ECON634

Econometrics and Business Statistics

S2 Evening 2019

Dept of Economics

Contents

General Information

Unit convenor and teaching staff
Unit Convenor
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4ER Level 4 Rm452
TBA

Credit points
4

Prerequisites
Admission to MAppEcon or MCom or MAcc(Prof)MCom or MBkgFin or MBioTechMCom or MEc

Corequisites

Co-badged status

Unit description
This unit is designed to bring students with no econometrics background to an intermediate level in econometrics. Starting from first principles, the unit outlines standard econometric methods to the extent necessary for students to understand key concepts, apply basic methods, and interpret empirical research results in economics, finance and business. The unit material also includes elementary discussions of violations of the standard assumptions for a regression model, such as autocorrelation and heteroscedasticity.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

On successful completion of this unit, you will be able to:

- Apply basic statistical techniques to problems in economics and business
- Use econometric tools to model, estimate and forecast economic data
- Engage into further studies in econometrics
- Demonstrate the ability to work effectively in a group

Assessment Tasks

Name	Weighting	Hurdle	Due
Class Test 1	15%	No	Week 6
Class Test 2	20%	No	Week 10
Group Assignment	30%	No	Week 13
Final Examination	35%	No	University Examination Period

Class Test 1

Due: **Week 6**
Weighting: **15%**

A 75 minute test consisting of multiple-choice questions will be held during the lecture in week 6. A calculator is needed for the test and attendance is compulsory. Calculators for the test must be non-programmable and must not have alphabetic storage capability.

Students must be available during the time of the lecture class to sit the class test. The only exception to this is when the student submits a valid application for Special Consideration which is approved by the University. In these circumstances the student may wish to consult the Special Consideration Policy which is available via the link in the Policies and Procedures section of this document.

On successful completion you will be able to:

- Apply basic statistical techniques to problems in economics and business
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Class Test 2

Due: **Week 10**
Weighting: **20%**

A 75 minute test consisting of multiple-choice and short-answer questions will be held during the lecture in week 10. A calculator is needed for the test and attendance is compulsory. Calculators for the test must be non-programmable and must not have alphabetic storage capability.

Students must be available during the time of the lecture class to sit the class test. The only exception to this is when the student submits a valid application for Special Consideration which is approved by the University. In these circumstances the student may wish to consult the Special Consideration Policy which is available via the link in the Policies and Procedures section of this document.

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Group Assignment

Due: **Week 13**
Weighting: **30%**

The assignment will require students to analyse some sets of data (which will be provided) using the econometric software and regression models described in the course. Students will gain exposure to handling both time-series and cross-sectional data. Groups of up to four students will estimate a variety of different models, compare and contrast the outcomes, and assess the suitability of the models for the analysis.

The assignment must be submitted in week 13 (in hard copy as well as electronically).The assignment topic will be announced in class.

No extensions will be granted. There will be a deduction of 10% of the total available marks made from the total awarded mark for each 24 hour period or part thereof that the submission is late (for example, 25 hours late in submission – 20% penalty). This penalty does not apply for cases in which the student submits a valid application for Special Consideration which is approved by the University. In these circumstances the student may wish to consult the Special Consideration Policy which is available via the link in the Policies and Procedures section of this document.

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Final Examination

Due: **University Examination Period**
Weighting: **35%**

The final exam will consist of multiple-choice questions and short-answer questions. The exam will have a duration of 2 hours plus 10 minutes of reading time. Computer outputs and statistical tables are provided. One A4 page of notes may be taken into the examination room. Only non-programmable calculators without alphabetic storage capability are allowed into the examination room. The time and venue of the exam will be organised and announced in due time by the University.

You are expected to attend the final 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:// exams.mq.edu.au/.

Possible exceptions to sitting the examination at the designated time may arise if the student submits a valid application for Special Consideration which is approved by the University. In these circumstances the student may wish to consult the Special Consideration Policy which is available via the link in the Policies and Procedures section of this document.

