



DEPARTAMENT : Accounting and Finance (CFC)
PROGRAM..... : CMCD
COURSE..... : Econometrics for Finance
PROFESSOR..... : Rafael F. Schiozer
DAY/HOUR : Thursdays, 9:00-11:45 AM

2nd semester / 2014

SYLLABUS

OBJECTIVES AND CONTENTS

This course provides students with working knowledge of cross-sectional and panel data econometrical methods for use in finance research. This is accomplished by exposing the students to a variety of methods commonly employed in empirical research in finance. Although some econometric theory is covered in the course, it is more directed to end users of econometric tools, teaching students how to properly use the tools, and less focused on deriving their asymptotic properties.

The course does not cover time series econometrics.

I expect that students will be better prepared to do (especially empirical) research in corporate finance and banking topics after taking this course. I also expect students to develop their critical thinking and learn to make academic presentations in a professional manner, which is fundamental to researchers.

Limitations: Time limitations impose certain restrictions on what we can accomplish in this course. For example, we will not cover all of the methods you might need or should know. We also will not cover each method in excruciating detail. Arguably, you could build an entire course around each method.

FORMAT

The course is designed to help you learn these methods via a three-pronged approach.

(1) Lectures and econometric readings will help you will learn the econometric intuition behind each method. This is not a theory course; this is a course for end users of econometric tools. Accordingly, I will teach you how to use each tool properly, not how to derive its asymptotic properties.

(2) Course readings will expose you to examples of the methods being used in published and working papers. Seeing how the tools are actually used by other researchers is often far more useful in helping students understand the tools. I will rely on examples from corporate finance and banking when possible, though I may also reference examples from other fields in economics.

(3) Course assignments will require you to use the methods analyzed in the course; i.e. you will learn by doing. There will be a number of exercises that will have you manipulate and analyze data using the various econometric techniques, and there will be assignments where you analyze and criticize other researchers' use of these tools. Since this is a finance course, the applications will typically be corporate finance related.

ASSESSMENT CRITERIA

Presentation / discussion of papers:	25%
Half-page handouts:	10%
Exercises:	10%
Midterm exam:	25%
Final Exam:	30%

REQUIRED BACKGROUND

The course does not have any formal pre-requisites. However, I expect you to have good knowledge of Statistics and undergraduate-level Econometrics. I will assume that you have a good working knowledge on:

- Probability and probability distributions;
- Discrete and continuous random variables;
- Sampling and sampling distributions;
- Hypothesis testing;
- Basics of single and multiple regression analysis;
- ANOVA;

Your knowledge in Corporate Finance is of course also helpful. Most of the papers you are required to read will be testing hypotheses supported by Corporate Finance Theory.



COURSE SCHEDULE AND READING LIST

I will teach from slides, which I will make available to you before each class on Eclass, and my own course notes. I will be drawing from a variety of sources including various textbooks, journal articles, working papers, and other professors' lecture notes.

There is no single required "textbook," but I will mostly follow the sequence of Wooldridge's book for the first third of the course, and Angrist & Pischke's for the remaining part. I make note of the appropriate references for each lecture on the exhibit below, where I show the relevant methodology readings for each lecture. Students are expected to read these prior to the lecture.

Additionally, most lectures will contain student presentations of papers related to the previous week's lecture topic. A list of papers to be presented is given below.

Each session will cover 2 or 3 papers. **All the students must read all the papers for each session.** Students will form groups of their own choosing*, and we will assign each group their paper in the week ahead. One student will present the discussions prepared by his/her group**. Each group will make a 20-25 minute PowerPoint presentation that discusses the paper, and each presentation will be followed by in-class discussion. The purpose of the assignment is twofold: (1) Presentations are one key way people in academia will come to know (and assess) you. So, it's a good idea to get some practice now. And (2), this will help you apply and think critically about the papers. To ensure participation following each presentation, each group must also type up one concern they had about each of the two papers their group did NOT present and **hand these in at the start of class** (I call these half-page handouts). Your group will state this concern at the start of the discussion. The comments should be very short [2-3 sentences] and designed to do one of two things: (a) isolate what your group thought the biggest problem of the paper was, or (b) identify a concern you think the presenting group might overlook.

