ACCT930: Empirical Design in Accounting Research  
Spring 2020  
University of Pennsylvania  
The Wharton School  
Department of Accounting

Instructors: Prof. Daniel Taylor

Location:  
Class — Friday 2p-5p, SHDH 205  
Office hours — by appointment, SHDH 1312

Course objectives: The objective of the course is for students to learn how to design a set of rigorous empirical tests for a given research question and set of hypotheses. The course focuses on research design rather than topics in the literature. The first part of the course reviews a variety of econometric methods (difference-in-differences, matching, regression discontinuity) and research design choices (e.g., measurement error, fixed effects, levels v. changes). By the end of the first part of the course, students are expected to know the key conceptual strengths and weaknesses of each method and understand the econometric consequences of various research design choices. The second part of the course is an application to existing research topics within the accounting literature with a focus on causal inference and “quasi-natural experiments.” In the second part of the course, students will be given papers and tasked with critiquing and extending the research design.

By the end of class, students should have a grasp on the tools used in modern empirical analysis, be able to critically evaluate a study’s research design, and be able to develop a multi-facetted set of tests for a given research question. The course is intended for students with exposure to the academic accounting literature with a reasonable grasp of statistical inference and regression. Students should have already taken the Empirical Accounting Seminar (or be concurrently enrolled) and knowledge of statistics and econometrics equivalent to advanced undergraduate courses is presumed.

Textbook: Any conversation on empirical design is heavily shaped both by one’s knowledge of econometric methods, and by one’s philosophical approach to empirical work. The course and associated discussion will rely heavily on the material in the following sources, each of which I consider a “must read” for empirical researchers in accounting.

- J. Angrist; J. Pischke; 2009. Mostly Harmless Econometrics: An Empiricist’s Companion
- M. Roberts; T. Whited; Endogeneity in Empirical Corporate Finance. Handbook of the Economics of Finance.

Todd Gormley’s notes also offer an excellent synopsis of the technical details of the methods that we will see http://www.gormley.info/phd-notes.html. If you have not already seen some of
the more advanced statistical methods (e.g., regression discontinuity, IV, difference-in-differences), I suggest reviewing his slides and following up with Angrist and Pischke or Roberts and Whited.

Occasionally, we will need a more technical treatment than that covered above. In these cases I will draw on material in: Microeconometrics (by Cameron and Trivedi), Econometric Analysis of Cross-Sectional and Panel Data (by Wooldridge) and Econometric Analysis (by Greene).

Of course, to do meaningful empirical work, methods are not sufficient. One also needs theory and an appropriate empirical setting. I would argue that the latter two elements are even more important than the former. Testing solid theory in an appropriate setting with a simple method, beats out no theory in an inappropriate setting, with an advanced method. Theory and setting are two main ingredients to empirical work that you will not see discussed in econometric texts or in related fields. These topics are often field specific, and shape how one approaches empirical work. I have written up my philosophical approach to empirical work that discusses these issues within the context of accounting research:


You can replicate 90% of my current thinking on the topic by reading and understanding every bit of Bertomeu et al. and Angrist and Pischke.

Meetings: Meetings will be approximately 3 hours long. We will take a break halfway through, at 1:30. Students should feel free to bring a brown-bag lunch (the instructor will bring his). The format for the first part of class will be instructor led presentation with discussion. The format for the second part of the course will be entirely student presentation with discussion. Groups of students will present the papers.

Grading: Timely and accurate completion of assignments is REQUIRED for a passing grade. Grades are a function of class participation and weekly assignments (35%), mid-term project (35%), and capstone project (30%). Failure to submit assignments on time and/or failure to participate will be reflected heavily in the final grade.

Participation: As class will largely consists of a discussion of the required reading, the success or failure of this class will largely be determined by the extent of student participation.

Weekly Assignments: Weekly assignments will be given and are due midnight the day before class, unless otherwise specified. These assignments may include answering a few brief questions pertaining to the assigned topic or reading, and/or critiquing/ extending the research design of a published paper. Student will be expected to present their work to the class. Those who have previously taken the course and completed the assignments are asked not to share or otherwise help first-time students.
**Mid-Term:** The mid-term for the class will be a take-home multi-part empirical exercise. Students may work in teams of 2 or 3. Assignment and requisite data/code will be provided the first week of class.

**Capstone:** For the final project, students will be provided a dataset pertaining to staggered adoption of novel US regulations and asked to develop hypotheses, tests, and present results. Teamwork is not allowed. Assignment and requisite data/code will be provided the first week of class.

**Schedule**

Below are some topics and papers that I would like us to discuss. Please complete the Week 1 discussion questions prior to the first class. There is a lot to read, so I encourage you to focus on identifying each paper’s research question; research setting; the method(s) it applies to answer that question; and the assumptions of the method(s) that were applied. Given our focus on design/methodology, all other details (i.e., motivation, literature review, specific findings, etc) are secondary/tertiary. Conversations require participation by all involved.

**Part I: Review of Methods**

**1/12 (Week 1) Review of OLS and Measurement Error**

**Review of OLS**
Stock and Watson Ch4, 5.2-5.10, Ch7, Ch15
M. Roberts; T. Whited; Endogeneity in Empirical Corporate Finance. *Handbook of the Economics of Finance.* Sections 2 + 7.

