ADVANCED CORPORATE FINANCE
28E29000
Spring 2024, period III

4.1.2024 (updated version)

Course objective: This course prepares you to write an empirical study, such as a master's thesis. The course has an applied, but scientific focus and we cover some most widely used empirical corporate finance econometric techniques.

After completing this course you:

- should have an idea what kind of empirical methods exist to study corporate finance questions,
- when to use a particular method,
- how to use a particular method, and
- become comfortable with using STATA for empirical research

Pedagogical philosophy: This is not a "true" econometrics course, although we will review econometric methods. We will not discuss asymptotic properties and estimation algorithms of the methods, but rather the intuition, use, applicability, merits, and pitfalls of each method. Using cooking analogy, this is a culinary class, not a class on nutrition or molecular properties of various ingredients during the cooking process.

Prerequisites: The course is not self-contained. Following courses (or equivalent knowledge) is necessary to make most out of the course.

- Introduction to Finance 38A00110 or Fundamentals of Corporate Finance FIN-A0103
- Corporate Finance 28C00100
- Mathematics and Statistics for Managers 30A00210
- Econometrics for Finance 28C00200 (or an econometrics course offered e.g., by Department of Economics)

We do not check whether you have completed these courses or not – motivation to learn is a substitute for existing knowledge.

Course content: The course consists of following topics:

1. OLS
2. Panel data
3. Causality
4. Instrumental variables
5. (Quasi) natural experiments
6. Regression discontinuity design
7. Matching methods
8. Event studies
9. Duration models

10. Discrete choice

Teaching methods: The course has 14 sessions.

- 10 sessions will be a mix (in the order of priority) of (1) introducing basics of an empirical technique, (2) demonstrating briefly how to apply the technique in STATA using an example dataset, and (3) student presentation of a paper applying a technique along with its criticism.
- 2 sessions to learn STATA.
- 2 sessions to with student presentations of an identification strategy assignment.

Registration to course: Maximum of 50 students can be accepted to the course. In case of overbooking, priority will be given to Aalto finance students based on criteria in SISU.

Late registration: Not possible. The course is fully booked.

Relation to other courses: This course has strong links to two courses.

1. Econometrics for Finance (or similar). Some material we cover will be familiar to you from an econometrics course. Review never hurts, especially if it is a year or two since you took the course. We have a perhaps an even more applied approach.
2. Corporate finance. We use empirical research methods to study issues in corporate governance, CEOs, mergers & acquisitions, and ownership so you will build on existing knowledge on corporate finance.

Instructors: Associate Professor Elias Rantapuska (ER), Tel: +358 40 353 8419, elias.rantapuska@aalto.fi. Office hour are on Mondays 2-3 PM online at https://aalto.zoom.us/j/9224976309, please send an email beforehand to ensure instructor will also log in.

Dr. oec. publ. (Finance) Nikolas Breitkopf (NB), nikolas.breitkopf@aalto.fi. Office hours are on Tuesdays 1-2 PM, room T311 (BIZ), no appointment required.

Preferred mode of communication: E-mail is especially good for questions, which are likely to require a short answer. For topics worth a more detailed content-related discussion in/after class or office hour is usually more efficient.

Schedule:

