

**The Impact of Retail Rate Regulation on
Electricity Consumption in San Diego
Bushnell and Mansur**

and

**Consumption and Changes in Home Energy
Costs: How Prevalent is the 'Heat or Eat'
Decision?
Cullen, Friedburg and Wolfram**

Discussion by Mike Jaske
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OVERVIEW COMMENTS

1. Much more analytic work is needed to understand loads in restructured electricity markets, so demand analysis papers are welcome.
2. Demand analysis quickly confronts data issues: (1) access to relevant data, and (2) massive data processing burdens
3. Consumer response to prices involves several time scales and ultimate response includes price expectations.
4. Impacts of demand responsiveness on market clearing price are important. Numerous programs were counting upon the transparency of the PX Day Ahead market as a visible justification for alleged benefits exceeding their costs. Price transparency is gone unless the ISO takes on PX functions.

GENERAL COMMENTS - Bushnell and Mansur

1. This is a good first effort.
2. The CEC Staff has attempted a classical econometric fit of price to the SDG&E data and could not get meaningful results.
3. Clearly the San Diego experience is not a clean test of consumer response to price, and these complications affect what the authors report of their attempts as well as their successes.
4. Aggregate customer sector/tariff level studies have value, but heavy emphasis on energy efficiency programs necessitates studies using microdata with appliance holdings and program participation variables.

SPECIFIC CONCERNS - Bushnell and Mansur

1. B/M appear to discount SDG&E's load profiles even though they could be readily scaled to match aggregate energy.
2. B/M do not seem to focus on larger commercial and industrial customers who have suffered high prices without relief since late May 2000. Figure 12 seems to show large commercial and industrial customers shifting downward during high price hours of EPOCH 4.
3. Enormous publicity about high prices accompanied higher bills, but this publicity also notified consumers of two major rate rebates that were forthcoming and promoted non-payment of bills.
4. B/M used an indirect method for determining effects by segmenting into time periods – EPOCHs. A daily index of awareness could have been constructed from newspaper headlines, TV news stories, ISO warnings, etc. and used as an explanatory variable.

SUGGESTIONS - Bushnell and Mansur

1. Given the growing support for real time pricing, interval metering, and tele-communications to upload data and download usage information and prices:
 - a. Much better understanding of consumer response to prices is needed;
 - b. Microdata studies permitting an understanding of differential response according to appliance holdings and demographics are needed;
 - c. Longitudinal studies addressing appliance changeout and production process adaptation are also needed.
2. Direct access customers with interval meter data may be a rich source of research data if their ESPs are willing to cooperate.

GENERAL COMMENTS – Cullen et al.

1. As energy prices increase, policy makers require clear understanding of the impacts these prices have on consumers, and whether additional programmatic mitigation is needed.

2. Whatever interest there may have been in these topics prior to the winter of 2000-01, it is now heightened by natural gas bills that are 2-3 times higher than “normal.”

3. As an illustration of legislative attention to these issues:

a. AB1x-1 created a 3rd tier for residential rates beginning after 130 percent of baseline usage;

b. Analysts are trying to estimate what tier 3 prices might look like;

c. Assemblyman Joe Nation is already trying to increase the width of the 2nd tier to 100 percent of the baseline, which would increase 3rd tier rates even higher.

SPECIFIC CONCERNS – Cullen et al.

1. As a California analyst, I have to be concerned that this sort of analysis should be conducted on a state basis so that the details of rate design and existing programmatic mitigation can be fully incorporated into the analysis.
2. Thus, the paper suffers by relying upon the easily accessible CEX microdata for the nation and the coarse indicators of programmatic mitigation that are available for a nationwide study.
3. Unfortunately, the narrative of the paper regarding state expenditures on low income programs and Table 6 itself do not match so exactly what is reported is unclear.
4. Results of Table 8 need further explanation.
5. The results reported show that both low- and middle-income consumers spend less on entertainment as energy costs rise. Of course, what is considered entertainment varies over time.

SUGGESTIONS – Cullen et al.

1. The authors' own suggestions for future work are appropriate:

- a. Examining more closely how low income assistance programs already mitigate excessive energy costs;
- b. Examining how price volatility induced by restructuring may necessitate changes in program eligibility and support formulas;
- c. econometric estimation issues.

2. In addition, I would like to see:

- a. Closer examination of specific states permitting rate design and programmatic eligibility features to be included more fully;
- b. More recent data where price swings are evident in the data;
- c. Variables controlling for language and cultural factors that may influence participation in voluntary programs.