

MARKET POWER IN POWER MARKETS: THE FILED-RATE DOCTRINE AND COMPETITION IN ELECTRICITY

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State and federal initiatives have opened the American electric power industry to competition over the past four decades. Although the process has not occurred uniformly across the country, wholesale electricity markets exist everywhere today. Independent power producers can construct generation facilities and sell their output to utilities and industrial customers through bilateral contracts. In many regions, centralized power markets now facilitate the sale of billions of dollars in electricity annually through auctions.

Although market forces have replaced direct price regulation in electricity, antitrust enforcement has not expanded its role commensurately. A lack of competition has been a serious problem in many power markets and led to billions of dollars in wealth transfers from ratepayers to generators. The federal courts, however, have invoked the filed-rate doctrine to prohibit private antitrust suits against generators and other market participants accused of collusive behavior. They have held that federal and state regulation is adequate to maintain competitive markets and questioned their own ability to deter anticompetitive behavior, effectively immunizing power generators from antitrust damages liability. Congress or the Supreme Court should limit the application of the filed-rate doctrine in electricity markets and allow for the antitrust laws to be enforced against collusive conduct.

Eliminating the filed-rate immunity, however, is not sufficient to create competitive power markets. Private treble-damages suits could help deter express collusion between competing generators. Yet the antitrust laws are comparatively powerless to remedy two important types of anticompetitive behavior seen in power markets. Antitrust jurisprudence in the United States does not proscribe the exercise of unilateral market power and creates high hurdles to finding liability for tacit collusion. Given the limitations of traditional private antitrust remedies, federal and state regulators must focus on creating competitive market structures. They can take three concrete steps toward this end: police generator consolidation more carefully, encourage expansion of the transmission grid, and expose more ratepayers to wholesale price signals. Applying these broader competition policy measures is necessary to redeem a restructuring project that has resulted in several episodes of serious market-power abuse and yielded uncertain benefits.

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INTRODUCTION

The late Alfred Kahn helped deregulate the American airline industry as the head of the Civil Aeronautics Board in the Carter Administration and advocated market pricing in other sectors of the economy as a scholar.¹ He, however, was no dogmatic proponent of laissez-faire economics and recognized that government regulation is necessary for well-functioning markets. Beyond the state-enforced rules of contract, property, and tort required for a market economy even to exist, Kahn argued that as direct price regulation retreats, antitrust enforcement must proportionately

1. Jonathan L. Rubin, *The Premature Post-Chicagoan: Alfred E. Kahn*, ANTITRUST, Summer 2011, at 75, 76.

expand its role.² Without antitrust enforcement or regulation, producers can collude, merge to create monopolies, and exclude aggressive rivals and new entrants, creating an environment of “radical deregulation.”³ Anticompetitive conduct reduces economic efficiency and transfers wealth from consumers to producers, defeating a principal rationale for deregulation.⁴ Kahn thus viewed antitrust enforcement and markets as complements, not substitutes.⁵

Although market forces have been introduced into the electric power industry over the past four decades, the courts have declined to follow Kahn’s counsel and permit the full enforcement of the antitrust laws in wholesale electricity markets. Several circuits have invoked the filed-rate doctrine, which traditionally protected regulated prices from antitrust challenges, to immunize power generators from private suits under the Sherman Act. Since the Sherman Act is primarily enforced through private actions for treble damages,⁶ the courts have effectively eliminated the application of one of the two major antitrust statutes in electricity markets.⁷ They have reasoned that regulatory oversight is sufficient to create and preserve competitive power markets and that antitrust litigation would only interfere with this objective. The sufficiency of regulatory supervision is questionable, however, given that market-power abuse in the California and Texas power markets transferred billions of dollars from ratepayers to generators. The collusive behavior that occurred in the New York City market between 2006 and 2008 also illustrates how antitrust litigation could preserve competitive markets. Regulators failed to prevent (or remedy) an

2. Alfred E. Kahn, *Deregulatory Schizophrenia*, 75 CAL. L. REV. 1059, 1059–60 (1987). Kahn stressed the importance of antitrust enforcement in deregulated markets before and after he served in the Carter Administration. See Paul L. Joskow & Roger G. Noll, *Alfred E. Kahn, 1917–2010*, available at <http://economics.mit.edu/files/8546>.

3. Jim Rossi, *Lowering the Filed Tariff Shield: Judicial Enforcement for a Deregulatory Era*, 56 VAND. L. REV. 1591, 1596 (2003); see also Jonathan B. Baker, *The Case for Antitrust Enforcement*, 17 J. ECON. PERSP. 27, 27 (2003).

4. See Alfred E. Kahn, *I Would Do It Again*, REGULATION, Feb. 1988, at 22–23, 28 (“Nothing is going to discredit deregulation more quickly and thoroughly than a failure of the government to enforce the antitrust and consumer protection laws . . .”).

5. See Rubin, *supra* note 1, at 80.

6. See Robert H. Lande & Joshua P. Davis, *Benefits from Private Antitrust Enforcement: An Analysis of Forty Cases*, 42 U.S.F. L. REV. 879, 882, 888 (2008).

7. Both the government and private parties can still challenge mergers under Section 7 of the Clayton Act. The Federal Trade Commission (FTC) can bring actions for equitable relief under the Federal Trade Commission Act (FTCA), see 15 U.S.C. § 57b (2006), which has been interpreted, for the most part, to correspond closely to the Clayton and Sherman Acts.

extended episode of anticompetitive conduct, which could have been deterred by a credible threat of treble damages liability.

Judicially or legislatively scaling back the filed-rate doctrine's application in wholesale electricity markets would be good policy, but the practical benefits of lifting this immunity may be small. Private antitrust enforcement would help deter express collusion between suppliers, a practice unquestionably harmful to consumers that occurs on occasion in electricity markets. Yet two common forms of anticompetitive conduct in electricity markets—exercise of unilateral market power and tacit collusion—are either impossible or difficult to remedy under current antitrust law. Well-established antitrust principles hold that a firm with market power is entitled to maximize profits and that parallel conduct by firms without any additional evidence of agreement is not illegal. Leaving aside an improbable reinterpretation of the antitrust laws, a legislative or judicial repeal of the filed-rate doctrine is likely to improve electricity market outcomes only modestly.

The limits of antitrust underscore the central role of state and federal regulators in creating competitive market structures. Regulators should take three specific steps toward this goal. First, they should apply stricter merger review standards to prevent generators from increasing their market power through consolidation and, if necessary, order large generators to sell capacity to remedy chronically noncompetitive markets. Second, given how transmission-grid constraints create small geographic markets that are vulnerable to anticompetitive behavior, the federal government and the states should promote investment in transmission to widen the geographic scope of power markets. Third, on the demand side, federal and state regulators should encourage customers to switch to pricing schemes that reflect wholesale prices. Introducing price signals to ratepayers can create elasticity on the demand side and reduce the incentive of generators to exercise market power generally. If industry restructuring is to yield its long-awaited benefits, regulators must play the lead role in creating and preserving competitive market conditions.

Part I of this Article discusses the history of the electric power industry and focuses on the restructuring efforts in recent decades. Part II examines why wholesale electricity markets have been vulnerable to anticompetitive behavior and describes three notable episodes of market misconduct that led to large wealth transfers from consumers to generators. Part III addresses the filed-rate doctrine and its application to electricity markets. It contends that the theoretical bases for applying the doctrine in electricity markets are

unsound. Part IV calls for eliminating this immunity, but explains why lifting the limits on private antitrust enforcement is not sufficient to create and preserve competitive markets. Given the limitations of private antitrust enforcement, Part V addresses what state and federal regulators can do to create competitive electricity markets and recommends a strengthened merger policy, encouragement of investment in the transmission grid, and introduction of retail prices that track wholesale fluctuations.

I. RESTRUCTURING THE ELECTRIC POWER INDUSTRY

Historically, the electric power industry was regulated as a natural monopoly from generation to consumption. Most often, a single firm would be vertically integrated, owning the generation, transmission, and distribution facilities needed to produce and retail electricity.⁸ Due to the supposedly substantial economies of scale at all three levels of production and economies of scope between them, utilities were given exclusive franchises and insulated against new entrants.⁹ To protect customers from this monopoly power, states imposed cost-of-service regulation on franchised utilities.¹⁰ Under this regime, state public utility commissions set rates that allowed utilities to recover their costs and earn a “reasonable” rate of return on their capital investments.¹¹ These rates were adjusted periodically to reflect changes in costs. In states that have not restructured their electric power industries, utilities are still vertically integrated and subject to cost-of-service regulation.¹²

In the 1970s, the natural-monopoly model in electricity markets faced growing public disenchantment. Economic theory and anecdotal evidence suggested that the natural-monopoly model was flawed and contributed to higher electricity rates.¹³ Since power generation has only modest economies of scale and the transmission grid can support wholesale commerce, many commentators argued that the wholesale generation sector could be opened to

8. Paul L. Joskow, *Restructuring, Competition and Regulatory Reform in the U.S. Electricity Sector*, 11 J. ECON. PERSP. 119, 121 (1997).

9. *Id.* at 121–22.

10. See Sidney A. Shapiro & Joseph P. Tomain, *Rethinking Reform of Electricity Markets*, 40 WAKE FOREST L. REV. 497, 507–08 (2005).

11. See *id.* at 508.

12. Energy Info. Admin., *Electricity Restructuring by State*, available at http://www.eia.gov/cneaf/electricity/page/restructuring/restructure_elect.html.

13. See generally STEPHEN G. BREYER & PAUL W. MACAVOY, *ENERGY REGULATION BY THE FEDERAL POWER COMMISSION* (1974).

market competition.¹⁴ Although transmission and distribution were recognized as natural monopolies, “open access” to the grid would allow for competition between multiple generation companies.¹⁵

Over the past four decades, Congress and the Federal Energy Regulatory Commission (FERC) have taken several steps to lower barriers to entry in electricity generation. The Public Utility Regulatory Policy Act of 1978 (PURPA) required utilities to purchase power from designated nonutility generators.¹⁶ Although it did not create competitive wholesale power markets, PURPA encouraged new entry into power generation.¹⁷ In 1992, Congress passed the Energy Policy Act, which lifted regulatory barriers to entry in generation and directed transmission owners to provide grid access to nonaffiliated generators.¹⁸ Beginning in 1991, FERC permitted generators on a case-by-case basis to sell at “market-based rates.”¹⁹ FERC issued Orders 888 and 889 in 1996, which mandated open access and transparent pricing of transmission facilities.²⁰ Transmission owners cannot deny grid access or offer discriminatory rates to independent generators.²¹ Accordingly, competitive wholesale power markets, in which power can be sold through short- and long-term contracts, exist throughout the country, even in states that have not otherwise restructured their utilities.²²

To eliminate the threat of discrimination in transmission access, some states have gone beyond Orders 888 and 889. California,

14. See, e.g., Joskow, *supra* note 8, at 122–23.

15. *Id.* at 120, 133.

16. *Id.* at 124.

17. David B. Spence, *The Politics of Electricity Restructuring: Theory vs. Practice*, 40 WAKE FOREST L. REV. 417, 424 (2005).

18. See 16 U.S.C. § 824a-3(b) to (d) (1994).

19. See Udi Helman, *Market Power Monitoring and Mitigation in the U.S. Wholesale Power Markets*, 31 ENERGY 877, 884 (2006).

20. 18 C.F.R. § 35.28 (2011); *id.* § 37.6.

21. Paul L. Joskow, *Transmission Policy in the United States*, 13 UTIL. POL'Y 95, 104 (2005).

22. See Paul L. Joskow, *Markets for Power in the United States: An Interim Assessment* 6 (AEI-Brookings Joint Center for Regulatory Studies, Working Paper No. 05-20, 2005), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=845785 (“As a direct result of FERC’s ‘open access’ Orders 888 and 889, all transmission-owning utilities in the U.S. (either directly or through an independent system operator or ISO) now have made available reasonably standardized cost-based transmission service tariffs to support the provision of transmission service on their networks to third parties; provide easily available real time information to third parties about the availability and prices of transmission service on their networks; are required to interconnect independent power producers to their networks, must make their best efforts to expand their transmission networks to meet transmission service requests when adequate capacity is not available to accommodate these requests, must provide certain network support services, including balancing services, to third parties using their networks; and are required to adhere to functional separation rules between the operators of their transmission networks and those who generate and market electricity using that network to mitigate abusive self-dealing behavior.”).

Texas, and many Northeastern states have required transmission owners to sell most or all of their generation facilities.²³ This structural separation of generation and transmission eliminates the incentive of transmission owners to discriminate against nonaffiliated generators.²⁴ In addition, many of the same states have directed transmission owners to join a regional transmission organization or independent system operator (collectively, RTOs).²⁵ RTOs are nonprofit entities that operate state or regional transmission grids and centralized wholesale power markets.²⁶

In regions with RTOs, generators may sell power through bilateral contracts or through centralized spot markets. In a spot market, generators submit supply bids and load-serving entities²⁷ and large industrial customers file demand schedules to the RTO for every hour (or smaller time increment) of the following day.²⁸ In a well-functioning market, the bids of generators should equal their marginal cost of production.²⁹ The market operator orders the supply bids from lowest to highest cost and sets the price for the entire market equal to the bid of the most expensive unit necessary to meet demand in each hour.³⁰ Every generator with a bid equal to or below the market price produces power and is paid the market price.³¹

23. *Id.* at 104–05.

24. *See* Joskow, *supra* note 8, at 132–33.

25. *See* FERC, *Regional Transmission Organizations (RTO)/Independent System Operators (ISO)*, FERC, <http://www.ferc.gov/industries/electric/indus-act/rto.asp> (last visited Nov. 2, 2011).

26. Joskow, *supra* note 21, at 105–06.

27. A utility that “[s]ecures energy and transmission service . . . to serve the electrical demand and energy requirements of its end-use customers.” *See* Energy Info. Admin, Glossary, available at <http://www.eia.gov/tools/glossary/index.cfm?id=L>.

28. *See* Richard Green, *Reshaping the CEB: Electricity Privatization in the UK*, 1 UTIL. POL’Y 245, 246 (1991) (describing the operation of a single-price power “pool”).

29. *See id.* at 248.

30. *Id.* Most markets also operate similar auctions for generators to remain on standby in the event of discrepancies between actual supply and demand and forecasted supply and demand (“ancillary services”) and to construct adequate generation over the long run (“capacity markets”). *See* PJM, *Ancillary Services*, PJM, <http://www.pjm.com/markets-and-operations/ancillary-services.aspx> (last visited Oct. 20, 2012); PJM, *Reliability Pricing Model*, PJM, <http://www.pjm.com/markets-and-operations/rpm.aspx> (last visited Oct. 20, 2012).

31. *See* Green, *supra* note 28, at 248.

II. MARKET POWER IN POWER MARKETS

Despite its great promise, electricity restructuring has arguably failed to deliver significant benefits.³² The properties of electricity markets make them vulnerable to the exercise of market power (“exercise of market power” and “market-power abuse” will be used interchangeably), which has brought the value of the entire restructuring project into doubt. In fact, during the height of the California electricity crisis in 2000 and 2001, the wholesale markets almost certainly produced higher rates for consumers than the traditional cost-of-service regime would have.³³

A. *Electricity Markets Are Vulnerable to Market Power Abuse*

Supply-and-demand characteristics make electricity markets vulnerable to market-power abuse. Due to the current infeasibility of large-scale electricity storage, supply and demand must be in balance at all times.³⁴ Generation capacity faces a hard upper limit in the short and medium term. If demand exceeds a system’s collective capacity, blackouts or brownouts will occur.³⁵ Moreover, new capacity can only be constructed over the long-term. A gas-fired combustion turbine plant takes two to three years to license and construct.³⁶ A coal-fired power plant typically requires four years to bring online.³⁷ A nuclear power plant may take even longer³⁸—cost overruns and delays are major obstacles to *any* new nuclear-power development in the United States.³⁹ As a result of these constraints

32. John Kwoka, *Restructuring the U.S. Electric Power Sector: A Review of Recent Studies*, 32 REV. INDUS. ORG. 165, 194 (2008) (“[T]he ten studies reviewed consist of six consulting reports plus four studies authored by academics. It is interesting to note that all six consulting reports report favorable results [from electricity restructuring]. Two of the four academic studies, by contrast, offer negative overall assessments. If the latter unsponsored studies can be viewed as more independent of interested parties, then one might conclude that independent views of restructuring are considerably more evenly split than the overall number of studies might suggest.”).

