

THE UNIVERSITY OF NEW SOUTH WALES

School of Economics

ECON4201/ECON6203 Applied Econometrics

1. Teaching Staff for 2006

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Consultation: Monday 11-1 or subject to availability

2. Course Description

“If the data were perfect, collected from well designed randomised experiments, there would be hardly room for a separate field of econometrics.” Griliches (1986, p. 1466)

Purpose

Economic decision making and the development of economic theory rely heavily on input from empirical analyses. Conversely, applied econometric research is guided by the relevant economic theory and the needs of the users of the analyses. This course is primarily concerned with the application of econometrics and is designed to cater for students with potentially different backgrounds in econometrics.

Empirical work rarely proceeds in the neat structured manner that is implied in econometrics textbooks, nor, for that matter, as it is presented in many journal articles in applied econometrics. There is no doubt that data problems play a pivotal and crucial role in explaining this difference. What is reported does not accurately reflect the process by which the econometric results were obtained. This course gives an insight into the nature of the econometric modelling process and examines some of the pitfalls and problems that arise in applied work using real data.

General principles or guidelines for undertaking applied work are discussed. In particular, we stress careful data analysis, the need to evaluate estimated models and the importance of the links between econometric models and the underlying substantive knowledge or theory associated with the particular application. The link between the type of data being analysed and the resultant models and modelling will also be stressed. For example, modern times series analysis that is so prevalent in fields such as macro-economics and finance, is built on a recognition that features of the data such as trends, structural breaks and seasonality have important implications for model-building. The lectures are aimed at providing students with some guidance and tools to be able to produce reliable and useful empirical results and to be able to appraise the work of others. An essential component of the course will be the completion of a variety of research projects/assignments to enable students to gain experience in putting these tools into practice. It is essential that the discussion of how to use econometric tools effectively be complemented with practice in analysing data.

Objectives

In summary, the course has five primary objectives:

- Make students aware of guidelines for using econometric models and tools effectively.
- Provide students with experience in using econometric models and tools effectively.
- Assist students to become better at evaluating the econometric research of others.
- Provide students with experience in analysing different types of data.

- Make students aware of some of the pitfalls, problems and solutions that arise in applied work when using flawed data.

<i>Topics</i>	<i>Primary references</i>	<i>Alternative/extra references</i>
1. Econometrics in action • Overview of model-building cycle • “Rules” of good practice • Replication	• Kennedy (2003) Ch 5, Wooldridge Chs 1, 19 • Kennedy (2002), Kennedy (2003), Ch 21 • Dewald, et al.	• Pagan (1987, 1995), • Leamer (1983, 1985) • McAleer et al. • McFadden
2. Data issues • Multicollinearity • Missing data • Outlier....s • Time series data	• Kennedy (2003) Ch 11, Wooldridge Ch 3 • Kennedy (2003) Ch 16.2-16.3, Wooldridge Chs 9.4, 17.2, 17.4-17.5 • Kennedy (2003) Ch 20, Wooldridge Ch 9.4 • Kennedy (2003) Ch 18-19, Wooldridge Ch 10, 11, 18	• Goldberger Ch 23 • Griliches • Enders
3. Omitted variables: threats & opportunities • Threat to validity • Solution using panel data • Solution using instrumental variables	• Kennedy (2003) Ch 6.2, Wooldridge Ch 3 • Kennedy (2003) Ch 17.1-17.3, Wooldridge Ch 13.3-13.5, 14.1-14.2 • Kennedy (2003) Ch 9.2, Wooldridge Ch 15.1-15.3, 15.5	

