

DEPARTMENT OF ACCOUNTING AND FINANCE
Financial Quantitative Methods
CLASS CODE: AG432
2019-20 SEMESTER 1

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CLASS AIM

This class aims to build on the knowledge, understanding, and skills acquired in the Quantitative Methods in Finance class and extend it further, especially in the context of time series and panel data analysis. It focuses on applications in finance of econometric techniques and is extended to incorporate Limited Dependent Variable (LPV) methods with their application in finance.

LEARNING OUTCOMES

The following learning outcomes will contribute to your self-analysis and reflection in your Student's Personal Development Planning (SPDP). These learning outcomes will be assessed using the methods explained in the "Assessment" section in this Outline.

Subject-specific knowledge and skills

On completing this class you will be able to:

- (a) Understand the concept and use of multivariate analysis
- (b) Understand issues involved in modelling time series data
- (c) Understand and question the problems of some of the theoretical models in practice and consider the practical solutions to these problems.
- (d) Have a better understanding of the relevant theoretical aspects of finance.
- (e) The class will lead to a greater appreciation of the problems and limitations of the theory of finance in working with real information. Through this, students will be asked to question theories and models which they previously have used.

- (f) The preparation of project case studies will require the students to synthesise ideas from different fields of finance, apply them to the analysis of real cases, and cogently present their conclusions.

Cognitive abilities and non-subject specific skills

During the class you will

- (a) develop academic skills in reading and understanding academic writing.
- (b) develop the skills of dissecting rigorously a research paper in order to examine the main features of its construction.
- (c) carrying out practical assignments using analytical skills that can be applied to other situations requiring case study interpretation.
- (d) The class will enable students to analyse real world finance problems and cases, and in particular:
1. distinguish between relevant and irrelevant information.
 2. appreciate the interrelationships between the different kinds of financial variables.
 3. evaluate and interpret financial information.
 4. analyse alternative courses of action.
 5. reach suitable conclusions.
- (e) The class will encourage students to participate actively in discussions.

ASSESSMENT

A class test will account for 30 percent and a final project assignment for 70 percent of the assessment. The assignment will be an individual based empirical research project. The class test will take place in **week 4** and the assignment is due on **Monday by 4pm (week 11)**. All assignments should be prepared individually. Students are encouraged to actively discuss problems among themselves and explore issues and techniques jointly. The research project is expected to display in-depth understanding of concepts and issues and a high quality of empirical analysis.

The research project will be assessed according to the following criteria:

- Originality
- Structure (introduction, literature review, main body, conclusion, correct academic referencing and citations)
- Argument and logical analysis
- Content
- Presentation (of the text)

PENALTIES FOR LATE SUBMISSION

The Business School follows the university's late penalty policy:

https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/Policy_and_Procedure_for_the_Late_Submission_of_Coursework.pdf.pagespeed.ce.dLHAb3k-D.pdf

FEEDBACK

The standard turnaround time for all feedback and marking within SBS is 15 working days from assessment submission.

The University policy on Assessment and Feedback is available here:

https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/Assessment_and_Feedback_Policy.pdf.pagespeed.ce.ugGorsUOnQ.pdf

COMPENSATION SCHEME

The Business School follows the university's policy:

https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/Policy_on_Compensation_Scheme.pdf.pagespeed.ce.BBKaC-jsDw.pdf

RESIT POLICY

This is an Honours class. Students who have failed a class will be given the opportunity to resit the class during the August resit diet.

TEACHING AND LEARNING

The module will be delivered by a combination of lectures and computer lab sessions. Econometric methods will be discussed in the context of their application in solving finance problems. Computer lab sessions will provide hands-on experience on using data from financial markets. Where appropriate, references will be made to the use of such techniques in published research papers and/or their use in finance industry.

PRE-REQUISITES

None

READING

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1. Gujarati, D. Basic Econometrics. 4th edition, *McGraw-Hill, Inc.*
2. Greene, W. Econometric Analysis, Prentice Hall
3. Brooks, C. Introductory Econometrics for Finance, Cambridge University Press

CLASS STRUCTURE

WEEK 1

Basic matrix operation(1)

WEEK 2

Basic matrix operation(2) and Hypothesis testing

WEEK3

Introduction multivariate regression analysis

WEEK 4

Class test (30%).

WEEK 5

Introduction to final project and Logistic regression

WEEK 6

Logistic regression estimation using MATLAB

WEEK 7

Project discussion

WEEK 8-9

Advance Econometric Topics

WEEK 10

Project submission (70%)

