14.31 – Problem Set Three
Fall 2000
Due: Tuesday, October 17

1. The following equation represents the effects of tax revenue mix on subsequent employment growth for the population of counties in the United States:

$$\text{growth} = \beta_1 + \beta_2 S_P + \beta_3 S_I + \beta_4 S_S + \text{other factors}$$

where growth is the percentage change in employment from 1980 to 1990, S_P is the share of property taxes in total revenue, S_I is the share of income tax revenues, and S_S is the share of sales tax revenue. All of these variables are measured in 1980. The omitted share, S_F, includes fees and miscellaneous taxes. By definition, the four shares add up to one. Other factors would include expenditures on education, infrastructure, and so on (all measured in 1980).

a) Why must we omit one of the tax share variables from the equation?
b) Give a careful interpretation of β_2.

2. Pindyck and Rubinfeld, 5.9
3. Berndt, Chapter 3, Exercise 1.
4. Berndt, Chapter 3, Exercise 2.
5. Berndt, Chapter 3, Exercise 3.
6. Berndt, Chapter 2, Exercise 9.