Asset Pricing Theory (and Empirical Methods in Finance)
Lindner College of Business, University of Cincinnati

Fall 2020

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Class Hours: Tuesday 9:30am to 12:30pm
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COURSE DESCRIPTION:
This course introduces doctoral students in finance and related fields to the frontier theoretical and empirical asset pricing research. It covers selected topics that are essential for understanding the pricing and dynamics of financial markets. These topics include time-series stock return predictability, cross-sectional stock return predictability, the dynamics of stock market volatility, and the stock market risk-return relation across time. We will discuss each topic in three respects: (1) commonly used empirical methodologies; (2) main empirical findings; and (3) the relation between empirics and theories. Good asset pricing empirical work always requires a thorough understanding of asset pricing theories. In this course, I highlight the tension between empirical findings and economic theories, and discuss recent theoretical developments that attempt to provide a better explanation of financial market data.

To register for this course, you should have completed graduate-level courses in basic finance theory and econometrics. You should also be able to use a statistical package or you are willing to learn it quickly. Many empiricists use SAS, STATA, SPLUS, R, TSP, MATLAB, or GAUSS but you are welcome to use any statistical packages that you are most comfortable with.

By the end of the course, I expect you to be familiar with relevant economic issues and have skills required for doing empirical research. The ultimate objective is that you should be able to conduct the original research in asset pricing.

COURSE MATERIALS:

Required Textbook

Useful References

Strongly recommended

GRADING:
- 10 quizzes from previous lectures (20%)
- 3 referee reports (18%)
- 3 in-class presentations (21%)
- 3 replication assignments (15%)
- 1 course project (26%)

TENTATIVE COURSE OUTLINE AND READING:
(* denotes required reading and # denotes surveys)

Big Picture:
- The stock market risk-return relation is the first fundamental law of finance
- Mechanical relation between stock price and expected future discount rate
- Discount-rate variation is the central organizing question of current asset-pricing research

I begin with the discussion of time-series stock market return predictability with emphasis of conditional stock market variance as an important predictive variable. I then introduce the classic models that explain the cross-section of stock returns, including CAPM, conditional CAPM, APT, and ICAPM. I emphasize that ICAPM imposes a theoretical link between time-series and cross-sectional expected stock returns. I discuss how extant consumption-based asset pricing models explain the stock market return predictability and other important stylized facts such as the stock market risk-return tradeoff. I also discuss how the limit of arbitrages and investor sentiment affect asset prices.

Topic 1: Overview, Efficient Market Hypothesis, and Random Walk Hypothesis
- Literature Overview

*# Thaler, R., 2018, From Cashews to Nudges: The Evolution of Behavioral Economics, American Economic Review
*# Fama, E. 2014, Two Pillars of Asset Pricing, American Economic Review


Efficient Market Hypothesis and Random Walk Hypothesis

CLM Chapters 1 and 2


Topic 2: Microstructure Frictions and Serial Correlation in Stock Returns

CLM Chapter 3 (Sections 3.1, 3.2, and 3.4)


* Dimson, E., 1979, Risk Measurement When Shares are Subject to Infrequent Trading, Journal of Financial Economics, 7, 197-226


* Han, Y. and D. Lesmond, 2011, Liquidity biases and the pricing of cross-sectional idiosyncratic volatility, Review of Financial Studies 24 (5), 1590-1629 (bias in idiosyncratic volatility)


**Topic 3: Forecasting Excess Stock Market Returns Using Financial or Macro Variables**

* CLM, Chapter 7


  • **Present-Value Relations and Return Variance Decomposition**


  • **Finite-Sample Issues**


  • The Predictability Debate


  • Recent Development (ask students to update the list)


Kelly, B. and H Jiang, 2014, Tail Risk and Asset Prices, Review of Financial Studies


Jones, Chris, and Selale Tuzel, 2013, New Orders and Asset Prices, Review of Financial Studies


Chava, S., M. Gallmeyer, and H. Park, 2015, Credit conditions and stock return predictability, Journal of Monetary Economics


Han, Bing and Gang Li, 2020, Aggregate Implied Volatility Spread and Stock Market Returns, Management Science

**Topic 4: CAPM, APT, Conditional CAPM, and ICAPM**

- **CAPM**

* CLM Chapter 5


* Andrea Frazzini and Lasse Heje Pedersen, Betting against Beta, JFE 2014

- **APT**

* CLM Chapter 6


- **Conditional CAPM**


* Bai, Hou, Kung, and Zhang, 2015, The CAPM strikes back? An investment model with disasters, unpublished working paper, Ohio State University


O'Doherty, Michael S., 2012, On the conditional risk and performance of financially distressed stocks, Management Science 58(8), 1502-1520


- **Stochastic Discount-Factor Models**
* Cochrane, Chapters 4, 10, 11, 13


- **ICAPM**
* CLM Chapter 8

- **Theoretical Framework**


- **Empirical Evidence**


Topic 5: Consumption-based asset pricing models

• Overview

* CLM Chapter 7
# Campbell, J., 2003, Consumption-Based Asset Pricing, Handbook of the Economics of Finance, Edited by George Constantinides, Milton Harris, and Rene Stulz, North-Holland


* Muir, Tyler, 2016, Financial Crises and Risk Premia, Quarterly Journal of Economics

• Excess Volatility Puzzle


• Equity Premium Puzzle


• Recent Theoretical Developments

* CLM Chapter 8


* Campbell, J., and J. Cochrane, 2015, the Fragile Benefits of Endowment Destruction, Journal of Political Economy


* Ju, N. and J. Miao, 2012, Ambiguity, Learning, and Asset Returns, Econometrica

   - General Equilibrium Asset Pricing Models


**Topic 6: Stock Market Risk-Return Tradeoff**

- Realized Volatility, ARCH, Midas, Implied Volatility
* CML, Chapter 12.2


• Empirical Studies


* 17, Volatility Managed Portfolios, Journal of Finance


  • Multiple state variables


* Kilic, M. and I. Shaliastovich, 2017, Good and Bad Variance Premia and Expected Returns, Management Science


  • Term Structure of Returns


- **Sentiment and Asset Prices**


**Topic 7: Investment-based Asset Pricing Model**


**Topic 8: Cross-Sectional Stock Return Predictability**


Harvey, C., Y. Liu, and H. Zhu, 2015, ... and the Cross-Section of Expected Returns, Review of Financial Studies


- Duration Anomaly


- Value and Growth, Size


- Momentum


- Accruals


- Investments


- Profitability

• *Net Share Issuance*


• *Idiosyncratic Volatility*