The Lee Kong Chian School of Business
Academic Year 2022 /23
Term 2

IDIS 701: APPLIED ECONOMETRICS FOR SOCIAL SCIENCES RESEARCH

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COURSE DESCRIPTION

This is a university-wide Ph.D. seminar course in applied econometrics for social science research. The course aims to expose students to current and classic studies in various empirical methods across various social science disciplines: economics, finance, accounting, strategy, organizational behaviour, social science, political science, etc. The topics which will be covered in the course include linear regression models, panel data, instrumental variables, (quasi)natural experiment, difference-in-differences, regression discontinuity, matching and selection models, standard errors, etc. The class format combines lecturing and student presentation of pre-assigned papers. The lectures by the instructor will teach various econometric techniques (in an intuitive and not-so-technical way), and the paper presentations will expose students to how these techniques are used in research in various fields.

COURSE AREA

Foundation

LEARNING OBJECTIVES

By the end of this course, students will be able to:

- Have a deep understanding of the key econometrical approaches used in empirical research in finance, economics, accounting, and management
- Conduct independent study using various empirical approaches
- Make critical evaluation of other empirical studies across various fields

ASSESSMENT METHODS

Grade Components	Percentage
Class participation	20%
Quizzes & Assignments	15%
Paper presentation	25%
Final project	40%
Total	100%

PRE-REQUISITE/CO-REQUISITE/MUTUALLY EXCLUSIVE COURSE(S)

NA

ACADEMIC INTEGRITY

All acts of academic dishonesty (including, but not limited to, plagiarism, cheating, fabrication, facilitation of acts of academic dishonesty by others, unauthorized possession of exam questions, or tampering with the academic work of other students) are serious offences.

All work (whether oral or written) submitted for purposes of assessment must be the student's own work. Penalties for violation of the policy range from zero marks for the component assessment to expulsion, depending on the nature of the offence.

When in doubt, students should consult the course instructor. Details on the SMU Code of Academic Integrity may be accessed at http://www.smuscd.org/resources.html.

INSTRUCTIONAL METHODS AND EXPECTATIONS

Class Participation

Participation is a central part of the learning process for PhD students taking this course. This includes attendance, full preparation prior to class including reading assigned papers, active participation in class discussions, and present assigned papers. Students failing to keep up with this class format will find it difficult to pass the course.

Quizzes & Assignments

There will be 2-3 small assignments for you to get familiar with important databases (e.g., WRDS, Compustat, Eikon, FactSet, BoardEx, Orbis, Capital IQ, Bloomberg, SDC) and conducting preliminary empirical analysis. You are required to download data from these databases and arrange them into proper formats that are suitable for empirical analysis. These assignments will be given during class and should be submitted before the start of the next class.

Presentation

Each student will need to present at least one assigned paper on class per instructor's requirement. There will be 2 papers presented in each class starting from Week 5, with each lasting for 45 minutes (30 mins presentation with interruption + 15 mins discussion by the class). There are 15 papers to be assigned for presentation which are marked in asterisk below. Students should also read all other papers that are not assigned for presentation.

Final Project

There will be a final individual project in lieu of the typical final exam. In the project, you are required to outline a possible empirical paper that uses tools taught in this course. You can consider this as a research proposal with detailed description of the data sources and the empirical strategy, without actually implementing the analysis with real data. You need to submit a 5-10 pages report by Week 15. In the report, you should clearly state what your research question is and why it has not been addressed by other studies. You also need to do a brief literature review (which does not have to be comprehensive but just to make sure this is something that has not been addressed in the literature) and proper hypothesis development. Most importantly, you should clearly explain how you are going to deal with potential endogeneity problems. Ideally, such a project can serve as a jump start on a possible second year paper or even the first chapter of your dissertation.

CLASS TIMINGS

This course will be taught in one 3-hour session on Monday 3:30pm-6:30pm. Please contact the instructors (by email or on class) beforehand if you will miss one or more lectures with a demonstrable reason. Failing to do so will result in a reduction of your class participation grade.

RECOMMENDED TEXT AND READINGS

Textbooks and book chapters:

Angrist, J.D. & Pischke, J.S. 2009. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press.

Wooldridge, J.M. 2010. *Econometric Analysis of Cross Section and Panel Data* (Second Edition), MIT Press.

Roberts, M. & Whited, T.M. 2013. "Endogeneity in Empirical Corporate Finance," *Handbook of the Economics if Finance*, Vol. 2: https://ssrn.com/abstract=1748604

Other papers assigned during the class for presentation.

Academic papers:

Classics & Causality:

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. *The American Economic Review*, *91*(5), 1369–1401.

Angrist, J. D. (1990). Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records. *The American Economic Review*, *80*(3), 313–336.

