

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

Midterm, Monday, February 28, 2000

Instructions You may use any books, notes, calculators, and other aids you like. You may not converse, nor may you cooperate.

Please complete all questions.

Each question is worth 20 points.

Please show all relevant work.

Please interpret your results in plain English.

Please refer to the relevant page in the output to tell us where you are getting your numbers and other results. (use the “SAS” page numbers — the small ones — for example, the last regression appears on SAS page 5)

For this test, we will analyze a dataset concerning the incomes of young physicians in the United States in 1990. The dataset is a sample of physicians who finished their residencies (last stage of training for physicians) between 1986 and 1989. An HMO is a health maintenance organization (a kind of health insurance carrier).

Variable	Type	Description
income	continuous	1990 pre-tax income in \$1000s
exper	continuous	experience in years in medicine
hours	continuous	number of hours worked a week
pcthmo	continuous	% doctors patients covered by HMO

1. Suppose I think that a doctor's income is determined by their experience, how many hours they work, and other factors (none of which I can observe). What model should I use? Interpret its coefficients.

2. Test the claim that neither age nor hours worked have any effect on income (holding constant experience).

3. Tell me what the income elasticity of hours is at sample means (holding constant age and experience). What is your best estimate of it and a range of values it could likely take?

4. Keeping in mind that income is measured annually and in \$1000 and that hours are measured weekly, how much extra does one of these doctors make for each extra hour he works? Give me the exact answer, your best estimate at it, and a range of likely values it could take.

5. Physicians often claim that the rise of HMOs has hurt their incomes. What do you think of this claim? (NOT your opinion, what these data say)