

Deregulation and Restructuring

The Relationship between Regulated and Other Energy Providers and the Regulatory Commission



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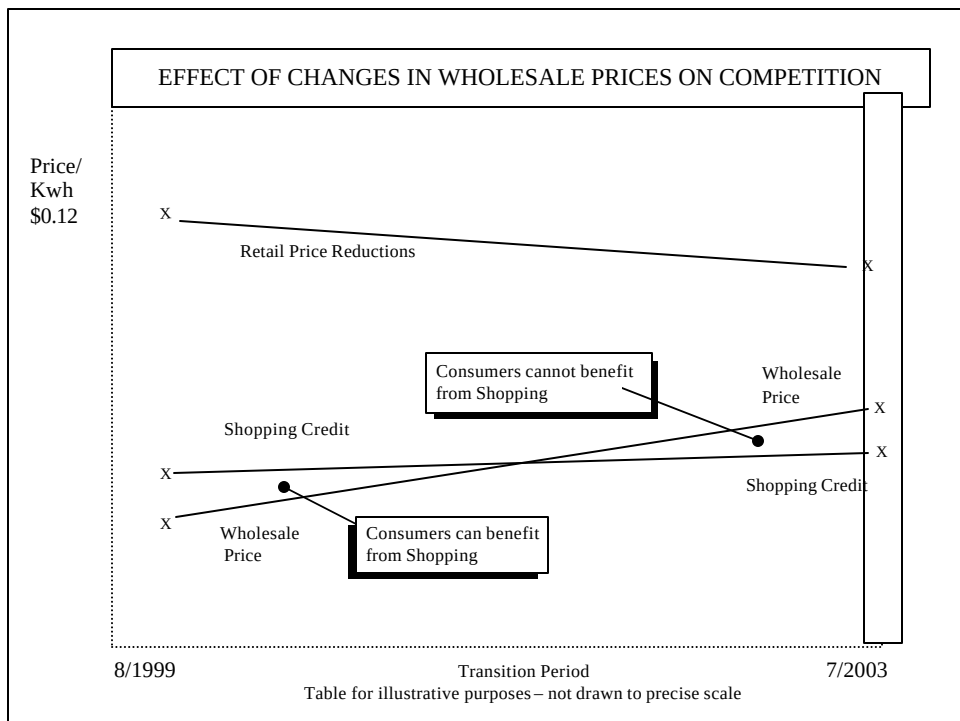


Most major states in the United States have restructured their electric industry along the following lines:

- Cut retail electricity prices on the order of 10 percent over 5 years.
 - The rate cut was usually done to enhance the appeal of deregulation to the public.
- Required that the utility generation either be divested or transferred to an unregulated subsidiary.
 - Over time electricity would be bought and sold in the wholesale market either through an auction process or bilateral contracts.

Most major states in the United States have restructured their electric industry along the following lines:

- Provided consumers with a shopping credit in order to encourage retail competition.
 - The cost of energy and capacity is eliminated from the rate such that retail supplier can compete directly in supplying the consumer.
- Transmission and distribution would continue to be regulated.
 - This is traditional rate base/rate of return regulation.
- The next slide shows this information graphically.



Effect of Changes in Wholesale Prices on Competition

- ✦ As can be seen from the chart, initially consumers could be saving money by shopping.
- ✦ Later, when wholesale electricity prices rose above the shopping credit, marketers were unable to compete, i.e., secure power at a price below the shopping credit.

Wholesale Electricity Prices, cont.

- ✦ Electricity markets in the United States exist within geographic boundaries. The markets in the East, West, etc.
- ✦ What happened in the wholesale market?
- ✦ Why did prices escalate?
- ✦ Did the markets operate efficiently and effectively?

