

ECO 519. Spring 2008 (First Half)

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Office Hours: Thursdays 2-3:30PM, 312 Fisher Hall

The first half of the course will be devoted to three main topics, all of which have considerable intersection: *Asymptotic Theory*, *Semiparametric Estimation* and *Partial Identification*. There will be two homeworks, which will not be graded and are never due. Answers to selected problems will be provided. These homeworks will not count towards the grade, but I strongly recommend that you work on them, as they will serve as an excellent preparation for the take-home midterm exam which will constitute 100% of your grade for the first half of the course. Handouts and other material for the course will be posted in Blackboard and on my personal website. The following is a list of readings relevant to the course:

Readings: For the purposes of this course: (‡) denotes material relevant to semiparametric methods, (§) denotes material relevant to asymptotic theory and (◇) denotes material relevant to partial identification. This “classification” is incomplete, as most of the papers involve two or more of these topics and every econometric model we will study here has a semiparametric component. (♣) denotes a monograph or book.

Ahn, H. and C.F. Manski (1993) “Distribution Theory for the Analysis of Binary Choice under Uncertainty with Nonparametric Estimation of Expectations”, *Journal of Econometrics*, 56, 291-321. (‡)

Ahn, H. and J.L. Powell (1993) “Semiparametric Estimation of Censored Selection Models with a Nonparametric Selection Mechanism”, *Journal of Econometrics*, 58, 3-29. (‡)

Andrews, D.W.K (1994) “Empirical Process Methods in Econometrics”, in *Handbook of Econometrics*, Vol. 4. Elsevier. (§)

Andrews, D.W.K (1994) “Asymptotics for Semiparametric Econometric Models Via Stochastic Equicontinuity”, *Econometrica*, 62, 43-72. (§)

Andrews, D.W.K (1995) “Nonparametric Kernel Estimation for Semiparametric Models”, *Econometric Theory*, 11, 560-596. (§) (‡)

Beresteanu, A., and F. Molinari (2008) “Asymptotic Properties for a Class of Partially Identified Models”, *Econometrica*, forthcoming.(◇) (§)

Billingsley, P (1999) *Convergence of Probability Measures*, Wiley Series in Probability and Statistics. (§) (♣)

Chamberlain, G. (1986) “Asymptotic Efficiency in Semiparametric Models with Censoring”, *Journal of Econometrics*, 32, 189-218. (§) (‡)

Chernozhukov, V., H. Hong, and E. Tamer (2007) “Estimation and Confidence Regions for Parameter Sets in Econometric Models,” *Econometrica*, 75, 1243-1284. (◇) (§)

Han, A.K (1987) “Nonparametric Analysis of a Generalized Regression Model”, *Journal of Econometrics*, 35, 303-316. (‡)

Honoré, B., and E. Tamer (2006) “Bounds on Parameters in Dynamic Discrete Choice Models,” *Econometrica*, 74, 611-629. (◇)

Horowitz, J.L. (1992) “A Smoothed Maximum Score Estimator for the Binary Response Model”, *Econometrica*, 60, 505-531. (§) (‡)

Huber, P.J. (1967) “The Behavior of Maximum Likelihood Estimates under Nonstandard Conditions”, in *Proceedings of the Fifth Berkeley Symposium in Mathematical Statistics and Probability*, 1, 221-233. (§)

Ichimura, H. (1993) “Semiparametric Least Squares and Weighted SLS Estimation of Single-Index Models”, *Journal of Econometrics*, 58, 71-120. (‡)

Imbens, G., and C. Manski (2004) “Confidence Intervals for Partially Identified Parameters”, *Econometrica*, 74, 1845-1857. (◇)

Kim, J., and D. Pollard (1990) “Cube Root Asymptotics”, *Annals of Statistics*, 18, 191-219. (§)

Manski, C.F (1975) “The Maximum Score Estimation of the Stochastic Utility Model of Choice”, *Journal of Econometrics*, 3, 205-228. (§) (‡)

Manski, C.F (1990) “Nonparametric Bounds on Treatment Effects” *American Economic Review Papers and Proceedings*, 80, 319-323. (◇)

Manski, C.F (1995) *Identification Problems in the Social Sciences*, Cambridge, Harvard University Press. (◇) (♣)

Manski, C.F (2003) *Partial Identification of Probability Distributions*, New York: Springer-Verlag. (◇) (♣)

Manski, C., and J. Pepper (2000) “Monotone Instrumental Variables: With an Application to the Returns to Schooling”, *Econometrica*, 68, 997-1010. (◇)

Pagan, A. and A. Ullah (1999) *Nonparametric Econometrics*, Cambridge University Press. (§) (‡) (♣)

Pakes, A., and D. Pollard (1989) “Simulation and the Asymptotics of Optimization Estimators”, *Econometrica*, 57, 1027-1057. (§)

Pakes, A., J. Porter, K. Ho, and J. Ishii (2006) “Moment Inequalities and Their Application”, Unpublished Manuscript. (◇) (§)

Pollard, David (1984) *Convergence of Stochastic Processes*. (§) (♣)

Pollard, David (1990) *Empirical Processes: Theory and Application*. (§) (♣)

Powell, J.L. (1984) “Least Absolute Deviations Estimation for the Censored Regression Model”, *Journal of Econometrics*, 32, 143-155. (§) (‡)

Powell, J.L. (1994) “Estimation of Semiparametric Models”, in R. Engle and D. McFadden, eds. *Handbook of Econometrics*, Vol. 4, 2443-2521. (‡)

Romano, J., and A. Shaikh (2006a) “Inference for Partially Identified Parameters”, Unpublished Manuscript, Stanford University. (◇) (§)

Romano, J., and A. Shaikh (2006b) “Inference for Partially Identified Sets”, Unpublished Manuscript, Stanford University. (◇) (§)

Rosen, A. (2005) “Confidence Sets for Partially Identified Parameters that Satisfy a Finite Number of Moment Inequalities”, Unpublished Manuscript, University College London. (◇) (§)

Serfling (1980) *Approximation Theorems of Mathematical Statistics* Wiley Series in Probability and Statistics. (§) (♣)

Sherman, R. (1993), “The Limiting Distribution of the Maximum Rank Correlation Estimator”, *Econometrica*, 61, 123-137. (§) (‡)

Sherman, R. (1994), “U-Processes in the Analysis of a Generalized Semiparametric Regression Estimator”, *Econometric Theory*, 10, 372-395. (§)

Newey, W. (1990), “Semiparametric Efficiency Bounds”, *Journal of Applied Econometrics*, 5, 99-135. (§) (‡)

Newey, W., and D.L. McFadden (1994) “Large Sample Estimation and Hypothesis Testing”, in *Handbook of Econometrics*, Vol. 4. Elsevier. (§)

Severini, T.A., and G. Tripathi (2001) “A Simplified Approach to Computing Efficiency Bounds in Semiparametric Models”, *Journal of Econometrics*, 102, 23-66. (§) (‡)

Silverman (1986) *Density Estimation for Statistics and Data Analysis*, Chapman and Hall. (§) (‡) (♣)

van der Vaart, A. (1998) *Asymptotic Statistics*, Cambridge Series in Statistical and Probabilistic Mathematics. (§) (♣)

van der Vaart, A. and J.A. Wellner (1996) *Weak Convergence and Empirical Processes: With Applications to Statistics*, Springer Series in Statistics. (§) (♣)

Some Links: (Some of them require access from an educational institution computer)

David Pollard’s monographs.

Handbooks of Econometrics.

Journal of Econometrics.

JSTOR.