Year and Semester: Semester 2, 2010

Unit convenor: Dr. Stéphane Mahuteau

Prerequisites: Basic knowledge in statistics and econometrics is recommended

Credit points: 4

Students in this unit should read this unit outline carefully at the start of semester. It contains important information about the unit. If anything in it is unclear, please consult one of the teaching staff in the unit.

ABOUT THIS UNIT

- Unit description and rationale

  The aim of this unit is to introduce students to econometric modelling, keeping the focus on applications to actual economic issues. Upon completion of this unit, students will be expected to be able to conduct their own econometric analysis on varied topics.

  The first part of the course will focus on introducing the basic tools for estimating economic models and dealing with the violations of the assumptions of the classical model. The second part will extend to more specific topics and techniques to deal with qualitative and limited dependent variables. The last set of lectures will deal with selection problems in applied econometrics.

TEACHING STAFF

- Convenor:
  Stéphane Mahuteau
  Phone: 9850-8489
  Room: E4A 432
  Email: stephane.mahuteau@mq.edu.au

- Other Staff
  Mr. Roger Tonkin
  Phone: 9850 8494
  Room: E4A 408
  Email: rtonkin@efs.mq.edu.au
**CONSULTATION TIMES**

Stéphane Mahuteau:  
Tuesday 13h to 15h, E4A-432  
Wednesday 11h to 13h, E4A-432  
By appointment for other times

Roger Tonkin:  
Monday 16h to 18h, E4A-408  
Wednesday 16h to 18h, E4A-408

You are encouraged to seek help at a time that is convenient to you from a staff member teaching on this unit during their regular consultation hours. In special circumstances, an appointment may be made outside regular consultation hours. Staff will not conduct any consultations by email. You may, however, phone staff during their consultation hours.

Students experiencing significant difficulties with any topic in the unit must seek assistance immediately.

**CLASSES**

- There is one three-hour lecture per week. The first two hours will consist of a formal lecture and the last hour will generally be dedicated to the analysis of econometric results obtained via econometric softwares and previously prepared by the students.

- The timetable for classes can be found on the University web site at: [http://www.timetables.mq.edu.au/](http://www.timetables.mq.edu.au/)

- It is assumed that students will attend all lectures. Students who miss classes put themselves at a significant disadvantage for several reasons, including:

  (i) Not all the material in the text is covered in the unit, and not all the material in the unit is covered in the text. In some places the text deals with issues in greater depth than is necessary for the unit, and in other places it doesn’t go far enough. The lectures contain all the unit material taught at the level required for the assessment tasks, and are your guide to the unit content.

  (ii) The text is only a support for the students, lectures are not a repeat of the text, they extend beyond the scope of the text for some topics.

  (iii) The approaches to some problems that are recommended by the lecturer are different to those in the text.

  (iv) The lectures will include significant guidance about the style and content of the final exam and recommendations about study technique.
(v) It is difficult (and often impossible) for staff to provide meaningful assistance to students outside class times on topics for which they did not attend the relevant lectures and tutorials.

**REQUIRED AND RECOMMENDED TEXTS AND/OR MATERIALS**


The Co-op bookstore has these books and it is recommended that students purchase a copy.

- A complete set of Lecture notes will be available on Blackboard
- A free copy of the software SHAZAM will be available on Blackboard for students to install on their computer.

**ADDITIONAL TEXTS (all available at the library):**


**UNIT WEB PAGE**

- The web page for this unit can be accessed via learn.mq.edu.au. You should check this web page regularly. The lecture slides for each week’s lecture will be posted on the web page. In order to maintain enough flexibility to the content of the lectures, some lecture notes may appear on the web page after the lecture.
- We also use the web page to post important notices from time to time. Course material is available on the learning management system (BlackBoard)

**LEARNING OUTCOMES (THIS AND THE FOLLOWING SECTION MAY BE REPLACED BY A COMBINED SECTION)**

The learning outcomes of this unit are:

1. Apply basic econometric tools to modelling, estimation and inference in practice
2. Conduct econometric analyses independently, from early conception to the exploitation of the results
3. To chose and utilise the appropriate estimation techniques adapted to the data available and to the research topic
4. Critically evaluate empirical econometric work;
5. Engage into further studies in econometrics.

**GRADUATE CAPABILITIES**

In addition to the discipline-based learning objectives, all academic programs at Macquarie seek to develop the capabilities the University's graduates will need to develop to address the challenges, and to be effective, engaged participants in their world.

