

Comparative Price Performance: The Neglected Indicator of the Competitiveness of PJM Energy Markets

Presentation by

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Overview

1. Public Policy Question Posed as:
 - Self-Referential versus Inter-Market Indicators of Competitiveness (i.e., Price Comparisons)
2. Evidence from Inter-Market Price Comparisons
3. What the Evidence Suggests about Whether Consumers in PJM are Better Off, and about the Competitiveness of PJM Energy Markets



Focus of PJM Market Monitor Unit: *Competitiveness of Energy Markets*

In recent annual reports stated:

*“Strong Evidence” that PJM Energy
Markets are Competitive*

Basis for MMU Claims

- Largely a “Price-Cost Markup” Analysis from which it calculates a Price-Cost Markup Index*

*(Uses and Herfindahl-Hirschman Index (HHI) also but effectively dismisses it acknowledging that it has “significant limitations.”)



Price-Cost Markup Index (PCMI)

$$\text{PCMI} = \frac{\text{Price-Cost}}{\text{Price}}$$

Questions about PCMI

1. What is It?

- a. Lerner Index
- b. $P=SRMC=LRMC=AC$ of Perfect Competition
- c. Gross Profit Margin of Financial Analysis



Questions about PCMI

2. What Definition of Competition?

- Perfect Competition
- Monopolistic Competition
- Schumpeterian Competition
- John Maurice Clark's "Workable Competition"

Questions about PCMI

3. Definition of Cost: 10 percent markup over actual SRMC in MMU calculation of SRMC
4. Why SRMC versus LRMC?
5. Unit of Analysis (various generating units at various times versus particular unit or firm)

Questions about PCMI

6. No defined standard or explanation of what is and what isn't competitive, as such.

Why is a PCMI of 10 percent competitive?

If 10 percent markup above actual marginal cost include in markups then PCMI averages 20 percent and ranges from 15 to percent to over 30 percent at various times.

The Issue Posed as/Analysis of Consumer Benefits (Price Comparisons)

- Intuitive

- Accepted Practice:
 - Stigler
 - Joskow
 - Terzic

The Issue Posed as/Analysis of Consumer Benefits (Price Comparisons)

- George Stigler (1962)
 - Evaluated whether state regulation of prices had an appreciable effect by comparing prices in regulated and unregulated states

The Issue Posed as/Analysis of Consumer Benefits (Price Comparisons)

- Paul Joskow (2006)
 - “With continuing analysis of comparative performance of alternative institutional arrangements we will be able to determine more definitely what is the best that we can do in a imperfect world.” (Emphasis added)

The Issue Posed as/Analysis of Consumer Benefits (Price Comparisons)

- Branko Terzic (2006)

“The correct test where markets have been introduced, is not whether prices have fallen but whether electricity prices would have been lower today if the old formula of regulated wholesale prices had remained in effect.” (Emphasis added)

□

Prominent Economists ...

“There is growing evidence and convincing studies that show that consumers have saved billions of dollars in energy costs as a result of competitive markets.” (Emphasis added)

Vernon Smith, Alfred Kahn, Paul Joskow, William Hogan, et al. in “Open Letter to Policymakers,” Compete Coalition, Washington, D.C., June 26, 2006

Paul Joskow (*Energy Journal*, January 2006)

- “Empirical evidence suggests that well-designed competitive market reforms have led to performance improvements in a number of dimensions and benefited consumers through lower retail prices.”
Emphasis added.)
- “It is evident that real residential prices fell more in states that implemented retail competition programs than in those that did not.”

FERC

- “... Under wholesale competition, the efficiency of existing nuclear, coal, and other types of generation has improved significantly, lowering costs to consumers and reducing environmental effects, and the increased capacity factors and availability of these units has further lowered electric generating costs.

