Tasmanian School of Business & Economics

College of Business and Economics

BEA242
INTRODUCTION TO ECONOMETRICS

12.50 Credit points

Semester 1, 2019

Unit Outline

Satoshi Yamazaki
CONTACT DETAILS

Unit coordinator

Unit coordinator: Satoshi Yamazaki
Campus: Hobart
Email: Satoshi.Yamazaki@utas.edu.au
Phone: 62262820
Room location and number: Room 223, Centenary Building
Consultation hours: Tuesday 10.00 am-11.00 am
WHAT IS THE UNIT ABOUT?

Unit description

The goal of the unit is to develop a thorough understanding of basic econometric methods so that the student can, at the end of this unit: Critically evaluate empirical studies in economics and finance which involve use of simple econometric techniques in estimation and inference; Develop an appreciation of the likely problems in data and know how to deal with them; Obtain a good background for a further study in econometrics and applied economics.

This unit is compulsory in all majors in the Bachelor of Economics degree and in combined Economics degrees and it is also a compulsory unit in the Finance major. This unit is the prerequisite for BEA342 Econometrics which itself is the prerequisite for the Honours program in economics and finance.

Intended Learning Outcomes

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

1. select, specify and use appropriate data and linear econometric models
2. identify and evaluate the causes, consequences and remedies for violations of the classical linear regression model's assumptions
3. interpret and communicate output from econometric models
Graduate Quality Statement

Successful completion of this unit supports your development of course learning outcomes, which describe what a graduate of a course knows, understands and is able to do. Course learning outcomes are available from the Course Coordinator. Course learning outcomes are developed with reference to national discipline standards, Australian Qualifications Framework (AQF), any professional accreditation requirements and the University of Tasmania’s Graduate Statement.

The University of Tasmania experience unlocks the potential of individuals. Our graduates are equipped and inspired to shape and respond to the opportunities and challenges of the future as accomplished communicators, highly regarded professionals and culturally competent citizens in local, national, and global society. University of Tasmania graduates acquire subject and multidisciplinary knowledge and skills, and develop critical and creative literacies and numeracies and skills of inquiry. They demonstrate the ability to apply this knowledge in changing circumstances. Our graduates recognise and critically evaluate issues of social responsibility, ethical conduct and sustainability, are entrepreneurial and creative, and are mindful of their own wellbeing and that of the community. Through respect for diversity and by working in collaborative ways, our graduates reflect the values of the University of Tasmania.

Alterations to the unit as a result of student feedback

On the basis of feedback received from students the unit schedule has been reviewed and updated. A new prescribed text have also been adopted from this year.

Prior knowledge &/or skills

BEA140 Quantitative Methods is the pre-requisite for this unit.

In particular, students are expected to have the following knowledge/skills:

• Knowledge of elementary probability and statistics

• Arithmetic skills, basic algebra skills and basic calculator

• MS Excel and MS Word - to perform simple calculations and produce professional reports.
### HOW WILL I BE ASSESSED?

#### Assessment schedule

<table>
<thead>
<tr>
<th>Assessment task</th>
<th>Date due</th>
<th>Percent weighting</th>
<th>Links to Intended Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Online Quizzes</td>
<td>Weeks 3, 6, 9, 11, 13</td>
<td>20%</td>
<td>LO1, LO2, LO3</td>
</tr>
<tr>
<td>2. Assignment</td>
<td>Week 12</td>
<td>20%</td>
<td>LO1, LO2, LO3</td>
</tr>
<tr>
<td>3. Examination</td>
<td>Exam Period</td>
<td>60%</td>
<td>LO1, LO2, LO3</td>
</tr>
</tbody>
</table>

#### Assessment details

**Assessment Task 1: Online Quizzes**

- **Task Description**: There are five (5) quizzes to be completed online via MyLO in weeks 3, 6, 9, 11 and 13. Each quiz can be sat once at any time within the time it is available. You will have 35 minutes to complete each quiz. Each will comprise 10 multiple-choice questions.

