ECON 47950
Methods for identifying causal relationships in economics

Department of Economics and Econometrics
University of Notre Dame

Spring 2010
11pm – 12:15TuTh
Location: 424 Flanner
Email:wevans1@nd.edu

Bill Evans
Office: 437 Flanner
Phone: x7039

Class web page: http://www.nd.edu/~wevans1/econ47950.html

Readings: There is no textbook for the class but there are mandatory readings of academic that are downloadable from the class webpage. The readings are available for download in PDF format. To comply with copy write laws, the web page is password protected and your NetId/password will provide you access to the articles.

Office Hours: Mondays, 1:30pm – 3:15pm; Tuesdays, 9:00am – 11:00pm; and by appointment.

I am never far from email. If you have a question, please feel free to contact me at wevans1@nd.edu.

Course Objective:

The power of economics as a predictive discipline comes through the ability to use theory to model behavior and verify model implications with data. Through the class readings, I hope to demonstrate that people respond in predictable ways to changing costs and benefits. More importantly, I hope to generate in students an appreciation for the tools that economists use to test particular theories. What makes economics and other social sciences so interesting is that demonstrating behavioral relationships is very difficult. Medical and physical sciences use tightly-controlled experiments for this purpose but for many economic questions, controlled experiments are not available. For example, social scientists are interested in the long term consequences of teenage pregnancy but one cannot randomly assign children to teenage girls to examine the consequences!!! As a result, economists must use field data and clever methods to identify causal mechanisms. Part of the success of popular books like *Freakonomics* and blogs like www.marginalrevolution.com and http://gregmankiw.blogspot.com/ is that these outlets demonstrate intuitive and appealing economic research methodologies. In this class, we will analyze some of these empirical strategies through the class readings and discussion.

Prerequisites: An undergraduate course in econometrics an permission of the instructor.

Expectations: Students are expected to attend class, to read the reading prior to class, to NOT be late to class, to participate in classroom discussions, to hand in assignments when due, and to NOT engage in academic dishonesty.

Evaluations: Grades for the course will be based on attendance (10 percent), participation (10 percent), two classroom presentations (each 10 percent of the course grade) and a final paper, worth 60 percent of the course grade.

Attendance: It is often said that 90 percent of life is just showing up, which is close to the truth, but in this class, just showing up only gets 10 percent. This is a seminar class so attendance is mandatory. Everyone starts with an A for attendance and the grade falls by a 1/3 of a letter grade for every missed class after the first. So with 2 missed classes, the grade falls to an A-, 3 missed classes, your attendance grade would be a B+, etc.

Class Participation: This class is going to be a drag if people do not add their two cents every now and then. Since economists believe incentives matter, quality participation will be rewarded. The grade will obviously be subjective but the grade will not be capricious or arbitrary. The grade will be based on the quality of the content.

Papers: The key assignment for the semester will be an empirical paper that asks and answers an economic question of interest to the world at large. The paper should be roughly 20-30 pages, double spaced, 12 point type, one inch margins, with a complete set of tables/figures and bibliography. All papers will be submitted to the Bernoulli prize competition which is around April 15th. Throughout the semester portions of the paper will be submitted for prior screening. For example, the introduction and data section will be due around February 10th.

Presentations: Twice during the semester, you will be required to make a short presentation about your research topic. At the beginning of the semester, you will be asked to make a 15 minute proposal presentation where you outline the basic question, explain why the question is important, provide a detailed explanation of how you will answer your question and briefly outline the data you will use. There are 8 people in the class, we will do one presentation per class, and I hope to start these presentations a week from Tuesday.

Once the final papers have been turned into the Bernoulli prize competition, students will be asked to make a formal presentation that summarizes the entire research project. This presentation should be 25 minutes in length and these will be done over the last three classes of the semester.

Please familiarize yourself with the Undergraduate Academic Code of Honor: http://www.nd.edu/~hnrcode/docs/handbook.htm.

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A. Experiments

Fisman, Raymond, et al., "Gender Differences in Mate Selection: Evidence from a Speed Dating Experiment," *Quarterly Journal of Economics*, 121(2), 673-697.

