



**ECON 212f(2): Application to Econometrics
Spring 2009**

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Office: PhD Room, Sachar

Office hours: Mon and Wed 9:30 – 12:30am or by appointment (e-mail)

Course information: International Hall, Mon and Wed 8:00 - 9:30am

Teaching Assistant: Carlos Yopez, cyepez@brandeis.edu

Course Description and Objectives:

The objective of this half-semester course is to explore more advanced use econometric methods to quantify economic relations. The major learning outcome is discovering how to conduct – and how to critique – empirical studies in economics, business and finance. The emphasis will be on applications rather than econometric theory.

We will start with binary dependent variable models and panel data methods (fixed effects). We will then explore applications of instrumental variables in dealing with measurement error, simultaneity and omitted variable bias; we will also discuss what valid instruments are. At the end of the module we will examine time series topics such as ARMA models, forecasting, stationarity vs. non-stationarity, and dynamic causal effects. If time permits, we will cover vector autoregression and ARCH/GARCH models.

Prerequisites:

Statistics or ECON 210(f). In addition, I expect you to have taken some economics courses beyond the introductory level. Linear algebra is not required. This class is fairly computational and computer-software intensive. If in doubt about taking the class, please see me.

Required Textbook and Software:

Stock and Watson, Introduction to Econometrics, 2nd ed. Publisher: Addison-Wesley

Baum, An Introduction to Modern Econometrics Using Stata. Publisher: Stata Press (recommended)

Wooldridge, Jeffrey M. *Introductory Econometrics: A Modern Approach*. 3rd ed. Mason, OH: Thomson/South-Western, 2006 (Recommended)

STATA (available on the school network). The teaching assistant will hold Stata tutorials at the beginning of the semester outside of regular class time to help you with learning Stata. I will also post several Stata tutorials on the course website.



Evaluation: your grade will be determined on the basis of your performance on:

- Problem sets/small empirical projects (40%)
- Attendance and participation (10%)
- Exam (30%)
- Group project: write-up and presentation (20%)

Problem sets/Small empirical projects

Generally problem sets will be assigned each week and are due at the beginning of class one week later. The assignments will all be empirical applications using STATA. Late solutions will not be accepted, because the answers will be posted on the course website immediately after class. You are encouraged to work in small groups on the assignments (4-5 people) and you need to submit only 1 answer per group. Always attach your Stata log file as an appendix to your problem set answers.

Attendance and participation

Attendance will be recorded each class. I treasure your ideas and feedback; this is why I put a heavy weight on class participation. The importance of being able to communicate your ideas and to participate effectively in discussions cannot be over-emphasized, especially for business school students.

Exam

If you miss the exam without an acceptable legal document/reason, no make-up exam will be given. I will post old exams two weeks before the exam date to give you a sense of what you can expect.

Group Project

You will work in small groups of 3-5 students to conduct an empirical study. Your goal is to answer a business, economic or financial question of interest to your group through data analysis. A detailed description of the project components will be distributed and discussed in class at the beginning of the semester. The project deliverables include a report (maximum 10 pages of typed text, not including graphs and tables) and an in-class presentation.

Disabilities and Academic Integrity

If you are a student with a documented disability on record at Brandeis University and wish to have a reasonable accommodation made for you in this class, please see me immediately.

You are expected to be familiar with and to follow the University's policies on academic integrity (see http://www.brandeis.edu/global/current_academic_integrity.php). Instances of alleged dishonesty will be forwarded to the Office of Campus Life for possible referral to the Student Judicial System. Potential sanctions include failure in the course and suspension from the University.



Course Plan for ECON 212 Introduction to Econometrics

Lecture	Topic	Readings	Problem Sets	
			Posted	Due
1	Introduction			
2	Binary dependent variable models I	Ch.11	PS1	
3	Binary dependent variable models II	Ch.11		
4	Panel data I	Ch. 10	PS2	PS1
5	Panel data II	Ch. 10		
6	Instrumental variables I	Ch.12	PS3	PS2
7	Instrumental variables II	Ch.12		
8	Time series I	Handout	PS4	PS3
9	Time series II	Ch. 14.1-14.5		
10	Time series III	Ch. 15.1 - 15.4		
11	Time series IV	Ch.14 (14.6-14.7)		PS4
12	Review	Handout		
13	Exam			
14	Project Presentations			

Readings are from Stock and Watson, Introduction to Econometrics, 2nd edition.

Problem sets, along with the corresponding Stata data files and codebooks/data descriptions will be posted on the course website.