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An Almost Ideal Demand System Model of Household Vehicle Fuel Expenditure Allocation in the United States

by Gbadebo Oladosu (School of Environmental Science, Engineering and Policy, Drexel University, Philadelphia, PA, USA)

Abstract

In this study I model vehicle-fuel expenditure allocation in multi-vehicle households based on the Almost Ideal Demand System (AIDS). Using data from surveys conducted by the Energy Information Administration in 1988, 1991 and 1994, I estimate the AIDS model, augmented with a comprehensive set of household and vehicle characteristics for households owning 1 to 4 vehicles ordered by vehicle age. Results show that vehicle characteristics are the most significant factors in the expenditure allocation process. Mean and standard deviation of price, expenditure and Allen substitution elasticities are calculated across households. Own-price elasticities for all vehicles are close to 1. Allen substitution elasticities indicate that all vehicle pairs are substitutes, and only vehicle 1 is found to be expenditure inelastic. The approach taken in this study enables a disentangling of vehicle allocation/substitution effects from aggregate household vehicle use behavior. This will be useful in the analysis of efficiency and distributional effects of policies affecting household transportation.

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Secondary Market and Futures Market for the Provision of Gas Pipeline Transportation Capacity

by Ricardo B. Raineri and Andrés T. Kuflik (Industrial and Systems Engineering Department, Catholic University of Chile, Santiago, Chile)

Abstract

The natural gas pipeline transportation industry has a long history of regulatory interventions limiting the market power of the pipeline owner. Most studies, however, focus on the static efficiency of the corresponding contract structures. For more realistic results, we consider transportation capacity as a durable good and analyze the dynamic efficiency of structures such as leasing and the selling of tradable rights with or without secondary markets and futures markets. Compared to a lease contract structure—where the pipeline owner controls the transportation capacity at all periods—the selling of tradable rights with a competitive secondary market dissipates the monopolist's market power and leads to higher social welfare. However, the monopolist's participation in the futures market can reduce welfare by providing him with a credible way to restrain production in future periods, thus restoring the market power he enjoyed in a lease situation.

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Modeling the Cost of Climate Policy: Distinguishing Between Alternative Cost Definitions and Long-Run Cost Dynamics

by Mark Jaccard, John Nyboer, Chris Bataille and Bryn Sadownik (School of Resource and Environmental Management, Simon Fraser University, Vancouver, British Columbia, Canada)

Abstract

Interest groups and experts debate the cost of greenhouse gas (GHG) reduction, and policy-makers do not know whom to believe. The confusion stems from differing definitions of costs and divergent assumptions about key uncertainties, especially the role of policy in influencing the long-run evolution of technologies and consumer preferences. Analysis could be more helpful to policy-makers by combining technological explicitness with behavioral realism in hybrid models. With such a model, we demonstrate how GHG reduction cost estimates vary depending on whether the analyst focuses just on the financial costs of technologies or combines this with other relevant components of consumer and business preferences, such as option value and consumers' surplus. We also show how this type of model can allow policy-makers to explore the uncertain relationship between policies and the evolution of technologies and preferences, which are critical factors in the long-run cost dynamics of GHG emission reduction. We explore these generic methodological issues with a case study of GHG reduction costs in Canada

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Modeling and Forecasting the Demand for Electricity in New Zealand: A Comparison of Approaches

by Koli Fatai (Researcher, Department of Economics, University of Waikato, New Zealand), Les Oxley (Chair and Professor of Economics, University of Canterbury, New Zealand) and Frank G. Scrimgeour (Chair and Associate Professor of Economics, University of Waikato, New Zealand)

Abstract

Models of energy demand in New Zealand have typically been based upon either a partial general equilibrium approach or constructed from spreadsheet models. The results created by such methods predict that electricity is forecast to be the fastest growing energy demanded by households and the industrial sector for the next two decades. Furthermore, aggregate electricity demand is forecast to grow at a constant rate for the next two decades. In this paper we attempt to model and forecast electricity demand using a number of recent econometric approaches including Engle-Granger's Error Correction Model, Phillip and Hansen's (1990) Fully Modified Least Squares, and the AutoRegressive Distributed Lag (ARDL) approach of Pesaran et al. (1996, 1998). We identify the model with the smallest forecasting error using a series of forecasting measures and conclude that the new ARDL approach of Pesaran et al., has better forecasting performance than the other approaches considered.

BOOK REVIEWS

Pages 103-105

Oil and Gas: Crises and Controversies 1961-2000

by Peter R. Odell, Multi-Science Publishing Co. Ltd., 2001
(Book Review by Francisco R. Parra)

Pages 105-109

The Russian Oil Economy

by Jennifer I. Considine and William A. Kerr, Edward Elgar Publishing, Inc. 2002
(Book Review by Carol Dahl)