Determination R^2 from the non-orthogonal correlation matrix of the predictor variables. With some selected transformed and standardized variables of two data sets with known multicolinearity traits run by Ms Excel Solver Add-in, the efficient ridge parameters are determined by calculations. Results obtained for the ridge parameter k for both data sets are small enough to stabilize the regression coefficients with $VIF < 10$ and minimum Error Mean Square (MSE).