

University of Arkansas
Fayetteville, Arkansas
Fall, 2009

AEAB
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AGEC/ECON 5613
ECONOMETRICS I
9:30 - 10:50 a.m. T&R
WCOB 239

Course Description

Use of mathematical statistics to formulate models to estimate relationships posited by economic theory. Learn how such models can be used as tests of economic theory and the use of such models to forecast economic events and evaluate policies via simulation. The single equation model is examined with emphasis on the problems of statistical inference, structural change, multicollinearity, autocorrelation, heteroscedasticity, distributed lags and time series regressions. Applied aspects of empirical model specification are emphasized.

Value of the Course

As professional economists it is necessary to be able to quantify economic relationships and make inferences about your theory and the economic behavior of individuals, firms, sectors of the economy, etc. This course will furnish the analytical methods likely necessary to carry out the empirical aspects of dissertation/thesis work as well as research throughout your careers. In addition to doing your own research, the course will enable you to critically appraise the quality of empirical research by other economists/social scientists.

Course Objectives

So far in your academic careers you have studied economic theory but have done little to apply it to real world situations. In this course you will learn how to hypothesize an economic structure based on relevant economic theory, organize the observations on variables included in that structure, and then use statistical inference to estimate the model parameters. This last part is the main focus of the course. We will concentrate on understanding the correct use of the estimators and how one goes about determining if an estimated model is useful. We will approach model building primarily from the traditional economic theory approach (structural econometric model). Interpretation of results will be emphasized.

Web Site Information

This course is being taught in a quasi-electronic mode and all materials--reading list, syllabus, topical outline, homeworks--will be on the Walton College computer system. This can be accessed from any computer in the world that has Internet access. To do this you first type in:

<http://waltoncollege.uark.edu/labs>

Then you would click BDIXON, then click on ECON 5613.

This brings you to the class directory. Data sets that will be used in exercises and old exams will be on this server and you can download them at will.

Text and Other Readings

Textbook: We will use a variety of texts. Verbeek is the main text but is not inclusive of all the materials. Its price is modest and is worth purchasing. Class notes are the heart of the instruction in this class.

Verbeek, Marno. A Guide to Modern Econometrics. Third ed. John Wiley & Sons. Chichester, England. 2008.

Computer Reference Manual (You might be able to get by with using the online help which is free but the homework assignments will be referenced to the manual.)

White, D., K. J. White, S. D. Wong, and D. Bates. SHAZAM: Econometrics Software Version 10. User's Reference Manual. Northwest Econometrics, Ltd. Vancouver, B. C., Canada. 2004. (Apparently the bookstore cannot get this anymore. It is being made available directly to purchasers from two web sites:

<http://econometrics.com/order/bookorder.html>

or;

http://www.lulu.com/browse/search.php?search_forum=-1&search_cat=2&show_results=topics&return_chars=200&search_keywords=&keys=&header_search=true&sitesearch=lulu.com&q=&fSearch=Shazam&fSearchFamily=0&fSubmitSearch.x=12&fSubmitSearch.y=12

Mullins Reserve Room:

Johnston, J., and John Dinardo. Econometric Methods. 4th ed., McGraw-Hill, New York, 1996.

Kennedy, Peter. A Guide to Econometrics. 6th Ed. MIT Press. Cambridge, MA 2008.
(It is my understanding that his book is not available as an ebook that can be accessed through the internet.)

Kmenta, J. Elements of Econometrics. Second ed., Macmillan: New York, 1986.

Maddala, G. S. Introduction to Econometrics. third ed.; John Wiley & Sons: Chichester, England. 2001.

Reading Assignments: A reading list will be distributed. We will also read one article or manuscript to illustrate the use of econometrics. Students are better off reading assignments before the class period.

Class Procedures

There will be two 80 minute lectures each week except those weeks having hourly exams. Students must use computers to complete homework assignments and complete the second hourly examination. On some days we will discuss specific journal articles that have been assigned.

Special Requirements

Students must become sufficiently proficient on the computer in the use of the software SHAZAM if they expect to receive a passing grade on the second hourly examination.

Office Hours

Formally my office hours are Tuesday, 1:30-2:30 p.m. and Wednesday, 10-11 a.m. However, feel free to stop in and ask questions anytime the light is on in my office. My philosophy is that graduate students should have direct access to the instructor of a graduate course. If I am busy when you stop by, we will arrange for a mutually convenient time to meet. If you set an appointment and subsequently find out you cannot make it, please call my office and leave a message to that effect or send an e-mail. WCOB and Education students are advised to call ahead to save the walk in the event I am not in my office.

Attendance Policy

None. Take the exams, do the homework. If you are going to come to class late or leave early, please sit on the side of the classroom by the door.

Examinations

There will be two midterm examinations and one final examination. The midterms will be 75 minutes on October 1 and 75 minutes on November 3. The final exam will be two hours in length. The final will be given on Monday, December 14, from 10:00 a.m. to 12:00 p.m. Students will be permitted to bring one page of notes to the first exam and three pages of notes to the final exam. The second exam is completely open note and open book. Any make-ups of the first midterm, due to not taking the exam on the day given, will be oral at a mutually convenient time for student and instructor. The first midterm is optional. A make-up will only be given for the first midterm if a student does not take it for medical emergency (personal or immediate family) or religious reasons and requests a make-up midterm.

