OREGON STATE UNIVERSITY
Department of Economics
Winter 2001

ECON 463/563: Efficiency and Productivity Analysis
MW 15:00-16:50, Milam 033

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Office Hours: T R 2-3pm
or by appt. or email

• How can we include changes in environmental quality when we measure productivity?
• Do mergers result in improved performance?
• How do we measure productivity in the public sector? In the services?
• Does unionization help or hurt productivity?

This course provides answers to the questions raised above as part of our overview of how to think about
and measure performance, with special focus on efficiency and productivity. This is designed to be a hands
on course, in which students will learn how to use recently developed, very user friendly software to com-
pute efficiency and productivity, and what is popularly known as Data Envelopment Analysis (DEA). This
allows us to measure efficiency and productivity, benchmark, identify peers, and simulate alternative strate-
gic plans. Students will get to design their own empirical projects (or may replicate/update a previously
published paper).

The course is designed for advanced undergraduate or masters students in economics, finance, business,
environmental studies, management, industrial engineering, health and any other discipline where perfor-
ance measurement is important. It is also a designated WIC course.

1 Requirements

Students will design a project, collect data, analyze, write up and if we have time, present their results.
There is one midterm. All students will hand in their projects in lieu of a final exam.

Graduate students (those taking the course as 563) will have additional readings (see the attached detailed
assignments) and will have a different midterm exam than the 463 students.

2 Prerequisites

For those taking the course as ECON 463, ECON 201 and 202 are required. Although intermediate micro-
economics (ECON/AREC 311) is recommended for those taking the course for undergraduate credit, it is not
required. Students who have not had this course should get permission from the instructor to take the course.

Graduate students (those taking the course as 563) are required to have Economics 512.

3 Text


Other references:


4 Grading

- Preliminary Reports and Proposal........... 25%
- Midterm Exam (Jan. 31).........25%
- Programming Projects........... 10%
- Project............................. 40%

There will also be ungraded in-class written assignments.
5 Project

Your project is the main focus of this course. Most of the assignments in the course are intended to focus on your project. This will require full participation on your part—you will be expected to write up a project proposal, write summaries of papers related to your project—which will be part of your literature review, write up a description of your method, data and results, and finally revise these and put all this together as a research paper. If we have time we will have you present your work as we proceed through the quarter. The programming projects will be in-class, hands-on exercises in which you compute efficiency/productivity for a data set which we will provide and write up your results. We will teach you how to use OnFront, which is software for computing efficiency and productivity, and which will be available in the undergraduate computer lab.

Topics for your project should be related to your interests. You may undertake your own efficiency study—collect data, compute efficiency and write up and present your results along with related studies. Or you may survey applications in the area of your interest. You may also address computational or conceptual issues related to efficiency and productivity such as the effect of noisy data on DEA results. You may also replicate and extend an existing study you are interested in. Students taking the course for graduate credit should write up their projects as if they were to be submitted to a journal for publication.

First Written Assignment: Proposal
This assignment is meant to get you started and should be useful in writing your introduction for the final project. It should tell us what you propose to do in your project. You should include the following:
- a statement of your research question
- motivation for your topic
- brief discussion of how you plan to address your research question including method and data.

Second Written Assignment: Paper Report
Your paper report should be a summary/critique of efficiency or productivity studies in the area in which you are interested and should be on the order of three typed pages. This will eventually be your literature review. I hope to have everyone present at least one of the papers you are using in your project, so be prepared with handouts. These may be chosen from the Charnes et al book, the Fried, et al book, or from the list compiled by Tim Anderson at Portland State (which I will put on reserve). You may, of course, include other related articles you may find. The Charnes et al book also has an extensive bibliography of DEA studies. I have a number of papers available as well which you are welcome to borrow.

In terms of specifics, you should include in your summary the following
- full citation of the article, including authors, title, journal, issue, date, pages, etc. (this will ultimately be part of your bibliography for the project)
- statement of the research question
- summary of method and results
- relationship to your proposed study.

Third Written Assignment: Method/Data Description
Again, this is designed to be part of your final project.

If you wish to have another chance to revise your final draft, it should be handed in by Wednesday, March 7. The final version of your project is due during our final exam period, Tuesday, March 20. I would expect your project to be something on the order of 15-20 typed, double-spaced pages including tables and bibliography. In order to satisfy the WIC requirement, your project and the other formal writing assignments should be at least 5000 words. Your project should be at least 2500 words. You should also include copies of all the papers that you cite. Be careful in your report not to plagiarize—use your own words or directly cite your source using quotations.
<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>ASSIGNMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>W 1/8</td>
<td>Introduction</td>
<td>Introduction: OnFront</td>
</tr>
<tr>
<td>M 1/10</td>
<td>Review of Producer Theory</td>
<td>OnFront, Ch. 2</td>
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<tr>
<td>M 1/15</td>
<td>NO CLASS: Martin Luther King Jr. Day</td>
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<tr>
<td>W 1/17</td>
<td>Review of Producer Theory</td>
<td>OnFront, Ch. 2</td>
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<td>M 1/22</td>
<td>Efficiency and DEA</td>
<td>M. Farrell (1957) (463 and 563 students)</td>
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<td>Charnes, Cooper and Rhodes (1978) (563 students)</td>
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<tr>
<td>W 1/24</td>
<td>Project Proposal Due</td>
<td>(presentations?)</td>
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<tr>
<td>M 1/29</td>
<td>More DEA</td>
<td>OnFront</td>
</tr>
<tr>
<td>W 1/31</td>
<td><em><strong>MIDTERM EXAM</strong></em></td>
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<tr>
<td>M 2/5</td>
<td>In Class DEA programming problem</td>
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<tr>
<td>W 2/7</td>
<td>Productivity and DEA</td>
<td>OnFront and CRB, Ch. 5, 99-103, 114-128</td>
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<tr>
<td>M 2/12</td>
<td>Paper Report Due</td>
<td>presentations (Review of Literature)</td>
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<tr>
<td>W 2/14</td>
<td>Paper Report Due</td>
<td>presentations (Review of Literature)</td>
</tr>
<tr>
<td>M 2/19</td>
<td>Productivity and DEA</td>
<td>OnFront and CRB, Ch. 10 pp. 221-232</td>
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<tr>
<td>W 2/21</td>
<td>In class productivity prog. problem</td>
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<tr>
<td>M 2/26</td>
<td>Method/Data Description Due</td>
<td>presentations?</td>
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<td>W 2/28</td>
<td>Method/Data Description Due</td>
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<tr>
<td>M 3/5</td>
<td>Computational and Modeling Issues</td>
<td>CRB, Ch. 7</td>
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<tr>
<td>W 3/7</td>
<td>TBA</td>
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<tr>
<td>M 3/12</td>
<td>Present Results/draft</td>
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<td>W 3/14</td>
<td>Present Results/draft</td>
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<td>*<strong>Final Version of Projects Due</strong></td>
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