

Econometric Applications I

Semester 1: 2009/2010

This course is about answering as best as we can the following questions in data analysis:

- (a) When can a OLS regression be regarded as a valid estimate of a *causal* relation?
- (b) If OLS estimates do not have a *causal* interpretation, what are alternative techniques that can lead to estimates of causal relation?

These topics are preceded by 3-4 lectures on sampling design. It is an introduction to the design concepts of stratification, clustering and probability weighting that would be confronted in analysing large sample surveys such as those of NSS.

The course consists of lectures as well as presentations (primarily by students). For the latter, a student will report on an empirical paper (drawn from labour and development economics) that addresses the issue of estimating causal relations in a particular context. Along the way, it is hoped that you will also pick up the skills of how to read empirical papers and how presentations are made.

1. The Design of Surveys

Angus Deaton, *The Analysis of Household Surveys*, Chapter 1 and 2.1, 2.2 of Chapter 2.

William G. Cochran, *Sampling Techniques*, 1977 – the following extracts may be directly relevant.

Chapter 2: 2.1-2.11,

Chapter 4: 4.6,

Chapter 5: 5.1-5.4, 5.6 and 5.7

2. Bootstrap

Larry Wasserman, *All of Statistics*, Chapter 8 – see also pp 97/98 of the previous chapter.

3. Causality and Self-Selection

Gary Taubes, Do We Really Know What Makes Us Healthy, *New York Times*, September 16, 2007. http://www.nytimes.com/2007/09/16/magazine/16epidemiology-t.html?_r=2&oref=slogin or <http://crab.rutgers.edu/~mbravo/prospective.pdf>

Jeffrey Wooldridge, *Econometric Analysis of Cross Section and Panel Data*, Chapter 18, Sections 18.1 & 18.2.