Finance 8823

Empirical Corporate Finance

Spring 2023

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Class Time: M W 10:45 - 12:15

Class Room: CSOM 3-377

In this course we will study fundamental topics in empirical corporate finance from a modern perspective. The first part focuses on key methods that you need to understand well enough to use properly. The second part focuses on core topics in the empirical corporate finance literature. There is significant overlap among the topics as ideas and methods can be used in many ways. Empirical research is not a spectator sport. The course is designed to help you become an active participant.

Topics

Methods

Class 1. Causal and/or structural, Jan 18

Class 2. Panel data, Jan 23

Class 3. Instrumental variables 1, Jan 25

Class 4. Instrumental variables 2, Jan 30

Class 5. Difference-in-differences, Feb 1

Class 6. Demand, Feb 6

Contexts

Class 7. Investment, Feb 8

Class 8. Capital structure, Feb 13

Class 9. Private equity, Feb 15

Class 10. Corporate governance, Feb 20

Class 11. Powerful firms, Feb 22

Class 12. Resource allocation, Feb 27

Class 13. Mergers and acquisitions, Mar 1

Two major approaches dominate the modern empirical corporate finance literature. You need to understand both approaches in depth. They are often called structural and causal. Both structural and causal methods are widely used, very reasonable for some purposes, and quite appealing when done properly. They commonly lead you to ask and answer different questions.

In important respects they have a lot in common. In both approaches, assumptions about the data generating process are critical for the meaning of the estimates. Empirical work is never free of assumptions. Structural work generally makes economic or financial assumptions. Causal work generally makes statistical assumptions. As you will see, the dividing line can be fuzzy in practice. The methods adopted ought to reflect the question you want to answer.

Grades

45% Assignments. 3 assignments each worth 15 points.

20% Summaries. Paper summaries are weighted equally.

10% Class participation.

25% Final exam.

Assignments

The assignments are submitted on Sunday nights before midnight on Canvas. You should discuss the assignment questions with your classmates. It will help. However, each student will submit their own set of answers.

For the assignments you will use Stata. This has long been the most widely used software in empirical corporate finance. It is the language that "we all speak". Stata makes many tedious tasks simpler, it is rather well debugged, and the included documentation is pretty good.[1]

Textbook: A. Colin Cameron and Pravin K. Trivedi, 2022, Microeconometrics Using Stata, Second Edition (2 volumes), Stata Press.

When doing our class assignments, your summer paper, or other empirical corporate finance research projects, Cameron and Trivedi is a great resource to have handy. Depending on your econometrics and Stata knowledge, a reminder/gap-filler is likely to help. **A review of chapters 1-4 is strongly recommended**. That will help with any gaps in your prior knowledge. It will also help strengthen your comfort with using Stata. Only you know how much of that you need.

Summaries

For all classes except the first one, there is a paper indicated with an S. For that paper you will write a one-page summary. This is to be written on your own, and it is due on Canvas by 8AM on the day of that class.

What is the purpose of this? A) it is intended to give you a strong incentive to read that paper carefully before class, B) it is intended to help you learn how to recognize the main ideas and contributions of a paper, C) it is intended to give you practice in writing clearly about finance. Both B) and C) are critical academic research skills that you need to develop.

You are writing a summary. This is not a critique. This is not the place to explain your own research ideas. You are clearly and precisely explaining the essence of an existing paper. To get this right and fitting properly on a single page with standard fonts and margins will take some thought. You have one page. Use it properly. It is usually pretty easy to tell if you are just repeating the introduction, or if you are doing a quick and dirty version. A superficial summary will not get full points.

You will describe the **objective, contribution, and key ideas**. This will be done using words, sentences, and paragraphs – not an outline or list of bullet points. Make sure that what you write is grammatically correct and easy to understand. For many readings you will find that a key equation is needed to precisely and clearly explain the idea. Clarity and precision are extremely important. But you must not use notation and equations in place of insights and ideas.

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[1] There are many other good languages in use for specific purposes, notably Matlab, Python, R and SAS. For any language, if you use a library of code that is not widely used by other people, the odds of bugs are much higher than in the basic part of the language. Python is very widely used for many purposes that have little to do with corporate finance. Like Stata, the core parts of Python are known to be very well debugged. That is good. But Stata has been much more heavily developed to meet your needs when doing microeconometrics.