-- ANOPR, *Wholesale Competition in Regions with Organized Wholesale Competition in Regions with Organized Electric Markets*, , June 2007

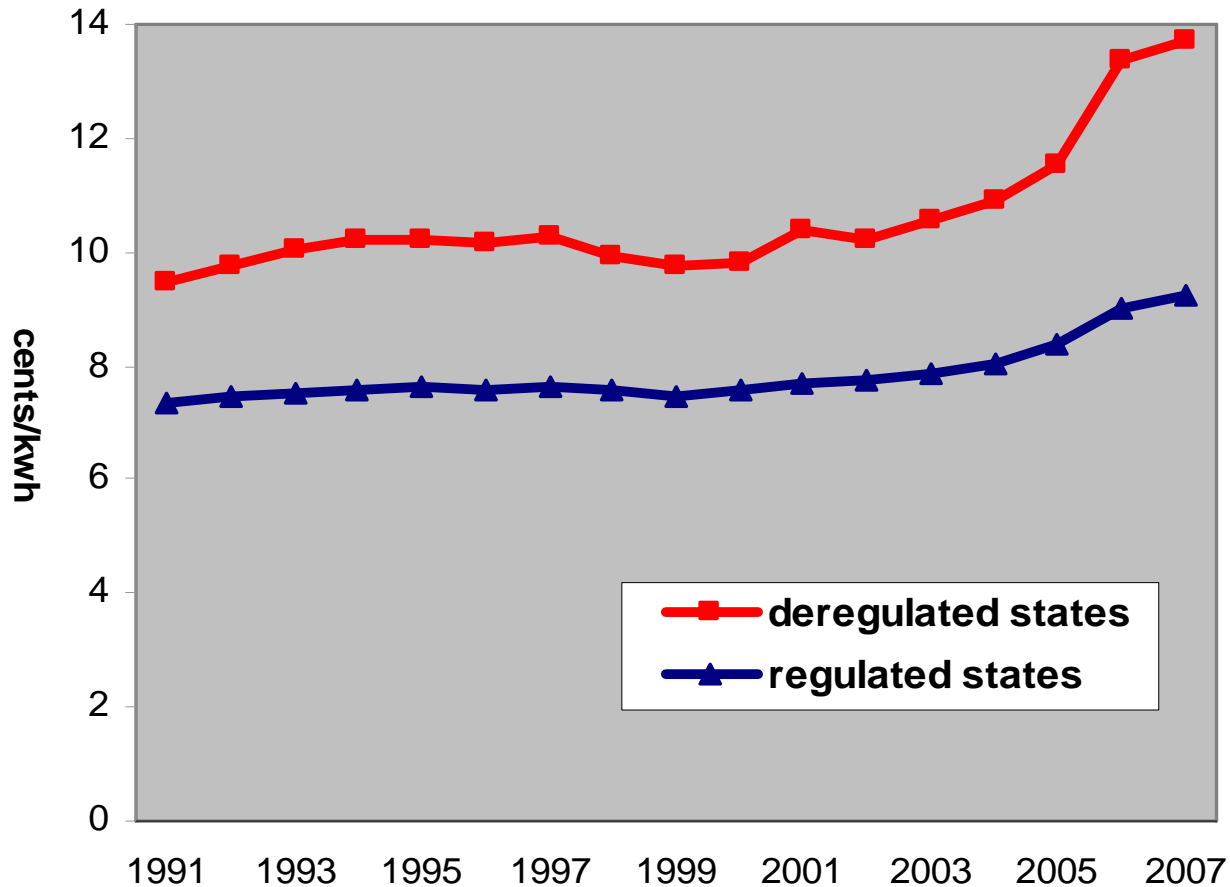


Some Major Problems with Studies

1. Incorrect Categorization of Restructured/Competitive States
2. Overlooked Rate Freezes, Caps, and Reductions
3. Failed to adequately control for other factors affecting price

