



MGT 3090 Course Outline

Models & Methods in Strategic Management (*Spring 2016*)

Course Meets: Tuesdays 1-4 pm, Rotman School of Management, Room 7024

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Objectives: This course introduces a “toolkit” of methods for attempting to estimate causal relationships using field data. We will discuss how to establish what relationships exist in the data, when you can interpret these relationships as causal, and how you can convince your audience of your results (without overselling).

Because methods aren’t too useful without interesting questions to answer, we will also spend time developing our “taste” for what constitutes a quality empirical research paper. The ultimate goal is for you leave prepared to undertake your own empirical research.

We will also think carefully about the interaction between large-sample empirical research, qualitative institutional data, and theory, especially the importance of careful theoretical thinking (in the context of the institutional details) for empirical research.

Preparation and Prerequisites: This course is designed to complement a graduate sequence in econometrics, but it should be accessible to students with basic knowledge of statistics and probability. We will focus on intuition and understanding how statistical models relate to the underlying data (and theory). Still, there will be technical material in readings, discussions, and assignments. Talk to me if you have any questions about whether or not this class is for you.

Assignments & Grading:

Class Preparation and Participation (10%): read the materials, come to class, participate.

Problem Set (25%, due March 1): there will be one set of empirical exercises using data that I’ll provide, giving you some practice in applying the course concepts in a fairly controlled environment.

“Above-and-Beyond” Referee Report (25%, due March 15): choose an existing empirical paper to replicate, and discuss/critique the robustness of the results using the concepts from class. Several journals (American Economic Review, four new American Economic Journals, Review of Economics and Statistics, Journal of Applied Econometrics, Journal of Business Economics

and Statistics, . . .) and researchers (Bronwyn Hall, Bruce Hansen, Justin Wolfers, and our own Dan Trefler) post data from published papers. While there is no page limit, my guess is that the reports will contain 1-4 pages of text, 2-5 tables and/or figures, and a Stata .log output file. One to three tables would likely replicate results from the existing paper and one or two more would perhaps show results with the data that are not shown in the paper. If you can communicate the core ideas in less space, no problem. If you need more space, that’s fine too. The key is to show that you could replicate the main results and that you tried some other specifications to check robustness (and that these other specifications are informed by what we do in class). You should confirm with me that your chosen paper is appropriate before you work on it, and don’t hesitate to ask questions at any point in the process!

Research “Paper” and Presentation (40%, presentation on Mar 29 and April 5, and paper due April 12): At the end of the semester, you will submit a “paper” or “research design.” I strongly recommend that you choose a question you are actually working on. (If you already have a paper in progress, it is totally fine simply to turn in the paper-in-progress.) If you are starting a new project, this 4 to 6 page document will describe how you plan to implement an empirical study. Your research design should read like the “Data and Methods” section of a high-quality empirical paper: a description of your data, a specification for the regressions you will perform, and (most importantly) discussion and justification of the assumptions that your reader must maintain to believe that your analysis constitutes an answer to the research question.

Schedule/Outline:

	Date	Topic
1	January 12	Causal Inference: Why is it so hard to establish/measure causal effects?
2	January 19	Field Experiments I
3	January 26	Field Experiments II
4	February 2	“Natural” Experiments I: Selection on Observables and Matching
5	February 9	“Natural” Experiments II: Instrumental Variables
6	February 23	Treatment Effects Taxonomy: The Effect of <i>What</i> on <i>Whom?</i> (+ Discontinuity)
7	March 1	“Natural” Experiments III: Panel Data and Differences-in-Differences
8	March 8	Best Practices / Etiquette: Testing, Standard Errors, etc.
9	March 15	Developing a Dissertation: RQs and Data; The “Better Data Needed” Problem
10	March 22	A Variety of Perspectives on What Constitutes Good Research
11	March 29	Presentations
12	April 5	Presentations

Readings: The typical class will have 1-2 assigned academic papers. You should come to class having read these and have answers to the basic questions of: What is the research question? The unit of observation (in theory/ideal and in the data)? The sources of (exogenous and endogenous) variation? The key estimating equation(s)? Results and interpretation? You will learn more and find classtime more rewarding if you come prepared. In addition, there will be several optional readings on the syllabus.

In addition to the academic articles, each new “tool” we learn will have an associated reading out of *Mostly Harmless Econometrics: An Empiricist’s Companion*, by Joshua Angrist and Steve Pischke. It is an excellent “handbook” of much of what we will focus on in this course, and I

highly recommend that you get yourself a copy. As *MHE* is not a complete econometrics reference, you will be doing yourself a favor if you pick up a copy of Greene, Wooldridge, or Cameron and Trivedi. The Hayashi text is also great as a comprehensive foundation of modern econometric theory. Another great book is Charles Manski's *Identification for Prediction and Decision*.

