



UNIVERSITY  
OF TASMANIA

**Economics**

**Faculty of Commerce**

**BEA242**  
**Introduction to Econometrics**

**Semester 1, 2003**

**Unit Outline**

**Professor Ranjan Ray**

CRICOS Provider Code: 00586B

## Contact details

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Wednesday 9.00am to 10.00am  
Room 401, Level 4, Commerce Building

## Unit details

**School:** Economics  
**Faculty:** Commerce  
**Unit Title:** Introduction to Econometrics  
**Unit Code:** BEA242  
**Prerequisites/  
Corequisites:** BEA140 Quantitative Methods 1  
**Campus &  
Mode:** Hobart, WebCT supported  
**Unit Weight:** 12.5%  
**Teaching  
Staff:** Ranjan Ray (Lecturer)  
Grant Miller (Tutor)  
**Contact  
Hours:** 2 x 1 hour lecture per week, Wed 10.00am – 11.50am (LT2)  
1 x 1 hour workshop per week, Wed 12.00noon – 12.50pm  
(LT2) or Wed 3.10 (LT1) – compulsory,  
1 x 1 hour tutorial per week Tuesday 2.10pm – 3.00pm  
(Room 513) - Optional

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## Unit description

### Aim

The goal of the unit is to develop a thorough understanding of basic econometrics so that the student can:

1. Critically evaluate empirical studies in Economics, Finance and Business areas which involve use of simple techniques in estimation and inference;
2. Carry out careful applied econometric work;
3. Develop an appreciation of the likely problems in data, and knowing how to deal with them;
4. Provide a good background to the student for a further study in econometrics.

### Learning outcomes

The specific objectives of the course are to enable the student to:

1. Develop the statistical concepts that the student is familiar with and show how they can be used in a whole range of econometric applications.
2. Understand the concept of a 'model' and of 'variables' within it;
3. Express descriptions of quantitative problems in 'model' form;
4. Evaluate an econometric problem so as to choose an appropriate estimation technique;
5. Formulate sensible hypothesis for testing;
6. Evaluate an econometric problem so as to choose an appropriate hypothesis-testing procedure;
7. Make valid conclusions from given data based on the outcome of estimation and hypothesis-testing procedures;
8. Identify and test assumptions underlying common estimation techniques;
9. Identify and test assumptions underlying common hypothesis-testing procedures.
10. Show how to use a simple econometric software package on real data.

## **Prerequisites/corequisites**

### **Assumed skills**

Knowledge of elementary statistics (at first year level) and an ability to work consistently.

### **Prerequisite/corequisite units**

BEA140 Quantitative Methods 1

## **Texts, references and learning resources**

### **Prescribed text(s)**

Either: D. Gujarati, *Basic Econometrics*, McGraw Hill, 4<sup>th</sup>Ed., 2003.

Or: J. M. Wooldridge: *Introductory Econometrics: A Modern Approach*, South-Western College Publishing, 2nd Ed., 2003.

A somewhat more elementary treatment is contained in: D. Gujarati, *Essentials of Econometrics*, McGraw Hill, 2nd Ed., 1999.

The notation to be used in lectures will follow that of the Gujarati texts as closely as possible and students are strongly urged to purchase their own copies of either or both of these texts. Note that if you feel you have a relatively weak background in statistics, then you need to begin with Gujarati's *Essentials of Econometrics* before moving to his slightly more advanced text.

### **Recommended readings**

W. C. Beck, *Student Solutions Manual to Accompany Gujarati's Basic Econometrics*, McGraw-Hill, 1996.

Note: This book contains the numerical solutions to the exercises set out in Gujarati's text, *Basic Econometrics*. You might find it useful to get your own copy.

Somewhat more rigorous but accessible texts are:

C. Dougherty, *Introduction to Econometrics*, OUP, 2nd, Ed., 2002.

R. Ramanathan, *Introductory Econometrics with Applications*, South Western, 5th Ed., 2002.

## Access to WebCT

The WebCT entry page is at <http://webct.utas.edu.au:8900/>. Click 'Log on to myWebCT' and enter the same username and password that you use for your University email account. Your personal WebCT page will appear, with the units in which you are enrolled listed at the top left of the screen. Click on the 'Introduction to Econometrics' link to gain access to the home page for this unit. Details about WebCT features are available on <http://www.webct.com/quickstart>. If you run into problems with WebCT, contact the Help Desk on Telephone: 6324 3888, or Email: [HelpDesk@weboffice.utas.edu.au](mailto:HelpDesk@weboffice.utas.edu.au).

