

Econometric Theory II

Syllabus

Second Term 2011-2012

Lecturer: Cristian Bartolucci (cristian.bartolucci@carloalberto.org)
Term: Spring Semester
Office Hours: TBA

The Course:

In this course we will discuss topics in microeconometrics and empirical modeling that are likely to be useful in applied research based on cross-section and panel data.

General Readings:

There is no required textbook for this course. Three recommended textbooks are:

- Arellano Manuel, *Panel Data Econometrics*, Oxford University Press, 2003.
- Wooldridge, Jeffrey. *Econometric Analysis of Cross Section and Panel Data*. MIT Press, 2002.
- A. Colin Cameron and Pravin K. Trivedi "Microeconometrics: Methods and Applications" Cambridge University Press, New York, May 2005

Tentative Schedule:

1) Linear Regression Model

- Review of least Squares Estimation Specification, Matrix Notation, Endogenous Regressors. Short Introduction to MATA.
- Instrumental Variables:
- Hypothesis tests and Specification Test: Introduction, Wald test. Likelihood based tests, Bootstrap and Montecarlo.

Specific Readings:

- Wooldridge, Chapters 2-5.
- Angrist J. and A. Krueger, "Empirical Strategies in Labor Economics", Chapter 23 in O. Ashenfelter and D. Card, eds., *The Handbook of Labor Economics*, Volume III, North Holland, 1999.

2) Generalized Method of Moments

- Generalized Method of Moments: General Formulation, Consistency and Asymptotic normality, 2SLS Equivalence.
- Tests of Overidentifying Restrictions.
- Optimal Instruments in Conditional Models.

Specific Readings:

- Arellano, Appendices A and B.
- Wooldridge, Chapter 14.

3) Panel Data Models:

- Static Models:
 - Unobserved Heterogeneity: Within-Group Estimation.
 - Error Components.
 - Specification Tests.
- Dynamic Models:
 - Autoregressive Models with Individual Effects.
 - Models with lagged dependent variables and fixed effects, Models with predetermined variables and fixed effects.

Specific Readings:

- Arellano, Chapters 2-4 (static models) and 5-8 (dynamic models).
- Wooldridge, Chapters 9-11.

4) Maximum Likelihood:

- General formulation intuitions and examples.
 - Censored variables.
 - Duration models.
 - Discrete choice.
 - Heckman selection model.

Specific Readings:

- Wooldridge, Chapters 13 and 15