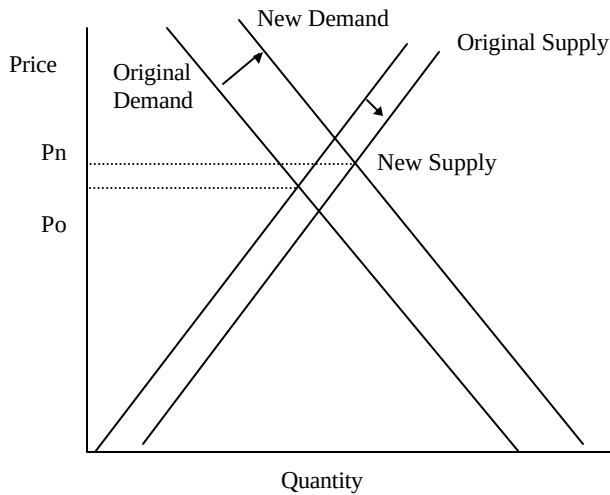
In the late 1990's the wholesale price of electricity escalated beyond what had been forecast. Some of the causes for the escalation are as follows:

- High real rates of economic growth for an extended period of time.
- Full utilization of resources – both capital and labor.
- Rise of the information economy and its use of electricity; a server farm can use as much electricity as a steel mill.
- A rise in oil and gas prices for variety of reasons; economic growth, OPEC, weather, etc.
- The price of gas used in combined cycle plants went from \$3 to as high as \$10 per 1,000 cubic feet.
- Lack of rain in Western markets reduced hydroelectric output.

Supply and Demand in the Wholesale Electric Market

- The foregoing is depicted by conventional supply and demand curves.
- Supply increased but not enough to offset the increase in demand resulting in a higher price.

Supply and Demand in the Wholesale Electric Market



Supply and Demand in the Wholesale Electric Market

- It should be noted that supply has increased over time and demand has retreated as a result of the economic slowdown of the United States.
- This is how markets are supposed to perform while efficiently and effectively allocating resources.

What happened in California?

- ⌘ Prices in this market sky-rocketed.
- ⌘ The market was poorly designed.
- ⌘ All electricity had to be bought or sold in the spot market, long contracts were prohibited, contributing to volatility.
- ⌘ Hydropower was constrained due to drought.
- ⌘ Market manipulation and corruption appear to have been unrestrained.
- ⌘ Investigations are ongoing.
- ⌘ It seems likely that certain participants will be fined and/or end in jail.
- ⌘ This type of behavior is not acceptable in the United States, which prides itself on its markets.

Did Deregulation/Restructuring Work?

Positive

- ⌘ Wholesale markets in most places appear to have functioned well.
- ⌘ Capacity factors at existing power plants, primarily coal and nuclear, increased dramatically as producers were allowed to keep profits from efficiency gains.
- ⌘ New sources of supply, primarily combined gas plants (both energy efficient and environmentally acceptable) were brought on-line as price signals from the wholesale market to encourage investment.
- ⌘ The combined cycle plants displaced dirtier, less efficient oil-fired capacity due to their lower marginal cost operation.

Did Deregulation/Restructuring Work?

Negative

- ✦ Retail competition was mostly a failure because the wholesale rate exceeded the retail rate, which eliminated the opportunity for profits.
- ✦ In the future, shopping credit will be set at the wholesale rate such that retail competition may return.

Going Forward

- ✦ Monitor market to assure wholesale market competition.
- ✦ Set shopping credit equal to wholesale to encourage retail competition.
- ✦ Develop new strategies such as real time pricing, first for large users, eventually for other customers.
- ✦ Encourage new technologies: wind, photovoltaics, hydrogen, etc.

Overview of the Relationship between New Jersey Energy Providers and the Regulatory Authority (BPU)



1999 and into the New Millenium: Theory and Process of Deregulation/Restructuring from the Regulator's Point of View