References

- Dewald, W.G., Thursby, J.G. and Anderson, R.G. (1986), “Replication in empirical economics: The *Journal of Money, Credit and Banking Project*”, *American Economic Review* 76, 587-603.
- Enders, W. (1995). *Applied Econometric Time Series*, John Wiley and Sons.
- Griliches, Z. (1986), “Economic data issues” Ch. 25 of Z. Griliches and M.D. Intriligator eds. *Handbook of Econometrics*, North Holland.
- Kennedy, P. (2002), “Sinning in the basement: What are the rules? The Ten Commandments of Applied Econometrics”, *Journal of Economic Surveys*, 16, 569-589, with commentary and reply.
- Kennedy, P. (2003). *A Guide to Econometrics*, 5th edition, Blackwell Publishers.
- Leamer, E.E. (1983), “Let's take the con out of econometrics”, *American Economic Review* 73, 31-43.
- Leamer, E.E. (1985), “Sensitivity analyses would help”, *American Economic Review* 75, 308-313.
- Goldberger, A.S. (1991). *A Course in Econometrics*, Harvard University Press.
- McAleer, M., Pagan, A.R. and Volker, P.A. (1985), “What will take the con out of econometrics?”, *American Economic Review* 75, 293-307.

- McFadden, D. (1987), "What do microeconomists really do?" *American Statistical Association, Proceedings of the Business and Economic Statistics Section*, 402-405.
- Pagan, A.R. (1987), "Three econometric methodologies: A critical appraisal", *Journal of Economic Surveys*, 1, 3-24.
- Pagan, A.R. (1995), "Three econometric methodologies: An update", in L. Oxley et al. (eds) *Surveys in Econometrics*, Basil Blackwell.
- Wooldridge, J.M. (2006), *Introductory Econometrics: A Modern Approach*, 3rd edition, South-Western.

3. Learning and Teaching

Lectures/Tutorial

Monday 2-5 pm in OMB 228

There will be no set time for lectures and tutorials. Both types of classroom interaction will be integrated into the allocated time period as required.

Computing

There will be no instruction on any particular software package but you are expected to be familiar with at least one of the popular econometric packages. The default software is SHAZAM. Assigned computer work may be done in the computing labs or SHAZAM can be used over the web. The following link will take you to the SHAZAM site where you can run the software over the web by clicking on **Run SHAZAM**.

<http://shazam.econ.ubc.ca/>

Brief notes on the use of SHAZAM will be available electronically on the course webpage. The SHAZAM website may also be a useful resource. For a complete treatment there is a manual:

SHAZAM User's Manual Version 8.0, (1997). McGraw-Hill.

Assessment

Reproduction assignment	10%
Replication assignment	10%
Evaluation assignment	20%
Other assignments & class participation	10%
Final exam	50%

Textbook

The course will not follow the development in any one textbook. Two books have been recommended as the prime reference books.

Kennedy, P. (2003). *A Guide to Econometrics*, 5th edition, Blackwell Publishers.

Wooldridge, J.M. (2006), *Introductory Econometrics: A Modern Approach*, 3rd edition, South-Western.

The fourth edition of Kennedy and first and second editions of Wooldridge will also be suitable. As a further aid to your study, copies of lecture overheads will be available electronically on the course webpage.

Presumed knowledge

Students are presumed to be familiar with the material covered in the ECON1202, ECON1203, ECON2206, ECON2207 sequence taught at the University of New South Wales. In particular, students are expected to have a good basic knowledge of regression analysis and some familiarity with binary choice models (logit and probit) and elementary matrix algebra.

4. Webpage

Students requiring copies of data files, lecture overheads or additional copies of handouts can download them from the subject webpage that resides on the WebCT site.

<http://www.webct.unsw.edu.au/>

Students unfamiliar with WebCT can download an introductory guide from:

http://www.webctsupport.unsw.edu.au/student/stu_fr.html

5. Special consideration

If you believe that your performance in the subject, whether during session or in the final examination, has been adversely affected by illness or for any other reason, you should notify the Registrar and ask for special consideration in the determination of your results.

Requests for special consideration must be accompanied by appropriate documentation. They should be made as soon as practicable after the problem occurs. Applications made more than seven days after the final examination in a subject will only be considered in exceptional circumstances. Special consideration request forms and details of required documentation are available from the Student Centre in the Chancellery.

Students should be aware that lodgement of a request for special consideration does not guarantee the granting of a supplementary examination. This will only be recommended by the School of Economics for students whose final examination performance has been affected by serious illness or other extraordinary circumstances which can be documented AND if there is evidence on the basis of performance during the session that the student has made satisfactory progress.

Denzil G. Fiebig
February, 2006