

Econ 710
Economic Statistics and Econometrics II
Spring 2007

Course Time: Tuesdays and Thursdays, 11:00 – 12:15. 6240 Social Science
Office Hours: Wednesdays, 1:30 – 3:30, or by appointment. 6454 Social Science
Webpage: <http://www.ssc.wisc.edu/~bhansen/710/710.htm>

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TA: Ping Yu pingyu@wisc.edu

This course is designed for first-year Economics Ph.D. students. The basic methods of modern econometric methods and theory are covered. The intention is that the material will provide a foundation for applied research in economics

The course prerequisites are Econ 703 and 709, or equivalents.
Familiarity with probability, statistics, and matrix algebra is assumed.

Class assignments will be passed out approximately every week. These assignments will include both problem solving and computer tasks. The computer exercises will involve programming in the Gauss programming language. The assignments will be graded by the teaching assistant, and will be reviewed in the discussion sections. Questions regarding computers and software should be directed to the TA

There will be two exams, a mid-term and a final. The grading for the course will be as follows: Assignments: 20%. Midterm: 30%. Final: 50%.

The Mid-Term exam will be during class on Tuesday, March 13.
The Final exam not yet scheduled, and will be during the week of May 14-18.
The exams are open-book and open-note.

The recommended textbook is *Econometrics* by Fumio Hayashi. Alternative texts are *Econometric Analysis* by William H. Greene and *Econometric Analysis of Cross Section and Panel Data* by Jeffrey Wooldridge. Hayashi's treatment is better and closer to the course. Greene's book is more encyclopedic and is preferred by some students. Wooldridge's book assumes some prior familiarity with regression.

Lecture notes for the course are posted on the webpage. This is a manuscript in progress, and is periodically rewritten. The written notes cover some topics which will not be discussed in class.

On the next page, I have listed some major textbooks and resources in econometrics. They may be useful as references for further study or for applied projects.

Alternative textbooks:

Arthur S. Goldberger, *A Course in Econometrics* (1991)
Paul A. Ruud, *An Introduction to Classical Econometric Theory* (2000)
James Davidson, *Econometric Theory* (2000)
Russell Davidson and James G. MacKinnon, *Estimation and Inference in Econometrics* (1993)
Jeffrey M. Wooldridge *Econometric Analysis of Cross Section and Panel Data* (2002)
William H. Greene, *Econometric Analysis, 5th Edition*, (2003)

Advanced Econometrics:

Handbook of Econometrics, Volumes I-V.
Takeshi Amemiya, *Advanced Econometrics* (1985).
James Davidson, *Stochastic Limit Theory* (1994).

The Bootstrap:

Peter Hall, *The Bootstrap and Edgeworth Expansion* (1992).
Bradley Efron and Robert J. Tibshirani, *An Introduction to the Bootstrap* (1993).
A.C. Davison and D.V. Hinkley, *Bootstrap Methods and their Application* (1997).

Panel Data

Badi Baltagi, *Econometric Analysis of Panel Data*
Laszlo Matyas and Patrick Sevestre, eds., *The Econometrics of Panel Data* (1996).
Jeffrey Wooldridge, *Econometric Analysis of Cross Section and Panel Data* (2002)
Cheng Hsiao, *Analysis of Panel Data*, 2nd edition (2003).
Manuel Arellano *Panel Data Econometrics* (2003)

Time Series

Clive W.J. Granger and Timo Terasvirta, *Modelling Nonlinear Economic Relationships* (1993).
James D. Hamilton, *Time Series Analysis* (1994).
Soren Johansen, *Likelihood-Based Inference in Cointegrated Vector Autoregressive Models* (1995).
Philip Hans Franses and Dick van Dijk, *Non-Linear Time Series Models in Empirical Finance* (2000).

NonParametrics

Wolfgang Hardle, *Applied Nonparametric Regression* (1990).
Jianiang Fan and Irene Gijbels *Local Polynomial Modelling and Its Applications* (1996)
Adrian Pagan and Aman Ullah, *Nonparametric Econometrics* (1999).
Jianqing Fan and Qiwei Yao *Nonlinear Time Series* (2003)
Adonis Yatchew *Semiparametric Regression for the Applied Econometrician* (2003)

Limited Dependent Variables

G.S. Maddala, *Limited-Dependent and Qualitative Variables in Econometrics* (1983).
Christian Gourieroux, *Econometrics of Qualitative Dependent Variables* (1991).
A. Colin Cameron and Pravin K. Trivedi, *Regression Analysis of Count Data* (1998).