
Econometrics I

1. Objectives

The goal of this course is to develop your knowledge of applied econometrics and to put this knowledge into practice through examples and replication work. The tools that you will learn in this course will be useful to prepare you for conducting independent research in management.

Knowledge of statistics is a prerequisite of this class. You should also have acquired good mathematical skills in topics such as calculus, optimization, and matrix algebra before taking this course.

2. Contents

The course covers: multiple regression analysis (Sessions 1-4), instrumental variables (Sessions 5-6), discrete dependent variable models (Sessions 7-8), categorical dependent variable models (Sessions 9-10), count data (Session 10), duration models (Session 11), truncation and censoring (Sessions 13-14), and panel data models (Sessions 15-18). The class will use Stata; Stata estimation commands will be introduced as the class develops.

Teaching will be done with a combination of blackboard and class discussion. The primary textbook will be Cameron and Trivedi, *Microeconometrics using Stata* (CT1), although the reading lists includes additional readings. Required readings are marked with an asterisk (*).

Required Readings:

- (CT1) Cameron, Adrian Colin, and Pravin K. Trivedi. *Microeconometrics using stata*. College Station, TX: Stata press, 2010. *(This book is on reserve in the library. No xerox copies of the required chapters will be handed out).*
- (CT2) Cameron, A. Colin, and Pravin K. Trivedi. *Microeconometrics: methods and applications*. Cambridge university press, 2005.
- (GS) Gentzkow, Matthew, and Jesse M. Shapiro. "Code and data for the social sciences: A practitioner's guide." University of Chicago mimeo. Last updated March (2014).

Optional readings:

- (W) Wooldridge, Jeffrey M. *Econometric analysis of cross section and panel data*. MIT press, 2010.
- (G) Greene, William H. "ECONOMETRIC ANALYSIS." (2003).

3. Methodology

Classes will consist of lectures. You are, however, expected to actively participate in each class. You will be required to replicate some result from the literature before each class, and part of the evaluation will be based on these assignments.

A list of readings in addition to those listed in the outline will be made available as the course progresses. Some of these readings are compulsory and will have a due date by which you are expected do have read them.

4. Grading

The final grade will be based on assignments that you are expected to do before each class (50%) and on the final project for the class (50%).

5. Outline

Required and optional readings by session
Required readings are marked with an asterisk ()*

#	SESSION TITLE	READINGS
1	Introduction. Review of Stata basics. Processing data and organizing directories for empirical work.	GS*, CT1_Ch1*, CT1_Ch2*
2	Multiple regression analysis: OLS and WLS. Interactions, dummy variables, trends, kernel density estimation	CT1_Ch3*, CT2_Ch4
3	Heteroskedasticity, clustering.	CT1_Ch3*, CT2_Ch4
4	Omitted variable bias, measurement error	CT1_Ch3*, CT2_Ch4
5	Instrumental variables (I)	CT1_Ch6*, CT2_Ch4
6	Instrumental variables (II)	CT1_Ch6*, CT2_Ch4
7	Discrete dependent variable models (I)	CT1_Ch14*, CT2_Ch14
8	Discrete dependent variable models (II)	CT1_Ch14*, CT2_Ch14
9	Categorical dependent variable models (I)	CT1_Ch15*, CT2_Ch15
10	Categorical dependent variable models (II)	CT1_Ch15*, CT2_Ch15
11	Count data and related models	CT1_Ch17*, CT2_Ch20
12	Duration models	CT2_Ch17*
13	Truncation	CT1_Ch16*, CT2_Ch16
14	Censoring	CT1_Ch16*, CT2_Ch16
15	Panel data (I): panel-data management, panel-data summary, balanced and unbalanced panels	CT1_Ch8*, CT2_Ch21
16	Panel data (II): pooling cross sections across time, fixed effects, within-estimator, first differencing methods	CT1_Ch8*, CT2_Ch21
17	Panel data (III): random effects, Hausman test	CT1_Ch8*, CT2_Ch21
18	Panel data (IV): panel IV, nonlinear panel models	CT1_Ch9*, CT2_Ch22
19	Presentation of student projects (I)	
20	Presentation of student projects (II)	
