

Course Description

The goal of this course is to help you develop a strong intuition for the research design methodologies that are commonly used in archival accounting research. The course is weighted toward Auditing research, but the methodological issues that we shall cover are widely applicable in many areas of archival research in Accounting.

Learning Objectives

By the end of the course students will be able to

1. Identify the main topic areas in Auditing research.
2. Discuss the limitations of the research design methodologies that have been used in the Auditing literature.
3. Use STATA to conduct data manipulation, creation of variables, univariate tests, and graphs.
4. Explain the intuition for and - estimate using STATA - the following types of models: Ordinary Least Squares (OLS), logit and probit, median regression, multinomial logit, ordered logit, Poisson and negative binomial regression, Tobit, and Cox Proportional Hazards.
5. Explain the intuition for and - estimate using STATA - models that employ panel data and instrumental variable techniques.

Required Materials

There is no course textbook. For students that are new to STATA, I can recommend the book by Ulrich Kohler and Frauke Kreuter, "Data Analysis Using Stata", which is available for purchase from the STATA website. Research articles, powerpoint slides, and datasets are available via Blackboard. For the second part of the course, students need to bring their laptops to each class with the datasets already uploaded and with STATA pre-installed.

Recommended Preparation

Graduate level Econometrics class.

Course Notes

The course is in two parts. The first part covers the Auditing literature with particular emphasis on the research design methodologies that have been used. Students are expected to critically evaluate the studies and identify any fundamental flaws in the empirical methods. This serves as a useful motivation for the second part of the course where we will consider the pros and cons of the alternative research design methodologies used in Auditing research. I know from my own experience as a PhD student (and my interactions with other PhD students) that many students find it difficult to bridge the gap between what they learn in their Econometrics classes and the knowledge that is required to conduct high quality

archival research. The second part of the course aims to rectify this by providing a bridge between traditional Econometrics and your work as an applied researcher in Accounting (with special emphasis on research in Auditing).

Part One (“Auditing”)

There are five classes on auditing. There will be 15 presentations in total with each student giving 5 presentations. Some of the papers are literature reviews, which are for students to develop a broad knowledge of the topics that have been examined in the auditing literature. In the other papers that are not literature reviews, the presenter’s job is to evaluate and/or pose questions regarding the critical aspects of the paper including: the motivation for the study, hypotheses, research design, empirical methodology, construct validity of the empirical measures, and the validity of the reported inferences. Each presentation should last approximately 40 minutes and presenters should expect to have to answer questions during the course of the presentation. I am reserving about 20 minutes at the end of each presentation to discuss any issues that I feel the presenters missed, so each class will last approximately 3 hours.

Part Two (“Archival Research”)

There are six classes scheduled on Archival Research. Throughout this part of the course we will be using STATA to analyze archival data. The purpose of the first session is to introduce students to STATA. (We may skip through the first session if all the students have some basic knowledge of STATA). The purpose of the second session is to give students an intuitive understanding of OLS regression, to understand how the residuals can be examined for signs of model misspecification, to diagnose and address problems of heteroskedasticity, time-series dependence, multicollinearity, and outliers. I shall also provide a brief introduction to median regression which can be used as an alternative to OLS. The purpose of the third and fourth session is to give students an intuitive understanding of logit and probit models, multinomial models, ordered models, count data models, tobit and hazard models. The fifth class will cover panel data techniques. The last class will deal with instrumental variables, propensity score matching, difference-in-differences designs, and regression discontinuity designs.

Following each class, students must work through my powerpoint slides before they come to the next class. My powerpoint slides emphasize intuition and application rather than statistical proofs. My powerpoint slides include references to published studies so that students can see how the empirical techniques have been applied in the literature. Those studies are also included on the reading list but reading them is optional and is not necessary in order to understand the core material.

ASSIGNMENTS AND GRADING DETAIL

<u>Assignments</u>	<u>% of Grade</u>
PRESENTATIONS	30%
CLASS PARTICIPATION	10%
REFEREE REPORT	30%
PAPER CRITIQUE	30%
TOTAL	100%

Final grades represent how you perform in the class relative to other students. Three items are considered when assigning final grades:

1. Your average weighted score as a percentage of the available points.
2. The overall average percentage score within the class.
3. Your ranking among all students in the class.