Your summary will show that you have read and understood **the whole paper**, not just the author's own summary in the introduction. Once again, you are not providing a critique nor a response. You are explaining the paper's objective, contribution, and key ideas. Do not write more than one page.

About the readings

There is a great deal that you need to understand, and we have only a very limited amount of class time. There are probably hundreds of papers written in empirical corporate finance each year. So there are many wonderful papers and interesting specialized topics in corporate finance that do not have time to cover. What we are covering, you are expected to really understand in depth. When reading the papers you are expected to go well beyond the parts that we discuss in class.

The articles with a * require particular care. The number of these per class is limited, so that you can focus your efforts. How exactly did the research papers accomplish what they report? You cannot get that from just the abstracts or even the introductions. You need to understand the details. Papers without a * will generally be read in less detail.

A mix of textbook chapters, surveys, and journal articles are assigned. Some readings will review things that most of you already know. But various students already know different things. The assigned readings are intended to ensure a common foundation of empirical tools and core contexts for your research.

Read the research papers for both substance and form. You will be writing research papers, and you will want your academic finance papers to seem like academic finance papers. So, as you read, in addition to thinking about the content, you should consider the structure. What features are standard? What varies from paper to paper? See if some approaches seem more effective than others. What do the authors of the paper want you to believe? How are they trying to convince you? What is the purpose of each part? Could some stuff be cut without damaging the paper's message and credibility?

No paper answers all questions. As you read think about what seems right to you, and what seems incomplete, odd, or not quite right in some respect. Realistically, what could be done to deal with your concern? I recommend that you keep a document on your computer somewhere that keeps track of your ideas and questions as you read papers and attend brownbags and seminars. That document can be useful to you many months later.

Readings

- The handout "As you read a paper: the usual questions", is intended to help you read finance papers effectively. Read it first.

- Top scholars typically put a huge effort into trying to get the heart of what is actually driving the evidence. You should do the same. A famous version of that perspective: Feynman, R. 1974, Cargo Cult Science, https://calteches.library.caltech.edu/51/2/CargoCult.pdf.

- To help understand why this is so hard, take a look at: Breznau, Nate, et al. "Observing many researchers using the same data and hypothesis reveals a hidden universe of uncertainty." Proceedings of the National Academy of Sciences 119.44 (2022): e2203150119.

1. **Causal and/or structural**

   *Cameron A.C. and P.K. Trivedi, 2022, Ch 24 Randomized control trials and exogenous treatment effects, in Microeconometrics Using Stata, Second Edition, Stata Press.

   *Reiss, P.C. and Wolak, F.A., 2007. Sections 1 to 4, in Structural econometric modeling: Rationales and examples from industrial organization. Handbook of Econometrics, 6, 4277-4415.

   Abadie, A. and Cattaneo, M.D., 2018. Econometric methods for program evaluation. Annual Review of Economics, 10, 1, 465–503.

2. **Panel data**

   *Cameron A.C. and P.K. Trivedi, 2022, Ch 8 Linear panel-data: Basics, in Microeconometrics Using Stata, Second Edition, Stata Press.

   S*Giroud, X. and Rauh, J., 2019, State taxation and the reallocation of business activity: Evidence from establishment-level data. Journal of Political Economy, 127, 3, 1262-1316.

   *Sun, L., and J.M. Shapiro. 2022, A linear panel model with heterogeneous coefficients and variation in exposure. Journal of Economic Perspectives 36, 4, 193-204.

3. **Instrumental variables 1**

   *Cameron A.C. and P.K. Trivedi, 2022, Ch 7 Linear instrumental variables regression, in Microeconometrics Using Stata, Second Edition, Stata Press.

   S*Imbens, G.W., 2014, Instrumental variables: An econometrician's perspective. Statistical Science, 29, 3, 323-358.

   Andrews, I., Stock, J.H., and Sun, L. 2019, Weak instruments in instrumental variables regression: Theory and practice. Annual Review of Economics, 11, 1, 727-753.

4. **Instrumental variables 2**

   S*Goldsmith-Pinkham, P., Sorkin, I., and Swift, H. 2020, Bartik instruments: What, when, why, and how. American Economic Review, 110, 8, 2586-2624.

