Debating California

Diagnosing the California Electricity Crisis
Frank A. Wolak

Retroactive Retrograde Retreat: Keeping FERC in the Generation Pricing Business Forever
Jonathan Falk

Sorry, Mr. Falk: It’s Too Late to Implement Your Recommendations Now
Frank A. Wolak

Regulatory Failure in the California Electricity Crisis
Steven Peterson and Charles Augustine

Getting the Transmission Planning Rules Right for Competitive Markets
Charles Pratt

How Can FERC Find its Way out of the SMD Cul-de-Sac? Stimulate the Transmission Sector!
Mathew J. Morey and Christina C. Forbes

Strategizing in the Deregulating Energy Markets: Where Next?
Torben J. Andersen and Antonio J. Remedios

High-Voltage Electric Transmission Line Upgrades: The Value of Good Corporate Citizenship
Chris Hilen
In this issue...

As the reverberations from the California electricity crisis continue to be felt in Washington and in statehouses across America, this month we offer a debate between two respected contributors to The Electricity Journal on the roots of the crisis and what should be done to move forward. Stanford University professor Frank A. Wolak, who chairs the Market Surveillance Committee of the California Independent System Operator, starts the debate with a comprehensive review of the roots of the crisis that leads him to the conclusion that FERC must regulate, rather than simply monitor, wholesale electricity markets, concentrating on designing prospective protocols for rate regulating intervention to quickly correct market design flaws and ordering refunds as soon as unjust and unreasonable prices are found.

But NERA's Jonathan Falk derides that stance as a "retroactive retrograde retreat" that will only serve to keep FERC in the generation pricing business forever. The problem, he argues, is that if FERC had any idea what a just and reasonable price was, it could have simply ordered it and there would have been no particular reason to deregulate in the first place. Wolak's response: Sorry, but even if they made sense, it's too late now to implement Falk's recommendations. Indeed, he argues, the only way to solve Falk's problem would be to repeal the "just and reasonable" rate provision of the Federal Power Act, and that simply is not going to happen. We hope you find the give-and-take to be illuminating.

We also offer a bit of additional history on the California crisis in the form of an essay by Steven Peterson and Charles Augustine that asks why the Golden State did not start moving demand to forward markets, promoting conservation, and expediting the installation of new capacity in summer 2000 or even earlier. His answer: Such a solution was politically impossible at the time.

Elsewhere in this issue we return to our discussion of transmission planning. Charles Pratt makes the case that the absence of region-wide transmission planning can be seen as another "seams" issue. The development of rules specific to each RTO, he maintains, simply perpetuates unnecessarily a seam among the three Northeastern RTOs.

And Mathew J. Morey, who has proliﬁcally analyzed FERC's Standard Market Design for the Journal in recent months, teams with Christina C. Forbes to offer a bottom line on the debate: the need for for-proﬁt, independent transmission companies, which can move most efﬁciently to restore stability in the industry and accelerate investment in the grid.

On the corporate strategy front, Torben J. Andersen and Antonio J. Remedios advise that, while the buoyant mood during the heyday of electricity deregulation may have been excessive, the currently prevailing negative mood is equally excessive. They suggest some areas where strategic opportunities remain to be exploited in electricity retailing.

More practical advice is proffered from Chris Hilen, who makes the case for the value of good corporate citizenship in easing the approval process for high-voltage electric transmission line upgrades.

Richard Cohen
Gerry Khermouch

The Electricity Journal (ISSN 1040-6190) is published monthly, except bi-monthly in January/February and August/September by Elsevier Inc., 655 Avenue of the Americas, New York, NY 10010. Periodicals postage paid at New York, NY, and at additional mailing offices.

Postmaster: Send address changes to The Electricity Journal, Elsevier Inc., Customer Support, 655 Avenue of the Americas, New York, NY 10010-5107.

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Subscription rates: euro 79 for European countries; USD 84 for all countries except Europe and Japan (personal price). Euro 432 for European countries; USD 488 for all countries except Europe and Japan (institutional price).

Subscription desk: 877-839-7126 (toll free) or 407-345-4020

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Debating California

Retroactive Retrograde Retreat: Keeping FERC in the Generation Pricing Business Forever

How much market power is too much market power? Frank Wolak's answer is to say that market power is excessive when it results in prices which are not "just and reasonable," where just and reasonable means whatever FERC thinks it means. But this is nonsense. If FERC knew what a just and reasonable price was, it could have simply ordered it and there would have been no particular reason to deregulate.

