**Course Objectives**- This course surveys the common methodologies used in empirical corporate finance research, with an emphasis on practical issues. It also examines many of the important topics in corporate finance, including both seminal papers and working papers on the cutting edge of the field. The course is designed to help you learn how to do empirical research in corporate finance via a two-pronged approach: (1) Lectures, readings, and course assignments will help you understand the intuition behind each econometric method. (2) Student presentations, referee reports, and literature reviews will help you become familiar with the most important papers in the literature.

I will not go through the proofs of theorems, and you will not be tested on them. This is an applied econometrics course with a focus on corporate finance: Understanding the intuition and the rationale for choosing and using empirical models are more important than learning the mechanical steps to derive the theorems. In addition, most of the proofs are trivial, and you can find them in most textbooks.

**Prerequisites**- You should have taken at least a graduate-level course in introductory econometrics. In preparation for the class, you should also have done the following before the first day of class:

- Please buy the book and briefly take a look at “Mostly Harmless Econometrics” (http://www.mostlyharmlesseconometrics.com/) by Angrist and Pischke. It is a good applied econometrics textbook. I don’t require that you understand every single concept in the book, as we will review the book in class during the semester, but I want you to be familiar with the content before the first day of class.
- You also should have access to Stata (version SE or better), and know how to use it before the beginning of the semester. You will not have time to learn how to code in Stata during the semester. There are several website (e.g. http://www.ats.ucla.edu/stat/stata/ or http://data.princeton.edu/stata/) that offer free Stata tutorials. For this class, I don’t allow the use of any other statistical software (R, SAS, Matlab,…), because Stata is by far the most used statistical software in empirical corporate finance, and you should know how to use it, even if it is not your preferred software. If you don’t already have access to it, you have two options:
  - Access Stata remotely for free through the utexas stat app server: (https://stat.utexas.edu/consulting/stat-apps-server)
  - Buy your individual copy of stata:
Your computer (or remote server) should have at least 4Gb of RAM.

You are also responsible to have a functioning access to the WRDS website at the beginning of the semester (https://www.lib.utexas.edu/indexes/titles.php?id=340).

Reading Materials-

Required Textbook:


Suggested Textbooks:


Ideally, it would be good if the students are familiar with the Angrist and Pischke book before the beginning of the semester. The Wooldridge and Greene books are for your reference. They have a much more classical, rigorous, but less intuitive (in my opinion), approach to econometric analysis.

Class Attendance and Participation- Class attendance is required. If you cannot attend a class, please email me in advance. If you fail to attend three or more classes during the semester, I will ask you to take the class at a better time that is more convenient for you. The class will be more a joint discussion of corporate finance topics and econometric techniques, rather than a typical lecture-based class. Sometimes, I may assign students to act as the “point person” for each article (i.e., lead or be prepared to lead the discussion).

All sessions will be videotaped, and made readily available online at TBD. However, it does not excuse you from attending class. Your presence and participation is essential to the classroom experience. I retain the option to stop posting videotaped classes online if the attendance drops.

Coursework- There will be five graded components to the course, designed to help you actively participate and learn the material discussed in class, and prepare you for your research projects.

1. Participation: Class participation is a critical part of the course, and you will be graded on it. This includes reading all assigned papers, actively engaging in the discussion, asking pertinent questions, and answering questions correctly. Failure to do presentations or to be engaged in the discussions will result in a lower grade.

2. Homework: You will be asked to download data and write code to implement some of the tools taught in the course. These will be very basic empirical exercises, but helpful to teach you how to actually use these tools. You will also be asked to replicate the main results of several papers.