   *Haile, P. 2022, "Models, Measurement, and the Language of Empirical Economics" https://www.dropbox.com/s/8kwtwn30dyac18s/intro.pdf?dl=0

   Young, A., 2022. Consistency without inference: Instrumental variables in practical application. European Economic Review, 147, 104112.

5. **Difference-in-differences**

   S*Baker, A.C., Larcker, D.F., and Wang, C.C. 2022, How much should we trust staggered difference-in-differences estimates? Journal of Financial Economics, 144, 2, 370-395.

   *Freyaldenhoven, S., Hansen, C., Pérez, J. P., and Shapiro, J. M. 2021. Visualization, identification, and estimation in the linear panel event-study design. Advances in Economics and Econometrics: Twelfth World Congress (Forthcoming). Optional videos: https://www.youtube.com/playlist?list=PLg-LvQ_7SfMD9d8kbSd_Ig_HB-5h6HCTx

   Cameron A.C. and P.K. Trivedi, 2022, Difference-in-differences, pages 195-204, and pages 1363-1364 in Microeconometrics Using Stata, Second Edition, Stata Press.

6. **Demand**

   *Berry, S.T. and Haile, P.A., 2021. Sections 2-4 in Foundations of demand estimation. Handbook of Industrial Organization. Elsevier.

   S*Egan, M., Lewellen, S. and Sunderam, A., 2022, The cross-section of bank value. Review of Financial Studies, 35, 5, 2101-2143.

7. **Investment**

   *Bond, S. and Van Reenen, J., 2007. Sections 1 to 6, in Microeconometric models of investment and employment. Handbook of Econometrics, 6, 4417-4498.

   *Campello, M., Connolly, R.A., Kankanhalli, G. and Steiner, E., 2022. Do real estate values boost corporate borrowing? Evidence from contract-level data. Journal of Financial Economics, 144, 22, 611-644.

   S*Warusawitharana, M. and Whited, T.M., 2016, Equity market misvaluation, financing, and investment. Review of Financial Studies, 29, 3, 603-654.

8. **Capital structure**

   *Frank, M.Z. and Goyal, V.K., 2022, Empirical corporate capital structure, Handbook of Corporate Finance (D. Denis ed.) forthcoming.

   S*Frank, M.Z. and Sanati, A., 2021, Financing corporate growth. Review of Financial Studies, 34, 10, 4926–4998.

   Lian, C. and Ma, Y., 2021. Anatomy of corporate borrowing constraints. Quarterly Journal of Economics, 136, 1, 229-291.

9. **Private equity**

   *Ewens, M., and J. Farre-Mensa, 2022, Private or public equity? The evolving entrepreneurial finance landscape, Annual Review of Financial Economics 14.

   S*Gupta, A., Howell, S. T., Yannelis, C., and Gupta, A. 2021, Does private equity investment in healthcare benefit patients? Evidence from nursing homes, NBER No. w28474.

   Gompers, P.A., Gornall, W., Kaplan, S.N. and Strebulaev, I.A., 2020. How do venture capitalists make decisions? Journal of Financial Economics, 135, 1, 169-190.

10. **Corporate governance**

    *Edmans, A., Gabaix, X. and Jenter, D., 2017. Sections 1-3, 5 and 6, in Executive compensation: A survey of theory and evidence. Handbook of the Economics of Corporate Governance, 1, 383-539.

    S*Hong, H. and Shore, E.P., 2022, Corporate Social Responsibility, NBER, 30771.

    Heath, D., Macciocchi, D., Michaely, R. and Ringgenberg, M.C., 2022, Do index funds monitor? Review of Financial Studies, 35, 1, 91-131.

11. **Powerful firms**

    *Backus, M., Conlon, C., and Sinkinson, M., 2021, Empirical studies of the effects of common ownership, https://sites.google.com/view/msinkinson/research

    S*Kwon, S.Y., Ma, Y. and K. Zimmermann, 2022, 100 years of rising corporate concentration. https://ssrn.com/abstract=3936799.

    Autor, D., Dorn, D., Katz, L.F., Patterson, C. and Van Reenen, J., 2020. The fall of the labor share and the rise of superstar firms. Quarterly Journal of Economics, 135, 2, 645-709.

