

EMPIRICAL METHODS

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Course information

This course seeks to familiarize second year PhD students to reduced-form empirical research with an emphasis on identification techniques and practical examples. At the end of the course, students should be able to recognize threats to identification and to formulate identification strategies. Various other issues arising in empirical research will also be discussed. The course is based on actual recent papers. Students are expected to complete assignments and to participate actively in classroom discussions.

Requirements and grading

Final Exam 40%, Assignments 20%, Research idea (one-pager) 20%, Class Participation 20%.

Course outline and readings

Part I: Getting started

Background readings (optional)

Angrist J.D. and J.S. Pischke (2008) "Mostly Harmless Econometrics: An Empiricist Companion" Princeton University Press

Angrist J.D. and J.S. Pischke (2010) "The Credibility Revolution in Empirical Economics: How Better Research Design Is Taking the Con out of Econometrics." *Journal of Economic Perspectives*, 24(2): 3–30

Introduction and logistics

Finding data

Finding literature

Naturally occurring randomization

Chattopadhyay, R., & Duflo, E. (2004). Women as policy makers: Evidence from a randomized policy experiment in India. *Econometrica*, 72(5), 1409-1443.

Clemens M (2013) "Why Do Programmers Earn More in Houston Than Hyderabad? Evidence from Randomized Processing of US Visas." *American Economic Review*, 103(3): 198-202.

Part II: Instruments

Introduction

Ginsburgh V and Van Ours J (2003) "Expert opinion and compensation: evidence from a musical competition" *American Economic Review* 93(1):289-298

Angrist, J. D. (1990). Lifetime earnings and the Vietnam era draft lottery: evidence from social security administrative records. *American Economic Review*, 313-336.

Weather, judges, geography

Madestam, A., Shoag, D., Veuger, S., & Yanagizawa-Drott, D. (2013). "Do Political Protests Matter? Evidence from the Tea Party Movement." *Quarterly Journal of Economics* 128:4

Munshi K (2003) "Networks in the Modern Economy: Mexican Migrants in the U.S. Labor Market" *Quarterly Journal of Economics*

Dobbie W.S., Goldin, J.S., Yang, C. (2016) "The Effects of Pre-Trial Detention on Conviction, Future Crime, and Employment: Evidence from Randomly Assigned Judges". Working Paper, Princeton University

Yanagizawa-Drott, D (2014) "Propaganda and conflict: evidence from the Rwandan genocide" *Quarterly Journal of Economics*, forthcoming

More instruments

Angrist, J. D., & Evans, W. N. (1998). Children and their parents' labor supply: Evidence from exogenous variation in family size. *The American Economic Review*, 88(3), 450

Waldinger F (2010) "Quality Matters: The Expulsion of Professors and the Consequences for PhD Students Outcomes in Nazi Germany" *Journal of Political Economy* 118(4):787-837

Waldinger F (2012) "Peer Effects in Science - Evidence from the Dismissal of Scientists in Nazi Germany" *Review of Economic Studies* 79(2):838-861

Washington, E. L. (2008). "Female Socialization: How Daughters Affect Their Legislator Fathers." *American Economic Review*, 98(1), 311-32.

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*

Part III: Differences-in-differences

Introduction and classic example

Card, D., & Krueger, A. B. (1994) "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania". *American Economic Review*, 84(4).

Across states variation

Friedberg, L. (1998). Did Unilateral Divorce Raise Divorce Rates? Evidence from Panel Data. *American Economic Review*, 88(3), 608-627.

La Ferrara, E., Chong, A., & Duryea, S. Soap Operas and Fertility: Evidence from Brazil. *American Economic Journal: Applied Economics* 4(4):1-31

Briggs, D (2013) "Expanded dependent health insurance coverage and the labor supply of young adults: Outcomes from state policies and the Affordable Care Act", mimeo, University of Arizona

Combined with natural experiments

Azoulay P, Graff Zivin J and Wang J (2010) "Superstar Extinction". *Quarterly Journal of Economics* 125(2):549-589

Nagaraj, A (2016) The Private Impact of Public Maps— Landsat Satellite Imagery and Gold Exploration

Yang D (2008) "International Migration, Remittances and Household Investment: Evidence from Philippine Migrants' Exchange Rate Shocks" *Economic Journal* 118(528):591-630.

