

Do Competition and Electricity Mix?

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Overview

- Brief Historical Context
- Impediments to Competition
- Evidence on Deregulation
- Economic Analysis v. Value Judgments
- Final Thoughts

Historical Context

- Supreme Court Ottertail Opinion
- FERC Investigations and Notices of Inquiry in the 1980s
- 1992 Energy Policy Act
- FERC's 1996 Open Access Transmission Tariff

Historical Context (cont.)

- Forgoing Intended to Increase Competitive Pressures to Complement to Price Regulation by:
 - Providing non-discriminatory access to the nation's transmission network at just and reasonable rates, as required by the Federal Power Act;
- Instead – Changed to Price Deregulation

Historical Context (cont.)

- Why the Metamorphosis?
 - Definition of What Competition Means
 - Dissatisfaction with Traditional Regulation
 - *Basic Economic Characteristics of the Utility Industry are Similar Enough to Other Industries in which Deregulation was Relatively Successful – therefore Transmission Access Sufficient;*
 - *Markets/Oligopoly almost always Preferable to Government Intervention (Regulation, etc.)*

Impediments to Competition

- “Competition has elsewhere encouraged efficiency and innovation better than regulation. That electricity must be consumed when produced is no different from other time-perishable commodities like airline seats, hotel rooms, movie seats and advertising time on television. No barrier there. The solution is to improve market rules and market oversight.”

*Branko Terzic, Former FERC commissioner
New York Times letter to the editor, 21 Nov 06*

Impediments to Competition

- If similar to other industries than why are there so many problems with electricity deregulation?
- There is nothing analogous to Enron and the California Fiasco in Airline, Trucking, Telephone, or Gas Deregulation

Relevance of industry characteristics to competitiveness

	<u>Not Very</u>	<u>Somewhat</u>	<u>Very</u>
<u>Capital intensiveness</u>			✓
<u>Financial capital requirements</u>			✓
<u>Scale economies</u>			✓
<u>Lumpiness of investments</u>			✓
<u>Location of facilities</u>			✓
Technology		✓	
Product durability			✓
Sunk costs			✓
<u>Substitutes</u>			✓
Seasonality			✓
Product differentiation		✓	
Vertical integration			✓
<u>Number of sellers and buyers</u>			✓
<u>Mobility of resources/ Asset specificity</u>			✓
Foreign competition			✓
Network industry			✓

Impediments to Competition (cont.)

Capital-Intensiveness

- Significantly large sums of money
 - Average 600 MW plant = \$900 million
 - Average 250 MW plant = \$156 million
- Where to get the money?
 - Not likely equity
 - If actually competitive, banks more reluctant
- Higher than under regulation, higher for new entrants than for incumbents

Impediments to Competition (Cont.)

Location of Facilities

- Example: TXU – 11 new plants built on existing sites
 - TXU can take advantage of its “scale, existing sites, rail facilities, water rights, and other infrastructure” to build the units “at three-quarters the cost of a typical power developer.”
- This is cost efficiency, but is there price efficiency?
- Incumbent firms not likely to be dislodged, nor engage in price competition

Impediments to Competition (cont.)

Mobility of Resources

- Asset specificity
 - Assets specific to product or service provided
 - May not be easily adaptable – “imposes a high cost if entry fails”
- Airline industry comparison
 - Competitive because of mobility – planes can be relocated to other, more profitable markets or sold
 - Power plants cannot be moved or sold for even a minimal profit -- “Power plants don’t fly.”

Impediments to Competition (cont.)

Product Heterogeneity

- Relatively few sellers in electric power markets and wave of merger activity = oligopoly
- In oligopolistic markets, product heterogeneity/homogeneity is important
 - Scale – how physically alike are the products and how are differences perceived by consumers
- Product homogeneity = perfect substitutes = can only compete by price
- Easy for oligopolists to coordinate behavior

Evidence

- Some Important Findings from APPA-sponsored studies
 - Critique of estimates of consumer benefits
 - Company profits
 - Market power
- Other
 - Market Prices of deregulated base-load units
 - Capacity Inadequacy

Evidence: Consumer Benefits?

“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.”