Angrist, J. D., Lavy, V. (1999). Using Maimonides' Rule to Estimate the Effect of Class Size on Scholastic Achievement, *The Quarterly Journal of Economics*, 114(2), 533–575.

Panel Data:

Khwaja, Asim Ijaz, and Atif Mian. 2008. "Tracing the Impact of Bank Liquidity Shocks: Evidence from an Emerging Market." *American Economic Review*, 98 (4): 1413-42.

* Paravisini, D., Rappoport, V., Schnabl, P., & Wolfenzon, D. (2015). Dissecting the Effect of Credit Supply on Trade: Evidence from Matched Credit-Export Data. *The Review of Economic Studies*, *82*(1 (290)), 333–359.

Becker, B., Ivković, Z. and Weisbenner, S. (2011), Local Dividend Clienteles. The Journal of Finance, 66: 655-683.

* Fisman, R., Shi, J., Wang, Y., Wu, W. 2020. Social Ties and the Selection of China's Political Elite. *The American Economic Review*, 110(6), 1752-81.

Fisman, R., Paravisini, D., Vig, V. 2017. Cultural Proximity and Loan Outcomes. *The American Economic Review*, 107(2), 457-492.

Instrumental Variables:

* Bennedsen, M., Nielsen, K. M., Perez-Gonzalez, F., Wolfenzon, D. (2007). Inside the Family Firm: The Role of Families in Succession Decisions and Performance, *The Quarterly Journal of Economics*, 122(2), 647–691.

* Giroud, X., Mueller, H. M., Stomper, A., Westerkamp, A. (2012). Snow and Leverage, *The Review of Financial Studies*, 25(3), 680–710.

Chen, T., Kung, J. K-S., Ma, C. 2020. Long Live Keju! The Persistent Effects of China's Civil Examination System. *The Economic Journal*, 130(631), 2030-2064.

Jiang, Wei, 2017. Have Instrumental Variables Brought Us Closer to Truth? *Review of Corporate Finance Studies*, vol. 6 (2), 127-140.

Natural Experiments:

* Bertrand, M., & Mullainathan, S. (2003). Enjoying the Quiet Life? Corporate Governance and Managerial Preferences. *Journal of Political Economy*, *111*(5), 1043–1075.

* Dessaint, O., Matray, A. (2017). Do Managers Overreact to Salient Risks? Evidence from Hurricane Strikes. *Journal of Financial Economics*, 126, 97-121.

* Boissel, C., Matray, A. (2021). Dividend Taxes and the Allocation of Capital. *The American Economic Review*, forthcoming.

Agrawal, A. K. and Matsa, D. A. (2013). Labor Unemployment Risk and Corporate Financing Decisions. *Journal of Financial Economics*, 108(2), 449-470.

Marianne B., Duflo, E., Mullainathan, S. 2004. How Much Should We Trust Differences-In-Differences Estimates?, *Quarterly Journal of Economics*, 119(1), 249–275.

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

Regression Discontinuity:

* Keys, B. J., Mukherjee, T., Seru, A., Vig, V. (2010). Did Securitization Lead to Lax Screening? Evidence from Subprime Loans. *The Quarterly Journal of Economics*, 125(1), 307-362.

Cuñat, V., Gine, M. and Guadalupe, M. (2012), The Vote Is Cast: The Effect of Corporate Governance on Shareholder Value. *The Journal of Finance*, 67: 1943-1977.

* Malenko, N., Shen, Y. (2016). The Role of Proxy Advisory Firms: Evidence from a Regression-Discontinuity Design. *The Review of Financial Studies*, 29(12), 3394-3427.

Almeida, H., Fos, V., Kronlund, M. (2016). The Real Effects of Share Repurchases, *Journal of Financial Economics*, 119(1), 168-185.

Common Limitations & Errors:

Bennedsen, M., Perez-Gonzalez, F., Wolfenzon, D. (2020). Do CEOs Matter? Evidence from Hospitalization Events. *The Journal of Finance*, 75(4), 1877-1911.

* Ali, A., Klasa, S., Yeung, E. (2009). The Limitations of Industry Concentration Measures Constructed with Compustat Data: Implications for Finance Research. *The Review of Financial Studies*, 22(10), 3839-3871.

* Ljungqvist, A., Malloy, C., Marston, F. (2009). "Rewriting History," *The Journal of Finance*, 64(4), 1935-1960.

Farre-Mensa, J. Ljunqvist, A. (2016). Do Measures of Financial Constraints Measure Financial Constraints? *The Review of Financial Studies*, 29(2), 271-308.