Student Presentations (30%)

In Part 1 of the course, each student will present four times. Each presentation should last approximately 30 minutes and presenters should expect to answer questions during the course of the presentation. Students should prepare Powerpoint slides for their presentations. Students should email me their slides no later than 6pm on the evening before their presentation.

Clear and persuasive communication, both orally and in writing, is a critical component to success in academia. You should exert effort and care to develop your communication skills in this class and throughout the rest of the PhD program. I will ask questions and make comments when I deem it necessary or appropriate. I will correct you when you make incorrect statements. You should learn to take criticism in your stride, because as an academic you will get a lot of it over the course of your career. It is better to put your ideas out there than to hold them in to avoid criticism. In these sessions we have some literature review papers and research papers. I expect every student to read every paper in preparation for class.

Particularly for the literature review papers, it is not necessary for the presenter to cover all the material in the paper. This would not be feasible (e.g., the DeFond and Zhang review is 52 pages long!) and it should also be unnecessary as everyone should have read the paper beforehand.

Class participation (10%)

In Part 1 of the course, every student is required to read and think about the assigned papers. Moreover, each student is expected to offer comments and questions during the student presentations. In Part 2 of the course, I shall lead each session but I will be asking the students plenty of questions about the material. I expect students to respond to my questions and to ask questions of their own.

Referee report (30%)

Following the last class of Part 1, I will ask you to write a referee report on an audit paper. Your report should evaluate: the persuasiveness of the hypotheses, the validity of the empirical research design, and the significance of the paper's incremental contribution to the literature. At the end of the report you should provide a clear recommendation to accept, allow revise and resubmit, or reject the paper. The maximum length of the report is 1,500 words and the reports need to be emailed to Prof. Lennox on or before Friday February 8, 2019.

Paper critique (30%)

During Part 2 of the course, we will discuss empirical studies that are arguably problematic in terms of their empirical methodology. Each student will be required to find a published or unpublished empirical paper that has significant empirical limitations similar to those discussed in Part 2 of the course. The critique should begin with a brief summary of the paper's main research questions. In the main body of the critique students should explain why the empirical analysis could be faulty and what (if anything) the authors could have been done to remedy the problem(s). The maximum length of the critique is 1,500 words and it should be emailed to Prof. Lennox on or before Friday March 29, 2019.

ADDITIONAL INFORMATION

Retention of Graded Coursework

All graded work which affected the course grade will be retained for one year after the end of the course *if* the graded work has not been returned to the student.

Academic Conduct

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Section 11, *Behavior Violating University Standards* <https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/>. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, <http://policy.usc.edu/scientific-misconduct/>.

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu/> or to the *Department of Public Safety* <http://capsnet.usc.edu/department/departments-public-safety/online-forms/contact-us>. This is important for the safety of the whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report or can initiate the report on behalf of another person. *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage <https://sarc.usc.edu/reporting-options/> describes reporting options and other resources.

Support Systems

Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu/> will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.

COURSE CALENDAR/CLASS SESSIONS/PRESENTERS

<u>PART 1: AUDITING (Room = ACC 312)</u>			
<u>Date</u>	<u>Time</u>	<u>Papers for students to present</u>	<u>Presenters</u>
Friday Jan 25	1pm-4pm	<u>AUDIT QUALITY</u> 1. DeFond and Zhang (2014) 2. Donovan, Frankel, Lee, Martin, Seo (2014) 3. Palmrose and Kinney (2017); DeFond, Lennox, Zhang (2017) 4. Lennox, Wu, Zhang (2016)	1. Fangfei Shu 2. Katherine Bruere 3. Yuan Chen (AJ) 4. Jesse Gardner
Friday Feb 1	1pm-4pm	<u>AUDIT REGULATION AND LITIGATION</u> 1. Lennox and Li (2014) 2. Lennox and Li (2019) 3. DeFond and Lennox (2011) 4. DeFond and Lennox (2017)	1. Fangfei Shu 2. Katherine Bruere 3. Yuan Chen (AJ) 4. Jesse Gardner
<u>PART 2: ARCHIVAL RESEARCH WITH STATA (Room = ACC 312)</u>			
<u>Date</u>	<u>Time</u>	<u>Topics</u>	<u>Presenter</u>
		Introduction to STATA	Notes provided
Friday Feb 8	1pm-4pm	Continuous dependent variables	Prof. Lennox
Friday Feb 22	1pm-4pm	Discrete dependent variables (part 1)	Prof. Lennox
Friday March 8	1pm-4pm	Discrete dependent variables (part 2)	Prof. Lennox
Friday March 15	1pm-4pm	Panel Data	Prof. Lennox
Friday March 22	1pm-4pm	Endogeneity	Prof. Lennox