“Open Letter to Policymakers,”
Compete Coalition, Washington,
D.C., June 26, 2006

Evidence: Consumer Benefits?

Generally:

- Concluded “that the methodology used in [the] studies consistently fall short of the standards for good economic research.”
- “In particular, despite much advocacy there is no reliable and convincing evidence that consumers are better off as a result of restructuring of the U.S. electric power industry.”

John Kwoka, Restructuring the Electric Power Sector: A Review of Recent Studies, Nov. 2006

Evidence: Consumer Benefits?

Specifically in regard to the “Open Letter ...”:

- “... Existing studies do not support that proposition.”
- “Indeed, ... there is no credible and convincing economic evidence that consumers have been made better off by electricity restructuring.”

John Kwoka, Restructuring the Electric Power Sector: A Review of Recent Studies, Nov. 2006

Evidence: Consumer Benefits?

Specifically in regard to the "Open Letter ...":

- "The unsupported conclusions of these studies should not serve as the basis for further ill-defined 'deregulation' or 'competition' solutions to the present difficulties in electricity markets."

(Emphasis added)

John Kwoka, *Restructuring the Electric Power Sector: A Review of Recent Studies*, Nov. 2006

Evidence: Company Profits

	ROE (%)		Cash Flow to Equity (%)	
	<u>2005</u>	<u>5-Year</u>	<u>2005</u>	<u>5-Year</u>
Exelon	19	18	33	33
Constellation	13	13	28	25
PSGE	14	16	27	24
PPL	16	20	32	50
Allegheny	10	-1	30	11

Evidence: Company Profits

Summary of Stock Holding Period Returns (%)

	<u>10 yrs.</u>	<u>5 yrs.</u>	<u>3 yrs.</u>	<u>1yrs.</u>
<u>Regulated</u>	10	9	9	12
<u>S&P 500</u>	7	5	10	15
<u>Exelon</u>	22	27	30	26
<u>Constellation</u>	13	22	19	11
<u>PSGE</u>	19	13	20	4
<u>PPL</u>	17	18	23	15
<u>Allegheny</u>	7	3	60	49

Evidence: Prospective Profits

	<u>Year</u>	<u>ROE (%)</u>
Exelon	2008	22
Constellation	2008	17
PSGE	2009	22
PPL	2010	23
Allegheny	2010	26

Evidence: Anecdotal

- Market Value of Base-Load Units
- Warren Buffet

Warren Buffet on Electric Utilities

- Investing in electric utilities is “not a way to get rich, it’s a way to stay rich.”
- “Most of deregulation was a mistake” because, in a deregulated market, “generators have a clear incentive to reduce power reserves.”
- Owners of generating assets want the market to be tight
- “The last thing in the world an unregulated operator wants is excess capacity.”

Source: *Platts Electric Utility Week*
20 November 2006

Market Power Indicator

PJM's Use of Price-Markup Index (PMI)

- PJM estimated 3.9 percent for 2005
- Important conceptual issues and application of the formula aside ...

London Economics Estimates for 5 PJM Regions:

8-25 %	8-19 %
6-15	8-26
7-17	

Economic Analysis v. Value Judgments

- In the areas of monopoly, competition,, and government intervention economists typically offer policy advice that is "on the whole, much more in qualitative than in quantitative terms."

Economic Analysis v. Value Judgments

- Why are concerns about impediments to competition and evidence on restructuring ignored or dismissed?
- Some reasons may be similar to those suggested by economist Carl Kaysen almost 50 years ago.

Economic Analysis v. Value Judgments

- The confidence of policy recommendations in these areas is “essentially ideological: it rests on their commitment to the competitive market as an ideal, and consequent belief that any step in the direction of the ideal is desirable.”

Final Thoughts

- Issues are as much about “economic ideas” as it is about vested interests;
- It is important not to concede any ground in the debate over ideas – or as it is sometimes pejoratively as ideology. Both the facts and the theory – sound theory based in experience – are our friends.

Final Thoughts

- Threshold question is not about markets v. regulation, as such; rather it’s about competition v. monopoly, as Professor Joseph Stiglitz suggests.
- “Imperfect information, imperfect capital markets, imperfect competition: These are the realities of market economics – aspects that must be taken into account.”