33. See, e.g., Severin Borenstein et al., *Measuring Market Inefficiencies in California’s Restructured Wholesale Electricity Market*, 92 AM. ECON. REV. 1376, 1395–98 (2002).

34. John Kwoka & Kamen Madjarov, *Making Markets Work: The Special Case of Electricity*, ELECTRICITY J., Nov. 2007, at 24, 27.

35. *Id.* at 28.

36. *Id.* at 29.

37. *Id.*

38. *Id.* (noting a lead time of six years for an “advanced” nuclear plant of minimum efficient scale).

39. See Daniel Weisser et al., *Nuclear Power and Post-2012 Energy and Climate Change Policies*, 11 ENVTL. SCI. & POL’Y 467, 468 (2008).

on output, the supply of electricity becomes highly inelastic as demand approaches total installed capacity.

On the demand side, consumers pay a uniform rate throughout the day even though the cost of producing power varies from hour to hour.⁴⁰ At off-peak, low-demand hours, coal-fired, hydroelectric, and nuclear baseload power plants with low marginal but high fixed costs set the wholesale price.⁴¹ At peak, high-demand hours, natural-gas or oil-combustion turbines with high marginal but low fixed costs set the wholesale price.⁴² These units can ramp their output up and down quickly and can thus respond to intra-day changes in demand.⁴³ Because most users are insulated from wholesale prices on an intra-day basis, the elasticity of demand for electricity is very low.⁴⁴ Prices cannot play the rationing function that they do in most markets.

A simple hypothetical illustrates the disconnect between retail and hourly wholesale electricity prices. Imagine a gasoline market in which retail prices are fixed at \$3.00 per gallon, but the underlying wholesale price of gasoline fluctuates between \$1 and \$5 per gallon. Even as wholesale prices move in response to changing supply and demand conditions, drivers would not alter their driving habits. The fixed retail price would insulate them from underlying market forces. In effect, the public would drive “too much” at times when wholesale prices are high and drive “too little” when wholesale prices are low, due to the fixed wholesale price.

Due to the institutional and engineering characteristics of electricity markets, “pivotal” generators—those that are critical to meet load—can profitably raise market prices.⁴⁵ These generators can either withhold some of their capacity from the market (“physical withholding”) or submit bids above their marginal cost (“economic withholding”) to raise market prices above competitive levels.⁴⁶ This strategy may be especially profitable for a generator owner with both peaking and baseload capacity in its portfolio.⁴⁷ The peaking

40. Severin Borenstein, *The Trouble with Electricity Markets: Understanding California's Restructuring Disaster*, 16 J. ECON. PERSP. 191, 196 (2002).

41. Darren Bush & Carrie Mayne, *In (Reluctant) Defense of Enron: Why Bad Regulation Is to Blame for California's Power Woes (or Why Antitrust Law Fails to Protect Us Against Market Power When the Market Rules Encourage Its Use)*, 83 OR. L. REV. 207, 236 (2004).

42. *Id.*

43. *Id.*

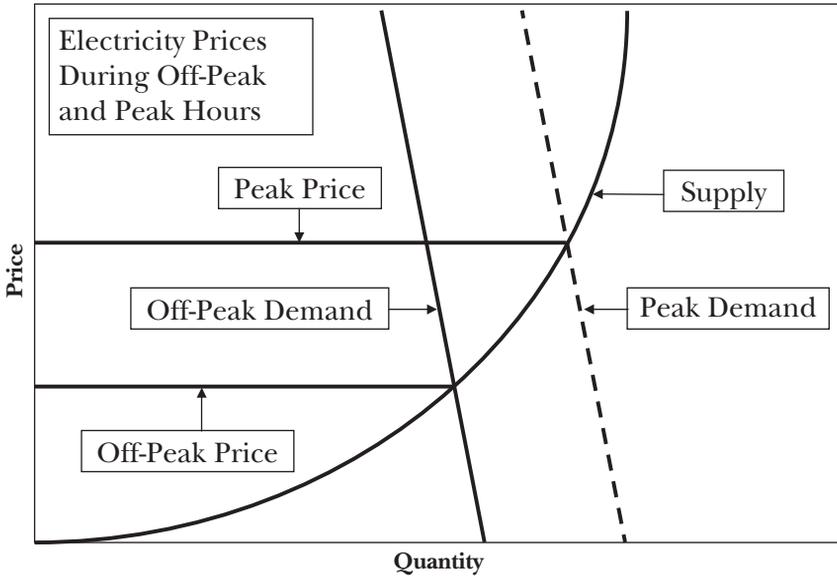
44. See Hamish Fraser, *The Importance of an Active Demand Side in the Electricity Industry*, ELECTRICITY J., Nov. 2001, at 52, 70–71.

45. See Seth Blumsack et al., *Market Power in Deregulated Wholesale Electricity Markets: Issues in Measurement and the Cost of Mitigation*, ELECTRICITY J., Nov. 2002, at 11, 13, 16.

46. C.K. Woo et al., *Costs of Electricity Deregulation*, 31 ENERGY 747, 754 (2006).

47. See Darren Bush, *Electricity Merger Analysis: Market Screens, Market Definition, and Other Lemmings*, 32 REV. IND. ORG. 263, 272 (2008).

FIGURE 1



unit can be used to elevate the market-wide price⁴⁸ and increase the profits on baseload generation, which has a much lower marginal cost.⁴⁹ In other words, this owner has both the ability and the incentive to raise market prices.

Centralized wholesale markets are also vulnerable to collusion. Generators recognize that bidding at marginal cost will reduce collective profits and that it is in their mutual interest to withhold economic or physical capacity.⁵⁰ The properties of centralized electricity markets may permit firms to collude tacitly—that is, raise prices jointly without any direct communication.⁵¹ Generators submit hourly bids to sell a homogeneous product on a daily basis, and generally all receive the same market price in a given hour.⁵² Regular and frequent bidding into a single-price spot market ensures that detection and punishment of “cheating” on the collusive arrangement are feasible, which reduces the threat of defection.⁵³

48. *Id.*

49. *Id.*

50. See Friedel Bolle, *Supply Function Equilibria and the Danger of Tacit Collusion: The Case of Spot Markets for Electricity*, 14 ENERGY ECON. 94, 102 (1992).

51. Ray Rees, *Tacit Collusion*, 9 OXFORD REV. ECON. POL’Y 27, 27–28 (1993).

52. See Bolle, *supra* note 50; Rafael Emmanuel A. Macatangay, *Tacit Collusion in the Frequently Repeated Multi-Unit Uniform Price Auction for Wholesale Electricity in England and Wales*, 13 EURO. J. L. & ECON. 257, 258 (2002).

53. Natalia Fabra, *Tacit Collusion in Repeated Auctions: Uniform versus Discriminatory*, 51 J. INDUS. ECON. 271, 271–73 (2003).

Consider four gas-fired generators with similar marginal costs that are required to meet load in a market during the high demand 4–5 PM hour on weekdays. One of these four generators, and not necessarily the same one on each day, also sets the price for the entire market in this hour. The generators participate in the same market on a daily basis and recognize that that one of them sets the price in this late afternoon hour. They may realize that it is in their collective interest to submit individual bids above their marginal cost and raise the market price in that hour. With nothing more than the indirect “communication” in the spot market, the generators may be able to raise the market price in the 4–5 PM hour through economic withholding. A generator that cheats and submits a bid below the collusive level would lower the spot price for the entire market. As a result, this deviation from the collusive bidding pattern would likely be detected and punished in short order. The other generators would respond with marginal-cost bidding and dissipate the profits arising from collusion.⁵⁴ Like the described hypothetical, many electricity markets have comparatively few independent generators, making it easier to monitor and enforce collusive arrangements.⁵⁵ Some critics have cited the relative ease of collusion in centralized markets as a reason to rely on purely bilateral contract markets instead.⁵⁶

The inadequacy of the existing transmission grid has also contributed to market power. Transmission congestion effectively splits a large regional power market into smaller markets.⁵⁷ Isolated markets cannot meet demand from lower-cost generators located farther away and become reliant on local generators that often both have higher production costs and face only limited competition.⁵⁸ When only a few companies own all the generation capacity in a market, they may have the ability and incentive to raise prices unilaterally or jointly above competitive levels. Congestion on the grid can be analogized to road congestion and its effect on trade, even though the physics of transmitting electricity are different. If, for example, New Yorkers could not purchase milk from dairies in Vermont and other neighboring states due to congested highways, they

54. *Id.* at 283.

55. MARK IVALDI ET AL., *The Economics of Tacit Collusion: Implications for Merger Control*, in THE POLITICAL ECONOMY OF ANTITRUST 217, 220 (Vivek Ghosal & Johan Stennek eds., 2007).

56. John Bower & Derek W. Bunn, Model-Based Comparisons of Pool and Bilateral Markets for Electricity, 21 ENERGY J. 1, 12–14 (2000).

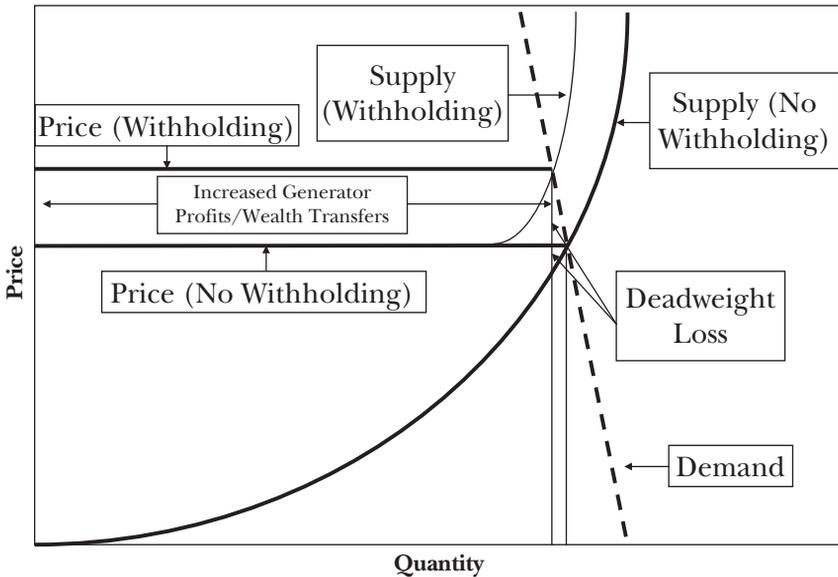
57. See Brendan Kirby & Eric Hirst, *Maintaining Transmission Adequacy in the Future*, ELECTRICITY J., Nov. 1999, at 62, 65–66.

58. See Paul L. Joskow & Jean Tirole, *Transmission Rights and Market Power on Electric Power Networks*, 31 RAND J. ECON. 450, 451 (2000).

would have to buy milk at higher prices from in-state dairies that did not have to compete against out-of-state suppliers.

The following diagram illustrates how generators can exploit their market power, unilaterally or collectively, through the economic or physical withholding of output. The exercise of market power can reduce economic efficiency (i.e., create “deadweight loss”) and lead to large wealth transfers from consumers to generators.

FIGURE 2



B. Regulatory Oversight of Power Markets

FERC has established rules to prevent generators from exercising market power. The Federal Power Act (FPA) charges FERC with maintaining electricity rates that are “just and reasonable.”⁵⁹ Under its restructuring initiatives, FERC has interpreted this provision to require generators that want to sell at “market-based rates” to demonstrate every three years that they either lack or have mitigated market power.⁶⁰ A generator that has market power must sell

59. 16 U.S.C. § 824d(a) (2006).

60. Some commentators have questioned whether the FPA authorizes FERC to rely on market forces to set wholesale electricity prices. See Gerald Norlander, *May the FERC Rely on Markets to Set Electric Rates?*, 24 ENERGY L.J. 65, 73–74 (2003) (“[T]he essence of these market-based rates is that no definite rates or rate changes are actually filed by the utility. . . . This, of course, is fundamentally inconsistent with the plain language of the FPA, which requires

its power at cost-based rates, which cover the generator's costs and provide a reasonable return on its capital investment. FERC also has authority under the FPA to review electric-utility mergers prospectively⁶¹—a responsibility it shares with the Department of Justice (DOJ) and the Federal Trade Commission (FTC), which review mergers under the Clayton Act,⁶² and with state public utility commissions. If prices consistently remain above competitive levels or structural conditions are noncompetitive, FERC can also impose market-wide price caps to prevent prices from rising to monopoly levels.⁶³ FERC has imposed bid caps on generators that can influence market prices.⁶⁴ Markets in the eastern United States have bid caps of \$1,000/MWh, while the California market has a lower cap, due to less competitive structural conditions.⁶⁵ In smaller markets with congested transmission lines, even more stringent rules apply due to the greater potential for market-power abuse.⁶⁶

FERC also has retrospective, remedial powers at its disposal. It requires all market participants to file quarterly reports documenting their wholesale activities.⁶⁷ If it finds that a generator has violated market rules through, for example, the exercise of market power, FERC can suspend a generator's authority to sell at market rates⁶⁸—a costly penalty when market prices are high. FERC can also order generators to disgorge profits attributed to market manipulation.⁶⁹ The Energy Policy Act of 2005 (EPAct) granted FERC the authority to impose civil fines of up to \$1 million per day for each violation of market rules, a substantial increase over the previous maximum of \$10,000 per day per violation.⁷⁰

filing of 'schedules showing all rates and chargers' before they are effective. A market-based rate, which continually fluctuates with market prices, simply cannot be reconciled with the statutory requirement of schedules 'showing' the rates demanded or charged."). The courts, however, have upheld FERC's use of market-based rates to fulfill its statutory obligation, provided that the market is competitive. *See California v. FERC*, 383 F.3d 1006, 1013 (9th Cir. 2004); *La. Energy & Power Auth. v. FERC*, 141 F.3d 364, 365 (D.C. Cir. 1998).

61. Inquiry Concerning the Commission's Merger Policy Under the Federal Power Act: Policy Statement, 61 Fed. Reg. 68,595, 68,596 (1996), *recons. denied*, 62 Fed. Reg. 33,341 (1997).

62. *See* 15 U.S.C. § 18a (2006).

63. Joseph T. Kelliher, *Market Manipulation, Market Power, and the Authority of the Federal Energy Regulatory Commission*, 26 ENERGY L.J. 1, 11 (2005).

64. *See* Helman, *supra* note 19, at 889.

65. *Id.* at 890.

66. *See id.*

67. Revised Public Utility Filing Requirements, 67 Fed. Reg. 31,044, 31,069 (2002).

68. Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorization, 105 F.E.R.C. ¶ 61,218, 62,171 (2003).

69. *Id.* at 62,148.

70. Pub. L. No. 109-58, § 1284, 119 Stat. 594, 980 (2005) (codified at 16 U.S.C. § 8250-1(b)).

In Order 2000, FERC required that RTOs establish market-monitoring units (MMUs) to oversee daily market conduct and outcomes.⁷¹ MMUs collect extensive data on generator behavior and market performance and submit annual public reports to FERC.⁷² As a means of preventing tacit collusion, several markets permit the release of generator bid data only on a six-month lag and without identifying individual generators by name.⁷³ MMUs have only modest remedial powers like recommending revisions to market rules and issuing warnings to market participants found to have engaged in anticompetitive behavior.⁷⁴ They are, however, obligated to report evidence of misconduct to FERC, which can further investigate and bring enforcement actions.⁷⁵

C. Notable Episodes of Anticompetitive Behavior

Despite regulatory oversight, market power abuse has been a defining feature of electricity markets. On several occasions, generators have raised market prices far above competitive levels and transferred millions or even billions of dollars from consumers to themselves. The most serious and publicized episode of such abuse occurred in California in 2000 and 2001. Other notable episodes of anticompetitive behavior occurred in Texas in 2005 and New York City between 2006 and 2008.

