
Electric Utility Reform:

Shock Therapy or Managed Competition?

Jerry Taylor

The rollback of regulations meant to protect consumers from “monopolistic industries”—or to protect “monopolistic industries” from competition, depending on how you look at it—has been proceeding apace for some twenty years. The trucking, railroad, airline, banking, busing, natural gas, and telecommunications industries have all been deregulated to some degree or another. And now comes perhaps the most important challenge of all; the electric utility industry. After several years of regulatory skirmishes, interest group negotiations, academic *Sturm und Drang*, and all manner of political posturing, the introduction of H.R. 3790—the Electricity Consumers’ Power to Choose Act of 1996—by Representative Dan Schaefer (R-Colo.) signals the beginning of what promises to be the deregulatory “trial of the century” with a verdict likely sometime during the 105th Congress.

At least that is what the “reformers” would have us believe. But the political jury is not being asked to judge whether the electric utility industry should be deregulated, but whether a different set of regulations ought to be substituted for

the status quo. And it is not altogether clear that the regulatory changes proposed would actually reduce the regulatory burden on this industry, much less reduce the price of electricity to American consumers.

The Schaefer Shimmy

For the time being Schaefer’s bill appears to be the main vehicle for electric utility reform. Its central features include the following:

- The act requires state public utility commissions (PUCs) to submit a plan to the Federal Energy Regulatory Commission (FERC) by December 15, 2000 that would allow all retail consumers of electricity a choice in retail electric energy service providers. If states refuse or otherwise are unable to submit a plan, FERC is required to impose a plan for them. States cannot overtly restrict any entrant from the field.
- FERC is directed to ensure that utilities allow third party access to their transmission and distribution grids at regulated, nondiscriminatory rates. Likewise, states are directed to ensure that third-party energy providers have “reasonable and nondiscriminatory access on an unbundled basis” to the grid under “rates, terms, and conditions that are just, reasonable,

Jerry Taylor is director of natural resource studies at the Cato Institute and associate editor of Regulation.

and not unduly discriminatory,” with the understanding that grid operators have a right to recover “all costs incurred in connection with the local distribution service and necessary associated services.” In other words, the act requires mandatory retail wheeling.

- Upon implementation of a state plan, states are required to impose “flexible pricing and incentive rate regulation” on electric utilities until the state PUC “determines that such utility is subject to effective competition.” Nonutility electricity service providers, however, are exempt from any such rate oversight.

A more critical analysis suggests that H.R. 3790 is but a tactical withdrawal to a more defensible regulatory position that will prove more difficult for free marketeers to breach.

- States are required to consider tariffs or surcharges to (1) ensure that adequate electric service is available to all retail customers on a competitively neutral, nondiscriminatory basis; (2) ensure service reliability; (3) guarantee the recovery of stranded investment costs incurred prior to July 11, 1996; and (4) ensure the promotion of energy efficiency, conservation, and environmental protection.
- States may regulate retail electricity service to “preserve universal service, protect public safety and welfare, ensure the continued quality of service, and safeguard the rights of consumers” as long as such regulations are “nondiscriminatory and competitively neutral.” States may also levy fees on electricity service providers on the same nondiscriminatory and competitively neutral basis.
- Owners of transmission grids are prohibited from using revenues from such facilities to “subsidize” other business undertakings, such as electricity generation.
- Municipal-owned utilities and electricity co-ops are prohibited from reselling electricity from federal power marketing administrations to consumers who are not currently served by that utility or co-op.
- FERC is empowered to order utilities to deliver electricity from third-party power generators to their customers (and even to mandate the

enlargement of transmission capacity necessary to provide such service) across state lines “under such terms and conditions as the commission finds are necessary and appropriate” to ensure nondiscriminatory access to electricity transmission facilities.

- All electricity generators are required to have “renewable energy credits” equal to 2 percent of their generation once the state “competition” plan is adopted, 3 percent by 2005, and 4 percent by 2010. This credit requirement, however, is a base line only: “Nothing in this section shall be construed to prohibit any state from requiring additional renewable energy generation...under any program adopted by that state.” Credits may be obtained either by investing directly in renewable energy generation (defined as generation from organic waste, biomass, dedicated energy crops, landfill gas, geothermal, solar, or wind, but excluding hydro) or by purchasing renewable energy credits on the open market under rules to be determined by FERC. Purchasers of these credits are required to pay a fee to FERC “in an amount equal to the administrative costs of issuing, recording, monitoring the sale or exchange, and tracking of such credits.” The National Renewable Energy Trading Program will sunset “when FERC certifies that the market rate of the credits or the number of credits traded have declined to such nominal value that the cost of the trading program is no longer justified.”
- The Public Utility Holding Company Act of 1935 (PUHCA) will cease to apply only after each state in which a utility company does business notifies FERC and the Securities and Exchange Commission (SEC) that retail customers are able to purchase electricity or natural gas on a “competitively neutral and nondiscriminatory basis.” However “relevant books and records” must still be provided regularly to state PUCs and FERC for inspection.
- Section 210 of the Public Utility Regulatory Policies Act of 1978 (PURPA) also will cease to apply to those companies in states when the PUC has certified to FERC that retail customers are able to purchase electricity services “on a competitively neutral and nondiscriminatory basis.”

There are two ways one can look at H.R. 3790. The optimistic take on the bill is that it represents a toe-dipping into the waters of competition; a partial deregulation that sets the stage for

more comprehensive reform down the road. A more critical analysis suggests that H.R. 3790 is but a tactical withdrawal to a more defensible regulatory position that will prove more difficult for free marketeers to breach.

To Take or Not to Take

While providing for consumer choice by ending exclusive service franchises is indeed a salutary provision of the Schaefer bill, the means employed to reach this end are objectionable. Electricity transmission and distribution grids are private properties, built by private businesses. The seizure of the electricity grid for the public good is little different from the seizure of a private roadway for the public good. Sure, the toll keeper could continue charging tolls, but the rates would be regulated and the owner would lose the right to control access to the roadway. There would be little debate among conservatives or libertarians that the latter action is a regulatory taking subject to compensation. When these actions are employed against an electricity grid, however, a deafening silence is all that is heard from many analysts who should know better.

