

DEPARTMENT OF ACCOUNTING AND FINANCE

Financial Quantitative Methods

Class Code: AG432

2022-2023 Semester 1

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Class aims

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 matrix operations and computer programming. It focuses on applications in finance of econometric techniques and is extended to incorporate Limited dependent Variable 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 and matrix operation
- (b) Understand issues involved in modelling time series data and computer programming

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- (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.

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) carry 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,
- (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 either group (maximum of two people) or individual based empirical research project. The class test will take place in **week 4** and the assignment is due on **Friday by 4pm (week 10)**. All assignments should be prepared individually. *The consequences of plagiarism can be very serious.* (Please refer to the University policy on plagiarism which is available on the Staff Handbook found on the departmental website,

<http://accfinweb.account.strath.ac.uk>). However, students are encouraged to actively discuss problems among themselves and explore issues and techniques jointly. The assignments are expected to display in-depth understanding of concepts and issues and a high quality of empirical analysis. **It is a requirement for course completion to submit all parts of the class assessment. Non-submission of any part will result in an overall mark of zero being**

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awarded for the class.

Reassessment Not applicable

Teaching and learning

The module will be delivered by a combination of lectures and computer lab sessions. Tutorials will start in week 2 in semester 1.

In line with the university policy relating to return to work following the COVID situation teaching will take place by a variety of online and face to face lectures and tutorials. Students should ensure they regularly check the myplace page to ensure they are aware of the sessions and attend correctly both online and face to face. All details of ongoing course structure will be given through the MyPlace page.

You should sign up for a tutorial on MyPlace. **Attendance at tutorials is mandatory and will be monitored.**

Reading

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
- WEEK 3: 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%)

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PENALTIES FOR LATE SUBMISSION

The Business School follows the University's policy for the late submission of assessed work:

https://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/Policy_on_Late_Submission_of_Coursework_Final_Oct_2018.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:

http://www.strath.ac.uk/media/ps/cs/gmap/academicaffairs/policies/assessment_and_feedback_policy_-_Effective_Sep_14.pdf

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