3. Referee Reports: In the second part of the course, you will be assigned a paper to read, review, and present a discussion in class. Sometimes you will also have to write a short referee report that will be graded.
4. **Research Proposal:** You will be asked to write an outline for a potential empirical paper in corporate finance. The research proposal is due the day of the final exam. I am not expecting that you write a full paper, but I would like to see that you thought about an interesting idea, and that you spent some time on how to develop it into a research project. The topic of the paper has to be on empirical corporate finance only if you are a finance PhD student. If you are not a finance PhD student, you can choose any empirical applied micro-economics topic (labor, accounting, marketing, ...), so that it can be a useful first step for your academic career. You cannot choose an idea that you have already used for other courses, or for other research papers. Your research proposal should include: (a) a detailed exposition of the research question. Make sure you spell out what your null and alternative hypotheses are, and what frictions (or theoretical models) would support your alternative hypothesis; (b) an overview of the literature on the topic, and your contribution (How is this different from what has already been done?); (c) a list of datasets you would need to test your hypothesis; (d) the empirical methodology that allows you to answer the research question (What is your identification strategy? Are all the observations iid? What other possible explanations could drive your results? How you can separate them from your main hypothesis?). Take this as an opportunity to receive some feedback on one of your early ideas for your dissertation. While you are not required to execute your idea, if you feel inclined to do so you will receive even more informative feedback.

5. **Final Exam:** The final examination will be administered during the final exam period. The exam will be oral, and individual. The exam is cumulative and covers all material mentioned in the course. I believe that this is the best way to test whether you understood the material I taught in class. You only really learn about a topic when you are able to teach it. Each student will be tested for approximately 30 minutes. Questions will be initially broad (e.g. Talk to me about pros and cons of IV; or Tell me the state of the literature on capital structure, … ), and then I might ask more specific questions depending on how you answer the open-ended question. The best way to prepare for the exam is to go through the lecture notes and the textbook and to work through the homework assignments. Please note the scheduling of the exam. You are responsible for ensuring that you are available and on campus to take the exam. I will not permit anyone to take the exams at another time unless you are gravely ill, face a significant emergency or have an exam conflict. If your travel plans conflict with the date of an exam, you should change your travel plans now, or drop the course.

**Grading**- You should not be too worried about your grade; instead, you should focus on learning the material covered in this course. Using these tools to write a solid job market paper and dissertation is far more important than your actual grade. When you’re on the job market, no one will care what grade you got in your PhD courses. You should view your grade in this course as a signal of where I think you stand in terms of your knowledge of the empirical corporate finance literature, and of your ability to apply the tools of this course in a research project. Your grade in the course will be determined as follows:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>15</td>
</tr>
<tr>
<td>Referee Reports and HWs</td>
<td>40</td>
</tr>
<tr>
<td>Project Proposal</td>
<td>10</td>
</tr>
<tr>
<td>Final Exam</td>
<td>35</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Grades are non-negotiable, but if you have a question about assigned grade, please ask. Make-up and extra-credit assignments are generally not possible. Your grade will be determined solely by the components listed above. The average turn-around time for returning the graded HWs and reports back
to students is one week.

Classroom Policies: Standard policies used in other courses apply to this class. I don’t expect these to be an issue for PhD students:

- Attending class: The education experience for everyone suffers if participation or attendance for the class becomes a problem. Thus attendance is required. If you must miss a class, an examination, a work assignment, or a project, in order to observe religious holidays, you will be given an opportunity to complete the missed work within a reasonable timeframe after the absence.
- Using laptops, smartphones, and other wireless devices: There are often cases where learning is enhanced by the use of laptops and other devices in class. However, when students are surfing the web, responding to e-mails, instant messaging each other, and otherwise not devoting their full attention to the topic at hand, they are doing themselves and their peers a major disservice. Those around them face additional distraction. Fellow students cannot benefit from the insights of the students who are not engaged.
- Arriving on time: On time arrival ensures that classes are able to start and finish at the scheduled time. On time arrival shows respect for both fellow students and faculty and it enhances learning by reducing avoidable distractions.
- Turning in your assignments late: Individual extension of assignment deadlines could negatively alter the level-playing field within the classroom. Assignments turned in late will be discounted 30%.

