

Economics 662

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R. Davidson

Assignment 2

The data for this assignment can be found here

<https://russell-davidson.arts.mcgill.ca/e662/e662.as2.20.dat>

There are 100 observations on four variables \mathbf{y} , \mathbf{x}_1 , \mathbf{x}_2 , and \mathbf{x}_3 . Regress \mathbf{y} on a constant and \mathbf{x}_1 , \mathbf{x}_2 , and \mathbf{x}_3 .

Obtain a number of estimates of the 4×4 covariance matrix of the OLS parameter estimate $\hat{\boldsymbol{\beta}}$:

1. the standard OLS estimate $s^2(\mathbf{X}^\top \mathbf{X})^{-1}$;
2. the four HCCMEs, HC_0 , HC_1 , HC_2 , and HC_3 ;
3. versions of the Newey-West HAC estimator, with lag truncation parameters given by $p = 2, 3, 4, 5, 6, 20$.

Use each one of these 11 estimates in order to compute 11 standard errors for the estimate of the coefficient of \mathbf{x}_3 .