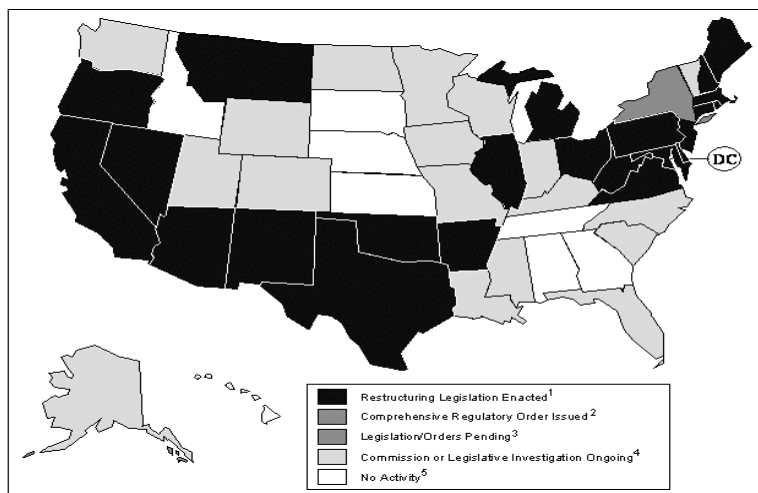
- # Growing movement in 1990's to allow competition among suppliers of electricity, natural gas, and telecommunications.**
- # Local energy distribution systems to end-users would remain a monopoly and fully regulated.**

Inefficiencies in Supply Market Would Be Eliminated

- Prices would fall as a result of new efficiencies and competition.
- Almost half the 50 states in the United States have adopted some level of deregulation/restructuring of the energy sectors.

Status of State Electric Industry Restructuring Activity

As of August 2001



Restructuring Legislation Enacted

Arizona, Arkansas, California, Connecticut, Delaware, District of Columbia, Illinois, Maine, Maryland, Massachusetts, Michigan, Montana, Nevada, New Hampshire, New Jersey, New Mexico, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, Texas, Virginia, and West Virginia

Comprehensive Regulatory Order Issued

New York

Legislation/Orders Pending

None

Commission or Legislative Investigation Ongoing

Alaska, Colorado, Florida, Indiana, Iowa, Kentucky, Louisiana, Minnesota, Mississippi, Missouri, North Carolina, North Dakota, South Carolina, Utah, Vermont, Washington, Wisconsin, and Wyoming.

No Activity

Alabama, Georgia, Hawaii, Idaho, Kansas, Nebraska, South Dakota, and Tennessee

Source: Energy Information Administration.

In Restructured Markets, Regulators Have Abandoned Their Role As Command and Control Agents With Regard to Suppliers of Energy

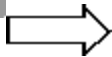
- ✦ Their new role is more of a market referee.
- ✦ Rules of market are established.
- ✦ Separation (unbundling) of supply, transmission, and distribution portions of the former vertically integrated monopoly.
- ✦ In supply sector, the regulator oversees the market and the adherence to market rules in much the same way as a referee in a sports contest.
- ✦ Penalties can be assessed (in states like New Jersey) both financial and punitive (license revocation).

In Contrast, Regulators Still Act As Command and Control Overseers With Regard to the Local Distribution System to End-users

- ⌘ Rate-base rate of return policies still in place for the distribution system.
- ⌘ Unbundled services of incumbent utilities are viewed differently by the regulators.
- ⌘ Need arises for new bifurcated thinking and staff resources, while we act as both market managers and delivery system controllers.

Problems Encountered in Obtaining the Desired Results

Some Potential Solutions



Obstacles

Difficult to Chart a Course Toward Deregulated Energy Supply Markets While Avoiding Twin Obstacles of Too Heavy-handed Market Management and Overly Lenient Deregulation

Balancing Act

- ⌘ Too heavy-handed:
 - Requiring full divestiture of generation; overly onerous environmental restrictions; or setting comparison supply kw/h price too low.
- ⌘ Too lenient:
 - Assuming a market will develop spontaneously and overnight; not having in place controls against gaming the system by suppliers or customers.
- ⌘ California guilty of both excesses
 - “The Perfect Storm”

Market Flaws

Deregulation design has been largely criticized for the perceived market flaws it created:

- No time-of-day rates, therefore few, if any, price signals to users.
- The utilities could only buy power on spot market.
- Marketers did not enter the market due to public utility commission's establishment of low capped rate for the three electric utilities.
- Setting the comparison supply Kw/h price too low



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