

Econometrics II

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Outline of Today's Lecture

- General Remarks about the course
- Syllabus
- Why we need Econometrics?
- A short visit to Econometric I (Revision)

Prf. José Fajardo

- Ph. D in Mathematical Economics (IMPA)
- Risk Management, Financial Economics, Behavioral Finance and Financial Econometrics.
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Where we go?

Econometrics I \Rightarrow Econometrics II

“correlation does not imply causation”

Objective

This course extends the methods and techniques employed in Econometrics I to allow for causal inference and prediction in a larger variety of data sets. In particular, the course covers:

- Data subject to endogeneity bias.
- Data collected in experiments and quasi-experiments.
- Time series data (modeling and forecasting).
- Series data (estimation of causal effects).
- Time series data (cointegration and volatility clustering).
- Additional times series topics.

The overall objective is for the student to learn how to critically examine economic and financial data as well as empirical studies.

Prerequisites

Econometrics I or the following:

- Basic knowledge of the concepts of statistical inference, hypothesis testing and confidence intervals.
- Knowledge of OLS as well as the causes and consequences of problems of internal and external validity of the models.
- Basic knowledge of the use of econometric software such as STATA.
- Knowledge of some basic concepts of microeconomics and macroeconomics.

Organization

- Teaching consists of 20 lectures and 6 seminars of 1.5 hours each.
- Lectures will develop the concepts and methodologies of the subject.
- Seminars will cover solutions to the homework problems and any other material not covered in lectures.
- Participation and asking questions in lectures and seminars is highly encouraged.

Homework

- Homework problems will also cover material not (or not yet) covered in lectures.
- Students are encouraged to work in groups of 3 to 4 in order to practice teamwork and share different ways of tackling the problems.
 - Members of each group must belong to the same seminar group. Each group submits a single solution set for each problem set.
- Homework will be collected, graded, and returned to the student during the seminars.
- Homework will be due on the dates (all Mondays) indicated in the table below at 11:00. Place your homework in the box in room ?. No late homework will be accepted.

Date	Topic Chapters
24/09	No lecture.
25/09	Revision (2–9).
27/09	No Seminars.
01/10	Revision (2–9).
02/10	Instrument Variable Regression (12).
04/10	No Seminars
08/10	Instrument Variable Regression (12).
09/10	Instrument Variable Regression (12).
11/10	No Seminars.
15/10	Experiments and Quasi-Experiments (13). Homework 1 due.
16/10	Experiments and Quasi-Experiments (13).
18/10	Seminar 1.
22/10	Experiments and Quasi-Experiments (13). Homework 2 due.
23/10	Experiments and Quasi-Experiments (13).
25/10	Seminar 2.
29/10	Review (12-13).
30/10	Time Series (14).
01/11	No Seminar.
05/11	Time Series (14). Homework 3 due.
06/11	Time Series (14).
08/11	Seminar 3.
12/11	Dynamic Causal Effects (15). Homework 4 due.
13/11	Dynamic Causal Effects (15).
15/11	Seminar 4.
19/11	Dynamic Causal Effects (15). Homework 5 due.
20/11	Additional Topics in Time Series (16).
22/11	Seminar 5.
26/11	Additional Topics in Time Series (16). Homework 6 due.

Evaluation

The total grade is the sum of:

- Homework: 10 points
- Participation in seminars: 10 points
- December/January Exam: 80 points

Evaluation

To pass in December the student should satisfy two conditions:

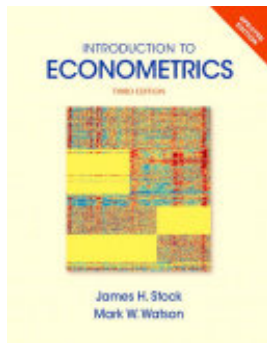
- A Obtain at least 50 points in total.
- B Obtain at least 40 points on the December exam (i.e. 40 out of 80 points).

Recuperation Exam

To Be Announced

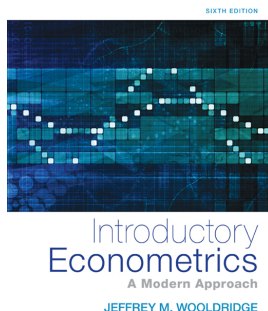
Bibliography

- Introduction to Econometrics, 3rd Edition James H. Stock and Mark W. Watson, Pearson.



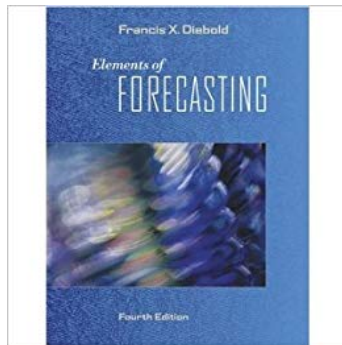
Additional Bibliography

- “Introductory Econometrics: a Modern Approach”, Jeffrey M. Wooldridge. 2016.Cengage.



Additional Bibliography

- “Elements of Forecasting”, Francis X. Diebold. 2007. Cengage.



Feedback

- Please ask questions, in Lectures and Seminars
- Also, when working in groups
- Develop critical thinking
- There is no obvious question
- Be kind, when critical, always
- Send me your feedback, suggestions, critics, etc.
- And, please do not ask for things that you know are not allowed