Niederle, Muriel and Lise Vesterlund, "Do Women Shy Away from Competition? Do Men Compete Too Much?" *Quarterly Journal of Economics*, 122(3), 2007, 1067-1101.

Katz, Lawrence, Kling, Jeffrey, and Liebman, Jeffrey, "Moving to Opportunity in Boston: Early Results of a Randomized Mobility Experiment," *Quarterly Journal of Economics*, 116(2), May 2001, 607-654.

Ludwig, Jens, Duncan, Greg, and Hischfield, "Urban Poverty and Juvenile Crime: Evidence from a Randomized Housing-Mobility Experiment," *Quarterly Journal of Economics*, 116(2), May 2001, 655-679.

B. Difference in difference models

Almond, D., K. Chay, D. Lee, "The Costs of Low Birth Weight," *Quarterly Journal of Economics*, 120, 2005, 1031-1084.

Geronimus, A., and S. Korenman, "The Socioeconomic Consequences of Teen Childbearing Reconsidered," *Quarterly Journal of Economics*, 1992, 1187-1213.

Card, D., and A.B. Krueger, "Minimum Wages and Employment: A Case Study of the Fast Food Industry in New Jersey and Pennsylvania," *American Economic Review*, September 1994, 722-794.

Ayres, Ian and Steven Levitt, "Measuring Positive Externalities from Unobserved Victim Precaution: An Empirical Analysis of Lojak," *Quarterly Journal of Economics*, 115(3), 2000, 755-789.

Acemoglu, D., J. Angrist, "Consequences of Employment Protection? The Case of the American with Disabilities Act," *Journal of Political Economy*, 109(5), 2001.

C. Instrumental Variables

Permut, Thomas, and J. Richard Hebel. "Simultaneous-Equation Estimation in a Clinical Trial of the Effect of Smoking on Birth Weight" *Biometrics*, June 1989, 45: pp 619-622.

Sexton, Mary and J. Richard Hebel. "A Clinical Trial of Change in Maternal Smoking and Its Effect on Birth Weight" *JAMA*, February 17, 1984, 251(7): pp 911-915.

Angrist, J.D., G.W. Imbens, and D.B. Rubin, "Identification of Causal Effects Using Instrumental Variables," *Journal of the American Statistical Association*, 91, June 1996, 444-455.

Angrist, J.D., "Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records," *American Economic Review*, 80, 1990, 313-336.

Angrist, J.D., and W.N. Evans, "Children and Their Parents' Labor Supply: Evidence from Exogenous Variation in Family Size," *American Economic Review*, 88(3), 1998, 450-477.

Hotz, V. Joseph, "Teenage Childbearing and Its Life Cycle Consequences: Exploiting a Natural Experiment," *Journal of Human Resources*, 40(3), 2005, 683-715.

D. Regression Discontinuity design

Hahn, J. P. Todd, W. van der Klaauw, "Identification and Estimation of Treatment Effects with a Regression Discontinuity Design," *Econometrica*, 69(1), 2001, 201-09.

Van der Klaauw, "Estimating the Effect of Financial Aid Offers on College Enrollment: A Regression Discontinuity Approach," *International Economic Review*, 43(4), 2002, 1249-87.

Matsudaira, Jordan, "Mandatory Summer School and Student Achievement," *Journal of Econometics*, 2008, 142, 829-850.

Chay, K., P. McEwan, M. Urquiola, "The Central Role of Noise in Evaluating Interventions that Use Test Scores to Rank Schools," *American Economic Review*, 95(4), 2005, 1237-1258.

Angrist, J.D., V. Lavy, "Using Maimonides' Rule to Estimate the Effect of Class Size on Scholastic Achievement, "*Quarterly Journal of Economics*, 114(2), 1999, 533-575.

Card, David, Carlos Dobkin and Nicole Maestas, "Does Medicare Save Lives?" *Quarterly Journal of Economics*, 2009, 124(2), 597-636.