

THE HIGH COST OF RESTRUCTURING

RTO markets aren't living up to the promise of cheaper power.



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ith rapidly increasing electric rates in a number of states — at the moment, Illinois and Texas top the list — a heated debate has emerged concerning the merits of deregulation. Various explanations have been proffered to account for the increases, ranging from the cost of natural gas to the lack of transparency in the restructured markets. A dispassionate analysis using data accumulated by the Energy Information Administration suggests the lack of transparency and the resulting prevalence of strategic bidding may be the best explanation.

There is discussion about what restructuring means, when it began, and how much it has achieved. Adherents of administered markets date it from April 1, 1998, when the complex California agencies started operations. Others date it a decade earlier when the simple, dependable, and far less-controversial Western Systems Power Pool (WSPP) started selling bulk electricity at market rates throughout the western states and provinces. Choosing a start date also signals one's position. If you choose 1987, you believe restructuring means the creation of open-access markets on the Wall Street model — free entry, open outcry, full disclosure. Choose April 1, 1998, and you believe in tightly centralized markets administered by a central bureaucracy that are its heart.

Alvin Alexanderson, the former general counsel of Portland General Electric, one of the industry's early leaders in wholesale restructuring, often remarked that the high ground in any debate is claimed by the side with the most evocative title for its position. In the restructuring debate, both sides lay claim to the word "competitive."

An analysis that avoids this debate focuses instead on whether markets administered by Regional Transmission Organizations (RTO) markets have performed better or worse than open wholesale markets over the past decade. The data suggests they have lost ground compared to open wholesale markets like the WSPP since April 1, 1998 (see Figure 1).

Market Benchmarks

Anyone who has lived in a western economy has witnessed the efficiency of markets. Open markets for commodities have proven themselves again and again as crucibles of innovation and refineries of efficiency. In general, markets

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are successful when they provide incentives for increased efficiency, when they allow easy entry, and when innovation leads to success. But

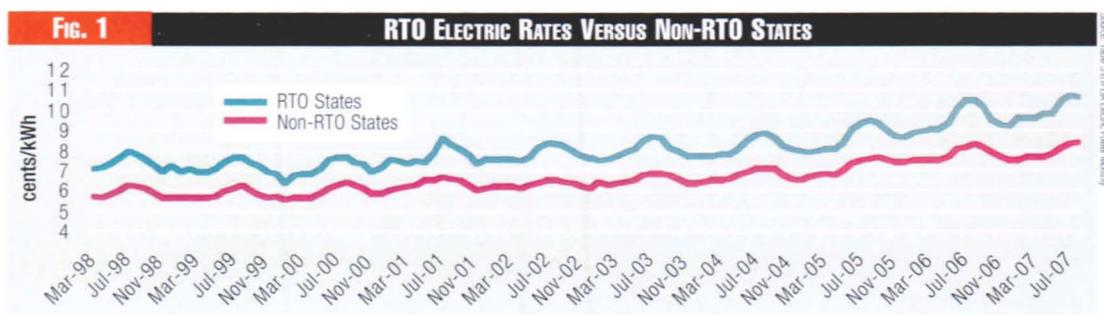
tightly centralized, administered markets do not fare well by these standards. In fact, in the past decade, prices have increased more rapidly in the administered markets even when corrected for fuel costs. The exercise of market power is common and there is little or no evidence of efficiency improvements.

Creating centralized, wholesale electricity markets on the British model may have been a mistake. Rather, America's natural gas model of deregulation has allowed more entry, efficiency, and innovation.

The issue is even more pertinent today when Professor William Hogan and others lobby for intervention in the administered markets to raise prices above current levels, thus providing an incentive for capacity investments.¹ Advocates for free markets believe targeted intervention is only likely to create more distortions that will require more interventions, *ad infinitum*.² Ironically, the existing regulated solution may well provide such investment incentives at a lower delivered price to consumers than the administered markets favored by Professor Hogan — even before a "missing money" upward intervention in administered markets.