Jonathan Falk

In his article, Frank Wolak diagnoses the problems with the California electric market which led to the 2000–01 crisis, critically discusses the contemporaneous response to that crisis by the Federal Energy Regulatory Commission (FERC), and proposes a set of ameliorative measures of his own. While I largely (if not completely) agree with Wolak's characterization of the flaws in the California market, and heartily agree that FERC's response did not improve the situation, I am quite troubled by Wolak's proposed fixes. My discomfort stems not from the proposed fixes themselves, most of which clearly improve today's situation and are undoubtedly well-intended, but from the understanding of the regulatory process which animates them. Somewhere along the way, we have lost the sense of why we ever wanted to deregulate electricity markets in the first place. The danger of forgetting this underlying rationale, as I believe
Wolak has, is to doom ourselves into a position of reduced social welfare for no particularly good reason.

The fundamental theme of this article is that we have tried to deregulate electricity markets to avoid the ills of regulation. When we remember this, regulatory solutions to problems in newly deregulated markets seem a very odd choice. It is a proposal to solve what began as a regulatory problem by regulating. If we cannot create deregulated electricity markets, we ought to be honest enough to say so and figure out a way back to a regulated scheme that, whatever its infirmities, we at least understood. Constant tinkering with the regulatory regime, even where every change represents an improvement (a dicey proposition in the long history of regulation) is often worse than sticking with a constant regulatory scheme that everyone can then adjust to.

I. Why Did We Want to Deregulate?

If there is a central lesson of the last 200 years of economic theory and empirical observation, it is that competitive markets work better than most other forms of organization. While every economics student learns about market situations that perform less well than idealized “perfect” markets, there are precious few examples of market failures so profound that the alternatives are clearly superior. Now, in saying this, I fully realize that there are no “perfect” markets and there are no markets which do not have some overhang of governmental interference with some hypothetical nirvana of free exchange. There are no absolutes here, but if reasonable people sit down to try and characterize particular markets we should have little trouble establishing a continuum between markets in which there is little or no scope for voluntary exchange at mutually agreed-on prices (e.g., the market for votes) and markets in which there is almost nothing but voluntary exchange at mutually agreed-on prices (e.g., the market for hamburgers).

The first electric companies were regulated only through franchises to gain the right-of-way to string lines. Multiple franchises in a given city were common.1 Gradually, this system was replaced by state regulation, beginning in 1907 with the creation of utility commissions in Wisconsin and New York. In theory, utilities gave up the ability to set prices and the ability to freely market their output to anyone who wanted it in return for protection from competition and an opportunity to earn adequate returns on invested capital.

This system evolved over the next 90 years. It is important to see, however, that the fundamental principle of return of and on prudently invested capital in exchange for mandated capital was unchanged. The differences all revolved around interpretation and implementation of this basic idea.

While 90 years of experience taught us a lot about how to regulate an electric utility, there were substantial problems which seemed difficult to address without breaking the fundamental regulatory bargain. Undoing this bargain, and making a transition to a competitive model for the electric industry, began to be seen as the answer to a number of problems. Without claiming that my list is exhaustive, prominent among the problems were the following:

1. The politicization of the process: Rate-setting for an electric utility is an inherently political process. Rates which are too high (or in most cases, simply higher than existing rates) anger large groups of citizens and create intolerable pressures on politicians to mollify large industrial firms in order to keep jobs in their districts. Rate hearings were transmogrified from sleepy technical affairs to multilateral trench warfare between utilities and various rate classes. There increasingly came

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1. For a discussion of the history of electric utilities, see Wolak, 2002.
to be a sense that electric rates reflected not only the prudent costs of doing business, but added a strong dollop of raw political power.

Nowhere was this more evident than in the fight over nuclear costs in the 1980s. Nuclear construction costs substantially exceeded the estimates of utility planners. Intervenors sought to have utility shareholders bear these costs, i.e., to have these costs disallowed from the investments on which shareholders were entitled a return on the grounds that utilities behaved imprudently. Enormous sums were at stake and almost every utility which constructed nuclear power plants took a substantial loss. Chastened by this experience, investors were reluctant to commit capital for the construction of new plants when such plants began to be required in the 1990s.

2. Interjurisdictional and inter-rate class differences: Because each utility’s rates were based on its own costs, rates between adjacent utilities could be quite different. This in turn creates substantial incentives for industrial location and relocation which are based on happenstance, and it led to the proliferation of “special” rate classes simply to respond appropriately to the economics of the situation. The proliferation of rate classes not only exacerbated the political problems above, but created a host of inefficient cross-subsidies in which consumers receiving substantially the same thing paid vastly different prices. As prices become more and more disconnected from the incremental costs of serving customers, the proclivity of consumers to take decisions based on their price rather than social costs literally wasted large amounts of resources.