## Teaching arrangements

### Lectures

The material to be covered falls naturally into two parts, the first dealing with regression analysis and associated hypothesis testing within the framework of the Classical Linear Statistical Model (CLSM). The second part of the unit deals with problems which commonly arise in practice when one or more of the assumptions of the CLSM is violated. Since a large number of students doing this unit will specialise in Finance, the workshop will consider examples of use of Econometric methods in Finance.

### Workshops

One workshop scheduled each week, starting in week 2. The workshop will be held on Wednesdays 12.00pm to 12.50pm in Commerce Lecture Theatre 2. The weekly workshop will be used to set and solve exercises, please ensure your attendance in these. Professor Ray will be conducting the workshop.

### Tutorials

The weekly Tutorial is not compulsory. The tutorial is scheduled for Tuesday 2.10pm to 3.00pm in Room 513 Commerce Building. The weekly tutorial is designed for students with a relatively weak background in statistics. Mr Grant Miller will conduct the tutorial.

### Consultation

Lecturer:

Professor Ranjan Ray

Monday 9.00am to 10.00am and Wednesday 9.00am to 10.00am

Room 401, Level 4, Commerce Building.

Tutor:

Grant Miller (Details of office hours will be outlined to you in the first lecture).

## Occupational health and safety (OH&S)

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 policy at: [http://www.admin.utas.edu.au/hr/ohs/pol\\_proc/ohs.pdf](http://www.admin.utas.edu.au/hr/ohs/pol_proc/ohs.pdf)

## Unit schedule

Topic		Readings
1	<ul style="list-style-type: none"> <li>• Review of Some Statistical concepts</li> </ul>	<ul style="list-style-type: none"> <li>• Gujarati: <i>Essentials of Econometrics</i>, Chs 1-4.</li> <li>• Gujarati: <i>Basic Econometrics</i>, Appendix A</li> <li>• Wooldridge: <i>Introductory Econometrics</i>, Appendices A, B.</li> </ul>
2	<ul style="list-style-type: none"> <li>• Simple Regression</li> </ul>	<ul style="list-style-type: none"> <li>• Gujarati: <i>Essentials of Econometrics</i>, chs 5, 6</li> <li>• Gujarati: <i>Basic Econometrics</i>, chs 1-5.</li> <li>• Wooldridge, <i>Introductory Econometrics</i>, ch 2.</li> </ul>
3.	<ul style="list-style-type: none"> <li>• Multiple Regression:               <ul style="list-style-type: none"> <li>– OLS Estimation</li> <li>– The CLSM</li> <li>– The Normal CLSM</li> <li>– The sampling distribution of the OLS estimator</li> <li>– Hypothesis – testing:                   <ul style="list-style-type: none"> <li>(i) a single coefficient</li> <li>(ii) a linear combination of coefficients</li> <li>(iii) joint hypotheses</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Gujarati: <i>Essentials of Econometrics</i>, chs 7-9.</li> <li>• Gujarati: <i>Basic Econometrics</i>, chs 7, 8.</li> <li>• Wooldridge, <i>Introductory Econometrics</i>, chs 3, 4.</li> </ul>
4.	<ul style="list-style-type: none"> <li>• Violations of the CLSM:               <ul style="list-style-type: none"> <li>a) Multicollinearity</li> <li>b) Heteroskedasticity</li> <li>c) Autocorrelation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Gujarati: <i>Essentials of Econometrics</i>, ch 10.</li> <li>• Gujarati: <i>Basic Econometrics</i>, ch 10.</li> <li>• Gujarati: <i>Essentials of Econometrics</i>, ch 11.</li> <li>• Gujarati: <i>Basic Econometrics</i>, ch 11.</li> <li>• Wooldridge, <i>Introductory Econometrics</i>, ch 8.</li> <li>• Gujarati: <i>Essentials of Econometrics</i>, ch 12.</li> <li>• Gujarati: <i>Basic Econometrics</i>, ch 12.</li> </ul>

## 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.

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.*

## Learning strategies

If you need assistance in preparing for study please refer to your tutor or lecturer. For additional information refer to the Learning Development website : <http://www.utas.edu.au/learndev/>

If you will be using WebCT for the first time and would like some information on how to use WebCT refer to the following guide: [http://www.utas.edu.au/coursesonline/docs/using\\_webct.pdf](http://www.utas.edu.au/coursesonline/docs/using_webct.pdf)

