Georgetown University

ECON-613-01

Econometrics I

Spring 2007

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Time and Place:

Lecture: W 4:15pm-6:45pm ICC 120

Workshop: T 7:40pm-8:55pm REI 282

Textbook:

William H. Greene, *Econometrics Analysis*, 4E, Prentice Hall, 2000

Marno Verbeek, *A Guide to Modern Econometrics*, 2E, Wiley, 2004

Description:

This course is a graduate level introduction to *Econometrics*. Econometrics uses statistical methods for estimating economic relationship, testing economic theories, and using estimated models to evaluate policy intervention both in the public and in the private sector.

The goal of the course is to give an intuitive, yet formal, understanding of the basic techniques used in applied econometrics. The emphasis will be more on the economic relevance of the techniques used than on their econometric theory foundation, of course without ignoring it. We will focus more on cross-sectional models and large sample properties than on time-series models and small sample properties, even if we will cover basic concepts of the latter.

Requirements:

(1) Problem sets: there will be a total of about ten problems sets. Each assignment will explicitly state a due date. No late problem sets are accepted. Problem-sets are graded on a three levels scale: 1 (no problem sets done or extremely wrong); 2 (effort in doing it but many errors); 3 (from some errors to excellent).

(2) Midterm exam: there will be one midterm exam during regular class time on March 14.

(3) Final exam: TBA. It will not be cumulative, i.e. it will cover the program done from the midterm on, but you are responsible for concepts, definitions and any other useful tools of the first part of the course used in the second part.

Grading:

Your final letter grade will be determined as follows:

Problem sets	10%
Midterm	45%
Final	45%.

The grade will be based on a curve that assigns A and A- to approximately the top 25% and B+, B, B- to approximately the next 50%. Performing in the bottom 25% will lead to a C or F grade only if performance is significantly poorer than in the B range. However, this is just an indication and not a binding constraint, therefore it is quite possible there will be a departure from this distribution if you perform exceptionally well or exceptionally bad.

Honor System:

I would like to remind you that as signatories to the Georgetown University Honor Pledge, you are required to uphold academic honesty in all aspects of this course. As faculty, I too am obliged to uphold the Honor System, and will report all suspected cases for academic dishonesty.

Other course policies:

Even if in the following you will find a course outline and even if I will often refer quite closely the material in your main textbook, you are responsible for everything covered in class.

I think participation in class is very useful: bring additional materials or ask questions whenever you think it is interesting.

Finally, if you have any trouble with the course, please feel free to contact me or your TA.

Course outline:

Week	Topic
1	Overview of the subject
	I. THE LINEAR REGRESSION MODEL
2	Ordinary Least Squares
3	Small Sample Properties
4	Goodness-of-Fit and Hypothesis Testing
5	Asymptotic Properties
	II. HETEROSKEDASTICITY
6	Definition
7	Testing
8	**Midterm exam** - March 14
9	Introduction to Autocorrelation
	III. MAXIMUM LIKELIHOOD
10	Estimation and Specification test
	IV. INTRODUCTION TO IV AND GMM
11, 12	The Instrumental Variable Estimator (IV)
13	The Generalized Method of Moments (GMM)
	Final exam - TBA