This unit contributes to this by developing the following graduate capabilities:

1. Discipline Specific Knowledge and Skills*
2. Critical, Analytical and Integrative Thinking
3. Problem Solving and Research Capability
4. Creative and Innovative
5. Effective Communication
6. Capable of Professional and Personal Judgement and Initiative
7. Commitment to Continuous Learning

**Discipline Specific Knowledge and Skills: Ability to**

a. Understand existing economic theories
b. Apply economic theories to practical situations or problems
c. Critically evaluate and test competing economic theories, comparing predictions to actual outcomes
d. Develop new theories based on the learning from critical evaluations of existing economic theories
e. Build and estimate mathematical models
f. Use estimated models for prediction and evaluation
g. Examine real world issues from an economic perspective

**TEACHING AND LEARNING STRATEGY**

- **Our role:** In the 3-hour “lecture” class, we will present new material in the form of lectures. The lectures are a mix of actual lecture time and practical exercises or tutorials. Tutorials are based mainly on empirical applications which require the use of econometric software packages. How to use these packages is taught during two practical tutorials which are held in the computer labs. We will answer your questions during and after lectures. We will also answer questions during our consultation times and by e-mail.
- **Your role:** We expect that you will attend all lectures and tutorials. We expect you to read all the material prescribed on the reading list. We expect you to be prepared to participate actively in the lectures. We also expect that you will make a good attempt at the assignment and final exam.
- **This unit aims at developing students’ ability to apply the econometric concepts introduced in the lectures to real life issues. The lectures are designed accordingly, mixing formal developments of econometric tools with varied empirical illustrations. Every week’s lecture notes booklet is complemented by an**
appendix containing detailed empirical estimations using the software SHAZAM. It comprises the datasets which can be uploaded by the students, the SHAZAM codes used to implement the techniques introduced in the lectures and the results. Students are encouraged to try to reproduce these models and results themselves every week. Additional tutorials are provided in order to further improve students’ ability to conduct empirical applications autonomously.

- Students are expected to read the relevant chapters from the recommended book and lecture note booklets before each lecture. They are also expected to reproduce the estimations performed in the appendices booklets.

- Following is an indicative list of topics covered during the semester. These topics may be updated in order to cover some topics more in depth upon students’ demand or in order to adapt the course content to the level of technical knowledge of the majority of students joining the unit.

  Topic 1: Linear regression analysis with multiple regressors: Estimation and Inference.
  Topic 2: Non linearities + introduction to Shazam
  Topic 3: Multicollinearity
  Topic 4: Auto correlation
  Topic 5: Autoregressive Distributed Lag (ARDL) Models
  Topic 6: Stationarity and Cointegration in Time-Series Regression Analysis
  Topic 7: Error-Correction Models
  Topic 8: Omitted variables + Applications with Shazam
  Topic 9: Dummy, interaction variables and difference in difference estimators
  Topic 10: Model specification and diagnostic testing + Shazam applications
  Topic 11: Identification problems
  Topic 12: Simultaneous equation methods
  Topic 13: Maximum likelihood estimations
  Topic 14: Binary and multinomial Logit/ Probit
  Topic 15: Selection problems
  Topic 16: Tobit estimations

**RESEARCH AND PRACTICE**

- This unit uses research by Macquarie University researchers (see website of the unit)
- This unit uses research from external sources (see website of the unit)
- This unit gives you practice in applying research findings in your assignments
- This unit gives you opportunities to conduct your own research

**RELATIONSHIP BETWEEN ASSESSMENT AND LEARNING OUTCOMES**

Assessment will be based on the following FOUR activities. Students must satisfactorily complete ALL FOUR activities to be eligible to pass this unit.
**ACTIVITY 1: MULTIPLE CHOICE EXAM (10%)**

A Multiple Choice Exam will be available on the unit website for the students to complete on-line. The questions will be available on the site for one week and the students are to submit their answer by the end of **week 4 of the semester**. The questions will include topics covered in the lectures and questions on general basic knowledge of econometrics which form the prerequisites for the unit. The purpose of this assessment is to identify students at risk of failing the unit. Students identified as being at risk will be given the opportunity to consult with the lecturer in charge in order to determine a study pattern conducive to better achievements in the subsequent assessments.

**ACTIVITY 2 and 3: Two Econometric projects (30%)**:

The first project is due on the **Friday following the mid semester break at 4pm**

The second project is due on the **Friday of Week 12 at 4pm**

Both Econometric projects must be submitted at the ECON835 assessment box opened at Business and Economics Student Services, BESS situated in Room 106, Building E4B

For the econometric projects, students will be expected to demonstrate their ability to use the SHAZAM software to estimate econometric models on a topic chosen by the lecturer and to perform the appropriate statistical tests as requested by the questions handout. Each question of the handout requires students to perform the necessary calculations, to provide explanations of the techniques and methods used and an Economic discussion of the results obtained. No maximum word limit is imposed for either project.