In designing the state's wholesale power markets in the late 1990s, California regulators made several mistakes. They fixed retail rates for a four-year period, under the assumption that wholesale prices would be below retail rates during this time, and allow incumbent utilities to recover the "stranded costs" in their old

71. See Regional Transmission Organizations, 65 Fed. Reg. 810, 898–99 (Jan. 6, 2000) (codified in 18 C.F.R. pt. 35); see also Fereidoon P. Sioshansi, *Competitive Electricity Markets: Questions Remain about Design, Implementation, Performance*, 21 ELECTRICITY J., Mar. 2008, at 74, 81.

72. Charles Goldman et al., *A Review of Market Monitoring Activities at U.S. Independent System Operators* 17–19 (Lawrence Berkeley National Laboratory, Working Paper No. 53975, 2004).

73. See José A. Garcia & James D. Reitzes, *International Perspectives on Electricity Market Monitoring and Market Power Mitigation*, 6 REV NETWORK ECON. 372, 392–93 (2007). This restriction on data dissemination has been criticized because it prevents third parties from studying market performance and allows generators manipulating the market to remain anonymous. See Frank A. Wolak, *Managing Unilateral Market Power in Electricity* 10–12 (World Bank Policy Research, Working Paper No. 3691, 2005).

74. See Goldman, *supra* note 72, at 21.

75. Parviz Adib & David Hurlbut, *Market Power and Market Monitoring*, in COMPETITIVE ELECTRICITY MARKETS: DESIGN, IMPLEMENTATION, PERFORMANCE 267, 285 (Fereidoon P. Sioshansi ed., 2008).

investments.⁷⁶ In other words, utilities were permitted to recover a reasonable return on capital investments made under cost-of-service regulation, which were expected to have less value in a market environment. Policymakers also required incumbents to sell all their nonnuclear generation capacity.⁷⁷ Five companies purchased this capacity.⁷⁸ This proved to be another critical mistake as experience showed that five independent generators were not enough to create competitive market conditions.⁷⁹ On top of ordering divestitures, regulators prohibited long-term contracting, which effectively required purchasers to obtain all their power through the spot market.⁸⁰ This restriction on long-term contracting was intended to create a liquid spot market,⁸¹ but it removed an incentive for generators to bid competitively in that market.⁸²

Although the California market performed comparatively well in 1998 and 1999,⁸³ tight supply-demand conditions set the stage for rampant market-power abuse in 2000 and the first six months of 2001. In the summer of 2000, diminished snow pack in the hydroelectric-rich Pacific Northwest and increased demand in the Desert Southwest reduced the availability of imported power for California, which has historically been very dependent on out-of-state generation.⁸⁴ The reduction in exports from these states eliminated an important competitive constraint on the five major owners of in-state generation.⁸⁵ With the diminished out-of-state competition, in-state generators raised prices through physical withholding (strategic plant outages) and economic withholding (bids in excess of

76. Paul L. Joskow, *California's Electricity Crisis*, 17 OXFORD REV. ECON. POL'Y 365, 368 (2001).

77. *See id.* at 369.

78. *Id.* at 371.

79. James Bushnell, *Looking for Trouble: Competition Policy in the U.S. Electricity Industry*, in ELECTRICITY DEREGULATION: CHOICES AND CHALLENGES 256, 289 (James M. Griffin & Steven L. Puller eds. 2005).

80. *See id.* at 369.

81. Frank A. Wolak, *Diagnosing the California Electricity Crisis*, 20 ELECTRICITY J., Aug.-Sept. 2003, at 11, 17.

82. Under forward contracting, generators often agree to sell power at a fixed price. If their capacity is not sufficient to meet their contractual obligations (i.e., they are "short" on power), they will have to purchase power on the spot market to cover the difference. They thus have an incentive to maintain spot prices at competitive levels. *See* James B. Bushnell et al., *Vertical Arrangements, Market Structure, and Competition: An Analysis of Restructured U.S. Electricity Markets* 1, 38–39 (NBER, Working Paper No. 13507, 2007) ("The horizontal structure of the markets is important, but similar horizontal structures can produce dramatically different outcomes under different vertical arrangements. The extent to which these arrangements constitute firm price commitments also plays a strong role in the impact of vertical structure on the market outcomes.").

83. *See* Wolak, *supra* note 81, at 20.

84. *Id.* at 21.

85. *Id.*

marginal cost).⁸⁶ Empirical evidence suggests that unilateral withholding was the main cause of increased wholesale prices and that tacit collusion was not necessary to bring about these noncompetitive outcomes.⁸⁷ Other market strategies compounded the withholding of generation and frustrated regulatory solutions. For instance, Enron, which did not own generation but was an active marketer of electricity, overscheduled transmission capacity to create an illusion of scarcity and exported and reimported power as a means of evading in-state price caps.⁸⁸

The crisis culminated in rolling blackouts throughout the state when demand exceeded supply in January 2001.⁸⁹ The fact that the blackouts occurred in winter starkly underscored the artificial shortage arising from the generators' withholding. Demand could not be satisfied even though in-state installed capacity exceeded peak load by nearly 50 percent.⁹⁰ The retail price freeze, moreover, wrought havoc on the state's two largest utilities. Retail prices remained fixed during the period, and so demand did not decline in response to higher wholesale prices. Pacific Gas & Electric (PG&E) and Southern California Edison (SCE) had to continue to meet load, buying high-priced wholesale power and reselling it at lower retail rates.⁹¹ The situation became so dire that PG&E filed for bankruptcy and the California wholesale market operator imploded.⁹² In the spring and summer of 2001, decisive state action finally ended the crisis. The state entered into long-term power purchase contracts with generators on behalf of PG&E and SCE; this intervention brought the situation under control as power no longer had to be purchased on the dysfunctional spot market.⁹³

86. Paul L. Joskow & Edward Kahn, *A Quantitative Analysis of Pricing Behavior in California's Wholesale Electricity Market During Summer 2000*, 23 ENERGY J., no. 4, 2002, at 1, 3-4, 9; see Joskow, *supra* note 76, at 382 fig. 4 (depicting the dramatic spike in plant outages in the fall of 2000 vis-à-vis the fall of 1999).

87. Steven L. Puller, *Pricing and Firm Conduct in California's Deregulated Electricity Market*, 89 REV. ECON. & STATS. 75, 85 (2007); Frank A. Wolak, *Measuring Unilateral Market Power in Wholesale Electricity Markets: The California Market, 1998-2000* 93 AM. ECON. REV. 425, 430 (2003).

88. See Garcia & Reitzes, *supra* note 76, at 381-82 (noting that FERC concluded that Enron, among other firms, engaged in "economic withholding, inflated bidding, and . . . 'megawatt laundering'"); CAISO, ANALYSIS OF TRADING AND SCHEDULING STRATEGIES DESCRIBED IN ENRON MEMOS (2002), available at http://www.caiso.com/Documents/Analysis-TradingandSchedulingStrategiesDescribedinEnronMemos_DMA10_4_02_.pdf.

89. Wolak, *supra* note 81, at 24.

90. California recorded peak demand of 30,000 MW and had 44,000 MW in installed generation capacity. *Id.* at 25

91. *Id.* at 29-30.

92. *Id.* at 29.

93. See *id.* at 30-31.

The costs of the crisis in California were staggering. Empirical analysis reveals that the market manipulation in 2000 alone resulted in hundreds of millions of dollars in deadweight losses and transferred approximately \$4 billion from consumers to generators.⁹⁴ Market inefficiencies and wealth transfers are estimated to have been nearly \$20 billion over the entire period of the crisis, from June 2000 to June 2001.⁹⁵ FERC has spent much of the past decade seeking to disgorge the profits that generators and power marketers earned from market-power abuse and other misconduct.⁹⁶

The Texas wholesale power market experienced less acute but still significant market-power abuse in the summer of 2005. The capacity of each of the two largest generator owners was critical for meeting demand during a significant fraction of hours in that period.⁹⁷ If either entity withdrew its entire capacity from the market, demand would exceed supply, resulting in blackouts. The Texas market had also exhibited more price spikes in 2005 than it had in previous years.⁹⁸ An investigation by the market monitor found that TXU, the largest generator in the state, submitted bids above marginal cost during peak hours from June to September 2005 to raise market prices in the spot market.⁹⁹ TXU's bidding behavior was estimated to have raised the average spot price of power by 15.5 percent and elevated the total costs of power purchased on the spot market by \$70 million.¹⁰⁰ TXU increased its own profits in the spot market by approximately \$18.8 million.¹⁰¹ Although only a small fraction of power was purchased on the spot market, higher prices on this market likely affected expectations about future prices and resulted in higher prices on bilateral contracts, too.¹⁰² The total cost to the public of TXU's bidding strategy thus may have significantly exceeded \$70 million.¹⁰³ The Public Utility Commission of Texas (PUCT) initially sought \$210 million in fines and refunds from

94. Borenstein et al., *supra* note 33, at 1396, 1398.

95. Wolak, *supra* note 73, at 7.

96. James L. Sweeney, *California Electricity Restructuring, The Crisis, and Its Aftermath*, in *ELECTRICITY MARKET REFORM: AN INTERNATIONAL PERSPECTIVE* 319, 371 (Fereidoon P. Sioshansi & Wolfgang Pfaffenberger eds., 2006).

97. POTOMAC ECONOMICS, 2005 STATE OF THE MARKET REPORT FOR THE ERCOT WHOLESALE ELECTRICITY MARKETS 140 (2006), available at http://www.potomaceconomics.com/uploads/ercot_reports/2005%20ERCOT%20SOM%20REPORT_Final.pdf.

98. *Id.* at 7.

99. POTOMAC ECONOMICS, INVESTIGATION OF THE WHOLESALE MARKET ACTIVITIES OF TXU FROM JUNE 1 TO SEPTEMBER 30, 2005, at 27 (2007).

100. *Id.* at 30.

101. *Id.* at 33.

102. *Id.* at 31.

103. *Id.*

TXU.¹⁰⁴ Ultimately, however, the PUCT and TXU settled for only \$15 million.¹⁰⁵

Between January 2006 and March 2008, KeySpan manipulated prices in the New York City capacity market.¹⁰⁶ At that time, KeySpan was one of three major owners of generation in New York City.¹⁰⁷ Because the New York City market is often separated from the Upstate New York market due to transmission constraints, KeySpan had the ability to raise market prices.¹⁰⁸ The market monitor had imposed a price cap to protect consumers in New York City from the effects of this concentrated market.¹⁰⁹ In response to new entry in generation and anticipated lower prices in the New York City area, KeySpan wanted to acquire the assets of the Astoria Generating Company (Astoria), one of its major rivals in the New York City market, but did not pursue this option on account of the anti-trust concerns.¹¹⁰ KeySpan instead entered in 2006 into a swap contract with a financial services company.¹¹¹ That company, later revealed to be Morgan Stanley, entered into an offsetting swap with Astoria.¹¹² From this arrangement, KeySpan obtained the right to a share of its rival's profits when capacity prices exceeded competitive levels.¹¹³ The swap amounted to KeySpan virtually acquiring its rival. As a result, KeySpan had an incentive to bid its capacity at the level of the market cap. Although it lost some sales on account of its

104. Tom Fowler, *TXU Faces Record Penalty*, HOUS. CHRON., Mar. 29, 2007, at A1.

105. Tom Fowler, *TXU Sibling Settles on Fine*, HOUS. CHRON., Nov. 27, 2008, at B1.

106. See Paul L. Joskow, *Capacity Payments in Imperfect Electricity Markets: Need and Design*, 16 UTIL. POL'Y 159, 170 (2008) (explaining why capacity markets are needed to ensure that generators earn adequate revenues to cover their fixed costs and offer an adequate rate of return); NYISO, *About NYISO—Understanding the Markets—The Capacity Market* http://www.nyiso.com/public/about_nyiso/understanding_the_markets/capacity_market/index.jsp (describing how the market matches buyers and sellers of generation capacity on a forward-looking basis) (last visited Sept. 17, 2012).

107. See *United States v. KeySpan Corp.*, 763 F. Supp. 2d 633, 635–36 (S.D.N.Y. 2011) (citations omitted) (“[F]rom 2003 to 2008, Key[S]pan possessed market power in the New York City capacity market. As major electricity generators . . . [KeySpan and other] firms were designated by the Federal Energy Regulatory Commission as ‘pivotal suppliers,’ meaning a portion of each firm’s output was vital to satisfy capacity demand.”).

108. See U.S. DEP’T OF ENERGY, NATIONAL ELECTRIC TRANSMISSION CONGESTION STUDY 45 (2009).

109. See *KeySpan Corp.*, 763 F. Supp. 2d at 636.

110. *Id.*

111. *Id.*

112. Complaint at 3, *United States v. Morgan Stanley*, No. 11 Civ. 6875 (S.D.N.Y. Sept. 30, 2011).

113. See *KeySpan*, 763 F. Supp. 2d at 636 (citations omitted) (“If the Clearing Price was above \$7.57 per kW-month, the Bank was required to pay Key[S]pan a multiple of the difference between those two prices. In contrast, if the Clearing Price was below \$7.57, Key[S]pan was required to pay the Bank a multiple of the difference.”).

higher bids, it more than recouped this loss through higher margins on its remaining capacity sales and proceeds from Astoria's inflated profits.¹¹⁴

During the twenty-six month period in which this arrangement remained in effect, it resulted in significant wealth transfers from ratepayers in New York City to KeySpan and other generators situated within the metropolitan area. KeySpan increased its own profits by \$49 million,¹¹⁵ and some estimates suggest that New York City consumers may have paid approximately \$119 million more for power in 2006 alone due to Keyspan's anticompetitive behavior.¹¹⁶ As for the rest of the state, utilities and their customers paid an additional \$39 million.¹¹⁷ In response, the DOJ sued KeySpan and Morgan Stanley for violating Section 1 of the Sherman Act. It reached a settlement with the two parties, requiring KeySpan and Morgan Stanley to disgorge \$12 million and \$4.8 million, respectively, in profits from their anticompetitive behavior.¹¹⁸ Even after factoring in this penalty, KeySpan earned tens of millions of dollars from its swap arrangement with Morgan Stanley and Astoria.

III. THE MISGUIDED APPLICATION OF THE FILED-RATE DOCTRINE TO ELECTRICITY MARKETS

In most industries in which market forces set prices, private parties, whether injured customers or competitors, may bring treble-damage actions against parties accused of anticompetitive behavior under the Sherman Act.¹¹⁹ Section 1 of the Act governs anticompetitive conduct by multiple firms,¹²⁰ and Section 2 addresses anticompetitive conduct by a single dominant firm.¹²¹ Private antitrust enforcement aligns the interests of firms with those

114. *See id.* ("The Complaint alleges that the Swap eliminated Key[S]pan's incentive to pursue competitive bidding strategies by allowing it to continue to bid its cap, even though much of its capacity was unsold.")

115. *Id.*

116. Letter from AARP to Donna N. Kooperstein, Chief, Trans., Energy, and Agric. Section, Antitrust Div., U.S. Dep't of Justice, regarding the Public Notice Inviting Tunney Act Comments in *United States v. KeySpan 3* (May 14, 2010), available at <http://www.justice.gov/atr/cases/f259700/259704-1.pdf>.

117. *Id.*

118. *KeySpan*, 763 F. Supp. 2d at 636; *United States v. Morgan Stanley*, No. 11 Civ. 6875 (WHP), 2012 WL 3194969, at *3 (S.D.N.Y. Aug. 7, 2012).

