ECON3034

Financial Econometrics

Session 1, Weekday attendance, North Ryde 2020

Department of Economics

Contents

General Information

Unit convenor and teaching staff
Unit Convenor
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Credit points
10

Prerequisites
90cp at 1000 level or above including ECON241 or ECON2041 or STAT272 or STAT2372

Corequisites

Co-badged status

Unit description
This unit is highly recommended for students majoring in economics and finance. Finance professionals use econometric techniques in portfolio management, risk management and securities analysis. This unit is intended to provide students with the tools necessary for financial applications. Statistical techniques are developed within the context of particular financial applications. Recent empirical evidence is also discussed. Although ECON2032 is not a prerequisite, it is highly recommended.

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: Apply econometric methods to modelling, analysing and forecasting financial data.

ULO2: Demonstrate and explain different estimation methodologies.

ULO3: Critically evaluate empirical econometric work.

ULO4: Present results based on financial econometric analysis, to a non-technical audience, in a clear and understandable manner.

Assessment Tasks

Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult iLearn for revised unit information.

Find out more about the Coronavirus (COVID-19) and potential impacts on staff and students

General Assessment Information

Class Test

The class test will be held during the lecture time in **Week 7**. The test will consist of multiple-choice questions, and will cover all material **up to and including Week 5**. A calculator is needed for the test and attendance is compulsory. If you fail to attend the test you will be awarded a zero mark. There will be no catch-up or supplementary tests. However, for students who experience serious misadventure and are unable to attend the test should apply for special consideration with appropriate documentary evidence **within 5 working days of the test**. For those students, missed assessment will be covered by a supplementary assessment that could include an oral component, which will be two weeks after the date of the original assessment.

Assignment

The assignment is due at **4pm on Thursday of Week 10**. Assignments are to be submitted electronically through iLearn. Late submission: 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 incurs a 20% penalty). Late submissions will be accepted up to 96 hours after the due date and time. This penalty does not apply for cases in which an application for Special Consideration is made and approved. Note: applications for Special Consideration Policy must be made within 5 (five) business days of the due date and time.

Final Examination

The final exam is a closed book examination. Details of the content of the final examination will be provided on iLearn in due course. Only non-programmable calculators without alphabetic storage capability are allowed into the examination room. Statistical tables are provided. The time and venue of the exam will be organised and announced in due time by the University.

Delivery and Resources

Coronavirus (COVID-19) Update

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: https://ask.mq.edu.au/account/pub/display/unit_status

Classes

- Number and length of classes: 3 hours face-to-face teaching per week consisting of 1 x 2 hour lecture and 1 x 1 hour tutorial. Tutorials commence in Week 2.
- The timetable for classes can be found on the University web site at:http://www.timetables.mq.edu.au/

Required and Recommended Texts and/or Materials

The prescribed textbook for the unit is:

Brooks, C. (2019) Introductory Econometrics for Finance, 4th Edition, Cambridge University Press. The 4th Edition of the textbook has just been published. You can use the 3rd Edition of the textbook (2014) instead if you prefer.

In addition to the textbook, the following references are useful but are not required.

(i) Campbell, J., Lo, A., and Mackinlay, C. (1997) The Econometrics of Financial Markets, Princeton University Press. (This book is too advanced for our class, but contains a lot of interesting material).

(ii) Diebold, F. (2007) Elements of Forecasting, 4th Edition, South-Western College.

(iii) Enders, W. (2014) Applied Econometric Time Series, 4th Edition, Wiley.

• Material such as lecture slides, examples, and tutorial questions will be available on the unit home page. The text and 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:

• Not all the material in the text is included 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.

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

• The lectures will include guidance about the style and content of the final exam and recommendation about study technique.

• 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.

Technology Used and Required

Students are required to use a computer to carry out certain tasks of the course, such as tutorials and assignments. The software programs used in this course include EViews 10 and Microsoft Excel.

Unit Web Page

• Course material is available on the learning management system (iLearn), which can be found at: http://ilearn.mq.edu.au.