Auditing

1. Friday Jan 25

Required readings:

1. "A review of archival auditing research", M. DeFond and J. Zhang, *Journal of Accounting and Economics* 2014, pages 275-326.
2. "Issues raised by studying DeFond and Zhang: What should audit researchers do?" J. Donovan, R. Frankel, J. Lee, X. Martin and S. Seo, *Journal of Accounting and Economics*, 2014, pages 327-338.
3. "Auditor and FASB Responsibilities for Representing Underlying Economics - What U.S. Standards Actually Say", Z.V. Palmrose and W. Kinney, 2019, *Accounting Horizons*, forthcoming. "The primacy of fair presentation: Evidence from regulators and the courts", M. DeFond, C. Lennox, and J. Zhang, 2019, *Accounting Horizons* forthcoming.
4. "How do audit adjustments affect earnings quality? Evidence from China", C. Lennox, T. Zhang and X. Wu, *Journal of Accounting and Economics*, 2016, Volume 61, No. 2-3, 545-562.

2. Friday Feb 1

Required readings:

1. Accounting misstatements following lawsuits against auditors, Clive Lennox and Bing Li, *Journal of Accounting and Economics*, 2014, Vol. 57, 58-75.
2. When are audit firms sued for financial reporting failures and what are the lawsuit outcomes? Clive Lennox and Bing Li, 2019, Working paper.
3. The effect of SOX on small auditor exits and audit quality, Clive Lennox and Mark DeFond, *Journal of Accounting and Economics*, 2011, Vol. 52, 21-40.
4. Do PCAOB inspections improve the quality of internal control audits? Clive Lennox and Mark DeFond, *Journal of Accounting and Economics*, 2017, Volume 55, No. 3, 591-627.

Archival Research

1. Continuous dependent variables

Required reading:

- My powerpoint slides

Other background reading:

- Ulrich Kohler and Frauke Kreuter, "Data Analysis Using Stata", Chapter 8 pages 177-232.
- "Estimating standard errors in finance panel data sets: Comparing approaches", M. Petersen, *Review of Financial Studies*, 2009: 435-480.

Studies referenced in my powerpoint slides:

- "Across-sample incomparability of R2s and additional evidence on value relevance changes over time", Z. Gu, *Journal of Business Finance & Accounting*, 2007, 34 (7&8), 1073-1098.
- "The value of auditor assurance: Evidence from loan pricing", D. Blackwell, T. Noland, D. Winters, *Journal of Accounting Research* 36: 57-70.
- "The determinants of audit fees: Some empirical models", C. Pong & G. Whittington. *Journal of Business Finance & Accounting*, 1994, 21 (8).
- "How informed are actively trading institutional investors? Evidence from their trading behavior before a break in a string of consecutive earnings increases", B. Ke, K. Petroni, *Journal of Accounting Research*, 2004, 895-927.
- "Loss function assumptions in rational expectations tests on financial analysts' earnings forecasts", S. Basu & S. Markov, *Journal of Accounting & Economics*, 2004, 171-203.

2 & 3. Discrete dependent variables

Required reading:

- My powerpoint slides

Other background reading:

- Ulrich Kohler and Frauke Kreuter, "Data Analysis Using Stata", Chapter 9.

Studies referenced in my powerpoint slides:

- "International accounting standards and accounting quality", M. Barth, W. Landsman, M. Lang, 2008, *Journal of Accounting Research* 46: 467-498.
- "The credibility of self-regulation: Evidence from the accounting profession's peer review program", G. Hilary and C. Lennox, *Journal of Accounting and Economics*, 2005, Vol. 40, No. 1-3: 211-229.
- "A five-state financial distress prediction model", A. Lau, *Journal of Accounting Research*, 1987, Vol. 25, No. 1, 127-138.
- "Accounting accruals and auditor reporting conservatism", J. Francis and J. Krishnan. *Contemporary Accounting Research*, 1999, Vol 16, 135-165.
- "Analyst following and count-data econometrics", S. Rock, S. Sedo, M. Willenborg, *Journal of Accounting & Economics*, 2001, 351-373.
- "Audit effort and earnings management", C. Caramanis, C. Lennox, *Journal of Accounting and Economics*, 45: 116-138.
- "The consequences of protecting audit partners' personal assets from the threat of liability", C. Lennox, B. Li, *Journal of Accounting and Economics*, 54: 154-173.

