Course Syllabus and Outline
Natural Monopoly, and Industry Performance

Industrial Organization II
296:709
Office Hours: Tu.-Th. 2-3 pm
Classroom Lubar S165

J. Peoples
Bolton 826
Phone: 229-4482
Class Hours: T. Th. 9:30-10:45

COURSE REQUIREMENTS

Work required for this course will consist of a two case projects worth 20 percent each (40 percent in total) of the final grade, two problem sets worth 10 percent each (20 percent in total) and two term exams worth 20 percent each (40 percent total) of the final grade. The two case projects will require knowledge of common statistical packages. While the use of any statistical package is acceptable, a lecture on the rudiments of SAS will be provided.

COURSE OUTLINE AND READING MATERIALS

I. Natural Monopoly, Cost Subadditivity and Economies of Scope

A. Definition: Subadditivity and Economies of Scope week-1


B. Applications week-2

a. Economies of Scale Empirical Articles


b. Economies of Scope Empirical Articles


* Required reading

C. Empirical Techniques used to Test for Subadditivity Weeks 3-7

a. Cost estimation articles
   - Necessary conditions for cost functions
   - Special focus on input price concavity
   - The Cobb-Douglas cost function
   - Special focus on elasticity of substitution

-The translog cost function


D. Empirical Techniques used to test economies of scope

a. The normalized quadratic cost function

b. cost estimation articles


-E. Class lecture on using SAS to estimate cost functions.

- Using SAS to read an EXCEL file
- Using the seemingly unrelated equations (SURE) procedure
- Using the parameter restrictions command
- Using the system of equations ‘srestrict’ command
- Using the ‘call’ and ‘symput’ commands to assign estimated coefficients values to a specified label
- Using the ‘array’ and ‘do’ command to test for subadditivity
- Using the ‘test’ command to test for homotheticity

Week 8: Mid-term examination: Thursday March 10th; Review session, Tuesday March 8th

SPRING BREAK: March 13-20th

F. Empirically Imposing Regularity Conditions


F. Class lecture on using SAS to impose regularity conditions
   -Using the ‘eq’ and ‘solve’ command to solve simultaneous equations

II. Industry Performance, Costs, Productivity and Efficiency (week 10-16)

A. Allocative Efficiency (weak 10-12)

a. Definition of allocative efficiency

b. Empirical techniques used to test allocative efficiency
   -Using the nonlinearity in parameters estimation procedure when estimating SUR equations with parameter constraints


c. Class lecture using SAS to test for allocative efficiency
   1. Nonlinearity in parameters
      -parms command
-fit command

B. Technical Efficiency (week 13-14)

a. Definition of technical efficiency

b. Article empirical estimating technical efficiency

c. Class lecture using SAS to test for technical efficiency
   1. Stochastic Frontier Approach
      -qlim command
   2. Data Envelop Approach (Nonparametric Estimation procedure)
      -optmodel procedure

C. Productivity Growth (Week 14-16)

a. Empirical approach toward estimating productivity growth

b. Class Lecture on using SAS to estimate and decompose productivity growth
   -lag operator

(Final review session: Tuesday May 10th)
(FINAL EXAMINATION: 10:00-12:00 noon, Monday May16th)