MASTER OF SCIENCE IN WEALTH MANAGEMENT
MAÎTRISE UNIVERSITAIRE EN GESTION DE PATRIMOINE

PORTFOLIO MANAGEMENT (S413167)
Prof. Tony BERRADA / Prof. Ines CHAIEB
6 ECTS
Semester: Spring
Teaching language: English

Part I - Tony Berrada

This section of the course starts by reviewing the standard modern portfolio theory with a particular focus on estimation and implementation issues. We then discuss the main performance measures used in the portfolio management industry and assess their relative benefits. Particular attention is given to statistical pitfalls and implementation issues associated to these measures.

We then move on to dynamic asset allocation looking first at the Merton problem and the dynamic programing approach. Then, we consider the martingale approach and the equivalent static problem. Equipped with these methodologies we look at a number of topics particularly relevant in today's fund management industry including the core-satellite approach, risk parity, risk budgeting and the use of derivatives in asset allocation.

I. Mean-Variance
General theory and main results

Implementation issues:
- portfolio constraints (short sales, VAR, expected shortfall)
- stability in large portfolios (L1 norm and ill-posedness)

Estimation issues:
- Shrinkage methods
- Bayesian analysis
- Factor models

II. Performance measurement

Standard approaches:
- Jensen alpha, Treynor ratio, information ratio, Sharpe ratio, Graham and Harvey measures

Issues (statistical and others):
- Multiple testing, norm selection,...
- Frequency, reporting (hedge fund)

III. Dynamic asset allocation

Theory:
- Merton model and dynamic programming approach
- Martingale methods and static approach
- Hedging demands

Application:
- Simulation methods
- Approximation

IV. Other topics

- Derivatives in portfolio management
- Active and passive allocation
- Core-satellite approach
- Risk budgeting / risk parity

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Part II - Ines Chaieb

The second part of the course deals with the theoretical foundations of international investments, empirical evidence, and applications in a real world setting. Globalization is a major trend affecting the asset management industry. We will then discuss international diversification of portfolios and the problem of global asset allocation, international asset pricing, hedging currency risk, factors that generate returns, international securities such as CFs and ETFs, and global performance evaluation.

I. International diversification

We will focus on why it is prudent to globally diversify investment portfolios. We will rely on the traditional literature augmented with new insights.

II. International securities:

We will discuss the recent literature on country funds, ETFs, ADR pricing and the impact of market liberalizations on asset management.

IIII. International asset pricing models

Theory

We will review the well-known IAPMs which form the basis for long term country forecasts and strategic asset allocation. The two primary distinctions from the domestic CAPM, namely the currency risk and the cross-border barriers to portfolio capital flows will be extensively covered.

Empirical tests

This section will present the empirical tests of the IAPMs and what they mean for the long term country forecasts, specifically the role of currency risk and market integration. Unconditional and conditional models are discussed

Emerging markets

We will examine emerging markets and how the globalization process has affected asset prices.

IV. Hedging international portfolios

This session will deal with the important questions of whether you should hedge currency exposure or not, how much should you hedge if you do and what is risk in general and political risk in particular.

V. Other factors generating returns

What other factors should we take into account for long term and short term country forecasts. This session will focus on conditional aspects of pricing and discuss macroeconomic factors, market attributes such as cash flows and the importance of the industry factor.

VI. Global performance evaluation

We will discuss international benchmarks used in performance evaluation, biases that may affect performance appraisal, performance attribution in multi-currency, multi-asset portfolios.