NATIONAL TAIWAN UNIVERSITY

Department of Finance

Financial Econometrics (財務計量)

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Course Website: https://cool.ntu.edu.tw/courses/13240

Spring 2022
Monday 14:20-17:20
Office: 02-33661092

Course Description

The major goal of this course is to equip students with comprehensive understanding in econometrics with a focus on financial topics. Students are expected to learn fundamental time-series econometrics and recent development in empirical finance research which heavily relies on the potential outcome framework. Please be aware that this course will be taught entirely in English.

Recommended Prerequisite Courses:
Statistics I (統計學上), Introductory Econometrics (計量導論)

Textbook

No mandatory textbook. I will post course notes before each lecture.

Suggested Reference:

General Econometrics Textbooks

- *Introduction to Econometrics,* Stock and Watson. 2020 Edition. (滄海)
- *Introductory Econometrics,* Wooldridge. 2013 Edition (華泰)
- *Econometric analysis of cross section and panel data,* Wooldridge. 2010 Edition (MIT press)
- *Econometric Analysis,* Greene. 2020 Edition (Pearson)
- *Econometrics*, B.E. Hansen. *2021 (*Princeton University Press, *forthcoming)*

Time-Series Analysis (in the order of introductory level)

- *時間序列分析：總體經濟與財務金融之應用, 陳旭昇. 2013（東華）
- **An Introduction to Analysis of Financial Data with R,* Tsay. 2013 Edition (Wiley)
- *Analysis of Financial Time Series,* Tsay. 2010 Edition (Wiley)
- *The Econometrics of Financial Markets,* Campbell, Lo, and MacKinlay. 2012 Edition. (Princeton University Press)
- *Time Series Analysis,* Hamilton. 1994 Edition. (Princeton University Press)

Panel Data and Potential Outcome Framework (in the order of introductory level)

- **Mastering metrics,* Angrist and Pischke. 2016 Edition (Springer)
- **Mostly Harmless Econometrics,* Angrist and Pischke. 2016 Edition (Springer)
- Microeconometrics: Methods and Applications, Cameron and Trivedi. 2005 Edition (Cambridge University Press)

Exams and Grading

Midterm:	30%
Data Homework:	20%
Group Presentation:	30%
Paper Summary	20%

The midterm exam will cover contents in the first half of the semester: basic regression, times-series econometrics, and empirical tests for CAPM and factor models. There will be two data assignments, each worth 10 points. Details will be available when the semester begins. For group presentations, **please form a group of 2 to 4 people**. There will be paper presentations during the second half of the semester. After lectures for each topic, students are expected to present a relevant academic paper for around 30 minutes. Please send me your group list using the attachment at the end of this syllabus before the beginning of the fourth week. Please also sign up for the presentation before the spring break. The signup form will be available when the time is closer. Student groups also have to write a **half-page-long** paper summary for **each paper that will be presented**. Students should send me the paper summaries before the class when the presentation will take place.

Office Hours

Room: 管二 1109

Thursday, 14:00-16:00 or by appointment

Course Schedule

Week	Date	Topics
1	02/14/2022	Syllabus + Review of Statistics and Probability
2	02/21/2022	Univariate Regression
3	02/28/2022	Peace Memorial Day
4	03/07/2022	Multivariate Regression
5	03/14/2022	Multivariate Regression
6	03/21/2022	Time Series – Basics
7	03/28/2022	Time Series – ARMA Models and Unit Roots
8	04/04/2022	Spring Break
9	04/11/2022	Time Series – Volatility Modeling (GARCH Models)
10	04/18/2022	Time Series – CAPM and Return Predictability
11	04/25/2022	**Midterm Exam**
12	05/02/2022	Potential Outcome Framework (1)
13	05/09/2022	Potential Outcome Framework (2) + 2 Presentations
14	05/16/2021	Matching, RCT, and Experiment (2 Presentations)
15	05/23/2022	Instrumental Variable (2 Presentations)
16	05/30/2022	Difference-in-Difference (2 Presentations)
17	06/06/2022	Regression Discontinuity (2 Presentations)

Reading List

The papers are not categorized by the topics but by the main empirical methodology in the papers.

Regression and Straightforward Methods:

Baker, M., & Wurgler, J. (2006). Investor sentiment and the cross-section of stock returns. *Journal of Finance,* 61(4), 1645-1680.

Barber, B. M., Lee, Y. T., Liu, Y. J., & Odean, T. (2009). Just how much do individual investors lose by trading?. *Review of Financial Studies,* 22(2), 609-632.

Da, Z., Engelberg, J., & Gao, P. (2011). In search of attention. *Journal of Finance,* 66(5), 1461-1499.

DeMiguel, V., Garlappi, L., & Uppal, R. (2009). Optimal versus naive diversification: How inefficient is the 1/N portfolio strategy?. *Review of Financial Studies,* 22(5), 1915-1953.