Day of week	Date	Time	Room	Topic	Format	Dis-cus-sion	Instruc-tor	Weekly assign-ment	WA DL date	WA topic
Tuesday	9.1.2024	10:15-11:45	U006	OLS and panel data 1	Lecture		ER			
Thursday	11.1.2024	10:15-11:45	T004	STATA crash course	Hands on		NB			
Thursday	11.1.2024	14:00-15:30	V002	OLS and panel data 2	Lecture & discussion		ER	WA 1	16.1.2024 (TUES-DAY)	OLS and panel data
Tuesday	16.1.2024	10:15-11:45	U006	Causality and instrumental variables 1	Lecture		ER			
Tuesday	16.1.2024	12:15-13:45	T004	STATA crash course	Hands on		NB			
Thursday	18.1.2024	10:15-11:45	U006	Instrumental variables 2	Lecture & discussion	1 and 2	ER	WA 2	23.1.2024 (TUES-DAY)	IV
Tuesday	23.1.2024	10:15-11:45	U006	(Quasi) natural experiments	Lecture & discussion	3 & 4	ER			
Thursday	25.1.2024	10:15-11:45	U006	Regression discontinuity design	Lecture & discussion	5	NB	WA 3	30.1.2024 (TUES-DAY)	RDD
Tuesday	30.1.2024	10:15-11:45	U006	Matching methods	Lecture & discussion	6	ER	WA 4	6.2.2023 (TUES-DAY)	Matching
Thursday	1.2.2024	10:15-11:45	U006	Event studies	Lecture & discussion	7	ER	WA 5	13.2.2023 (TUES-DAY)	Event studies and duration
Tuesday	6.2.2024	10:15-11:45	U006	Duration models	Lecture & discussion	8	ER			
Thursday	8.2.2024	10:15-11:45	V002	Discrete choice	Lecture & discussion	9	NB	WA6	15.2.2023 (THURS-DAY)	Discrete choice
Tuesday	13.2.2024	10:15-11:45	U006	Presentation of identification assignment	Student presen-tation		NB			
Thursday	15.2.2024	10:15-11:45	U006	Presentation of identification assignment	Student presen-tation		NB			
Thursday	15.2.2024	12:15-13:45		Reserve slot: student presentations	Student presen-tation		NB/ER			

Classes are at U006, Ekonominaukio 1, Otaniemi campus. Exceptions on the schedule with red color. We may slightly deviate from the lecture plan topics as the topic areas have different amount of material.

Pre-readings: Please familiarize yourself with the corporate finance and econometrics textbook sections and/or papers before the class.

Textbooks:

- "Econometric Analysis of Cross Section and Panel Data" by Jeffrey Woolridge (main reference **"W"**)
- Introduction to Econometrics, James H. Stock and Mark W. Watson (also good for review of basic econometrics, **"SW"**)
- Mostly Harmless Econometrics, Joshua Angrist and Steffen Pischke (combines technicalities with intuition **"AP"**)

Weekly assignments (WA): Kindly submit your assignment via MyCourses before the class as a .pdf attachment, see more detailed instructions on a separate document for assignments. In total, the six assignments count max 40/100 points towards the final grade. WA1 yields max 12 points, WA2 max 8 points, and all other WAs max 5 points each.

WA reports (in .pdf) must be submitted on MyCourses by 09:45 (sharp!) on the due date. WA reports must be submitted individually (no group work allowed). We will not by default allocate class time going through weekly assignments, but in case you would like to go through a problem in a particular assignment, please let the instructor know so we can cover selected parts of a WA.

Student presentation of a paper: Students will discuss one scientific study and its criticism. As a group, sign up for one presentation slot in one of the 9 discussion slots. If there are more than one paper in the list, pick one of them to discuss.

In your presentation, you should:

1. cover the state of the literature before the paper was published, to contextualize it,
2. provide a brief account of the contribution, both in relation to the theory and to the methodology, and
3. provide criticism in detail, divide the points into major and minor points if necessary

You have up to 8 minutes for the presentation. We will then spend up to 5 minutes to discuss the paper in more detail. Paper presentation counts max 20/100 towards the final grade. In grading, criticisms weights most and contextualization least. You are free to focus your presentation given the short time allocation and include slides not presented in the class. Comments from the audience on a presentation different from your own counts as class activity. Group size of max 4 students. Submit presentation vie MyCourses one hour before the scheduled start of the class (the MyCourses box closes on 15.2.2024 before final presentation slots – please turn in your presentation earlier if you are presenting earlier).

Identification assignment: This is a research exercise in which students must outline the identification strategy for a planned study. The strategy must cover (1) a description why the planned study is interesting and important (2) how you aim to contribute to the literature, (3) data availability (the data needs to be either available at the university or be

feasible to collect), and (4) methodology (write down key empirical specification, equations to estimate, dependent and independent variables). For (4) describe what is the source of exogenous variation and how the identification strategy deals with endogeneity problems.

The aim is to write a plan based on a high-quality idea. No data needs to be collected, nor processed. The idea must be feasible though, no imaginary, nor proprietary data with no realistic access to are allowed. This assignment is a great opportunity to work towards a research plan (phase I) for a master's thesis. Use this opportunity wisely and remember that pair theses are possible!

