COURSE SYLLABUS | 15C026

Competition in Regulated Markets

(The Economics of Network Industries)

3 ECTS | TERM 3 | MANDATORY COURSE

Professor

Prof. Iñigo Herguera

Prof. Mar Reguant

Prerequisites to enroll

It is recommendable to have followed one semester course of Industrial Organization previously, though not required. Several results from oligopoly theory, foreclosure and collusion may be used in this course as well. The course on Regulation Theory is as well helpful for understanding the mechanisms at place in network industries and their properties.

Overview and objectives

During the last two decades, network industries – notably, the energy and the telecommunications sectors - have experienced important regulatory changes. Drawing on economic analysis, we will study specific regulatory experiences, and

will discuss the business and public policy issues that they have raised. Topics include the determinants of industry structure, investment and entry in these industries and the issues related to antitrust and market design, among others. Students will learn the basic characteristics of these networks that are fundamental for understanding the main economic issues that shape the performance of these sectors. Students will learn to apply the most recent regulatory proposals and their principles to analyze them. The course is divided in two parts: one is devoted to the analysis of the electricity industry (taught by Prof. Mar Reguant) and the other one is devoted to the analysis of the telecom industry (taught by Prof. Iñigo Herguera).

Course outline

Part I: Electricity

- April 7:
    - Introduction to electricity markets.
    - Prices and investment in competitive wholesale electricity markets.
        - Problem Set 1.
- April 21:
    - Market power in wholesale electricity markets.
- April 28:
    - Demand for electricity and efficient pricing.
- May 5:
    - Cap-and-trade in wholesale electricity markets.
    - Renewable policies in electricity markets.
        - Problem Set 2.
- May 12: Input markets and storage: Natural gas.

Suggested readings:

- Borenstein, S. (2000) "Understanding Competitive Pricing and Market Power in Wholesale Electricity Markets,'' Electricity Journal.
- Borenstein, S. and Bushnell, J. (2013), "The U.S. Electricity Industry after 20 Years of Restructuring"
- Fabra, N. (2021) "The Energy Transition: an Industrial Economics Perspective", International Journal of Industrial Organization, *forthcoming*.
- Fabra, N., von der Fehr and Harbord (2006) "Designing Electricity Auctions,'' Rand Journal of Economic, Vol 37 (1).
- Fabra, N. and Reguant, M. (2014) "Pass-Through of Emissions Costs in Electricity Markets, with Natalia Fabra. American Economic Review, 2014, 104(9): 2872-2899.
- Kellogg, R. and Reguant, M. (2022) "Energy and Environmental Markets, Industrial Organization, and Regulation," Handbook of Industrial Organization.

Part II: Telecoms

- Networks and services: fixed and mobile technologies, standards and innovation
- European regulatory framework: When to regulate? What services regulate? How to regulate (remedies)? Significant Market Power. The process of regulating in the EU and its evolution. Differences between anti trust and regulation (ex ante)
- One –way access: bottleneck and foreclosure incentives, cost concepts used for regulation, ECPR, margin squeeze. Regulation with asymmetric information. Market analysis of fixed termination. IP interconnection.

- Next generation access networks: Regulation of passive and active infrastructure elements of broadband networks.
- Network sharing and neutral operators.

Suggested readings:

- Baron, D. and Myerson, R. (1982), "Regulating a monopolist with unknown costs", Econometrica, 50 (4), July 1982, pp. 911- 930.
- Laffont, J. and Tirole,J. (2001), *Competition in telecommunications*, MIT Press
- "Evaluating market consolidation in mobile communications", C. Genakos, T. Valletti, F. Verboven, CEERE, Center on Regulation in Europe, September 2015
- Carlton D., (2005). "Barriers to entry", Working Paper 11645. National Bureau of Economic Research.
- Marcus, S. and Elixmann, D.(2008), "The future of IP interconnection", WIK.
- European Commission "Guidelines on market analysis", (C)2018/2374.
- EU Directive on the European Electronic Communications Code, 2018/1972
- Rey., P and Tirole, J, "A primer on foreclosure", in Handbook of Industrial Organization III, edited by Armstrong, M and Porter, R.

Required activities and Evaluation

The evaluation of this course will be based on:

- Homework practices: there will be 2- 3 Homework sheets to be done and returned via e- mail (by inigo@ccee.ucm.es for the telecom part

and to mar.reguant@gmail.com for the energy part). The weight of the Homework sheets in the final grade will be 60%

- Final exam: will be based on some multiple choice plus short essay questions. Its weight in final grade will amount to 40%.

Competencies

☐That the students be able to communicate their conclusions and the knowledge and the ultimate reasons that sustain them to both, specialized and non-specialized publics in a clear and unambiguous way.

☐That students possess the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous.

☐To identify and apply the insights of the theory, the models, and the analytical tools of modern economy to its global dimension.

☐To evaluate, with theoretical and quantitative instruments, the complex realities of the economy to understand the way it works.

☐Understand and apply economic theory related to the regulation of markets and competition policy.

Learning outcomes

☐Identifies the applicable knowledge of Economic Theory, particularly in the areas of microeconomics, industrial economics, information economics, game theory and strategic behavior.

☐Describes the theory and models of regulation, and in particular, the basic regulatory framework of the main industrial sectors.

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☐ Applies the concepts of economic theory and methodological tools, such as game theory, in discussions and evaluations of competition policies and of market regulation.