

Fall 2009: Econometrics I

Homework Assignment #1 (Due 9/30, in class)

1. Consider a model,

$$y = x_1\beta_1 + x_2\beta_2 + u$$

If  $E(x_1) = E(x_2) = 0$ , and  $\text{Cov}(x_1, u) \neq 0$

Then, is  $\hat{\beta}_{2OLS}$  biased if  $\text{Cov}(x_1, x_2) = 0$  vs  $\text{Cov}(x_1, x_2) \neq 0$ ?

(Hint: consider using partitioned regression)

2. (page 78) #4.6
3. (page 78-79) #4.8
4. (page 79-80) #4.11
  - e. Use *KWW* as *IV* for *IQ*, estimate the model, and compare with previous estimation results.
  - f. Use *IQ* as *IV* for *KWW*, estimate the model, and compare the results with e. (with one standard deviation change in *IQ* or in *KWW*)
5. (page 80) #4.12