

---

**EC475: Quantitative Economics  
LT 2011 (Microeconomics)**

---

Instructor:

Dr. Marcia M.A. Schafgans  
Room: S583

Office hours: TBA

Class teacher: Mr. Antoine Goujard

Lectures: Tuesday, 11:00-13:00

Room CON.H101

Seminars: Wednesday, 14:00-15:00

Room STC.S177

**Aims & Objectives:**

Aims:

- To give students exposure to econometric techniques to modelling the behaviour of individual economic agents (households and firms).
- To give students a wide range of topics in applied microeconometrics with a view to illustrating the interplay between models, data and methods.
- To give students the facility to adapt estimation techniques for a wide range of microeconomic issues to a large variety of parametric / semiparametric assumptions.
- To lead students to advanced journal articles in applied microeconometrics.

Objectives:

By the end of this course students should:

- Be able to have a good grasp of panel data issues and limited dependent variable models
- Be able to develop their own microeconomic analysis appropriate for addressing new problems
- Be able to critically evaluate advanced empirical micro-econometric articles in professional journals

**Grading & Organization:**

A three-hour formal examination is given in the Summer Term.

Lectures: 10 two-hours micro-econometrics

Seminar: 10 hours micro-econometrics. The seminars will be related to the topics discussed in lectures. Homework assignments will involve practical implementations (computer exercises) and discussion of empirical papers. As in the first term students will be asked to present papers or act as discussants for starred papers (\*).

Similar to last term the presentation arrangements are as follows:

- Everybody would send me and Antoine an email by Tuesday night with some comments on the paper that will be discussed in detail during the class (please write EC 475 in the subjectheading). The email should be short, but must briefly address the following points:
  - Why is the paper important (or why not)?
  - A description of the main features that best summarize the model.
  - What are the strengths and/or weaknesses of the paper?
  - What parts of the paper were not clear or need further explanations?
- The student in charge of the class will prepare a 35 minute presentation on the paper selected, leaving margin for comments by others at the end.

---

**EC475: Quantitative Economics  
LT 2011 (Microeconomics)**

**Course Outline (subject to change)**

---

Background Texts:

Wooldridge, J. (2002): *Econometric Analysis of Cross Section and Panel Data*, Boston: MIT Press

Baltagi, B. (1995): *Econometric Analysis of Panel Data Econometrics*, New York: Wiley.

Maddala, G.S. (1983): *Limited Dependent and Qualitative Variables in Econometrics*, Cambridge: Cambridge University Press.

### **Week 1-3: Linear Panel Data models**

#### **Introduction**

Benefits and limitation of panel data, balanced and unbalanced panels; Basic static linear model, unobserved heterogeneity, one-way/two way error component model (ECM)

#### **Static Models**

Fixed effects model; Test for individual and time effects; Random effects model; The between and within estimators; Random effects vs fixed effects; The Hausman specification test; Models with Individual Specific slopes; Test for poolability

#### **Dynamic Models**

Inconsistency of traditional estimators, IV, GMM

#### **Reading:**

Baltagi: Chapters 2-4, 8

Hausman, J. and W. Taylor (1981): "Panel Data and Unobservable Individual Effects," *Econometrica*, 49, 1377-1398

Baltagi, B.H. and J.M. Griffin (1983): "Gasoline demand in the OECD: An application of pooling and testing procedures. *European Economic Review*, 22, 117-137.

Pesaran, M.H. and R. Smith (1995): "Estimating long-run relationships from dynamic heterogeneous panels," *Journal of Econometrics*, 68, 79-113.

Bhargava and Sargan (1983): "Estimating dynamic random effects models from panel data covering short time periods", *Econometrica*, 51, 1635-59.

Arrelano, M. and S. Bond (1991): "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations," *Review of Economics Studies*, 58, 277-297.

