

Department of Economics, UC Berkeley  
Economics 250c: Structural Methods for Labor Economics  
Fall 2008

Course Outline and Reading List

The goal of the course is to provide a selective overview of more “structural” methods in labor economics and empirical micro, including single period models and dynamic choice problems. Students are assumed to be familiar with basic econometrics and consumer demand theory, and with “reduced form” methods such as regression, instrumental variables, etc.

Three recommended text books are:

J. Angrist and S. Pischke, *Mostly Harmless Econometrics*. Princeton Press, forthcoming 2008. I have managed to get an advanced copy of this text -- paper copies will be available to class members. This is highly recommended for people who want to catch up on classic reduced form methods.

K. Train, *Discrete Choice Methods with Simulation*. Cambridge U. Press, 2003.

J. Adda and R. Cooper, *Dynamic Programming: Theory and Applications*. MIT Press, 2003.

These three are all relatively easy reading. I also recommend the “What’s New in Econometrics?” (WNiE) lectures by G. Imbens and J. Wooldridge (especially lectures 6, 11, 9, and 7, in that order) which are available at the NBER website.

Preliminary Outline (Incomplete and subject to additions/changes).

## **1. Introductory Lecture: Structural vs. Alternative Approaches**

*Background reading:*

Daniel McFadden. “Economics Choices.” *AER*, June 2001.

Edward E. Leamer. “Let’s Take the Con Out of Econometrics.” *AER* March 1983.

## **2. Simple Static Choice Models**

Michael Ransom. “An Empirical Model of Discrete and Continuous Choice in Family Labor Supply.” *Review of Economics and Statistics* 69 (3) (1987): 465-472.

(See also: Michael Ransom. “A Comment on Consumer Demand Systems with Binding Non-Negativity Constraints.” *J. of Econometrics* 34 (1987): 355-359.)

*Background reading:*

WNiE lecture 7.

Nicolas Stern. "On the Specification of Labor Supply Functions." In Richard Blundell and Ian Walker, editors, *Unemployment, Search, and Labor Supply*. Cambridge U. Press, 1987.

Mas-Colell, Andreu, Michael Whinston and Jerry Green. *Microeconomic Theory*. Oxford U. Press, 1995, pp. 75-91.

Deaton, Angus and John Muellbauer. *Economics and Consumer Behavior*. Cambridge U. Press, 1980.

G. S. Maddala. *Limited Dependent and Qualitative Variables in Econometrics*. Cambridge U. Press, 1983.

### **3. Family Decision-Making**

Richard Blundell, P.-A. Chiappori, and Costas Meghir. "Collective Labor Supply with Children." *JPE* 113 (Dec 2005): 1277-1306

Duncan Thomas. "Intrahousehold Resource Allocation: An Inferential Approach." *JHR* 25 (1990).

#### *Background Reading:*

Browning, Martin, Francois Bourguignon, Pierre-Andre Chiappori, and Valerie Lechene. "Income and Outcomes: A Structural Model of Intrahousehold Allocation." *JPE* 102 (Dec 1994): 1067-96.

Ardington, Cally, Anne Case and Victoria Hosegood. "Labor supply responses to large social transfers: Longitudinal evidence from South Africa." Forthcoming in *American Economic Journal: Applied Economics* (available at the AEJ website).

Raj Chetty. "Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods." Forthcoming in *Annual Review of Economics*.

### **4. Discrete Choice (Know Your Logits)**

#### a. Introduction

Ken Train, *Discrete Choice Methods with Simulation*. Chapters 2, 3, 6. Excellent review of basics.

WNiE, lecture 11.

J. Hastings, T. Kane and D. Staiger "Parental Preferences and School Competition: Evidence from a Public School Choice Program" NBER WP 11805, November 2005

*Background Reading:*

Daniel McFadden and Kenneth Train. "Mixed MNL Models for Discrete Response." *Journal of Applied Econometrics* 15 (2000): 447-470

Lesley Chiou and Joan Walker. "Masking Identification of Discrete Choice Models Under Simulation Methods." *J. Econometrics* 141 (2007): 683-703.

b. Market Models Using MNL

S. T. Berry. "Estimating Discrete-Choice Models of Product Differentiation." *Rand Journal of Economics* 25 (Summer 1994): 242-262.