119. 15 U.S.C. § 15(a) (2006); The Supreme Court has held that indirect purchasers of goods and services cannot recover damages from antitrust violators under federal antitrust law. *See Illinois Brick Co. v. Illinois*, 431 U.S. 720 (1977).

120. *Id.* § 1.

121. *Id.* § 2.

of the public. The threat of treble-damage liability helps ensure that markets reach competitive outcomes, preventing economic harm to consumers.

Despite the persistent problem of market power in wholesale power markets, several circuits have immunized generators from private antitrust suits under Section 1 of the Sherman Act. Invoking the filed-rate doctrine, a legal rule originally developed to bar private antitrust enforcement in industries subject to direct price regulation, courts have held that purchasers of power cannot sue generators and other participants in wholesale power markets. Federal courts have reasoned that regulatory oversight is adequate to create and maintain competitive markets and that antitrust enforcement would interfere with the regulatory scheme.

A. Origins of the Filed-Rate Doctrine

The Supreme Court established the filed-rate doctrine in the 1922 case *Keogh v. Chicago & Northwestern Railway Co.*¹²² The plaintiff, a manufacturer in St. Paul, Minnesota, shipped its products on the defendants' railroads.¹²³ It alleged that the defendants had violated Section 1 of the Sherman Act by agreeing on shipping rates before submitting them to the Interstate Commerce Commission (ICC), the federal agency in charge of regulating the railroad industry at the time.¹²⁴ The plaintiff sought damages to compensate for the inflated rates and subsequent lost profits.¹²⁵

Justice Louis Brandeis, writing for a unanimous Court, held that the Interstate Commerce Act (ICA) immunized railroads from private antitrust suits. The Court reasoned that the existence of the regulatory scheme administered by the ICC eliminated the need for private antitrust damages on multiple grounds. First, the Court stated that the need for an antitrust remedy was obviated: the ICC reviewed rates and could award damages to shippers harmed by "unreasonably high" or "discriminatory" rates.¹²⁶ Second, it held

122. 260 U.S. 156 (1922).

123. *Id.* at 159.

124. *Id.* at 160–61.

125. *Id.* at 160.

126. *See id.* at 162 ("A rate is not necessarily illegal because it is the result of a conspiracy in restraint of trade in violation of the Anti-Trust Act. What rates are legal is determined by the Act to Regulate Commerce. Under § 8 of the latter act the exaction of any illegal rate makes the carrier liable to the 'person injured thereby for the full amount of damages sustained in consequence of any such violation' together with a reasonable attorney's fee. Sections 9 and 16 provide for the recovery of such damages either by complaint before the Commission or by an action in a federal court. If the conspiracy here complained of had

that the published rates could not be modified through antitrust, contract, or tort claims without violating the ICA's prohibition on discriminatory rates.¹²⁷ Private parties that recovered damages for antitrust violations would, in effect, be paying lower rates than similarly situated parties that did not pursue an antitrust action.¹²⁸ Third, the plaintiff would have to prove that the effective lower rate would have conformed to ICA requirements—a determination that only the ICC could make.¹²⁹ Last, it held that the plaintiff's damages would be speculative due to the lack of a clear counterfactual—it was uncertain how lower rates would have affected the plaintiff's profits since all its rivals would have also enjoyed lower rail rates.¹³⁰ While foreclosing the possibility of a private damages remedy, the Court held that the federal government could seek injunctive relief, forfeitures, and criminal penalties against the defendants under the antitrust laws.¹³¹

The Supreme Court affirmed the filed-rate doctrine in its 1986 decision *Square D Co. v. Niagara Frontier Tariff Bureau, Inc.*, a case factually similar to *Keogh*.¹³² The plaintiff sought damages from a group of trucking companies that it alleged had fixed the rates on freight transportation between the United States and Canada.¹³³ The members of the Niagara Tariff Bureau had filed their rates with the ICC, but they had not obtained permission from the ICC to engage in joint rate setting.¹³⁴ The district court and the Second Circuit held the rates were immune from antitrust challenge under the filed-rate doctrine.¹³⁵ In affirming the district court decision under binding Supreme Court precedent,¹³⁶ Judge Henry Friendly of the Second Circuit nonetheless questioned the wisdom of the filed-rate doctrine, especially when the relevant regulator rubber-

resulted in rates which the Commission found to be illegal because unreasonably high or discriminatory, the full amount of damages sustained, whatever their nature, would have been recoverable in such proceedings.”).

127. *Id.* at 163.

128. *See id.* (“If a shipper could recover under § 7 of the Anti-Trust Act for damages resulting from the exaction of a rate higher than that which would otherwise have prevailed, the amount recovered might, like a rebate, operate to give him a preference over his trade competitors. It is no answer to say that each of these might bring a similar action under § 7. Uniform treatment would not result, even if all sued, unless the highly improbable happened, and the several juries and courts gave to each the same measure of relief.”).

129. *See id.* at 163–64.

130. *Id.* at 164–65.

131. *Id.* at 161–62.

132. 476 U.S. 409 (1986).

133. *Id.* at 412–13.

134. *Id.* at 413–14.

135. *Id.* at 414.

136. *See Square D Co. v. Niagara Tariff Bureau, Inc.*, 160 F.2d 1347, 1349 (2d Cir. 1985), *aff'd*, 476 U.S. 409 (1986).

stamped market rates. He stated that the considerations that had motivated Justice Brandeis to create the doctrine in *Keogh* were arguably never valid and certainly not valid when a regulator allows market forces to set rates.¹³⁷ Justice John Paul Stevens, writing for an eight-justice majority, commended Judge Friendly's critique but affirmed the sixty-four-year-old doctrine on stare decisis grounds, holding that only Congress could repeal it.¹³⁸ Justice Thurgood Marshall dissented and said the Court should adopt the reasoning in Judge Friendly's opinion and overrule *Keogh*.¹³⁹

B. Application of the Doctrine to Power Markets

Several circuits have heard antitrust claims against participants in wholesale power markets and invoked the filed-rate doctrine to bar private antitrust damages actions. These courts have not come to a uniform conclusion as to the doctrine's precise bounds, but they have all barred claims under Section 1 of the Sherman Act. Some circuits have used the doctrine to dismiss Section 2 claims; others have recognized a so-called "competitor exception" to the doctrine and left open the possibility that firms in power markets can sue rivals for exclusionary behavior.

In *Town of Norwood v. New England Power*, the First Circuit provided a conflicted take on the filed-rate doctrine.¹⁴⁰ The plaintiff, a municipally owned retail electric cooperative, alleged that the defendant, a generation owner, had committed multiple antitrust violations.¹⁴¹ In its complaint, the plaintiff alleged that the defendant had fixed prices with rival generation companies in violation of Section 1 of the Sherman Act, engaged in a price squeeze in violation of Section 2 by providing more favorable wholesale prices to its retail affiliates, and sold generation assets in violation of Section 7 of the Clayton Act.¹⁴² The defendant had engaged in this course of conduct with the approval of FERC and the Massachusetts and Rhode Island public utility commissions, which were restructuring their respective states' power sectors at the time.¹⁴³ The court observed that FERC still regulated wholesale rates even though

137. See *id.* at 1352–54 (critiquing Justice Brandeis's reasoning in *Keogh*).

138. *Square D*, 476 U.S. at 423–24.

139. *Id.* at 424–25 (Marshall, J., dissenting).

140. See 202 F.3d 408 (1st Cir. 2000).

141. *Id.* at 414.

142. *Id.*

143. *Id.* at 413–14.

market forces set them.¹⁴⁴ Suggesting that ongoing oversight is not necessary for the filed-rate doctrine to apply, the court added that “[i]t is the filing of the tariffs” rather than “any affirmative approval or scrutiny by the agency” that triggers the doctrine.¹⁴⁵

After reciting how the filed-rate doctrine does not require any affirmative regulatory supervision to be invoked, the court in *Norwood* stated that the filed rate doctrine’s legal foundations are “extremely creaky” and proceeded to examine each antitrust claim at length.¹⁴⁶ The court dismissed the Section 1 claim on grounds that the plaintiff mischaracterized an unfavorable customer-supplier contract between itself and the defendant as horizontal price fixing.¹⁴⁷ When it considered the Section 2 price-squeeze claim, the court noted that finding antitrust liability on the basis of a price squeeze would interfere with FERC’s regulatory scheme and “require the alteration of [wholesale] tariffs,” that FERC had set.¹⁴⁸ The plaintiff claimed that its price-squeeze claim should nevertheless be allowed to proceed on the basis that it was a rival of the defendant and thus could invoke the “competitor exception” to the filed-rate doctrine.¹⁴⁹ The court refused to take a categorical position on this exception and instead noted that *Norwood* was principally bringing a claim as an aggrieved customer of the defendant.¹⁵⁰ The court also questioned whether the defendant either had monopoly power in generation or transmission or had engaged in exclusionary conduct—both of which are required to establish a Section 2 violation.¹⁵¹ It added that if New England Power did have a transmission monopoly, FERC had the authority to regulate it under Order 888.¹⁵² Finally, the court disputed the merits of the plaintiff’s Section 7 claim but allowed it to proceed, because the

144. *See id.* at 419 (citations omitted) (“[I]f New England Power’s rate were truly left to the market, with no filing requirement or FERC supervision at all, the filed-rate doctrine would by its terms no longer operate. But unlike some other regulatory agencies, FERC is still responsible for ensuring ‘just and reasonable’ rates and, to that end, wholesale power rates continue to be filed and subject to agency review.”).

145. *Id.* (emphasis omitted).

146. *See id.* at 420 (“[T]he law on the filed-rate doctrine is extremely creaky. . . . Yet this case is not a good vehicle for considering any cutting back on the doctrine, to whatever extent *Square D* permits adjustment, partly because the Sherman Act claims pressed by *Norwood* are themselves so doubtful.”).

147. *Id.* at 421.

148. *Id.* at 420 (emphasis omitted).

149. *Id.*

150. *Id.*

151. *Id.* at 420–21.

152. *Id.* at 421.

filed-rate doctrine does not foreclose private challenges to anticompetitive mergers.¹⁵³

Compared to the First Circuit, the Third Circuit in *Utilimax.com, Inc. v. PPL Energy Plus, LLC* expressed little hesitation in applying the filed-rate doctrine to bar an antitrust claim.¹⁵⁴ The plaintiff was a competitive retailer, and the defendant was both a competitive retailer and a generator.¹⁵⁵ The plaintiff alleged that the defendant was the only generator to own excess capacity and used its position to increase wholesale prices in violation of Section 2 of the Sherman Act.¹⁵⁶ Without examining the scope of FERC regulation in electricity markets, the court stated that “a plaintiff may not sue the supplier of electricity based on rates that, though alleged to be the result of anticompetitive conduct, were filed with the federal agency responsible for overseeing such rates.”¹⁵⁷ The court noted that the filed-rate doctrine’s competitor exception is recognized in the Third Circuit.¹⁵⁸ But it ruled that the plaintiff was not eligible for this exception; it had been injured as a customer of the defendant—paying higher prices for wholesale electricity—rather than as a competitor.¹⁵⁹

The Fifth Circuit, in *Texas Commercial Energy, LLC v. TXU Energy Inc.*, applied the filed-rate doctrine to bar an antitrust action against conduct similar to that in *Utilimax*.¹⁶⁰ The plaintiff, a competitive retailer in Texas, alleged that the defendants, generator owners in Texas, had increased wholesale electricity prices in February 2003 through manipulative behavior.¹⁶¹ The court held that the doctrine applies even when market forces set prices.¹⁶² Unlike wholesale power markets in the rest of the country, which are regulated by FERC, only the Public Utility Commission of Texas (PUCT) oversees the state’s market.¹⁶³ The court stated that the filed-rate doctrine still applies when a state regulator, as opposed to a federal

153. *Id.* at 422.

154. 378 F.3d 303 (3d Cir. 2004).

155. *Id.* at 305–06.

156. *Id.*

157. *Id.* at 306.

158. *Id.* at 307.

159. *See id.* at 307–08 (“The result of Utilimax’s inability to buy capacity offered by PPL in the wholesale market was that it went out of business in the retail market and PPL had one fewer competitor in that latter market. That result, however, came about because Utilimax (as a customer of PPL) could not afford to buy capacity. While the ramifications were felt in its competitor role, the damage to Utilimax occurred because of its status as a customer of PPL.”).

160. 413 F.3d 503 (5th Cir. 2005).

161. *Id.* at 506–07.

162. *Id.* at 509–10.

163. *Id.* at 506.

regulator, is entrusted with market supervision.¹⁶⁴ Reciting the particulars of the PUCT's regulatory scheme, the court suggested that this oversight is adequate to ensure a well-functioning market.¹⁶⁵ The court did not take a position on the competitor exception and ruled that the issue was moot; the plaintiff was injured in the course of purchasing power from the defendant.¹⁶⁶

As a result of the California electricity crisis, the Ninth Circuit has decided multiple antitrust claims in electricity markets and has consistently applied the filed-rate doctrine to bar plaintiffs from obtaining relief.¹⁶⁷ The court has ruled that the filed-rate doctrine forecloses purchasers of electricity from seeking antitrust and contractual damages due to market manipulation.¹⁶⁸ Recognizing that the regulation of electricity has changed dramatically, the court has nevertheless reasoned that the filed-rate doctrine still applies, on the basis that FERC maintains ongoing supervision of market-based wholesale prices. The Ninth Circuit has cited FERC's power to grant and revoke market-based rate authority to generators, obtain quarterly reports from market participants, and review market rules, in support of the notion that federal regulation is adequate to ensure competitive outcomes.¹⁶⁹ It has also emphasized its view that the judiciary cannot offer satisfactory relief to plaintiffs, suggesting that courts cannot accurately compute the "fair price" necessary to determine damages and that such an exercise would interfere with FERC regulation.¹⁷⁰

164. *Id.* at 509.

165. *See id.* at 509–10 (citations omitted) (“[U]nder Bill 7, PUCT is required to ensure ‘safe, reliable, and reasonably priced electricity’ and ‘that ancillary services necessary to facilitate the transmission of electric energy are available at reasonable prices with terms and conditions that are not unreasonably preferential, prejudicial, discriminatory, predatory, or anticompetitive.’ PUCT also requires electricity to file detailed information to assess market power and even a market power mitigation plan for those generators that control more than 20% of the electricity market in a specific region. Accordingly, PUCT’s oversight over the market is sufficient to conclude that the BES energy rates are ‘filed’ within the meaning of the filed-rate doctrine.”).

166. *Id.* at 510.

167. *See, e.g.,* *Wah Chang v. Duke Energy Trading & Mktg., LLC*, 507 F.3d 1222 (9th Cir. 2007); *Pub. Util. Dist. No. 1 of Snohomish County v. Dynegy Power Mktg., Inc.*, 384 F.3d 756 (9th Cir. 2004); *Pub. Util. Dist. No. 1 of Grays Harbor County v. IDACORP Inc.*, 379 F.3d 641 (9th Cir. 2004).

168. *Wah Chang*, 507 F.3d at 1228; *Snohomish*, 384 F.3d at 762; *Grays Harbor*, 379 F.3d at 651–52.

169. *Snohomish*, 384 F.3d at 760–61.

