

MECO 400F/500H
Empirical Techniques for Industry Analysis
Spring 2006

Brian McManus
mcmamus@olin.wustl.edu

Phone: 935-4915
Office: Simon 281

Class location & time: Mondays and Wednesdays in Simon 108 from 2:30-4:00
Office Hours: Tuesdays 2:00-4:00 and by appointment

Objectives

Students will learn how to use data to answer a wide variety of questions regarding the incentives and behavior that generate market activity. We emphasize inference about the strategic decisions of firms and consumers.

Structure

We will begin with a brief review of econometrics topics, some of which will be familiar from previous courses. Next, we will complete a series of modules organized around themes from economics (rather than from statistics). New statistical and econometric tools are introduced by examining the application of these tools to current research in economics. The set of modules provides an overview of topics that are relevant for business and are important within economics itself. Finally, we will conclude the semester with a set of presentations by students.

Prerequisites

Students should be familiar with the statistical and econometric techniques that are taught in QBA 120 and 121. Additionally, students should have a background in microeconomics, game theory, and industrial organization theory equivalent to that of a student who has successfully completed MEC 290 and is currently enrolled in 370 and/or 470.

Readings

Most of the reading from this course will be drawn from high-quality economics journals. We will use the readings to learn how to carefully state an empirical question and answer it with data. The articles will also provide empirical evidence on economics topics that you may have considered only from a theoretical perspective in your past coursework.

In order to read the articles thoroughly, you may need to consult a reference on statistics and econometrics. I encourage you to choose a text on your own for this purpose. Two excellent books are:

- Jeffery Wooldridge, *Introductory Econometrics* (South-Western College Publishing)
- James Stock and Mark Watson, *Introduction to Econometrics* (Addison-Wesley)

New econometrics texts can be quite expensive, so you may want to obtain a used copy of a text. The Wooldridge text is now in its 3rd edition, but any edition of this book will suffice for this class.

Graded Work

There will be three types of graded work for the course.

1. Discussion papers and class participation (50%). You will turn in 4 short papers that summarize and analyze the research papers that we will cover in class. The papers will be approximately 3 pages long, and include a brief recap of the research paper, discussion of econometric issues, and a conjecture on how the research topic or statistical methods could be applied to a new setting. For each paper I will provide a short list of questions that will guide your discussion of econometric issues.

I expect you to help lead the class discussion on research papers/topics about which you have written a discussion paper. Due dates for these papers will vary across students. I will assign due dates soon after the beginning of the semester.

You should also participate in class discussions when we discuss topics on which you have *not* written a paper.

2. Homework assignments (20%). There will be 4 homework assignments. They will focus on problem-solving and data analysis. Students will form groups of 3-4 to complete the assignments. Each group will turn in one copy of the assignment.
3. Final paper and presentations (30%). Continuing in your groups for the homework assignments, you will write a 10-page paper. Each group will submit one paper. The paper will introduce a topic for study, argue for its importance, provide some preliminary data analysis, and then explain in detail what additional econometric work would be necessary to complete the study. (You should think of this as the first half of a research paper comparable to those that we will read for class.) The first draft of this paper is due on Wednesday April 12. The final draft is due at 5:00pm on May 8.

During the last weeks of the semester each group will make a 20-minute presentation of their paper topic. Since the papers will not be finished at this time, this will provide a good opportunity to solicit advice and guidance from your classmates and me on how to best complete the paper.

Blackboard

I will use Blackboard to send emails and distribute slides, notes, assignments, readings, etc. You need to have an Olin computing account to use Blackboard. Please verify ASAP that you can log on to Blackboard and access the information for this class.

All grades for the course will be stored and displayed on the Blackboard course page. It is your responsibility to insure that the grades on this course page are accurate.

Software

You will need to use a statistical software package for your homework assignments. I prefer to use STATA, but you may choose to use a different package. I will provide assistance with STATA, but if you choose to use a different package you are on your own.