There are three rationales generally employed by free market types to justify public seizure of the grid. The first rationale is the bluntly stated cliché, "live by the sword, die by the sword." As Robert L. Bradley Jr. has documented convincingly, the eight-decades-old monopoly regulatory structure was constructed at the behest of the electric utilities themselves. They were the ones who aggressively supported laws prohibiting competition. They were the ones responsible for the original taking of private grids and generation facilities to establish service territories under the monopoly regime. Essentially, this argument holds that utilities were the original recipients of an unconstitutional taking and that "what government gives, government can take away."

The second rationale is that the economic resources of today's electric utilities are the product of inappropriate government intervention in the economy. Electric companies had money to build the grid only because the government ensured that ratepayers were captive customers. Moreover, the grid was built with the not-inconsequential help of the government's power of eminent domain in order to cheaply secure the land upon which the wires were strung. Rate-of-return regulation allowed utilities a guaranteed

income that they could never have gained through competition. This mixing of public intervention with private business has been so extensive that the business of electricity can no longer be deemed "private." Electricity companies today are little more than government agencies or, at best, government subcontractors. Either way, when the agency is eliminated or the contract terminated, the government has a right to take away from the agent what it rightfully owns—in this case, the grid itself.

The third argument is the pragmatic—there is no other way to efficiently introduce competition to the electricity industry. The grid is, like it or not, a *de facto* natural monopoly (*de facto* because whether or not it is a natural monopoly, the government will always regulate it as such). While supporters of this rationale have no theoretical objection to compensating utilities for this taking, they doubt utilities will experience much economic loss (transmission rates will remain regulated to ensure a "reasonable return" for the access provided to third parties), or are skeptical that any major cash compensation for the taking could pass a legislative body. Of course some are prepared to accept an alternative compensatory vehicle; the recovery of "stranded costs."

It is indeed difficult for the free market analyst to have much sympathy for the utility industry. But even the ne'er-do-well has property rights, and the above rationales are ultimately unconvincing. The "live by the sword, die by the sword" philosophy falls to the equally compelling "two wrongs don't make a right." It is true that if a thief's stolen property is stolen in turn, one would not be obliged to return it to the thief. But virtually none of today's utility assets date to the time of Samuel Insull; nor were all of the assets of the first utilities granted monopoly protection illicitly gained; nor are the current officers, employees, or stockholders of utility corporations responsible for the Faustian pacts their predecessors struck with state officials. And there is simply no way to calculate whether this second "theft" of property is counterbalanced by the initial "theft." Indeed it almost assuredly is not.

The second rationale is stronger but still suffers from a dangerous definition of "public property" in our mixed economy. At what exact point does the mixing of "public" power and "private" assets produce a nationalized industry? There is no real answer. And since government intervention in the economy has certainly created bil-

lions, if not trillions, of dollars of ill-gotten wealth, employing this rationale would put the nation on a slippery slope towards abject socialism or, at the very least, prove capable of causing untold economic mischief. Could the federal government have seized commercial jets owned by United Airlines (or, alternatively, half of the entire commercial air fleet) for unlimited military use during the 1973 Middle East crisis? One could just as easily argue that airline regulation resulted in a situation little different than that existing in the electric utility industry today. Is Brown & Root really a private company? A perusal through Robert Caro's two part biography of Lyndon Johnson could certainly persuade us that it would be a small-town construction firm had it not been for the dubious use of governmental power. One could go on and on.

Existing law would certainly seem to justify treating utility assets as private property. Municipalities that wish to seize investor-owned utility assets in order to establish a municipal power company must provide compensation. And would any court of law allow a local, state, or federal government to seize a coal or nuclear plant to nationalize it? or simply appropriate the financial assets of an investor-owned utility without providing compensation? Why treat the grid any differently than these other assets?

Perhaps most importantly, the first and second arguments ignore the fact that consumer demand justified investments in electric power and, at most, regulation encouraged only part of that investment. It is a strange free marketeer who suggests that regulation "created" the electricity industry or any particular company therein.

The third contention is completely unsatisfying. Nothing prevents politicians from reexamining the nature of their dogmatic slumbers. As discussed below, electricity transmission and distribution grids are *not* infected by characteristics of natural monopoly. And even if they were, it is clear by now that monopoly regulation has proven incapable of controlling electricity rates.

If the taking cannot be compensated for political reasons, then one should not take. Ends do not justify means. Nor can stranded cost recovery be a reasonable stand-in for compensation. First, we have no way of knowing whether the recovery of stranded costs will, on the whole, produce too much or too little compensation (See Richard Gordon's letter "Stranded Costs Cut to the Quick" this issue). Second, utilities without many "strand-

ed" assets will receive relatively little compensation for their lost rights over the grid, whereas utilities with a mountain of "stranded" assets will make out like bandits. This will not only warp the economic playing field to come, but it does not even out in the game. Compensation must be victim specific—it cannot be unjust in the particular and just in the aggregate.

Natural Monopoly My Eye!

While free marketeers might rest their general case for Schaefer's bill on any of the preceding rationales, analysts who are less sanguine about the free market retreat to the old standby: Monopolies must be regulated for the "public good" and, since the transmission and distribution of electricity is a natural monopoly, the electricity grid must be regulated *Q.E.D.* In this regard, the Electricity Consumers' Power to Choose Act of 1996 might well be renamed "Monopoly Regulation of Electricity is Dead! Long Live Monopoly Regulation!"