3. Weak incentives to behave efficiently: When owners run their operations, they have every incentive to minimize costs (where costs of course include their own personal mental costs of managing the business). When owners turn that job over to professional managers, we have a classic principal-agent problem in which it is difficult, without aligning the incentives of the manager and the owner in some way, to get the manager to act in the way the owner would have behaved had he been operating the firm. Various mechanisms have been proposed and implemented to better align the interests of owners and managers. None of these is perfect, but the goal is clear.

When managers cannot even pass on gains to the owners, however, the problems become more acute. It is made even more difficult by the existence of another class (or set of classes), the ratepayers, whose interest the manager is also supposed to be taking into account. In principle, there may be ways of accomplishing these alignments simultaneously, but the problem is clearly orders of magnitude more difficult than the already hard problem of simply aligning managers’ interests with stockholders’ interests.

While some progress on the incentives front was made in the 1990s, a more radical solution to all three problems was being mooted: competition.

While some progress on the incentives front was made in the 1990s revolving around split-savings agreements and performance-based regulation, a more radical solution to all three problems was being mooted: competition. Setting up electricity as a “normal” market promised to solve all three of the problems above: in normal markets, prices are not determined by politicians, the law of one price assures that people buying the same thing pay the same for it, and the electricity company would no more have to explicitly factor its customers’ welfare into its decisions any more than any other competitive firm does.

In addition to dealing with some of the manifest failings of regulation, competitive generation markets promised new goads to dynamic efficiency in new plant technology. With the ability to actually profit from a better generating plant, it is far more likely that new generating plants will be built. Coming on the heels of a deregulatory period
which saw formerly regulated industries fully or partly deregulated, electricity deregulation promised an efficient result by “letting the market work,” hardly a radical idea.

The critical thing to remember, however, is that deregulation of generation is not a goal in and of itself. It’s not as if we weren’t going to have electricity unless we set up a competitive market to provide it. We had a robust network which had kept the lights on for over 100 years. Even if the problems outlined above could be corrected by competition, it makes no sense to do so unless the benefits outweigh the costs. Having surveyed the benefits we expected from competition, we now turn to the costs.

II. Technical Impediments to Deregulation

The electricity market was characterized by large vertically integrated utilities with substantial cooperative ties among them to keep the system running efficiently. While there may have been some short-run inefficiencies in electricity system operations, it is generally acknowledged that the electric system was run quite efficiently given its mix of capital stock. The first order of business in imagining a deregulated electric system was to create a market which preserved these efficiencies. It is critical to see that there were no (large) anticipated benefits here—all we wanted to do was not screw things up too badly.

Electricity generation requires an extraordinary amount of coordinated activity to work at all, much less work efficiently. Decisions to consume electricity from moment to moment are entirely uncoordinated and idiosyncratic, but generators (in aggregate) must continuously vary the amount requested within fairly tight bounds if power of a usable voltage is to be supplied. What’s worse, the topology of the electric network makes particular generators imperfect substitutes for others. Worse still, generators can fall out of service and their lost output must be replaced essentially instantaneously.

No one has managed to perfectly automate this process. There is, under current technology, no way to run an electric system without a control room which issues orders to individual generators to turn on and turn off, ramp up production, and ramp down production. These orders must be followed quickly and reliably, or the system will fail.

The “old” electric system solved this problem through the regulatory process and vertical integration. Vertical integration meant that when an order was issued from the control room, it was followed. Failure to do so cost the miscreant his job. Regulation ensured that the aggregate costs of running the system were, by and large, recovered. Cooperation between neighboring utilities was ensured by the regulatory scheme as well—so long as there was no opportunity to profit at the expense of your neighbor, there was no reason not to cooperate with him for the greater good. Moreover, the integrated nature of the grid ensured that neighbors shared each other’s misfortunes and mishaps, so cooperation could prove self-rewarding.

Competitive generation threatened to undo this result. In a world of autonomous actors, if A orders B to do something, B will normally refuse unless he understands it is to his benefit. Worse, B might behave opportunistically if he realizes how badly A wants B to carry out the order. The requirement that control room operators have their orders followed without a period of negotiation means that something has to be done not just to keep the system running efficiently, but to keep it running at all.