STATA tips and details: No prior knowledge of this software is necessary for the course. You can use STATA in the Olin computing labs. It is available under the “Statistics Programs” heading in the Start:Programs menu. I will provide some background documentation and/or training on STATA. For additional information on getting started, see the website:

<http://www.stata.com/links/resources1.html>.

If you prefer to use STATA outside of an Olin lab, you may purchase a one-year license for the software for \$45. The product is called “Small STATA 9,” and you can purchase it at:

<http://www.stata.com/order/new/edu/gradplans/gp-campus.html>

EViews is an alternative software package that, like STATA, is available in the Olin computing labs. A one-year license for EViews can be purchased for \$40. The product is called “EViews 4.1 Student Version,” and you can order it at the following website:

<http://www.eviews.com/eviews4/eviews41s/evstud41.html>

Course Outline

We will devote 3 or 4 classes to each module. Mandatory readings are listed below. You can find pdf files of the listed articles on the Blackboard course page. You are also encouraged to consult economics and econometrics texts as needed.

Module 0: Introduction

Course goals; review of OLS; introduction to matrix notation, instrumental variables and two-stage least squares. Readings:

- The Hoxby debate. See Blackboard for readings.
- Econometric texts on OLS assumptions and estimates, instrumental variables

Module 1: Price Discrimination

Second- and third-degree price discrimination, welfare effects of pricing strategies. Readings:

- Kathryn Graddy, “Testing for Imperfect Competition at the Fulton Fish Market,” *RAND Journal of Economics*, Spring 1995, 75-92.
- Phillip Leslie, “Price Discrimination in Broadway Theater,” *RAND Journal of Economics*, Autumn 2004, 520-541.

Module 2: Information

Search, asymmetric information, persuasive v. informative advertising. Readings:

- Alan Sorensen, “Equilibrium Price Dispersion in Retail Markets for Prescription Drugs,” *Journal of Political Economy*, August 2000, pp. 833-850.
- Ginger Jin and Phillip Leslie, “The Effect of Information on Product Quality: Evidence from Restaurant Hygiene Grade Cards,” *Quarterly Journal of Economics*, May 2003, pp. 409-451.
- Daniel Akerberg, “Empirically Distinguishing Informative and Prestige Effects of Advertising,” *RAND Journal of Economics*, Summer 2001, pp. 316-333.

Module 3: Entry and Exit

Discrete games, multiple equilibria, product differentiation. Readings:

- Timothy Bresnahan and Peter Reiss, “Entry and Competition in Concentrated Markets” *Journal of Political Economy*, October 1991, pp. 977-1009.
- Michael Mazzeo, “Product Choice and Oligopoly Market Structure,” *RAND Journal of Economics*, Summer 2002, pp. 221-242.

Module 4: Collusion

Benefits and costs of collusion and defection, problems in identifying collusion. Readings:

- Timothy Bresnahan, “Competition and Collusion in the American Automobile Industry: The 1955 Price War,” *Journal of Industrial Economics*, June 1987, 457-482.
- Robert Porter, “A Study of Cartel Stability: The Joint Executive Committee, 1990-1886,” *Bell Journal of Economics*, Autumn 1983, 301-314.

Module 5: New Technology

Technology adoption incentives, network effects and coordination problems. Readings:

- Barton Hamilton and Brian McManus, “Technology Adoption and Market Structure: Evidence from Infertility Treatment Markets,” Olin working paper 2005.
- Gautam Gowrisankaran and Joanna Stavins, “Network Externalities and Technology Adoption: Lessons from Electronic Payments,” *RAND Journal of Economics*, Summer 2004, pp. 260-275.

Module 6: Organizational Form

Hold-up and agency problems. Readings:

- Francine Lafontaine, "Agency Theory and Franchising: Some Empirical Results," *RAND Journal of Economics*, Summer 1992, pp. 263-283.
- Paul Joskow, “Contract Duration and Relationship-Specific Investments: Empirical Evidence from Coal Markets,” *American Economic Review*, March 1987, pp. 168-185.

Module 7: Student Topics

Topics to be determined.