If a natural monopoly is understood as a condition in which a single efficient seller (or in this case, distributor) can serve the entire relevant market at a lower average cost than can multiple sellers, it would appear that we have a testable proposition. Yet as economist Walter Primeaux has discovered, electricity rates were lower in municipalities that had vigorous competition and multiple distribution grids at the advent of monopoly regulation than in municipalities with little or no competition and a single distribution grid. In fact consumers in several dozen municipalities today, such as Lubbock, Texas and Clyde, Ohio, have a choice of electricity providers, each with their own separate transmission and distribution facilities; yet, these customers purchase power at rates *below* the regional average. This simply should not happen under any reading of the natural monopoly model.

Moreover, if this economic diagnosis of the electricity industry were correct, one should expect to find evidence of natural monopoly—that is, evidence that a single competitor achieved economies of scale sufficient to drive out competitors and capture the market—in the hazy mists of history prior to utility regulation. But investigations by Bradley and other experts have yielded no such examples of natural monopoly.

Another indication that the natural monopoly diagnosis is incorrect relates to the industry's cost structure. High fixed costs are one of the key

characteristics of monopolistic industries. While fixed costs are hard to measure with precision, depreciation costs provide a useful indicator. Depreciation, however, is not even as much as 20 percent of electric utilities' costs. Electric utilities pay more in taxes than they do in capital cost recovery. Steep financial barriers to entry thus are more a matter of faith than fact.

Moreover, monopolistic firms should face relatively lower distribution costs the larger they get. Yet studies by Asghar Zardkoohi and others have found a statistically insignificant relationship between average cost and the number of consumers served by an electric utility. Clearly the size of a utility is less important to electricity prices than are other factors such as proximity to fuel sources, the density and composition of customers, sunk costs from past capacity decisions, and the regulatory climate.

One of the main reasons that electricity transmission is even less of a monopoly today than at the turn of the century is the nature of modern power distribution. It does not take much capital to procure wood, wire, some land, and a computerized dispatch station. It does take a tremendous amount of information and market analysis to provide for optimum efficiency in modern electricity distribution. An important factor in a utility's profitability is its ability to acquire the cheapest array of energy that will meet the expected load, while keeping the total system up and running in a way that reduces transmission losses over distance. At the same time, the utility simultaneously copes with gremlins such as bad weather, collapsing power poles, and large factories going on- and off-line. Meanwhile, long-range planning (typically a thirty to forty year horizon) is necessary to solve the same set of problems over decades.

How well an electric utility manages information and resources over both the very short- and long-term (among other things) has more to do with how cheaply and efficiently it can serve the consumer than any possible engineering calculation concerning economies of scale in the employment of wood and wire. And one cannot help but realize that information and resource management is a *very* competitive game. The very fact that utility rates vary dramatically across the nation in part is due to differing performance records of various utilities.

Moreover, electric utilities not only have to worry about potential competition within their

industry but also from without. Consider that dispatch operators typically consider heat rate, fuel cost, and line loss when deciding which plant to use at any given time. Those factors in many cases make the natural gas company the more efficient electric utility. Energy consultant Paul Ballonoff explains:

Consider an electric utility with a typical 10,000 heat rate and 10 percent line loss over long-haul power lines. Compare this to an aggressive natural gas company which decides to build a gas-fired electricity plant with an 8,000 heat rate located very close to the retail electricity market, and which has only a 1 or 2 percent total line loss on longer haul gas lines and the local main line. This gas plant can obtain significant advantages over the electric utility. The advantage due to heat rate alone is 20 percent [the difference between 8,000 and 10,000 heat rates]. An additional 8 percent advantage is gained due to relatively lower losses in transmission and distribution. Thus, with similar fuel costs, the natural gas company could deliver electricity to local markets at nearly 28 percent lower energy costs than electric companies. Alternatively, similar costs of delivered electricity could occur even if the price of natural gas is up to 28 percent higher than the cost of fuels used by the electric company.



Although some electricity companies do take advantage of these natural gas economies as part of their generation supply, one does not see natural gas companies delivering electricity to consumers because traditional local utility regulation prevents it. Without such prohibitions, natural gas companies might well choose to compete directly with traditional utilities for electricity customers.

Other industries with grids already in place also could be tempted into the electricity market if utilities acted to extract monopoly rents from their grids. Telephone and cable companies have

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distribution systems and rights of way to virtually all businesses and residences. Many consumers already have access to gas lines. Water and sewer lines also provide the rights of way necessary for electricity service. These service providers could conceivably piggyback power lines on their current rights of way and get right into the distribution business.

Even if *no* alternative grids arose to challenge the existing service providers in a community, three business realities would prevent the monopolist from pricing his grid much above the market rate.

First, companies have proven more than willing to move to greener electricity pastures, to pay for the wires themselves to connect to lower-cost providers of power, and even to build their own generating plants and go largely off-line. It is this very ability of "captive" customers to circumvent the "monopoly" grid that launched the rush to reform the regulation of this industry in the first place. The emergence of cost-effective microturbines has even put self-generation within fiscal reach of residential consumers. Ongoing technological improvements promise to reduce costs even further.

Second, major industrial consumers or large residential users would have every incentive to protect themselves by buying the grid (or access rights to it). Likewise, utilities would have an incentive to sell rights to the grid in order to

ensure a stable customer base for their services and to raise capital. Residential consumers would have every incentive to aggregate or pool their resources to purchase rights to the grid. In a free market, many, if not most, utilities would find that the grid is more valuable an asset than generating facilities, and that more income can be accrued from selling distribution services than selling power.

While it is impossible to know how the grid might look in a competitive market, the emergence of user-owned transmission and distribution lines is indeed likely since user-owned networks are the common market response when economies of scale exist. Taxi dispatch services, for instance, are often supplied by cooperatives formed by independent taxi operators. Oil pipelines often are organized as joint ventures among several shippers. Natural gas pipelines generally are held by a multiplicity of consumers holding title to a fraction of the line's capacity. Large freight vessels often are owned by several shipping companies, each with a right to a certain fraction of the ship's capacity. In fact, shared transmission capacity has long been a feature of the electricity industry.

