



Division of Economic and Financial Studies

ECON333: ECONOMETRIC METHODS

Unit Outline

D1, 2007

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 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. The unit carries 3 UG credit points.

2. Prerequisites

ECON232 or ECON233

3. Class Arrangement

Lectures/Tutorials: Tuesday 12:00 pm – 3:00 pm,

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. Students are strongly recommended to attend all the classes.

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. Unit Webpage

Useful information and some course materials will be made available at the unit homepage: online.mq.edu.au. Visit the homepage regularly for new information or materials.

6. 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 **20 March** – Week 4, 7%)
- Part 2: Assignment (10%)
- Part 3: Answers to some of the tutorial questions will be collected and marked (10%)

Always keep a photocopy of document that you submit for assessment, including assignment, to insure yourself against loss.

Final Examination (70%)

The University Examination period in First Half Year 2007 is 13 June to 29 June. You are expected to present yourself for examination at the time and place designated in the University Examination Timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form approximately four weeks before the commencement of the examinations:
<http://www.timetables.mq.edu.au/exam>.

The only exception to not sitting an examination at the designated time is because of documented illness or unavoidable disruption. In these circumstances you may wish to consider applying for Special Consideration. Information about unavoidable disruption and the special consideration process is available at
<http://www.reg.mq.edu.au/Forms/APSCon.pdf>

If a Supplementary Examination is granted as a result of the Special Consideration process the examination will be scheduled after the conclusion of the official examination period.

You are advised that it is Macquarie University policy not to set early examinations for individuals or groups of students. All students are expected to ensure that they are available until the end of the teaching semester, that is the final day of the official examination period.

Plagiarism

The University defines plagiarism in its rules: "Plagiarism involves using the work of another person and presenting it as one's own." Plagiarism is a serious breach of the University's rules and carries significant penalties. You must read the University's practices and procedures on plagiarism. These can be found in the *Handbook of Undergraduate Studies* or on the web at: <http://www.student.mq.edu.au/plagiarism/>

The policies and procedures explain what plagiarism is, how to avoid it, the procedures that will be taken in cases of suspected plagiarism, and the penalties if you are found guilty. Penalties may include a deduction of marks, failure in the unit, and/or referral to the University Discipline Committee.

University Policy on Grading

Academic Senate has a set of guidelines on the distribution of grades across the range from fail to high distinction. Your final result will include one of these grades plus a standardised numerical grade (SNG).

On occasion your raw mark for a unit (i.e., the total of your marks for each assessment item) may not be the same as the SNG which you receive. Under the Senate guidelines, results may be scaled to ensure that there is a degree of comparability across the university, so that units with the same past performances of their students should achieve similar results.

It is important that you realise that the policy does not require that a minimum number of students are to be failed in any unit. In fact it does something like the opposite, in requiring examiners to explain their actions if more than 20% of students fail in a unit.

The process of scaling does not change the order of marks among students. A student who receives a higher raw mark than another will also receive a higher final scaled mark.

For an explanation of the policy see

<http://www.mq.edu.au/senate/MQUonly/Issues/Guidelines2003.doc> or
<http://www.mq.edu.au/senate/MQUonly/Issues/detailedguidelines.doc>.

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.**

7. 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.

8. Student Support Services

Macquarie University provides a range of Academic Student Support Services. Details of these services can be accessed at <http://www.student.mq.edu.au>.

EFS Resource and Information Centre (ERIC), which is located in E4B106, also provides support to EFS students.

9. Staff

Weeks 1-4 and 13: Daehoon Nahm (LIC)

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