MGT 3090 Course Outline
Models & Methods in Strategic Management (Spring 2016)
Course Meets: Tuesdays 1-4 pm, Rotman School of Management, Room 7024

Instructor: Mitchell Hoffman
E-Mail: mitchell.hoffman@rotman.utoronto.ca
http://www.rotman.utoronto.ca/FacultyAndResearch/Faculty/FacultyBios/Hoffman.aspx
Phone: 416.978.1529
Fax: 416.978.4629
Office Hours: 95 St. George, Room 7032; Mondays, 6-7:30pm and by appointment

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.
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:

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

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 class time 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**


**Week 3 (January 26)**

**Field Experiments II**


**Week 4 (February 2) (plus possible spillover on field experiments)**

**“Natural” Experiments I: Selection on Observables and Matching**

*MHE* rest of Chapter 3


**Week 5 (February 9)**

**“Natural” Experiments II: Instrumental Variables**

*MHE* Chapter 4, through 4.3


Week 6 (February 16)
Regression Discontinuity. Also, treatment Effects Taxonomy: The Effect of What on Whom?

MHE rest of Chapter 4 and Chapter 7


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


Week 8 (March 8th)

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

*MHE* Chapter 8


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**


**Geographic data**


**Inside the firm data**


**“Micro” data**


**Survey data**


**Contracts data**


Week 10 (March 22)

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


**Week 11 (March 29th)**  
Presentations

**Week 12 (April 5)**  
Presentations