Investments

Professor: José Suárez-Lledó
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Description

Investments deals with the main challenge faced by the financial manager or the investor: the valuation of assets and productive projects and the subsequent allocation of resources to those investment choices.

The main subject of the course is, therefore, the analysis of investment decisions. We will use concepts of asset pricing under certainty and uncertainty, and will apply investment decisions analysis for the investor. Emphasis will be placed on the calculation of the cash flows from the assets, the choice of the cost of capital and, from a more pure finance standpoint, the final selection of the investment portfolio. In more complex settings (making decisions contingent to other future decisions) more advanced analysis techniques will be introduced. In this context, this course will place a good deal of attention to asset allocation and portfolio management techniques.

Contents

1. Asset Pricing:
   a. Time Value of Money
   b. Interest Rates
   c. Valuation of Bonds
   d. Valuation of Stocks
   e. Criteria for Investment Decisions

2. Risk and Return
   a. Capital Markets and the Pricing of Risk
   b. Optimal Portfolio Choice and the CAPM model

3. Evaluating Allocations
   a. Investor’s objectives
   b. Stochastic dominance
   c. Certainty-equivalent (expected utility)
   d. Value at Risk, expected shortfall

4. Portfolio Optimization
   a. Mean Variance Framework
      i. Markowitz Portfolio model
      ii. Analytical vs Numerical method
      iii. Constraints

5. Estimation Techniques and Estimation Risk
   a. Estimation and Robust allocation methods
      i. The Black-Litterman model

Note: This document is only informational, detailed contents and faculty may change.
6. **Factor Models**
   a. Explicit vs Implicit factor models
   b. Principal Component Analysis

7. **Diversification**

8. **Asset Allocation Strategies**
   a. Strategic vs Tactical Asset allocation
   b. Dynamic/Active vs Passive asset allocation
   c. Asset allocation strategies

**Methodology**

There will be 10 3-hour sessions and 5 practice sessions. Additionally the module requires the preparation of lectures and problem sets through personal study, and the completion of individual and/or team complementary tasks.

Lectures will mainly develop the concepts and methodologies that make up the main components of the course list (see lecture plan below). These classes are based on personal notes and published papers although some textbooks may play a supporting role.

The practice sessions will include the discussion of exercises and real investment cases. The resolution of one of these cases (asset investment recommendation) will be presented in groups. The maximum group size is 4 people. All group members will receive the same score. During the practice sessions, we will also encourage student participation in the discussions.

Regarding the problem sets we recommend that you work in groups to solve these exercises. The maximum group size is 4 people. Please submit one solution per group. All group members will receive the same score. Verify that you place the names of all who worked on the problems. These exercises must be handed-in before the TA sessions, in which we will discuss some of the most relevant problems.

**Evaluation criteria**

In order to pass the course, you should get at least 50 points out of 100, according to the following distribution:

- Final exam: 60 points (must get at least 24 to pass the course)
- Group presentation: 20 points
- Problem sets: 20 points
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Important Information

Students are required to attend 80% of classes. Failing to do so without justified reason can have important consequences in your final grade.

As with all courses taught at UPF Barcelona School of Management, students who fail the course during regular evaluation will be allowed ONE re-take of the examination/evaluation. If the course is again failed after the re-take, students may have to register again for the course the following year.

Plagiarism is to use of another’s work and to present it as one’s own without attributing the sources in the correct way. All essays, reports or projects handed in by a student must be original work completed by the student. By enrolling at a Barcelona School of Management Master of Science and signing the “ Honour Code,” students acknowledge that they understand the Barcelona School of Management’s policy on plagiarism and certify that all course assignments will be their own work, except where indicated by correct referencing. Failing to do so may result in automatic expulsion from the program.

Bio of the professor

Jose Suarez-Lledo is a Manager at the Financial Markets division within the Strategic Planning & Research department at CaixaBank where he is in charge of developing forecasting models for financial variables as well as the analysis reports that the department publishes regularly for clients and investors. Prior to that Jose worked at the Capital Planning & Forecasting department developing models and solutions as part of the methodological framework that allows the bank to generate capital projections.

Before joining CaixaBank Jose was a Director at Moody’s Analytics based in London. As part of the Credit Analytics team he designed macro-econometric models for key economic and financial variables as well as retail and corporate credit models. Dr. Suarez-Lledo’s team provided consulting support to major industry players and implemented stress-testing solutions to quantify portfolio risk under alternative macroeconomic scenarios. Jose is also actively involved in speaking at credit events and economic conferences worldwide and has published his research both in practitioner and academic publications.

Before working for Moody’s Analytics, Jose held a research position at the Autonomous University of Barcelona where he focused on illiquid financial markets and the dynamics of asset prices and credit. Jose holds a PhD and an MSc in Economics from the University of Pennsylvania.