

Fixed Income

Academic Year: (2018 / 2019)

Review date: 09-05-2018

Department assigned to the subject:

Coordinating teacher: BALBAS DE LA CORTE, ALEJANDRO

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 1

OBJECTIVES

Fixed Income Securities and Markets
 Term Structure of Interest Rates (Theory and Estimation)
 Interest Rate Risk and Credit Risk
 Pricing and Hedging Interest Rate Derivatives

Course description

The focus of the first is on the valuation of credit risk free and non credit risk free fixed income securities. Second part deals with hedging issues with respect to both market and credit risk. Third part is an introduction to interest rate derivatives. Fourth part is presented by a practitioner and focus on a practical perspective of fixed-income products.

DESCRIPTION OF CONTENTS: PROGRAMME

Professors:

* Alejandro Balbas (Full Professor, Uc3m)

* Cesar Fernandez (Deutsche Bank Asset Management)

PART I: Theoretical Overview

- Fixed income securities and markets. Sequential arbitrage. TSIR. Complete and incomplete markets.
- Spot and forward rates.
- Pure expectation theory, segmentation theory and liquidity preference theory. Estimating the TSIR in practice.
- Interest rate risk. Credit risk and credit spread. Estimating the credit spread. Duration and convexity.
- Hedging the interest rate risk.
- Floating rates. Introducing interest rate and credit risk derivatives.
- Some discrete time dynamic models. Introducing the Vasicek and the CIR model.

PART II: Practical Overview

- Debt Instrument Concepts
 - a)Overview of Fixed-Income Risk
 - b)Negative Yields
 - c)CDS (Credit Default Swaps)
 - d)Primary vs Secondary debt markets
- Fixed Income securities:
 - a)Government bonds
 - b)Supra-nationals / Agencies / Sub-sovereigns
 - c)Covered Bonds
 - d)Asset-Backed Securities (ABS)
 - e) Types of assets
 - f)Emerging Market debt
 - g)Subordinated Debt: callable securities
- Rating Agencies
- Fixed-Income Fund Management
 - a)Hedging Instruments
 - b)Benchmarking
 - c)Relative Value Trades

LEARNING ACTIVITIES AND METHODOLOGY

The main notions and theoretical topics will be developed in the classroom by the professor, who will devote 25% of the time to promote discussions among the students. The professor will propose several exercises to be solved by the students at home, and they will be solved in the classroom one week later. At the beginning of the course the professor will provide the students with an open list of topics, which will be developed by teams of students. Every team will need the professor approval once the topic was selected, and the students will deliver their project at the end of the course.

ASSESSMENT SYSTEM

Every student will have to deliver the solution of several sets of exercises. The weight of this activity will be 20%.

Every team of students will develop a project extending a topic closely related to the course. The weight of this activity will be 20%.

A final exam will represent 60% of the final grade.

The final grade will equal $0.2 \times \text{Exercises} + 0.2 \times \text{Project} + 0.6 \times \text{Final Exam}$.

% end-of-term-examination:	60
% of continuous assessment (assignments, laboratory, practicals...):	40

BASIC BIBLIOGRAPHY

- Beliaeva, Navalkha and Soto Interest Rate Risk Modelling, Wiley Finance , 2008
- Gerald O. Bierwag Duration Analysis: Managing Interest Rate Risk, Longman Higher Education, 1987