UNIVERSITY OF
South Carolina
Darla Moore School of Business

FINA 865
Theory of Finance
Fall 2024

1 Course Details

Lectures: Tuesdays and Thursdays from 4:25pm to 5:40pm

Room: 461F Darla Moore School of Business

Professor: Aaron Mora, PhD

Email: aaron.mora@sc.edu

Office: 457C Darla Moore School of Business

Office hours: Wednesdays from 2:00pm to 5:00pm by appointment. Use this Link to book an appointment.

2 Course Description

This course is designed to provide graduate students with foundational knowledge of asset pricing. The course is structured into three parts. The first part of the course will cover empirical properties of asset returns that inspired many theoretical models of asset pricing. The second part of the course will study the workhorse models of asset pricing. The third part presents different extensions of the canonical models and recent works on asset pricing. We finish the course discussing recent papers in finance to expose students to new research ideas and facilitate their development as research financial economists.

3 Learning Outcomes

At the end of this course, the student should be familiar with:

a. Basic stylized facts about asset returns.

b. The academic literature on return predictability.

c. The stochastic discount factor paradigm on asset pricing.

d. Consumption-based asset pricing models and the empirical puzzles associated.

e. Factor pricing models.

f. Static and intertemporal portfolio choice models.

g. Some extensions of the canonical models of asset pricing.

4   Prerequisites

It is assumed that the student has a basic knowledge of microeconomic theory, multivariate optimization, linear algebra and least-squares regression. These tools will be the building blocks to study the different topics in the lectures of this course.

5   Course Materials

I will distribute slides with the contents of each lecture. Students are advised to consult the recommended textbooks and papers in advance of each lecture.

Recommended Textbooks

1. Campbell, J., (2018), *Financial Decisions and Markets: A Course in Asset Pricing*, Princeton University Press. (Referred as *Campbell* in the references)

2. Cochrane, J., (2001), *Asset Pricing*, Princeton University Press. (Referred as *Cochrane* in the references)

3. Campbell, J., A. Lo, and A.C. MacKinlay, (1997), *The Econometrics of Financial Markets*, Princeton University Press. (Referred as *CLM* in the references)

The Blackboard course website will be used for course announcements. It is students' responsibility to check updates regularly at the Blackboard.***

6   Course Requirements

The grade will be composed of the following components:

- Homework Assignments (20%). There will be 3 assignments throughout the semester. These assignments can be worked on in groups of no more than 2 students. Group assignments should be submitted as a single submission. You should start working on the assignments as soon as possible. Some of the assignments could take several days to complete.

- Midterm Exam (30%). There will be a midterm evaluating the first half of the course. Exact format and date will be announced later.

- Final Exam (30%). There will be a final exam evaluating the second half of the course. Exact format and date will be announced later.

- Presentation (20%). Each student will be required to prepare a 20 minute presentation discussing a recent paper in finance published in the last ten years; the more recent the better, as it will help you familiarize yourself with recent questions in finance. I will provide a list of recent papers you can use for this presentation. However, if you have another paper in mind, please communicate it in advance.

7 Tentative Course Schedule

Week	Dates	Class Topic	Note
1	Tue. 8/20 and Thu. 8/22	Course Overview, Lecture 1	
2	Tue. 8/27 and Thu. 8/29	Lecture 2	
3	Tue. 9/3 and Thu. 9/5	Lecture 3	
4	Tue. 9/10 and Thu. 9/12	Lecture 4	
5	Tue. 9/17 and Thu. 9/19	Lecture 5	**HW3 due 9/19**
6	Tue. 9/24 and Thu. 9/26	Lecture 5	
7	Tue. 10/1 and Thu. 10/3	Lecture 6	
8	Tue. 10/8 and Thu. 10/10	Lecture 7	**HW2 due 10/10**
9	Tue. 10/15	**Midterm Exam (10/15)**	Fall Break (10/17)
10	Tue. 10/22 and Thu. 10/24	Lecture 8	
11	Tue. 10/29 and Thu. 10/31	Lecture 9	
12	Thu. 11/7	Lecture 10	Election Day (11/5)
13	Tue. 11/12 and Thu. 11/14	Lecture 11	
14	Tue. 11/19 and Thu. 11/21	Lecture 12	**HW3 due 11/21**
15	Tue. 11/26 and Thu. 11/28		Thanksgiving
16	Tue. 12/3 and Thu. 12/5	Student Presentations	
17	Thu. 12/12	**Final Exam (12/12)**	

