

University of Maryland
Department of Economics
Spring 2010
Professor John Ham

**Economics 773 Econometric Approaches for Research in Applied Microeconomics
Tentative Reading List**

Office hours: Tues 3:30-5:00 pm
and by appointment,
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The evaluation of economic policy and programs plays a central role in modern Labor Economics, Health Economics, Public Economics and Development Economics. This course is intended to provide students with the econometric tools necessary to carry out this work. We will cover: (i) Duraton Models; (iii) Propensity Score Methods and (iii) Regression discontinuity models. If time allows we will also consider: (iv) Weak instruments; (v) Difference-in-difference models; (vi) Heterogeneous Treatment Effects and (vii) Econometrics and Experimental Economics.

While most of the applications will be drawn from labor\public economics, the material is also relevant for those studying other applied micro fields. Students must complete four problem sets over the term worth a total of 25% of the final grade. They must also complete a) a midterm (worth 35% of the final grade) and a final (worth 40% of the final grade) or b) a midterm (worth 35% of the final grade) and a research proposal (worth 40% of the final grade) on a mutually agreed topic between the student and the instructor. I will probably add readings as the class progresses. I will post the readings on elms.umd.edu.

CoRequisite/Prerequisites: Economics 722 and at least one graduate course in Labor Economics, Health Economics, Public Economics, Development Economics or Industrial Organization.

Course Text: Lecture Notes for Applied Microeconometrics Workshop, IRP Wisconsin August 2009, by Guido

W. Imbens, Harvard University and Jeffrey M. Wooldridge, Michigan State University (**IW below**). Available at

<http://www.irp.wisc.edu/newsevents/workshops/appliedmicroeconometrics/schedule1.htm>

(I will post revised notes at a later point.)

I. Duration models

A. Theory and Evidence

Abbring, Jaap and Gerard van den Berg. “Non-parametric Identification of Treatment Effects in Duration Models,” *Econometrica*, September 2003.

Eberwein, C., J. Ham, and R. LaLonde (1997), “The Impact of Being Offered and Receiving Classroom Training on the Employment Histories of Disadvantaged Women: Evidence From Experimental Data,” *The Review of Economic Studies*, Vol. 64 (4), pp. 655-682.

Eberwein, C., J. Ham, and R. LaLonde (2002). “Alternative Methods of Estimating Program Effects in Event History Models,” *Labour Economics*, 9(2), 249-278.

Ham, J. and R. LaLonde (1996). “The Effect of Sample Selection and Initial Conditions in Duration Models: Evidence from Experimental Data on Training,” *Econometrica*, Vol. 64 (1), 1996, pp. 175-205.

Ham, J. , X. Li, and L. Shore-Sheppard (2009). “Correcting for Seam Bias when Estimating Multiple-State, Multiple-Spell Duration Models, with an Application to Analyzing the Employment Dynamics of Disadvantaged Women in the SIPP,” Mimeo, Fall, UMD.

Ham, J. and S. Rea (1987). “Unemployment Insurance and Male Unemployment Duration in Canada,” *Journal of Labor Economics*, Vol. 5 (3), 1987, pp. 325-353.

Heckman, J. J., and B. Singer (1984). “Econometric Duration Analysis,” *Journal of Econometrics*, 24(1-2).

Lancaster, T. (1990) *The Econometric Analysis of Transition Data*, New York: Cambridge University Press.

McCall, B., (1996. “Unemployment insurance rules, joblessness and part-time work,” *Econometrica* 64, pp. 647–682.

Ridder, G., (1986). “An event history approach to the evaluation of training, recruitment, and employment programs,” *Journal of Applied Econometrics* 1, pp. 109–126.

Van den Berg, Gerard. (1990). “Duration Models: Specification, Identification and Multiple Durations,” In the *Handbook of Econometrics, Volume 5*, J. Heckman and E. Leamer (eds), New York: North Holland.

B. Computational Issues

Baker, M and A. Melino (2001). Duration Dependence and Nonparametric Heterogeneity: A Monte-Carlo Study,” *Journal of Econometrics*, 96 357-393.

Gaure, S., Røed, K. and Zhang, T. (2007) Time and Causality: A Monte Carlo Assessment of the Timing-of-Events Approach. *Journal of Econometrics*, Vol. 141 (2007) 1159–1195.

X. Li and B. Smith (2009). “Diagnostic Analysis and Computational Strategies for Estimating Single Spell Duration Models,” Mimeo, June, York University (Toronto).

II. Regression discontinuity

IW Lecture 12.

Hahn, J., P. Todd, and W. van der Klaauw. (2001). "Identification and estimation of treatment effects using a regression discontinuity design," *Econometrica*.

Imbens, G., & Lemieux, T. (2008). "Regression discontinuity designs: A guide to practice," *Journal of Econometrics*, 142(2), 615-35.

Jacob, B.A., & Lefgren, L. (2004). "Remedial education and student achievement: A regression discontinuity analysis." *Review of Economics and Statistics*, 86(1), 226-244.

Lee, D.S., & Card, D. (2008). "Regression discontinuity inference with specification error," *Journal of Econometrics*, 142(2), 655-74.

Papay, J.P., Murnane, R.J., & Willett, J.B. (2008). "The consequences of high school exit examinations for struggling low-income urban students: Evidence from Massachusetts," *NBER Working Paper #14186*.

