2020 STATA ECONOMETRICS WINTER SCHOOL

Regression Exercise

For this exercise use CPS78_85.dta, available at http://fmwww.bc.edu/ec-p/data/wooldridge/cps78_85.dta

[in stata type: `use http://fmwww.bc.edu/ec-p/data/wooldridge/cps78_85.dta`]

If you do not have internet connection, use the dataset in the folder.

Consider the model:

$$log(wage) = \beta_0 + \beta_1 educ + \beta_2 exper + \beta_3 exper^2 + \beta_4 union + \beta_5 female + u \quad (1)$$

1. Create a table with summary statistics
2. Run the regression for year 85 and year 78 separately. Create one table with the output.

Hint: use the commands:

reg lwage educ exper expersq union female if year==78

est store W78

reg lwage educ exper expersq union female if year==85

est store W85

est table W78 W85, b(%7.4f) se(%7.4f) stats(N r2_a)

outreg2 [W78 W85] using exer_reg_w, word excel replace.

Alternatively: asdoc

3. Consider the 85 model. Test that experience is relevant to explain wage variation.

4. Estimate the marginal effect of experience on wages, evaluated at the mean. Use the operator ## and the command `margins.`

5. Consider the model:

$$
\begin{aligned}
log(wage) &= \beta_0 + \delta_0 y85 + \beta_1 educ + \beta_2 exper + \beta_3 exper^2 + & (2)\\
&+ \beta_4 union + \beta_5 female + \delta_1 y85 * female + u & (3)
\end{aligned}
$$

5.1. How do you interpret δ_0 and δ_1?

5.2. What is the wage difference between female in 1978 and female in 1985?

5.3. Can we use this model with non-deflated wage data to get the "correct" coefficient estimators? Why?