**Discussion Questions**

**1/19 (Week 2) Threats to OLS & Applications: Violations of OLS Independence Assumptions**


**Discussion Questions**

**Optional Background**
Cameron and Trivedi 24.5-24.6

1/26 (Week 3) Threats to OLS & Applications: Endogeneity and Instrumental Variables

M. Roberts; T. Whited; Endogeneity in Empirical Corporate Finance. *Handbook of the Economics of Finance. Section 3.*


Discussion Questions

Optional Background
Stock and Watson Ch10 / Angrist and Pischke Ch 4

2/2 (Week 4) Threats to OLS & Applications: Difference-in-Differences

M. Roberts; T. Whited; Endogeneity in Empirical Corporate Finance. *Handbook of the Economics of Finance. Section 4.*

W. Guay; D. Samuels; D. Taylor; 2016. Guiding through the fog: Financial statement complexity and voluntary disclosure. *Journal of Accounting and Economics.* SKIM
A. Jagolinzer; D. Larcker; G. Ormazabal; D. Taylor, 2016. Political Connections and the Trading of Corporate Insiders. working paper. SKIM
M. Barth; W. Landsman; D. Taylor, 2017. The JOBS Act and Information Uncertainty in IPO Firms. *The Accounting Review*. SKIM

Discussion Questions

Optional Background
Stock and Watson 5.1, 5.11-5.13, Ch 8, 11.3 / Angrist and Pischke Ch 5.

2/9 (Week 5) Threats to OLS & Applications: Propensity Score Matching


C. Armstrong; A. Jagolinzer; D. Larcker; 2010. Chief Executive Officer Equity Incentives and Accounting Irregularities. *Journal of Accounting Research*. SKIM


Discussion Questions

Optional Background

2/16 (Week 6) Threats to OLS & Applications: Regression Discontinuity

D. Lee; T. Lemieux; 2010. Regression Discontinuity Designs in Economics. *Journal of Economic Literature*.
M. Roberts; T. Whited; Endogeneity in Empirical Corporate Finance. *Handbook of the Economics of Finance*. Section 5.


C. Armstrong; S. Huang; D. Taylor; 2014. Institutional ownership and reporting quality. Distinguishing Selection from Monitoring. working paper. SKIM

Discussion Questions

Optional Background
Cameron and Trivedi 25 / Angrist and Pischke 3.3, Ch6

2/23 (Week 7) Threats to OLS & Applications: Triangulation


Group 1 Presentations:


Group 2 Presentations:

S. Dyreng; M. Hanlon; E. Maydew; 2010. Where Do Firms Manage Earnings? working paper version


3/2 (Week 8) Overflow: Vocational Skills

Additional Material
Referee reports and responses on Guay et al (2016); Barth et al (2017)
R. Bloomfield; 2015. How to be a Good Professor.
J. Berk; C. Harvey; D. Hirshleifer; 2017. How to Write an Effective Referee Report

3/9 NO CLASS (Spring Break). Midterm assignment due 3/12 at 9AM

3/16 (Week 9) Review midterm assignment

Miscellaneous issues:
- Issue with fixed effects in non-linear models
- Issue with including both fixed effects and lag values
- Issue with non-linear first stage IV
- Issue with lag as IV
- Additional assumptions with unit-specific fixed effects (strict exogeneity)

**Part II: Casual inferences or Causal inferences?**

3/23 (Week 10) Thinking Carefully About Exogenous Shocks


**Background:**
exogenous changes in analyst coverage’. *Journal of Finance*. **SKIM**
R. Iranii; D. Oesch (2013), ‘Monitoring and corporate disclosure: Evidence from a natural
K. Balakrishnan; M. Billings; B. Kelly; A. Ljungqvist (2014), ‘Shaping liquidity: On the
causal effects of voluntary disclosure’. *Journal of Finance*. **SKIM**

3/30 (Week 11) Exogenous Shocks I—Students Presentations

E. Blankespoo; B. Miller; H. White; 2014. Initial Evidence on the Market Impact of the
Y. Li; L. Zhang; 2015. Short selling pressure, Stock Price Behavior, and Management
Forecast Precision: Evidence from a Natural Experiment. *Journal of Accounting
Research*
S. Huang ; J. Ng; S. Roychowdhury; E. Sletten 2016. Increased creditor rights, institutional
investors and corporate myopia. Working paper.
F. Heider; A. Ljungqvist; 2015. As Certain as Debt and Taxes: Estimating the Tax Sensitivity
4/6 (Week 12) Exogenous Shocks II—Students Presentations


4/13 (Week 13) Exogenous Shocks III—Students Presentations


M. Dambra; M. Gustafson; 2017. Corporate Investment and the Burdens to being Public. Working paper.


Capstone project due 4/18 at 9AM

4/20 (Week 14) Causal Inferences: Things to Think About


S. Glaeser; W. Guay; 2017. Identification and Generalizability in Accounting Research. *Journal of Accounting and Economics*

Student presentations of capstone project.