170. *See id.* at 761 (citation omitted) (“We concluded that the district court was precluded from giving the plaintiff the relief it sought because, to award that relief, the district court would have had to determine a ‘fair price.’ We held that this would interfere with FERC’s exclusive jurisdiction to set wholesale rates”); *Wah Chang*, 507 F.3d at 1226 (“Try as it may, *Wah Chang* cannot avoid the fact that it seeks what amounts to having the courts determine what rates the Energy Companies should have charged instead of the rates they did

The Second Circuit also recently applied the filed-rate doctrine to bar a private antitrust claim against electricity-market participants. In 2011, Southern District of New York cited the doctrine to dismiss a private damages action against KeySpan for its anticompetitive behavior in the New York City capacity market.¹⁷¹ The Second Circuit in September 2012 affirmed the district court's ruling in favor of the defendant, partly on filed-rate grounds.¹⁷² The court said that the auction process was "sufficiently safeguarded," citing FERC's price cap, antimanipulation rule, and investigation into KeySpan's conduct.¹⁷³ Although reaching the same result as its sister circuits, the court declined to hold that the filed-rate doctrine categorically bars antitrust claims in electricity markets.¹⁷⁴

C. Theoretical Flaws in the Courts' Rulings

The courts' justifications for applying the filed-rate doctrine to electricity markets can be distilled into two principal strands. First, FERC or comparable state regulatory oversight is sufficient to deter anticompetitive behavior. Second, the judiciary is not capable of regulating market conduct, suggesting that the judiciary would interfere with FERC and state supervision and would be unable to compute damages from anticompetitive behavior. If either regulatory oversight is adequate to maintain competitive markets or antitrust litigation cannot remedy anticompetitive behavior without interfering with the regulatory scheme, courts are justified in barring antitrust litigation in electricity markets.

Both grounds for invoking the filed-rate doctrine are unsound, however; its present application in electricity markets is bad policy.¹⁷⁵ FERC regulatory oversight is not adequate to protect market competition. For many years, FERC used flawed screening methods when granting generators the right to sell at market-based rates and

charge. Wah Chang would inevitably drag the courts into a determination of what rate would be fair and proper.").

171. *Simon v. KeySpan Corp.*, No. 10 Civ. 5437, 2011 WL 2135075 (S.D.N.Y. May 27, 2011).

172. *Simon v. KeySpan Corp.*, 694 F.3d 196, 204 (2d Cir. 2012).

173. *Id.* at 207.

174. *Id.* at 204.

175. The application of the filed-rate doctrine in restructured electricity markets has been widely criticized. See, e.g., Robert B. Martin, III, *Sherman Shorts Out: The Dimming of Antitrust Enforcement in the California Electricity Crisis*, 55 HASTINGS L.J. 271, 298–303 (2003); Robert R. Nordhaus, *Electric Power Regulation: Making Partially-Deregulated Markets Work*, 54 ADMIN. L. REV. 365, 381–82 (2002); Rossi, *supra* note 3, at 1647–48 (2003).

still relies on imperfect analytical tools. Moreover, FERC cannot adequately deter market manipulation, due to its limited administrative resources and remedial powers. The extended episodes of costly anticompetitive conduct in the California and New York markets have demonstrated these limits too clearly. Second, courts can remedy anticompetitive behavior without undermining FERC's regulatory obligation to maintain "just and reasonable rates." In fact, in a market setting, FERC supervision and antitrust enforcement would work together to create and maintain competitive wholesale power markets. Since neither justification can withstand scrutiny, the filed-rate doctrine's present application is not defensible.

1. FERC and RTO Regulation Are Not Adequate to Ensure Competitive Markets

The courts' reasoning that FERC supervision is sufficient to preserve competitive electricity markets is flawed. First, the Agency relies on problematic screens in determining whether generators can sell at market rates. Second, even if it were to use a more stringent market-power test, FERC has limited resources and remedial powers and cannot realistically prevent all instances of anticompetitive behavior.

In granting generators market-based rate authority in the 1990s, FERC used a flawed model of electricity markets. This model relied on market shares of uncommitted generation capacity—that is, capacity not sold under long-term contracts.¹⁷⁶ It assumed that transmission congestion never arose and that generators always competed in a wide geographic market.¹⁷⁷ If a generator had a share of 20 percent or less in this broad market at peak load, FERC granted it the authority to sell at market prices.¹⁷⁸ Generators that had a share in excess of 20 percent could still obtain market-based rate authority if they offered evidence showing that they did not have market power.¹⁷⁹ Otherwise, they would have to sell their power at cost-based rates.¹⁸⁰ Since transmission congestion can and

176. See James Bohn et al., *The Design of Tests for Horizontal Market Power in Market-Based Rate Proceedings*, 15 *ELECTRICITY J.*, May 2002, at 52, 53–54.

177. Helman, *supra* note 19, at 885 ("Transmission constraints between these markets were not considered.")

178. Bohn et al., *supra* note 176, at 53–54.

179. *Id.*

180. See Craig R. Roach, *Measuring Market Power in the U.S. Electricity Business*, 23 *ENERGY L.J.* 51, 61 (2002).

does divide a large geographic market into several smaller markets for a significant fraction of the time,¹⁸¹ ignoring constraints on the grid was a serious deficiency. For example, a large single market during the low demand hours of the early morning may fragment into smaller markets as demand rises and causes congestion on transmission lines. Within one of these smaller geographic markets, a generator could have a market share greater than 20 percent and exercise market power. Yet FERC's model would allow this generator to sell its power at market prices so long as it had a share equal to or less than 20 percent in the larger geographic market.

While FERC—to its credit—has since adopted more sophisticated screening methods that take into account transmission constraints,¹⁸² these tests continue to have important limitations. Generators that can establish that they have a share less than a specified threshold in the relevant market and that they are not pivotal—that is, not necessary to meet peak demand—can sell their power at market prices.¹⁸³ A generator that fails either test can still obtain market-based rate authority if it shows market concentration is below a certain threshold in the problematic markets.¹⁸⁴ The characteristics of electricity markets create both supply and demand inelasticity. Due to this supply-and-demand-side insensitivity to price, market shares and concentration are not a good proxy for whether a generator has market power.¹⁸⁵ A generator with even a small share may be able to withhold output to raise prices and increase its profits.¹⁸⁶ The pivotality test, which looks at whether a

181. See, e.g., U.S. DEPT. OF ENERGY, NATIONAL ELECTRIC TRANSMISSION CONGESTION STUDY 45 (2009) (“As a result of transmission congestion and losses, there was considerable variation in clearing prices across the [New York] system. In the day-ahead market, eastern up-state prices were 27% higher than average prices in western New York, New York City prices were 8% higher than average prices in the eastern up-state region, and Long Island prices were 22% higher than average prices in the eastern up-state region.”); *id.* at 83 (“CAISO reports that sources of intra-zonal congestion within Southern California included . . . the Southwest Powerlink corridor, which includes the Imperial Valley and Miguel transmission stations. Miguel is the choke point for transmission from Mexico and Arizona to load in Southern California.”).

182. Helman, *supra* note 19, at 885.

183. See Richard Gilbert & David Newbery, *Market Power in US and EU Electricity Generation, in ANTITRUST AND REGULATION IN THE EU AND US: LEGAL AND ECONOMIC PERSPECTIVES* 161–62 (François Lévêque & Howard Shelanski eds., 2009).

184. Helman, *supra* note 19, at 887.

185. Severin Borenstein et al., *Market Power in Electricity Markets: Beyond Concentration Measures*, 20 ENERGY J. no. 4, 1999, at 65, 68.

186. See *id.* (“Even though one firm may have a relatively small market share at a given demand level, it may be the case that if that firm reduced output, no other firm would be able to replace that supply because of cost, capacity or transmission constraints.”).

particular generator is necessary to meet peak demand, better reflects the dynamics of power markets.¹⁸⁷ But it may still understate the likelihood that market power can be exercised jointly.¹⁸⁸

Beyond the limitations of its prospective market power screens, FERC does not have the resources to protect power markets from collusive behavior after generators have been granted market-based rate authority. Given how the features of electricity markets make them vulnerable to manipulation, constant vigilance against the exercise of unilateral or collective exercise of market power is critical.¹⁸⁹ The bodies at FERC and the RTOs responsible for this oversight, however, have comparatively small staffs. FERC has over 100 employees in its Office of Market Oversight and Investigation,¹⁹⁰ and the RTOs have mostly outsourced market monitoring duties to small, specialized consulting firms.¹⁹¹ It is unrealistic to expect even these knowledgeable and experienced regulators to ferret out all instances of anticompetitive market behavior.

When FERC does uncover anticompetitive market behavior, it has only imperfect remedial tools to correct it. FERC's most potent remedies are disgorging profits from a generator's anticompetitive behavior and suspending its market-based rate authority.¹⁹² Anticompetitive behavior is not always detected and sometimes goes unpunished. Disgorgement is inadequate for optimal deterrence,¹⁹³

187. See Gilbert & Newbery, *supra* note 183, at 162 (footnote omitted) ("An applicant passes the pivotal supplier test if its uncommitted capacity is less than the uncommitted capacity reserve margin. If an applicant passes the pivotal supplier test, the market has sufficient capacity to meet demand even if the market makes no sales. An applicant that fails the pivotal supplier test can demand a price above the competitive level and be assured of making some sales.").

188. See *id.* ("The pivotal supplier test can be strengthened in straightforward ways to reduce the probability that a generator would be permitted to exercise market power. The PJM Interconnection employs a three-pivotal supplier test to determine when generators are reasonably likely to behave in a competitive manner.").

189. Seth A. Blumsack et al., *Lessons from the Failure of U.S. Electricity Restructuring*, ELECTRICITY J., Mar. 2006, at 15, 29 ("FERC and the states should not be naïve in thinking that small changes in a regulated market, or in the restructured markets, will lead to the sort of vigorous competition that has characterized the deregulated airline, trucking, and telecommunications industries. The successful restructured markets rely on close monitoring and ordering generators to engage in behavior such as providing reactive power or providing electricity at cost.").

190. Frank A. Wolak, *Lessons from International Experience with Electricity Market Monitoring 7* (World Bank Policy Research, Working Paper No. 3692, 2005).

191. See, e.g., RTO MARKET MONITORING, POTOMAC ECONOMICS, http://www.potomaceconomics.com/practice_areas/rto_market (last visited Oct. 23, 2012); OUR ROLE AS PJM MARKET MONITOR, MONITORING ANALYTICS, <http://www.monitoringanalytics.com/company/role.shtml> (last visited Oct. 23, 2012).

192. Kelliher, *supra* note 63, at 19, 22.

193. See Darren Bush & Carrie Mayne, *In (Reluctant) Defense of Enron: Why Bad Regulation Is to Blame for California's Power Woes (or Why Antitrust Law Fails to Protect Against Market Power When the Market Rules Encourage Its Use)*, 83 OR. L. REV. 207, 282 (2004).

for which the expected value of the penalty must equal the harm to society from the conduct.¹⁹⁴ Generators may often be able to exercise market power with impunity and know that at worst they will have to give up their ill-gotten gains. Imagine if the only penalty thieves faced was to return the goods or money they stole. Thieves are not always caught, and so this remedy would create insufficient deterrence. On average, theft would pay.

In contrast, suspending market-based rate authority is a potentially serious penalty. Selling power at cost-based rates may significantly reduce future profits.¹⁹⁵ This penalty, however, removes a player from the wholesale market, and in punishing one bad actor, may ironically short-circuit the larger process of creating competition.¹⁹⁶

2. The Threat of Institutional Conflict Does Not Justify the Present Filed-Rate Immunity

a. Private antitrust enforcement would generally complement FERC's regulatory mission

In applying the filed-rate doctrine, the courts have ignored how the antitrust laws would operate electricity markets. FERC no longer sets wholesale rates. Some markets have price caps, but even here, market forces are given free play under those ceilings. There are no longer fixed rates like those at issue in *Keogh*. In fact, one of the defining features of electricity markets is the volatility of prices even in a twenty-four hour period—the antithesis of fixed rates.¹⁹⁷

Aside from special cases like the essential facilities doctrine,¹⁹⁸ antitrust aims to preserve a competitive process free of harmful collusion and exclusion by imposing damages on defendants found

194. See A. Mitchell Polinsky & Steven Shavell, *Punitive Damages: An Economic Analysis*, 111 HARV. L. REV. 869, 957–62 (1998). Moreover, the Supreme Court has held under the *Mobile-Sierra* doctrine that FERC can set aside market rates only if it shows “unequivocal public necessity.” See *Morgan Stanley Capital Gr., Inc. v. Pub. Util. Dist. No. 1 of Snohomish Co.*, Wash., 128 S. Ct. 2733 (2008); *NRG Power Mktg., LLC v. Maine Public Utils.* Comm’n, 130 S. Ct. 693 (2010).

195. See Rossi, *supra* note 3, at 1628 (“To the extent that grounds for revocation can be established, the remedy is draconian: nationwide in scope (thus excessively harsh in its consequence), harmful to consumers to the extent it over-deters, and costly for regulators.”).

196. See Diana L. Moss, *Electricity and Market Power: Current Issues for Restructuring Markets (A Survey)*, 1 ENVTL. & ENERGY L. & POL’Y J., 11, 38 (2005).

197. See *supra* Part III.i.

198. The essential facilities doctrine requires natural monopolies to grant competitors in related markets access to monopoly assets deemed “critical facilities.” See generally Sandeep

liable for anticompetitive conduct.¹⁹⁹ The norm of antitrust is not to dictate market outcomes or terms of dealing by firms.²⁰⁰ The legal regime proscribes certain conduct rather than prescribe affirmative responsibilities. The concern that antitrust litigation would require the prospective “alteration of tariffs,”²⁰¹ and thus interfere with regulated rates, does not apply. Since *Norwood*, in fact, plaintiffs have typically alleged that defendants engaged in conduct resembling collusion.²⁰² If the courts had allowed the claims to proceed, they would not have created any conflict with FERC rules. Rather, the courts would have supplemented FERC’s regulatory objective of creating competitive power markets free from conduct like collusion.²⁰³

Both FERC regulations and antitrust law seek to encourage market competition and discourage collusion. FERC does this through its market-based rate and merger-review authority and its power to order generators engaging in anticompetitive conduct to disgorge profits. Antitrust litigation would supplement this regulatory mission through the threat of imposing treble damages on generators that collude.²⁰⁴ Given the resource and remedial constraints that FERC faces, the risk of private antitrust liability may be vital to deterring anticompetitive behavior. As in many other areas of law in the United States and markets subject to full antitrust enforcement, private plaintiffs would serve as “private attorneys general” and offer market oversight not tied to budgetary choices or regulatory

Vaheesan, *Reviving an Epithet: A New Way Forward for the Essential Facilities Doctrine*, 2010 UTAH L. REV. 911.

199. See Dennis W. Carlton & Randal C. Picker, *Antitrust and Regulation* 14–15 (Nat’l Bureau of Econ. Research, Working Paper No. 12902, 2007).

200. See Martin, *supra* note 175, at 301 (footnote omitted) (“[I]n [S]ection 1 actions arising from the crisis, a court need not determine whether the hypothetical rate would fit FERC’s standards; instead, the court need only estimate what electricity prices would have been absent anticompetitive conduct. A court would use that estimate for calculating damages, and nothing more. Such an estimate would inevitably be lower, thus running little risk it might be contrary to FERC’s ‘just and reasonable’ mandate.”).

201. *Town of Norwood v. New England Power Co.*, 202 F.3d 408, 420 (1st Cir. 2000).

202. See, e.g., *Tex. Comm. Energy v. TXU Energy, Inc.*, 413 F.3d 503, 506–07 (5th Cir. 2005); *Pub. Util. Dist. No. 1 of Snohomish County v. Dynegy Power Mktg., Inc.*, 384 F.3d 756, 759 (9th Cir. 2004); *Simon v. KeySpan*, 10 Civ. 5437 (SAS), 2011 U.S. Dist. LEXIS 57142, at *1 (S.D.N.Y. May 27, 2011).

203. See *Order Revising Market-Based Rate Tariffs and Authorizations*, FERC, at 10, available at <http://www.ferc.gov/whats-new/comm-meet/021606/E-4.pdf> (last visited Oct. 24, 2012) (emphasis added) (“[P]rohibited actions in Rule 2 (i.e., wash trades, transactions predicated on submitting false information, transactions creating and relieving artificial congestion, and collusion for the purpose of market manipulation) are all prohibited activities under new section 1c.2 of our regulations and are subject to sanctions and remedial action.”).