PPI

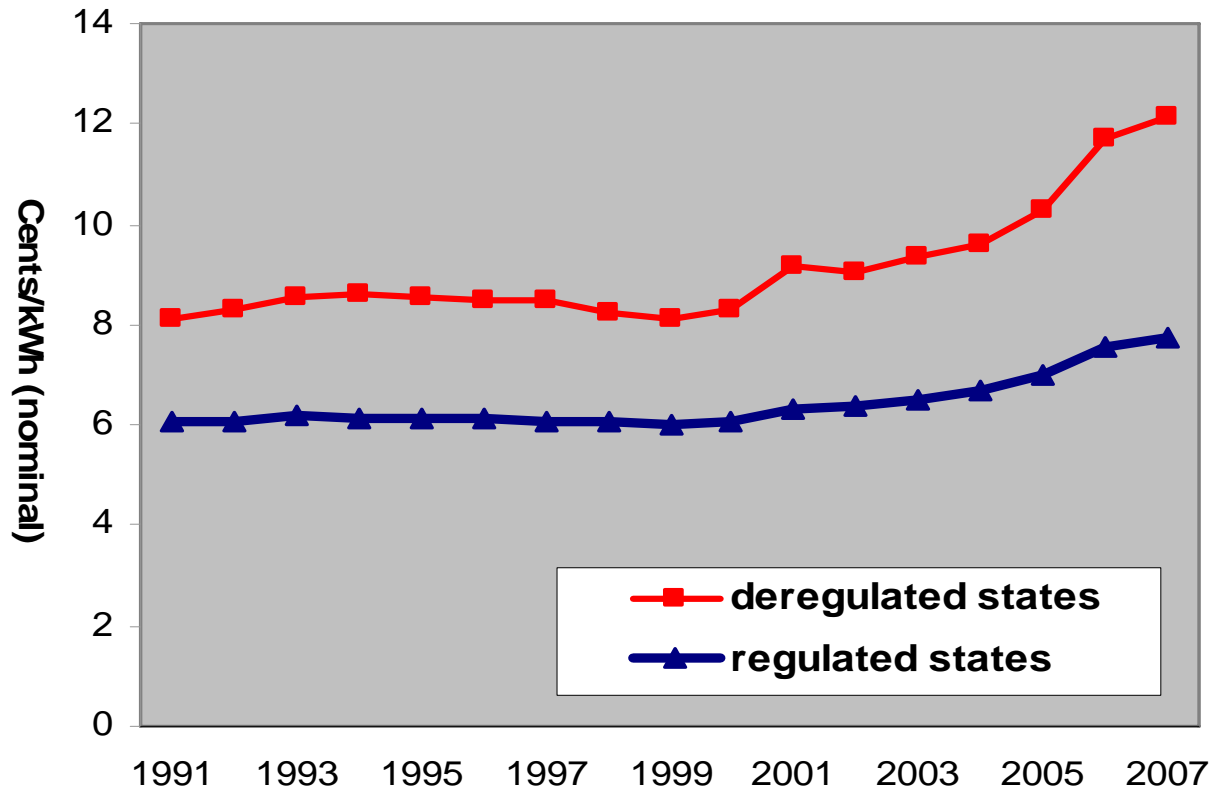
**RESIDENTIAL Average Delivered Retail Electricity Price:
Deregulated vs Regulated States**



For the 12 months ending in October of each year, through October 2007. Source: EIA 826 Sales and Revenue Spreadsheet. 'Deregulated' states include CA, CT, DC, DE, MA, MD, ME, MI, NH, NJ, NY, RI & TX. All other states are 'regulated.'

PPI

**TOTAL Average Delivered Retail Electricity Price:
Deregulated vs Regulated States**



For the 12 months ending in October of each year, through October 2007. Source: EIA 826 Sales and Revenue Spreadsheet. 'Deregulated' states include CA, CT, DC, DE, MA, MD, ME, MI, NH, NJ, NY, RI & TX. All other states are 'regulated.'

Price Comparisons: Selected Regulated and PJM Deregulated States

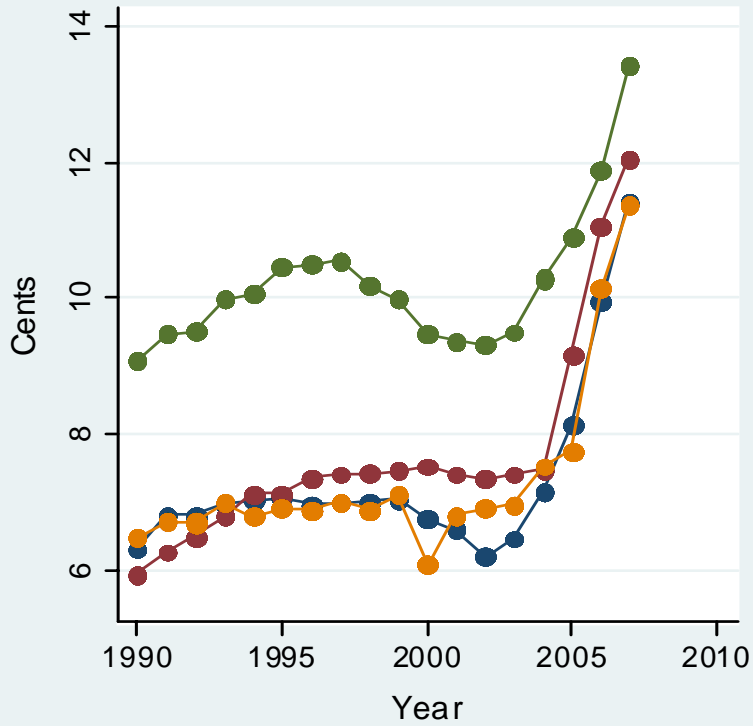
(All Sectors, Prices in cents/kWh)