Some of the units you will study use video conferencing to deliver lectures and tutorials. To enable you to get the best out of a video conference please refer to the following guide. <http://www.its.utas.edu.au/videoconf/vcstudentguide.pdf>

## Assessment

### Assessment summary

The unit will be assessed as follows:

Final Exam (3 hours)	80%
Continuous Assessment	20%

The continuous assessment will be made up of the following:

Component	Weight/Value	Due date
Mid Semester Test	15%	9 April, 10.00am - 11.50am
Quiz 1	2.5%	19 March (during workshop)
Quiz 2	2.5%	14 May (during workshop)

## **Submission of assignments**

All work must have the School of Economics Assignment Cover Sheet attached. The cover sheet will be available on the unit page on WebCT.

Please remember that you are responsible for lodging your written work on or before the due date. We suggest that you keep a copy – photocopying is ideal. Even in the most ‘perfect’ of systems, items sometimes go astray. Lodge your assignments in the box marked BEA242 on Level 4, Foyer Area, Commerce Building. Work will be returned during classes. Uncollected assignments will be available from the Secretary’s office, Room 407.

## **Requests for extensions**

Extensions will be granted on the basis of consultation with your lecturer before the due date. If you are ill, please provide a medical certificate so that this can be noted.

## **Academic referencing**

Student writers need to back up their ideas by referring to scholarly literature, works of art and inventions that they have used. Failure to do so constitutes academic dishonesty (plagiarism), a matter considered by the University of Tasmania as a serious offence. It is important that students understand how to correctly refer to the work of others and maintain academic integrity.

The appropriate referencing style for this unit is

Baumol, William (1986), “Productivity Growth, Convergence and Welfare”, *American Economic Review*, vol. 76, pp. 1072-85.

Maddison, Angus (1970), *Economic Progress and Policy in Developing Countries*, London, Allen and Unwin.

For information on presentation of assignments :

<http://www.utas.edu.au/library/assist/gpoa/gpoa.html>

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 or copying another student's work.

In fact the intentional copying and submission of someone else's work as one's own is a serious offence tantamount to academic fraud. It is a University offence punishable by a range of penalties that may range from a fine or deduction/cancellation of marks and, in the most serious of cases, exclusion from a unit, a course, or the University. **When in doubt consult your lecturer or tutor.** Details of penalties that can be imposed are available in the Ordinance of Student Discipline or at: [www.utas.edu.au/plagiarism](http://www.utas.edu.au/plagiarism)

## Additional 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 should raise these with your lecturer.

Student Services staff are located in Hobart, Launceston and Burnie and provide a wide range of services to assist students, they include:

- Student Counsellor
- Careers Adviser
- Disability Adviser
- Student Employment Service.

Or visit the Student Services website at :  
<http://student.admin.utas.edu.au/services/>

Should you require assistance in accessing the Library visit their website for more information at <http://www.utas.edu.au/library/>

Your contact Librarian for this unit is :  
<http://www.utas.edu.au/library/about/contact.html#mm>

International Services website provides information on the assistance available to international students, visit their site at :  
<http://www.international.utas.edu.au/index.html>

The Learning Development website has a wide range of resources on study skills and learning strategies, visit their site at : <http://www.utas.edu.au/learndev/>

## **Help resolving concerns about this unit**

In the first instance you should contact your lecturer. If the matter is still unresolved and you would like to know who to contact or the procedures for resolving your concern refer to the following website :

<http://student.admin.utas.edu.au/services/complaints/index.html>

The Hobart based Tasmanian University Union (TUU) or the Launceston/Burnie based Student Association (SA) may also be able to assist.

## **School Ombudsperson**

If you have any concerns or complaints with the administration and/or management in this unit or your BEc course of either a general or personal nature, then you should in the first instance discuss the matter with your lecturer. If you feel that you would rather discuss the issue with an independent person, then contact:

**Dr Sarah Jennings**  
**School of Economics**  
**Room 413**  
email [sarah.jennings@utas.edu.au](mailto:sarah.jennings@utas.edu.au)

## **Unit feedback**

The University of Tasmania, on a regular basis, evaluates its teaching and learning environment through the Student Evaluation of Teaching and Learning (SETL) system. The University values feedback from students and from time to time you will be asked to complete a SETL evaluation for a unit of study. For more information on SETL go to :

<http://www.admin.utas.edu.au/HANDBOOKS/UTASHANDBOOKS/STUDINFO/studeval.html>