

Volume 20, Issue 4

October, 1999

Pages 1-14

The Spanish Gasoline Market: From Ceiling Regulation to Open Market Pricing

by Ignacio Contin (Universidad Publica de Navarra, Dept. de Gestion de Empresas, Spain), Aad Correlje (University of Nijmegen, School for Policy Studies, The Netherlands) and Emilio Huerta (Universidad Publica de Navarra, Dept. de Gestion de Empresas, Spain)

Abstract

This paper examines the evolution of the Spanish gasoline market from the abolition of the state oil monopoly (January 1993) to "complete" liberalisation (October 1998). With the restructuring of the Spanish oil sector during the 1980s and early 1990s, a highly concentrated oligopoly emerged in the automotive fuels market. A system of price ceilings replaced the state administered prices in July 1990. Since then, new domestic and foreign operators have entered the market, particularly along the coast, near import terminals. Prices went up and then declined. These developments can be explained by an interplay of factors such as: the gradual decline in co-operation among the Spanish firms; the loss of market share of the largest of these, Repsol; the entry of independent operators and supermarkets; and the impact of the ceiling price system. By mid-1998 this system was abolished as the government considered it an "impediment" to further market liberalisation. However, some crucial barriers to the entry of new suppliers remain.

Pages 15-64

The Economics of Energy Market Transformation Programs

by Richard Duke (Science, Technology and Environmental Policy Program, Woodrow Wilson School, Princeton University, NJ, USA) and Daniel M. Kammen (Energy and Resources Group, University of California, Berkeley, CA, USA)

Abstract

This paper evaluates three energy-sector market transformation programs: the U.S. Environmental Protection Agency's Green Lights program to promote on-grid efficient lighting; the World Bank Group's new Photovoltaic Market Transformation Initiative, and the federal grain ethanol subsidy. We develop a benefit-cost model that uses experience curves to estimate unit cost reductions as a function of cumulative production. Accounting for dynamic feedback between the demand response and price reductions from production experience raises the benefit-cost ratio (BCR) of the first two programs substantially. The BCR of the ethanol program, however, is approximately zero, illustrating a technology for which subsidization was not justified. Our results support a broader role for market transformation programs to commercialize new environmentally attractive technologies, but the ethanol experience suggests moderately funding a broad portfolio composed of technologies that meet strict selection criteria.

Pages 65-88

Market Power in Electricity Markets: Beyond Concentration Measures

by Severin Borenstein (Haas School of Business, University of California, Berkeley, CA), James Bushnell (University of California Energy Institute, Berkeley, CA), and Christopher R. Knittel (School of Management, Boston University, Boston, MA, USA)

Abstract

The wave of electricity market restructuring both within the United States and abroad has brought the issue of horizontal market power to the forefront of energy policy. Traditionally, estimation and prediction of market power has relied heavily on concentration measures. In this paper, we discuss the weaknesses of concentration measures as a viable measure of market power in the electricity industry, and we propose an alternative method based on market simulations that take advantage of existing plant level data. We discuss results from previous studies the authors have performed, and present new results that allow for the detection of threshold demand levels where market power is likely to be a problem. In addition, we analyze the impact that recent divestitures in the California electricity market will have on estimated market power. We close with a discussion of the policy implications of the results.

Pages 89-116

The Efficiency of Multi-Unit Electricity Auctions

by Wedad Elmaghraby (Leonard N. Stern School of Business, New York University, NY, USA) and Shmuel S. Oren (Dept. of Industrial Engineering and Operations Research, University of California, Berkeley, CA, USA)

Abstract

Using a complete information game-theoretic model, we analyze the performance of different electricity auction structures in attaining efficiency (i.e., least-cost dispatch). We find that an auction structure where generators are allowed to bid for load "slices" outperforms an auction structure where generators submit bids for different hours in the day.

Pages 117-148

Coal Subsidies and Global Carbon Emissions

by Miles K. Light (Department of Economics, University of Colorado, Boulder, CO, USA)

Abstract

It has been suggested that eliminating coal production subsidies could substantially reduce global carbon emissions. This paper finds otherwise. Using a dynamic model of the international coal market, the paper investigates the consequences of subsidy elimination in a model incorporating sector specific capital constraints. In the short-run, following elimination of subsidies, producers with excess capacity divert domestic production into the export market, softening price increases. Over time, low cost exporters gain market share from the swing supplier, which further attenuates the market response to subsidy elimination. Given this market structure, production subsidy elimination in Europe and Japan may reduce world steam coal demand by as little as 0.5%, and global CO₂ emissions by only 0.2%.

BOOK REVIEWS

Pages 149-150

Petroleum Economics: Issues and Strategies of Oil and Natural Gas Production by Rognvaldur Hannesson, Quorum Books, 1998 (Book review by John R. Moroney)

Pages 150-153

Designing Competitive Electricity Markets, edited by Hung-Po Chao and Hillard Huntington, Kluwer Academic Publishers, 1998 (Book review by Andrew N. Kleit)

Pages 154-155

Managing the Oil Wealth: OPEC's Windfalls and Pitfalls by Jahangir Amuzegar, I.B. Tauris & Co. Ltd and St. Martin's Press, 1999 (Book review by Richard L. Gordon)