In addition, electric generation is characterized by an extraordinarily large range of marginal costs even where the industry is organized optimally. Unlike an industry in which low-cost marginal producers can drive
high-cost marginal producers out of business, in electricity high-cost marginal producers can prosper in perpetuity by having sufficiently low capital costs or peculiar but desirable operating characteristics, like the ability to ramp up quickly. In other industries, the ability to store inventory will eventually drive these firms out of business, but the requirement of matching instantaneous demand to instantaneous production (not just instantaneous supply) breaks that nexus.

The implication of the wide range of marginal costs is that the aggregate costs of the system can vary widely if units are not run in the proper economic order. If a higher-marginal-cost unit is run while a lower-marginal-cost unit remains idle, resources are wasted. The orders of magnitude difference between the lowest-marginal-cost units (around $7/MWh) and the highest-cost units around ($200/MWh) means that the increases in costs from getting the merit order wrong can be substantial.

When one is guaranteed protection from competitors, there is no need to keep your costs secret. Thus, it is fairly easy to create an efficient dispatch.

states and NEPOOL in New England. One followed the orders of the control room not only because it was your job, but because you had confidence that the control room had no particular opportunity to benefit itself at your expense. This gave you more faith that the control room’s decisions were worthy of being followed.

This, too, would change under competition. The owner of the control room would have enormous incentives to favor generation it controlled vis-à-vis generation controlled by other parties. Facing a rigged game, no one would rationally enter.

Finally, the integrated utility, by merging the control room function into the rest of the operation, had nothing to fear from the control room operator responding to its own financial incentives to behave inefficiently. Indeed, recovery of all prudently incurred costs allowed the control room function to be shared in many instances across utilities, particularly in the so-called “tight pools,” PJM in the mid-Atlantic

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III. Technical Problems Solved: ISOs, Real-Time Markets

In fact, these problems were “solved.” I put solved in quotation marks not because the solutions were perfect, but because the general feeling was that the implementation of independent system operators (ISOs), real-time markets, and locational marginal pricing wouldn’t compromise the efficiency of markets too much, and indeed might make some aspects of it work somewhat better.

Independent system operators replaced control rooms. The problem of favoring one’s own generation was solved by making the ISO independent and not allowing it to own generation. Further, this function was still regulated, earning returns of no more than its prudently incurred costs. The next question was where the ISO was to get the information it needed to run the system. It did this by running a real-time market.4

A real-time market replaces cost data for each unit with bid data from each unit. A bid is a precommitment by a generator. It says, in effect, “If you are willing to pay me at least my bid to carry out a particular action, I agree to perform that action when asked.” The action could be a command to turn on, to turn off, to prepare one’s unit to turn on or off, or any number of other ancillary services. By specifying a minimum price at which a generator is willing to perform a service, we
solve the problem of response to commands. A generator follows orders from the ISO because he knows he will receive at least the bid which he was able to freely choose.

With bids in hand replacing the old internally reported values of marginal cost, the ISO can now figure out how to run the system. Computer programs are run which figure out the set of units which should be on at any given time to minimize aggregate system costs. This creates a set of orders, which the ISO delivers to the generators.

But there is still a problem. The system described runs on bids as if they were costs, but why should we think that bids are anything like costs? This quite complicated problem requires the creation of an incentive-compatible system. In an incentive-compatible system, I ask you for a piece of private information (in this case your cost) and set up a system where it is in your financial interest to answer the question truthfully. Incentive-compatible systems require no enforcement of truth telling—truth telling is an outcome of the rational response to incentives.

The way to make bids incentive-compatible is to make prices independent of bids. When your price received is independent of your bid, you certainly have no incentive to bid below your cost, because there is a probability that the price will fall between your bid and your cost, which will cost you money. Similarly, there is no incentive to bid above your cost, because there is a possibility the announced price will fall between your actual cost and your bid, meaning that your unit is not selected and sacrificing a potential gain.

Unfortunately, it is impossible to make prices completely independent of bids in all cases. In the simplest example, consider a system with a monopolist. We need him to provide 1,000 MWh. He bids X. By definition, the price will have to equal or exceed X if he is to generate. Since price equals or exceeds his bid, it cannot be independent of his bid. The same problem reproduces itself with larger numbers of players (although to a lesser degree) so long as each generator is needed in some amount.

In practice, prices have been set at locational marginal prices (LMP). The LMP is essentially the minimum price which (1) fulfills the level of demand; (2) pays each generator at least his bid; (3) does not offer any generator a price above his bid without running him; and (4) fulfills any technical constraints about sustainable flows.

