



MGMT 469: Empirical Methods in Strategy

Summer Quarter 2009 Syllabus

Section 71

Monday
6:00-9:00 PM

Section 72

Tuesday
6:00-9:00 PM

Professor Leemore Dafny

631 Leverone Hall

(847) 467-7511

e-mail: l-dafny@kellogg.northwestern.edu

web page: <https://courses.northwestern.edu>

Office Hours

4:45-5:45PM, Mondays and Tuesdays

and

by appointment

Course Motivation and Objectives

Despite the obvious importance of data-driven analyses for business decisionmaking, most managers lack experience working with data above and beyond the basics of spreadsheet analysis. As a result, managers either perform inadequate evaluations of the data themselves, or turn the data over to statisticians who may lack the relevant institutional knowledge. Ideally, data-driven evaluation should combine both skills (data analysis and business expertise). This course is intended to help you develop the skills needed to perform such evaluations. Bearing this in mind, this course has several goals:

- To familiarize you with the process of assembling and analyzing a data set
- To expose you to good research methods
- To reinforce statistical techniques learned in your decision sciences classes and introduce new statistical techniques
- To increase your comfort level working with data
- To introduce Stata, a powerful and user-friendly program for performing empirical research
- To enable you to assess the research of others and to perform convincing research of your own

Pedagogy

This is a *clinical* course. You may be familiar with the educational process in other clinical fields, such as medicine. A famous dictum in medical education is "see one, do one, teach one." We will adhere to the same philosophy. I will give several lectures during the quarter, but most of the class and outside-class time will be spent performing and discussing empirical research. You will design and implement three research projects selected to highlight a range of key research issues. You will also be asked to read and discuss 3 empirical research papers. Such "learning by doing" is the best way to become an accomplished empirical analyst.

Roughly speaking, the course is divided into four modules. The first module consists of lectures that build rapidly from basic to advanced research methods. The centerpiece of each remaining module is the analysis of a real world data set. Each data set allows you to answer an important managerial question, such as "Identify entry opportunities for internet service providers (ISPs)." Working in small groups (groupwork on projects is required), you will answer the managerial question by developing and implementing an empirical model. During each module we will conduct "lab sessions" in the classroom to discuss proposed research designs. Each module will end with several group presentations of research findings.

Statistical software

Your statistical analyses must be performed in **Stata** Version 10. The “student version” of the program (“Stata/IC 10”) costs \$95 for a one-year license or \$155 for a perpetual license. Please purchase and install the program before the first class. To do this, go to <http://www.stata.com/order/new/edu/gradplans/gp-campus.html>. For “mailing address” simply enter “Kellogg School of Management.” Stata will send you an email confirming your purchase. Bring this email together with your student ID to the PTMBA office whenever it is open. The person staffing the front desk will give you your copy. **I recommend ordering the software at least 10 days before class begins.** I will have much more to say about Stata (including providing a Stata primer) during the course. While Stata is very easy to use relative to comparably powerful software, you will find yourself spending a disproportionate amount of time during the first two or three weeks mastering the basics of Stata. I hope the upfront fixed time investments pay off by dramatically reducing the marginal cost of doing good empirical work down the road.

Why learn Stata when you know Excel? Excel is not designed for the sophisticated analyses you will want to complete in practice. You shouldn't let your software prevent you from performing the right analyses! Moreover, you cannot readily program in Excel; this makes it difficult for you (or others) to reproduce your work. Reproducibility is a hallmark of good research! Most firms that do a lot of empirical research, including all the brand-name consulting firms, use powerful statistical packages like Stata. Due to its relative ease of use and the network effect of a growing community of users, Stata has become the package of choice among empirical researchers. Beginning in Summer 2010, all quantitative analyses in Kellogg courses (including DECS) will be performed with Stata.

Stata's graphical capabilities are not, however, in the same league as Excel. Thus, you may want to use Excel for graphics. I will show you how to quickly move data back and forth between Stata and Excel.

Readings

All required readings are included in the coursepack or will be posted online. There is no textbook. Please note that I will post lecture slides prior to class. If you would like to take notes on a printed copy please bring one along with you; I will only distribute copies on the first day.

Grading

Your course grade will be based on the projects, an exam, and class participation:

Project 1	20%
Project 2	20%
Project 3	20%
Exam	25%
Class Participation	15%

Participation

Class participation is vital to the learning experience in this course. *I will cold-call frequently during class.* Empirical research is often collaborative in nature, so it is essential to learn how to work with others to develop the best possible analyses. Be sure to listen to your classmates as they discuss their work. If you can help others become stronger researchers through your questions and comments, then you will receive a strong participation grade. If you say nothing, then you are not helping others and your participation score will reflect this. Also be sure to come prepared for the sessions during which we will be discussing research papers.

Projects

You will work in groups of 4-5 members (depending on total class enrollment). For every project, your group will have to submit a report (~15 pages) along with a presentation (~7-9 slides). I will provide further details in class. Peer evaluations will play a role in project grades.

Laptop Use Policy

I encourage you to use your laptops during the “lab” sessions, and you may wish to use them to take notes during class as well. Out of respect for your classmates, please refrain from non-course-related computer use during class. This includes checking on the Cubbies and Sox.

Office Hours

This is a hands-on course and you will likely have many questions as you work. In addition to the office hour before class, I will hold weekend office hours on the weekends before projects are due, as well as by request. This is a great time to meet with your group and ask me questions as they arise. I will also be available by appointment, by email, and by phone.

Course Outline

Topics in *italics* are lectures. "Project start" indicates the start date for each of the research projects. Lab sessions are interactive sessions during which we will work with project data in class. We will also discuss a few research papers in class; these will be made available to you in class or online.

<i>Session</i>	<i>Date</i>	<i>Topic</i>	<i>Project Start</i>	<i>Project End</i>
1	6/22 or 6/23	Course Introduction <i>Ten Steps towards Convincing Research Using Stata Regression Basics</i>	CAPM (Stata Tutorial)	
2	6/29 or 6/30	<i>Regression Basics</i> <i>Getting Your Data Ready</i> <i>Building Your Model #1</i>	Project 1	
3	7/6 or 7/7	<i>Building Your Model #2</i> <i>Endogeneity Issues #1</i> Project 1 "Lab"		
4	7/13 or 7/14	<i>Fixed Effects Models</i> Project 1 "Lab" Research Paper 1		
5	7/20 or 7/21	Present Project 1 <i>Benchmarking</i>	Project 2	Project 1 due
6	7/27 or 7/28	<i>Correcting Standard Errors of Estimates</i> <i>Endogeneity Issues #2</i> <i>Causality and Instrumental Variables/2SLS</i>		
7	8/3 or 8/4	In-class exam Project 2 "Lab"		
8	8/10 or 8/11	Present Project 2 Results <i>Discrete Variables</i>	Project 3	Project 2 due
9	8/17 or 8/18	<i>Discrete Variables, continued</i> Project 3 "lab" Research Paper 2		
10	8/24 or 8/25	Present Project 3		Project 3 due