*The number of students per group will depend on the number of students enrolled for the course.

** I may randomly choose someone from the group to answer a specific question about the paper. If the answer is poor, this will damage the grade for the whole group. This is done to reduce moral hazard and avoid someone from the group to free-ride.

Guidelines for a good discussion (you do not have to strictly follow this order, but it may help you in preparing your presentation):

- Briefly describe what the paper does and what it finds;
- Make your point about the assumptions and/or identification strategy;
- Suggest improvements;
- Identify eventual gaps or defects. Be critical. You may use your own judgement or the literature that followed in the subject. In this case, make explicit mention to the papers you are referring to.

Course schedule (tentative and subject to change)

Session	Date	Topics	Papers / Readings	Presentations
1	7/Aug	Course presentation and organization; A quick overview on related background: Random variables; hypothesis testing;	NCT – Chapters 4 to 11	
2	14/Aug	Conditional expectations. The basics of asymptotic theory;	W – Chapters 2 and 3	
3	21/Aug	Simple and multiple regressions: Statistical Properties of Regressions; OLS Estimation and Inference;	AP – 3.1. W – 4.1; 4.2.	
4	28/Aug	Linear regression (continued);	AP – 3.4; 3.5. W – 4.3; 4.4.	Classics #1
5	4/Sep	Non-linear regression models;	W – 13.1; 13.2; 13.3; 15.1-15.6; 15-8	Classics #2
6	11/Sep	Causality	AP – 3.2 R&W paper, section 2	Non linear models



7	18/Sep	Midterm Exam	Contents of sessions 1 to 6	
8	25/Sep	Panel Data	AP – 5.1 W – 10.1; 10.2; 10.3	Causality
9	2/Oct	Panel Data and other uses of fixed effects	AP – 5.3 W – 10.5; 10.6; 10.7	Panel data #1
10	9/Oct*	Instrumental variables	AP – 4.1; 4.4; 4.6. W – Chapter 5. R&W paper, section 3	Panel data #2
-	16/Oct	-		-
11	23/Oct	Natural Experiments	AP – 5.2	Instrumental Variables
12	30/Oct	Natural Experiments (cont.)	B,D&M Paper R&W paper, section 4	Natural Experiments #1
13	6/Nov	Common mistakes and errors	G&M paper	Natural Experiments #2
14	13/Nov	Miscellaneous; Tricks of the trade.	AP – 3.4.2; Chapter 8.	Common mistakes
-	20/Nov	Make-up class (if necessary)	-	
15	27/Nov	FINAL EXAM	-	

* I may have to be away on October 9. If this happens, there will be a make-up class on November 20, and all our sessions will be pushed one week further.

Books and methodological papers

Newbold, Paul, Carlson, W., Thorne, B., *Statistics for Business and Economics*, Pearson, 8th Ed., 2013. [NCT]. (You may use any good alternative book on basic Statistics).

Wooldridge, Jeffrey M., 2010, *Econometric Analysis of Cross-Section and Panel Data*, MIT Press, Massachusetts, Second Edition [W]

Angrist, Joshua D., and Jorn-Steffen Pischke, 2009, *Mostly Harmless Econometrics*, Princeton University Press, New Jersey. [A&P]

Roberts, Michael R., and Toni M. Whited, 2011, “Endogeneity in Empirical Corporate Finance,” University of Rochester, working paper, <http://ssrn.com/abstract=1748604> [R&W]

Bertrand, M., E. Duflo, and S. Mullainathan. 2004. How Much Should We Trust Differences-in Differences Estimates? Quarterly Journal of Economics 119:249–75. [B,D&M]

Gormley, Todd A., and David A. Matsa, 2013, “Common Errors: How to (and Not to) Control for Unobserved Heterogeneity,” Review of Financial Studies, forthcoming. [G&M] <http://ssrn.com/abstract=2023868>

Classics #1

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny, 1998, “Law and finance,” *Journal of Political Economy* 106, 1113-1155.

