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*Pages 1-17*

**The Effects of Information on Residential Demand for Electricity**

by Isamu Matsukawa (Faculty of Economics, Musashi University, Tokyo, Japan)

**Abstract**

This paper measures the effects of information on residential demand for electricity, using data from a Japanese experiment. In the experiment, households had a continuous-display, electricity use monitoring device installed at their residence. The monitor was designed so that each consumer could easily look at graphs and tables associated with the consumer's own usage of electricity at any time during the experiment. The panel data were used to estimate a random effects model of electricity and count data models of monitor usage. The results indicate that monitor usage contributed to energy conservation.

*Pages 19-43*

**Demand-Side Management and Energy Efficiency in the United States**

by David S. Loughran and Jonathan Kulick (RAND, Santa Monica, California, USA)

**Abstract**

Between 1989 and 1999, U.S. electric utilities spent \$14.7 billion on demand-side management (DSM) programs aimed at encouraging their customers to make investments in energy efficiency. This study relies on panel data on 324 utilities spanning 11 years to estimate the effect of DSM expenditures on retail electricity sales. Our estimates imply that DSM had a much smaller effect on retail electricity sales than do estimates reported by utilities themselves over the same study period.

*Pages 45-62*

## **The Impact of OPEC Conference Outcomes on World Oil Prices 1984-2001**

by Franz Wirl (Department of Business Studies, University of Vienna, Vienna, Austria) and Azra Kukundzic (EconGas, Austria)

### **Abstract**

This paper investigates how far OPEC influences world oil markets. We ask the question: What is the impact of the decisions of the OPEC Conference, the supreme authority of the Organization of Petroleum Exporting Countries, on world oil prices? Extracting the Conference's decisions from the communiqués of fifty meetings from 1984-2001, these decisions were compared with the subsequent market developments. The result is that this impact is weak at best, and if at all then restricted to meetings recommending a price increase. However, the opposite claim (found in the literature) - the Conference is simply following the market - was also not supported either. Another interesting observation is the little autocorrelation between the decisions of the Conference. This suggests that the ministers' decisions accommodate quickly and efficiently recent events.

*Pages 63-86*

## **The Mechanisms for Autonomous Energy Efficiency Increases: A Cointegration Analysis of the US Energy/GDP Ratio**

by Robert K. Kaufmann (Center for Energy and Environmental Studies, Boston University, Boston, MA, USA)

### **Abstract**

Many forecasts for energy use and carbon emissions assume that energy intensity will decline over time for reasons unrelated to energy prices, which are termed autonomous energy efficiency increases (AEEI). A cointegration analysis of a vector error correction model indicates that the types of fuels consumed, personal consumption expenditures spent on energy, and energy prices account for changes in the ratio of energy use to economic activity in the US between 1929 and 1999. Cointegration indicates that AEEI is associated with technical and/or structural changes

which allow consumers to substitute oil, natural gas, and/or primary electricity for coal, and that shift energy use from final demand to intermediate sectors. Identifying the factors responsible for AEEI allows me to: (1) show that econometric efforts to measure technical change using a deterministic trend are inconsistent with economic theory and cannot be interpreted reliably; (2) show that modeling technical change with a deterministic trend may generate forecasts that overstate reductions in energy use and carbon emissions; and (3) test the observational record for the presence of price-induced technical change and its effect on economic growth. Together, the results indicate that current estimates for AEEI may overstate future reductions in energy use and that the economic impacts of policies to reduce energy use and slow emissions may have a greater effect on economic growth than anticipated currently.

*Pages 87-101*

## **A Note on the Fisher Ideal Index Decomposition for Structural Change in Energy Intensity**

by Gale A. Boyd (Argonne National Laboratory, Argonne, Illinois, USA) and Joseph M. Roop (Pacific Northwest National Laboratory, Kennewick, Washington, USA)

### **Abstract**

Index numbers have been used to decompose trends in energy intensity (i.e., the ratio of energy use to activity). By making a direct appeal to the theory underlying price index numbers used by the energy decomposition literature, this note proposes the chain weighted Fisher Ideal Index as a formula that solves the 'residual problem.' The connection to index number theory also allows us to illustrate that the measures of activity used to define energy intensity need not be additive across the sectors that are involved in the decomposition. We give an empirical example using recent U.S. manufacturing data of the Fisher Ideal Index, compared to the Törnqvist Divisia index, a popular index in the energy literature.

### **BOOK REVIEWS**

*Pages 103-113*

***Energy in a Competitive Market: Essays in Honour of Colin Robinson***

edited by Lester C. Hunt.  
Cheltenham UK: Edward Elgar, 2003  
(Book Review by Maureen S. Crandall)

***Crude Power: Politics and the Oil Market***

by Øystein Noreng.  
London: I.B. Tauris Publishers, 2002  
(Book Review by André Plourde)

***Oil Company Crisis: Managing Structure, Profitability,  
and Growth***

by Nick Antill and Robert Arnott.  
Oxford, UK: Oxford Institute for Energy Studies, 2002  
(Book Review by David Knapp)

***On Borrowed Time? Assessing the Threat of Mineral  
Depletion***

by John E. Tilton.  
Washington, DC: Resources for the Future, 2003  
(Book Review by Colin Robinson)