Gormley, T.A. & Matsa, D.A. 2014. "Common Errors: How to (and Not to) Control for Unobserved Heterogeneity," *The Review of Financial Studies*, 27(2), 617-61.

Matching and Selection

* Morse, Adair, 2011, "Payday lenders: heroes or villains?" *Journal of Financial Economics*, 102, 28-44.

* Almeida, H., Cunha, I., Ferreira, M.A. and Restrepo, F. (2017), The Real Effects of Credit Ratings: The Sovereign Ceiling Channel. *The Journal of Finance*, 72: 249-290.

Colak, G., Whited, T. (2007). Spin-offs, Divestitures, and Conglomerate Investment, *Review of Financial Studies* 20, 557-595.

Moderators & Mediators

* Marquis, C., Qiao, K. (2020). Waking from Mao's Dream: Communist Ideological Imprinting and the internationalization of Entrepreneurial Ventures in China. *Administrative Science Quarterly*. 65(3(m 795-830.

* Wry, T., Zhao, E. (2018). Taking Trade-offs Seriously: Examining the Contextually Contingent Relationship Between Social Outreach Intensity and Financial Sustainability in Global Microfinance. *Organization Science*, 29(3), 357-546.

Ozcelik, H., Barsade, S. G. (2018). No Employee An Island: Workplace Loneliness and Job Performance. *Academy of Management Journal*, 61(6), 2343-2366.

Uribe, J., Sytch, M., Kim, Y. H. (2020). When Friends Become Foes: Collaboration as a Catalyst for Conflict. *Administrative Science Quarterly*. 65(3), 751-794.

Randomized Experiments & Miscellaneous

Banerjee, Abhijit, Duflo, E.,Glennerster, R., and Kinnan, C. (2015). "The Miracle of Microfinance? Evidence from a Randomized Evaluation." *American Economic Journal: Applied Economics*, 7 (1): 22-53.

Beaman, L., Chattopadhyay, Duflo, E., R., Pande, R., Topolova, P. 2009. Powerful Women: Does Exposure Reduce Bias? *The Quarterly Journal of Economics*, 124(4), 1497-1540.

Petersen, M. 2009. Estimating standard errors in finance panel data sets: Comparing approaches. Review of Financial Studies, 22(1), 435-480.
Programming advice (STATA, SAS, R) on clustering standard errors and controlling for fixed effects: https://www.kellogg.northwestern.edu/faculty/petersen/htm/papers/se/se_programming.htm

Websites:

Todd Gormley's PhD notes for "Empirical Methods in Corporate Finance": http://www.gormley.info/phd-notes.html

Stata tips & tricks by my former PhD fellow Jan Kabatek: https://www.jankabatek.com/stata/

Plausible exogenous galore:
https://www.notion.so/1a897b8106ca44eeaf31dcd5ae5a61b1?v=ff7dc75862c6427eb4243e91836e077e

WEEKLY LESSON PLAN[1]

Week No.	Topics	Concepts / Topics Covered Required Reading
1	Introduction, Linear regression	• Conditional expectation function (CEF) and causality • Linear OLS model • Multivariate estimation
2	Linear regression (Part II)	• Hypothesis testing • Irrelevant regressors and multicollinearity • Interpreting interactions • Reporting regressions
3	Causality and endogeneity	• Why we care • Possible biases: omitted variables, measurement errors, simultaneity, reverse causality • Potential solutions
4	Panel data	• Why panel data is useful • Fixed effects • Random effects • First differences • Lagged y models
5	Instrumental variables	• Implementation and 2SLS • Weak instruments • Multiple IVs and overidentification • Limitations of IV
6	Natural experiments (Part I)	• Motivation and definitions • Understanding treatment effects • Two types of simple differences • Difference-in-differences
7	Natural experiments (Part II)	• Additional issues with diff-in-diffs • How to handle multiple events • Falsification tests • Triple differences
8	Regression discontinuity	• Basic idea of RD • Sharp versus fuzzy discontinuities • Internal & external validity • Heterogeneous effects
9	Matching and selection	• Introduction to matching • How to do matching • Practical considerations • Testing the assumptions • Heckman selection model
10	Common limitation and errors	• Imperfect data (e.g., survivorship biases) • Hypothesis testing mistakes • Controlling for unobserved heterogeneity
11	Moderator, mediator	• Introduction to moderator and mediator • How to test "channels" or "mechanisms"

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[1] *Instructor reserves the right to modify the syllabus as needed.*

12	Randomized experiments and misc.	• Randomized control trial (RCT) and experimental design • Limited dependent variable – truncation, censoring, selection, etc. • Logit, probit, tobit, etc.
13	Project presentation	• Student presentation of their final projects • Feedback by the instructor and other students • Wrap-up of the course