Teaching guide

Subject identification

Subject	21202 - Financial Economics
Credits	1.8 de presencials (45 hours) 4.2 de no presencials (105 hours) 6 de totals (150 hours).
Group	Group 60, 1S, GADE (Campus Extens)
Teaching period	First semester
Teaching language	English

Professors

Lecturers	Horari d'atenció als alumnes					
	Starting time	Finishing time	Day	Start date	Finish date	Office
Gonzalo Lozano Arnica gonzalo.lozano@uib.es	12:00	13:00	Monday	05/09/2016	28/07/2017	DB101 (Cita previa por Forum Indiv. de Tut.)

Contextualisation

The purpose of markets is trade. If we look up for examples we will usually think first in markets where things, in a broad sense, change hands simultaneously. In financial markets, however, trade is not simultaneous: one agent gives financial resources to the other agent taking part in the trade, in exchange for an expected stream of payments, more or less uncertain and more or less far into the future. This non-simultaneity in contrast with the simultaneity of 'normal' markets is the characteristic trait of financial markets. Obviously it is possible to say that in the moment of trade the agent that gives the resources receives a financial asset. It is true: for the purpose of financial economics, a financial asset is simply the claim over the mentioned expected stream of payments. It can take many forms: shares of listed companies, Treasury bills, mortgages from the point of view of banks, etc., with varied patterns of payments and levels of risk. Time ago financial assets used to be paper documents, but nowadays they are electronic records, being the format largely irrelevant from an economic point of view.

Future is therefore one key element of any financial asset and the future is always uncertain. Consequently, risk is the most salient aspect of financial assets and, given that agents are risk averse, they have to be rewarded for bearing it. Having said that we have met the two main concepts that are at the heart of any problem that financial economics is interested in : risk and return. In others words: the measurement and management of financial risks, and the level of return that should reward risk bearing are the drivers of that part of economics devoted to the study of financial markets and financial decisions.

GADE students need a good level of understanding of financial economics primarily in order to be able to go into the financial issues of firms. Three subjects are directly aim at those issues: *Corporate Investment and Financial Decisions*, *Risk Management* and *Corporate Finance*. To approach the issues which these subjects deal with, a introduction to finance is needed. The courses *Introduction to Financial Markets and Operations* and *Financial Economics* are meant to provide students with the concepts and tools neccesary for the aforementioned more specialized courses.

The topics covered in *Introduction to Financial Markets and Operations* are of two types. On the one hand, a description of the financial system is provided, including the main categories of agents that operate in it,

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i. e. investors, borrowers, banks, dealers, brokers, regulators, rating agencies… On the other hand, some mathematical tools very common in finance both to practitioners and to academics are taught and practiced. The other introductory subject is *Financial Economics*. Even though the subject does not cover the entire field of financial economics, the choice of the title is justified because it is devoted to the most central concepts and problems of finance, that is to say, the measurement of risk and the trade-off between risk and return.

There are several financial markets that could be used to learn how to look at financial issues as economists do -and not simply as technicians applying financial mathematics-, like the markets for stocks, for sovereign or corporate debt, for options or other derivatives, etc. but in the stock market the risk appears in a specially transparent and straightforward way making stocks the best suited asset class to understand what is going on in finance. Therefore, the course centers around stocks and the stock market as considered by investors.
It is easy to realize that not every agent in the stock market act and think in the same way, given that investors, firms seeking funds, dealers, regulators… have different goals and constrictions. Among all, investors have the main role because without investors willing to use their excess resources in buying stocks the stock market would simply not exist. Therefore, the subject unfolds as if market was observed by an investor.

The course is divided in five parts. In Part1, *Risk and return*, the return a random variable is discussed and two parameters proposed as measures of risk and reward: the variance and the expectation. Each asset enters the investmente decision as a random variable. Several random variable each one representing an asset, should be combined in a portrfolio. This is the central issue of Part 2, *Stock portfolios*. When moving from individual stocks to portfolios of stocks, new concepts of risk appear -like systematic and non-systematic risk- and new measures are necessary. This is the framework developed by Markowitz in the fifties that is still very much with us as the basis of modern finance. From accepting it, far reaching consequences related to fundamental aspects of financial decisions follow, e.g. the valuation of investment projects or the measurement of fund managers performance.