There is generally no need for physical entry into a market characterized by network service for competition to occur. The monopolist is stymied because the network affords many paths around most bottlenecks of which he might try to take advantage or create. Since entry is not blocked, expansions or loops are constructed readily and tied into the system. Indeed, without rate regulation, strong incentives would exist to create new transmission and distribution capacity and to remedy bottlenecks in the grid that competition surely would uncover. While market actors commonly undertake such "high risk/high return" investments, regulated rates of return virtually foreclose such projects. Given the interconnectedness of the electricity grid, no monopolist could survive under a system of transmission and distribution property rights.

Third, it is not necessary for *actual* competition to exist in a market for a "monopoly" provider to price services as if it does. As economist William Baumol and others have pointed out, as long as markets are contestable, monopolists have every incentive to deter entry by providing efficient, low-cost service, and little chance of ever extracting monopoly rents from their newly gained market shares. A mountain of

data exists to demonstrate the economic truth of that proposition. It is probably for this reason that few if any businesses have ever "naturally" evolved into a classic monopoly without the help of government. Proponents of natural monopoly theory strain to find examples of their fears ever having been realized in a free market.

The Irrelevance of Rate Regulation

There is little reason to believe that rate regulation acts to protect consumers. Indeed, in a classic study conducted by economists George Stigler and Claire Friedland, utilities regulated by state PUCs were compared with utilities in states without PUCs (data from 1912-37) on the basis of average revenues per kWh, rate differentials by size of monthly consumption, the average ratio of domestic to industrial price per kWh, and stock market performances. The exercise was a reasonable attempt to examine whether public regulation of prices actually curtailed the exercise of monopoly power or eliminated certain types of rate discrimination. In essence, does regulation make any difference in the behavior of an industry? After controlling for the size and density of service territories, the price of fuel, the proportion of hydroelectric power, and the per capita income of power customers, Stigler and Friedland found that regulation made no difference to the electricity customer or investor. They concluded:

The ineffectiveness of regulation lies in two circumstances. The first circumstance is that the individual utility system is not possessed of any large amount of long run monopoly power. It faces the competition of other energy sources in a large proportion of its product's uses, and it faces the competition of other utility systems, to which in the long run its industrial (and hence many of its domestic) users may move. . . . The second circumstance is that the regulatory body is incapable of forcing the utility to operate at a specified combination of output, price, and cost. . . . Since a regulatory body cannot effectively control the daily detail of business operations, it cannot deal with variables whose effect is of the same order of magnitude in their effects on profits as the variables upon which it does have some influence.

This observation is particularly important and is even something of an understatement. Questions such as which assets are properly included in the rate base, the value of utility

assets, appropriate depreciation allowances, and legitimate rates of return are vitally important to controlling company profits but are matters of judgment extremely difficult for regulators to ascertain. Since most close cases are resolved in the company's favor (regulators being understandably reluctant to impose their business judgment on the firm), firms are fully capable of concealing "monopoly" profits through adroit accounting practices. As University of Chicago Professor, and federal judge, Richard Posner has noted, "Relatively moderate errors, of the kind that regulatory agencies can scarcely avoid committing given the intractable problems involved in the computation of revenue requirements, can render profit regulation quite ineffectual." Indeed, the work of Stigler, Friedland, and others indicates that such difficulties not only *can* render profit regulation ineffectual, they *have*.

Economist Thomas Gale Moore undertook a different investigation of the same question in 1970. His study computed the marginal costs for sixty-nine utility companies and estimated their demand curves. From these curves, Moore estimated the profit maximizing prices for those utilities and compared them with the actual prices charged consumers to judge the effectiveness of regulation. His findings?

We can safely say that it appears that regulation has not reduced prices more than 5 percent and probably less than that. Note that without regulation the firm would face competition from neighboring firms which might encroach on its territory. To the extent that this type of competition is possible, any removal of regulation would increase the elasticity of demand faced by a single firm above the elasticity for the market and so lead to lower prices.

A more recent study by economists Walter Mead of the University of California at Santa Barbara and Mike Denning of Exxon refined Stigler and Friedland's methodology and used data from 1960, 1965, and 1969-79. They likewise found that "state regulation has no significant effect on electricity rates," yet "there are positive costs of regulation not internalized in electric power rates."

The implication of these findings should cause legislators and regulators to pause: If rate regulation is essentially incapable of affecting consumer prices, then why bother regulating the terms and conditions for the transmission and

distribution of electricity? Whether the grid is a natural monopoly or not, rate regulation will fail to protect the consumer.

We should not, however, despair of regulation's failure to influence electricity rates. If regulators really could perpetually eliminate excess profits, their zeal would kill all incentives to innovate. Given that innovation probably contributes more to social welfare than does static efficiency, we should celebrate this regulatory failure. Another indicator of the ineffectiveness of electricity regulation, incidentally, is that innovation in this industry has prevailed.

Moreover, there is serious reason to doubt the proposition that society is bettered by monopoly regulation even when natural monopolies are actually encountered. While space prohibits such a discussion here (and the matter is only of tertiary interest since neither electricity generation, transmission, nor distribution is a natural monopoly), proponents of monopoly regulation have yet to answer satisfactorily the critiques of Richard Posner and others whose analyses have left monopoly regulatory theory in tatters.

H.R. 3790:

Milton Friedman or Ira Magaziner?

