

Financial Investment and Corporate Finance

Academic year 2022-2023

Financial Instruments and Markets (6 CFU)

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Blockchain and Fintech (6 CFU)

Lecturer: Professor Silvio Vismara

Educational goals

This course module focuses on understanding the markets in which various financial instruments are traded, the factors that influence the return and risk characteristics of financial instruments (both individually and in portfolio choices), and the role played by the main financial institutions (both traditional banks and non-traditional financial intermediaries).

At the end of the course, Students will be able to: (i) apply concepts relevant to financial instruments, financial markets and financial institutions, such as the flow of funds, levels of interest rates and interest rate differentials, to current events or topical issues; (ii) determine and analyze the appropriate measures of risk and return for various financial instruments. Understand the mechanics and regulation of financial securities exchanges and determine how the value of stocks, bonds, and securities are calculated; (iii) identify and evaluate the role symmetric versus asymmetric information plays in the structure and operation of the financial system information; (iv) evaluate empirical evidence of market performance, and contrast it with theories of market performance; (v) research and analyze specific problems or issues related to financial markets and institutions; (vi) explain the economic rationale for various financial instruments and markets; (vii) identify threats to financial stability in markets and instruments based on case studies of previous financial crises.

Course content

The Students will start by learning the role of financial markets and financial assets in a well-functioning economy. From there, they will learn about the wide range of financial instruments available in major asset classes, their features and valuations. They will explore how financial markets actually operate in the real world, focusing on how and where securities are traded and how various market types differ from one another in practice.

The main topics investigated will be: (i) overview of the financial system; (ii) interest rates; (iii) money markets; (iv) capital markets: bond markets and stock markets; (v)

foreign exchange markets and international financial markets; (vi) hedging and derivatives markets; (vii) depository institutions and contractual saving institutions; (viii) securities market institutions and investment institutions; (ix) financial market failure, crises and regulation.

Teaching methods

Lectures will be held **in person**. In the event of provisions by the authorities concerning the containment and the management of the epidemiological emergency, lessons could be affected by some changes in compliance to what is declared in the program to make the course and exams in line with what is provided. Virtually lectures will be held via Microsoft Teams. I kindly ask the Students to download on their own laptops the Microsoft Teams software following the guidelines provided by the University of Bergamo.

Lectures introduce the underlying theory, while empirical applications through **Stata**, **OxMetrics 8**, **MatLab** softwares allow Students to apply the techniques introduced and test their understanding of how and why some strategies and misuse of financial instruments may lead to financial instability. Students can download their favorite software(s) at the following link: <https://elearning15.unibg.it/course/view.php?id=1659>

Assessment and evaluation

The final assessment, for attending and non-attending Students, will be composed of:

- **60%** written exam. Students are strongly suggested to take part of the **intermediate exam scheduled on Thursday the 24th of November at 5 p.m.** which will concern topics covered until the previous week of the exam (i.e., Friday the 11th of November);
- **40%** applied assignments on a set of predetermined current financial market issues (only for the **first and second exam sessions** – January and February 2023).

For **June**, **July** and **September** 2023 exam sessions, the final assessment will be composed of an entire written exam.

Timetable of lectures

The timetable of lectures is reported in the table hereafter.

Beginning of the lessons: September 26th, 2022 – **End of the lessons:** December 22nd, 2022.

Please note that the timetable could undergo some changes even after the beginning of the lessons.

Course outline

Date	Time	Topic
26/09/2022	14.30-16.30 (2)	Review of basic concepts (1): compounding and discounting.
30/09/2022	10.30-12.30 (4)	Review of basic concepts (2): annuities, perpetuities, annual compound and discount factor.
7/10/2022	10.30-12.30 (6)	Classification of financial assets. Bond valuation.
10/10/2022	14.30-16.30 (8)	Bond (zero coupon and coupon). Stock valuation.
14/10/2022	10.30-12.30 (10)	Dividend Discount Model (DDM) and Capital Asset Pricing Model (CAPM).
17/10/2022	14.30-16.30 (12)	Constant Growth Dividend Discount Model (CGDDM) – Stock prices and investment opportunities. Life cycles and multistage growth models.
21/10/2022	10.30-12.30 (14)	Applications to CGDDM. Introduction to CAPM and index models.
24/10/2022	14.30-16.30 (16)	CAPM and index models: lab session and empirical analysis.
28/10/2022	10.30-12.30 (18)	Multifactor models – Fama and French three factor model.
31/10/2022	14.30-16.30 (20)	Fama and French three factor model with empirical application. Guidelines for the first assignment.
4/11/2022	10.30-12.30 (22)	Default risk and bond pricing. Credit Default Swap (CDS). The yield curve.
7/11/2022	14.30-16.30 (24)	Liquidity expectations theory. Introduction to the special role of financial intermediaries.
11/11/2022	10.30-12.30 (26)	The role of Shadow banks in the economy: Money Market Funds.
17/11/2022	8.30-12.30 (30)	First call for paper session – Presentations first assignment.
21/11/2022	14.30-16.30 (32)	Training session: recap and overview of the main topics covered during recent weeks. Q&A session.
24/11/2022	17.00-18.30	Intermediate exam.
28/11/2022	14.30-16.30 (34)	Introduction to leverage and liquidity in the financial system. Guidelines for the second assignment.
2/12/2022	10.30-12.30 (36)	Measures of financial risk.
5/12/2022	14.30-16.30 (38)	Global systemic risk measures: DeltaCoVaR, Marginal Expected Shortfall (MES), SRISK.
9/12/2022	12.30-15.30 (40)	Efficient Market Hypotheses.
12/12/2022	14.30-16.30 (42)	Empirical tests on efficient market hypotheses. The Game Stop Case (special guest).
16/12/2022	10.30-12.30 (44)	Financial derivatives – Theory and applications. Overview of the main topics covered during the course. Q&A session.
22/12/2022	8.30-12.30 (48)	Second call for paper session – Presentations second assignment.