S. Berry, J. Levinsohn, A. Pakes. "Automobile Prices in Market Equilibrium" *ECA* 63 (July 1995): 841-890.

A. Nevo. "A Practitioner's Guide to Estimation of Random Coefficients Logit Models of Demand". *J. of Economics and Management Strategy* 9 (Winter 2000): 513-548

c. Application to Housing Markets

Patrick Bayer, Fernando Ferreira, and Robert MacMillan. "A Unified Framework for Measuring Preferences for Schools and Neighborhoods." *JPE* (August 2007).

*Background Reading*

Patrick Bayer and Christopher Timmings. "Estimating Equilibrium Models of Sorting Across Locations" *Economic Journal* (March 2007).

Sandra Black. "Do Better Schools Matter? Parental Valuation Of Elementary Education." *QJE* 114(2) (May 1999): 577-599.

d. Extension: Nested Logits

K. Train, Chapter 4.

N. Scott Cardell. "Variance Components Structures for the EV and Logistic Distributions, with Applications to Models of Heterogeneity." *Econometric Theory* 13 (April 1997): 185-213.

T. Breshnahan, S. Stern and M. Trajtenberg. "Market Segmentation and the Sources of Rents from Innovation: Personal Computers in the late 1980s." *Rand Journal of Economics* 28 (1997): S17-S44.

## **5. Dynamic Discrete Choice Based on Logits**

### a. Basic Theory and Extensions

*note: I will present this material in a series of 3-4 lectures. The order of presentation will vary from the order the papers are listed here.*

John Rust. "Optimal Replacement of GMC Bus Engines: An Empirical Model of Harold Zucker." *Econometrica* 55 (1987): 999-1033.

Joseph Hotz and Robert Miller. "Conditional Choice Probabilities and the Estimation of Dynamic Models." *ReStud* 60 (1993): 497-531.

#### *Background Reading*

Victor Aguirregabiria and Pedro Mira. "Dynamic Discrete Choice Structural Models: A Survey". Working Paper, August 2007 (available at ssrn).

John Rust "Estimation of Dynamic Structural Models, Problems and Prospects: Discrete Decision Processes". In C. Sims, editor. *Advances in Econometrics Sixth World Congress*, Volume II. Cambridge University Press, 1994

Peter Arcidiacono and Robert Miller. "CCP Estimation of Dynamic Discrete Choice Models with Unobserved Heterogeneity". Unpublished Working Paper, December 2007.

John Rust and Christopher Phelan "How Social Security and Medicare Affect Retirement Behavior in a World of Incomplete Markets" *Econometrica* 65 (4) (July 1997).

### b. Two Applications

Avi Ebenstein. "Estimating a Dynamic Model of Sex Selection in China." Available at Avi's website.

Kevin Stange. "An Empirical Examination of the Option Value of College Enrollment."

## **6. Dynamic Choice without Logits**

### a. Basic Theory

Adda and Cooper, Chapters 2, 3, 6.

D. Acemoglu, Growth Theory (text in progress) chapter 16

Angus Deaton. "Savings and Liquidity Constraints." *Econometrica* 59 (Sept. 1991).

Christopher Carroll "Lecture Notes on Solution Methods for Microeconomic Dynamic Stochastic Optimization Problems" (available at his website)

b. Applications to Labor Economics

Michael Keane and Kenneth Wolpin "The Career Decisions of Young Men". *JPE* 105 (3) (1997).

Jerome Adda, C. Dustmann, C. Meghir, and J-M. Robin. "Career Progression and Formal versus On-the-Job Training." IZA Discussion Paper 2260 (August 2006).

*Background Reading*

Michael Keane and Kenneth Wolpin "The Solution and Estimation of Discrete Choice Dynamic Programming Models by Simulation and Interpolation: Monte Carlo Evidence" *ReStat* 76 (November 1994).

Zvi Eckstein and Kenneth Wolpin "The Specification and Estimation of Dynamic Stochastic Discrete Choice Models" *JHR* 24 (4) (Fall 1989).

Zvi Eckstein and Kenneth Wolpin "Dynamic Labor Force Participation of Married Women and Endogenous Work Experience" *ReStud* 56 (July 1989).