However, benchmarks for measuring the performance of restructured markets are hard to find. FERC approved AB-1890 (California's restructuring law) without providing the means to check later how well it worked. While today it would be fascinating to compare FERC Form 714 system lambdas with the results of the California ISO's Ex-Post markets, FERC allowed the California Independent System Operator (CAISO) to stop reporting system lambdas on its commencement.

A literature survey reveals hundreds of papers about electricity restructuring; most authors have tried to tell the



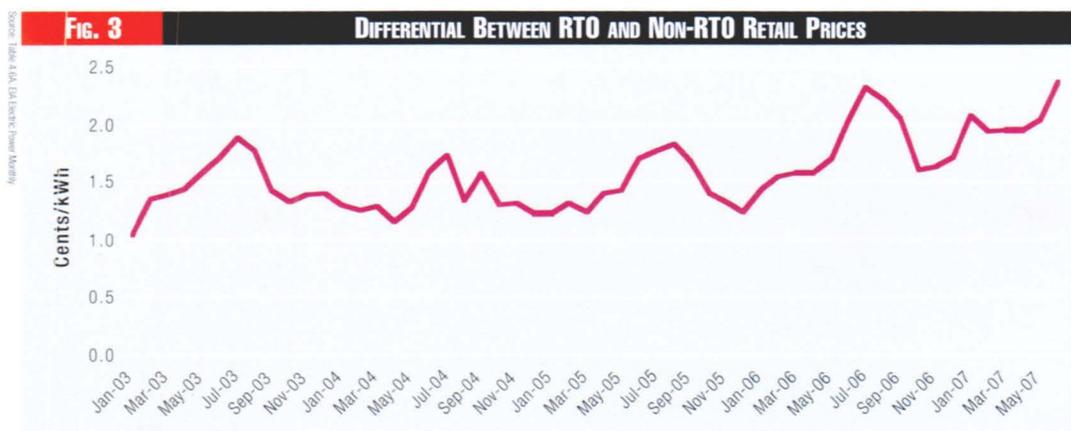
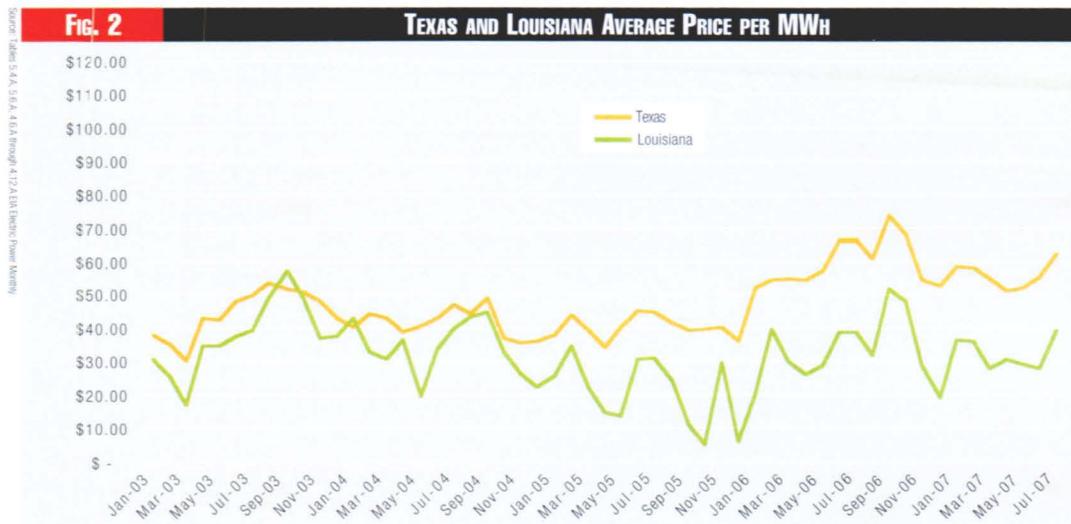
story with modeling and counterfactuals, but their conclusions suffer from the breadth of their assumptions and the complexity of their analyses. The small amount of impartial evidence available indicates administered markets are expensive. There are a few useful comparisons between real-time prices at RTOs and neighboring system lambdas as reported in the FERC Form 714 data. For example, the Los Angeles Department of Water and Power (LADWP) still reports system lambdas, and a cursory visual inspection shows they are lower than CAISO's real-time prices.

