

**Applied Econometrics
Syllabus
Second Term 2009-2010
(Preliminary)**

Lecturer: Cristian Bartolucci (cristian.bartolucci@carloalberto.org)

Term: Spring Semester

Office Hours: TBA

The Course:

In this course we will discuss topics in econometrics 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. Two 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.

Tentative Schedule:

1) Linear Regression Model

- Review of least Squares Estimation Specification.
- Instrumental Variables:
 - Measurement Error.
 - Endogenous Regressors.

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.
- 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.

- Strict Exogeneity and Predetermined Variables.
- Partial Adjustment Models.

Specific Readings:

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

4) Program Evaluation:

- Selection on Observables and Program Evaluation.
- Matching Methods and Propensity Score Estimation.
- Regression Discontinuity Design.
- Differences in Differences.

Specific Readings:

- Wooldridge, Chapter 18.