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

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

On successful completion you will be able to:

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Delivery and Resources

This unit is taught as a mix of tutorials and lectures. The lectures are designed to introduce the underlying knowledge in probability, statistics and econometrics, and to explain the methods which will be used to analyse and interpret data. Tutorials are based mainly on numerical problems which allow students to practice and understand the methods taught in the lectures. The tutorials include empirical applications which require the use of econometric software packages. Students will be taught how to use these packages in tutorials which are held in the computer labs.

Lectures – large group learning (2 hour each teaching week)

Lectures are intended to provide an overview of statistical and econometrics techniques that are critical to the core themes of the unit. Students are expected to read the relevant material before each lecture.

Tutorials – 1 hour per week

Tutorials will go through assigned problems which may be mathematical exercises, or which may require use of the econometric software available in the computer lab to estimate a model.

Self-study activities – learning by doing (about 6 hours each teaching week and 9 hours each week during the 2-week mid-semester recess)

ECON634 relies heavily on independent learning where students read the lecture notes, relevant chapters in the useful text books and prepare answers to the pre-set tutorial questions.

Useful but not required texts include:

1. Hill, C. H., Griffiths, W. E. and Lim, G. C. (2011) *Principles of Econometrics* (4th ed.) Wiley -- Available online through our library: http://ebookcentral.proquest.com.simsrad.net.ocs.mq.edu.au/lib/MQU/detail.action?docID=4806586
2. Gujarati, N. G. and Porter, D. C. (2009) Essentials of Econometrics, 4th Edition, McGraw-Hill
3. Keller, Gerald (2014) *Statistics for Management and Economics* (10th, ed.), Cengage Learning.
4. Stock, J. H. and Watson, M. W. (2014) Introduction to Econometrics, 3rd Edition, Pearson

Material such as lecture slides, examples, and tutorial questions will be available on the unit home page. The lecture notes, together with the lectures and additional references will provide students with a clear indication of the basic content of the unit.

It is recommended that students attend all lectures and tutorials for several reasons including:

1. Not all the material in the texts is included in the unit, and not all the material in the unit is covered in the texts. In some places the texts 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.
2. The approaches to some problems that are recommended by the lecturer are different to those in the text.
3. The lectures will include guidance about the style and content of the final exam and recommendation about study technique.
4. 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.

Unit Schedule

	Week No.	Lecture Topic	Activities
	1	Introduction & Descriptive Statistics for Data	Lecture

	2	Descriptive Statistics for Data (continued)	Lecture & Tutorial
	3	Probability and Random Variables	Lecture & Tutorial
	4	Probability Distributions	Lecture & Tutorial
	5	Sampling Distributions: Point Estimates and Confidence Intervals	Lecture & Tutorial
	6	Class Test in Lecture	Tutorial & Class Test
	7	Hypothesis Testing	Lecture & Tutorial
		MID-SEMESTER BREAK	
	8	Introduction to Regression Analysis	Lecture & Tutorial
	9	Multiple Linear Regression	Lecture & Tutorial
	10	Class Test in Lecture	Tutorial & Class Test
	11	Multiple Linear Regression (continued)	Lecture & Tutorial
	12	Regression Model Diagnostics	Lecture & Tutorial
	13	Review Exam preparation	Lecture & Tutorial Assignment Due
	Exam Period		Final Exam

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy
- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public

- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

Undergraduate students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/study/getting-started/student-conduct

Results

Results published on platform other than eStudent, (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Apply basic statistical techniques to problems in economics and business
- Use econometric tools to model, estimate and forecast economic data
- Engage into further studies in econometrics

Assessment tasks

- Class Test 1
- Class Test 2
- Group Assignment
- Final Examination

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Apply basic statistical techniques to problems in economics and business
- Use econometric tools to model, estimate and forecast economic data

- Engage into further studies in econometrics

Assessment tasks

- Class Test 1
- Class Test 2
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Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Apply basic statistical techniques to problems in economics and business
- Use econometric tools to model, estimate and forecast economic data
- Engage into further studies in econometrics

Assessment tasks

- Class Test 1
- Class Test 2
- Group Assignment
- Final Examination

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcome

- Demonstrate the ability to work effectively in a group

Assessment task

- Group Assignment