	<u>1996</u>	<u>2007</u>	<u>Cents Chg</u>	<u>% Chg</u>
<u>Deregulated</u>				
DE	6.9	11.4	4.5	65.2
DC	7.4	12.1	4.7	63.5
MD	7.0	11.4	4.4	62.9
 <u>Regulated</u>				
GA	6.4	7.8	1.4	21.9
NC	6.5	7.8	1.3	20.0
SC	5.7	7.2	1.5	26.3

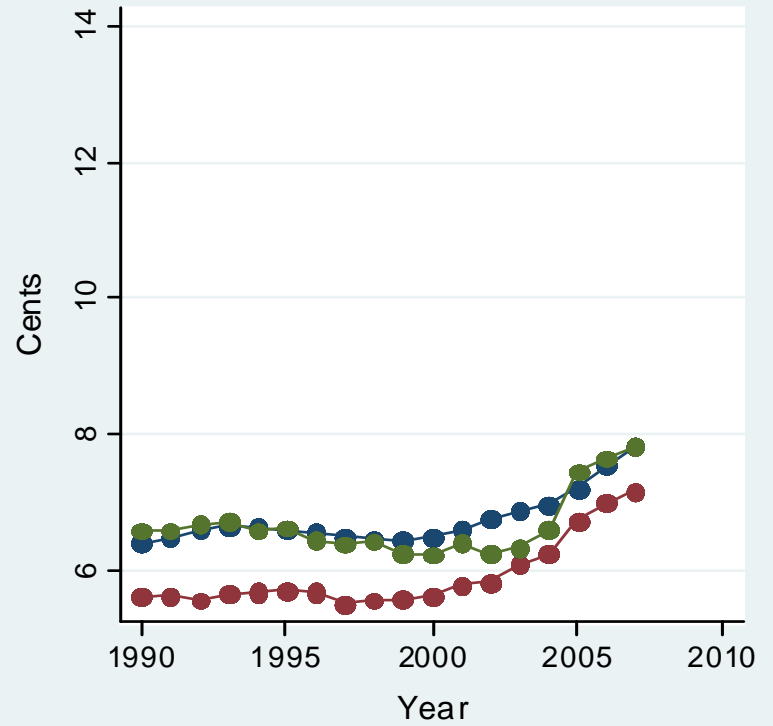
Average Revenue per KWH (All Sectors)

1990 - 2007

Selected Mid-Atlantic States



Selected South-Atlantic States



Coal, Nuclear, and Natural Gas Capacity as Percent of Total Capacity: Selected Regulated and Deregulated (PJM) States, 2006

<u>State</u>	<u>Coal</u>	<u>Nuclear</u>	<u>Natural Gas</u>
GA	44	12	44
NC	51	20	29
SC	33	34	33
<u><i>PJM</i>*</u>	<u>48</u>	<u>19</u>	<u>34</u>

* Delaware, District of Columbia, Maryland and surrounding continuous states

Coal Capacity as Percent of Total Capacity: Selected Regulated and Deregulated (PJM) States, 1996 and 2006

<u>State</u>	<u>1996</u>	<u>2006</u>
GA	73	44
NC	50	51
SC	83	33
<u><i>PJM*</i></u>	<u>57</u>	<u>48</u>

