

This course is an introduction to the empirical literature on asset pricing and investments. The primary focus will be on methodological issues and about the interpretation of econometric analysis as applied to financial hypotheses. It is assumed that students have had previous exposure to asset pricing theory and probability and statistics/econometrics.

Please focus on the readings that are in **bold**. We will only cover material that has not already been covered in Part I of this course.

Your grade will be based on a final exam.

### **Class 1: Multifactor Benchmarks**

- Fama, E. and French, K., 1996, Multifactor Explanations of Asset Pricing Anomalies, *Journal of Finance* 47, pp. 427-465.
- Daniel, K. and S. Titman, 1997, Evidence on the characteristics of cross-sectional variation in stock returns, *Journal of Finance* 52, 1-33.
- Daniel, K., M. Grinblatt, S. Titman and R. Wermers, 1997, Measuring Mutual Fund Performance with Characteristic-Based Benchmarks, *Journal of Finance* 52, 1035-1058.
- Davis, Fama, and French, "Characteristics, Covariances, and Average Returns: 1929 to 1997," *Journal of Finance*, 55, 389-406. (Skip, if lack of time)
- Lewellen, J., S. Nagel and Shanken, J., 2010, A Skeptical Appraisal of Asset Pricing Tests, *Journal of Financial Economics* 96, 175-194.
- Jagannathan, R., and Z. Wang, 1996, The Conditional CAPM and the Cross-Section of Expected Returns, *Journal of Finance* 51, 3-53.
- **Fama, Eugene F. and Kenneth R. French**, 2015, A five-factor asset pricing model, *Journal of Financial Economics* 116, 1-22.
- **Hou, Kewei, Chen Xue and Lu Zhang**, 2015, Digesting anomalies: An investment approach, *Review of Financial Studies* 28, 650-705.
- **Stambaugh, Rob and Yu Yuan**, 2017, Mispricing Factors, *Review of Financial Studies* 30, 1270-1315.
- **Barillas, Francisco and Jay Shanken**, 2017, Which Alpha, *Review of Financial Studies* 30, 1316-1338.
- **Barillas, Francisco and Jay Shanken**, 2018, Comparing Asset Pricing Models, *Journal of Finance* 73, 715-754.
- **Fama, Eugene F. and Kenneth R. French**, 2018, Choosing Factors, *Journal of Financial Economics* 128, 234-252.
- Pukthuanthong, Kuntara, Richard Roll, and Avanidhar Subrahmanyam, 2017, A Protocol for Factor Identification, Available at <https://ssrn.com/abstract=3005477>
- **Fama, Eugene F. and Kenneth R. French**, 2020, Comparing Cross-Section and Time-Series Models, *Review of Financial Studies* 33, 1891-1926.

### Class 2: Multivariate Anomalies

- Lo, Andrew and Craig MacKinlay, 1990, Data-Snooping Biases in Tests of Financial Asset Pricing Models, *Review of Financial Studies* 3, 431-467.
- [Brennan, M., T. Chordia, and A. Subrahmanyam](#), 1998, Alternative factor specifications, security characteristics, and the cross-section of expected stock returns, *Journal of Financial Economics* 49, 345- 373.
- [Avramov, Doron and Tarun Chordia](#), 2006, Asset Pricing Models and Financial Market Anomalies, *Review of Financial Studies* 19, 1001-1040.
- Fama Eugene F. and Kenneth R. French, 2008, Dissecting Anomalies, *Journal of Finance* 63, 1653-1678.
- [Avramov, Doron, Tarun Chordia, Gergana Jostova and Alexander Philipov](#), 2013, Anomalies and Financial Distress, *Journal of Financial Economics* 108, 139-159.
- [Chordia, Tarun, Avanidhar Subrahmanyam and Qing Tong](#), 2014, Have Capital Market Anomalies Attenuated in the Recent Era of High Liquidity and Trading Activity?, *Journal of Accounting and Economics* 58, 41-58.
- [Chordia, T., A. Goyal and J. Shanken](#), 2013, Cross-Sectional Asset Pricing with Individual Stocks: Betas versus Characteristics, Working paper.
- [Jegadeesh Narasimhan, Joonki Noh, Kuntara Pukthuanthong, Richard Roll, and Junbo Wang](#), 2019, Empirical tests of asset pricing models with individual assets: Resolving the Errors-in-Variables bias in risk premium estimates, *Journal of Financial Economics* 133, 273-298.
- [Fama Eugene F. and Kenneth R. French](#), 2015, Dissecting anomalies in a five-factor model, *Review of Financial Studies* 29, 69-103.

### Class 3: MHT and p-hacking

- Fama Eugene F., 1998, Market efficiency, long-term returns, and behavioral finance, *Journal of Financial Economics* 49, 283-306.
- [Harvey, Campbell, Yan Liu and Heqing Zhu](#), 2016, ... and the cross-section of stock returns, *Review of Financial Studies* 29, 5-68.
- [Harvey, Campbell](#), 2017, Presidential address: The scientific outlook in financial economics, *Journal of Finance* 72, 1399-1440.
- [McLean, David and Jeffrey Pontiff](#), 2016, Does academic research destroy stock return predictability?, *Journal of Finance* 71, 5-32.
- [Green, Jeremiah, John Hand, and Frank Zhang](#), 2017, The characteristics that provide independent information about average US monthly stock returns, *Review of Financial Studies* 30, 4389-4436.
- [Linnainmaa, Juhani and Michael Roberts](#), 2017, The history of the cross section of stock returns, *Review of Financial Studies* 31, 2606-2649.
- [Hou, Kewei, Chen Xue and Lu Zhang](#), 2020, Replicating anomalies, *Review of Financial Studies* 33, 2019-2133.
- [Chordia, Tarun, Amit Goyal and Alessio Saretto](#), 2020, Anomalies and false rejections, *Review of Financial Studies* 33, 2134-2179.

#### **Class 4: Big Data and Machine Learning**

- [Chinco, Alex, Adam Clark-Joseph, and Mao Ye](#), 2019, Sparse Signals in the Cross-Section of Returns, *Journal of Finance* 74, 449-492.
- [Gu, Shihao, Bryan Kelly, and Dacheng Xiu](#), 2020, Empirical Asset Pricing via Machine Learning, *Review of Financial Studies* 33, 2223-2273.
- [Kelley, Bryan, Seth Pruitt, and Yinan Su](#), 2019, Characteristics are covariances: A unified model of risk and return, *Journal of Financial Economics* 134, 501-524.
- [Allena, Rohit](#), 2024, Confident Risk Premia: Economics and Econometrics of Machine Learning Uncertainties, *working paper*, Emory University.
- Freyberger, Joachim, Andreas Neuhierl, and Michael Weber, 2020, Dissecting Characteristics Nonparametrically, *Review of Financial Studies* 33, 2326-2377.

#### **Other – Cryptocurrency and FinTech**

- Hardle, Wolfgang, Campbell Harvey, and Raphael Reule, 2020, Understanding Cryptocurrencies, Forthcoming, *Journal of Financial Econometrics*.
- Yermack, David, 2017, Corporate Governance and Blockchains, *Review of Finance* 21, 7-31.
- Tang, Huan, 2019, Peer-to-Peer Lenders Versus Banks: Substitutes or Complements? *Review of Financial Studies* 32, 1900-1938.
- D'Acunto, Francesco, Nagpurnanand Prabhala, and Alberto Rossi, 2019, The Promises and Pitfalls of Robo-Advising, *Review of Financial Studies* 32, 1983-2020.
- Zhu, Christina, 2019, Big Data as a Governance Mechanism, *Review of Financial Studies* 32, 2021-2061.