Part IV: Regression discontinuity

Regression Discontinuity

Lee, D. (2008). "Randomized experiments from non-random selection in US House elections". *Journal of Econometrics*, 142(2), 675-697.

Luca, M (2011) "Reviews, Reputation, and Revenue: The Case of Yelp.com." Harvard Business School Working Paper, No. 12-016

Black S (1999) "Do Better Schools Matter? Parental Valuation of Elementary Education," *Quarterly Journal of Economics*, 114 (2), 577–599

Fuzzy RD

Ganguli I (2013) "Saving Soviet Science: The Impact of Grants When Government R&D Funding Disappears" forthcoming, *American Economic Journal: Applied Economics*

Advanced examples

Dell, M. (2010). "The persistent effects of Peru's mining Mita" *Econometrica*, 78(6), 1863-1903

Fujiwara T (2011) "Voting Technology, Political Responsiveness, and Infant Health: Evidence from Brazil". Mimeo, Princeton University

Pop-Eleches, C., & Urquiola, M. (2013). "Going to a Better School: Effects and Behavioral Responses" *American Economic Review*, 103(4), 1289-1324.

Cellini, S. R., Ferreira, F., & Rothstein, J. (2010). "The value of school facility investments: Evidence from a dynamic regression discontinuity design". *Quarterly Journal of Economics*, 125(1), 215-261

Part V: Additional topics

Controlling and Matching

LaLonde, R. J. (1986). Evaluating the econometric evaluations of training programs with experimental data. *American Economic Review*, 604-620

Ashenfelter, Orley, and Alan Krueger. "Estimates of the Economic Return to Schooling from a New Sample of Twins." *The American Economic Review* (1994): 1157-1173

Azoulay P, Manso G, Graff Zivin J (2011) "Incentives and Creativity: Evidence from the Academic Life Sciences" *RAND Journal of Economics* 42(3):527-554

Azoulay P, Graff Zivin J, Sampat B (2011) "The Diffusion of Scientific Knowledge Across Time and Space: Evidence from Professional Transitions for the Superstars of Medicine" NBER Working Paper No.16683

Addressing threats to identification

Marx M, Singh J, Fleming L (2011) "Regional Disadvantage? Does Non-compete Enforcement Create a Brain Drain?" mimeo, MIT Sloan School of Management

Agarwal R, Kolev J (2012) "Strategic Corporate Layoffs" mimeo, Harvard University

Event studies

Malmendier, U., & Tate, G. (2008). Who makes acquisitions? CEO overconfidence and the market's reaction. *Journal of Financial Economics*, 89(1), 20-43.

Peer effects and social networks

Sacerdote B (2001) "Peer Effects with Random Assignment: Results for Dartmouth Roommates" *Quarterly Journal of Economics* 116(2): 681-704

Zinovyeva N, Bagues M (2012) "It's Not What You Know, but Who You Know? the Role of Connections in Academic Promotions" mimeo, Universidad Carlos III de Madrid

Kinks in the payoff functions

Duggan, M., & Levitt, S. D. (2002). Winning Isn't Everything: Corruption in Sumo Wrestling. *The American Economic Review*, 92(5), 1594-1605

Oyer, P. (1998). Fiscal year ends and nonlinear incentive contracts: The effect on business seasonality. *Quarterly Journal of Economics*, 113(1), 149-185.

Dyadic regressions

Feyrer, J. (2009). "Distance, trade, and income—The 1967 to 1975 closing of the Suez Canal as a natural experiment" (WP No 15557). National Bureau of Economic Research

Agrawal A, Goldfarb A (2008) "Restructuring Research: Communication Costs and the Democratization of University Innovation" *American Economic Review* 98(4):1578–1590

Machine learning: a very short introduction (time permitting)