School of Development Studies
University of East Anglia (UEA)

Autumn 2007

Econometric Methods for Development
DEV M067

Lecturers:
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Econometric Methods for Development (EMD)(DEV M067)
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Lecturers:
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1. Unit aims

This is an introductory unit in econometrics. The overall aim of the course is to expose students to basic econometric theory and provide them sufficient knowledge and practical skill that enable them to competently use it in their research. In addition, the unit will help students to understand and interpret empirical research that uses econometrics. By the end of the unit students should have acquired sufficient knowledge to apply multivariate analysis of cross-section data and time-series analysis to a wide range of macro- and micro-economic problems of economic development.

2. Unit objectives

The course covers theory, relevant applications and practical exercises in computer workshops. Emphasis is placed on the need to understand and appreciate the interaction between theory testing and theory building. Much emphasis is placed on developing experience and confidence in the use of modern statistical software combining the use of graphical methods with formal tests as powerful diagnostic tools in applied work.

At the end of the unit, students should develop a clear understanding of the theoretical foundation of multiple regression analysis and be able to effectively address common violations of the standard assumptions of the classical regression model. The unit will also familiarise students with probability models, instrumental variable estimation, time-series analysis and panel data models.

Empirical work, using alternative forms of regression analysis, forms an increasingly important foundation for policy analysis and policy advice in economics and other branches of the social sciences, and the competence in this field developed through the course will be of great value to development practitioners as well as those aiming for academic and other development-related careers.

3. Outcomes

Subject-related skills – Students are expected to gain a clear understanding of econometric methods for the analysis of cross-section, time-series and longitudinal data.

Competence in the use of and familiarity with modern statistical software: At the end of the unit, students are expected to become confident and competent users of the widely used statistical software package Stata.

Cognitive skills – Student will build the ability to read, understand and critically examine journal articles and other research outputs that use econometric analysis.

Other skills – Students are expected to develop and improve their ability to articulate and present empirical results in a report or research paper format.

4. Teaching methods

The unit is constituted of 10 lectures and 6 workshops, each lecture and workshop being 2 hours long. The ten lectures will cover theoretical foundations and empirical illustrations with reference to relevant micro- and macroeconomic problems of development. The workshops will provide students with hands-on learning of the software Stata.

5. Unit content

The lectures and workshops are listed in the following table:

Week	Topic	Computer Workshops
2	**Lecture 1**: Review of statistical concepts and nature of econometrics (EA)	
3	**Lecture 2**: Estimation and hypothesis testing (EA)	**Workshop 1:** Using Stata for data analysis (EA)
4	**Lecture 3**: Simple linear regression (EA)	
5	**Lecture 4**: Multiple regression (EA)	**Workshop 2**: Descriptive & graphical analysis (EA)
6	**Lecture 5**: Violations of classical model 1: Multicolinearity and heteroscedasticity (EA)	**Workshop 3:** Multiple regression (EA)
Reading week		
8	**Lecture 6**: Violations of classical model 2: Autocorrelation and endogeneity (BK)	
9	**Lecture 7**: Probability models (BK)	**Workshop 4:** Probability models (BK)
10	**Lecture 8**: Time series analysis 1 (BK)	
11	**Lecture 9**: Time series analysis 2 (BK)	**Workshop 5:** Time series (BK)
12	**Lecture 10**: Panel data econometrics (BK)	**Workshop 6:** Panel data econometrics (BK)

6. Modes of assessment

The unit will be assessed in two ways. Forty percent (40%) of the assessment will be from a homework exercise. **The deadline for submitting the homework exercise is Week 10 Thursday 29th November 2007 at 3 p.m.**

Sixty percent (60%) of the assessment will be from a research paper students write after an independent analysis of their own. Students should acquire a data-set and produce a write-up (report) that uses econometric analysis. They should defend their choice of empirical specification and provide interpretations of the findings. There is flexibility in the choice of topic and students should identify and select data-sets that

allow for an analysis of an important development issue in a particular area of their interest. **The deadline for submitting the research report is Tuesday 15th of January 2008 at 3 p.m.**

All work for assessment should be handed in to the DEV/ECO Teaching Office, officially known as SSF Teaching Office (Arts 3.09). **Students can submit the course work before deadlines!**

7. Feedback to students

Students will receive feedback on their research papers.

8. Student evaluation

Your views are important. Please don't forget to complete the online evaluation form after at the end of the semester.

9. Readings

An elementary but useful text on statistics and hypothesis-testing is

Coleman, G (1995): *Statistics for the Scared*, Compendium available from General Office at a cost of £5

There are many good econometrics textbooks around. Depending on the past exposure to econometrics and preferences, students may use different textbooks. The following list is only a partial list of the textbooks available; the list is alphabetical and doesn't necessarily reflect quality of the textbooks.

Baltagi, B. H. (1995), *Econometric Analysis of Panel Data*, John Wiley, Chichester; only for panel data econometrics

Baum, C. F. (2006), *An Introduction to Modern Econometrics Using Stata*, Stata Press, College Station, Texas

Dougherty, C. (2002), *Introduction to Econometrics*, Oxford University Press, Oxford, Second edition

Greene, W. H. (1990), *Econometric Analysis*, Prentice Hall, Englewood Cliffs, NJ, 2nd or later editions; more difficult mainly because it uses matrix algebra extensively

Gujarati, D. N. (1998), *Basic Econometrics*, McGraw Hill, New York, 3rd or later editions

Hsiao, C. (1986), *Analysis of Panel Data*, Cambridge University Press; only for panel data econometrics

Kennedy, P. (1998), *A Guide to Econometrics*, Blackwell, Oxford, 1998 edition or later; simple and informal presentation

Mukherjee, C., H. White and M. Wuyts (1998), *Econometrics and Data Analysis for Developing Countries*, Routledge, London

Wooldrigde, Jeffrey M., (2003), *Introductory Econometrics: A Modern Approach*, Thomson, Mason, Ohio, USA

Lectures 1-2

Coleman, chapters 1, 2, 3 and 7
Dougherty, chapter 1
Greene, chapters 3, 4
Mukherjee, et al., chapters 1-3

Lecture 3:

Baum, chapter 4
Dougherty, chapters 2, 3
Greene, chapter 5
Gujarati, chapters 1-4
Kennedy, chapters 1-5
Mukherjee, et al., chapter 4
Wooldridge, chapter 2

Lecture 4

Dougherty, chapter 4
Greene, chapters 6, 7
Gujarati, chapters 7, 8
Mukherjee, et al., chapters 5, 6
Wooldridge, chapters 3-6

Lectures 5-6

Baum, chapters 5, 6
Dougherty, chapters 7, 8, 9
Greene, chapters 8, 9, 14, 15
Gujarati, chapters 10, 11
Kennedy, chapters 6-11
Mukherjee, et al., chapter 7
Wooldridge, chapter 8, 9, 15

Lecture 7

Baum, chapter 10
Dougherty, chapter 11
Greene, chapters 21
Gujarati, chapters 16
Kennedy, chapter 15, 16
Mukherjee, et al., chapter 9
Wooldridge, chapter 17

Lectures 8-9

Dougherty, chapters 12, 13, 14
Greene, chapters 18, 19
Gujarati, chapters 12, 17, 21, 22
Kennedy, chapters 17, 18
Mukherjee, et al., chapters 10-12
Wooldridge, chapter 10-12

Lecture 10

Baltagi, chapters 1-4
Baum, chapter 9
Greene, chapter 16
Hsiao, chapter 1-3
Wooldridge, chapters 13, 14