Homework

Econ 5243

November 14, 2005

Problem 1

Consider the following model of wages:

$$\ln(wage_i) = \beta_1 + \beta_2 educ_i + \beta_3 exper_i + \beta_4 expersq_i + \beta_5 female_i + u_i \qquad (1)$$

where

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wage_i = wages of the ith individual
educ_i = years of schooling for individual i
exper_i = years of experience for individual i
expersq_i = years of experience squared for individual i
female_i = 1 if female, 0 otherwise
lwage_i = ln(wage)

also included in the data set is:
married_i = 1 if married, 0 otherwise
nonwhite_1 = 1 if nonwhite
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1. Using the wages1.csv data available by link from my website estimate the model using least squares.
2. Use IML to compute White's heteroscedsticiy consistent standard errors for the OLS estimator of this model. Compare results obtained using both HC_0 and HC_3.
3. Using the HCCME is the regression significant at the 5% level?

Problem 2

Data on U.S. consumption and GDP for the years 1950-2000 appear in TableF5.1 of Greene and are available from this web site. Consider the following model:

$$C_t = \alpha + \beta Y_t + \gamma C_{t-1} + e_t \tag{2}$$

In this model the short-run MPC is β and the long-run MPC is $\delta = \beta/(1-\gamma)$

1. Using IML, test the null hypothesis that $\delta = 1$ against the alternative that it is not at the 5% level.
2. Using IML, test the (joint) null hypothesis that $\delta = 1$ and $\beta = .5$ against the alternative $\delta \neq 1$ or $\beta \neq .5$ at the 5% level.
3. Confirm your results using Proc Model.