Unit Schedule

Coronavirus (COVID-19) Update

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Week No.	Lecture Topic	Tutorials
1	**Characteristics of Financial Data; Revision of Basic Mathematical and Statistical Concepts** Textbook: Chapter 1 and Chapter 2, all sections; 4th or 3rd Edition. Lecture Notes.	
2	**Correlation and Basic Regression Methods** Textbook: Chapter 3, all sections, excluding the appendix. 4th or 3rd Edition. Lecture Notes.	Tutorial Week 2
3	**Multiple Linear Regression Model** Textbook: 4th Edition Chapter 4, Sections 4.1 to 4.7 inclusive, Section 4.9. Lecture Notes; or Textbook: 3rd Edition Chapter 4, Sections 4.1 to 4.8 inclusive, Section 4.10. Lecture Notes.	Tutorial Week 3

4	**Regression Model Diagnostics** Textbook: 4th Edition Chapter 5, all sections. Chapter 10, Sections 10.1 to 10.3 inclusive. Lecture Notes; or Textbook: 3rd Edition Chapter 5, all sections. Chapter 10, Sections 10.1 to 10.3 inclusive. Lecture Notes.	Tutorial Week 4
5	**Time Series Models** Textbook: 4th Edition, Chapter 6, Sections 6.1 to 6.5. Lecture Notes; or Textbook: 3rd Edition, Chapter 6, Sections 6.1 to 6.5. Lecture Notes.	Tutorial Week 5
6	**Identification of Time Series Models** Textbook: 4th Edition, Chapter 6, Sections 6.6 to 6.8. Lecture Notes; or Textbook: 3rd Edition, Chapter 6, Sections 6.6 to 6.9. Lecture Notes.	Tutorial Week 6
7	**Class Test**	Tutorial Week 7
	Mid-semester Break	
8	**Forecasting with Time Series Models** Textbook: 4th Edition, Chapter 6, Sections 6.10. Lecture Notes; or Textbook: 3rd Edition, Chapter 6, Sections 6.11 and 6.12. Lecture Notes.	Tutorial Week 8
9	**Modeling Volatility: Specification and Estimation of ARCH and GARCH Models** Textbook: 4th Edition, Chapter 9, Sections 9.1 to 9.4 inclusive, Sections 9.6 to 9.9 inclusive. Lecture Notes; or Textbook: 3rd Edition, Chapter 9, Sections 9.1 to 9.4 inclusive, Sections 9.6 to 9.9 inclusive. Lecture Notes.	Tutorial Week 9
10	**Modeling Volatility: Extensions of ARCH and GARCH Models.** Textbook: 4th Edition, Chapter 9, Sections 9.10 to 9.17 inclusive, Lecture Notes; or Textbook: 3rd Edition, Chapter 9, Sections 9.10 to 9.18 inclusive, Lecture Notes. **Assignment due Thursday 4pm.**	Tutorial Week 10
11	**Forecasting Volatility.** Textbook: 4th Edition, Chapter 9, Sections 9.18. Lecture Notes; or Textbook: 3rd Edition, Chapter 9, Sections 9.17, 9.19. Lecture Notes.	Tutorial Week 11
12	**Long-Run Relationships in Finance** Textbook: 4th Edition, Chapter 8, Sections 8.1, 8.3 to 8.6.1 inclusive. Lecture Notes; or Textbook: 3rd Edition, Chapter 8, Sections 8.1, 8.3 to 8.7.1 inclusive. Lecture Notes.	Tutorial Week 12
13	**Bivariate Autoregressive Models** Textbook: 4th Edition, Chapter 7, Sections 7.10, 7.12. Lecture Notes; or Textbook: 3rd Edition, Chapter 7, Sections 7.11, 7.13. Lecture Notes.	Tutorial Week 13

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.)*

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 help you improve your marks and take control of your study.

- Getting help with your assignment
- Workshops
- StudyWise
- 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

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.