

MASTER Economics Portfolio management

Description

Part of course.

Code: PA-ME5BEC-BECCV25B

Domain: Law, Economics, Management

Information

<http://formations.univ-amu.fr>

Department: Faculty of Economics and Management

Last modification: 10/07/2018

CONTENT

The objective of this series of lectures is to acquaint with the theory of finance and to see how it applies in practice. We revisit the fundamental asset pricing models, in particular the CAPM, which we will estimate in class on market data. The students will construct portfolios, using traditional techniques such as Markowitz' mean-variance optimization and modern smart techniques. The students will build and manage fictive investment portfolios containing equities, bonds and currencies. Case studies will be done in class that I have come across in my work as a quant research analyst with asset management firms.

Course outline :

1. Introduction to portfolio management (3h)

On the basis of an investment example designed by Elton et al., concepts such as portfolio risk, risk decomposition, the efficient frontier, the Sharpe ratio will be revisited. The students will do elementary exercises (e.g. estimate market betas), estimate a one-factor risk model and carry out a mean-variance optimization in Excel.

2. Equity investing (3h)

We look at risk measures, in particular volatility and dispersion in the CAC40- and DAX30. We review factor investing techniques.

3. Investment strategies (6h)

Most of this material cannot be found in finance textbooks. We construct portfolios that correspond to the investment objectives such as market replication, outperformance, capital protection, yield harvesting and impact investing. The construction process is materially different for each of these objectives.

4. Bond investing (6h)

The characteristics of fixed-income securities are discussed, for corporate bonds and state obligations separately, and the way to take them into consideration in a bond investment process.

5. Currency investing (3h)

On the basis of a ten-currency investment example, the students will familiarize with concepts such as carry trading, the interest rate parity, purchasing power parity,

the Siegel paradox and currency hedging.

6. Real assets (3h)

We look at non-listed assets such as real estate, private equity, private debt and infrastructure investment vehicles. An innovative means to measure risk is presented.

7. Miscellaneous : asset allocation & bond scoring (3h)

We look at the asset allocation problem Central Banks typically face when allocating their foreign reserves. We look at bond scoring models that give estimates of the default probability and of the market liquidity of bond issues.

PROFESSIONAL SKILLS

- Becoming familiar with the principle concepts of portfolio management.
- Know how to organize an investment process that covers equities, bonds and currencies.

BIBLIOGRAPHY

- Grinold & Kahn (1999) "Active Portfolio Management"
- Dynkin et al. (2007) "Quantitative Management of Bond Portfolios"
- Elton et al. (2014) "Modern Portfolio Theory and Investment Analysis"

ORGANISATION

Twenty-four hours of lecturers (4 x 6 hours) including practical training in class.

FUNDAMENTAL PREREQUISITES

Basic knowledge of finance theory.
Basic maths, in particular matrix calculus.
Basic skills in Excel

VOLUME OF TEACHINGS

- Lectures: 24 hours

TRAINING

Master's degree: Economics

- Quantitative finance and insurance

