

Part 2B Microeconomics: Policy Evaluation

Assignment 1

To be completed after Lecture 3

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Suggested for marking: question 3

Question 1

- Show why the observed treatment effect may differ from the actual treatment effect. Explain why this difference can be thought of as selection bias.
- Provide a regression framework for estimating treatment effects.
- Give three (new!) examples of situations which illustrate the selection bias issue in estimating treatment effects.

Question 2

Imagine you have conducted a randomized social experiment to study the efficacy of a job search counselling program on unemployment durations of young job-seekers. The package includes a short training session on how to search for a job, along with an individual interview and job search plan. Starting with a pool of 4000 eligible new job seekers, you carefully randomized 2000 into the treatment group (to receive the program) and 2000 into a control group. Data was collected from all 4000 individuals for a subsequent period of one year. Unfortunately, only 1500 individuals in the treatment group actually showed up to receive the course and interview. Here are the data:

	Control Group	Treatment Group		Total
		Attended Program	Did not attend	
Sample	2000	1500	500	2000
% back in work at one year	50%	80%	40%	70%

1. Is a comparison of the employment rates of program participants and non-participants likely to give a good estimate of the effect of the program? Explain.
2. Calculate the intent to treat (ITT) effect of the program. How is this estimate useful for informing policy and what are the limitations?
3. Calculate the average treatment effect for the treated. How is this estimate useful for informing policy and what are the limitations?
4. Suppose you also collect observable background characteristics of all individuals in the control and treatment group. Would this help inform your answer to part (a)? Would controlling for these characteristics give you a better estimate of the treatment effect? Explain

Question 3

What would you expect the effect to be of increasing the size of supervision groups for the Economics tripos? Answer using existing literature as well as discussing potential empirical strategies.

Recommended Readings, especially for Q3

- Angrist and Pishke “Mostly Harmless Econometrics” Chapter 2,3
<http://lib.myilibrary.com/Open.aspx?id=260809>
- Christopher Jepsen and Steven Rivkin “Class Size Reduction and Student Achievement: The Potential Tradeoff between Teacher Quality and Class Size” *The Journal of Human Resources*, Vol. 44, No. 1 (Winter, 2009), pp. 223-250 <http://www.jstor.org/stable/20648893>
- Krueger, Alan (1999). “Experimental Estimates of Education Production Functions.” *Quarterly Journal of Economics* 114(2): 497-532.
- Michael Boozer and Cecilia Rouse “Intraschool Variation in Class Size: Patterns and Implications” *Journal of Urban Economics* 50, 163-189 2001.