The dependence of price on bid creates a system which is not exactly incentive-compatible. Thus, bids diverge from costs which in turn raise the possibility of less efficient systems than systems in which bids accurately reflect costs. This, in a nutshell, is the market power problem.

There is, by the way, a remarkable result on incentive-compatibility which has not yet been implemented and which solves this problem. Note that my example above required a known level of demand. If, in addition to generators specifying bids which are taken to represent costs, demanders specify bids which are taken to represent reservation prices, incentive-compatibility is restored to the system in aggregate. This highlights a point which economists including Wolak have been making about restructured electricity markets for some time: An active demand side is critical to making deregulated electricity markets work.

IV. Market Power, Economic and Political Repercussions

The market power problem has three problems associated with it. First, since bids exceed costs by different amounts for different participants, there is a chance of getting the efficient dispatch wrong. By and large, however, this is not a particularly serious problem since it affects only a few units whose costs were probably
pretty close to one another in the first place. Second, market power raises the price of power. This in turn leads to efficiency losses as, at the margin, individuals are dissuaded from using power which is worth more to them than its true social cost, but less than its price. This effect causes an efficiency loss of approximately one-half the price change times the lost consumption. Since electricity consumption in the short run is fairly inelastic, however, particularly for small changes in cost, this effect is quite minor as well.

Third, however, is the transfer of rents. Rising electricity prices takes money from consumers of power and gives it to producers of power. This problem is political, not economic. For one thing, consumers could hedge this risk by holding stock in generating companies. More critically, however, the creation of (at least potential) rents is the only driving force to innovation and capacity expansion in any competitive industry. One invests because of the prospect of rents to be earned. Rents in general are a return to entrepreneurial foresight and cannot be eradicated from a capitalist economic system without rendering it meaningless.

Why do we condone a system that constantly generates rents of one sort or another? Because we recognize the powerful effect that the ability to capture these rents has on dynamic efficiency. Dynamic efficiency recognizes that the rents earned today are transient and sow the seeds of their own destruction as those outside of the industry enter (or those inside expand) to capture these rents. In so doing, they take the risk that their investments might prove too expensive, or prematurely sunk. They innovate. Successful innovation makes money by capturing rents.

Sitting outside the process, we are sometimes tempted to try and separate the “good” rents, e.g., those flowing from innovation activities, from the “bad” rents, e.g., those flowing from market power. The problem is that there is no way to separate them—they are bound into an integrated whole which cannot be disentangled. Without the ability to raise prices in the short run, why would new suppliers offer innovative (and lucrative) long-term contracts? Without the goad that comes from the ability of some to raise price sharply for short periods of time, why would anyone work on creating automation devices which poll the Internet and automatically shut down unneeded devices when prices rise?

It would be overstating the case to state the we should simply let any degree of market power flourish because it’s good for the system as a whole. It isn’t. But the proper comparison is not the losses from market power, but the net benefits to the system as a whole. How fast does the exercise of market power get competed away by new entry? How much more inexpensive are those new units than the old stock? How much less do they pollute?

And of course no one claimed that the old regulated system ran perfectly efficiently. Even if it did in the short run, the problems cited above were widely known to have created a problem in which the mix of capacity was wrong because the incentives to produce the proper mix were too weak. Thus, while the market power problem represents a loss in efficiency vis-à-vis the pervasively regulated scheme it replaced, that doesn’t make it a worse system. It simply means that competitive generation has costs which must be weighed against the benefits.

V. How Much Market Power Is Too Much Market Power?

Wolak’s answer to this question is to say that market power is excessive when it results in prices which are not “just and reasonable,” where just and reasonable means whatever FERC thinks it means. As should be clear from the involved story I have just told, this is nonsense. FERC had the
ability to order “just and reasonable” prices in the regulated era. If FERC knew what a just and reasonable price was, it could have simply ordered it and there would have been no particular reason to deregulate. Every problem of regulation would be solved by the setting of a just and reasonable price by an omniscient FERC.

The regulatory problem arises precisely because no one knows what a just and reasonable price is. To answer that just and reasonable means “whatever the market says so long as the market doesn’t exhibit too much market power” is a tautology. It presupposes that you know what “too much market power” is. And if you knew that, you would never need the market in the first place.