8 Reading List

Lecture 1: A primer on Asset Pricing

i. Campbell, Chapter 1: Choice under Uncertainty.

ii. Cochrane, Chapter 1: Consumption-Based Model and Overview.

iii. CLM, Chapter 1: Introduction.

iv. Summers, L.H. (1985), "*On Economics and Finance*," The Journal of Finance 40, 633-635.

v. Brunnermeier, M., Farhi, E., Koijen, R. S. J., Krishnamurthy, A., Ludvigson, S. C., Lustig, H., Nagel, S. and Piazzesi, M. (2021), "*Review Article: Perspectives on the Future of Asset Pricing*," The Review of Financial Studies 34, 2126–2160.

Lecture 2: Crash Course on Econometrics for AP

i. Cochrane, Chapter 11: GMM: General Formulas and Applications

ii. Elliott, G., and Timmermann, A. (2008). Economic Forecasting. Journal of Economic Literature, 46, 3-56.

- Chapter 7: Univariate Prediction Models.
- Chapter 9: Vector Autoregressions.

iii. Hamilton, J. D. (1994). Time series analysis. Princeton university press.

- Chapter 3: Stationary ARMA Processes.
- Chapter 5: Maximum Likelihood Estimation.

iv. Stambaugh, R. F. (1999), "*Predictive regressions*," Journal of Financial Economics, 54, 375-421.

v. Hodrick, R. J. (1992), "*Dividend yields and expected stock returns: Alternative procedures for inference and measurement*," The Review of Financial Studies, 5, 357-386.

Lecture 3: Empirical Properties of Returns

i. Cochrane, Chapter 20: Expected Returns in the Time Series and Cross Section

ii. CLM, Chapter 1: Prices Returns and Compounding; Market Efficiency

iii. Fama, E. F., and French, K. R. (1988), "*Permanent and temporary components of stock prices*," Journal of Political Economy, 96, 246-273.

Lecture 4: Return Predictability

   i. CLM,

      • Chapter 2: The Predictability of Asset Returns

      • Chapter 4: Present-Value Relations

   ii. Campbell, Chapter 5: Present Value Relations

  iii. Campbell, J., and R. Shiller, (1988), "*The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors,*" The Review of Financial Studies, 1, 195-228.

  iv. Campbell, J. Y., and Yogo, M. (2006), "*Efficient tests of stock return predictability,*" Journal of Financial Economics, 81, 27-60.

   v. Lewellen, J. (2004). "*Predicting returns with financial ratios,*" Journal of Financial Economics, 74(2), 209-235.

Lecture 5: The Stochastic Discount Factor

   i. Cochrane, Chapter 4: The Discount Factor

   ii. Campbell, Chapter 4: The Stochastic Discount Factor

  iii. Ross, S. A. (1978), "*A simple approach to the valuation of risky streams,*" Journal of Business, 51, 453-475.

  iv. Harrison, J. M., and Kreps, D. M. (1979), "*Martingales and arbitrage in multiperiod securities markets,*" Journal of Economic Theory, 20, 381-408.

   v. Hansen, L. P., and Jagannathan, R. (1997). "*Assessing specification errors in stochastic discount factor models,*" The Journal of Finance, 52, 557-590.

