

Asset Pricing Theory

Teacher: Thierry Foucault

Duration: 24 hours

Number of ECTS credits: 4

Education Level	Period	Language of instruction	Max. class size	Teaching Mode
Master	S1	English	25	In-Person

OVERVIEW

This course is an introduction to the modern theory of asset pricing and portfolio theory. It develops foundations for more specialized courses on securities valuation (e.g., derivatives pricing, continuous time finance, empirical estimation of asset pricing models, market microstructure, limits to arbitrage, behavioral finance etc...). Topics covered include (i) CAPM, mean-variance analysis, CCAPM, Arrow-Debreu pricing, factor pricing, arbitrage, (ii) pricing anomalies, (iii) asymmetric information and asset pricing, and (iv) liquidity and asset pricing.

LEARNING OUTCOMES

At the end of the course, the students will have acquired knowledge of

- Economics of asset pricing models
- Foundations of main asset pricing models
- Factor pricing models and their interpretation
- Effects of asymmetric information on asset prices and the notion of price informativeness

DETAILED DESCRIPTION

Part 1: Economic Foundations

- Arrow-Debreu model
- Risk sharing
- Stochastic Discount Factor and risk neutral probabilities
- Consumption based asset pricing

Part 2: Mean-variance analysis and the CAPM

- Efficient frontier
- Sharpe ratios
- CAPM

Part 3: Factor Pricing Models and Pricing Anomalies

- Factor pricing models
- Pricing anomalies and alphas
- Liquidity and asset prices

Part 4: Intertemporal models

- Present value relationships
- Excess volatility
- Asset pricing puzzles

Part 5: Asymmetric Information and Liquidity

- Rational expectations equilibria
- Adverse selection and liquidity
- Value of information in securities markets
- Liquidity and asset prices

ESG-related Content:

Environmental-related content	Social-related content	Governance-related content
Minimal content	Minimal content	Minimal content

Competency Goals:

Transformative Management	Innovative Thinking & Problem Solving	Positive Leadership	Sustainable Business Practices
N/A	Extensive contribution	N/A	N/A

TEACHING MATERIALS

Research articles and textbooks:

1. Campbell, J. (2000), "Asset Pricing at the Millenium", Journal of Finance, 55, 1515-1567.
2. Campbell, J. (2018): "Financial Decisions and Markets", Princeton University Press.
3. Cochrane J. (2001), "Asset Pricing", Princeton University Press.
4. Fama, E. and French, K. (1992), "The cross-section of expected stock returns", Journal of Finance, 47, 427-465.
5. Fama, E., and French, K. (1996), "Multifactor explanations of asset pricing anomalies", Journal of Financial Economics.
6. Fama, E. and French, K. (2004), "The Capital Asset Pricing Model: Theory and Evidence", Journal of Economic Perspectives, 18, 25-46.
7. Mc Lean, J. and Pontiff, J. (2016), "Does academic research destroy stock return predictability", Journal of Finance, 5-32.
8. "Understanding asset prices", scientific background on the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, 2013. Available at: http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2013/advanced-economicsciences2013.pdf
9. Varian, H. (1987), "The Arbitrage Principle in Financial Economics," Journal of Economic Perspectives, 1, 55-72.

TEACHING METHODS

Lectures and problem sets

COURSEWORK & EVALUATIONS

Method of evaluation	Duration	Weight in the final grading
4 take home assignments	2 hours each	40%
Final Exam	2h Group	60%

BIOGRAPHY

Thierry Foucault is Professor of Finance at HEC Paris where he holds a chair from the HEC Foundation and a research fellow of the Centre for Economic Policy (CEPR). His research focuses on the determinants of financial markets liquidity, the production of information in these markets, their industrial organization, and their effect on the real economy. It is published in leading scholarly journals such as *Journal of Finance*, *Review of Financial Studies*, or *Journal of Financial Economics*. In 2021, he received a grant from the European Research Council (ERC) to work on the effects of AI and big data on information production in financial markets. He has received research awards from the Louis Bachelier Institute, the HEC Foundation, and the Analysis Group award for the best paper on Financial Markets and Institutions presented at the 2009 Western Finance Association (WFA) meetings. He serves or served on the scientific committees of the Autorité des Marchés Financiers (AMF), the Norges Bank Academic Program (NBAP), the Research Foundation of the Banque de France, the Group of Economic Advisors of the Committee of Economic and Markets Analysis of the European Securities and Markets Authority (ESMA) and was a member the executive committee of the European Finance Association (EFA). He is currently co-managing editor of the *Journal of Financial and Quantitative Analysis* (JFQA) and an Associate Editor of the *Journal of Economic Theory* and the *Journal of Finance*, and a former Associate Editor of *The Review of Financial Studies*. He also served as co-editor of the *Review of Finance* from 2009 to 2013 and the *Review of Asset Pricing Studies* (RAPS). He is co-author, with Marco Pagano and Ailsa Röell, of “Market Liquidity: Theory, Evidence and Policy” , a textbook on market liquidity published by Oxford University Press in 2024 (2nd edition).

ESTIMATED WORKLOAD

About 30 hours