The Markowitz's mean-variance analysis is a normative proposal; basically advises to diversify in order to eliminate as much as possible of non-systematic risk. Part 3, *The Capital Asset Pricing Model*, pushes forward the Markowitz ideas so as to answer the following question: What would happen in the market with respect to risk-return trade-off if every investor would follow the advice of Markowitz and would select their portfolios with the mean-variance criterion? In other words, what would be the relationship between risk and expected return in equilibrium? Although this fundamental question refers to the buying side of the market, i.e. the investors, the answer is relevant for the markets as a whole. For example, the firms that issue shares to fund their activities; the behaviour of investor is absolutely relevant to them given that investors are the source of funds. Another example are fund managers; if there is a model providing a 'fair' return given the level of risk, assessing the performance of managers becomes extremely easy.

Part 4, *Stock valuation*, puts together the most basic idea studied in *Introduction to Financial Markets and Operations,* the idea of discounting, with the risk adjusted return. Part 4 proposes a fundamental model of stock valuation based on the discount of expected dividends.

One of the issues that discusses Part 3 is the measuremente of fund managers performance: managers can do well o badly. And the market as a whole? Is the stock market doing a good job in determining stock prices? In other words, do prices reflect at any moment the fundamental factors that determine stock values? If relevant new information on the prospects of a public company appears, does the stock price moves accordingly? These questions are to be found together in financial economics under the title of 'market efficiency'. Part 5, *Market efficiency*, is devoted to the genesis of the hypothesis of market efficiency; to different levels of efficiency the market could possibly posses and to the consequences that derive from those different levels of efficiency;

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and, finally, to some recent events in the history of financial markets like the so called 'technology bubble'. Part 5 deals also with collective invesTment: mutual funds, ETFs, SICAVS.

Requirements

Essential requirements

To have passed the subject:

* Introduction to financial markets and operations
Mathematical and statistical skills as acquired in the subjects Matemáticas and Análisis de Datos Económicos.

Recommendable

To have taken the following subjects:

* Matemáticas
* Análisis de Datos Económicos.

Skills

Learning objectives:

1 Part 1. Risk and return
   * To learn to compute various measures of stock risk.
2 Part 2. Stock portfolios
   * To understand mean-variance analysis of stock returns andthe MVS as the optimal solution to the objective of risk minimization,and to be able to find the minimum variance set starting from stock prices, .
3 Part 3. Risk and return in equilibrium: the Capital Asset Pricing Model
   * To understand the consequences in the market of a generalized use of the mean-variance analisys for investment decisions.
   * To understand the consequences of CAPM for the measurement of fund managers performance and to compute and interpret various measures of performance.
   * To understand fund managers performancemeasurement without a model of risk and return.
4 Part 4. Stock valuation

   To learn to estimate stock values from stockholdersstream of expected income.
   To understand the sensitivity of the stock value to main elements of the model, i. e. earnings and the risk adjusted discount rate.
   To be able to relate the P-E ratio of a stock or of a market with its value and to know how to use it to analyse the stock price or the market level.

5 Parte 5. Market efficiency
   * To understand the concept of efficiency
   * To know empirical evidence for and againts efficiency.
   * To understand the consequences of different levels of efficiency for investment decisions.
   * To understand the working of collective investment and the relevance of the ideas of the course for small savers/investors.

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Specific

* CE1 (CB1) Poseer y comprender conocimientos del área de estudio de la administración y la dirección de empresas a partir de la base de la educación secundaria general, a un nivel que, si bien se apoya en libros de texto avanzados, incluye también algunos aspectos que implican conocimientos procedentes de la vanguardia de la administración y la dirección de empresas..
* CE2.1.3 Saber utilizar diversos instrumentos técnicos de análisis financiero, y asimilar conocimientos sobre el funcionamiento de los mercados financieros nacionales e internacionales para ser capaz de analizar una empresa en su entorno..
* CE2.2.3 Integrarse en cualquier área funcional de una empresa u organización mediana o grande y desempeñar con soltura cualquier labor de gestión en ella encomendada, especialmente todas aquellas relacionadas con la economía financiera y las finanzas corporativas..
* CE2.3.3 Preparar la toma de decisiones financieras o con aspectos financieros en empresas y organizaciones, especialmente en los niveles operativo y táctico..

Generic

* CG2 Capacidad de adaptación a nuevas situaciones..
* CG4 Capacidad para usar habitualmente una variada gama de instrumentos de tecnología de la información y las comunicaciones..
* CG5 (CB3) Tener la capacidad de reunir e interpretar datos relevantes para emitir juicios que incluyan una reflexión sobre temas relevantes de índole social, científica o ética..
* CG7 (CB5) Haber desarrollado aquellas habilidades de aprendizaje necesarias para poder emprender estudios posteriores con un alto grado de autonomía..