12. **Resource allocation**

S*Eisfeldt, A.L., Falato, A. and Xiaolan, M.Z., 2022. Human Capitalists, NBER, https://www.nber.org/papers/w28815

*Giroud, X., and Mueller, H. M. 2019, Firms' internal networks and local economic shocks. American Economic Review, 109, 10, 3617-49.

*Maksimovic, V. and Phillips, G.M., 2013. Conglomerate firms, internal capital markets, and the theory of the firm. Annual Review of Financial Economics, 5, 1, 225-244.

13. **Mergers and acquisitions**

S*Haddad, V., Loualiche, E. and Plosser, M., 2017. Buyout activity: The impact of aggregate discount rates. Journal of Finance, 72, 1, 371-414.

*Karpoff, J.M. and Wittry, M.D., 2022. Corporate Takeover Defenses. https://ssrn.com/abstract=4211798

*Mulherin, J.H., J.M. Netter, and A.B. Poulsen. 2017, The evidence on mergers and acquisitions: A historical and modern report. The Handbook of the Economics of Corporate Governance. 1, 235-290.

General advice

You should be reading finance papers all the time. Some papers you read more carefully than others. If you particularly like a topic, read more papers in that area. If you have trouble understanding an important topic, read more papers in that area. You need to develop a sense of the literature.

For empirical corporate finance, obviously start by making sure that you really understand all the papers on this syllabus. Discuss them with other PhD students. It will help. You might also notice something that is of interest to both of you. There is a reason that most papers are co-authored!

Going beyond this class, reading many papers over an extended period makes a huge difference to your depth of understanding. It will take time. There is an interesting and extensive literature for you to catch up with. As a PhD student, now is the time to start doing it. A deep understanding will significantly help to improve your research papers.

As a business student, you should also be reading the business press regularly. The Wall Street Journal and the Financial Times are both influential. Pick one and take a look at it each day. These are often sources of interesting events, and questions that might deserve serious research. It can also help you when it comes time to teach.

There is a lot of advice available for PhD students. Here are some that I know about. Much of it seems sensible and worth considering. But of course, use your own judgment.

Advice for graduate students from Blattner:

https://www.dropbox.com/s/8hfsfw21fvbn2gc/rules_for_grad_school_laura.pdf?dl=0

Advice on how to have an effective empirical workflow. Gentzkow and Shapiro, 2014. Code and Data for the Social Sciences: A Practitioner's Guide:

https://web.stanford.edu/~gentzkow/research/CodeAndData.pdf

Advice on Beamer from Goldsmith-Pinkham:

https://paulgp.github.io/beamer_tips.pdf.

Advice on how to write a paper and how to give a talk, from Shapiro:

https://scholar.harvard.edu/files/shapiro/files/foursteps.pdf

https://scholar.harvard.edu/files/shapiro/files/applied_micro_slides.pdf

Advice for graduate students from Zwick:

http://www.ericzwick.com/public_goods/twelve_steps.pdf

http://www.ericzwick.com/public_goods/love_the_market.pdf.

Academic Policies

The Carlson School defines academic misconduct as any act by a student that misrepresents the student's own academic work or that compromises the academic work of another. Scholastic misconduct includes (but is not limited to) cheating on assignments or examinations, plagiarizing, i.e., misrepresenting as one's own work any work done by another, submitting the same paper, or substantially similar papers, to meet the requirement of more than one course without the approval and consent of the instructors concerned, or sabotaging another's work. Within this general definition, however, instructors determine what constitutes academic misconduct in the courses they teach. Students found guilty of academic misconduct face penalties ranging from lowering of the course grade or awarding a grade of F or N for the entire course, to suspension from the University.

http://www1.umn.edu/regents/policies/academic/Student_Conduct_Code.html

Accommodations for Students with Disabilities

The University of Minnesota is committed to providing all students equal access to learning opportunities. Disability Services is the campus office that works with students who have disabilities to provide and/or arrange reasonable accommodations. Students registered with Disability Services, who have a letter requesting accommodations, are encouraged to contact the instructor early in the semester. Students who have, or think they may have, a disability (e.g. psychiatric, attention, learning, vision, hearing, physical, or systemic), are invited to contact Disability Services for a confidential discussion at 612-626-1333 (V/TTY) or at ds@umn.edu. Additional information is available at the DS website http://ds.umn.edu