Foundations of Financial Economics: 2024-2025

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Overview

The course is a survey of asset pricing theory, emphasizing a discount-factor approach. It uses the simplicity of the stochastic discount factor to price any asset: stocks, bonds, real investments, currencies, and derivatives. The price of a particular asset equals its present expected discounted payoff. The discount factor depends on the macro-economic risks underlying each security's value and multiplies future income or losses of the security for each sate of nature.

Course prerequisites

You should have some knowledge of macroeconomics, finance, mathematics and statistics/econometrics before taking this course. I will use concepts like utility maximization, expected returns, random walks, and simple continuous-time diffusion models. I presume you can use single and multivariable calculus, simple differential equations, matrix algebra, and basic statistics. Whenever necessary I will provide an in-class refresher of these concepts.

Class description

The class will center on presenting facts and construct theories to understand the facts. I expect that everyone will participate in the discussions in-class and try to answer the questions that I will raise. Typically, at the end of each class a problem set is assigned. The problem set can be a selection of problems from the textbook. You do not have to turn them in. Doing the problem sets on your own is the best way to learn. You should help each other on the problem sets. But, before talking to anyone else, try to do by yourself, as much as possible, the problem sets. Some of these problem sets might be solved in class.

Course requirements and grading

1) Show up, do the indicated readings. 2) Do the problem sets. 3) Do a mid-term exam (35%) and a final exam (65%). The formulas are provided, but they are not open book exams.

Bibliography

The material taught is covered in the textbook: *Asset Pricing*, Princeton University Press, by John Cochrane. There is additional material from John's web page, https://www.johnhcochrane.com/asset-pricing that is free and that you are encouraged to use.

For instance, a short and quick review of the statistical concepts in the pdf: notes.dvi (but you can use any introductory *time series* book). An introduction to diffusions in the pdf: continuous_time_review.pdf (or the appendix of *Asset Pricing*). There are also many youtube videos.

There are many other excellent textbooks that you could use too. The following is a small list of books that cover the material of this course:

Asset Pricing, by Markus Brunnermeier, manuscript

https://markus.scholar.princeton.edu/sites/g/files/toruqf2651/files/markus/files/fin_501_lecture_notes_2014.pdf

Financial Decisions and Markets: A Course in Asset Pricing, by John Y. Campbell, Princeton University Press

Foundations for Financial Economics, by C. Huang and R. Litzenberger, North-Holland, New York

Prices in Financial Markets, by Michael Dothan, Oxford University Press

The Econometrics of Financial Markets, by John Y. Campbell, Andrew W. Lo and A. Craig MacKinlay, Princeton University Press

Dynamic Asset Pricing Theory, by Duffie, J. Darrel, Princeton University Press

Communication

Everything will be posted on the ISEG Fenix class website. My email adresses are badao@bportugal.pt and bernardino.adao@gmail.com

Syllabus

1. Consumption-based model and overview
2. Applying the basic model
3. Contingent Claims Markets
4. The discount factor
5. Mean-variance frontier and beta representations
6. Relation between discount factors, betas, and mean-variance frontiers
7. Factor pricing models
8. Implications of existence and equivalence theorems
9. Option pricing
10. Portfolio theory
11. Equity premium puzzle and new consumption-based models

Schedule

Class meets on Fridays from 18:10-21:00, room: 118 (F1).

Academic Calendar for the 2nd Semester

Lectures	27-01-2025	30-04-2025
Carnival holidays	01-03-2025	04-03-2025
Easter holidays	12-04-2025	21-04-2025
Regular assessment period	07-05-2025	22-05-2025
ISEG Day	23-05-2025	
Repeat assessment period	02-06-2025	07-06-2025
	30-06-2025	05-07-2025