

Ecmt 463

Homework #3

Due November 4th, 2009

1. Use the data set houseprice from the course website.

a) Estimate the following regression model

$$\ln(\text{price})_i = \beta_0 + \beta_1 \ln(\text{sqft})_i + \beta_2 \ln(\text{lotsize})_i + u_i$$

Use the results to explain the relationship between the size of a house and the price of a house in plain English.

b) Do you think that your estimates may suffer from omitted variable bias? Explain.

c) Estimate the following regression models

$$1. \ln(\text{price})_i = \alpha_0 + \alpha_1 \ln(\text{sqft})_i + e_i$$

and

$$2. \ln(\text{lotsize})_i = \gamma_0 + \gamma_1 \ln(\text{sqft})_i + e_i$$

Explain why the estimates for α_1 and β_1 differ from each other.

Use the results of regression 2. to verify the formula for omitted variable bias.

d) Use a formal test to investigate the claim that a 1% increase in the size of a house leads on average to price increase of more than 1%. Answer in plain English and express how confident you are about your statement.

16 Points

From the BOOK:

3.2 on page 106 **3 Points**

C 3.1 on page 110 **3 Points**

C 4.6 on page 164 **2 Points**

Staple all the sheets with your answers together and include your name. **1 Point**

Total 25 Points