Basic

* You may consult the basic competencies students will have to achieve by the end of the degree at the following address: http://www.uib.eu/study/grau/Basic-Competences-In-Bachelors-Degree-Studies/

Content

Theme content

Part 1. Return: risk and reward
* Stock return
* The realized return: expost return
* Return as a random variable (I): expected return and variance
* Return's probability distribution
* Average return over several periods
* Return: risk and reward
* More about return's probability distribution
* A stock and the market: characteristic line

Part 2. stock portfolios
* Stocks and portfolios: two stocks
* A stock and the risk free asset
* Stocks and portfolios: three stocks. The Minimum Variance Set
* Computing the MVS
* The Minimum Variance Set and the riskless asset
* Property 1 of the MVS
* Property 2 of the MVS

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Part 3. Risk and return in equilibrium: The Capital Asset Pricing Model
* The Capital Asset Pricing Model
* Other versions of the CAPM
* Measurement of portfolio perfomance with the CAPM
* Empirical tests of the CAPM
* The single index model

Part 4. Stock valuation
* Financial markets and stock markets
* A fundamental model of stock valuation
* Incorporating inflation to the valuation model
* Stock and bond returns
* Price to Earnings Ratio (PER)
* PER and other multiples: applications

Part 5. Market efficiency

* Some history
* Stock market efficiency
* Collective investment
* Mutual funds, SICAVs, exchange traded funds (ETFs)

Teaching methodology

In-class work activities

Modality	Name	Typ. Grp.	Description	Hours
Theory classes	Lectures	Large group (G)	Theory. Examples and exercises in order to link theory and reality.	22
Practical classes	Exercises, discussions and practice with real data	Medium group (M)	Exercise solving to gain understanding of the operation of the models in order to work with real data. Discussion of papers and news, and work with real data to get a better understanding of the link of models and reality.	16
Assessment	Assement of practical and theoretical learning	Medium group (M)	Assessment of the conceptual undestandig and the capacity for aplying concepts and models by doing exercises and by solving numeric and nonnumeric problems. The tests will take place in a computer room through Moodle questionaires.	5
Assessment	Final exam (A)	Large group (G)	General assement, both of the theoretical undestanding and the practical application of concepts and models. Conventional exams taking place in a normal room.	2
Assessment	Final exam (B)	Large group (G)	General assement, both of the theoretical undestanding and the practical application of concepts and models. Conventional exams taking place in a normal room.	0

At the beginning of the semester a schedule of the subject will be made available to students through the UIBdigital platform. The schedule shall at least include the dates when the continuing assessment tests will

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be conducted and the hand-in dates for the assignments. In addition, the lecturer shall inform students as to whether the subject work plan will be carried out through the schedule or through another way included in the Campus Extens platform.

Distance education work activities

Modality	Name	Description	Hours
Group or individual self-study	Self-study	Study, readings, reflection and discussions.	105
		Diverse materials, like news, audio links, and others, as well as problems and their solutions,will be link in the Moodle site of the subject during the course.	

Specific risks and protective measures

The learning activities of this course do not entail specific health or safety risks for the students and therefore no special protective measures are needed.

Student learning assessment

Assessment elements:

* Prueba 1 of continuous assessment (**P1EC**)
  * Parts 1 and 2, Moodle questionnaire in AI, 80-90 minutes, 4 points out of 10
* Prueba 2 of continuous assessment (**P2EC**)
  * Parts 3 and 4, Moodle questionnaire in AI, 80-90 minutes, 4 points out of 10
* Prueba 3 of continuous assessment (**P3EC**)
  * Parts 5, Moodle questionnaire in AI, 45-60 minutes, 2 points out of 10
* Continuous assessment re-take exam (**PFEC**)
  * Parts 1 to 5, Moodle questionnaire in AI, 150-170 minutes
* Final exam for high marks (**EF10**)
  * Parts 1 to 5, conventional exam, 45 - 60 minutes

Continuous assessment

Continuous assessment tests will take place during the term. These tests are the primary way of passing the course, but the maximum grade reachable through them is 7.

The exact calculation of the grade is as follows: the individual grades of **P1EC**, **P2EC** y **P3EC** are added up without any condition, not even of attendance of any of the tests. The sum of the grades of the three tests will be called **NotaEC**. If none of the tests is attended, then **NotaEC** is 0. Then:

* If **NotaEC less than 5**, the student should take the **PFEC** to pass the course.
* If **5 ≤ NotaEC less than 6**, the student has passed the course and his/her grade is **NotaEC**.
* If **NotaEC ≥ 6**, the student has passed the course and can freely decide to take or not the **EF10**. The marks obtained through EC are then called **NotaEC*** and are equal to the **minimum of NotaEC and 7**. Thus, **NotaEC*** will be in any case **between 6 and 7**. If the student decides not to take **EF10**, he or she pass the course being the final grade **NotaEC***.