Academic Dishonesty: I have no tolerance for acts of academic dishonesty. Such acts damage the reputation of the school and demean the honest efforts of the majority of students. The minimum penalty for an act of academic dishonesty will be a zero for that assignment or exam.

The responsibilities for both students and faculty with regard to the Honor System are described on http://mba.mccombs.utexas.edu/students/academics/honor/index.asp. As the instructor for this course, I agree to observe all the faculty responsibilities described therein. If the application of the Honor System to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification.

As specific guidance regarding collaboration for this course, you should consider the completion of the three individual problem sets to be an individual effort. It is OK to ask for help from others on the individual assignments if you get completely stuck or lost, however, you should develop your own answer and certainly not cut and paste the work of others. The two case assignments will be completed in pairs or groups of three. Group preparation for examinations is acceptable and encouraged.

Students with Disabilities: Upon request, the University of Texas at Austin provides appropriate academic accommodations for qualified students with disabilities. Services for Students with Disabilities (SSD) is housed in the Office of the Dean of Students, located on the fourth floor of the Student Services Building. Information on how to register, downloadable forms, including guidelines for documentation, accommodation request letters, and releases of information are available online at http://deanofstudents.utexas.edu/ssd/index.php. Please do not hesitate to contact SSD at (512) 471-6259, VP: (512) 232-2937 or via e-mail if you have any questions.
**Tentative Schedule**

The first part of the course will be focused on reviewing the most current econometric techniques used in corporate finance. In the second part of the course, we will discuss an important corporate finance topic each week. The dates and topics are tentative and might change during the semester.

<table>
<thead>
<tr>
<th>Date</th>
<th>Class</th>
<th>Topic</th>
<th>Assignments Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wed Jan 18</td>
<td>1</td>
<td>Introduction, OLS</td>
<td></td>
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<tr>
<td>Wed Jan 25</td>
<td>2</td>
<td>Endogeneity</td>
<td>Replication 1</td>
</tr>
<tr>
<td>Wed Feb 1</td>
<td>3</td>
<td>Fixed Effects Models</td>
<td>HW 1 (OLS)</td>
</tr>
<tr>
<td>Wed Feb 8</td>
<td>4</td>
<td>Instrumental Variables</td>
<td>HW 2 (FE), Replication 2</td>
</tr>
<tr>
<td>Wed Feb 15</td>
<td>5</td>
<td>Natural Experiments</td>
<td>HW 3 (IV), Replication 3</td>
</tr>
<tr>
<td>Wed Feb 22</td>
<td>6</td>
<td>Regression Discontinuity</td>
<td>HW 4 (Diff-in-Diff)</td>
</tr>
<tr>
<td>Wed March 1</td>
<td>7</td>
<td>Matching</td>
<td></td>
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<tr>
<td>Wed Mar 8</td>
<td>8</td>
<td>Non-linear Models and Other Econometric Techniques</td>
<td>Replication 4</td>
</tr>
<tr>
<td>Wed Mar 22</td>
<td>9</td>
<td>Standard Errors</td>
<td></td>
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<tr>
<td>Wed Mar 28</td>
<td>10</td>
<td>Capital Structure</td>
<td>Referee report 1</td>
</tr>
<tr>
<td>Wed Apr 5</td>
<td>11</td>
<td>Investments, M&amp;A, and Internal Capital Markets</td>
<td>HW 5 (M&amp;A)</td>
</tr>
<tr>
<td>Wed Apr 12</td>
<td>12</td>
<td>Security Offerings (IPO, SEO, …) and Payout</td>
<td>Replication 5 (Conglomerates)</td>
</tr>
<tr>
<td>Wed Apr 19</td>
<td>13</td>
<td>Corporate Governance</td>
<td>HW 6 (Patents)</td>
</tr>
<tr>
<td>Wed Apr 26</td>
<td>14</td>
<td>VC, PE, Family Firms, and Entrepreneurship</td>
<td></td>
</tr>
<tr>
<td>Wed May 3</td>
<td>15</td>
<td>Other Corporate Finance Topics</td>
<td></td>
</tr>
<tr>
<td>TBD</td>
<td>16</td>
<td>Final Exam</td>
<td>Project Proposal</td>
</tr>
</tbody>
</table>

