

# 12C012

## Quantitative Methods of Market Regulation

### Overview and Objectives

This course provides an introduction to the quantitative techniques that are currently employed by regulatory agencies. The main aim is to make you comfortable with the use of these techniques. This involves three elements: (i) practice in using techniques, (ii) understanding the limitations of the techniques, (iii) practice in applying results of techniques to regulatory situations.

### Course Outline

1. Introduction
2. Building blocks approach:
  - a. Weighted average cost of capital
  - b. Allowable costs
3. Computing allowable revenues
4. Estimating cost and production functions
5. Benchmarking methods
  - a. Linear programming techniques
  - b. Econometric techniques
6. Concluding remarks
  - a. Evaluation of regulatory systems
  - b. Incentive regulation: is it worth it? Going forward

### Required Activities

The module will consist of lecture and laboratory sessions. Practice is essential, and you will be guided through this during the lab sessions. There will be one role play sessions where we can practice using the results of a quantitative analysis in an adversarial setting.

### Evaluation

70 exam, 15% group report, 15% group presentation

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3 ECTS

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### Materials

Given the nature of the material, there is no suitable textbook for the whole course. Students will be referred to a variety of sources, including textbook chapters and journal articles.

Coelli, T., Rao, P and G. Battese (1998), *An Introduction to Efficiency and Productivity Analysis*, Springer. (second edition 2005)

Peter Davis, Eliana Garces (2009) *Quantitative Techniques for Competition and Antitrust Analysis*, Princeton.

Ganley, J. and J. Cubbin (1992), *Public Sector Efficiency Measurement*, North-Holland.

CEPA (2003), "Background to Work on Assessing efficiency for the 2005 Distribution Price Control Review", Report for Ofgem.

LECG (2005), "Future Efficient Costs of Royal Mail's Regulated Mail Activities", Report for Postcomm.

NERA (2004), "BT Efficiency: Network Study", Report for Ofcom.

DTe (2000), "Guidelines for the Regulation of the Electricity Sector in the Netherlands".

Parker, D., Dassler T., and D. Saal (forthcoming), *Performance Benchmarking in Utility Regulation: Principles and the UK Experience*. Handbook of Economic Regulation