Just and reasonable prices are simply not a helpful construct in this context. As Wolak points out, no garden-variety competitive market has such a concept, even though market power exists in these markets. Exercise of unilateral market power is legal, without any consideration of what prices result from its exercise. The point of deregulating markets is (partly) to get FERC out of the “just and reasonable” business. If we’re going to keep them there indefinitely, it is safe to say that there is no point to deregulating generation.

Restructuring large industries is complicated and we are bound to make mistakes. The cost of these mistakes should be counted as part of the costs of deregulating. It may be prudent to keep regulatory authorities involved in the early part of the process to reduce those costs somewhat. But deregulating requires a determined and ruthless focus by the regulator on getting out of the price-setting business. There are a thousand reasons to keep on regulating, but only one reason to deregulate: because efficiency will improve if you do.

So, how much market power is too much market power? Too much market power is market power whose efficiency losses, combined with other efficiency losses and the startup costs of deregulating, exceed the gains in dynamic efficiency which competition enables by bringing a profit motive to bear on the structure, conduct, and performance of the electric system. “Massive” market power is fine if it is counterbalanced by “twice-massive” dynamic gains. Nothing regulators have done to assess market power seems to have anything to do with this metric, which is the only metric which makes any sense. Actually implementing the correct metric may not be easy, but even a bad job of it will have to take the right variables into account.

That said, weren’t the massive price increases in California in 2000–01 so large as to require government intervention? Maybe, but maybe not. The one thing not tried in California to squelch the high prices was to make customers pay them. Our knowledge of what the elasticity of demand for electricity is when prices quintuple is really quite limited. Making customers pay for the electricity consumed, even where they lacked real-time metering to precisely calibrate their own usage to the market price, might have had sufficiently high effects to solve the problem. Unfortunately, we will never know because it was never tried. Ironically, this was done to protect the ratepayers from the massive price increases, but it is now quite apparent that the taxpayers of California, a group substantially identical with electric ratepayers, will be paying those costs anyway.

The first principle of cost–benefit analysis is to ignore sunk costs. It is too late to cry over California’s “spilt milk.” It is possible that, with hindsight, deregulating electric generation will have proved to be a decision whose costs outweighed its benefits, but it is important to see that this has nothing (or at least little) to do with whether or not we should return to the old regulated regime or anything like it. We must take the world as we find it and figure out the best thing to do.
Why do we think that continuing the deregulation experience is likely to yield net benefits from here forward? First, of course, is that we have already incurred massive startup costs of deregulation, and they are sunk. Huge amounts of generation have been sold off to putative competitors with large payments made to investment bankers in the process. We have made gigantic investments in software and training and have devoted thousands of hours of intellectual effort on the questions of how best to structure these markets. California did not fail because we didn’t know how to set up a deregulated generation market; California failed for two reasons: Sensible opinion on how to deregulate was ignored, and in the face of an admittedly large problem, the regulatory impulse to solve the problem with regulation proved too powerful. It isn’t that non-regulatory options weren’t available—they just weren’t in the standard response toolset of regulators.

Second, the dynamic benefits of competition were just beginning to assert themselves. There is no question that the prospect of deregulated electric prices had brought massive amounts of capital to the industry to begin the construction of new units. Many of those plans now lie in ruins, but it is not clear that that is a bad thing. Indeed, to the extent that this abrupt cancellation of so many units was not actually caused by the whipsaw effect of inconsistent regulation, the cancellations are the sign of a healthy competitive market at work.

The presence of the regulator overhanging markets creates a system wherein everyone knows they have a backstop: Customers can complain if prices rise, industry can complain if prices fall, Wall Street can complain if they remain the same. This problem is not unique to electricity markets. As an analysis in *The New York Times*, certainly no cheerleader for the deregulating of markets, put it recently with respect to the airline industry:

> Few agree on what the government’s policy should be, but they generally contend that officials should take a more sanguine view toward market forces. Government policy should remain consistent through downturns and boom years, they say, and avoid treating companies differently, whether they are reaping profits or in danger of collapsing .... Clifford Winston, an economist at the Brookings Institution who studies the industry, said that “the idea would be these policies would be harmonized along with what deregulation was expected to do; the fundamental criticism is that government has failed to do that.”

(May 3, 2003, article by Edward Wong)

When crises develop in the hotel industry, why don’t regulators decry obscene profits made by hotel speculators or propose bailouts for hoteliers who built hotels in places no one wants to come to? The reason is that hotels have been more or less unregulated, so there is no natural way to intervene.