204. 15 U.S.C. § 15 (2006).

enforcement priorities.²⁰⁵ They would serve as additional “eyes on the ground” and could uncover and remedy instances of anticompetitive behavior that FERC and state regulators do not.²⁰⁶

Courts would be much more justified in exercising judicial restraint over antitrust issues involving prospective price setting and ongoing supervision. In the area of transmission access, for example, price and other terms of grid use need to be set. Given its expertise, FERC is more suited for this role than the courts.²⁰⁷ FERC is also better equipped to ensure compliance with access rules.²⁰⁸ Courts would thus be wise to invoke the filed-rate doctrine or other comparable antitrust immunity in deciding cases about discriminatory transmission access and similar allegations. This rule would prevent judicial interference in an area more suited to regulatory resolution.

Some courts, in recognizing the “competitor exception” to the filed-rate doctrine, have turned these institutional considerations on their head. The Third Circuit in *Utilimax* stated that competitor suits do not trigger the filed-rate doctrine, asserting that competitors are not the “intended beneficiaries” of regulation.²⁰⁹ This formalistic approach ignores the operation of regulation in electricity (and network industries generally) today. Contrary to the Third Circuit’s reasoning, public utility regulation today is directed toward facilitating competition rather than setting final prices to consumers—in effect, competitors of incumbents are now the immediate “intended beneficiaries” of regulation.²¹⁰ To allow for wholesale-market competition, FERC issued Order 888 to ensure that all generators have non-discriminatory access to the transmission grid, which otherwise functions as a natural monopoly. Courts like the Third Circuit, however, have left open the possibility that

205. Myriam E. Gilles, *Reinventing Structural Reform Litigation: Deputizing Private Citizens in the Enforcement of Civil Rights*, 100 COLUM. L. REV. 1384, 1413 (2000).

206. *Id.*

207. See Carlton & Picker, *supra* note 199, at 29; Rossi, *supra* note 3, at 1610.

208. See Carlton & Picker, *supra* note 199, at 29; Rossi, *supra* note 3, at 1610.

209. *Utilimax.com, Inc. v. PPL Energy Plus, LLC*, 378 F.3d 303, 307 (3d Cir. 2004).

210. See Joseph D. Kearney & Thomas W. Merrill, *The Great Transformation of Regulated Industries Law*, 98 COLUM. L. REV. 1323, 1364 (1998) (“[T]he great concern is that incumbent providers that control bottleneck facilities will use their monopoly power to discriminate against competitors in the service segments that have been opened to competition. To prevent this from happening, a new set of regulatory obligations—including the duty to interconnect, to lease unbundled network elements, and to sell services for resale—is imposed on the owners of such bottleneck facilities and becomes the focal point of regulatory attention. In effect, the owners of natural monopoly facilities assume new common carrier duties toward their competitors, and these duties are regarded as more important than those they owe to their traditional customers.”).

independent generators can ask the federal courts to resolve disputes over access to transmission. These issues involve prospective price setting and regulatory supervision—tasks for which the judiciary is comparatively ill suited and at a strong disadvantage vis-à-vis industry regulators.²¹¹ The competitor exception thus forces judges to resolve disputes that are well outside their area of competence.

b. Courts are capable of computing a retrospective “fair price”

Contrary to the institutional pessimism expressed by the Ninth Circuit, the courts can compute a “fair price” that would have prevailed but for alleged anticompetitive behavior. As described earlier, rather than forcing courts to become industry regulators, the antitrust laws operate on the premise that treble-damage awards for past violations significantly deter future violations.²¹² Courts rely on several proven methods to compute the retrospective competitive price—a task that is simplified by the mechanical price-setting algorithm in centralized power markets. To approximate damages from anticompetitive market behavior, courts compare the prices that prevailed during the period of anticompetitive conduct with the prices that would have prevailed but for the anticompetitive behavior.²¹³ As is often the case with counterfactuals, it is not easy to determine precisely how things would have alternately played out, competitive universe. To resolve this difficulty, courts have used five methods, jointly or independently, to estimate the “competitive price”:

- (1) prices that existed before the start of the antitrust violation or any other period without collusion;
- (2) prices in a comparable market in which the antitrust violation did not occur;
- (3) average total costs, which should well approximate prices in a competitive market;
- (4) variable costs multiplied by the margin in noncollusive periods; or

211. See Carlton & Picker, *supra* note 199, at 29; Rossi, *supra* note 3, at 1610.

212. See Robert H. Lande, *Five Myths About Antitrust Damages*, 40 U.S.F. L. REV. 651, 652–57 (2006).

213. John M. Connor, *Forensic Economics: An Introduction with Special Emphasis on Price Fixing*, 4 J. COMPETITION L. & ECON., 31 44–45 (2007).

- (5) econometric models that estimate the price elevation effect of the collusive agreement.²¹⁴

The difference between actual prices and these “but-for” prices is the measure of per-unit damages.²¹⁵

Furthermore, in the context of electricity markets, computing the “but-for” price is a simpler administrative task than it is in most industries. In competitive, centralized electricity markets, prices are set through a process akin to a Dutch auction: the marginal cost of the most expensive unit needed to meet hourly demand sets the price for the entire market.²¹⁶ The price of power that would have prevailed in each hour under competitive market conditions can be computed based on the cost of fuel, the technical characteristics of generators, transmission-line-capacity limits, and hourly demand.²¹⁷ This is a data-intensive process that requires the testimony of economists. Yet, it is hardly novel, as economic experts perform data analysis in many matters that courts decide.²¹⁸

Finally, in contrast to instances in which regulators set prices prospectively, computing retrospective damages with complete accuracy is not as critical. The purpose of damages is to deter future antitrust violations and compensate victims. Particularly in the context of price fixing and other forms of collusion between horizontal rivals, the risk of overdeterrence is nonexistent.²¹⁹ Unlike other forms of economic behavior that can have both anticompetitive and procompetitive effects, collusion does not have procompetitive benefits, so excessive deterrence is not a practical concern.²²⁰

IV. WHY ELIMINATING THE FILED-RATE DOCTRINE IS NOT SUFFICIENT TO CREATE COMPETITIVE POWER MARKETS

Congress or the Supreme Court can promote competitive power markets and more affordable electricity by limiting application of

214. *Id.* at 46–51, 53–54.

215. *Id.* at 44–45.

216. Green, *supra* note 28, at 246.

217. Jeffrey Bastian et al., *Forecasting Energy Prices in a Competitive Market*, 12 IEEE COMPUTER APPLICATIONS IN POWER 40, 42–44 (1999).

218. See, e.g., Robert Thornton & John Ward, *The Economist in Tort Litigation*, 13 J. ECON. PERSP. 101, 101–02 (1999); Thomas R. Ireland, *The Interface Between Law and Economics and Forensic Economics*, 7 J. LEGAL ECON. 60, 65 (1997).

219. See Jonathan B. Baker, *New Horizons in Cartel Detection*, 69 GEO. WASH. L. REV. 824, 826 (2001); Robert H. Lande, *Why Antitrust Damage Levels Should Be Raised*, 16 LOY. CONSUMER L. REV. 329, 333–34 (2003).

220. See EINER R. ELHAUGE & DAMIEN GERADIN, *GLOBAL ANTITRUST LAW AND ECONOMICS* 105–06 (2007).

the filed-rate doctrine to exclusionary conduct.²²¹ The filed rate doctrine should not bar antitrust suits alleging collusive behavior in the industry. The distinction between collusive and exclusionary conduct offers guidance on how the filed rate doctrine should be applied in electricity markets. Courts have the ability to remedy collusive conduct through damage awards but are much less competent at addressing exclusionary conduct that involves transmission access.²²² A sensible legal rule would recognize this distinction. On the one hand, purchasers of power should have all the usual antitrust remedies against generators accused of collusion. On the other hand, market participants that allege exclusionary conduct like discriminatory access to transmission should face the filed-rate bar or similar immunity and instead be directed to seek relief from the industry experts at FERC.

The KeySpan episode in New York City shows how private antitrust enforcement could promote competitive power markets. FERC failed to prevent or remedy a two-year period of anticompetitive behavior that likely cost ratepayers more than \$100 million and did not pursue any enforcement action after it learned of the misconduct.²²³ Notably, in its public statements, the Department of Justice suggested that it pursued disgorgement—a rarely used remedy in public antitrust enforcement²²⁴—against KeySpan because the filed-rate doctrine barred private damages actions.²²⁵ Given the imperfect ability to detect collusion, even full disgorgement of

221. With a divided Congress and a Supreme Court hostile to antitrust, the likelihood of this development appears slim. See KENNETH M. DAVIDSON, REALITY IGNORED: HOW MILTON FRIEDMAN AND CHICAGO ECONOMICS UNDERMINED AMERICAN INSTITUTIONS AND ENDANGERED THE GLOBAL ECONOMY 102–03 (2011) (“The last victory for an antitrust plaintiff in the Supreme Court was in 1993. The scorecard in the Supreme Court reads, according to my colleagues at the American Antitrust Institute as I am writing on February 26, 2009, 19 victories for antitrust defendants and 0 victories for antitrust plaintiffs. . . . In the 2010 *American Needle* case, the Supreme Court decided a case in favor of an antitrust plaintiff for the first time since 1992.”).

222. See Carlton & Picker, *supra* note 199, at 29 (“In an industry that becomes partially deregulated, antitrust can be used to control the unregulated segments, while regulation controls the rest. Indeed, partial deregulation of an industry can increase the importance to a rival’s survival of rules of interconnection.”).

223. See FED. ENERGY REGULATORY COMM’N, FINDINGS OF A NON-PUBLIC INVESTIGATION OF POTENTIAL MARKET MANIPULATION BY SUPPLIERS IN THE NEW YORK CITY CAPACITY MARKET 3 (2008) (noting that because FERC enforcement staff had “not found any evidence that KeySpan . . . violated the NYISO’s Service Tariff or Part 1c of the Commission’s regulations” the investigation would be closed absent Commission action.)

224. Einer Elhauge, *Disgorgement as an Antitrust Remedy*, 76 ANTITRUST L.J. 79, 81 (2009).

225. Competitive Impact Statement at 9, *United States v. KeySpan Corp.*, 763 F. Supp. 2d 633 (S.D.N.Y. 2011) (No. 10-cv-1415).

gains from anticompetitive behavior inadequately deters such conduct.²²⁶ Private antitrust suits would allow direct purchasers of power to recover the overcharges they paid (and more after trebling) and strongly deter future anticompetitive behavior.

Although the present application of the filed-rate doctrine is problematic and allows some types of market misconduct to go unpunished, the actual benefits of a judicial or legislative repeal or limitation of the doctrine should not be overstated. The KeySpan episode shows how restricting the scope of the filed-rate doctrine can produce better market outcomes. The threat of private antitrust damages actions could have deterred what amounted to explicit collusion between rival generators. Express collusion between generators, however, is not the sole or even primary reason why restructuring the industry has not delivered the promised consumer benefits. Two important forms of anticompetitive market behavior—unilateral withholding and tacit collusion—are permissible and difficult to prosecute, respectively, under long-standing interpretations of the antitrust laws. In other words, the antitrust laws do not proscribe the entire universe of anticompetitive conduct that occurs in electricity markets.

*A. The Exercise of Unilateral Market Power Is Not Proscribed
by the Sherman Act*

Today, Section 2 of the Sherman Act does not prohibit dominant firms from charging whatever price the market can bear.²²⁷ Companies with monopoly power do not violate the Sherman Act unless that power is maintained or extended through some exclusionary act. At times, Congress and the courts have considered using Section 2 to attack the mere existence of monopoly power. In 1976, Senator Philip Hart proposed expanding Section 2 to deconcentrate industries marked by durable monopoly power.²²⁸ This and similar proposals garnered significant attention but were never enacted. In his famed opinion in *United States v. Aluminum Co. of America*, Judge Learned Hand raised the possibility of “no-fault” monopolization.²²⁹ He rejected such a rule, though, stating that “[t]he successful competitor, having been urged to compete, must not be

226. See Bush & Mayne, *supra* note 41, at 282 n.353.

227. IIIA PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW § 720a (3d ed. 2008).

228. William E. Kovacic, *Failed Expectations: The Troubled Past and Uncertain Future of the Sherman Act as a Tool for Deconcentration*, 74 IOWA L. REV. 1105, 1127 (1989).

229. See *United States v. Aluminum Co. of America*, 148 F.2d 416, 429 (2d Cir. 1945).

turned upon when he wins.”²³⁰ Since the mid-1960s, the Supreme Court has held that excluding rivals and possessing monopoly power are both necessary elements for establishing a monopolization claim.²³¹

The charging of high prices is arguably an important part of the competitive dynamic. In theory, high prices in a market, while imposing short-term pain on consumers, should attract new entry and help reallocate scarce resources toward high-value uses and away from low-value ones in the long run.²³² The Supreme Court has taken this idea to an extreme in recent years. In its controversial ruling in *Verizon Communications v. Law Offices of Curtis V. Trinko, LLP*, the Supreme Court asserted in dicta that “[t]he opportunity to charge monopoly prices—at least for a short period—is what attracts ‘business acumen’ in the first place; it induces risk taking that produces innovation and economic growth.”²³³ Although this may be an empirically dubious position, the Court has thus treated the ability to charge high prices as an essential part of the market dynamic—the antithesis of the no-fault monopolization position. Even when viewing the hyperbolic dicta of *Trinko* with skepticism, high prices also play an important role in electricity markets. High prices signal to investors when, where, and what type of new generation needs to be constructed.²³⁴

Due to long-standing reading of the Sherman Act, generators that economically or physically withhold electricity from the market do not automatically violate Section 2. They can thus reduce their output to increase their own profits and effect large wealth transfers from consumers. While such conduct may run afoul of RTO rules and other state and federal laws, it does not violate Section 2 under its present judicial articulation.²³⁵ If, for example, power purchasers had sued TXU in the wake of its anticompetitive conduct in the

230. *Id.* at 430.

231. *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966).

232. AREEDA & HOVENKAMP, *supra* note 227, at § 720a.

233. 540 U.S. 398, 407 (2004).

234. See Peter Cramton & Steven Stoft, *The Convergence of Market Designs for Adequate Generating Capacity with Special Attention to the CAISO’s Resource Adequacy Problem* 10–11 (Ctr. For Energy and Environmental Policy Research, Working Paper No. 06-007, 2006) (explaining how price caps intended to control the exercise of market power can prevent high-cost plants needed to meet peak demand from earning revenues necessary to cover their fixed costs).

235. The FTC, under Section 5 of the FTCA, could, in theory, try to seek injunctive relief against firms that exercise monopoly power. See William E. Kovacic & Marc Winerman, *Competition Policy and the Application of Section 5 of the Federal Trade Commission Act*, 76 ANTITRUST L.J. 929, 930 (2010) (“Congress intended Section 5 to be a mechanism for upgrading the U.S. system of competition law by permitting the FTC to reach behavior not necessarily proscribed by the other U.S. competition statutes, including the 1890 Sherman Act and the Clayton Act.”).

summer of 2005 had overcome the filed-rate doctrine, they likely would have not obtained antitrust damages. By all appearances, TXU was only exercising its own market power, and did not engage in conduct that excluded rivals from competing against it on a level playing field.²³⁶ Likewise, based on the allegations in *Utilimax*,²³⁷ the plaintiff would not have been able to obtain damages even in the absence of the filed-rate doctrine. The plaintiff alleged that the defendant had exercised its monopoly power but had made no suggestion that this monopoly power was obtained through exclusionary or other improper conduct.²³⁸ Even the California crisis appears to be the result of generators unilaterally maximizing their individual profits rather than colluding.²³⁹ Assuming the filed-rate doctrine had not been applied, private antitrust suits likely still could not have remedied this extended period of market misconduct, which allowed producers to capture billions of dollars from consumers.