Berger, P., and Eli Ofek, 1995, “Diversification’s Effect on Firm Value,” *Journal of Financial Economics* 37, 39–65.

Classics #2



Fazzari, Steven M., R. Glenn Hubbard and Bruce C. Petersen, 1988, “Financing Constraints and Corporate Investment,” *Brookings Papers on Economic Activity*, 141–195.

Opler, Timothy, Larry Pinkowitz, and Rene Stulz, 1999, “The determinants and implications of corporate cash holdings,” *Journal of Financial Economics* 14, 1059-1082.

Causality

Rajan, Raghuram G., and Luigi Zingales, 1998, “Financial dependence and growth,” *American Economic Review*, 88(3), 559-586.

Agarwal, Ashwini, and David A. Matsa, 2013, “Labor unemployment risk and corporate financing decision,” *Journal of Financial Economics*, 108, 449-470.

Panel Data #1

Lemmon, Michael, Michael R. Roberts, and Jaime F. Zender, 2008, Back to the beginning: Persistence and the cross-section of corporate capital structure, *Journal of Finance* 63, 1575-1608.

Gambacorta, Leonardo, Mistrulli, Paolo, 2004, Does bank capital affect lending behavior?, *Journal of Financial Intermediation* 13, 436–457.

Panel Data #2

Khwaja, Asim Ijaz, and Atif Mian, 2008, “Tracing the Impact of Bank Liquidity Shocks: Evidence from an Emerging Market,” *American Economic Review*, 98(4), 1413-1442.

Becker, Bo, Zoran Ivkovic, and Scott Weisbenner, 2011, “Local dividend clienteles,” *Journal of Finance*, 66(2), 655-683.

Instrumental Variables

Gormley, Todd A., 2010, “The impact of foreign bank entry in emerging markets: evidence from India,” *Journal of Financial Intermediation*, 19(1), 26-51.

Bennedsen, M., K Nielsen, F. Perez-Gonzalez, and D. Wolfenzon, 2007, Inside the family firm: The role of families in succession decisions and performance, *Quarterly*

Journal of Economics, 122, 647-691. Giroud, Xavier, Holger M. Mueller, Alex Stomper, and Arne Westerkamp, 2012, “Snow and leverage,” *Review of Financial Studies*, 25, 680-710.

Natural Experiments #1

Gormley, Todd A., and David Matsa, 2011, “Growing Out of Trouble? Corporate Responses to Liability Risk,” *Review of Financial Studies*, 24(8), 2781-2821.

Love, Inessa, Preve, L. and Sarria-Allende, V., Trade Credit and Bank Credit: Evidence from Recent Financial Crises, *Journal of Financial Economics* 83, 453–469.

Jayaratne, Jith, and Philip Strahan, 1996, “The finance-growth nexus evidence from bank branch deregulation,” *Quarterly Journal of Economics*, 111(3), 639-670.



Natural Experiments #2

Agrawal, Ashwini, 2013, “The impact of investor protection law on corporate policy and performance: evidence from the blue sky laws,” *Journal of Financial Economics*, 107, 417-35.

Bertrand, Marianne, and Sendhil Mullainathan, 2003 “Enjoying the quiet life? Corporate governance and managerial preferences,” *Journal of Political Economy*, 111(5), 1043-75.

Hayes, Rachel M., Michael Lemmon, and Mingming Qiu, 2012, “Stock options and managerial incentives for risk taking: evidence from FAS 123R,” *Journal of Financial Economics*, 105, 174-190.

Common Limitations & Errors

Giroud, Xavier, and Holger Mueller, 2010, “Does corporate governance matter in competitive industries?” *Journal of Financial Economics*, 95, 312-331.

Ljungqvist, Alexander, Christopher Malloy, and Felicia Marston, 2009, “Rewriting history,” *Journal of Finance*, 64(4), 1935-1960.

Bennedson, Morten, Francisco Perez-Gonzalez, and Daniel Wolfenzon, 2012, “Evaluating the Impact of the Boss: Evidence from CEO Hospitalization Events”, working paper, <http://www.stanford.edu/~fperezg/valueboss.pdf>
