SHABNAM CHITSAZ, University of Windsor, 401 Sunset Avenue, Windsor, Ontario N9B 3P4

Improving the Performance of the Mean Response in Multivariate Multiple Regression Model With application to a Financial Model

Let $\mathbf{y_t}$ be the $k \times 1$ vector of excess return on k assets and let x_t be the excess return on the market portfolio at time t. The capital asset pricing model (CPAM) can be associated with the null hypothesis $H_0 \colon \alpha = \mathbf{0}$ in the regression model: $\mathbf{y_t} = \alpha + x_t\beta + \epsilon_t$, $1 \leq t \leq n$.

In this talk, we are interested in improving the estimation of mean response parameter by incorporating the available information about the intercept parameter vector. In this context, we suggest preliminary test and shrinkage estimation for the parameter matrix. We investigate the asymptotic relative performance of suggested estimators with the classical estimator. The detailed simulation study illustrates the feasibility of the estimation approach and evaluates their characteristics. The proposed estimation strategies are also applied to stock data for illustrative purpose.