B. Tacit Collusion Is Often Beyond the Reach of the Sherman Act

Tacit collusion, also known as conscious parallelism, in oligopolistic industries has been one of the most intractable problems in antitrust law. It involves firms setting supracompetitive prices without any overt agreement or direct communication between them.²⁴⁰ In oligopolistic markets, the profits of firms are dependent on the

236. See POTOMAC ECONOMICS, *supra* note 99, at 27 (“TXU offered only 58.9 percent of its dispatchable energy at prices within \$50 of its estimated [short-run marginal cost] on average during these intervals in the Study Period. Overall, TXU was a pivotal supplier during 84.3 percent of the price spike intervals. When a supplier is pivotal, some portion of the balancing energy demand must be satisfied by that supplier. Hence, TXU’s offers in the balancing market during the price spike intervals were often priced substantially higher than competitive levels, resulted in significantly less balancing energy from TXU being deployed and, therefore, constituted economic withholding of production.”).

237. See *Utilimax*, 378 F.3d at 306 (“According to Utilimax’s complaint, during the first quarter of 2001 PPL was the only entity that had excess capacity available that Utilimax could purchase to satisfy its capacity obligations. Thus, under the regulatory system described above, PPL was able to ensure that it received the [capacity deficiency rate] for its excess energy either by offering it for sale in the daily auction market at the CDR price or by simply collecting CDR revenues from any retail supplier that failed to meet its capacity obligations. According to Utilimax, PPL engaged in these practices during the first quarter of 2001. As a result of this conduct, CDR revenues during that quarter were \$11,767,541, compared to CDR revenues of \$1,000 or less during the fourth quarter of 2000. PPL received almost all of the CDR revenues for the first quarter of 2001.”).

238. See *id.* at 308.

239. See Puller, *supra* note 87, at 85; Wolak, *supra* note 87, at 430.

240. See Rees, *supra* note 51, at 27–28.

expected behavior of their rivals.²⁴¹ Because of this strategic interaction, smaller players may, for example, recognize it is in their self-interest to follow the prices of a market leader, all without ever directly communicating with each other.²⁴² The result may be to mimic the price effects of a cartel without any overt communication—let alone agreement—between participating firms.²⁴³

Noted antitrust scholars have debated what to do about tacit collusion in oligopolistic markets. Donald Turner, the head of the Antitrust Division at the Department of Justice in the Kennedy Administration and then-author of the leading antitrust treatise, thought that tacit collusion was a common problem in concentrated markets in the mid-twentieth century.²⁴⁴ He argued, however, that there is no satisfactory remedy for tacit collusion under Section 1—how could courts enjoin firms from ignoring the pricing decisions of their rivals?²⁴⁵ He said that courts should not impose Section 1 liability for tacit collusion “without more in the way of ‘agreement’ than is found in ‘conscious parallelism.’”²⁴⁶ Instead, he called on using Section 2 of the Sherman Act to reduce market concentration in oligopolistic markets as a means of addressing persistent tacit collusion.²⁴⁷

Judge Richard Posner has presented a contrasting view, arguing that tacit collusion is not as prevalent as Turner claimed. According to Posner, tacit collusion is not an inevitable feature of oligopolistic markets; industry characteristics and practices often create strong incentives for undercutting the collusive price.²⁴⁸ As a consequence, Posner has said that tacit collusion is a product of “voluntary behavior” and should be addressed under Section 1.²⁴⁹ Thus, in his view,

241. Dennis A. Yao & Susan S. DeSanti, *Game Theory and the Legal Analysis of Tacit Collusion*, 38 ANTITRUST BULL. 113, 115–16 (1993).

242. See Jonathan B. Baker, *Two Sherman Act Section 1 Dilemmas: Parallel Pricing, the Oligopoly Problem, and Contemporary Economic Theory*, 38 ANTITRUST BULL. 143, 186–87 (1993).

243. See William E. Kovacic et al., *Plus Factors and Agreement in Antitrust Law*, 110 MICH. L. REV. 393, 395 (2010).

244. See Donald F. Turner, *The Definition of Agreement Under the Sherman Act: Conscious Parallelism and Refusals to Deal*, 75 HARV. L. REV. 655, 662 (1962) (“[H]ere and there an industry seems to resemble almost perfectly the book case of pure oligopoly; and in many instances, price competition seems much less vigorous than one would expect from a truly competitive industry, erupting only sporadically and then only under rather heavy pressures of excess capacity and the like.”).

245. *Id.* at 669.

246. *Id.* at 671.

247. Donald F. Turner, *The Scope of Antitrust and Other Economic Regulatory Policies*, 82 HARV. L. REV. 1207, 1231 (1960).

248. Richard A. Posner, *Oligopoly and the Antitrust Laws: A Suggested Approach*, 21 STAN. L. REV. 1562, 1566–69 (1969).

249. *Id.* at 1578.

courts should look to market conduct and price effects in determining whether firms have colluded tacitly.²⁵⁰ Regarding appropriate remedies, Posner endorsed the use of private damages, civil and criminal penalties, and, in exceptional cases, divestitures but rejected judicial regulation of pricing behavior.²⁵¹

The courts have generally followed the Turner approach to tacit collusion. Although tacit collusion is not categorically legal under the antitrust laws, plaintiffs still face significant evidentiary hurdles in bringing a successful claim. The Supreme Court has long held that mere parallel behavior is legal under the antitrust laws.²⁵² To establish an agreement under Section 1, the plaintiff must show the existence of “plus factors” in addition to the existence of parallel market conduct.²⁵³ The courts have not enumerated an exhaustive list of these factors, but some have been used repeatedly to establish liability in parallel conduct cases. An anticompetitive arrangement may be inferred if there is (1) proof that rivals did or could have communicated directly, (2) evidence of anticompetitive intent behind the parallel conduct, (3) behavior so complex as to be unlikely to occur without detailed communication among rivals, or (4) behavior that is unlikely to be rational in the absence of an agreement.²⁵⁴ The 2007 Supreme Court decision *Bell Atlantic Corp. v. Twombly* raised the hurdles for plaintiffs trying to bring a successful tacit collusion claim.²⁵⁵ It held that a defendant’s motion to dismiss in a conscious parallelism case must be granted unless a plaintiff can plausibly allege plus factors at the pre-discovery stage in litigation.²⁵⁶

Given the present state of antitrust jurisprudence, tacit collusion in electricity markets may be persistent and yet incurable under the Sherman Act. The transparent pricing and repeated game nature of centralized wholesale power markets may simplify collusion among generators in RTO regions.²⁵⁷ The threat of quick detection and punishment make defection from such arrangements less profitable and consequently less likely than in other industries.²⁵⁸ Tacit collusion in an industry conducive to it may make actual agreement on price or output unnecessary.²⁵⁹ This is an important virtue from

250. See *id.* at 1578–83 (listing economic indicia that suggest tacit collusion).

251. *Id.* at 1589–91.

252. See *Theatre Enter., Inc. v. Paramount Film Distrib. Corp.*, 346 U.S. 537, 541 (1954).

253. See *Monsanto Co. v. Spray-Rite Serv. Corp.*, 465 U.S. 752, 765 (1984).

254. Baker, *supra* note 242, at 176–77; see also Kovacic et al., *supra* note 243, at 405–06.

255. 550 U.S. 544, 556 (2007).

256. *Id.*

257. See Macatangay, *supra* note 52, at 258–60; Blumsack et al., *supra* note 189, at 18–20.

258. Macatangay, *supra* note 52, at 259–60.

259. See Baker, *supra* note 242, at 190.

the perspective of suppliers. Even with the filed-rate doctrine, electricity market participants who engage in more overt forms of collusion face the risk of civil and criminal prosecution by the government.²⁶⁰ Generators may thus be able to engage in persistent parallel pricing above competitive levels without triggering any of the plus factors that could invite legal liability.

V. CREATING BETTER MARKET STRUCTURES TO REDEEM THE PROMISE OF INDUSTRY RESTRUCTURING

Given the unlikelihood of the filed-rate doctrine being repealed—and the practical limitations of private antitrust enforcement in electricity markets even if it were—state and federal regulators must play the lead role in fostering competitive electricity markets. Regulators should focus on creating market structures that are conducive to competition. Specifically, they should apply stricter standards to generator mergers and enjoin those that are likely to enhance market power, facilitate the construction of new transmission interconnections, and promote the adoption of demand-side response programs.

Market monitors should remain vigilant, but intrusive regulatory oversight of markets has serious limitations and raises questions about the very purpose of restructuring. Monitoring and modifying market outcomes may have unintended consequences and can undermine the rationale of industry restructuring. Market monitors cannot always distinguish high prices that reflect genuinely inadequate supply from high prices that arise from the exercise of market power.²⁶¹ A market monitor that alters market outcomes in the former case may be suppressing the price signals necessary to encourage the development of additional generation.²⁶² A regulatory approach centered on market monitoring also raises a more fundamental issue. What is the purpose of restructuring if it merely

260. See Kovacic et al., *supra* note 243, at 394.

261. See Paul L. Joskow, *Lessons Learned from Electricity Market Liberalization*, 9 ENERGY J. 9, 23 (2008) (“[M]arket power mitigation programs may be too aggressive, constraining prices from rising to competitive levels when demand is high, capacity is fully utilized, and competitive market prices should reflect scarcity values that exceed the price caps in place. Thus, these efforts to mitigate market power in the short run may create adverse generation investment incentives in the long run”); see also Helman, *supra* note 19, at 891 (“The major problem is that because market power of generators in load pockets can potentially affect many hours of the year, the market power mitigation rules have been restrictive and, in combination with other elements of market design, may have dampened the locational energy price excessively, precluding well-functioning market pricing mechanisms for recovering scarcity rents or long-term fixed costs.”).

262. *Id.*

replaces one form of detailed oversight (cost-of-service regulation) with another (market-based rates requiring constant monitoring) without necessarily creating public benefits?²⁶³

*A. Strengthening Merger Enforcement (and Considering
Horizontal Deconcentration)*

The existence of the filed-rate doctrine has not affected the regulation of mergers in the electric power industry under the antitrust laws.²⁶⁴ The DOJ and the FTC (hereafter referred to as the “antitrust agencies”) have the authority under Section 7 of the Clayton Act to prevent mergers or acquisitions that “may . . . substantially lessen competition.”²⁶⁵ Under the Hart-Scott-Rodino Act, mergers and acquisitions that exceed a transaction-value threshold require a pre-merger notification with the antitrust agencies and cannot be consummated until the waiting period has elapsed.²⁶⁶ FERC has merger-review authority under the FPA and evaluates mergers under the broader “public interest” standard; state public utility commissions have similar authority under state statutes.²⁶⁷ An anticompetitive merger can confer increased unilateral market power on the merged entity and facilitate collusion, due to the reduction in the number of independent competitors.²⁶⁸ Merger enforcement is a prospective exercise.²⁶⁹ FERC and the antitrust agencies must predict, based on economic theory and empirical evidence from similar contexts, whether a merger is likely to reduce competition.

263. See Blumsack et al., *supra* note 189, at 29 (“FERC and the states should not be naïve in thinking that small changes in a regulated market, or in the restructured markets, will lead to the sort of vigorous competition that has characterized the deregulated airline, trucking, and telecommunications industries. The successful restructured markets rely on close monitoring and ordering generators to engage in behavior such as providing reactive power or providing electricity at cost.”); see *id.* (“The data show that prices for industrial customers, who were expected to be the principal beneficiaries [of restructuring], have no statistically significant differences between restructured and un-restructured states.”).

264. *Town of Norwood v. New England Power Co.*, 202 F.3d at 422 (citations omitted) (“For reasons that reflect more history than logic, the limitations on antitrust litigation derived from federal administrative regulation reflect a schizophrenic split. Direct antitrust attacks on federally regulated rates have . . . been limited by the filed-rate doctrine. So have attacks on other regulated matters underlying rates (like power allocation among electricity customers). But the Supreme Court says there is otherwise no across-the-board antitrust immunity for agency-approved transactions.”).

265. 15 U.S.C. § 18 (2006).

266. *Id.* § 18a.

267. 16 U.S.C. § 824b (2006); see also Diana L. Moss, *Antitrust Versus Regulatory Merger Review: The Case of Electricity*, 32 REV. INDUS. ORG. 241, 245 (2008).

268. U.S. DEP’T OF JUSTICE & U.S. FEDERAL TRADE COMM’N, HORIZONTAL MERGER GUIDELINES 2 (2010).

269. Albert A. Foer, *Prediction and Antitrust*, 56 ANTITRUST BULL. 505, 508 (2011).

To offer guidance to business, the antitrust agencies have issued the Horizontal Merger Guidelines (Guidelines), which FERC has adopted.²⁷⁰ The most recent Guidelines were issued in 2010 and reflect the actual merger practice of the antitrust agencies over the past twenty years.²⁷¹ They explain the five-step process the antitrust agencies use to analyze mergers: (1) defining geographic and product market definition, (2) computing market concentration, (3) examining competitive effects, (4) weighing procompetitive efficiencies, and (5) considering the likelihood, sufficiency, and timeliness of new entry.²⁷² Mergers that increase market concentration above a certain level and by a certain amount face a rebuttable presumption of being anticompetitive.²⁷³ To overcome this presumption, the merging parties can present evidence that the transaction will not reduce competition, that it will create offsetting economic efficiencies, or that the threat of rapid entry from new firms will constrain the exercise of market power.²⁷⁴ The latest version of the Guidelines does not bind the antitrust agencies to follow the five-step analytical process and states that direct effects evidence—for example, econometric evidence predicting a price increase from a merger—will play a major role in merger analysis when available.²⁷⁵ FERC has declined to adopt the 2010 Guidelines. Instead, it will continue to follow the analytical approaches laid out in the 1992 Guidelines, on the grounds that the lower market-concentration thresholds for mergers in the 1992 Guidelines are more appropriate for electricity markets.²⁷⁶

The current use of concentration measures raises the possibility that the antitrust agencies and FERC approve mergers that are, in

270. Inquiry Concerning the Commission's Merger Policy Under the Federal Power Act: Policy Statement, 61 Fed. Reg. 68,595 (1996), *recons. denied*, 62 Fed. Reg. 33,341 (1997).

271. See U.S. DEP'T OF JUSTICE & U.S. FEDERAL TRADE COMM'N, *supra* note 268.

272. See *id.* at 7–25, 27–32 (2010) (describing in detail the antitrust agencies' methodology).

273. *Id.* at 19.

274. *Id.* at 27–32.

275. See *id.* at 3 (“The Agencies look for historical events, or ‘natural experiments,’ that are informative regarding the competitive effects of the merger. For example, the Agencies may examine the impact of recent mergers, entry, expansion, or exit in the relevant market. Effects of analogous events in similar markets may also be informative.”); *id.* at 21 (“Where sufficient data are available, the Agencies may construct economic models designed to quantify the unilateral price effects resulting from the merger. These models often include independent price responses by non-merging firms. They also can incorporate merger-specific efficiencies. These merger simulation methods need not rely on market definition. The Agencies do not treat merger simulation evidence as conclusive in itself, and they place more weight on whether their merger simulations consistently predict substantial price increases than on the precise prediction of any single simulation.”).

