Brunel University

Department of Economics and Finance, MSc.

Quantitative Methods for Finance and Economics

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READING LIST & LECTURE SCHEDULE

Aim (Broad Educational Purpose)

This course provides a broad introduction to the theory and practice of econometrics. Econometrics is concerned with the systematic study of economic phenomena using observed data. The aim is to help students use statistical methods to estimate the parameters of economic models, and test economic hypotheses.

Objectives (Specific Learning Outcomes)

On successful completion, students should

- be familiar with random vectors and probability distributions
- thoroughly understand the classical linear regression model
- be familiar with the least squares estimation technique
- be able to estimate linear regression models
- be able to test statistical assumptions and economic hypotheses
- be familiar with simple time series models

Teaching Arrangements

Throughout the term 1, there will be a weekly lecture combined with a one hour class which is compulsory. During each lecture students will be given a set of lecture notes and a problem set. It is essential that students work on each problem set at home before it is solved in the class. In addition, there will be a weekly one hour class where students will be given an applied econometrics exercise and will learn how to use EVIEWS, a well known econometrics software package.

Module Assessment

There will be a compulsory test during the term 1 which will count 30% towards the module unit mark. In May, students will sit a one and a half hour formal examination which will count for 70% of the module unit mark.

Required Reading

G: Damodar Gujarati (2008; 5th Ed.), Basic Econometrics, McGraw-Hill.

JD: Jack Johnston & John Dinardo (1997; 4th Ed.), Econometric Methods, McGraw-Hill.

Essential Reading

K: Peter Kennedy (1992), A Guide to Econometrics, Blackwell. (Not a text book, but an excellent explanation.)

PR: Robert S. Pindyck & Daniel L. Rubinfeld (1997; 4th Edition), Econometric Models & Economic Forecasts, McGraw-Hill.

B: Chris Brooks, (2nd Ed.), Introductory Econometric for Finance.

T: Ruey Tsay, (2nd Ed.), Analysis of Financial Time Series.

Module Outline

1.Introduction to Econometrics.
[JD ch. 1; PR ch. 2; G: ch 1-3; Lecture Notes 1]

2. The Classical Regression Model, Autocorrelation, Heteroscedasticity.
[JD ch 3-6; PR ch 3, 4 and 6; G: ch 7-13; Lecture Notes 2, 4,5]

3.Further aspects of Two variable Relationships.
[JD ch 1-2; PR ch. 3; G: ch 4-6; Lecture Notes 3]

4. Univariate Time Series Analysis with applications in Finance
[B ch 5 and 8; T ch 2 and 3]

5. Multivariate time Series Analysis with applications in Finance
[B ch 6-7; T ch 8 and 10]

6. Logit and Probit Models
[JD Ch 13, Lecture Notes]

7 Event Studies
[Lecture Notes]