**VI. What’s Wrong with Wolak’s Proposals?**

Wolak’s first ameliorative proposal is to allow most supply to be sold on long-term contract. There can be no reasonable objection to this. If willing buyers and sellers want to contract long-term, they should do so. However, just as the banning of long-term sales was unwise, mandating them is likely to be equally foolish. Mandating that A buy from B on behalf of C recreates the politicization of the regulatory process that we sought to avoid. A regulator must decide whether A has driven a sufficiently hard bargain with B and must second-guess whether A has used the proper venues, taking into account C’s attitude towards risk, which no doubt will be opportunistically determined after the fact: If long-term purchases turn out to either exceed or fall short of spot prices, the purchaser has neglected to properly bargain on the ratepayers’ behalf.

The real problem is that the entities doing the contracting are almost never the entities doing the
consuming. The repetition of the principal-agent problem in this context is yet another reason for intrusive regulatory oversight.

Wolak’s second recommendation is for increased cooperation between state and federal regulators. I’m all for cooperation, and if we could get state and federal regulators to share goals, it would probably be easy to get them to share power. But the real problem here is not a lack of coordination—it is a profoundly different agenda. It is quite clear that FERC re-entered the “just and reasonable” business reluctantly, not least of which because it had asserted only a few years previously that the prices in these markets, whatever they turned out to be, were likely to be “just and reasonable” because they had been formed in a market.

By contrast, the State of California had come to the political judgment that the results of the market were not to be trusted—period. Unlike FERC, which had to care about the national implications of its California policy, California just wanted the money back that “Texas” was deemed to have stolen from it and it didn’t care how it got that money. Thus, Gov. Davis could attribute Enron’s “smoking gun” memos as a reason for refunds without the slightest shred of evidence that they made the California situation worse.

Needless to say, if the market makes a transition to a competitive market, continued regulatory oversight of price beyond routine antitrust enforcement (with concomitant problems of coordination) is no longer required.

The third recommendation is the one that I think most seriously misdirects attention from the real problem:

A third lesson from the California crisis is that FERC cannot set ex ante criteria for a supplier to meet in order for it to be allowed to receive market-based prices without an ex post criteria for assessing whether the subsequent market prices are just and reasonable.

If we had such ex post criteria, why wouldn’t we simply certify all markets as being capable of competition today? After all, if we follow Wolak’s suggestion, any “unjust” prices can simply be refunded after the fact. How such a proposal, if enacted, would perform any better than the regulatory scheme we will have trashed is entirely unclear. If FERC is to stand over markets continuously guaranteeing that prices are just and reasonable, what is the point of the regulatory exercise?

First, one of the hallmarks of the “old” regulatory regime was a prohibition of retroactive rate-making. Over-earning or under-earning were not to be incorporated in newly established rates. There are good reasons to adhere to this principle, which properly regards sunk costs as sunk. Rational planning is almost impossible with no clear knowledge that even past revenues are fixed. Investors are far less likely to buy a stock in the knowledge that they may have to pay today for excessive cash flows from which they didn’t receive any benefit. Whatever relationship exists between costs of current service and prices paid is further strained by a desire to catch up with some past oversight. Even all of this might be tolerated if such a scheme improved the situation with regard to the perceived problems of regulation. But in fact it probably just makes them worse. Recall the three problems which I cited above as suggesting the wisdom of deregulation:

1. Politicization: No one looking at the aftermath of the California experience in California or in Washington could possibly argue that the haggling is any less political than what went on before deregulation. Some of this no doubt would be cleared up by the articulation of inviolable standards, except for one critical problem: No such set of inviolable standards are ever likely to exist. Regulation is a process of flexible accommodation to a situation in which the rough-and-tumble of
competition is unlikely to lead to a good result. To each new situation, FERC is required to listen to arguments as to why previous inviolable standards do not apply and to take them seriously. Wolak’s prescription here simply entrenches one of the worst aspects of the regulatory scheme that deregulation sought to overthrow—the replacement of the well-intentioned but fallible and rhetorically swayed judgment of regulators for the inscrutable and implacable but ultimately beneficial judgment of an impersonal marketplace.

We have already seen a new set of prudence claims arise as generators argue that their prices were justified on the basis of cost. But was that cost prudently incurred? Can a cost which you “shouldn’t” have incurred be compensated in the marketplace? Again, if anything, maintenance of a just and reasonable standard in the context of a competitive market becomes more problematic, not less.

(2) Rate envy: What is just for customer class A may be unjust for customer class B for a host of reasons that impassioned advocates will be able to articulate. Compromises will be reached in which customer classes which can “bear” price increases are then allocated to them, all in the name of fairness.

