DEPARTMENT OF ACCOUNTING AND FINANCE
Financial Quantitative Methods
CLASS CODE: AG432
2013-14 SEMESTER 2

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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 panel data analysis 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

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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 6 and the assignment is due on **Friday by 12pm** (week 12). 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.

**Reassessment**  Not applicable

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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 made to the use of such techniques in published research papers and/or their use in finance industry.

PRE-REQUISITES
None

READING

5. Any lecture notes will be distributed in class only.

CLASS STRUCTURE

WEEK 1
Basic matrix operation(1)

WEEK 2
Basic matrix operation(2) and Hypothesis testing

WEEK 3
Introduction to simple regression analysis

WEEK 4
Introduction to multivariate regression analysis

WEEK 5
Class review

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WEEK 6
Class test.

WEEK 7
Introduction to Logistic regression (1)

WEEK 8
Application of Logistic regression

WEEK 9
Logistic regression estimation using MATLAB

WEEK 10
Assignment discussion

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