Identification strategy assignment counts max 30/100 points towards the final grade, including presentation. Quality weights heavily in grading, a crisp and smart 3-page plan with a good identification idea will get a better grade than a 10-page plan which just copies an existing study or summarizes earlier literature without description of a clear identification.

We will have last session for presenting identification strategies. You have up to 10 minutes for the identification strategy presentation. Group size of max 4 students.

Submit the identification strategy (in .pdf) in MyCourses. It may be the same document you are presenting or a different version. The presentation document needs not to be submitted in case you have two documents. Identification strategy deadline is 09:45 AM on the day of the presentation.

Class participation: class activity constitutes 10% for the final grade. Class attendance is not mandatory. Remember that human cognition is typically limited to one task only: you cannot learn valuation and comment on Facebook/Twitter/Jodel/Tinder etc. simultaneously. Log in your activity (e.g., write down your question or comment) through MyCourses.

Scholastic dishonesty: We expect adherence to highest standards of scholastic honesty and full understanding of "Aalto University Code of Academic Integrity and Handling Violations Thereof". You are free to discuss problems on a general level and help each other conceptually, but each group (or individual in case of weekly assignments) should submit their own, independently prepared answer. Any violations are taken very seriously: there have been cases of academic dishonesty in fall 2020 which have led to dismissal from the class and loss of trust and reputation. Do not tarnish your reputation – it is far more valuable than your GPA! If you do not believe the instructor, ask Enron CEO Jeffrey Skilling or Jari Aarnio how do they feel about pushing boundaries for integrity.

ChatGPT (and other AI) clause: using ChatGPT is not forbidden, it is even encouraged. Copy-pasting answers from AI and presenting them as your own is however, considered as scholastic dishonesty. Feel free to use AI to check you have not missed anything AI would not miss, if there is an alternative way of explaining a topic for learning etc. An answer you submit should eventually reflect *your own intellectual output*, using AI as an input is always fine. ChatGPT seems to perform well in standard questions (e.g., "how estimate OLS regression"), but not that well in questions requiring high-degree of contextuality

(e.g., “is the revised tender offer price for company X fair?”). You should be particularly careful with references, ChatGPT seems to get them wrong.

Exam: There is no exam.

Passing the course: To pass the course, a student is required to score at least 50 points on all grading items combined. It is not possible to do any extra work after the final grades have been assigned, this applies also to grades just below the higher mark cutoff. The instructor retains the right to determine rules and allocations of additional points on top of 100% at his own discretion, even while the course is in progress. Grading elements up to regular 100% are of course fixed. 50% of full points translates to a grade of 1, 60% to a grade of 2, 70% to a grade of 3, 80% to a grade of 4, and 90% to a grade of 5.

Summary of grading:

Weekly assignments 40 %
Class activity 10 %
Student presentation of a paper 20 %
Identification strategy assignment 30 %

Retrieving course materials:

• Lecture notes:	MyCourses-page
• Weekly assignments:	MyCourses-page
• Journal articles (for pre-readings and discussion):	MyCourses-page
• Textbooks:	Bookstore or library

MyCourses page

- Primary source of information
- To be updated regularly

https://mycourses.aalto.fi/course/view.php?id=38443

Class readings

1. OLS and panel data

Topics: Univariate and multivariate OLS, endogeneity, interpretation, assumptions, tests

Econometrics: W Ch4; SW 4 - 8

Corporate Finance: Corporate Ownership: Law and Finance: La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny, 1998, Law and finance, Journal of Political Economy 106, 1113-1155.

Discussion 1: Lins, K. 2003. Equity ownership and firm value in emerging markets, Journal of Financial and Quantitative Analysis 38, 159-184.

Adams, Renée, and Daniel Ferreira. 2008. One share-one vote: The empirical evidence. Review of Finance 12(1), 51-91.

Discussion 2: Lamont, Owen, 1997, Cash flow and investment: Evidence from internal capital markets, Journal of Finance 52, 83-109.

Whited, T., 2001, Is it Inefficient Investment that Causes the Diversification Discount? Journal of Finance 56, (2001), 1667-1692.

