



Division of Economic and Financial Studies

ECON333: ECONOMETRIC METHODS

Unit Outline

E1,2006

1. Introduction

The objective of this unit is to provide students, who have developed interest in the subject of econometrics from the second-year econometrics or statistics units, with a valuable opportunity to attain more advanced econometric techniques that are readily applicable to an empirical analysis of economic, financial, or business phenomena. The unit will be suitable to both the students who just want to equip themselves with more practical knowledge of econometrics before graduating and those planning to pursue a research degree, such as Honours, MPhil, or PhD.

The topics of the unit are grouped into three parts: discrete-choice models; GLS, stochastic regressors and consistent estimation; and time-series econometrics. For each topic, after an introduction to the underlying theory, interesting examples of practical applications of the model will be provided. To give students hands-on experience for each topic, many tutorial and assignment questions will require the use of econometric software programs such as Shazam and RATS.

2. Prerequisites

ECON232 or ECON233

3. Class Arrangement

Lectures/Tutorials: Tuesday 6:00 pm – 9:00 pm, E5A309

Formally, there are thirteen 2-hour lectures and six tutorials. The first two hours are usually used for lectures while the third hour is for tutorials. However, lectures may extend beyond the two-hour period or tutorial questions may be discussed during the lecture hours when necessity arises. Part three (time-series econometrics) will have more than two tutorials.

4. References

Greene, William H., (2003), *Econometric Analysis*, 5th edition
Enders, Walter, (2004), *Applied Econometric Time Series*, 2nd edition
Verbeek, Marno, (2000), *A Guide to Modern Econometrics*

For some topics, supplementary notes will be provided to help students understand the text.

5. Assessment

Final grade of this unit will be based on three within-semester assessments, one for each part, and a three-hour end-of-semester examination:

- Part 1: Quizzes on matrix algebra throughout the 4-week period (3%) plus one forty-minute test on the topics in Part 1 (on **21 March** – Week 4, 7%)
- Part 2: Assignment (10%)
- Part 3: Answers to some of the tutorial questions will be collected and marked (10%)

Keep a photocopy of your assignment to insure yourself against loss.

The schedule for the final examination of this unit will be organised by the university examination section. So, it is individual student's responsibility to find out the time and location for the examination when they become available.

To pass the course students must complete the following requirements:

- (1) **an overall satisfactory performance in all assessments; and**
- (2) **a pass in the final examination.**

6. Topics

Part 1: (Weeks 1-4, 13)

- Models with Discrete Dependent Variable (Greene Chs. 21,22,17, Verbeek Ch. 7)
 - Binary-choice models
 - Ordered-choice models
 - Multinomial-choice models
 - Maximum likelihood (ML) estimation

- Matrix Algebra (Greene Appendix A, Verbeek Appendix A)

A supplementary note will be distributed in Week 1.

- Models for Panel Data (Greene Ch. 13, Verbeek Ch. 10)*

- Fixed-effect model
- Random-effect model

Part 2: (Weeks 5-8) (Greene 4.7, 5.4, 10.4, 10.5, 16.3.1, 18)

- Stochastic regressors
- GLS
- Method of moments estimation
- Instrumental variables estimation
- Generalised method of moments

Part 3: (Weeks 9-12)

- Time Series Econometrics (VECM and the Johansen approach)
 - Stationarity, Integration , Testing for order of integration
 - Cointegration
 - Testing for Cointegration
 - VAR and VECM
 - Testing for Cointegration in a VAR model

*: This topic may be skipped depending upon the availability of time.

7. Staff

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