(3) Incentives: Asymmetric regulation—“Heads the ratepayer wins, tails the stockholder loses”—was always a problem under regulation. Under competition, will firms be allowed to earn phenomenal short-run rates of return? How can such returns be achieved (in principle) without gouging the customer? Can rates be too low to be just and reasonable to the sellers? It is difficult to see what the incentives are to for companies to aggressively seek out profit opportunities if some of those opportunities can be judged, after-the-fact, as unjust by a regulator. Retroactivity in rate-making simply makes these problems worse.

VII. Current Options

Starting here in mid-2003, there are essentially three choices:

(1) Give up. Do what we can to recreate a regulated structure. Incremental generation would be financed by wires companies which continue to be regulated under the old rules. Existing “competitive” generation would be returned to regulation. This would undoubtedly cause a number of significant transition costs as assets constructed to serve a competitive market were rededicated to a regulated market.

(2) Push forward: Stay the course to deregulation. Resist the siren call of special interests to protect them. Allow the system to work.

(3) Keep a veneer of competition but try to regulate every surprising result away. In particular, keep one’s finger on the price scale to make sure that no one at any time is ever distressed with the result. Not only will this not work, it brings more and more regulation with it. As economist Anne Krueger pointed out:

If the market mechanism is suspect, the inevitable temptation is to resort to greater and greater intervention, thereby increasing the amount of economic activity devoted to rent seeking. As such, a political “vicious circle” may develop. People perceive that the market mechanism does not function in a way compatible with socially approved goals because of competitive rent seeking. A political consensus therefore emerges to intervene further in the market, rent seeking increases, and further intervention results.

In transforming a potentially competitive electricity generation market into an untested form of regulation, we risk not only a robust electric system, but we risk bringing the entire notion of competitive markets into contempt. Markets do not require regulators to tell them when prices are too high. If electricity markets cannot be organized without this principle, they are not competitive.
markets. We knew how to run noncompetitive markets and bore the consequences. If we must, we can do so again.

VIII. Conclusion

Wolak’s final suggestion sums up an attitude which is difficult to fathom:

A final lesson from California crisis is that FERC must regulate, rather than simply monitor, wholesale electricity markets.

That may indeed be a lesson, but if it is, then there is an ancillary lesson: Allow only regulated firms to build generation and pay them their prudently incurred costs.

I happen to feel that this conclusion is wrong. I still have great hope that deregulated generation markets can have huge benefits to society in aggregate over time. These benefits may come at some costs in short-run efficiency and undoubtedly come at a substantial transition cost. But the prospect of continuous federal regulation of wholesale transactions under a pseudo-market system brings no obvious benefits to anyone.

by the same regulator, there was also scope to better enforce cooperation.

4. Most areas also run day-ahead markets. There are additional efficiencies associated with day-ahead markets in helping to solve the commitment problem: What plants should be turned on to run the next day? There is a tight correspondence between the expected real-time prices I discuss here and the observed prices in day-ahead markets, so I will not discuss them separately here.

5. Daniel Friedman and Joseph Os

6. By “in aggregate,” I mean that while individual generators and demanders might misstate their costs and reservation prices respectively, the marginal generator and marginal consumer accurately state their costs and benefits. When price is set equal to these marginal quantities, both system dispatch and consumption are efficient.

7. For example, see Michael Rosenzweig, Hamish Fraser, Jonathan Falk and Sarah Voll, Market Power and Demand Responsiveness: Letting Customers Protect Themselves, ELEC. J., May 2003.


9. In this context I note that the DOJ merger guidelines’ market definition requires an increase in price to be sustainable in the face of entry for two years. The California standard for intervention appears to be measured in months. Again, this is not to suggest that intervention in the California crisis was unwarranted, only that the specific means of intervention were not effective (as Wolak agrees) and that demand response might have put the entire problem beneath the radar of public opinion.

10. See Alfred Kahn, The Deregulatory Tar-Baby: The Precarious Balance between Regulation and Deregulation, 1970–2000 and Henceforward, J. REG. ECON., 2002, 21, at 35–56. In particular, “It is essential that [price caps be] (a) designedly temporary, automatically sunsetting within, say, two to three years, and/or (b) inapplicable to new capacity coming on line.”

11. Though maybe not.


13. That said, the fact that this principle was often honored in the breach is yet another flaw of the old regulatory paradigm. Even so, it is clearly better to ignore this principle on occasion than to not even have it as a point of argument.

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