ECON8040

Applied Econometrics

Session 1, Online-scheduled-weekday 2023

Department of Economics

Contents

General Information

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Credit points
10

Prerequisites
ECON634 or ECON6034

Corequisites

Co-badged status
ECON7035

Unit description
The objective of this unit is to enable students with basic statistical knowledge to upgrade their understanding to a practical level where they can apply their knowledge of econometrics to empirical analysis. By successfully completing this unit, students should be able to develop an econometric model suitable for the objective of their analysis, estimate the model using an appropriate estimation method, and draw valid inferences from the estimation results. The unit starts with a brief review of the standard multiple linear regression model and the OLS estimation method. It then relaxes the standard assumptions and investigates alternative estimation methods that are valid under the new circumstances. The final part introduces the interesting discrete-choice models.

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:

ULO1: Develop an econometric model suitable for the objective of analysis.

ULO2: Estimate the model using an appropriate estimation method.

ULO3: Interpret the estimation results and draw valid inferences.

ULO4: Critically analyse the econometric methods covered in the unit.

General Assessment Information

Late Assessment Submission Penalty (written assessments)

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical concern.

For any late submissions of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to submit an application for Special Consideration.

Assessment Tasks

Name	Weighting	Hurdle	Due
Lecture interaction	10%	No	Weekly from Week 2
Tutorial Exercises	20%	No	Weekly from Week 2
Take home test	50%	No	Week 8 and Week 12
Assignment	20%	No	Week 14

Lecture interaction

Assessment Type [1]: Participatory task
Indicative Time on Task [2]: 5 hours
Due: **Weekly from Week 2**
Weighting: **10%**

Lecture will include embedded exercises that engage students in the material being taught and ensure that students grasp essential concepts.

On successful completion you will be able to:

- Interpret the estimation results and draw valid inferences.
- Critically analyse the econometric methods covered in the unit.

Tutorial Exercises

Assessment Type [1]: Problem set
Indicative Time on Task [2]: 10 hours
Due: **Weekly from Week 2**
Weighting: **20%**

A weekly assessment (from Week 2) that covers material from previous lectures, with an emphasis on the most recent work, and ensures acquisition of the concepts and skills necessary to understand and apply the unit material.

On successful completion you will be able to:

- Interpret the estimation results and draw valid inferences.
- Critically analyse the econometric methods covered in the unit.

Take home test

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 20 hours
Due: **Week 8 and Week 12**
Weighting: **50%**

Two diagnostic tests (worth 25% each) of technical skills and applied knowledge acquired in the unit up until the week of the test.

On successful completion you will be able to:

- Develop an econometric model suitable for the objective of analysis.
- Interpret the estimation results and draw valid inferences.
- Critically analyse the econometric methods covered in the unit.

Assignment

Assessment Type [1]: Case study/analysis
Indicative Time on Task [2]: 15 hours
Due: **Week 14**

Weighting: **20%**

A written report comprising the application of technical skills and theoretical concepts acquired in the unit to a given economic problem

On successful completion you will be able to:

- Develop an econometric model suitable for the objective of analysis.
- Estimate the model using an appropriate estimation method.
- Interpret the estimation results and draw valid inferences.

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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

Classes

- Online lectures will be available each week. Lectures will include links to datasets and reference material. Lectures will also include embedded questions which must be answered by students before the weekly deadline. The lectures cover all the material necessary to pass the unit, including some material that is not available in other formats. Consequently, students are expected to study the lectures closely.
- There is a tutorial class held in each week except Week 1. Students must register in a tutorial class. Changes to tutorial enrolments may only be made using the online system subject to available capacity. The Unit Convenor cannot make enrolment changes on behalf of students. Changes to tutorial enrolments generally take up to 24 hours to be reflected on iLearn.
- Students must complete and submit the tutorial exercises each week before the deadline, which will be prior to the first scheduled class each week. The tutorial exercises will be discussed in class.
- The timetable for classes can be found on the University website: http://www.timetables.mq.edu.au/

- Students are expected to study all lectures, attempt the lecture exercises and tutorial exercises, attend the tutorial classes, discuss the unit material both in-class and online, and read the text. It is important that students identify problems that they are having with the unit material each week. If a reasonable but unsuccessful effort has been made to solve a problem, then the student should seek help from the tutor during the tutorial. Outside class time, the best way to get help with a problem is to post it on the online discussion forum.
- It is expected that students will spend an average of approximately 10 hours per week working on this unit (including class time).

Required and Recommended texts and/or materials

- Stock, J. H. and Watson, M. W. (2019) Introduction to Econometrics, Global Edition, 4th edition, Pearson.

Additional useful textbooks and resources.

- Hill, C. H., Griffiths, W. E. and Lim, G. C. (2018) Principles of Econometrics (5th ed.) Wiley.
- Wooldridge, J. M., Wadud, M., Lye, J. and Joyeux, R. (2021) Introductory Econometrics (2nd Asia-Pacific ed.) Cengage.
- Gujarati, D.N., and Porter, D.C. (2010) Essentials of Econometrics (4th ed.) McGraw-Hill.
- A list of prescribed reading will be developed on the website as the unit progresses.
- The data sets used in the textbook and in lectures will be provided on the website.

Technology Used and Required

- The main software package used is Gretl (https://gretl.sourceforge.net/). This software is available for use on AppStream and may be freely downloaded for use elsewhere. The Microsoft Windows version is available at https://gretl.sourceforge.net/win32/. A Mac version is available at http://gretl.sourceforge.net/osx.html. Linux users should check their repositories or download the rpm or source from http://gretl.sourceforge.net/.
- The use of a spreadsheet will often be helpful for tasks in this unit. Microsoft Excel will be used during tutorials and is available for students to use off-campus at https://students.mq.edu.au/support/technology/software/microsoft. For students who don't wish to use Microsoft Excel, free alternatives include OpenOffice (http://www.openoffice.org), LIbreOffice (https://www.libreoffice.org/) and Gnumeric (http://www.gnumeric.org/, https://portableapps.com/apps/office/gnumeric_portable).

- Course material is available on the learning management system (iLearn).
- Announcements will be made regularly on iLearn. Students should ensure that these announcements, and posts on the online discussion forum, are forwarded to their email account, which they should check regularly. Staff may also occasionally directly email students. Students must check their email daily.
- Students will need access to an internet-connected computer capable of streaming video and (if they are attending online tutorials) participating in Zoom meetings.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policies.mq.edu.au). 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
- Assessment Procedure
- Complaints Resolution Procedure for Students and Members of the Public
- Special Consideration Policy

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

To find other policies relating to Teaching and Learning, visit Policy Central (https://policies.mq.edu.au) and use the search tool.

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/admin/other-resources/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

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

Student Support

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

The Writing Centre

The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

The Library provides online and face to face support to help you find and use relevant information resources.

- Subject and Research Guides
- Ask a Librarian

Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues
- Student Advocacy provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

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.