* Delaware, District of Columbia, Maryland and surrounding continuous states

Nuclear Capacity as Percent of Total Capacity: Selected Regulated and Deregulated (PJM) States, 1996 and 2006

<u>State</u>	<u>1996</u>	<u>2006</u>
GA	20	12
NC	42	20
SC	15	34
<u><i>PJM</i>*</u>	<u>30</u>	<u>19</u>

* Delaware, District of Columbia, Maryland and surrounding continuous states

Natural Gas Capacity as Percent of Total Capacity: Selected Regulated and Deregulated (PJM) States, 1996 and 2006

<u>State</u>	<u>1996</u>	<u>2006</u>
GA	7	44
NC	8	29
SC	2	33
<u><i>PJM*</i></u>	<u>13</u>	<u>34</u>

* Delaware, District of Columbia, Maryland and surrounding continuous states

Distribution, Customer Accounts, and A&G Expenses, Selected Utilities, 1996 and 2007

(Dollars per Customer)

<u>Utility</u>	<u>1996</u>	<u>2007</u>	<u>%Chg</u>
BG&E	309	283	- 8
Delmarva	277	285	3
Pepco	294	351	19
Duke	368	338	- 8
Georgia Pwr	366	369	1
Progress Energy	332	311	- 6
SCE&G	285	362	27

Observations, Questions, and Conclusions

- There are inherent difficulties with arriving at a generally accepted definition of competition and measuring and interpreting evidence about the competitiveness of markets
- Nonetheless ... The MMU focuses on competitiveness and shifts the question from the more relevant and manageable public policy one of whether consumers have benefited from deregulated markets to a more removed and difficult one to measure and analyze.

Observations, Questions, and Conclusions

- The more liberal the definition of competition ...
 - the less likely measures of such competition will coincide with consumers benefiting.

Observations, Questions, and Conclusions

- Why is the basis public policy question – Are prices lower than they otherwise would have been? – not part of the MMU analysis?
- Why are obvious, readily available facts not part of MMU analysis to corroborate its finding that energy markets are competitive?

Observations, Questions, and Conclusions

- Large differences in retail price increases between the PJM states and the District of Columbia and nearby regulated with similar generation resources and expenses indicate that:
 - Consumers in the deregulated PJM are have not benefited from state and federal deregulation policies
 - Prices are not lower than they otherwise would have been

Questions, Observations, and Conclusions

- What about Competitiveness?
 - Pretext for deregulation was that wholesale electric power markets were sufficiently competitive to produce lower prices for consumers than regulation.
 - The analysis here provides strong evidence that competition –however defined – in PJM energy markets has not been sufficient to produce retail prices lower than regulation, with all the recognized shortcomings of the latter.

Questions, Observations, and Conclusions

- This analysis is not intended to suggest that a return to traditional regulation is necessarily called for.
- Rather –
 - The MMU focus on measuring competitiveness, as such, is misguided;
 - The MMU conclusions on the competitiveness of PJM energy do not agree with other more direct and relevant indicators.

“Waiting for Schumpeter” in Maryland

Account Details

Services for Jul 30, 2007 to Aug 28, 2007:

Summer rates in effect

Distribution Services:

Customer Charge		5.98
Energy Charge	First 800 KWH x 0.0319000	25.30
	Next 650 KWH x 0.0319000	20.56
	at 0.0006200 per KWH	0.90
Franchise Tax (Delivery)		0.37
Universal Service Charge		0.22
MD Environmental Surcharge	at 0.0001490 per KWH	0.22
Gross Receipts Tax	at 2.0408000%	1.09
Montgomery County Energy Tax	at 0.0048528 per KWH	7.04
Administrative Credit	at 0.0015800 per KWH	2.29 CR
Total Charges - Distribution		59.17

Generation Services:

Energy Charge	First 800 KWH x 0.1093600	87.49
	Next 650 KWH x 0.1093600	71.08
	at 0.0030500 per KWH	4.42
Procurement Cost Adjustment		
Total Charges - Generation		162.99

Transmission Services:

Energy Charge	First 800 KWH x 0.0032600	2.61
	Next 650 KWH x 0.0032600	2.12
	at 2.0408000%	0.10
Gross Receipts Tax		
Total Charges - Transmission		4.83

Generation Services

→ 11.2 cents