University of Gdańsk

Subject card

Subject name and code	Econometrics for Finance, PG_00178576						
Field of study	Finance and Accounting						
Date of commencement of studies	October 2025		Academic year of realisation of subject	2027/2028			
Education level	Bachelor's studies		Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study			
Mode of study	part-time studies		Mode of delivery	at the university			
Year of study	3		Language of instruction	Polish			
Semester of study	5		ECTS credits	5.0			
Learning profile	academic		Assessment form	credit			
Conducting unit	Department of Econometrics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Sabina Nowak				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	16.0	16.0	0.0	0.0	0.0	32
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	32		2.0		91.0	125
Subject objectives	Show how the econometric model serves as a measurement tool in finance, and develop an understanding of its limitations.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[FiRL3_W02] The student has advanced knowledge and understanding of the functioning of the domestic and international financial market and financial instruments and institutions.	The student identifies the principles of the financial market and its institutions and recognizes and classifies financial instruments.	[SW4] test/exam - oral or written [SW5] implementation of a problem task
[FiRL3_U03] The student can obtain data and verify its accuracy from appropriately selected sources and use these data to analyse and evaluate economic processes and phenomena in management and quality sciences, economics and finance.	The student extracts financial data from both cross-sectional and time-series databases with different frequencies, recognizes their correctness, and uses the data to build econometric models used in the financial market and corporate finance.	[SU5] implementation of a problem task
[FiRL3_W05] To an advanced degree, the student knows and understands the tools and techniques for obtaining, compiling, and analyzing the data necessary to assess the financial situation of various entities in management, quality sciences, economics, and finance.	The student recognizes different types of financial data, classifies econometric models, and selects methods for estimation and verification.	[SW4] test/exam - oral or written [SW5] implementation of a problem task
[FiRL3_U04] The student is able—from the perspective of finance and accounting—to correctly select and properly apply methods and tools from the fields of management and quality sciences, economics, and finance to analyse and forecast economic processes and evaluate economic phenomena.	The student specifies, estimates, and verifies econometric models describing phenomena related to the financial market and corporate finance, makes forecasts on their basis, and evaluates the correctness of the obtained forecasts.	[SU4] test/exam - oral or written [SU5] implementation of a problem task

Subject contents

1. Econometrics in economic sciences. Financial time series. Types and examples of financial data.
2. Classical linear regression model. Examples of econometric models.
3. Ordinary Least Squares method of estimation (OLS). OLS estimator and its properties. Application ofthe OLS estimator. Classical linear regression model assumptions.
4. Model verification (part I). Assessing the goodness of fit.
5. Model verification (part II). Testing the individual and joint significance of structural parameters.Confidence intervals.
6. Model verification (part III). Testing the classical linear regression model assumptions: homoscedasticityof the error term, lack of autocorrelation, and normality of distribution. Assessing the correctness ofmodel specification.
7. Forecasts based on econometric models and their accuracy.
8. Dynamic models. Multipliers: calculation and interpretation. Examples of dynamic models.
9. Dummy variables in modelling qualitative and cyclical phenomena.
10. Financial time series and their features. Tests for stationarity.
11. Modelling and forecasting based on autoregressive processes (ARMA, ARIMA).
12. Examples of asset pricing models (Sharpe's, CAPM).
13. Application of econometric modelling techniques in corporate finance.

Prerequisites and co-requisites

Students should be familiar with basic models of market competition, equilibrium and economic growth, international trade, and capital and money markets. They should have elementary knowledge of statistics and practical data mining skills.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Written test	51.0%	60.0%
Closed and open questions from the lecture section	51.0%	40.0%

Recommended reading

Basic literature	1. K. Kukuła (red.), Wprowadzenie do ekonometrii. Wydawnictwo Naukowe PWN, Warszawa 2020. 2. T. Kufel, Rozwiązywanie problemów z wykorzystaniem programu Gretl. Wydawnictwo Naukowe PWN, Warszawa 2013. 3. G. Koop, Wprowadzenie do ekonometrii. Oficyna Wolters Kluwer, Warszawa 2011. 4. M. Gruszczyński M. Podgórska, T. Kuszewski, Ekonometria i badania operacyjne. Podręcznik dla studiów licencjackich. Wydawnictwo Naukowe PWN, Warszawa 2022.
Supplementary literature	1. R. Ramanathan, Introductory Econometrics with Applications. South-Western, Mason 2002. 2. M. Osińska, Ekonometria finansowa. Wydawnictwo PWE, Warszawa 2006. 3. M. Osińska (red.), Ekonometria współczesna. TNOiK, Toruń, 2007. 4. L.C. Adkins, Using gretl for Principles of Econometrics, 5th Edition, Version 1.0, 2018.
eResources addresses	Supplementary https://www.learneconometrics.com/gretl/poe5/using_gretl_for_POE5.pdf - L.C. Adkins, Using gretl for Principles of Econometrics, 5th Edition, Version 1.0, 2018.

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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