This should be surprising. LADWP is surrounded by CAISO, is active in CAISO markets, and CAISO administers LADWP's major interregional transmission lines. However, if the CAISO "market" was truly competitive and LADWP faced the disadvantages often associated with governments attempting to be competitive, then LADWP system lambdas might be higher than the corresponding CAISO real-time prices.

Price Proof

The real test of success is delivery of the product in the market — no more and no less. The Energy Information Administration's "Electric Power Monthly" assembles electric price and quantity data and includes fossil-fuel costs and quantities for each state, facilitating state-by-state comparisons. For example, in the ongoing debate concerning the administered market structure in Texas, Mark Jacobs, CEO of Reliant Energy, said in October that "other markets are still on an uphill climb."³ Yet Figure 2 shows Louisiana, with generation far more susceptible to natural gas prices increases than Texas, is now experiencing a lower rate of growth in electric prices.

While many analysts blame the differential on the use of



natural gas in RTO markets, little effort has been expended to validate this conjecture. Because fuel costs are such an important component, a better measure is electric rates net of fossil fuel costs. The differential between administered markets and open markets shows a divergence. Higher fuel costs do not explain the discrepancy between Louisiana and Texas. Even with fossil fuel costs removed, Texas average prices have significantly diverged from Louisiana (see Figure 2).

The two states' experiences are mirrored in a comparison between Entergy's system lambda and real-time prices in Texas. The same basic spikes occur where natural gas prices climbed precipitously, but the response in Texas seems to exceed the response in Louisiana. Given ERCOT's large position in coal, Texas might be expected to have lower marginal costs — especially for off-peak periods.

Again, the lack of a consistent benchmark is frustrating. FERC allowed the utilities in ERCOT to cease providing system lambdas when the administered markets went into operation. Given the insignificant interconnections between Louisiana and Texas, the California example is more compelling,

The national experience mirrors the situation in Texas (see Figure 3). Since 2003 the differential between prices charged in RTO states and non-RTO states has continued to increase. In January 2003, RTO states averaged \$74.43/MWh versus \$64.01/MWh for non-RTO states — a differential of \$10.42/MWh. In the most recent data the differential has climbed to \$23.90/MWh, doubling in about four years. As in Texas, removing fossil fuels from retail prices indicates an increasing differential. RTO states showed a differential of \$11.26/MWh at the beginning of 2003 that has risen to a differential of \$27.55/MWh in July 2007 (see Figure 4).

Natural gas prices are the most common explanation for the poor showing of the RTO states. The facts show, however, the actual delivered cost of natural gas is comparable across the United States and natural gas is a common fuel in both RTO and non-RTO states (see Figure 5).

The simplest and most pertinent explanation is the shift in producers' surplus away from consumers. Under traditional regulation, consumers were able to capture the values above the supply curve. The ill-fated Illinois wholesale electricity auction in fall 2006 clearly demonstrates this effect. Under traditional regulation, the triangle between price and the supply curve (*i.e.*, producers' surplus) is captured by customers. In a competitive market, low-cost producers receive a windfall when increasing demand raises prices above their marginal costs. In most restructuring efforts, the cost of returning the producers' surplus to producers has been overlooked. The impact of the transfer is not necessarily small, nor likely to be ignored by consumers.

While there is no assurance that setting rates at levels that reflect

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marginal cost will be higher than average total cost, it is a very likely outcome during periods when marginal costs are quite high. The absence of marginal cost information for the nation's administered markets is a significant problem.

