Econ 220C

Instructor: Yixiao Sun
TA: Wonhyong Choi
Department of Economics, UCSD
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Course Description

The primary goal of Econ 220C is to introduce tools necessary to understand and implement empirical studies in economics focusing on issues other than time-series analysis. This course contains two parts. The first part deals with panel data models: (1) static panel data models (2) dynamic panel data models and (3) other misc. panel topics. Multiple Equation GMM and Minimum Distance Estimator will be introduced and used to estimate some panel data models. The second part of the course deals with limited-dependent-variable models: (1) discrete choice models; (2) censored and truncated regression models, (3) sample selection models; and (4) evaluation of treatment effects. While the second part focuses mainly on cross sectional data, it also covers panel Probit/Logit, panel Tobit and panel attrition models. From an econometric theory perspective, the unifying framework for the second part is the asymptotic theory of extremum estimators, which includes GMM as a special case.

We will study different issues in the specification, estimation and testing of these models with cross-sectional data and with panel data. The emphasis of the course is on both econometric ideas and econometric techniques. For some of the problem sets you will have to deal with actual data or perform simulation experiments. You should become familiar as soon as possible with some general features of the econometric package that you choose. MATLAB is widely used by econometricians. STATA has gained increasing popularity in recent years among applied micro economists. R has been widely used in statistics but not as much in economics. SAS is another option.

Web Page

The course materials will be posted on http://tritoned.ucsd.edu, formerly known as ted.ucsd.edu. You can make anonymous comments via the course web page.

Text Book

Required Text

Wooldridge, Jeffrey (2010): Econometric Analysis of Cross Section and Panel Data, MIT press, 2nd Edition.
This is the main text for the course.

Recommended Texts

Cameron, A. C. and Trivedi, P.K. (2005): Microeconometrics: Methods and Applications. This book touches a few topics that Wooldridge's book does not. One example is GEE (Generalized Estimating Equations), which is as important in statistics as GMM in econometrics.

Cameron, A. C. and Trivedi, P.K. (2010): Microeconometrics Using Stata. This is a good source to learn Stata commands for microeconometrics.

Mostly harmless econometrics. While I do not agree with many points in the book, it is a good book in an overall sense, especially for those who plan to work on applied microeconomics. If you plan to work on econometrics, you should also read the book. It is important for a theoretical econometrician to be able to communicate with applied economists.

Mastering 'Metrics: The Path from Cause to Effects is a less demanding version of Mostly harmless econometrics.

Grading Policy

Grades for Econ 220C will be determined as follows:

- 20%: Four problem sets, each carrying a weight of 5%.
- 80%: Final Exam. No book or note is allowed.

Office Hours: Yixiao Sun: Wednesday 1:00pm-2:00pm & by Appointment in Econ 219
Wonhyong Choi: TBA

TA Section: TBA

General References: Panel Data

Arellano, M. (2003) Panel Data Econometrics. Oxford University Press

Arellano, M. and B. Honore (2001). "Panel data models: some recent developments", in J. J. Heckman and E. E. Leamer (eds), Handbook of Econometrics, Vol. 5, North Holland

Baltagi, B. H. (2013). Econometric Analysis of Panel Data, Third Edition, John Wiley & Sons, 5th Edition

Chamberlain, G. (1984). Handbook of Econometrics: Chapter 22, Panel Data

Heckman, J. and B. Singer, Handbook of Econometrics: Ch. 29 -Econometric

Analysis of Longitudinal Data

Hsiao, C. (2014). Analysis of Panel Data, Cambridge University Press, Third Edition

General References: Microeconometrics

Amemiya. T. (1985). Advanced Econometrics, Cambridge, Harvard University Press. Classic reference on extremum estimation

Cameron, A. C. and Trivedi, P.K. (2005): Microeconometrics: Methods and Applications.

Cameron, A. C. and Trivedi, P.K. (2010): Microeconometrics Using Stata

Deaton, A. (1997). The Analysis of Household Survey, The John Hopkins University Press

Greene, W. H. (2003), Econometric Analysis, Ch 22.

Hayashi (2000), Econometrics, Princeton University Press. Both Greene and Hayashi are good reference books but they are weak on the "economics side" of Econometrics.

Kenneth Train, (2009), Discrete Choice Methods with Simulation, Second Edition, Cambridge University Press.
A zip archive is available for download (2 MB), containing all the chapters.

Maddala, G.S. (1987), Limited Dependent and Qualitative Variables in Econometrics, Classic reference on Limited Dependent and Qualitative Variables.

Wooldridge, Jeffrey (2010): Econometric Analysis of Cross Section and Panel Data, MIT press.