Risk Management

Academic Year: (2019 / 2020) **Review date: 02-05-2020**

Department assigned to the subject: Business Administration Department

Coordinating teacher: PEÑA SANCHEZ DE RIVERA, JUAN IGNACIO

Type: Electives ECTS Credits : 5.0

Year : 2 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Financial Economics, Dynamic Asset Pricing

OBJECTIVES

This course is designed to train the participants in evaluating and measuring financial risks. The course starts with an analysis of matrix and risk profiles. Then the main points related with why and how should firms hedge are addressed. The Basel capital accords are discussed. After making sure that the participants know how to compute market value-at-risk (MVaR), the course turns to how to use MVaR and related risk measures in project selection, performance evaluation, and managerial compensation. The course then focuses on credit risks and its measure (CVaR) and how to deal with it using credit derivatives. The key points related with systemic risk and its measurement is also addressed. The course finishes with a review of operational risk measures (OVaR) and some implementation issues. The emphasis of the course is on modelling and measuring financial risk. The course deals with interest rate, exchange rate, commodity price, equity, credit, systemic and operational risks. The course draws heavily on financial theory. In addition, the disciplines of econometrics and statistics are heavily used to formulate and solve the problems faced by risk managers.

DESCRIPTION OF CONTENTS: PROGRAMME

PROGRAM:

Chapter 1: Introduction

¿ What is Risk Management?
¿ Risk identification, evaluation, measurement and management.
¿ Identification: market, credit, operational, legal, regulatory, reputation, strategic, transaction, liquidity
¿ Evaluation: Risk Matrix
¿ Measurement: Risk Profile
¿ Management: Financial Derivatives

Chapter 2: Risk Management and Firm Value

¿ Why firms should hedge?
¿ Diversification and risk management.
¿ Creating value with risk management: bankruptcy costs, taxes, investment opportunities.
¿ Optimal capital structure and risk management
¿ How firms should hedge?

Case 0: Novartis

Chapter 3 International Capital Accords

- Financial Risks: The Basel Framework
- Basel I
- Problems with Basel I
- Basel II
- Problems with Basel II
- Basel III

Chapter 4: Measuring Market Risk with VaR

- What is VaR?
- Computing VaR for stocks and bonds
- Using VaR
- Computing VaR for derivatives: Forwards, Futures, Swaps and Options.
- Beyond VaR: Coherent measures
- Introduction to EVT
- Density Forecast

Case 1: ABN AMRO and VaR

Chapter 5: Basics of Credit Risk

- Measuring credit risk
- Bond spreads
- Ratings
- Implied stock spreads
- CDS spreads
- Computing VaR for Credit Risk
- Factor Models
- Granularity
- Sovereign Risk
- Systemic Risk

Case 2: Gamesa and Credit Risk

Chapter 6: Credit Derivatives

- What is a Credit Derivative?
- CDX/iTraxx Index
- Credit Default Swap
- Total Return Swap
- Credit Spread Option
- Collateralized Debt Obligations

Case 3 : Banco Santander and CDS

Chapter 7: Introduction to Operational Risk

- Definition of operational risks:
- Internal risks: system failures, theft, fraud, and mistakes
- External risks: weather events, accidents, and terrorism
- Measuring Operational VaR

LEARNING ACTIVITIES AND METHODOLOGY

Formal clases, case discussions and individual presentations

ASSESSMENT SYSTEM

Course requirements: Students will take a final examination. The final examination will count 40 points; the exercises (problems and cases) will count 30 points and class participation will count for 30 points.

The assessment system for the retake is the same as the regular one

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

BASIC BIBLIOGRAPHY

- Crouhy, M. , D. Galai and R. Mark The Essentials of Risk Management, Wiley, 2014
- Jorion, P. Financial Risk Manager Handbook, Wiley., 2011