Van der Klaauw, W. (2002). "Estimating the effect of financial aid offers on college enrollments," *International Economic Review*.

Van der Klaauw, W. (2008). "Regression-discontinuity analysis: A survey of recent developments in economics." *Labour*, 22(2), 219-245.

III. Propensity Score Matching

A. Estimating Treatment Effects

Abadie, A. (2005), "Semiparametric Difference-in-Differences Estimators," *Review of Economic Studies* 72, 1-19.

Busso, M., J. DiNardo, and J. McCrary (2009). "New Evidence on the Finite Sample Properties of Propensity Score Matching and Reweighting Estimators," IZA Working Paper 3998.

Dehejia, R, and S. Wahba (1999). "Causal effects in non-experimental studies," *Journal of the American Statistical Association*.

Ham, J., Li, X. and Reagan, P. 2009. "Matching and Non-parametric IV Estimates of the Return to Migration for Young Men," Mimeo, April, University of Maryland.

Frölich, M. (2004) "Finite Sample Properties of Propensity-Score Matching and Weighting Estimators," *Review of Economics and Statistics*, 86, 77-90.

Heckman, J., Ichimura, H. and Todd, P. (1997). "Matching as an Econometric Evaluation Estimator: Evidence from Evaluating a Job Training Program," *Review of Economic Studies*, 64, 605-654.

Heckman, J., Ichimura, H. and Todd, P. (1998). "Matching as an Econometric Evaluation Estimator," *Review of Economic Studies*, 65, 261-294.

Hirano, K., Imbens, G. and G. Ridder (2003). "Efficient estimation using the estimated propensity score," *Econometrica*, 2003.

B. Estimating Standard Errors

Abadie, A. and Imbens, G. (2008) "On the Failure of the Bootstrap for Matching Estimators," *Econometrica*, **76**, 1537-1557

Andrews, D. W. K. and Buchinsky, M. (2001), "Evaluation of a Three-Step Method for Choosing the Number of Bootstrap Repetitions," *Journal of Econometrics*, **103**, 345-386.

Bickel, P., Götze, F. and van Zwet, W. (1997). "Resampling fewer than n observations: gains, losses and remedies for losses," *Statistica Sinica*, **7**, 1-31.

Bickel, P. J. and Sakov, A. (2008). "On the Choice of m in the m Out of n Bootstrap and Confidence Bounds for Extrema," *Statistica Sinica*, **18**, 967-985.

4. Difference-in-Differences

IW 11

Athey, S. and G.W. Imbens (2006), "Identification and Inference in Nonlinear Difference-In-Differences Models," *Econometrica* 74, 431-497.

Ham, J., İmrohoroğlu, A. and Swenson, C (2009). "Government Programs Can Improve Local Labor Markets: Evidence from State Enterprise Zones, Federal Empowerment Zones and Federal Enterprise Communities," Mimeo, February 2009, UMD.

Meyer, B. "Quasi and natural experiments in economics," *Journal of Business and Economic Statistics*, 1995.

5. Weak Instruments

IW Lecture 15

Hansen, C., J. Hausman, and W. Newey (2008). "Estimation with Many Instrumental Variables," *Journal of Business and Economic Statistics* 26(4): 398-422.

Staiger, D., and J. Stock (1997). "Instrumental Variables Regression with Weak Instruments," *Econometrica* 65: 557-586.

Stock, J. and M. Yogo (2005). "Testing for Weak Instruments," Chapter 5, in *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg Andrews*, D.W.K. and J.H. Stock eds. Cambridge University Press.

6. Heterogeneous Treatment Effects

IW 5

Aakvik, A., Heckman, J. J., and Vytlacil, E. J. (2005). "Estimating Treatment Effects for Discrete Outcomes When Responses to Treatment Vary: An Application to Norwegian Vocational Rehabilitation Programs," *Journal of Econometrics* 125, 15-51.

Angrist, J. D., and G. W. Imbens, (1995). "Two-Stage Least Squares Estimation of Average Causal Effects in Models with Variable Treatment Intensity," *Journal of the American Statistical Association*, Vol 90, No. 430, 431-442.

Ham, J., I. Serkan Ozbeklik, Lara Shore-Sheppard (2009). "Estimating Heterogeneous Treatment et Effects of Medicaid Expansions on Take-up and Crowd-out," Mimeo UMD.

Imbens, G., and J. Angrist (1994). "Identification and Estimation of Local Average Treatment Effects," *Econometrica*, Vol. 61, No. 2, 467-476.

7. Econometrics and Experimental Economics

M. Brown, M., C. Flinn and A. Schotter (2009). "Continuous Time Search: An Experimental Study," Forthcoming, *American Economic Review*.

M. Casari, J. Ham and J. Kagel (2007). "Selection Bias, Demographic Effects and Ability Effects in Common Value Auction Experiments," *American Economic Review*, Vol 97, pp. 1278-1304 2007.

Ham, J, J. Kagel and S. Lehrer (2005). "Randomization, Endogeneity and Laboratory Experiments: the Role of Cash Balances in Private Value Auctions," *Journal of Econometrics*, Vol. 125 (1-2), pp. 175-205.