Brandeis University, International Business School

ECON 212f(2): Applications of Econometrics
Preliminary Syllabus

Instructor: Daniela Kolusheva
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Office hours: Mon and Wed 4:30 – 5:00pm or by appointment (e-mail)
Course time: Mon and Wed 5:00 - 6:30pm
Teaching Assistant: TBD

Course Description and Objectives:

The objective of this half-semester course is to teach students how to 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 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. A substantial part of the module is dedicated to time series topics such as ARMA models, forecasting, stationarity vs. non-stationarity, and dynamic causal effects. The course finishes with a brief introduction to vector autoregression models (VAR), cointegration and error correction, volatility clustering and ARCH/GARCH models. All of these topics contain the essential modeling tools for students interested in using quantitative techniques in the fields of finance, economics and business.

Prerequisites:

Stats or ECON 210(f); econometrics at the level of ECON 211f(1). 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 (required)
Tsay, Analysis of Financial Time Series (Wiley Series in Probability and Statistics), 2nd ed. Publisher: Wiley (recommended)
Baum, An Introduction to Modern Econometrics Using Stata. Publisher: Stata Press (recommended)

STATA (available on the school network)

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

- Assignments (mini empirical projects in small group) (40%)
- Attendance and participation (20%)
- Exam (40%)

Assignments

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 (3-5 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. Otherwise, you might not receive full credit.

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 can not be over-emphasized, especially for business school students. Please note that you are expected to **come prepared for each and every class** – this means reading the relevant textbook chapter and being ready to participate in discussions and answer questions on the assigned readings.

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 final which is scheduled for **April 29, 2009** to give you a sense of what you can expect.

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 Applications of Econometrics

Lecture	Date	Topic	Readings	Problem Sets Posted	Problem Sets Due
1	03/11	Introduction	Review Ch.4-Ch.9, Ch.11		
2	03/16	Panel data I	Ch. 10	PS1	
3	03/18	Panel data II	Ch. 10		
4	03/23	Instrumental variables I	Ch.12	PS2	PS1
5	03/25	Instrumental variables II	Ch.12		
6	03/30	NO CLASS		PS3	PS2
7	04/01	Time series I	Ch.14 (14.1-14.5)		
8	04/06	Time series II	Ch.15 (15.1 - 15.4)	PS4	PS3
9	04/08	Time series III	Ch.14 (14.6-14.7)		
10	04/20	Time series IV	Ch. 16		PS4
11	04/27	Review			
12	04/29	Final Exam			