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Re-take of continuous assessment

Students failing to get 5 points through **P1EC**, **P2EC** and **P3EC**, should take the **PFREC** (there will be two of these tests, one in January and another in February). The **PFREC** is worth 10 points. The total amount of points a student gets from the test is called **NotaPFEC**.

* If **NotaPFREC less than 5**, the grade of the course is **NotaPFREC** or **NotaEC**, as regulated in Reglamento Académico.
* If **NotaPFEC** ≥ 5, the average of **NotaEC** and **NotaPFEC** is calculated:
  * If **(NotaEC + NotaEPREC)/2 ≥ 5**, then the grade of the course is **(NotaEC + Nota EPREC)/2** with a **maximum of 6 points**.
  * If **(NotaEC + NotaEPREC)/2 is less than 5**, then the grade of the course is **5**.

High grades, including MdH

Students succesful in getting 6 of more points as **NotaEC**, can freely decide to take the **EF10** so as to get a course grade higher than **NotaEC***. This part of the assessment process works as follows: As a first step, **EF10** exam will be graded as passed or failed.

* If EF0 is graded as passed, it gets between 0 and 3 points. Then the course grade is calculated as **NotaEC* + NotaEF10**. The highest possible grade is 10.
* If EF0 is graded as failed, then it gets a negative mark and the final course grade is **NotaEC* minus 1**.

Itinerario B

Students followig Itinerario B should take PFREC (weight: 50%) and EF10 (weight: 50%). The course grade is the sum of the two grades. Both exams sholud be taken in the exam season of January-February. If a student nees to take the PREFC of Juny-July, the final course grade will be averaged affecting final grades higher than 5.

Students opting for Itinerario B, should inform about their decision via Foro de Tutorías. Deadline: 03/10/2016.

Assement of practical and theoretical learning

Modality	Assessment
Technique	Objective tests **(retrievable)**
Description	Assessment of the conceptual undestandig and the capacity for aplying concepts and models by doing exercises and by solving numeric and nonnumeric problems. The tests will take place in a computer room through Moodle questionaires.
Assessment criteria	Students that get a grade 5 or higher out of 10 pass the course with a maximun grade of 7.
	Students failing to get at least 5 points, have to take the final exam PFREC.
	Students getting at least 6 points can take a the final exam for high grades (EF10).

Final grade percentage: 70% for the training plan A
Final grade percentage: 50% for the training plan B with minimum grade 3

Final exam (A)

Modality	Assessment
Technique	Extended-response, discursive examinations **(non-retrievable)**
Description	General assesment, both of the theoretical undestanding and the practical application of concepts and models. Conventional exams taking place in a normal room.
Assessment criteria	EF10. Optional for students getting at least 6 points during the course (EC).
	EF10 gives a maximum of 3 points to be added to the points of the EC (NotaEC*).

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Failed EF10 subtract 1 point from the points of the EC (NotaEC*).

Final grade percentage: 30% for the training plan A with minimum grade 5
Final grade percentage: 0% for the training plan B

Final exam (B)

Modality	Assessment
Technique	Extended-response, discursive examinations **(non-retrievable)**
Description	General assesment, both of the theoretical undestanding and the practical application of concepts and models. Conventional exams taking place in a normal room.
Assessment criteria	Same as the EF10 exam, but complusory for Itinerario B.

Final grade percentage: 0% for the training plan A
Final grade percentage: 50% for the training plan B with minimum grade 3

Resources, bibliography and additional documentation

Basic bibliography

Javier Estrada
Finance in a nutshell: a no non-sense companion to the tools and techniques of finance
Prentice Hall Financial Times, 2005
Robert A. Haugen
Modern Investment Theory
Englewood Cliffs, N.J : Prentice Hall; London : Prentice Hall International (UK), c1993.
Zvi Bodie, Alex Kane, Alan J. Marcus
Investments
McGraw-Hill/Irwin, c2002

Complementary bibliography

Robert J. Shiller
Irrational exuberance
Princeton, NJ : Princeton University Press, c2000

Other resources

MORNINGSTAR
http://www.morningstar.es/
Yale University,
Financial Markets, byRobert Shiller,
http://oyc.yale.edu/economics/econ-252-11
MIT
FinanceTheory I, by Andrew Lo
http://ocw.mit.edu/courses/sloan-school-of-management/15-401-finance-theory-i-fall-2008/index.htm
http://finance.yahoo.com/