Lecture 6: Consumption-based Asset Pricing

   i. Campbell, Chapter 6: Consumption Based Asset Pricing

   ii. Cochrane, Chapter 21: Equity Premium Puzzle and Consumption-Based Models

  iii. Mehra, R., and Prescott, E. C. (1985). "*The equity premium: A puzzle,*" Journal of Monetary Economics, 15, 145-161.

  iv. Abel, A. B., (1990), "*Asset prices under habit formation and catching up with the Joneses,*" American Economic Review, 80, 38-42.

   v. Campbell, J. Y., and Cochrane, J. H. (1999), "*By force of habit: A consumption-based explanation of aggregate stock market behavior,*" Journal of Political Economy, 107, 205-251.

  vi. Bansal, R., and Yaron A. (2004), "*Risk for the Long Run: A Potential Resolution of Asset Pricing Puzzles*," The Journal of Finance, 59, 1481-1509.

  vii. Schorfheide, F., Song D. and Yaron A., (2017), "*Identifying Long Run Risks: A Bayesian Mix Freuency Approach*," Econometrica, 86, 617-654

  viii. Barro, R. J. (2009), "*Rare disasters, asset prices, and welfare costs*," American Economic Review, 99, 243-264.

  ix. Wachter, J. (2013), "*Can Time-Varying Risk of Rare Disasters Explain Aggregate Stock Market Volatility?*," The Journal of Finance 68, 987–1035.

Lecture 7: Static Equilibrium Asset Pricing

  i. Campbell

- Chapter 2: Static Portfolio Choice
- Chapter 3: Static Equilibrium Asset Pricing
- Chapter 10: Household Finance

  ii. CLM, Chapter 5: The Capital Asset Pricing Model

  iii. Cochrane, Chapter 6: Relation between Discount Factors, Betas, and Mean-Variance Frontiers

  iv. Sharpe, W. F. (1964), "*Capital asset prices: A theory of market equilibrium under conditions of risk*," The Journal of Finance, 19, 425-442.

  v. Black, F., M. Jensen, and M. Scholes (1972), "*The Capital Asset Pricing Model: Some Empirical Tests.*" In: Jensen, M. (Ed.), Studies in the Theory of Capital Markets. Praeger, New York.

Lecture 8: Factor Pricing Models

  i. Cochrane

- Chapter 9: Factor Pricing Models
- Chapter 12: Regression-Based Tests of Linear Factor Models

  ii. CLM, Chapter 6: Multifactor Pricing Models

  iii. Fama, E.F., and MacBeth J.D, (1973), "*Risk, Return, and Equilibrium: Empirical Tests*," Journal of Political Economy, 81, 607–636.

  iv. Fama, E.F., and French K.R. (1992), "*The Cross-Section of Expected Stock Returns*," The Journal of Finance, 47, 427–465.

v. Fama, E.F., and French K.R. (1993), "*Common Risk Factors in the Returns on Stocks and Bonds*," Journal of Financial Economics, 33, 3–56.

vi. Fama, E.F., and French K.R. (2015), "*A Five-Factor Asset Pricing Model*," Journal of Financial Economics, 116, 1–22.

vii. Carhart, M.M., (1997), "*On Persistence in Mutual Fund Performance*," Journal of Finance, 52, 57–82.

Lecture 9: Intertemporal Portfolio Choice and Risk

i. Campbell, Chapter 9: Intertemporal Risk

ii. CLM, Chapter 8: Intertemporal Equilibrium Models

iii. Merton, Robert C., (1973), "*An Intertemporal Capital Asset Pricing Model*," Econometrica 41, 867–887.

iv. Campbell, J. Y. (1993) "*Intertemporal asset pricing without consumption data*," The American Economic Review, 83, 487-512.

v. Campbell, J. Y., and Viceira, L. M. (2001), "*Who should buy long-term bonds?*," American Economic Review, 91, 99-127.

vi. Campbell, J. Y., and Vuolteenaho, T. (2004), "*Bad beta, good beta*," American Economic Review, 94(5), 1249-1275.

Lecture 10: Fixed Income Securities

i. Campbell, Chapter 8: Fixed-Income Securities.

ii. Cochrane, Chapter 20: Term Structure of Interest Rates.

iii. Ang, A., and Piazzesi, M. (2003), "*A no-arbitrage vector autoregression of term structure dynamics with macroeconomic and latent variables*," Journal of Monetary Economics, 50, 745-787.

iv. Cox, J. C., Ingersoll Jr, J. E., and Ross, S. A. (2005). ''*A theory of the term structure of interest rates*," Econometrica, 53, 385-407.

v. Vasicek, O. (1977), "*An equilibrium characterization of the term structure*," Journal of Financial Economics, 5, 177-188.