Turning the grid into a common carrier while regulating the rates charged to third parties is indeed the central deregulatory failure of Schaefer's bill, not only because it is probably unnecessary, but because it may sabotage economic gains that otherwise are within our grasp. Moreover, turning the grid into a common carrier may harm the economic vitality of the grid itself. As economists Arthur De Vany and W. David Walls note, "Markets are demonstrably better at operating networks than regulated monopolies." Further:

Compulsory access is a source of confusion and lessens the incentives to form networks [which would act to prevent monopoly]. A network takes an investment and requires compatible assets and operations. If a newcomer can gain access after these investments are made, he will have gotten the fruits of these investments without paying for them. This is a disincentive to join in the first place and a limitation to forming networks. . . . It is surely better for the industry to work out these coordinating details [of transmission and distribution rights and agreements] than for the FERC to do it. The

details are critical and must be driven by location and time specific information which a regulatory body is ill equipped to determine. There will doubtless be many kinds of agreements and transmission trades because they must be adapted to a host of differing circumstances; there is no universal arrangement and this is what a commission coping with impossible complexity will try to produce or mandate. The market has taken hold and the barriers and constraints to competition will fall as customers seek its advantages.

Economist Douglas Houston of the University of Kansas expresses other concerns:

The major problem with wheeling is the dilution of control it implies: resource allocation decisions may not be made on the basis of the highest expected value of service. The weaker transmission system ownership rights become, the closer wheeling proposals come to the complete loss of property rights under vertical divestiture....Finally, if access decisions were made or reviewed by political agencies, the efficiency sought by the economist-reformer would be balanced by numerous "equity" issues. It is likely that access would be based on legal formulations that only partly respond to economic issues. Opportunistic participants may use the mandated wheeling requirement as a means to cause misallocations in the existing delivery system and in the development of future delivery systems.

The continued reliance upon rate-of-return regulation to control interstate grid owners (and intrastate "incentive-based" rate regulation where "effective competition" in distribution fails to materialize) will also further distort transmission and distribution markets. The price for access will continue to be set by stale, irrelevant information such as historical and sunk costs, which were determined by decades-old regulatory decisions. In the marketplace, prices have little to do with such information; they are dictated by expected conditions, supply and demand, the specific conditions of the sale, and what the seller thinks the market will bear. They are exploratory, correctable, and information-producing. No economy can operate intelligently without this and other information *discovered* by market-derived prices, but rate regulation discovers nothing but the cost of production (itself distorted by prior regulatory actions). Thus the grid will continue to suffocate from the lack of infor-

mational oxygen necessary to intelligently direct the activities of its owners and customers. Error will compound upon error.

There are other problems with H.R. 3790. For example, the open-ended power left states to adjudicate the recovery of stranded costs; the requirement that states consider tariffs or surcharges to address adequate service, service reliability, the promotion of energy efficiency, renewable energy, and environmental protection; and the blanket invitation for states to preserve universal service, service quality, "protect public safety and welfare," and "safeguard the rights of consumers." The exercise of any of these powers could result in untold economic mischief, dramatically increase rates, and drive smaller competitors from the marketplace.

Moreover, the argument that states have a right to undertake such regulation (and that H.R. 3790 simply invites what it otherwise cannot control) requires qualification; the Constitution's celebrated Commerce Clause prohibits states from regulating the flow of interstate trade. With electricity generation, transmission, and distribution now a regional (if not a national) service industry, Schaefer's bill unwisely acquiesces to state violations of free trade.

H.R. 3790's requirement that the above interventions be nondiscriminatory and competitively neutral is impossible in the real world. First, no market intervention is ever "nondiscriminatory" or "competitively neutral." It is impossible by definition. Second, if there is one thing we know, it is that rent seekers and their agents in the bureaucracy are ingenious at getting around vague admonitions against anticompetitive actions. "Look ma, no fingerprints!" ought to be emblazoned on every lobbyist's office door.

The bill's prohibition of utility discrimination regarding grid access or pricing is likewise counterproductive—if the grid is truly monopolistic—despite its visceral appeal to virtue. For if transmission and distribution service is indeed a natural monopoly, price discrimination would allow the grid owner to spread heavy fixed costs over a larger array of customers; setting rates near cost for those who would not buy at higher prices, and otherwise setting rates at what the market will bear. Under a discriminatory pricing regime, the monopolist will efficiently allocate resources by spreading the company's fixed costs over a larger output and thereby allow lower rates than might otherwise be levied on the consumer.

The act's prohibition against utility cross subsidies is intellectually threadbare; it will only serve to "protect" consumers against lower prices. For even assuming that a monopolist is able to use predatory pricing to drive competition from a market that is otherwise not a natural monopoly, any attempt to recoup losses incurred by predatory pricing or to extract monopoly profits will attract new entrants. It is thus virtually impossible to monopolize a market that is not monopolistic naturally. It is not surprising that a review of the economic literature addressing predation clearly establishes that it is not prevalent; the examples typically provided are old, limited, and dubious.

Holding repeal of PUHCA and PURPA hostage to multiple PUC findings of competitively neutral and nondiscriminatory competition is likewise

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shortsighted. As readers of this magazine are aware (see *Regulation*, 1992 No. 1), neither PURPA nor PUHCA made sense when they were adopted and they make even less sense today. Every day that H.R. 3790 prolongs the life of these statutes is an additional day that the industry suffers under a distorted and inefficient market structure that mitigates against the delivery of lower prices and better service to American consumers. Likewise, protecting the right of regulators to have virtually unrestricted access to corporate records is ill-advised from a competitive standpoint and a continuing violation of constitutional protections against unwarranted searches and seizures.

Having read the pronouncement of dozens of state public utility commissioners and their staff economists, I also cannot help but wonder whether any PUC would ever release utilities from rate regulation, PURPA, or PUHCA with a determination "that such utility is subject to effective competition" or that "competitively neutral and nondiscriminatory" markets exist. Since those phrases are left undefined and no time limit for these considerations are mandated in

the bill, textbook fictions of perfect competition might well continue to hold utilities hostage regardless of federal intent.