Fama, E. F., & French, K. R. (2015). A five-factor asset pricing model. *Journal of Financial Economics,* 116(1), 1-22.

Giglio, S., Maggiori, M., & Stroebel, J. (2015). Very long-run discount rates. *Quarterly Journal of Economics,* 130(1), 1-53.

Malmendier, U., & Nagel, S. (2011). Depression babies: do macroeconomic experiences affect risk taking?. *Quarterly Journal of Economics,* 126(1), 373-416.

Kuo, W. Y., Lin, T. C., & Zhao, J. (2015). Cognitive limitation and investment performance: Evidence from limit order clustering. *Review of Financial Studies,* 28(3), 838-875.

Shue, K. (2013). Executive networks and firm policies: Evidence from the random assignment of MBA peers. *Review of Financial Studies,* 26(6), 1401-1442.

Experiment and Matching:

Calvet, L. E., & Sodini, P. (2014). Twin picks: Disentangling the determinants of risk-taking in household portfolios. *Journal of Finance,* 69(2), 867-906.

Dimmock, S. G., Kouwenberg, R., Mitchell, O. S., & Peijnenburg, K. (2016). Ambiguity aversion and household portfolio choice puzzles: Empirical evidence. *Journal of Financial Economics,* 119(3), 559-577.

Fagereng, A., Mogstad, M., & Rønning, M. (2021). Why do wealthy parents have wealthy children?. *Journal of Political Economy,* 129(3), 703-756.

Kuhnen, C. M. (2015). Asymmetric learning from financial information. *Journal of Finance,* 70(5), 2029-2062.

Instrument Variable:

Maturana, G., & Nickerson, J. (2019). Teachers teaching teachers: The role of workplace peer effects in financial decisions. *Review of Financial Studies,* 32(10), 3920-3957.

Mian, A., & Sufi, A. (2011). House prices, home equity-based borrowing, and the US household leverage crisis. *American Economic Review,* 101(5), 2132-56.

Stroebel, J., & Vavra, J. (2019). House prices, local demand, and retail prices. *Journal of Political Economy,* 127(3), 1391-1436.

Tseng, K. (2021). Learning from the Joneses: Technology Spillover, Innovation Externality, and Stock Returns. *Journal of Accounting and Economics. Forthcoming.*

Difference in Difference:

Agarwal, S., Chomsisengphet, S., Mahoney, N., & Stroebel, J. (2015). Regulating consumer financial products: Evidence from credit cards. *Quarterly Journal of Economics,* 130(1), 111-164.

Gurun, U. G., Stoffman, N., & Yonker, S. E. (2018). Trust busting: The effect of fraud on investor behavior. *Review of Financial Studies,* 31(4), 1341-1376.

Heimer, R. Z. (2016). Peer pressure: Social interaction and the disposition effect. *Review of Financial Studies,* 29(11), 3177-3209.

Hvide, H. K., & Östberg, P. (2015). Social interaction at work. *Journal of Financial Economics,* 117(3), 628-652.

Lilley, A., Lilley, M., & Rinaldi, G. (2020). Public Health Interventions and Economic Growth: Revisiting The Spanish Flu Evidence. Working paper.
Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3590008

Regression Discontinuity:

Agarwal, S., Chomsisengphet, S., Mahoney, N., & Stroebel, J. (2018). Do banks pass through credit expansions to consumers who want to borrow?. *Quarterly Journal of Economics,* 133(1), 129-190.

Cespedes, J. (2021). Heterogeneous sensitivities to interest rate changes: Evidence from consumer loans. Working paper.
Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3022332

Chang, Y. C., Hong, H., & Liskovich, I. (2015). Regression discontinuity and the price effects of stock market indexing. *Review of Financial Studies,* 28(1), 212-246.

Attachment - Group Information

	Student ID	姓名 (Name)	系級	Preferred Name (Nickname)
1				
2				
3				
4				

Brief Introduction of Each Group Member

Student 1
Name:

Relevant math/stats/econometrics courses you have taken (course number and instructor name):

Relevant economics/finance courses you have taken (course number and instructor name):

Is your first language Mandarin or English?

What do you wish to obtain from this course?

What is your goal after college?

Student 2
Name:

Relevant math/stats/econometrics courses you have taken (course number and instructor name):

Relevant economics/finance courses you have taken (course number and instructor name):

Is your first language Mandarin or English?

What do you wish to obtain from this course?

What is your goal after college?

Student 3
Name:

Relevant math/stats/econometrics courses you have taken (course number and instructor name):

Relevant economics/finance courses you have taken (course number and instructor name):

Is your first language Mandarin or English?

What do you wish to obtain from this course?

What is your goal after college?

Student 4
Name:

Relevant math/stats/econometrics courses you have taken (course number and instructor name):

Relevant economics/finance courses you have taken (course number and instructor name):

Is your first language Mandarin or English?

What do you wish to obtain from this course?

What is your goal after college?