<table>
<thead>
<tr>
<th>Criterion Number</th>
<th>Criterion Description</th>
<th>Measures ILO:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Specify linear econometric models appropriate to test a theory, relationship or hypothesis given the data available.</td>
<td>LO1</td>
</tr>
<tr>
<td>2</td>
<td>Use data to estimate linear econometric models and interpret the estimates and their strength.</td>
<td>LO1</td>
</tr>
<tr>
<td>3</td>
<td>Construct forecasts and forecast errors for linear econometric models.</td>
<td>LO1</td>
</tr>
<tr>
<td>4</td>
<td>Define the assumptions underpinning linear econometric models.</td>
<td>LO2</td>
</tr>
<tr>
<td>5</td>
<td>Test for violations of the assumptions underpinning linear econometric models.</td>
<td>LO2</td>
</tr>
<tr>
<td>6</td>
<td>Identify the causes of violations of the assumptions underpinning linear econometric models.</td>
<td>LO2</td>
</tr>
<tr>
<td>7</td>
<td>Perform and interpret statistical inference from linear econometric models.</td>
<td>LO3</td>
</tr>
</tbody>
</table>

**Task Length**: 35 minutes per quiz
Due by date

| Quiz 1 – Available 12pm Wed 13 March to 12am midnight Sun 17 March |
| Quiz 2 – Available 12pm Wed 3 April to 12am midnight Sun 7 April |
| Quiz 3 – Available 12pm Wed 1 May to 12am midnight Sun 5 May |
| Quiz 4 - Available 12pm Wed 15 May to 12am midnight Sun 19 May |
| Quiz 5 - Available 12pm Wed 29 May to 12am midnight Sun 2 June |

Assessment Task 2: Assignment

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Criterion Description</th>
<th>Measures ILO:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>This assignment is designed to develop your ability to use econometric software and apply skills of sound econometric modelling and testing. It will also develop your ability to present econometric arguments and analysis clearly. Detailed guidelines and instructions will be posted on MyLO. This assignment may be completed and submitted as a group of up to 3 students.</td>
<td></td>
</tr>
<tr>
<td>Criterion Number</td>
<td>Criterion Description</td>
<td>Measures ILO:</td>
</tr>
<tr>
<td>1</td>
<td>Specify linear econometric models appropriate to test a theory, relationship or hypothesis given the data available.</td>
<td>LO1</td>
</tr>
<tr>
<td>2</td>
<td>Use data to estimate linear econometric models and interpret the estimates and their strength.</td>
<td>LO1</td>
</tr>
<tr>
<td>3</td>
<td>Construct forecasts and forecast errors for linear econometric models.</td>
<td>LO1</td>
</tr>
<tr>
<td>4</td>
<td>Test for violations of the assumptions underpinning linear econometric models.</td>
<td>LO2</td>
</tr>
<tr>
<td>5</td>
<td>Identify the causes of violations of the assumptions underpinning linear econometric models.</td>
<td>LO2</td>
</tr>
<tr>
<td>6</td>
<td>Implement simple remedies for violations of the assumptions underpinning linear econometric models.</td>
<td>LO2</td>
</tr>
<tr>
<td>7</td>
<td>Perform and interpret statistical inference from linear econometric models.</td>
<td>LO3</td>
</tr>
<tr>
<td>8</td>
<td>Apply statistical inference and summary statistics to economic arguments.</td>
<td>LO3</td>
</tr>
<tr>
<td>Task Length</td>
<td>Approximately 10-30 pages (including tables, references, appendices). Approximately 20-60 hours.</td>
<td></td>
</tr>
<tr>
<td>Due by date</td>
<td>Week 12, 4.00pm Friday 24 May</td>
<td></td>
</tr>
</tbody>
</table>
### Assessment Task 3: Examination

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Criterion Description</th>
<th>Measures ILO:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section A – Multiple choice questions</strong></td>
<td>Specify linear econometric models appropriate to test a theory, relationship or hypothesis given the data available.</td>
<td>LO1</td>
</tr>
<tr>
<td><strong>Section B – Multi-part problem solving questions</strong></td>
<td>Use data to estimate linear econometric models and interpret the estimates and their strength.</td>
<td>LO1</td>
</tr>
<tr>
<td></td>
<td>Construct forecasts and forecast errors for linear econometric models.</td>
<td>LO1</td>
</tr>
<tr>
<td></td>
<td>Define the assumptions underpinning linear econometric models.</td>
<td>LO1</td>
</tr>
<tr>
<td></td>
<td>Test for violations of the assumptions underpinning linear econometric models.</td>
<td>LO2</td>
</tr>
<tr>
<td></td>
<td>Identify the causes of violations of the assumptions underpinning linear econometric models.</td>
<td>LO2</td>
</tr>
<tr>
<td></td>
<td>Implement simple remedies for violations of the assumptions underpinning linear econometric models.</td>
<td>LO2</td>
</tr>
<tr>
<td></td>
<td>Perform and interpret statistical inference from linear econometric models.</td>
<td>LO3</td>
</tr>
<tr>
<td></td>
<td>Apply statistical inference and summary statistics to economic arguments.</td>
<td>LO3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task Length</th>
<th>3 Hours plus 15 minute reading time</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Due by date</strong></td>
<td>The final exam is conducted by the Student Centre in the formal examination period. See the Examinations and Results page on the University’s website, or access your personal exams timetable by logging into the eStudent Centre - Personal Exams Timetable for specific date, time and location closer to the examination period.</td>
</tr>
</tbody>
</table>
- PP (pass) at least 50% of the overall mark but less than 60%
- CR (credit) at least 60% of the overall mark but less than 70%
- DN (distinction) at least 70% of the overall mark but less than 80%
- HD (high distinction) at least 80% of the overall mark

All grades are provisional, until confirmation by the Assessment Board at the end of semester.