Articles in bold are required reading and will be covered extensively in class. The other articles are supplemental and will be referred to as needed. Supplemental articles can be used for student presentations.

Week 1 (January 12)

Causal Inference: Why is it so hard to establish/measure causal effects?

MHE Chapters 1-3.2

Week 2 (January 19)

Field Experiments I

Esther Duflo, Rachel Glennerster, and Michael Kremer. 2007. "Using Randomization in Development Economics Research: A Toolkit". Handbook of Development Economics Volume 4, Pages 3895-3962.

Nagin, Daniel, James Rebitzer, Seth Sanders, and Lowell Taylor. 2002. "Monitoring, Motivation, and Management: The Determinants of Opportunistic Behavior in a Field Experiment." *American Economic Review*.

List, John. 2011. "Why Economists Should Conduct Field Experiments and 14 Tips for Pulling One Off." *Journal of Economic Perspectives*.

Bloom, Nicholas et al. 2013. "Does Management Matter? Evidence from India." *Quarterly Journal of Economics*.

Pallais, Amanda. 2013. "Inefficient Hiring in Entry-level Labor Markets," working paper.

Oriana Bandiera, Iwan Barankay, Imran Rasul. 2007. "Incentives for Managers and Inequality Among Workers: Evidence from a Firm Level Experiment," *Quarterly Journal of Economics*.

Shearer, Bruce. 2003. "Piece rates fixed wages and incentives evidence from a field experiment," *Review of Economic Studies*.

Week 3 (January 26)

Field Experiments II

Avi Goldfarb, Ryan McDevitt, Sampsa Samila, Brian Silverman. "The Effect of Social Interaction on Economic Transitions: An Embarrassment of Niches." Working paper.

Chetty, Raj, Adam Looney, and Kory Kroft. "Salience and Taxation." *American Economic Review*.

Kuziemko, Ilyana, Michael Norton, Emmanuel Saez, Stefania Stancheva. "How elastic are Preferences for Redistribution? Evidence from Randomized Survey Experiments." Working paper.

Hoffman, Mitchell, John Morgan, and Collin Raymond. 2013. "One in a Million: A Field Experiment on Belief Formation and Pivotal Voting." Paper in progress.

Bloom, Nicholas, James Liang, John Roberts and Zichung Jenny Ying. 2013. "Does working from home work? Evidence from a Chinese experiment ." Working paper.

Tilcsik, András. 2011. "Pride and Prejudice: Employment Discrimination Against Openly Gay Men in the United States." *American Journal of Sociology*.

Duflo, Esther, Rema Hanna, and Stephen P. Ryan. 2011. "Incentives Work: Getting Teachers to Come to School." *American Economic Review*.

Anderson, Eric T., and Duncan I. Simester. 2003. Effects of \$9 Price Endings on Retail Sales: Evidence from Field Experiments. *Quantitative Marketing and Economics* 1, 93-110.

Week 4 (February 2) (plus possible spillover on field experiments)
"Natural" Experiments I: Selection on Observables and Matching

MHE rest of Chapter 3

Dehejia, Rajeev and Sadek Wahba. 1999. "Causal Effects in Nonexperimental Studies: Reevaluating the Evaluation of Training Programs," *Journal of the American Statistical Association*.

Shaver, Myles. 1998. "Accounting for Endogeneity in Strategy Performance: Does Entry Mode Affect FDI Survival?" *Management Science*.

Week 5 (February 9)
"Natural" Experiments II: Instrumental Variables

MHE Chapter 4, through 4.3

Galasso, Alberto and Mark Schankerman. 2015. "Patents and Cumulative Innovation: Causal Evidence from the Courts," *Quarterly Journal of Economics*.

Blom, Nicholas, Rafaella Sadun, and John Van Reenen. 2013. "The Organization of Firms Across Countries," *Quarterly Journal of Economics*.

Murray, Michael. 2006. "Avoiding Invalid Instruments and Coping with Weak Instruments," *Journal of Economic Perspectives*.

Week 6 (February 16)

Regression Discontinuity. Also, treatment Effects Taxonomy: The Effect of *What* on *Whom*?

MHE rest of Chapter 4 and Chapter 7

Kerr, William R., Josh Lerner, and Antoinette Schoar. "The Consequences of Entrepreneurial Finance: Evidence from Angel Financings." *Review of Financial Studies*, (2013).

