Environmental Econometrics (GR03 EEC)

Fall 2008

Course Description

- This is an introductory econometrics course for students in MSc in environmental economics. No previous knowledge of econometrics is assumed. It will be helpful if one has a good background in statistics and probability theory. However, I will go over the basic statistical concepts briefly in the lectures, if necessary.
- The tutorial (computer) classes will be used to learn an econometric software, called Stat, with real-life data set. Using this with the data set will help us to further understand the theoretical contents in the lectures.

Contacts

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- TA: Jelmer Ypma
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Locations and Time

- Lectures: Monday, 9~11pm per week at Drayton Ricardo (B03) (Starting from October 6 and ending on December 8).
- Tutorials: Tuesday, 9am ~11 am per week at the computer lab (B17) (Starting from October 7 and ending on December 9).
- The tutorial classes will be delivered by TA, Jelmer Ypma.
- Office hour: Monday, 3~4pm and by appointment.

Course Materials

- Main textbook: J. Wooldridge (2006), Introductory Econometrics: A Modern Approach, 3rd Ed., South-Western.
- Lectures notes and exercises will be available on the webpage.
- In previous years, Jerome Adda taught the same course and his webpage contains useful information on the course.
- In the tutorial classes we will learn how to apply the econometrics tools into several empirical data, using a statistical software called Stata. The data are also available at my webpage.

Course Outline

- Linear Regression Models - Wooldridge Ch. 2~5 and 7

  - Simple Regression to Multiple Regression, Ordinary Least Squares (OLS) Estimation and Goodness of Fit

  - Hypothesis Testing and Large Sample Properties of OLS

- Heteroskedasticity and Autocorrelation - Wooldridge Ch. 8, 10 and 12

  - Consequences of Heteroskedasticity and Autocorrelation

  - Testing for Heteroskedasticity and Autocorrelation

  - Generalized Least Squares (GLS) Estimation

- IV Estimation and Simultaneous Equations Models - Wooldridge Ch. 15 and 16

  - Endogeneity, Instrumental Variables (IV) Estimation and two-stage Least Squares

  - Simultaneity Bias, Identification and Estimation of Simultaneous Equations Models

- Limited Dependent Variable Models - Wooldridge Ch 17

  - Problems of using OLS for Binary Response Models

  - Maximum Likelihood Estimation, Logit and Probit Models

  - Censored Dependent Variables and Tobit Models

- Time Series Analysis - Wooldridge Ch. 12 and 18

  - Stationarity, AR and MA Processes and Unit Roots