Submission of assignments

The act of submitting your assignment will be taken as certification that it is your own work.

Assignments must be submitted electronically through the relevant assignment tab in MyLO. You must ensure that your name, student ID, unit code, tutorial time and tutor's name (if applicable) are clearly marked on the first page. If this information is missing, the assignment will not be accepted and, therefore, will not be marked.

Where relevant, Unit Coordinators may also request you to submit a paper version of your assignment. You will be advised by the Unit Coordinator of the appropriate process relevant to your campus.

Please remember that you are responsible for lodging your assessment items on or before the due date and time. We suggest you keep a copy. Even in a perfect system, items sometimes go astray.

Requests for extensions

In this Policy:
1. (a) ‘day’ or ‘days’ includes all calendar days, including weekends and public holidays;
(b) ‘late’ means after the due date and time; and
(c) ‘assessment items’ includes all internal non-examination based forms of assessment
2. This Policy applies to all students enrolled in TSBE Units at whatever Campus or geographical location.
3. Students are expected to submit assessment items on or before the due date and time specified in the relevant Unit Outline. The onus is on the student to prove the date and time of submission.
4. Students who have a medical condition or special circumstances may apply for an extension. Requests for extensions should, where possible, be made in writing to the
Unit Coordinator on or before the due date. Students will need to provide independent supporting documentation to substantiate their claims.

**Penalties**

Late submission of assessment items will incur a penalty of 10% of the total marks possible for that piece of assessment for each day the assessment item is late unless an extension had been granted on or before the relevant due date.

Assessment items submitted more than five (5) days late will not be accepted.

Academic staff do NOT have the discretion to waive a late penalty, subject to clause 4 above.

**Review of results and appeals**

Review of Assessment is available to all students once the University has released the final result for a unit. If you are dissatisfied with your final result, you may apply to have it reviewed. Applications for a review of assessment are due within 10 working days of the release of the final result in the unit. When applying for a review, you must pay a $50 fee.

If you wish to have a piece of internal assessment reviewed as part of the review process, please state this clearly on the application form referred to above and include that assessment item with your application.

Please read and follow the directions provided by the University at:


**Academic referencing**

Before starting your assignments, you are advised to familiarise yourself with the following electronic resources.

The first is the Harvard Referencing System Style Guide, which can be accessed from the UTAS library: http://utas.libguides.com/content.php?pid=27520&sid=199808. The Harvard style is the appropriate referencing style for this unit and the guide provides information on presentation of assignments, including referencing styles. In your written work you will need to support your ideas by referring to scholarly literature, works of art and/or inventions. It is important that you understand how to correctly refer to the work of others and maintain academic integrity.

Failure to appropriately acknowledge the ideas of others constitutes academic dishonesty (plagiarism), a matter considered by the University of Tasmania as a serious offence.

The second is the Tasmanian School of Business and Economics’ Writing Assignments: A Guide, which can be accessed at: http://www.utas.edu.au/business-and-
economics/student-resources. This guide provides you with useful information about the structure and style of assignments in the TSBE.

In your written work you will need to support your ideas by referring to scholarly literature, works of art and/or inventions. It is important that you understand how to correctly refer to the work of others, and how to maintain academic integrity.

The University library provides information on presentation of assignments, including referencing styles and should be referred to when completing tasks in this unit.

Please read the following statement on plagiarism. Should you require clarification please see your unit coordinator or lecturer.

---

**Plagiarism**

Plagiarism is a form of cheating. It is taking and using someone else’s thoughts, writings or inventions and representing them as your own; for example, using an author’s words without putting them in quotation marks and citing the source, using an author’s ideas without proper acknowledgment and citation, copying another student's work.

If you have any doubts about how to refer to the work of others in your assignments, please consult your lecturer or tutor for relevant referencing guidelines. You may also find the Academic Honesty site on MyLO of assistance.

The intentional copying of someone else’s work as one’s own is a serious offence punishable by penalties that may range from a fine or deduction/cancellation of marks and, in the most serious of cases, to exclusion from a unit, a course or the University.

