

Intro to Econometric Theory
Heinz School, Carnegie Mellon University
90-906, Spring 2003-4

Homework #5

The Medical Expenditure Panel Survey is an annual survey which collects information about medical expenditures, income, employment, demographics, health information, &c for a representative sample of Americans.

I have prepared an extract of these data for 1996, and it is available on the course website. The following are the columns in the data, in order:

Variable	Meaning
age	age of person in years
sex	sex of person, 1=male & 0=female
income	income in 1996 \$
employed	1=employed, 0=not employed
insured	1=had health insurance, 0=not
health	perceived health status, higher is sicker
spending	spending on health care, 1996 \$

To begin with, let's consider a model like the one we used on the midterm:

$$\begin{aligned} \text{spending}_i &= \beta_1 + \beta_2 \text{income} + \beta_3 \text{age} + \beta_4 \text{sex} \\ &+ \beta_5 \text{employed} + \beta_6 \text{insured} + \beta_7 \text{health} \end{aligned} \quad (1)$$

1. Test this model for heteroskedasticity. Discuss your findings and what they mean for inference — refer to the answers to the questions on homework 4 and be as specific as you can.
2. Answer question 1 from homework 4 again, correcting for heteroskedasticity.
3. Answer question 3 from homework 4 again, correcting for heteroskedasticity.