**Reading List**

*Practical guides on how to write research papers and referee reports*

- Berk, Harvey, and Hirshleifer - Preparing a referee report: Guidelines and perspectives.
- Ferson - Tips on writing a referee’s report
- Cochrane (2005) - Writing tips for PhD students
- Referee guidelines for the Journal of Finance (V3)

**Finance Survey Books**

- Handbook of the Economics of Finance, Elsevier.
Week 1 and 2 - OLS and Endogeneity:

- Angrist and Pischke Ch. 1, 2, 3
- Wooldridge Ch 4.1, 4.2
- Greene Ch. 3, 4.1-4.4, 5.7-5.9, 6.1-6.2

Week 3 - Panel Data

- Angrist and Pischke Ch. 5.1, 5.3, 5.4
- Wooldridge Ch. 10, 13.9.1, 15.8.2, 15.8.3
- Greene Ch. 11
**Week 4 - IV**

- Angrist and Pischke Ch. 4

**Week 5 - Diff-in-Diff**

- Angrist and Pischke Ch. 5.2
- Guiso, Luigi, Sapienza, Paola, and Zingales, Luigi, 2004, The role of social capital in financial


**Week 6 - RDD and RKD**

- Angrist and Pischke Ch. 6

**Week 7 - Matching**

- Angrist and Pischke Ch. 3.3
- Wooldridge Ch. 21.3.5
Week 8 – Non-Linear Models

- Angrist and Pischke Ch. 3.4

Week 9 – Statistical Inference

- Angrist and Pischke Ch. 8

Week 10 – Capital Structure

Survey Papers


Papers on Capital Structure

- Chava, Sudheer, and Roberts, Michael R., 2008, How does financing impact investment?, *The


**Week 11 – Investments, M&A, and Internal Capital Markets**

**Survey Papers**

Papers on Investments

- Polk, Christopher, and Sapienza, Paola, 2008, The stock market and corporate investment: A test

Papers on M&A


Papers on Internal Capital Markets and Corporate Diversification

- Anjos, Fernando, and Fracassi, Cesare, 2015, Technological specialization and the decline of diversified firms, *SSRN Working Paper*, University of Texas (Austin)
- Kuppuswamy, Venkat, and Villalonga, Belen, 2010, Does diversification create value in the presence of external financial constraints? Evidence from the 2007-2009 Financial Crisis,


Week 12 – Security Offerings and Payout Policies

Survey Papers


Papers on Security Offerings

Papers on Payout Policies


Week 13 – Corporate Governance

Survey Papers

- Murphy, Kevin J., 2013, Ch. 4: Executive compensation: Where we are, and how we got there, *Handbook of the Economics of Finance Vol. 2 Part A*, 211-356.

Papers on Corporate Governance

- Gillette, Ann B., Noe, Thomas H., Rebello, Michael J., 2008, Board structure around the world:


Papers on CEO compensation


**Week 1 – VC, PE, Family Firms, and Entrepreneurship**

Survey Papers


**Week 15 – Other Topics in Corporate Finance**

Survey Papers

- Ashcraft, Adam B., and Schuermann, Til, 2008, Understanding the securitization of subprime
mortgage credit, *Federel Reserve Bank of New York Staff Reports 318.*


- La Porta, Rafael, Lopez-de-Silanes, Shleifer, Andrei, Ch. 6: Law and Finance after a decade of research, *Handbook of the Economics of Finance Vol. 2 Part A*, 425-491.