The University and any persons authorised by the University may submit your assessable works to a plagiarism checking service, to obtain a report on possible instances of plagiarism. Assessable works may also be included in a reference database. It is a condition of this arrangement that the original author’s permission is required before a work within the database can be viewed.

For further information on this statement and general referencing guidelines, see the Plagiarism and Academic Integrity page on the University web site or the Academic Honesty site on MyLO.
Academic misconduct

Academic misconduct includes cheating, plagiarism, allowing another student to copy work for an assignment or an examination, and any other conduct by which a student:

a. seeks to gain, for themselves or for any other person, any academic advantage or advancement to which they or that other person are not entitled; or

b. improperly disadvantages any other student.

Students engaging in any form of academic misconduct may be dealt with under the Ordinance of Student Discipline, and this can include imposition of penalties that range from a deduction/cancellation of marks to exclusion from a unit or the University. Details of penalties that can be imposed are available in Ordinance 9: Student Discipline – Part 3 Academic Misconduct.
WHAT LEARNING OPPORTUNITIES ARE THERE?

MyLO

MyLO is the online learning environment at the University of Tasmania. This is the system that will host the online learning materials and activities for this unit.

Getting help with MyLO

It is important that you are able to access and use MyLO as part of your study in this unit. To find out more about the features and functions of MyLO, and to practice using them, visit the Getting Started in MyLO unit. For access to information about MyLO and a range of step-by-step guides in pdf, word and video format, visit the MyLO Student Support page on the University website. If something is not working as it should, contact the Service Desk (Service.Desk@utas.edu.au, phone 6226 1818), or Request IT Help Online.

Resources

Required readings

You will need the following text [available from the Co-op Bookshop]:

The prescribed textbook, available from the Co-op Bookshop or www.coop-bookshop.com.au is:


Recommended readings

Many students find it useful to consult alternative references as part of their study program. Some useful alternative references are:

Stock & Watson, Introduction to Econometrics, 3rd edition, Addison Wesley, 2010

Reading Lists

Reading Lists provide direct access to all material on unit reading lists in one place. This includes eReadings and items in Reserve. You can access the Reading List for this unit from the link in MyLO, or by going to the Reading Lists page on the University Library website.

Other Required Resources

Students must ensure that they have access to the following equipment and software:

• Computer with Internet access and Internet Browser compatible to UTAS’s MyLO.
• Software capable of estimating multiple regression such as MS Excel, EViews, R is required to complete the assignment and workshop exercises. In addition Word processing software is required to complete the assignment.

• EViews and MS Excel are installed in TSBE “TEAL” Computer Lab (SB.AR15.L01.136).

• Students will be instructed how to use EViews and MS Excel in BEA242 in the workshops to perform econometric analysis.

In addition student studying by distance in order to participate in the online workshop and communication with teaching staff you must also have a:

• Webcam, microphone, Skype account and software (www.skype.com)

Activities

Learning expectations

The University is committed to high standards of professional conduct in all activities, and holds its commitment and responsibilities to its students as being of paramount importance. Likewise, it holds expectations about the responsibilities students have as they pursue their studies within the special environment the University offers.

Students are expected to participate actively and positively in the teaching/learning environment. They must attend classes when and as required, strive to maintain steady progress within the subject or unit framework, comply with workload expectations, and submit required work on time.

Details of teaching arrangements

Lectures are held weekly, beginning in week 1 on:

Fridays 12.00pm to 1.50pm in the Centenary Lecture Theatre (SB.AR15.L01.146).

Lecture notes are also available on MyLO prior to each lecture. Lectures are recorded in video and audio format and made available on MyLO and/or MyMedia Service. The recordings are typically available a few hours after the lecture is recorded.

These on their own are not an adequate substitute for attending the lecture and taking your own lecture notes. It is recommended that you have a copy of the lecture notes with you when you are attending the lecture and use these as a basis for your own note-taking or annotation. Developing lecture notes is your own responsibility in this unit.
Specific attendance/performance requirements

In this unit, your active engagement will be monitored in the following way:

1. Completion of assignments

2. Active participation in the tutorial discussions

If you do not demonstrate evidence of having engaged actively with this unit by completing these two activities by Week 4 of semester, your enrolment may be cancelled, or you may be withdrawn from the unit.