Chevalier, Judith, 2000. What do we know about cross-fertilization? Evidence from the investment policies of merging firms. Working paper, university of Chicago.

Linear Panel data

Topics: Pooled OLS, fixed and random effects, robust and clustered standard errors

Econometrics: W Ch 10; Peterson, Mitchell (2007), Estimating Standard Errors in Finance Panel Datasets: Comparing Approaches, Review of Financial Studies 22, 435-480.

Financial constraints: Erel et al 2015. Do acquisitions relieve targets of financial constraints? Journal of Finance.

Discussion 3: Bertrand, M., Mehta, P., Mullainathan, S., 2002. Ferreting out tunneling: an application to Indian business groups. Quarterly Journal of Economics 117, 121–148.

Siegel, J., Choudhury, P., 2012. A reexamination of tunneling and business groups: new data and new methods. Review of Financial Studies 25, 1763–1798.

2. Causality

Topics: notions and selection problem

Econometrics: AP Ch 2

3. Instrumental Variables

Topics: Definition and use

Econometrics: W Ch 5; Angrist, Josh, and Alan Krueger, 2001, Instrumental variables and the search for identification: From supply and demand to natural experiments, Journal of Economic Perspectives 15: 69-85.

Corporate Finance: 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; Estimating the Effects of Large Shareholders Using a Geographic Instrument, Journal of Financial and Quantitative Analysis, 2011, with Henrik Cronqvist and Rudiger Fahlenbrach.

Vladimir Atanasov and Bernard Black (2016), Shock-Based Causal Inference in Corporate Finance and Accounting Research, Critical Finance Review 5 (2), 207-304.

Jiang, W., 2017. Have instrumental variables brought us closer to the truth. The Review of Corporate Finance Studies, 6 (2), 127-140.

Discussion 4: Ahern, K., and A. Dittmar, 2012, The changing of the boards: the impact on firm valuation of mandated female board representation, Quarterly Journal of Economics 127, 137-197. Bøhren, Øyvind, and Siv Staubo, 2014, Does mandatory gender balance work? Changing organizational form to avoid board upheaval, Journal of Corporate Finance 28, 152–168. Eckbo, B. Espen and Nygaard, Knut and Thorburn, Karin S., 2016. How Costly Is Forced Gender-Balancing of Corporate Boards? Working paper.

Discussion 5: Kearney, M.S. and Levine, P.B., 2015. Media influences on social outcomes: The impact of MTV's 16 and pregnant on teen childbearing. American Economic Review, 105(12), pp.3597-3632. Jaeger, D.A., Joyce, T.J. and Kaestner, R., 2018. A Cautionary Tale of Evaluating Identifying Assumptions: Did Reality TV Really Cause a Decline in Teenage Childbearing? Journal of Business & Economic Statistics, pp.1-10.

4. (Quasi) natural experiments

Topics: Definition and use, threats to validity.

Econometrics: AP Ch 5; Meyer, Bruce D., 1995, Natural and quasi-natural experiments in economics, Journal of Business and Economic Statistics, 13, 151-161; Bertrand, Marianne, Esther Duflo, and Sendhil Mullainathan, 2004, How much should we trust differences-in-differences estimates? Quarterly Journal of Economics 119, 249-275. Institutional and Political Economy Considerations in Natural Experiments: The Case of State Antitakeover Laws. Karpoff and Wittry, 2015, in SSRN. The Law and Finance of Anti-Takeover Statutes. Catan and Kahan 2015, in SSRN.

Corporate Finance: Law and Finance: Tsoutsoura, Margarita, 2014, The Effect of Succession Taxes on Family Firm Investment: Evidence from a Natural Experiment, Journal of Finance.

Discussion 6: Bertrand, Marianne and Sendhil Mullainathan, 2003, Enjoying the quiet life? Corporate governance and managerial preferences, Journal of Political Economy 111, 1043-1075. Karpoff, Jonathan M. and Wittry, Michael D., Institutional and Legal Context in Natural Experiments: The Case of State Antitakeover Laws. Journal of Finance Available at SSRN: https://ssrn.com/abstract=2493913. Catan, Emiliano, and Marcel Kahan, 2016

5. Regression discontinuity design

Topics: Definition and use, major issues.

