ECON 607: Workshop in Efficiency and Productivity

Fall 2004, TR 3-4:50 pm GILK 100, 4 credits
R. Färe and S. Grosskopf

Overview

This course is a graduate seminar which focuses on theoretical and empirical issues of measurement of productive performance. This course is third course in our three course Econometrics field.

Objectives

- The first objective is to introduce the students to the underlying axiomatic production theory and duality, which we shall review at the outset of the course.
- We then introduce basic performance measures which satisfy reasonable index number properties and are easily estimated in the framework of activity analysis.
- As the major objective in the course, students will be required to design a research project which employs (or extends) the methods developed in class. This requires design of a research question, identification of related research, collection of data, analysis of data, presentation of results: both written and oral. students will be instructed in the use of OnFront which is software designed to implement the performance measures covered in class.

Learning Outcomes consistent with objectives

- Students will learn to use duality theory to arrive at empirically testable hypotheses with available data. This is one aspect of the course project, and is also critical to design of dissertation research.
- Students will be required to employ the basic performance measures discussed in class in their projects using activity analysis (taught in the class) or alternative econometric techniques if they prefer.
- Students will be instructed in data and literature search (this provided by library services), which they will use in their projects. They will also be instructed in the use of software to analyze the data they collect, which will be used in their project.

Assessment

- The midterm exam will cover duality theory. The final project will also be assessed in terms of the student’s understanding and application of duality theory.
- Students will read the classic references and write an essay summarizing their contribution to the performance measurement literature as part of their midterm.
- The student project will be graded on both presentation and the final written paper. It is hoped that the paper will eventually be part of the students’ dissertations.

The course is designed for graduate students in economics, AREC, forestry, finance, business, management, industrial engineering, health and any other discipline where performance measurement is important.

1 Requirements

Student will design a project, collect data, analyze, write up and present their results. There is one midterm and some ungraded homework assignments.
2 Prerequisites

ECON 611 or permission of the instructors.

3 Texts


Other required readings


Some other references


- Tim Anderson and Paul Rouse’s DEA dataset directory: www.etm.pdx.edu/dea/dataset
- Tim Anderson’s DEA bibliography: www.etm.pds.edu/dea/deabib.html
- DEA web page: www.DEAzone.com

4 Outline

1. Axiomatic Production Theory: Appendix: *New Directions*
2. Efficiency Indicators and Indexes: Essay One *New Directions*
3. Environmental Performance: Essay Two *New Directions*
4. Midterm Exam
5. Issues in Aggregation: Essay Three *New Directions*
6. Productivity (Chapter 3, Färe and Grosskopf, *Dynamic DEA*)
7. Network and Dynamic Models (Chapters 2, 6, Färe and Grosskopf, *Dynamic DEA*)
8. Final project presentations

5 Office Hours

R. Färe TR 9-10:30 S. Grosskopf TR 9-10:30