Teaching and learning strategies

The University is committed to a high standard of professional conduct in all activities, and holds its commitment and responsibilities to its students as being of paramount importance. Likewise, it holds expectations about the responsibilities students have as they pursue their studies within the special environment the University offers. The University’s Code of Conduct for Teaching and Learning states:

Students are expected to participate actively and positively in the teaching/learning environment. They must attend classes when and as required, strive to maintain steady progress within the subject or unit framework, comply with workload expectations, and submit required work on time.

During the first four weeks of this semester, your participation and engagement in this unit will be monitored. If you do not demonstrate evidence of having engaged actively with this unit by Week 4 of semester, your enrolment may be cancelled or you may be withdrawn from the unit.

Work Health and Safety (WHS)

The University is committed to providing a safe and secure teaching and learning environment. In addition to specific requirements of this unit you should refer to the University’s Work Health and Safety website and policy.

Communication

TO KEEP UP WITH ANNOUNCEMENTS REGARDING THIS UNIT

Check the MyLO Announcement tool at least once every two days. The unit Announcement will appear when you first enter our unit’s MyLO site. Alternatively, click on the Announcement button (towards the top of the MyLO screen) at any time.

WHEN YOU HAVE A QUESTION

Other students may have the same question that you have. Please go to the Ask the Class Discussion forum on the unit’s MyLO site. Check the posts that are already there
– someone may have answered your question already. Otherwise, add your question as
a new topic. Students are encouraged to support each other using this forum – if you
can answer someone’s question, please do. We will attempt to respond to questions
within 48 business hours. If your question is related to a personal issue or your
performance in the unit, please contact the appropriate teaching staff member by
e-mail instead.

WHEN YOU HAVE AN ISSUE THAT WILL IMPACT ON YOUR STUDIES OR THE
SUBMISSION OF AN ASSESSMENT TASK

If you have a personal question related to your studies or your grades, please contact
teaching staff by e-mail.

For general questions about the unit, please add them to the Ask the Class Discussion
forum on the unit’s MyLO site. This way, other students can also benefit from the
answers.

Concerns and complaints

The University is committed to providing an environment in which any concerns and
complaints will be treated seriously, impartially and resolved as quickly as possible.
We are also committed to ensuring that a student may lodge a complaint without fear
of disadvantage. If you have a concern, information about who to contact for
assistance is available on the ‘How to resolve a student complaint’ page.

Further information and assistance

If you are experiencing difficulties with your studies or assignments, have personal or
life-planning issues, disability or illness which may affect your course of study, you are
advised to raise these with the unit coordinator in the first instance.

There is a range of University-wide support services available to you including Student
Learning Support, Student Advisers, Disability Services, and more which can be found
on the Student Support and Development page of the University website.

Should you require assistance in accessing the Library, visit their website for more
information.
<table>
<thead>
<tr>
<th>WEEK</th>
<th>DATE BEGINNING</th>
<th>TOPIC/ MODULE/ FOCUS AREA</th>
<th>ACTIVITIES</th>
<th>RESOURCES/ READINGS/ FURTHER INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>25 February</td>
<td>The nature of econometrics and economic data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4 March</td>
<td>Fundamentals of probability and statistics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>11 March</td>
<td>Simple linear regression: estimation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>18 March</td>
<td>Simple linear regression: inference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>25 March</td>
<td>Units of measurement and functional form</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1 April</td>
<td>Introduction to matrix algebra</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>8 April</td>
<td>Multiple regression: mechanics and interpretation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8a</td>
<td>15 April</td>
<td>Multiple regression: inference</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8b</td>
<td>25 April</td>
<td>Mid-semester break 18 April to 24 April (inclusive)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>29 April</td>
<td>Multiple regression: further issues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>6 May</td>
<td>Modelling qualitative information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>13 May</td>
<td>Heteroskedasticity and weighted least squares estimation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>20 May</td>
<td>Autocorrelation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>27 May</td>
<td>Review</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exam Period 8 – 25 June (inclusive)
ACCREDITATION

AACSB Accreditation

The Tasmanian School of Business and Economics (TSBE) is currently in the process of applying for business accreditation with the Association to Advance Collegiate Schools of Business (AACSB) – the lead program for accrediting business schools globally. AACSB seeks to connect educators, students, and business to achieve a common goal – to create the next generation of business leaders.

By joining AACSB and going through the accreditation process, TSBE is joining a global alliance committed to improve the quality of business education around the world, and to share the latest innovations in business education. Gaining Business Accreditation with AACSB is a multi-year process involving TSBE demonstrating our performance against the 15 accreditation standards.

Once complete, TSBE will join a select community of accredited business schools, with only 7% of all business schools globally having completed the AACSB process. This will further enhance the reputation of TSBE, and further enhance the global recognition of your qualifications. To find out more about AACSB click here.