

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

Homework #2, due Friday, October 6, 2000

For this assignment, please use the gallup data, available on the web site. It is described there in the section entitled Datasets. Please use data on employed males between the ages of 20 and 50. Please construct yrschool as in the previous homework.

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

**Please include the program and the output you used to generate your results, whether it be SAS or something else.**

1. You think that wages are determined by age, schooling, and hours worked. Do not run any regression to answer this question!
  - (a) Please write down a model appropriate to analyze these data in light of these ideas.
  - (b) Tell me what each parameter means and what sign ( $\pm$ ) you expect for it.
  - (c) How would you test the theory that hours do not affect wages if you knew the parameters?
  - (d) How would you test the theory that a one year increase in age gives the same increase to wages that a 4 year increase in hours does?
2. Please estimate the model you constructed in Question 1.
  - (a) Using your best estimates, does it look like you were right about the signs of the variables?
  - (b) Please test to see if the each of coefficients in your model is different from zero.
  - (c) Please make confidence intervals for each parameter.
  - (d) In light of the results from Questions 2a, 2b, and 2c what can you say about whether or not you were right in your answer to Question 1b.
  - (e) Please test the theory described in 1d.