In the meantime, the bill's requirement that state PUCs restrict themselves to "flexible pricing procedures and incentive-based rate regulation" of electric utilities until such time as that utility "is subject to effective competition" is an illusionary way out of the problems of rate regulation. Although the bill does not define what "flexible pricing procedures and incentive-based rate regulation" is supposed to mean (apparently this interpretation also will be left to state regulators), the general idea is to permit regulated firms to retain those profits that represent, not the exploitation of monopoly, but superior performance and efficiency. The fundamental problem with this perennial proposal is that it is nice in theory but impossible in practice. How are we to distinguish between the two? "Superior" compared to what set of companies, or what industry? The data theoretically required to sort through such questions would require even larger numbers of regulators with substantially greater expertise than is required today. And as Richard Posner has pointed out, "Anyone who believes that a fruitful direction for forward movement in regulation is toward increasing the amount of the data and the sophistication of the conceptual apparatus used in arriving at regulatory judgments is ignoring the lesson of experience."

The disproportionate regulatory burdens placed on utilities vis-à-vis third-party power generators will undoubtedly tempt many in the electricity industry to divest distribution facilities so that their generation facilities can escape much of the state regulation they would face otherwise. If divestiture does not occur voluntarily, PUCs might well help the process along by finding that effective competition, or nondiscriminatory or competitively neutral competition, entails the breakup of vertical integration. We simply do not know enough about this industry, given how distorted it has been by government intervention, to pass judgment about whether vertical integration is or is not efficient. Legislators should therefore refrain from interventions that stack the deck one way or the other.

And while it is all to the good that municipal-owned utilities and electricity co-ops are prohibited from taking competitive advantage of access to federally subsidized power outside of their existing service territories, the bill fails to go far

enough to ensure a level economic playing field. The spigot of subsidized PMA and TVA power not only continues to flow to municipals and co-ops under H.R. 3790, but tax-exempt borrowing rights and exemptions from federal and state income taxes likewise remain untouched.

The Renewable Energy Rampage

Finally, there is the matter of renewable energy. Schaefer simply does not accept the status quo as a given; he dramatically expands America's commitment to this economic white elephant, mandating a near tripling of America's renewable energy supply. The irony here is that the political commitment to renewable energy to a considerable extent was responsible for the political rebellion against regulated electricity monopolies in the first place. It was in California in April 1994 that franchised monopolies first were challenged energetically. The reason? Consumers finally rebelled against rates that were 50 percent above the national average and nearly double those of neighboring states. And why were rates so high? Largely because 95 percent of the nation's wind power, 99 percent of the nation's solar power, 78 percent of the nation's geothermal power, 46 percent of the nation's "energy-efficiency" investment, and 9 percent of the nation's biomass capacity was located in that state. It was the desire to evade this electricity rate-gouging by opening up the market to competition that originally set the stage for the Electricity Consumers' Power to Choose Act of 1996.

Even the most "economic" of the renewable fuels mandated under Schaefer's bill, wind power, is at least three times as expensive as electricity sold on the spot market. Resource Data International estimates that renewable energy requirements of the kind promoted in H.R. 3790 would cost consumers somewhere around \$52 billion. It is entirely possible that the savings gained from retail competition would be largely offset by Schaefer's renewable energy crusade, particularly once we factor in the probable "recovery" of billions of dollars in stranded costs from the consumer's pocket.

And there is no possible justification for this second-guessing of the marketplace. Renewable energy is expensive because it takes a tremendous amount of resources to generate and deliver to the consumer. Traditional fuels are less expen-

sive because they take fewer resources to generate and deliver to the consumer. This disparity in price simply cannot be attributed to past or present subsidy of traditional fuels. The Department of Energy's Energy Information Administration, for example, calculates that federal energy subsidies constitute less than 4 percent of annual energy expenditures. They simply are not large enough to significantly affect prices, much less explain the dramatic differential between renewable and nonrenewable electricity rates.

Nor are fossil fuels scarce; we face a historic glut of petroleum, coal, and natural gas, and have experienced steadily falling relative prices since as far back as statistics will allow us to go. If and when fossil fuels become more scarce (more expensive) than renewable alternatives, electricity providers will purchase those renewable energy sources *of their own free will*, just as they once shifted from timber and coal to petroleum without government mandates.

What makes Schaefer's proposal particularly confusing is an early finding prefacing the legislation that "subjecting renewable energy technologies to the discipline of the free market will better allocate renewable resources and speed the commercialization of renewable technologies than traditional centralized government resource planning." Exactly ... so what is this provision doing here?

The other alleged reason for this mandate is the need to protect the environment in a competitive electricity marketplace. Yet the environmental virtues of renewables are overstated. Indeed, there are numerous environmental groups that oppose—explicitly or implicitly—every renewable energy alternative on environmental grounds. Moreover, all of the calculations performed to buttress the claim that renewables are more environmentally friendly than the alternatives ignore the one fuel that virtually all analysts agree will prove the economic winner in a competitive market place—natural gas. Once one calculates the environmental impact of renewables in comparison to natural gas, particularly with state-of-the-art gas combined-cycle plants, most, if not all, of the environmental gains supposedly generated by the Schaefer mandate melt away. Simply put, H.R. 3790 is not deregulation. It barely qualifies as reform.

Partial Deregulation: A Fatal Conceit?

The optimistic observer might conclude that

Schaefer's bill has its faults, but they are faults born of a reluctance to hit the accelerator hard enough. After all, the grid has already been partially seized by FERC Order 888. The PUCs simply are allowed to do much of what they already do. PURPA and PUHCA will probably fall by the wayside sooner or later. The main thing is the end of state protection of franchised monopolies, and that is no minor matter. Why let the best be the enemy of the better? After a few years at this regulatory waypoint, we can return to Congress and finish the job of deregulation once the market has proven its salt to consumers and regulators alike.

What is not debatable is the fact that Schaefer's bill is not patterned after the Argentinean model.