Lack of Transparency

The relative lack of transparency in an RTO (*i.e.*, substantial lags in revealing bidders' identity, if indeed the bidders' identities are revealed) means there are relatively few checks and balances against strategic bidding. In ERCOT, one market participant repeatedly has bid \$990.01/MWh for a small block of energy. In many cases, this unrealistic bid actually sets the market price.⁴ This form of strategic bidding does not even require market manipulation, although it appears similar to Enron's "Project Stanley," a market manipulation scheme in

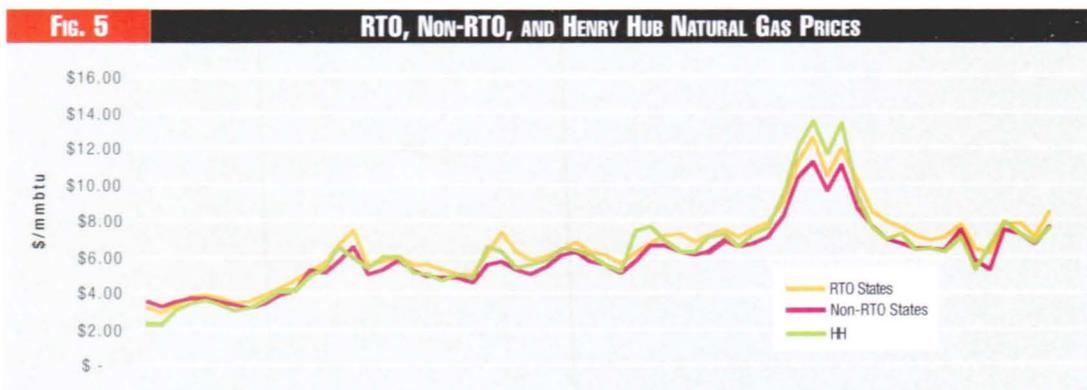
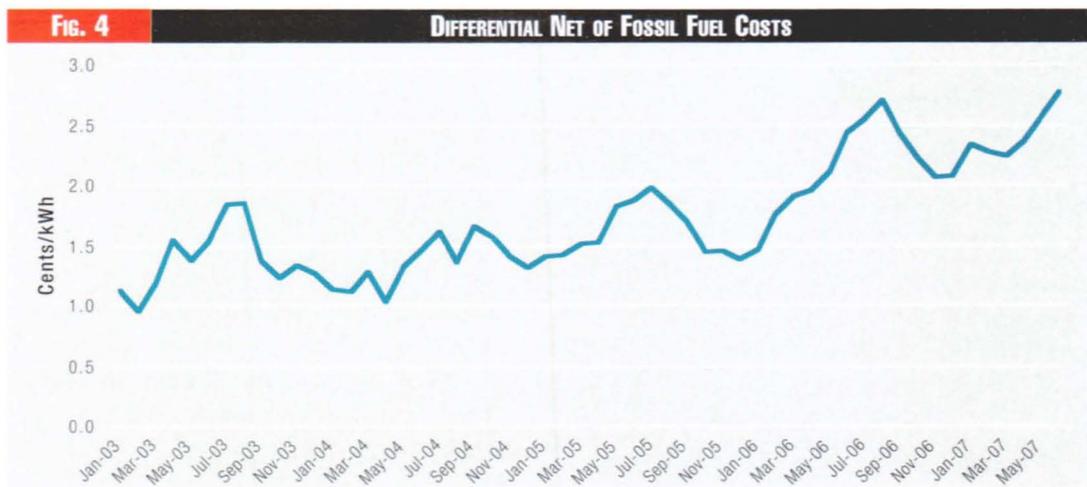
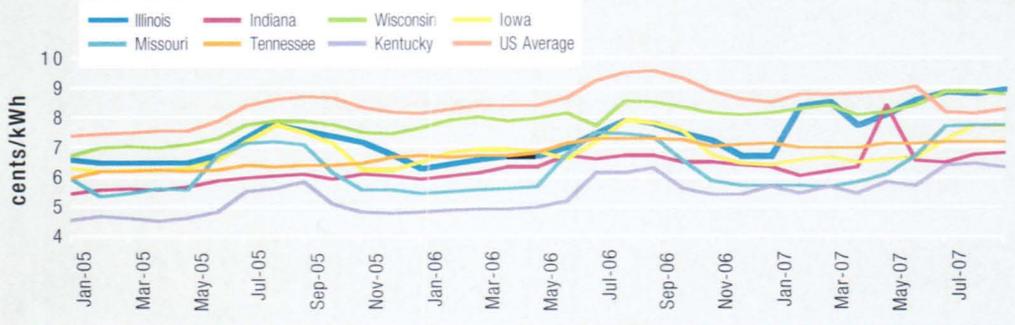


