

ECO 391

Last Name: _____

First Name: _____

Activity #7 (ungraded)

Chapter 17.1

Use data set Chapter 17 Industry.

The issues regarding executive compensation have received extensive media attention (*The New York Times*, February 9, 2009). Consider a regression model that links CEO compensation (in \$ millions) with the total assets of the firm (in \$ millions) and the type of industry each firm belongs to. Dummy variables are used to represent four industries: Manufacturing Technology d_1 , Manufacturing Other d_2 , Financial Services d_3 , and Nonfinancial Services d_4 . The data for 455 highest-paid CEOs in 2006 has been uploaded to Canvas.

a) Estimate the model:

$$y = \beta_0 + \beta_1 x + \beta_2 d_1 + \beta_3 d_2 + \beta_4 d_3 + \beta_5 d_4 + \varepsilon.$$

where y and x denote compensation and assets, respectively.
What happened when you estimated the above model?

b) What is this situation referred to as?

c) What common violation is this situation related to?

d) Now estimate the model:

$$y = \beta_0 + \beta_1 x + \beta_2 d_1 + \beta_3 d_2 + \beta_4 d_3 + \varepsilon.$$

where y and x denote compensation and assets, respectively. Here the reference category is the nonfinancial services industry.

Interpret the estimated coefficients.

- e) Use a 5% level of significance to determine which industries, relative to the nonfinancial services industry, have different executive compensation.

- f) Reformulate the model to determine, at the 5% significance level, if compensation is higher in Manufacturing Other than in Manufacturing Technology. Your model must account for total assets and all industry types.