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How Plausible is the Consensus Projection of Oil Below $25 and Persian Gulf Oil Capacity and Output Doubling by 2020?

by Dermot Gately (Professor of Economics, Department of Economics, New York University, New York, NY, USA)

Abstract

A two-part consensus in three recent long-term projections of the world oil market states: oil's price will stay below $25 (1999 $/barrel), and OPEC oil capacity and production will increase rapidly over the next two decades to unprecedented levels, more than doubling in the Persian Gulf by 2020. Such are the projections by the International Energy Agency (IEA), by the Energy Information Administration of the U.S. Department of Energy (DOE), and in The New Economy of Oil by John Mitchell and others. Yet such projections are not based on behavioral analysis of Gulf countries' decisions; they are merely the calculated residual demand for OPEC oil, the difference between projected world oil demand and non-OPEC supply, given some assumed price-path. Such projections by IEA and DOE are implausible because they rely on supply behavior by Gulf producers that is not in their own self-interest. The DOE projections of world oil prices could be reasonable, but only if world oil demand and/or non-OPEC supply are much more price-responsive than are represented in their numerical projections. Using an updated version of the model from Gately (1995), I show that the effect of greater price-responsiveness is to make faster output growth – not higher prices – the reliable path to higher OPEC revenue. I also demonstrate the effects of uncertainty about several key parameters (such as price and income elasticities) upon model results when parameter values are randomly sampled 500 times.

Pages 29-52

Analyzing California's Power Crisis

by Ahmad Faruqui, Hung-po Chao, Vic Niemeyer, Jeremy Platt and Karl Stahlkopf (EPRI, Electric Power Research Institute, Palo Alto, CA, USA)

Abstract

California's power crisis has implications for power markets world wide, because of the severity and unpredictability of its impacts. This paper discusses the causes of the crisis and derives lessons for energy policy makers. The crisis was triggered by a fundamental imbalance between the growing demand for power and stagnant power suppy. California's market design greatly magnified the problem, by disconnecting the retail and wholesale markets for electricity, and by requiring the investor-owned utilities to buy their power on a spot market. Low hydro conditions, hot weather, and rising natural gas prices put the market over the edge. A major lesson that has been learned is to introduce demand elasticity in restructured market designs, and permit buyers of power to hedge against price volatility by engaging in forward contracts.

Pages 53-79

The Kyoto Protocol: Regional and Sectoral Contributions to the Carbon Leakage

by Sergey V. Paltsev (Department of Economics, University of Colorado, Boulder, CO, USA)

Abstract

Carbon dioxide emissions abatement in a group of countries can result in increased emissions in non-abating countries. This effect has been referred to as carbon leakage. The Kyoto Agreement calls for a number of industrialized countries to limit their emissions while other countries have no abatement commitments. This paper assesses the sectoral and regional determinants of the leakage in a static multi-sector, multi-regional computable general equilibrium model. In baseline estimates based on our model, the Kyoto Agreement leads to the carbon leakage rate of 10 percent. A decomposition technique is applied which attributes increases in CO_2 emissions by non-participating countries to specific sectors in the abating countries. This information is important for the debate on the tax exemptions for certain industries in the participating countries as it provides information for the most- and least- leakage contributing sectors of the economy. Additional calculations indicate the need for caution in the carbon tax design. Exemptions of any sector from a carbon tax are not justified because they lower welfare in a region. The degree of sectoral and regional data disaggregation, and international capital mobility do not change the leakage rate significantly. Fossil-fuel supply elasticities and trade substitution elasticities are crucial determinants for projecting the total world emissions of CO_2.

Pages 81-94

Lifting the Alaskan Oil Export Ban: An Intervention Analysis

by Charles W. Bausell Jr., Frank W. Rusco (U.S. General Accounting Office, Washington, D.C., USA) and W. David Walls (Department of Economics, University of California at Irvine, CA, USA)

Abstract

In this paper we examine the price effects on crude oils of removing the U.S. export ban on Alaskan North Slope crude oil in 1996. We estimate the long-run impact of removing the export ban through the use of a time series intervention analysis. The results indicate that Alaskan crude oil prices increased between $0.98 and $1.30 on the West Coast spot market relative to prices of comparable crude oils as a result of removing the export ban. However, we find no evidence that West Coast prices for refined oil products—regular unleaded gasoline, diesel fuel, and jet fuel—increased as a result of lifting the ban.

Pages 95-122

Economic Indicators of Market Transformation: Energy Efficient Lighting and EPA's Green Lights

by Marvin J. Horowitz (Demand Research, Fairfax, VA, USA)

Abstract

Using observed market quantities and prices of substitutable products, a methodology is developed to estimate economic indicators of market transformation for the energy efficient lighting market. Market transformation, an energy energy term referring to the ongoing development of self-sustaining markets for energy efficient products and services, is the goal of an increasing number of publicly-funded programs. Chief among these is the U.S. EPA's Green Lights and its successor Energy Star program. Using four decades

of data related to fluorescent lighting ballasts, this study isolates product price effects and thereby permits the impacts of public programs to be distinguished from the typical workings of the market. The economic indicators are further used for deriving market volume estimates that are converted to energy savings and climate protection impacts. These findings reveal that Green Lights is responsible for annual savings in 2000 of over 5.6 million metric tons of carbon.

BOOK REVIEWS

Pages 123-125

Pricing in Competitive Electricity Markets edited by Ahmad Faruqui and Kelly Eakin. Boston: Kluwer Academic Publisher, 2000. (Book review by Frank Felder)

Pages 125-127

The Coming Oil Crisis by Colin J. Campbell. UK: Petroconsultants, in association with Multi-Science Publishing Co. Ltd., 1997. (Book review by Michael C. Lynch)

Pages 127-128

Privatization, Restructuring, and Regulation of Network Utilities by David M. Newbery. MIT Press, 2000. (Book review by Andrew N. Kleit)

Pages 128-130

The Caspian Region at a Crossroad: Challenges of a New Frontier of Energy and Development, edited by Hooshang Amirahmadi. New York: St. Martin's Press, 2000. (Book review by Gürcan Gülen)

Pages 131-133

The Policy Process in a Petro-State: An Analysis of PDVSA's (Petróleos de Venezuela SA's) Internationalisation Strategy by César E. Baena. Aldershot, UK: Ashgate Publishing Ltd, 1999. (Book review by Luis Sosa)

Pages 133-135

The Green Myth - Economic Growth and the Quality of the Environment by Marian Radetzki. Essex, UK: Multi-Science Publishing Co., 2001. (Book review by Carol Dahl)