FIG. 6

ILLINOIS AND NEIGHBORING STATES CONSUMER PRICES



The heavy blue line shows the impact of moving the pricing for much of the state to marginal cost based on an administered market.

Alberta, Canada, in which Enron would set a high price and then share the proceeds with its suppliers.

By contrast, open-outcry markets like the WSPP provide more information to market participants. Since all bids and asks are public, irrational market behavior is easily recognized. Even simple applications of market power is more easily identified in open-outcry markets, since the exercise must be in plain view.

A frequent counter-argument involves the theory that potential conspirators will use the information available in open markets to coordinate their transactions. Little or no evidence suggests a desire to conspire is stymied by the necessity of exchanging data outside the RTO's web site. To the contrary, Enron coordinated bids in Project Stanley by simply calling up their fellow conspirator. Any rules designed to make its communications difficult were simply sidestepped by the use of a telephone.

For example, Illinois experienced a massive transfer of producers' surplus from consumers to producers beginning in January 2007. A single auction in 2006 operating under conditions of extreme secrecy produced prices for the majority of the state's customers 40 percent above contemporaneous open markets at the time. The auction then became the basis of a complaint to FERC that was later settled by a \$1 billion rollback. The auction mechanism has now been abandoned.

Neighboring states did not enjoy the benefits of the Illinois electric auction and fared far better in 2007 although their fuel mix was comparable. A central problem in Illinois was the lack of transparency. Bid behavior was unusual, but could not be observed due to the stringent secrecy. Today, even after the results of the auction have been rolled back and the auction process abandoned, the bids are still secret from non-

participants. The end result of such mechanisms is to reward strategic bidding.

RTO Irony

Many RTO advocates argue the efficiency of administered markets has been proven. Unfortunately, no formal benchmark exists to test their conjectures, and the only easily available reference point, retail rates, appears to be moving in the wrong direction. Increasingly, these advocates now are agitating for government intervention to encourage additional investment by raising prices. There is substantial irony in this, for RTOs may well be incapable of meeting the competition from traditionally regulated utility organizations that can and do afford to provide new generation without intervention to raise prices to consumers.

Will additional fixes to these cumbersome, artificial markets make them as efficient as open outcry markets? Obviously, a good first step is to require RTOs to file system lambdas. This will allow a better understanding of whether the administered markets truly are competitive. Eventually, transparency must be restored to these markets so market participants cannot pursue pricing that does not reflect economic realities.

In the alternative, America stands a real risk of losing the objective in pursuit of the dream. **F**

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ENDNOTES

1. "Acting in Time: Regulating Wholesale Electricity Markets," William Hogan, May 8, 2007.
2. "Looking for the 'Voom': A Rebuttal to Dr. Hogan's 'Acting in Time: Regulating Wholesale Electricity Markets,'" Robert McCullough, June 26, 2007, <http://www.mresearch.com/pdfs/326.pdf>
3. "Many Texas consumers feel competition in the state's energy markets has been a costly failure," Tom Fowler and Janet Elliott, *Houston Chronicle*, October 7, 2007.
4. Under ERCOT rules, "Mr. \$990.01", as he has come to be called, is not identified to other market participants, even though his bidding behavior appears highly anomalous.

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