MGT 3090 Course Outline

Models & Methods in Strategic Management (Spring 2010)
Course Meets: Thursdays 9AM-12PM, Rotman School of Management, Room 448 (#570 in April)

Instructor: Avi Goldfarb, Room 513
E-Mail: agoldfarb@rotman.utoronto.ca
Homepage: http://www.rotman.utoronto.ca/agoldfarb
Phone: 416-946-8604
Office Hours: By Appointment, or just knock on my door

Objectives: Once the research question is established, there are three core steps to effective empirical work:

(1) Establish what relationships are in the data
(2) Interpret those relationships in light of your research objectives
(3) Communicate those relationships as clearly, completely, and convincingly as possible

The main focus of the course will be on methods for establishing causal relationships in field data. This means 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).

Preparation and Prerequisites: This course is designed to complement a graduate sequence in econometrics. We will focus on intuition and on understanding how statistical models relate to the underlying data. Still, there will be technical material throughout the semester, both in readings and discussion.

Class Structure: A typical week will start by establishing the basic econometric framework on the whiteboard. Then we might move to Powerpoint slides on the current etiquette in communicating the method to an audience (as well as some Stata code references). Finally, we’ll move back to the whiteboard for discussion accompanied by many examples.
Assignments & Grading

Class participation: 10%

Three “hyper-referee reports”: 30% each

Due Weeks 5, 9, and 13 (i.e. February 4, March 11, and April 8)

For each “hyper-referee report”, you will replicate the main results of an existing empirical paper and discuss (or critique) the robustness of the results. These should be written as referee reports that focus only on the empirical implementation.

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!)

In selecting your papers to review, you have several options:

1) I have marked the replicable papers on the reading list with a + sign.
2) The American Economic Review and the four new American Economic Journals require authors to post their data and code. Picking papers from recent issues would work.
3) Similarly, the Quarterly Journal of Economics and the Review of Economics and Statistics often require authors to post their data and code.
4) A handful of academics make a habit of posting data and code for many published projects. Examples include Justin Wolfers of Wharton and our own Dan Trefler.

Please see me before starting any replication effort. I want to confirm that (a) replication will be feasible and (b) that the different replication exercises you conduct require (some) different empirical tools.

And please don’t hesitate to ask questions at any point in the process!
Readings

A number of papers have been assigned each week.

*Means that everyone in the class (including those auditing) should have read the paper before coming to class. For a methods paper, this means that you should know what the method is, when and why is it used, and how it works. For an empirical paper, this means you should know the unit of observation, the core estimating equation, the empirical strategy, and the core findings.

Readings that are not marked with * should still be read by some of you. My expectation is that at least two people will be able to discuss each paper each week. You can divide the readings amongst yourselves however you wish.

(An aside: I have included many of my own papers in the reading list. This is simply because I know them very well!)

Books every applied econometrician should read (cover-to-cover!):

None of these books will be required reading in this class, but they are all things that you should read cover-to-cover (and ideally you’ll have finished the first two before you start data collection for your job market papers).


<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 7</td>
<td>Introduction to applied econometrics (2 hours)</td>
</tr>
<tr>
<td>January 14</td>
<td>Field experiments vs. Describing interesting data (3 hours)</td>
</tr>
<tr>
<td>January 21</td>
<td>Difference-in-differences (3 hours)</td>
</tr>
<tr>
<td>January 28</td>
<td>Instrumental variables (2 hours)</td>
</tr>
<tr>
<td>February 4</td>
<td>REPORT #1 DUE ; Regression discontinuity; falsification tests (2 hours)</td>
</tr>
<tr>
<td>February 11</td>
<td>Selection on observables, matching, propensity score, and control functions (3 hours)</td>
</tr>
<tr>
<td>March 25</td>
<td>Classic identification challenges (3 hours)</td>
</tr>
<tr>
<td>April 1</td>
<td>Reading structural papers with a reduced-form perspective (2 hours)</td>
</tr>
<tr>
<td>April 8</td>
<td>REPORT #3 DUE; Summary (3 hours)</td>
</tr>
</tbody>
</table>
Week 1 (January 7): Introduction to applied econometrics

Review the syllabus

What is identification?


What makes a good descriptive empirical research paper?
—Questions to ask of every paper: Research question, data structure/unit of observation (in data and in “experiment”), estimating equation(s), “Table 1 and Table 2”
—Data, interpretation, and communication


Week 2 (January 14): Field experiments vs. Describing interesting data

Field experiments


*Goldfarb, Avi, Sampsa Samila, and Brian Silverman. 2009. Retail Format as a Barrier to Entry. Working paper, University of Toronto.


Describing interesting data

Week 3 (January 21): Difference-in-differences


  - Only the introduction is required for everyone to read


Week 4 (January 28): Instrumental variables


*REVIEW: Any textbook discussion of instrumental variables (Wooldridge, Greene, Davidson/Mackinnon, etc.)


**Arellano Bond Instruments**


**Week 5 (February 4): Regression Discontinuity; Falsification Tests**

**REPORT #1 DUE**

**Regression discontinuity**


**Falsification tests**


Week 6 (Feb. 11): Selection on observables, matching, propensity score, and control functions

**Selection on observables**


**Matching**


**Propensity score**


**Control Functions**


READING WEEK (February 18)—NO CLASS

Week 7 (February 25): *The language of treatment effects*

  
  * Pay closer attention to sections 2.1, 2.2, 3.1, 5.1, 5.3, 5.4, 5.5, 6.3, 6.4, and 6.5


Week 8 (March 4): Discrete variables

**Splines and dummy variables**


**Ai-Norton**


**Binary Dependent Variables (Probit, Logit, and Linear Probability)**


**Count data**


Week 9 (March 11): Testing

REPORT #2 DUE

Economic v statistical significance


Random effects and Hausman tests


Fit, R-squared, and explanation v. prediction


Event studies (here for lack of a better place to put it)

Week 10 (March 18): Data

Missing data


Patent data


Geographic data


Text data

Week 11 (March 25): Classic identification challenges

The Reflection problem

Reflection and Spillovers


Reflection and Network effects

Identifying clusters (also related to the reflection problem)


State dependence v heterogeneity


Bounds
SECTION 6.1 ONLY of
**Week 12 (April 1-ROOM 570): Reading structural papers with a reduced-form perspective**


**Matching**


**Production functions**


**Other**


**Week 13 (April 8-ROOM 570): Summary**

**REPORT #3 DUE**

