

Econometrics 1 - Homework 1

Spring 2018

The due date for this assignment is Tuesday Feb 6.

From Hansen do the following: 2.2, 2.4, 2.5, 2.7, 2.10-2.14.

Empirical Exercises Using the data in cps09mar.dta do the following:

- (a) Produce a histogram for the education variable educ which represents years of education excluding kindergarten (note that educ is a discrete variable). Comment on any interesting features that you see in this histogram.
- (b) How many individuals in the sample have each of the following; a high school diploma (educ=12), college degree (ie educ=16), a masters degree (ie educ=18) and a PhD (ie. educ=20).
- (c) Find kernel density plots (on the same graph for lwage>0) for each of the four groups in b. and comment on any differences.
- (d) Find the mean and variance of lwage for the four groups and comment on any differences.
- (e) Find the 25th, 50th and 75th percentile of lwage for the four groups. Comment on any differences.
- (f) Find the difference between the mean of lwage between students with a high school diploma and each of the other three groups and provide interpretations (there will be three differences).
- (g) Do a formal test of whether the mean of lwage is the same for students with a high school diploma and each of the other three groups against the alternative that they are different. Repeat this for college degree versus the masters and PhD group and test whether the masters group has the same average as the PhD group (ie. consider every possible pairwise comparison of means).
- (h) Create dummy variables that can be used in a simple linear regression to generate the same results as you found in f. and g. Run this simple linear regression to generate the results found in f. and g. Note that in the regression you will only want to use observations that belong to the four groups.