CITY UNIVERSITY

MSc in ECONOMIC REGULATION AND COMPETITION
ECM106 Quantitative Techniques for Competition and Regulation

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Overview

This course provides an introduction to quantitative techniques that are currently employed by competition and regulatory agencies around the world to aid the conduct of competition policy and regulation.

Objectives

The main aim is to make you comfortable with the use of quantitative techniques in regulation and competition policy issues. This involves three elements:

- practice in using techniques,
- understanding the limitations of the techniques,
- practice in applying results of techniques to regulatory situations.

By the end of the module, you should also be able critically to evaluate quantitative work carried out by others.

Teaching

The module starts on January 29th and lasts for ten weeks. In each week, there will be a three hour session comprising:

- a two-hour lecture
- a one-hour laboratory session.

Practice is essential, and you will be guided through this during the lab sessions. There will also be exercises for you to do in your own time.

There might be one or more role play sessions where we can practice using the results of a quantitative analysis in an adversarial setting. One or more of the timetabled sessions may be replaced by a reading and discussion session.

Assessment:

There will be one unseen 3 hour written examination and one coursework assessment to be handed in (date to be confirmed). The assignment will be set at the beginning of March. Do not leave this till the last minute – remember you will have exams to prepare for.

Textbooks

Given the nature of the material, there is no suitable textbook. Instead students will be referred to a variety of sources, including journal articles. However, the texts from last term will continue to be useful.

The course labs have been prepared using the STATA software package. In addition to STATA, appropriate software packages include, but are not limited to, Eviews, Microfit, SAS, SPSS, Limdep, Rats and Gauss. The course coordinators, however, may not be able to provide support for these other packages. Some references for the STATA software package include:

STATA, Version 9.0. Manuals. Stata corporation. College Station, Tex: Stata Press, 2005.

But also you can find in the web:

Portal at UCLA academic technology services
http://statcomp.ats.ucla.edu/stata/

And particularly recommended are:

STATA tutorial (useful for reading data and basics)
http://www.princeton.edu/~erp/stata/main.html

UCLA webpage (extremely useful)
http://www.ats.ucla.edu/stat/stata/

Students who purchase William Greene's *Econometric Analysis* 5th edition get access to a stripped-down version of Limdep econometric software. Limdep is particularly useful for efficiency and panel data analysis.

In addition there will be a number of policy and topical documents will be provided containing examples of applications of the techniques studied here.

Course Outline

1. Introduction to the quantitative techniques in competition

2. Statistical tests of prices and price trends

(a) Cross-sectional price tests
(b) Hedonic price analysis
(c) Price correlation
(d) Speed of adjustment test
(e) Causality tests
(f) Dynamic price regressions and co-integration analysis

3. Demand Analysis

(a) Own-price elasticity analysis
(b) Cross-price elasticities
(c) Residual demand analysis
(d) Critical loss analysis

4. Models of Competition

(a) Price-concentration studies
(b) Analysis of differentiated products: the diversion ratio
(c) Bidding studies

5. Merger Simulation

6. Introduction to the quantitative techniques in regulation

7. Production and cost functions

(a) Estimating cost functions
(b) Estimating production functions
(c) Index numbers and TFP

8. Data Envelopment Analysis

9. Stochastic Frontier

10. Calculating the cost of capital using CAPM