Maybe. The cynic, however, is reminded of the admonition issued by the Milken Institute's Benjamin Zycher:

Politics is the art of wealth redistribution, and economic regulation is the continuation of politics by other means. Whatever rationale for regulation one chooses—natural monopoly, external effects of individual behavior, health and safety, requirements of national defense, ad infinitum—the universal characteristic of regulation, regardless of industry, time, or place, is a redistribution of wealth from political losers to those favored by regulators and politicians...winners will be loath to lose the benefits perceived to be inherent in the current system, while the losers often do not know that they are being fleeced, and, in any event, individually have free-rider incentives to wait for others to do something about the problem.

With this in mind, reexamine H.R. 3790. Not one "winner" in the game of regulatory wealth transfer necessarily loses his claim on "monopoly" rents. The rents henceforth will be extracted from access to the transmission grid rather than at the point of retail sale. Other than that, state PUCs face no limit on what they can extract from the electricity industry or to whom they can grant such rents. In other words, there is no reason to believe that the mix of winners and losers—or the size of their public take—will

change at all.

Retail competition will certainly tend to reduce rates if for no other reason than the fact that uneconomic generation facilities will find it difficult to compete with lower-cost electricity providers. The end of rate-of-return regulation might also result in operation and management savings. Yet the likely recovery of stranded costs and the expanded role of renewable energy will lessen the drop of electricity prices. And since most of the important decisions that will determine the relative success of retail competition will be primarily in the hands of state regulators—and secondarily in the hands of FERC—it is impossible to guess how much electricity prices will fall, or even if they will fall at all.

The anecdotal evidence marshaled to the contrary by the reformers is unconvincing. Argentina is held up as evidence of the economic gains possible under H.R. 3790, but the comparison is spurious. Reform in Argentina entailed denationalizing power assets (all of which were held by the state), establishing a national poolco arrangement, providing for competition in transmission and distribution of power, overseeing grid prices by flexible incentive-based regulation (H.R. 3790 requires such regulation only for intrastate, not interstate transmission and distribution), and forcibly breaking up the vertical integration of the industry. Whether the Argentinean model is a particularly good model for American regulatory reform is debatable. What is not debatable is the fact that Schaefer's bill is *not* patterned after the Argentinean model.

The striking success of natural gas deregulation also is offered as a reason for optimism about the economic consequences of H.R. 3790, but the comparison again is faulty. The industries are structurally different—electric utilities are vertically integrated and their transmission networks are integrated; whereas the natural gas industry at the time of deregulation was not vertically integrated and its pipelines were balkanized and disconnected. Nor are the reforms equivalent. Pipeline customers were not granted mandatory access but instead were allowed to purchase transportation rights and trade them on the open market. And, as noted by economists De Vany and Walls, "The organization of gas markets came from the industry itself, not from on high. That should not be forgotten in the electricity industry. The FERC should stay out of the way so that markets can work on the details of

the agreements and sorts of rights and contracts that are needed to make competition effective."

A study by Citizens for a Sound Economy (CSE) is also used to justify optimism, but the CSE study speaks of the potential gains of competition, not potential gains from the Electricity Consumers' Power to Choose Act of 1996. Moreover, several assumptions of the study, such as a postulation that labor productivity is directly related to energy intensity, are questionable. The truth is that nobody can say with any certainty what will happen if Schaefer's bill is signed into law, particularly since no one knows how state PUCs will respond.

The second reason for skepticism is noted by Professor Richard Gordon of the Pennsylvania State University who warns that "trusting the regulators to redesign will perpetuate past errors," and that only the elimination of economic regulation, root and branch, will succeed in improving the situation.

I am quite unsure what will occur under a sensible policy of deregulation, but one thing that seems certain is that partial deregulation will not work...The industry has been subjected to many decades of distortions. The evidence is inadequate even to determine the relative role of different pressures in producing past developments. With this lack of understanding of exactly how we got where we are, we are in no position to say where best to head. However, this is why the spontaneous market order proved so durable an institution. It can effect the experiments needed to develop a sound structure.

We should therefore be a bit modest before making sweeping claims about what this or that reform might ultimately produce. Any policy short of shock therapy is only a little less than a shot in the economic dark.

A classic example of how free markets can produce totally unexpected industrial arrangements and market structures is the case of airline deregulation. Before deregulation, airlines were regulated much as railroads; linear routes and organizational patterns were the assumed norm. No one, however, anticipated the development of the hub-and-spoke arrangement that now characterizes the industry. Reforms that fall short of completely freeing the industry from political control will prevent or at least seriously inhibit this important discovery process.

Finally, free market analysts ought to be careful about accepting partial deregulation even if

they are reasonably certain that the reforms proposed are moving in the right direction. This stems from another observation made by Benjamin Zycher,

Economic regulation carry[ies] the seeds of its own destruction, as market forces tend over time to find ways to provide services to the political losers at marginal cost, and so to deprive the winners of the largesse generated by political and regulatory institutions. No stranger to this process, the electric utility sector is deregulating itself, as market forces yield a more competitive environment by circumventing the restrictions and inefficiencies imposed by traditional rate-of-return regulation.

Indeed, one could argue that the pressure for electricity deregulation does not ride on the political coattails of the general global march toward less government, but instead is the logical consequence of the ongoing market demolition of regulated power. The combined claims of the coalition of political interests that controlled the electricity industry became so great that they exceeded the resources available to the coalition. Thus, the regulatory system is now collapsing. H.R. 3790 can be read as an attempt to arrest that collapse and allow that coalition to be rebuilt on a new, reduced set of claims and, perhaps, a different set of members. The experience of natural gas deregulation is instructive. As De Vany and Walls note:

Some say the regulators led the way, but they were, at first, trying to save their skins for they had created a situation that was intolerable for everyone and they had Congress demanding a fix. But, each new fix stressed the archaic structure in a new place and the stresses spread so quickly that regulators were chasing a moving target.

The coalition of political interests that captured the natural gas industry was unable to arrest the collapse of the regulatory structure long enough to reconstruct a new regulatory coalition. The danger in H.R. 3790 is that it would provide precisely the conditions necessary for the regulators to reconstruct their political coalition and survive into the future.

