

Syllabus

Course description

Course title	Econometrics of Financial Markets
Course code	27033
Scientific sector	SECS-P/05
Degree	Bachelor in Economics and Management
Semester and academic year	2nd semester 2019/2020
Year	3
Credits	7
Modular	No

Total lecturing hours	42 (24 hours E. Rossi, 4 hours F. Ravazzolo, 14 hours C. Di Caterina)
Total lab hours	-
Total exercise hours	21
Attendance	Suggested, but not required
Prerequisites	Attendance of "Statistics", "Mathematics for Economics" (A and B), and "Financial Analysis" is suggested in order to properly follow these lectures.
Course page	https://www.unibz.it/it/faculties/economics-management/bachelor-economics-management/

Specific educational objectives	<p>The course refers to the complementary educational activities and belongs to the scientific area of Economics.</p> <p>The course covers the essential tools of econometrics before moving to financial econometrics and empirical finance. It provides a review of the classical linear regression model and focuses on its estimation and interpretation. Financial assets, prices, returns and volatility are subsequently considered and modelled.</p> <p>Specifically educational objectives include:</p> <ul style="list-style-type: none"> - Ability to interpret econometric results and draw appropriate conclusions. - Ability to apply theoretical and empirical models to real world problems. - Learn specialised statistical/econometric software to perform econometric analysis. - Ability to efficiently plan and manage independently economic and financial studies. - Enhance organisational, analytical and communication skills through participation in group project work.
--	---

Lecturers	Eduardo Rossi Office: E 3.10
------------------	---------------------------------

	<p>e-mail: eduardo.rossi@unipv.it</p> <p>Francesco Ravazzolo Office: E 2.07 e-mail: francesco.ravazzolo@unibz.it</p> <p>Claudia Di Caterina Office: E 2.04 e-mail: Claudia.DiCaterina@unibz.it</p> <p>https://www.unibz.it/it/faculties/economics-management/academic-staff/</p>
Scientific sector of the lecturer	SECS-P/05 (Rossi, Ravazzolo) SECS-S/01 (Di Caterina)
Teaching language	English
Office hours	21 hours Cockpit – students’ zone – individual timetable Webpage: https://www.unibz.it/timetable/?sourceId=unibz&department=26&degree=13140%2C13181
Lecturing assistant	Claudia Di Caterina
Teaching assistant	none
Office hours	none
List of topics covered	<p>Matrix Algebra and Stochastic Issues, Linear Regression with a Single Regressor and with Multiple Regressors, Hypothesis Tests and Confidence Intervals in Linear Regression Models. Financial assets and returns. Analysis of their empirical “stylized” facts. Autocorrelation and Heteroskedasticity. Models and methods for predicting future returns (by Classical Linear Regression and ARMA models): specification, inference and forecasting.</p> <p>Models for volatility analysis and prediction (ARCH and GARCH models): specification, inference and forecasting. ARMA-GARCH models for Risk Management: predictions of Value at Risk.</p>
Teaching format	Frontal lectures, practical exercises in lab and group project
Learning outcomes	<p>Knowledge and understanding The aim of the course is to equip students with a working knowledge of important econometric techniques used in international finance and financial economics. Students should be able to correctly specify, estimate and test the econometric models and to interpret properly results from the undertaken analyses.</p> <p>Applying knowledge and understanding Ability to perform econometric analysis. Students know how to use essential tools for working with economic and financial data. Ability to perform all the mentioned econometric techniques by using appropriate software.</p>

	<p>Making judgments Ability to formulate models and to implement appropriate econometric tools for both the analysis and the forecasting of financial data.</p> <p>Communication skills Ability to present in a consistent and precise manner the results obtained from the econometric analysis.</p> <p>Learning skills Ability to understand and analyze financial data from a quantitative perspective.</p>
<p>Assessment</p>	<p>Final exam and an optional assignment. The final exam consists in a written paper concerning two parts: - the first one includes review questions to test theoretical knowledge and understanding, - the second one covers empirical aspects and it is aimed at testing applied skills (but it is not computed-based).</p> <p>The optional assignment is carried out in groups during the semester. It consists of providing forecasts of future prices or returns for a selected asset at scheduled times during the semester, and of a final formal (group) presentation about methods adopted and models developed.</p>
<p>Assessment language</p>	<p>English</p>
<p>Evaluation criteria and criteria for awarding marks</p>	<p>Final grade is determined by the written exam, which can be increased by the extra top-up marks obtained from the optional assignment.</p> <p>The purpose of the exam is to ascertain that students acquire the knowledge required to correctly use the econometric tools discussed during the lectures and possess the ability to properly interpret the results provided by these procedures.</p> <p>The assignment also tests students' ability to</p> <ul style="list-style-type: none"> - work in team, - collect and process data, - make critical comparisons and judgements, - undertake effective quantitative problem-solving - deliver technical presentations.
<p>Required readings</p>	<p>R. S. Tsay (2010), <i>Analysis of financial time series</i>, John Wiley & Sons. Jim H. Stock and Mark W. Watson, <i>Introduction to Econometrics</i>, Pearson International 4th Edition.</p>
<p>Supplementary readings</p>	<p>Further readings will be announced during the course.</p>