Assignments submitted late will NOT BE ACCEPTED. If any assignment cannot be delivered by the due date because of illness or unavoidable disruption, as described in the rules for obtaining Special considerations for the final examination, an extension may be granted by the lecturer in charge.

**ACTIVITY 4: Final examination (60%)**

A final examination is included as an assessment task for this unit to provide assurance that:

i) the product belongs to the student and

ii) the student has attained the knowledge and skills tested in the exam.

End of unit **three hour written examination**, to be taken during the end of year examination period. The examination will cover material drawn from all parts of the unit’s subject matter.

The University Examination period in Second Half Year 2010 is from Wednesday 17 November to Friday 3 December.
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. The University’s policy on special consideration process is available at http://www.mq.edu.au/policy/docs/special_consideration/policy.html

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. (Individual Faculties may wish to signal when the Faculties’ Supplementary Exams are normally scheduled.)

The Macquarie university examination policy details the principles and conduct of examinations at the University. The policy is available at: http://www.mq.edu.au/policy/docs/examination/policy.htm

Requirements to Pass This Unit
To pass ECON835, students must satisfy each of the following requirements:
(1) An overall satisfactory performance in all assessment components;
(2) Submission of the econometric projects
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<td>Submission method</td>
<td>On line examination on the unit website</td>
<td>Submit a copy of the project to BESS</td>
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<td>Feedback (type, method, date)</td>
<td>Solutions to the exam given during the next lecture and encouragements to seek consultation with the lecturer in charge</td>
<td>Estimation results will be made available on the unit website and students will be encouraged to seek feedback through consultation</td>
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<td>Estimated student workload (hours)</td>
<td>2 to 3 hours a week of revising lecture notes, book chapters and basic knowledge in Econometrics</td>
<td>The projects must be started as early as possible as soon as the topics are available. A couple of hours a week should suffice for a satisfactory completion of this assignment, with an allowance of extra hours closer to the deadline</td>
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Learning outcomes assessed as listed above:

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### Academic Honesty

The nature of scholarly endeavour, dependent as it is on the work of others, binds all members of the University community to abide by the principles of academic honesty. Its fundamental principle is that all staff and students act with integrity in the creation, development, application and use of ideas and information. This means that:

- all academic work claimed as original is the work of the author making the claim
- all academic collaborations are acknowledged
- academic work is not falsified in any way
- when the ideas of others are used, these ideas are acknowledged appropriately.

Further information on the academic honesty can be found in the Macquarie University Academic Honesty Policy at http://www.mq.edu.au/policy/docs/academic_honesty/policy.html

### Grading Appeals and Final Examination Script Viewing

If, at the conclusion of the unit, you have performed below expectations, and are considering lodging an appeal of grade and/or viewing your final exam script please refer to the following website which provides information about these processes and the cut off dates in the first instance. Please read the instructions provided concerning what constitutes a valid grounds for appeal before appealing your grade.

http://www.businessandeconomics.mq.edu.au/for/new_and_current_students/undergraduate/admin_central/grade_appeals

### Special Consideration

The University is committed to equity and fairness in all aspects of its learning and teaching. In stating this commitment, the University recognises that there may be circumstances where a student is prevented by unavoidable disruption from performing in accordance with their ability. A special consideration policy exists to
support students who experience serious and unavoidable disruption such that they do not reach their usual demonstrated performance level. The policy is available at: http://www.mq.edu.au/policy/docs/special_consideration/procedure.html

**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.

[Individual Unit Convenors may wish to add Unit/ Faculty specific support eg BESS, Room, PAL, E4B Consultation Room.]

**IT CONDITIONS OF USE**

Access to all student computing facilities within the Faculty of Business and Economics is restricted to authorised coursework for approved units. Student ID cards must be displayed in the locations provided at all times.

Students are expected to act responsibly when utilising University IT facilities. The following regulations apply to the use of computing facilities and online services:

- Accessing inappropriate web sites or downloading inappropriate material is not permitted. Material that is not related to coursework for approved unit is deemed inappropriate.
- Downloading copyright material without permission from the copyright owner is illegal, and strictly prohibited. Students detected undertaking such activities will face disciplinary action, which may result in criminal proceedings.

Non-compliance with these conditions may result in disciplinary action without further notice.

Students must use their Macquarie University email addresses to communicate with staff as it is University policy that the University issued email account is used for official University communication.