4. Panel Data

Required reading:

- My powerpoint slides

Other background reading:

- Ulrich Kohler and Frauke Kreuter, "Data Analysis Using Stata", Chapter 8 pages 232-240.
- B.H. Baltagi. "Econometric analysis of panel data." J. Wiley. Chapters 1 & 2.

Study referenced in my powerpoint slides:

- "Understanding the determinants of managerial ownership and the link between ownership and performance: comment", X. Zhou, *Journal of Financial Economics*, 2001, 62, 559-571.
- "The world price of earnings opacity", U. Bhattacharya, H. Daouk, M. Welker, *The Accounting Review*, 2003, 78(3), 641-678.
- "Managing with style: The effect of managers on firm policies", M. Bertrand and A. Schoar, *Quarterly Journal of Economics*, 2003, 118, 1169-1208.
- "Managers with and without style: Evidence using exogenous variation", C.E. Fee, C. Hadlock, J. Pierce, *Review of Financial Studies*, 2013, 26(3), 567-601.
- "Do individual auditors affect audit quality? Evidence from archival data." Gul, F. A., Wu, D., Yang, Z., 2013. *The Accounting Review*, 88 (6), 2013, 1993-2023.

5. Endogeneity

Required reading:

- My powerpoint slides

Other background reading:

- “The sample selection bias as a specification error”, Heckman, J., 1979. *Econometrica*, 47 (1): 153-62.
- “The Heckman correction for sample selection and its critique”, Puhani, P., 2000. *Journal of Economic Surveys*, 14(1): 53-68.
- “On the use of instrumental variables in accounting research”, Larcker, D., Rusticus, T., 2010, *Journal of Accounting and Economics* 49(3): 186-205.
- “Selection models in accounting research”, Lennox, C., J., Francis, Z. Wang, 2011. *The Accounting Review*, 2012, Vol. 87, 589-616.
- “The trouble with instruments”, Atanasov, V., Black, B., 2015, Working paper.
- “Propensity score matching in accounting research.” Shipman, J. E., Swanquist Q. T., Whited, R. L., 2015. Working paper.
- “Endogeneity in corporate finance.” Roberts, M., and T. Whited. 2013. Chapter 7 of the *Handbook of the Economics of Finance*, Volume 2 Part A, 493-572.

Studies referenced in my powerpoint slides:

- “Self-selection of auditors and audit pricing in private firms”, Chaney, P., Jeter, D., Shivakumar, L., 2004. *The Accounting Review* 79(1): 51-72.
- “The economic consequences of increased disclosure”, Leuz, C., Verrecchia, R., 2000. *Journal of Accounting Research*, 38(Supplement): 91-124.
- “Children and their parents’ labor supply: Evidence from exogenous variation in family size,” J. Angrist, W. Evans, *American Economic Review*, June 1998.
- “Lifetime earnings and the Vietnam era draft lottery: Evidence from social security administrative records”, Angrist, J. 1990. *American Economic Review* 80 (3): 313-316.
- “Does PSM really eliminate the Big N audit quality effect?” DeFond, M., D. Erkens, and J. Zhang. 2015. Working paper.
- “The Effect of SOX Section 404: Costs, Earnings Quality, and Stock Prices”, Iliev, P. 2010. *65 Journal of Finance* 1163-1196.
- “Third-party consequences of short-selling threats: The case of auditor behavior.” Hope O-K., Hu D., and W. Zhao. 2015. Working paper.
- “The consequences of protecting audit partners’ personal assets from the threat of liability.” Lennox, C., Li, B., 2012. *Journal of Accounting and Economics* 54: 154-173.
- “Real and accrual based earnings management in the pre- and post-Sarbanes-Oxley periods”, D. Cohen, A. Dey, and T. Lys. 2008. *The Accounting Review* 83(3): 757-787.