Luca, Michael. 2013. "Reviews, Reputation, and Revenue: The Case of Yelp.com," working paper.

Ferriera, Fernando, and Joseph Gyourko. "Do Political Parties Matter? Evidence from US Cities," *Quarterly Journal of Economics*.

Ferriera, Fernando, and Joseph Gyourko. "Does Gender Matter for Political Leadership? The Case of U.S. Mayors." *Working paper*.

Oreopoulos, Philip 2006. "Estimating Average and Local Average Treatment Effects of Education when Compulsory Schooling Laws Really Matter." *American Economic Review*.

Heckman, J., S. Urzua and E. Vytlacil (2006) "Understanding Instrumental Variables in Models with Essential Heterogeneity," *Review of Economics and Statistics*.

February 23rd – No Class.

Week 7 (March 1)

"Natural" Experiments III: Panel Data and Differences-in-Differences (including Event Studies)

MHE Chapters 5 and 6

Autor, David and David Scarborough. 2008. "Does Job Testing Harm Minority Workers? Evidence from Retail Establishments." *Quarterly Journal of Economics*.

Stern, Scott. 2004. "Do Scientists Pay to Be Scientists?" *Management Science*.

Williams, Heidi. 2013. "Intellectual Property Rights and Innovation: Evidence from the Human Genome" *Journal of Political Economy*, 121(1): 1-27.

Hoffman, Mitchell and Elizabeth Lyons. 2015. "Do Higher Salaries Lead to Higher Performance? Evidence from State Politicians," working paper.

Catalini, Christian. 2013. "Microgeography and the Direction of Inventive Activity," working paper.

Lazear, Edward, Kathryn Shaw, Christopher Stanton. 2013. "The Value of Bosses," working paper.

Week 8 (March 8th)

Best Practices: Testing, Standard Errors, etc. (plus possible spillover on Differences-in-Differences)

MHE Chapter 8

Bertrand, Marianne, Esther Duflo, and Sendhil Mullainathan. 2003. "How Much Should we Trust Difference-in-Difference Estimates." *Quarterly Journal of Economics*

Oberholzer-Gee, Felix, and Joel Waldfogel. 2009. "Media Markets and Localism: Does Local News en Español Boost Hispanic Voter Turnout?" *American Economic Review*.

Look back over readings so far to find your favorite examples (or glaring omissions) of especially clear presentation of data, explanation of results, and consideration of alternative interpretations.

Week 9 (March 15th)

Developing a Dissertation: RQs and Data

This week we have a special treat: job market candidates from Rotman will visit to talk about their job market papers and their experiences in refining research questions and digging up good data. We will also have a discussion on data.

Addressing the "More/Better Data Needed" Problem

Patent data

Jaffe, A., M. Trajtenberg and R. Henderson 1993, "Geographic Knowledge Spillovers as Evidenced by Patent Citations" *Quarterly Journal of Economics*.

Geographic data

Oberholzer-Gee, Felix, and Joel Waldfogel. 2009. "Media Markets and Localism: Does Local News en Español Boost Hispanic Voter Turnout?" *American Economic Review*.

Inside the firm data

Burks, Stephen, Bo Cowgill, Mitchell Hoffman, and Michael Housman. 2015. "The Value of Hiring through Employee Referrals." *Quarterly Journal of Economics*.

"Micro" data

Hortacsu, Ali and Chad Syverson. 2009. "Why Do Firms Own Production Chains?" *Working paper*, University of Chicago.

Survey data

Bloom, Nicholas, and John Van Reenen. 2007. "Measuring and explaining management practices across firms and countries". *Quarterly Journal of Economics*.

Contracts data

Hortacsu, Ali and Chad Syverson. 2009. "Why Do Firms Own Production Chains?" *Working paper*, University of Chicago.

Week 10 (March 22)

A Variety of Perspectives on What Constitutes Good Research. Also, networks.

Angrist, Joshua and Jorn-Steffen Pischke. 2010. "The Credibility Revolution in Empirical Economics: How Better Research Design is Taking the Con out of Econometrics," *Journal of Economic Perspectives*.

Nevo, Aviv and Michael D. Whinston. 2010. "Taking the Dogma out of Econometrics: Structural Modeling and Credible Inference," *Journal of Economic Perspectives*.

Stock, James H. 2010. "The Other Transformation in Econometric Practice: Robust Tools for Inference," *Journal of Economic Perspectives*.

Week 11 (March 29th)
Presentations

Week 12 (April 5)
Presentations