Econometrics Syllabus

Course Overview

Econometrics means economic measurement. It is the quantitative measurement and analysis of actual economic and business phenomena. It is the branch of economic science that confronts theory with hard data. We use econometrics to describe economic behavior in numerical terms, to test hypotheses, and to provide practical forecasts. It is one of the most important tools of Applied Economics.

We will use Excel spreadsheets and EViews, an econometric software package, as tools of quantitative and statistical analysis. Following is an outline of the main topics that will be covered:

Week 1: Introduction   Gujarati Ch. 1, 2, 3   Studenmund Ch. 1, 17
    What is Econometrics?
    Review of Probability and Statistics
    Ordinary Least Squares (OLS)
    Simple Linear Regression
Week 2: Using Regression Analysis   Gujarati Ch. 4, 5, 6, 7   Studenmund Ch. 2, 3, 5
    Quiz 1
    Multiple Regression
    Goodness of Fit
    Special Variables
    Statistical Inference and Hypothesis Testing
Week 3: Classical Linear Regression Model   Gujarati Ch. 6, 7, 9 Studenmund Ch. 4, 6, 7
    Quiz 2
    Classical Assumptions
    OLS is BLUE
    Model Specification
    The Choice of Explanatory Variables
    Functional Forms
Week 4: Violations of Classical Assumptions Gujarati Ch.10, 11, 12 Studenmund Ch. 8, 9, 10
    Quiz3
    Multicollinearity
    Heteroscedasticity
    Autocorrelation
Week 5: Techniques of Econometric Analysis Studenmund Ch. 12, 15
    Quiz 4
    Time Series Analysis
    Forecasting
    More Hypothesis Testing
Week 6: The Ethical Econometrician   Leamer, "Let's Take the Con out of Econometrics,"
    "Let's Take the Con out of Econometrics"
    Quiz 5
Course Aims

When you complete this course you will be able to specify an econometric model that can describe some economic or business phenomena, test hypotheses about the phenomena, and forecast future behavior. You will be able to use statistical data to estimate and give numerical content to your model. You will know some of the fundamental tests econometricians use to evaluate the robustness of estimated models. You will be able to present your results in a way that allows anyone to understand the significance and usefulness of your model, and that allows other analysts to replicate your estimate. You will also be able to read and understand a significant portion of empirical economic literature.

Grading
Your final grade will be based on the following:
Homework, Class Attendance, and Participation   50
Quizzes   50
Total 100

Course Reading Materials
Below are some useful reading materials for this course.

- D. Gujarati; *Essentials of Econometrics*; 2nd edition, Mc-Graw Hill, 1999
- A. H. Studenmund, *Using Econometrics: A Practical Guide*, 6th Edition, Addison-Wesley, 2011
- Leamer, "Let's Take the Con out of Econometrics," *The American Economic Review,* Vol. 73, No. 1 (Mar., 1983), 31-43