#### **Seminars 1-3:**

\* Empirical Problem set

\* Cashel-Cordo, P. and S.G. Craig (1990) "The public sector impact of international resource transfers," *Journal of Development Economics*, 32, 17-42.

- \* Cornwell, C. and P. Rupert (1997) "Unobservable individual effects, marriage, and then the earnings of young men," *Economic Inquiry*, 35, 285–294.

## **Week 4-7: Limited Dependent and Qualitative Variables Models**

### **Discrete Response Models**

Binary Choice (Logit, Probit), Testing and Specification Issues in Binary Response Models, Reporting results, Multinomial Response Models, Ordered Response Models

### **Corner Solution Outcomes and Censored Regression Models**

Inconsistency of OLS, Estimation and Inference in Tobit Models, Reporting results, Specification issues

### **Sample Selection**

Inconsistency of OLS, Estimation and Inference in Selection Models, Probit vs Tobit selection, Specification issues

### **Reading:**

Wooldridge: Chapter 15 (excl. 15.8)

Wooldridge: Chapter 16.1-16.6

Wooldridge: Chapter 17.1-17.6

Berndt, E.R. (1990): "Whether and how much Women work for pay: Applications of Limited Dependent Variable Procedures," Chapter 11 in *The Practice of Econometrics: Classic and Contemporary*

Mroz, T.A. (1987) "The sensitivity of an empirical model of married women's hours of work to economic and statistical assumptions," *Econometrica*, 55, 765-99

Vella, F. (1998) "Estimating Models with Sample Selection Bias: A Survey," *Journal of Human Resources*, 33,127-169.

Schafgans, M. (1998) "Ethnic Wage Differences in Malaysia: Parametric and Semiparametric Estimation of the Chinese-Malay Wage Gap," *Journal of Applied Econometrics*, 13, 481-504.

### **Seminars 4-6:**

\* Empirical Problem set

\* Gerfin, M. (1996) "Parametric and Semi-parametric Estimation of the Binary Response Model of Labour Market Participation," *Journal of Applied Econometrics*, 11, 321-340.

\* Olley, G.S. and A. Pakes (1996) "The dynamics of productivity in the telecommunications equipment industry" *Econometrica*, 64, 1263-97.

## **Week 8: Non-linear Panel data models**

### **Binary Response Models, Censored Regression Models, and Sample Selection Models**

### **Reading:**

Wooldridge: Chapter 15.8.1-15.8.5; Chapter 16.8; Chapter 17.7

**Seminars 7-8:**

- \* Winkelmann, L. and R.Winkelmann (1998): "Why are the unemployed so unhappy? Evidence from panel data," *Economica*, 65, 1–15.
- \* Hausman, J.A. and Wise, D. (1979) "Attrition bias in experimental and panel data: The Gary income maintenance experiment. *Econometrica*, 47, 455-73.

**Week 9-10****Program Evaluation**

**Evaluation problem and parameters of interest; Estimating Average Treatment effects; Experimental vs Non-experimental Data; IV estimation, Difference in Difference Estimator, Sample Selection/Control Estimator, Matching**

**Reading:**

Wooldridge: Chapter 18

Heckman, J.J. (1997) "Instrumental Variables: A Study of the Implicit Behavioural Assumptions Used in Making Program Evaluations," *Journal of Human Resources*, 32, 441-462.

Heckman J.J., H. Ichimura and P.Todd (1998) "Matching as an Econometric Evaluation Estimator: Evidence from Evaluating Training Programme," *Review Economic Studies*, 66, 261-294.

**Seminars 9-10:**

- \* Ashenfelter, O. and D. Card (1985) "Using the Longitudinal Structure of Earnings to Estimate the Effect of Training Programs" *Review of Economics and Statistics*, 67, 648-660.
- \* Heckman, J.J. and V. Hotz (1989) "Choosing Among Alternative Nonexperimental Methods for Estimating the Impact of Social Programs: The Case of Manpower Training" *Journal of the American Statistical Association*, 84, 862-874