In Schaefer's brave new world, the rent seeking of public utilities will be replaced by the rent seeking of industrial users who aim to force their former economic tormentors (utilities) to transmit electricity under regulatory constraints at rates based on depreciated *original* costs.

Schaefer's proposal is conceptually little different from a law forcing trucking companies to accept any demand at any time to ship goods from point *a* to point *b*, depriving trucking companies of the right to charge what they like for their services. What H.R. 3790 proposes is not economic freedom, but economic slavery. Industrial users, however, become the slave masters, whereas the former slave masters become the enslaved.

The Case for Shock Therapy

If neither generation, transmission, distribution, nor retail sale of electricity is a natural monopoly, then the appropriate package of reforms automatically suggests itself—complete elimination of electric utility regulation. Let us begin our markup of the Electricity Consumers' Power to Choose Act of 1996:

- Eliminate the regulation of transmission rates and service terms. Coase's celebrated theorem demonstrates that the initial allocation of rights does not affect how resources are used; competition will emerge from any allocation that does not itself create a monopoly. One does not have to seize the grid and reshuffle ownership rights to secure a user-owned grid; it will develop naturally if such an ownership structure makes sense.
- Remove the requirement that state PUCs submit a competition plan to FERC by a certain date. Instead, stipulate that any state or municipal regulation of the generation, transmission, distribution, or retail sale of electricity sold across state lines will be considered a violation of the U.S. Constitution's Commerce Clause—perhaps the first legitimate use of that clause in decades.
- Immediately repeal PURPA and PUHCA, and remove FERC from any role in electricity.
- Eliminate the prohibition against cross subsidy.
- Privatize the Power Marketing Authorities, the TVA, all federal power generation facilities, and eliminate all preferences afforded municipal power companies and electricity cooperatives.
- Eliminate all federal price subsidies, tax incentives, and regulatory preferences for renewable energy.
- Require open, nondiscriminatory access to all federal public rights of way for electricity transmission and distribution facilities, save for when such transmission or distribution presents a public hazard. Private rights of way that were procured with the aid of eminent domain

should be opened to third parties under the same stipulation, save that compensation must be paid for this "taking."

- Remove the prohibitions facing any party or industry from providing electricity services of any kind. Cable companies, telephone companies, and water and sewer authorities, for example, should be allowed to use their rights of way or purchase additional rights of way to enter the electricity business.

A more moderate agenda might be to accept the above but to preserve FERC's role in electricity. Stipulate that FERC shall be transformed into a specialized antitrust commission (akin to the Surface Transportation Board) empowered to hear cases of anticompetitive behavior in interstate commerce of electricity. Indeed, many of the allegedly unfair business practices of monopolies—such as patent abuses, tying arrangements, refusals to deal with competitors, and predatory pricing—are not uniquely characteristic of "monopoly" firms; nonmonopoly firms are charged almost as frequently with such practices. Constraints on such activities are (rightly or wrongly) a fundamental part of general antitrust and trade regulation law.

While antitrust law is dubious to say the least, it is unlikely that the David of electric utility deregulation will be able to knock off that political Goliath as well. Since antitrust law will likely exist well into an era of deregulated electricity, turning the regulatory apparatus into specialized antitrust courts might assuage the concerns of those who feel that traditional antitrust remedies will take too long to help "victims" of electricity competition.

A second compromise approach would be to allow FERC to directly contract for electricity services that are not supplied by the market. Consumers would be free to accept or reject the terms offered by FERC. This would be a real "regulatory contract." The commission would have no command or control powers, and would be forced to procure money from Congress if it wished to subsidize its clients. Thus, elected representatives of the people would be directly accountable for the now transparent subsidies that once were largely invisible and absent from public discussion.

How politically realistic is such an agenda? Who knows? In the words of Professor Richard Gordon, "The experience with energy policy over the past two decades suggests that politicians often do not know what they can legislate. What advisors should do is suggest what is right and persuade politicians

to convince people that the changes are desirable."

Selected Readings

- Ballonoff, Paul. *Shock Therapy: Energy Regulation Reconsidered*. Washington, D.C.: Cato Institute, in press.
- Bradley, Robert L. "The Origins of Political Electricity: Market Failure or Political Opportunism?" *Energy Law Journal* 17 (1): 59-102 (1996).
- Denning, Mike and Walter Mead. "New Evidence on Benefits and Costs of Public Utility Rate Regulation." In *Competition in Electricity: New Markets & New Structures*, edited by James Plummer and Susan Troppmann. Palo Alto, Calif.: QED Research Inc., 1990.
- De Vany, Arthur and W. David Walls. *The Emerging New Order in Natural Gas Markets*. Westport, Conn.: Quorum Books, 1995.
- Geddes, Richard. "A Historical Perspective on Electric Utility Regulation." *Regulation* 15 (1): 75-82 (1992).
- Gordon, Richard. "Deregulation and the New Competitive Order in Electricity Generation: The Stumble Towards (Possible) Free-Market Generation." Paper presented at the Cato Institute/IER conference New Horizons in Electric Power Deregulation, Washington, D.C., March 2, 1995.
- Houston, Douglas. "Deregulating Electric Utilities: A Market-Process Approach." *Cato Journal* 3 (3): 831-853 (1983-1984).
- Moore, Thomas Gale. "The Effectiveness of Regulation of Electric Utility Prices." *Southern Economic Journal* 36 (4): 365-375 (1970).
- Posner, Richard. "Natural Monopoly and Its Regulation." *Stanford Law Review* 21 (3): 548-643 (1969).
- Stigler, George and Claire Friedland. "What Can Regulators Regulate? The Case of Electricity." *Journal of Law and Economics* (1962).
- Zycher, Benjamin. "Market Deregulation of the Electric Utility Sector." *Regulation* 15 (1): 13-17 (1992).