Econometrics: Imbens, G. and T. Lemieux, 2008, Regression Discontinuity Designs: a Guide to Practice, Journal of Econometrics 142, 615-635; Lee, D. and T. Lemieux, 2010, Regression Discontinuity Designs in Economics, Journal of Economic Literature 48, 281-355.

Corporate Finance: *Corporate Governance:* Cunat, V., Gine, M. and Guadalupe, M., 2012, The Vote Is Cast: The Effect of Corporate Governance on Shareholder Value, Journal of Finance 67, 1943–1977. *Capital Structure:* Roberts, Michael R. and Amir Sufi, 2009, Control rights and capital structure: An empirical investigation, Journal of Finance 64, 1657-1695.

6. Matching methods

Topics: Definition and use, major issues

Econometrics: Imbens, G., 2004, Nonparametric Estimation of Average Treatment Effects under Exogeneity: A Review, Review of Economics and Statistics 86, 4-29. Imbens, G., and J. Woolridge, 2009, Recent Developments in the Econometrics of Program Evaluation, Journal of Economic Literature 47, 5-86.

Corporate Finance: Almeida, H., M. Campello, B. Laranjeira, and S. Weisbenner, 2011, Corporate Debt Maturity and the Real Effects of the 2007 Credit Crisis. Critical Finance Review 1, 3-58. Groups: Bena, J., and Ortiz-Molina, H., 2013, Pyramidal ownership and the creation of new firms, JFE.

7. Event studies

Topics: Definition and use, major issues.

Econometrics: Kothari, S. P. and J. P. Warner, 2007, Econometrics of Event Studies, Handbook of Corporate Finance, Volume 1, Edited by B. Espen Eckbo. Chapter 4 in Campbell, Campbell, J., Lo, A., Mac Kinlay, A.C., 1997. The Econometrics of Financial Markets. Princeton University Press, Princeton, NJ.

Corporate Finance: Corporate acquisitions: Faccio, M., J J. McConnell and D. Stolin, 2006, Returns to Acquirers of Listed and Unlisted Targets, Journal of Financial and Quantitative Analysis 41, 197-220.

Discussion 7: Cooper, M. J., Dimitrov, O., and Rau, P. R. (2001) A Rose.com by any other name, Journal of Finance 56, 2371–2388. Lee, P. M. (2001) What's in a name.Com? The effects of '.Com' name changes on stock prices and trading activity, Strategic Management Journal 22, 793–804. Jong, A. de and Naumovska, I. (2015). A note on event studies in finance and management research. Review of Finance, 20 (4), 1659-1672.

8. Duration models

Topics: Definition and use, major issues.

Econometrics: Economic duration data and hazard functions, N Kiefer, Journal of Economic Literature 1988.

Corporate Finance: *Cross-listing*: Doidge, C. et al, 2009, Private Benefits of Control, Ownership, and the Cross-listing Decision, Journal of Finance 64. *Delisting*: Bharath ST, Dittmar AK. Why do firms use private equity to opt out of public markets? The Review of Financial Studies. 2010, 23(5):1771-818.

Discussion 8: Lawrence, E.R., Raithatha, M. and Rodriguez, I., 2021. The effect of cultural and institutional factors on initiation, completion, and duration of cross-border acquisitions. Journal of Corporate Finance, 68, p.101950.

9. Discrete choice

Topics: Definition and use, major issues.

Econometrics: W Ch 15

Corporate Finance: Roberts, Michael R. and Amir Sufi, Renegotiation of financial contracts: Evidence from private credit agreements, Journal of Financial Economics 93, 159-184. Foley CF, Greenwood R. The evolution of corporate ownership after IPO: The impact of investor protection. The Review of Financial Studies. 2009 23(3): 1231-60. Fyrqvist, T., Rantapuska, E., Torstila, S., 2021. Irrevocable Commitments and Tender Offer Outcomes Journal of Business Finance and Accounting 48, 7-8, 1290-1331.

Discussion 9: Maury, B., 2006. Family ownership and firm performance: Empirical evidence from Western European corporations. Journal of Corporate Finance, 12(2), pp.321-341.