1. Teaching Staff for 2005

Lecturer:  Professor Denzil Fiebig  
Rm JG 228  
Tel: 9385 3958  
Email: D.Fiebig@unsw.edu.au  
Consultation: Tues 9-10 am, 2-3 pm or by appointment

Tutor: Jon Eggins  
Email: jon.eggins@student.unsw.edu.au

2. Course Description

Purpose
Econometric theory provides the techniques needed to quantify the strength and form of relationships between variables. Modern computer software makes it easy to implement these techniques, such as running a regression, but how do you know which model to specify or whether the data are appropriate? Applied econometrics is concerned with the strategies that need to be employed to use econometric techniques effectively. Together these techniques and strategies constitute what we define as “econometric methods”.

Students who are undertaking this course will have some background in basic statistics and grounding in the principles of regression analysis. Using this knowledge as a base, an extensive discussion of the use of regression theory and some of its extensions will be provided. We demonstrate how regression models can be applied to data to estimate relationships, to forecast and to test hypotheses that arise in economics and business.

General principles or guidelines for undertaking applied work are discussed. In particular, we stress careful data analysis, the need to evaluate estimated models and the importance of the links between econometric models and the underlying substantive knowledge or theory associated with the particular application. These issues will be related to applications drawn from fields such as economics, marketing, finance and accounting.

The primary extension to basic regression theory to be considered will be the situation where the dependent variable of interest is discrete. What influences an individual to work part-time rather than full-time, or use public transport rather than drive to work, or to choose one brand of detergent over another? Why do certain firms choose one particular accounting procedure over another? In these examples of modelling choice data, standard linear regression models are inappropriate because of the discrete nature of the dependent variable. This unit considers the specification, estimation and use of statistical models that are necessary to better cope with such modelling situations. Models to be discussed include logit and probit.

It is essential that the discussion of how to use econometric tools effectively be complemented with practice in analysing data. An important aid in this particular task will be the computing component where the popular econometrics package SHAZAM will be used.
**Objectives**

In summary, the course has six primary objectives:
- Introduce and discuss some guidelines for using econometric techniques effectively.
- Provide an introduction to, and convey an appreciation of, the model building cycle.
- Assist students to become better at evaluating econometric research.
- Provide students with a thorough understanding of why it is necessary to consider extensions to the classical linear regression model when dealing with discrete dependent variables.
- Introduce and make students familiar with a range of econometric models and tools that are useful when dealing with discrete dependent variables.
- Develop proficiency in the use of SHAZAM for econometric modelling.

“…the facts aren’t everything. At least half the case is in knowing what to do with the facts.” Fyodor Dostoyevsky, *Crime and Punishment*

“A good forecaster is not smarter than everyone else, he merely has his ignorance better organised.” Anonymous

**Outline**

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<th>Topics</th>
<th>Primary references</th>
<th>Alternative references</th>
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<tr>
<td>1. Introduction to modelling</td>
<td>Wooldridge: Ch 1</td>
<td>Griffiths et al: Intro &amp; Ch 2.1</td>
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<td>2. Modelling real data</td>
<td>Wooldridge: Ch 19</td>
<td>Chatfield: Chs 1-5</td>
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<td>Kennedy: Ch 5</td>
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<td>3. Analysis of discrete &amp; qualitative data</td>
<td>Wooldridge: Chs 7, 17</td>
<td>Griffiths et al.: Ch 23.1-23.3</td>
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<td>Kennedy: Ch 15.1</td>
<td>Powers &amp; Xie: Ch 1, 2</td>
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<td>4. Modelling probabilities – binary choice</td>
<td>Wooldridge: Chs 7, 17.1</td>
<td>Griffiths et al: Ch 23.4-23.10</td>
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<td></td>
<td>Kennedy: Ch 15.1</td>
<td>Powers &amp; Xie: Ch 3</td>
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**References**


These references are available in Open Reserve in the Library.
3. Learning and Teaching

Lectures
Tues 3-5 pm in CLB4

Tutorial
All students will be allocated a one-hour tutorial. Any future discussion or requests regarding tutorial allocations should be directed to your tutor.

Computing
The econometric software SHAZAM will be used throughout this course. Assigned computer work may be done in the computing labs or SHAZAM can be used over the web. The following link will take you to the SHAZAM site where you can run the software over the web by clicking on Run SHAZAM.

http://shazam.econ.ubc.ca/

Alternatively, the School has a site license for SHAZAM, and you can obtain a copy of the software from Clea Bye in Room 223 and install it on your own PC. A nominal fee of $10 is charged to cover the cost of the CD.

Assessment

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<td>Tutorial assignments</td>
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<td>Major project</td>
<td>25%</td>
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<td>Final exam</td>
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Problems and computer exercises will be distributed. Written answers will be required for a subset of these while other questions will be earmarked for discussion in lectures and tutorials. You should keep a workbook containing the required written answers. These workbooks will be collected once during the semester to review your progress. At the end of the semester, the completed workbook should be handed in and it will comprise 20% of your final mark. Provided you complete and write up each of the tasks, together with supporting output etc., you should expect to gain most of these marks. Incomplete or poorly presented work will be penalized. In particular, the material needs to be in a book or securely bound in some way. Assorted scraps of paper will not be acceptable.

In keeping with the main objectives of the course students are expected to gain some experience in “doing econometrics”. There will be a major project on a pre-assigned topic where each student will get a personalized set of data to analyse. The results of the analysis will be presented in the form of a report. This major project is due by 5pm on Friday September 23 and is worth 25% of your final grade.

The remaining 55% of the assessment comes from a comprehensive exam at the end of the course.

Textbook

This is the basic reference book for the course. It will be the primary source of extra reading for material covered in lectures and assignments and some exercises will be taken from the book. As a
further aid to your study, copies of lecture overheads will be available electronically on the course webpage.

**Supplementary Textbooks**
There are a number of other good texts that cover essentially the same material as the textbook. A selection of these was listed as alternative references in the outline of the course. You may find them useful for additional or alternative explanations of some topics.

**Computing material**
For the computing component of the course, brief notes will be available electronically on the course webpage. The SHAZAM website is a useful resource and for a complete treatment there is a manual:


**Presumed knowledge**
Students are presumed to be familiar with the material covered in the ECON1202, ECON1203, ECON2206 sequence taught at the University of New South Wales.

4. **Webpage**
Students requiring copies of data files, lecture overheads or additional copies of handouts can download them from the subject webpage that resides on the WebCT site.

   [http://www.webct.unsw.edu.au/](http://www.webct.unsw.edu.au/)

Students unfamiliar with WebCT should work through “Student Learner Guide: Introduction to WebCT” that is provided at the site.

5. **Special consideration**
If you believe that your performance in the subject, whether during session or in the final examination, has been adversely affected by illness or for any other reason, you should notify the Registrar and ask for special consideration in the determination of your results.

Requests for special consideration must be accompanied by appropriate documentation. They should be made as soon as practicable after the problem occurs. Applications made more than seven days after the final examination in a subject will only be considered in exceptional circumstances. Special consideration request forms and details of required documentation are available from the Student Centre in the Chancellery.

Students should be aware that lodgement of a request for special consideration does not guarantee the granting of a supplementary examination. This will only be recommended by the School of Economics for students whose final examination performance has been affected by serious illness or other extraordinary circumstances which can be documented AND if there is evidence on the basis of performance during the session that the student has made satisfactory progress.

Denzil G Fiebig

June 2005