The final exam counts 50 percent of the grade. Each midterm counts 20 percent of the grade and homework counts 10 percent. The actual mechanics of grading go like this: A certain number of points are assigned for homework and the three exam performances. The scores are added up for each student and then letter grades are assigned on the basis on the point total for each student. If a student does not take the first midterm she/he will be assigned a numerical grade for that exam that is as many standard deviations from the mean of the midterm as their final exam grade is from the mean on the final. Letter grades of A, B, C, D and F will be assigned. The plus/minus option for AGEC 5613 students will not be used.

Homework

Homework will be assigned, usually on a weekly basis. The assignment is due the following Tuesday unless specified otherwise. Assignments will be graded on a full credit, half-

credit or no credit basis. Most assignments will involve the computer. Students are encouraged to work with other students in the class on homework assignments since group interaction often leads to greater learning for all involved. Nonetheless, each student must hand in a separate set of answers. For exercises involving the computer, please only report the requested information. **Printouts are not to be handed in unless requested.** SHAZAM will be used for the class computer exercises. SHAZAM should be available on the Walton Server and Ag Econ lab machines. Copies of SHAZAM on a CD-ROM will be provided to students in the class. This version requires a Windows environment.

Academic Dishonesty

Do not cheat. If you have to cheat to get an acceptable grade in this class you will be miserable in the profession because that is a clear indication that your talents and/or motivation are way below the norm. If you are caught cheating, campus procedures will be followed to exact the appropriate punishment.

Disclaimer

The instructor reserves the right to alter dates of topic coverage to adjust to the speed the class is moving.

Learning Disabilities

Students with learning disabilities will be accommodated in accordance with campus policies. Students with such disabilities should contact the instructor early in the semester so that the means of accommodation can be arranged.

Inclement Weather Policy

If the campus is open and courses are to be taught, class will most likely be held since the instructor lives within the city limits. However, each student must assess their own personal risk of coming to campus and moving around on campus. If there is inclement weather and the student believes it is unsafe for them to come to campus, then they should not come to campus. No assignment would be graded down in such a case and an exam would be re-scheduled.

During inclement weather the instructor will try to communicate with students via e-mail.

Alternative Textbooks and Readings

Cameron, A. C. and P. K. Trivedi. Microeconometrics: Methods and Applications. Cambridge University Press, New York, 2005.

Davidson, R. and J. G. MacKinnon. Econometric Theory and Methods. Oxford University Press, New York, 2004.

Davidson, R. and J. G. MacKinnon. Estimation and Inference in Econometrics. Oxford University Press, New York, 1993.

Enders, W. Applied Econometric Time Series. 2nd ed., Wiley, New York, 2004.

Fomby, T. B., R. C. Hill and S. R. Johnson. Advanced Econometric Methods. Springer-Verlag, New York, 1994.

Goldberger, A. A Course in Econometrics. Harvard University Press, Cambridge, 1991.

Greene, W. H. Econometric Analysis. 6th ed. Macmillan, New York, 2008.

Hendry, D. F. and B. Nielsen. Econometric Modeling: A Likelihood Approach. Princeton University Press. Princeton NJ. 2007.

Intriligator, M. D., R. G. Bodkin, C. H. Siau. Econometric Models, Techniques and Applications. 2nd ed. Prentice-Hall, Upper Saddle River, NJ. 1996.

Judge, G. G., Hill, R. C., W. E. Griffith, H. Lutkepohl and T. C. Lee. Introduction to the Theory and Practice of Econometrics, Second ed., Wiley, New York, 1988.

Maddala, G. Econometrics. McGraw-Hill, New York, 1977.

Mittelhammer, R. C., G. G. Judge, D. J. Miller. Econometric Foundations. Cambridge University Press, Cambridge, 2000.

Perrachi, F. Econometrics. Wiley, New York, 2001.

Ruud, Paul A. An Introduction to Classical Econometric Theory. Oxford University Press, Oxford, 2000.

Wooldridge, J. M. Econometric Analysis of Cross Section and Panel Data. The MIT Press, Cambridge MA, 2002.

More elementary texts are:

Griffith, R. C., R. C. Hill, G. G. Judge. Learning and Practicing Econometrics. Wiley, New York, 1993.

Hill, R. C., W. E. Griffiths, and G. G. Judge. Undergraduate Econometrics. Second Edition, Wiley, New York, 2001.

Katz, D. A. Econometric Theory and Application. Prentice-Hall, Englewood Cliffs, 1982.
Gujarati, D. N. Basic Econometrics. 3rd ed. McGraw-Hill, New York, 1999.

Murray, M. P. Econometrics: A Modern Approach. Pearson, Addison Wesley, Boston, 2006.

Stock, J. H. and M. W. Watson. Introduction to Econometrics. Addison Wesley, Boston, 2003.

Wooldridge, J. M. Introductory Econometrics—A Modern Approach. 2nd ed. Thomson Southwestern, Mason, Ohio, 2003.