

Applied Econometrics II  
Dept of Economics, Carnegie Mellon University  
73-360, Fall 2000

Homework #1, due Friday, September 15

For this assignment, please use the gallup data, available on the web site. It is described there in the section entitled Datasets.

We don't want to use the whole dataset. Let's choose a homogenous group of people for analysis. Modify the dataset so that only white, employed females between the ages of 20 and 50 appear. Also, define a new variable yrschool which equals 8 for people with 8 or fewer years of schooling, 10 for people who are high school dropouts, 12 for high school graduates, 14 for people with some college or an associates degree, and 16 for people with bachelors degrees or more.

For help on doing all this, please see the documents, "Introduction to SAS Handout," "Introduction to SAS Handout 2," (both on the website) the SAS textbook, and materials under the "SAS Information" link on the website.

In the following, please show your work and use the statistical concepts we have learned, as relevant, in your answers.

1. First, please calculate the average salary for people with 8,10,12,14,16 years of schooling respectively. Do you see any pattern?

2. Now, let's consider the regression model:

$$Y_i = \beta_1 + \beta_2 yrschool + u_i$$

Based on your answer to question 1, do you think  $\beta_2$  is likely to be positive or negative?

3. Please run the regression in question 2. Interpret  $\beta_2$  and relate your results back to the prior questions.

4. Run the following regression:

$$Y_i = \beta_1 + \beta_2 yrschool + \beta_3 age + u_i$$

Interpret  $\beta_2$ . Contrast your results here with those in question 3 — contrast both the interpretation of  $\beta_2$  and the meaning of the value of  $\widehat{\beta_2}$ .