Lecture 11: Heterogeneity, Asymmetric Info and Liquidity

   i. Campbell

- Chapter 11: Risk Sharing and Speculation
- Chapter 12: Asymmetric Information and Liquidity

  ii. Grossman, S.J. and Stiglitz, J.E. (1980), "*On the impossibility of informationally efficient markets.*" The American Economic Review, 70, 393-408.

 iii. Grossman, S.J. (1976), "*On the efficiency of competitive stock markets where trades have diverse information,*" The Journal of Finance, 31, 573-585.

 iv. Grossman, S. J., and Shiller, R. J. (1982), "*Consumption correlatedness and risk measurement in economies with non-traded assets and heterogeneous information,*" Journal of Financial Economics, 10, 195-210.

  v. Harrison, J. M., and Kreps, D. M. (1978), "*Speculative investor behavior in a stock market with heterogeneous expectations,*" The Quarterly Journal of Economics, 92, 323-336.

 vi. Diamond, D. W., and Verrecchia, R. E. (1981), "*Information aggregation in a noisy rational expectations economy,*" Journal of Financial Economics, 9, 221-235.

Lecture 12: Asset Demand Asset Pricing

   i. Shleifer, A., (1986). "*Do demand curves for stocks slope down?,*" The Journal of Finance, 41, 579-590.

  ii. Kyle, A. (1985), "*Continuous auctions and insider trading*", Econometrica, 1315—1335.

 iii. Kyle, A. (1989), "*Informed Speculation with Imperfect Competition,*" Review of Economic Studies, 56, 317-355.

 iv. Campbell, J. Y. and Viceira, L. M. (2002), Strategic asset allocation: portfolio choice for longterm investors, Clarendon Lectures in Economic. New York: Oxford Univ. Press. Chapter 1 and 2.

  v. Koijen, R. S. and Yogo, M. (2019), "*A demand system approach to asset pricing*", Journal of Political Economy 127, 1475–1515.

 vi. Koijen, R. S., Richmond, R. J. and Yogo, M. (2023), "*Which investors matter for equity valuations and expected returns?*". The Review of Economic Studies, forthcoming.

 vii. Mora, A. (2024), "*Revealed Preference for Green Stocks: An Asset Demand Approach,*". Working Paper.

9 University Resources

9.1 Mental Health Resources

If stress is impacting you or getting in the way of your ability to do your schoolwork, maintain relationships, eat, sleep, or enjoy yourself, please reach out to any of our mental health resources. Most of these services are offered at no cost as they are covered by the Student Health Services tuition fee. For all available mental health resources, check out USC's Student Health and Well-Being website and the quick reference list below.

- Wellness Coaching can help you improve in areas related to emotional and physical wellbeing (e.g., sleep, resiliency, balanced eating and more) – schedule an appointment at (803) 777-6518 or on MyHealthSpace.

- Access virtual self-help modules via Therapy Assistance Online (TAO).

- Access additional articles and videos on health and wellness topics on the Wellness Hub, or by downloading the CampusWell app and searching for University of South Carolina.

- Counseling & Psychiatry offers individual and group counseling and psychiatric services – schedule an appointment at (803) 777-5223 or on MyHealthSpace.

- Access the 24-hr Mental Health Support Line at (833) 664-2854.

- Access an anonymous mental health screening program.

9.2 Disability Services

Student Disability Resource Center: The Student Disability Resource Center (SDRC) empowers students to manage challenges and limitations imposed by disabilities. Students with disabilities are encouraged to contact me to discuss the logistics of any accommodations needed to fulfill course requirements (within the first week of the semester). In order to receive reasonable accommodations from me, you must be registered with the Student Disability Resource Center (1705 College Street, Close-Hipp Suite 102, Columbia, SC 29208, 803-777-6142). Any student with a documented disability should contact the SDRC to make arrangements for appropriate accommodations.

9.3 Technical Support

If you have problems with your computer, technology, IT-related questions, support, including Blackboard, please contact the Division of Information Technology (DoIT) Service Desk at (803) 777-1800 or submit an online request through the Self-Service Portal or visit the Carolina Tech Zone.