276. Order Reaffirming Commission Policy and Terminating Procedure: Analysis of Horizontal Market Power under the Federal Power Act, 77 Fed. Reg. 10,492, 10,492 (2012).

fact, anticompetitive. Due to inelastic supply and demand, electricity markets are extremely vulnerable to the exercise of unilateral and joint market power.²⁷⁷ Generators with market shares that would not raise antitrust concerns in many markets may have the incentive and ability to exercise market power.²⁷⁸ Consequently, relying on market share and derived concentration measures may not accurately screen anticompetitive transactions in electricity—the same issue FERC has faced in using market share and concentration measures in evaluating applications for market-based rate authority.²⁷⁹ The current screens are administratively cost effective but are likely far too tolerant of generator mergers that enhance market power.²⁸⁰

Given the limitations of the Guidelines' concentration thresholds in power markets, FERC and the antitrust agencies could rely more on prospective market simulations of mergers. Sophisticated computer models can simulate prices in a wholesale market when given inputs such as the level of demand, technical characteristics of the generation fleet, transmission line capacities, and fuel prices.²⁸¹ They can now also model collusive behavior and complex bidding strategies.²⁸² With the increasing sophistication of models, market simulations can forecast a merger's competitive effects with greater precision.²⁸³ Since models can be rigged to reach the desired result, careful calibration of models is important. To establish their analytical credibility in forecasting the price effects of a merger, models are typically fine-tuned to "predict" past electricity prices accurately.²⁸⁴ The complexity of market simulations, however,

277. See *supra* part III.ii.

278. Borenstein et al., *supra* note 185, at 68.

279. Bush, *supra* note 47, at 286.

280. See *id.* at 283 ("The value of a merger screen to FERC, if there is one, is that it allows FERC to dispose of the merger in rapid fashion. However, the costs of such a screen involve both the possibilities that the screen will trip up competitive mergers (the problem of false positives) while unleashing some anticompetitive ones (the problem of false negatives)."); *id.* at 286 ("[M]arket share screens have the potential for 'false negatives.' While corrections for any 'false positives' brought about by market share calculations exist in the Guidelines in the form of entry and other analysis, there is no such corrective mechanism for 'false negatives.'").

281. Bastian et al., *supra* note 217, at 42–44.

282. See Anke Weidlich & Daniel Veit, *A Critical Survey of Agent-Based Electricity Market Models*, 30 ENERGY ECON. 1728, 1729–30 (2008).

283. See *id.* at 1732–33.

284. See Gregory J. Werden et al., *A Daubert Discipline for Merger Simulation*, ANTITRUST, Summer 2004, at 89, 90–91.

represents a serious shortcoming. Due to the level of detail involved, performing market simulations is data- and time-intensive and thus can be very costly.²⁸⁵

With the inadequacies of traditional concentration screens and the administrative difficulties associated with market simulation models, FERC and the antitrust agencies could also consider simpler but still robust screens for determining whether a merger enhances market power. The competitive residual demand (CRD) test developed by Richard Gilbert and David Newbery is such an example.²⁸⁶ The model computes market prices and profits for the merged entities based on their level of output under different demand conditions.²⁸⁷ It takes into account the distinctive features of electricity markets and can identify anticompetitive mergers that may not be caught using traditional concentration screens.²⁸⁸ Along with having greater predictive accuracy, the CRD test is also more workable than equilibrium models, requiring only information on the capacities and variable costs of generators.²⁸⁹ A notable shortcoming of the CRD approach, however, is that it cannot predict whether a merger will enhance the likelihood of successful coordination—a limitation that Gilbert and Newbery acknowledge.²⁹⁰ To be more complete, the CRD analysis needs to be supplemented with an examination of a transaction's effects on the probability of tacit coordination.²⁹¹

State legislatures and regulators should consider generation divestitures as a tool in addressing wholesale markets that remain noncompetitive even after other interventions. Antitrust law in the United States itself is seen as powerless to reduce concentration unless it is the product of mergers.²⁹² Even in the case of anticompetitive mergers that have been consummated, the antitrust agencies sometimes recognize that after-the-fact structural remedies may not be feasible on administrative grounds.²⁹³ In electricity,

285. Richard Gilbert & David Newbery, *Analytical Screens for Electricity Mergers*, 32 REV. INDUS. ORG. 217, 219 (2008).

286. *Id.* at 223.

287. *Id.*

288. *See id.* at 222–27 (describing a hypothetical merger that would have anticompetitive effects and be deemed anticompetitive by CRD but not by concentration screens).

289. *Id.* at 229.

290. *Id.* at 227–29.

291. *See* Bush, *supra* note 47, at 282.

292. *See supra* Part VI.ii (discussing how no-fault monopoly and oligopoly laws were considered in the mid-twentieth century as a response to persistently high prices but were never enacted into law).

293. *See, e.g.*, In the Matter of Evanston Nw. Health Care Corp., 2008 FTC LEXIS 62, at *1–2 (2008).

divestitures can erode the economies of scale and of scope associated with large and diversified generation portfolios and create other operational problems.²⁹⁴ Given these concerns, divestitures should probably be used sparingly, especially if careful merger control can maintain competitive market conditions. Yet divestitures should remain an option. For example, market simulations have indicated that additional divestitures of generation capacity could have partly mitigated the painful effects of the California electricity crisis.²⁹⁵

In the United Kingdom, power-sector regulators ordered divestitures of generation capacity in an attempt to improve market performance. Market power was a serious problem in the first several years of the British power market's operation in the early 1990s. The generation assets of the previously state-owned monopoly were sold to three firms, with two firms owning all the capacity that set market prices.²⁹⁶ Market prices rose by 40 percent and remained high during the first four years of the market's existence.²⁹⁷ Observers generally believed that the concentrated market was the culprit behind the high prices and disappointing results of industry restructuring: the two dominant generators exercised market power unilaterally and also colluded tacitly.²⁹⁸ The British electricity regulator, in response, threatened to refer these generators to the Monopolies and Mergers Commission (the British antitrust authority).²⁹⁹ The two main generation owners agreed to sell some of their capacity to third parties to avoid referral.³⁰⁰ Following a series of divestitures and an overhaul of market rules in 2001, prices in the British power market moved closer to competitive levels.³⁰¹ Although the research is not clear on whether the divestitures or the actual or expected revision in market rules contributed to more

294. Wolak, *supra* note 73, at 24–25.

295. See Bushnell, *supra* 83, at 289.

296. Andrew Sweeting, *Market Power in the England and Wales Wholesale Electricity Market 1995–2000*, 117 *ECON. J.* 654, 657 (2007).

297. JOHN BOWER, *WHY DID ELECTRICITY PRICES FALL IN ENGLAND AND WALES? MARKET MECHANISM OR MARKET STRUCTURE?* 1–2 (Oxford Instit. for Energy Studies 2002).

298. See, e.g., Sweeting, *supra* note 296, at 681; Catherine D. Wolfram, *Measuring Duopoly Power in the British Electricity Spot Market*, 89 *AM. ECON. REV.* 805, 821 (1999).

299. Sweeting, *supra* note 296, at 658.

300. *Id.*

301. NATALIA FABRA & JUAN TORO, *THE FALL IN BRITISH ELECTRICITY PRICES: MARKET RULES, MARKET STRUCTURE, OR BOTH?* 1 (2003); Joanne Evans & Richard Green, *Why Did British Electricity Prices fall after 1998?* 3 (Ctr. For Energy & Envtl. Policy Research, Working Paper No. 03-007, 2003).

competitive prices, some empirical evidence suggests that the divestitures deserve some credit for improved market outcomes.³⁰²

B. Promoting Investment in Transmission

The transmission grid was mostly built in the old vertically integrated, natural-monopoly environment and is not structured to accommodate the long-distance trading that occurs in power markets today.³⁰³ The inadequacy of the grid manifests itself in the form of transmission congestion. When this occurs, more expensive generation located closer to load centers needs to be dispatched in place of more economical units located outside the congested zone.³⁰⁴ The costs of transmission congestion are substantial—consumers pay billions more annually due to inadequate transmission capacity.³⁰⁵

On top of requiring the dispatch of more costly generation units, inadequate capacity on the existing transmission grid has been an important cause of market-power problems. When only a handful of companies own all the generation in a transmission-constrained market, they may have the ability and incentive to raise prices well above competitive levels. KeySpan's anticompetitive behavior between 2006 and 2008 exploited New York City's frequent isolation from the Upstate New York market due to transmission congestion. KeySpan could conspire with its rival generator to raise capacity prices, because (as is still the case) the generators within New York City faced little or no competition from generators located upstate and were owned by relatively few companies.³⁰⁶

302. Compare Bower, *supra* note 297, at 43 (presenting an empirical analysis of how reductions in market concentration through divestitures and new entry can lead to lower prices) with Evans & Green, *supra* note 301, at 12 (finding that the announced replacement of single-price pools with bilateral trading arrangements undermined incentives for generators to collude tacitly).

303. Kirby & Hirst, *supra* note 57, at 65–66.

304. *Id.*

305. See, e.g., MONITORING ANALYTICS, LLC, 2010 QUARTERLY STATE OF THE MARKET REPORT FOR PJM: JANUARY THROUGH MARCH 167 (2010) (“Total [economic] congestion costs increased by \$237.3 million or 58 percent from \$408.2 million in the first six months of 2009 to \$645.5 million in the first six months of 2010.”); POTOMAC ECONOMICS, 2010 STATE OF THE MARKET REPORT FOR THE MISO ELECTRICITY MARKETS 85 (2011) (“Real-time congestion increased by 18 percent to \$1.03 billion in 2010.”).

306. See Daniel L. Shawhan et al., *An Experimental Test of Automatic Mitigation of Wholesale Electricity Prices*, 29 INT'L J. INDUS. ORG. 46, 47 (2011) (“[C]oncentrated ownership and frequent transmission congestion give NYC's generation owners market power. . . . [S]ix companies own 99% of the generation capacity in NYC.”); U.S. DEP'T OF ENERGY, NATIONAL ELECTRIC TRANSMISSION CONGESTION STUDY 44–45 (2009).

Investment in the transmission grid can yield several benefits, including lower power prices due to greater competition. If greater transmission capacity had existed between Upstate New York and New York City, more generators could have served the metropolitan area's market and prevented KeySpan from engaging in anticompetitive behavior. The benefits of transmission investment are not restricted to lower prices. By creating larger and more competitive power markets, transmission investment can enhance system reliability and integrate remote renewable resources.³⁰⁷

FERC has been trying to promote transmission investment over the past decade. It has offered a variety of incentives to promote such investment, ranging from higher returns on equity to more favorable depreciation schedules.³⁰⁸ In the summer of 2011, FERC issued Order 1000 to improve the transmission-planning process.³⁰⁹ The Order requires all transmission owners to be a part of a regional transmission body—a function performed by RTOs.³¹⁰ It also sets out high-level guidelines on how costs of new transmission projects—which are still regulated as natural monopolies, for the most part—should be allocated.³¹¹ Despite some important shortcomings,³¹² Order 1000 should help reduce some of the barriers to transmission development.

FERC's many initiatives in transmission deserve credit, but congressional preemption of state authority in this area is necessary. State jurisdiction over siting and cost-allocation decisions has proven to be an important obstacle to building a grid that can support market transactions.³¹³ State regulators have resisted and, in some instances, prevented the construction of new transmission lines that yield regional benefits but produce concentrated local

307. See Sandeep Vaheesan, *Preempting Parochialism and Protectionism in Power*, 49 HARV. J. ON LEGIS. 87, 100–10 (2012) (describing the social benefits of transmission investments).

308. See Promoting Transmission Investment through Pricing Reform, 71 Fed. Reg. 43,294 (2006); Steven W. Smart, *FERC Rate Incentives for Transmission Infrastructure Development*, ELECTRICITY J., Mar. 2010, at 6.

309. Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, 76 Fed. Reg. 49,842 (2011).

310. *Id.* at 49,845.

311. *Id.* at 49,846.

312. See Letter from Diana Moss, Vice President and Senior Fellow, American Antitrust Institute, to Kimberly D. Bose, Secretary, FERC, regarding the American Antitrust Institute's Comments on the Notice of Proposed Rulemaking regarding Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities (September 29, 2010), available at http://www.antitrustinstitute.org/~antitrust/sites/default/files/AAI%20comments_Tx%20Plning%20and%20Cst%20Alloc_Sept%2029%202010.pdf (criticizing Order 1000 for allowing incumbent utilities to veto transmission proposals and not factoring in competition benefits of transmission grid expansions).

313. Vaheesan, *supra* note 307, at 115–22.

costs.³¹⁴ Although Congress granted FERC “backstop” authority to site transmission lines in the event state and local actors could not approve or failed to act on transmission proposals, this authority has been ineffective in overcoming state and local resistance to transmission-line development and was further neutered in a 2009 appellate ruling.³¹⁵

The Palo Verde-Devers II line that Southern California Edison (SCE) proposed to build between Arizona and California illustrates how regional transmission projects have run aground at the state level. The line would have facilitated greater power exports from Arizona to California. This increased power flow from east to west would have lowered power prices in California through improved dispatch and increased competition.³¹⁶ An additional benefit would have been reduced emissions of air pollutants, due to more efficient generation in Arizona displacing output from less efficient units in California.³¹⁷ Arizona regulators, however, vetoed the proposal, citing how residents of their state would bear the aesthetic and environmental costs of a project that would principally benefit Californians.³¹⁸ Unable to obtain the necessary approvals, SCE settled on building a shorter intrastate transmission facility in California.³¹⁹

C. Developing Demand-Side Responses

The invisibility of real-time prices to most ratepayers is an important reason why market power has been a serious and persistent problem in restructured electricity markets. In most markets, high prices translate into lower demand and act as a constraint on suppliers who try to raise prices, unilaterally or collectively. For suppliers, setting high prices can result in a higher margin on existing sales but can also lead to a loss of sales volume. The reduced

314. *Id.* at 115–17.

315. *Id.* at 123–24 (discussing *Piedmont Envtl. Council v. FERC*, 558 F.3d 304 (4th Cir. 2009)).

316. Mohamed Labib Awad et al., *Using Market Simulations for Economic Assessment of Transmission Upgrades: Application of the California ISO Approach*, in *RESTRUCTURED ELECTRIC POWER SYSTEMS: ANALYSIS OF ELECTRICITY MARKETS WITH EQUILIBRIUM MODELS* 241, 260 (Xiao-Ping Zhang ed., 2010).

317. *Id.* at 265.

318. Paul Davenport, *Arizona Regulators Reject New Electric Line to California*, *SAN DIEGO UNION-TRIB.*, May 30, 2007, available at <http://legacy.signonsandiego.com/news/state/20070530-1728-wst-sharingpower.html>.

319. Cassandra Sweet, *Edison International Unit Wins Approval for Calif Transmission Line*, *DOW JONES BUS. NEWS*, Nov. 20, 2009, available at <http://www.advfn.com/nyse/StockNews.asp?stocknews=EIX&article=40459570> (last visited Oct. 26, 2012).

quantity of sales may more than offset the effect of increased prices, making price increases unprofitable. In electricity markets, however, most consumers pay a fixed retail rate at all hours of the day that is adjusted only infrequently by the state public utility commission.³²⁰ Their insulation from the underlying price of electricity gives them little reason to reduce their consumption when supply-demand conditions are tight and wholesale prices are high. Since demand is highly inelastic, generators can increase prices without losing sales.³²¹ Combined with the inelasticity of supply as load approaches peak levels, demand-side inelasticity makes the exercise of market power highly profitable during hours of peak demand.

If customers pay a price that is tied to wholesale prices, they will likely change their electric consumption patterns. At present, the use of fixed prices based on the average of hourly prices leads to a price that is too high in off-peak hours, when the wholesale price is comparatively low, and too low in peak hours, when the wholesale price is typically higher.³²² Correcting this distortion can be expected to lead to increased consumption of power in the early morning and late night and decreased consumption in the late afternoon and early evening.³²³ For example, individuals would be more likely to run energy-intensive home appliances like dishwashers and washing machines at hours when power prices are lower. Although retail prices that perfectly track wholesale prices would be the ideal policy for many economists, this type of “dynamic” pricing would be fraught with problems. Many residential customers, for example, may not be able to adjust their power usage in response to frequent price changes and may be saddled with significantly higher monthly utility bills.³²⁴ Dynamic pricing, in which customers pay the hourly wholesale price, could lead to significant wealth transfers from ratepayers to utilities and inflict substantial economic harm on low-income households.³²⁵

Demand-side bidding is one way of dealing with the problem of inelastic demand. Under this system, large customers, typically industrial firms, bid into the wholesale market a demand increment that they are willing to curtail, and are treated like another source

320. Borenstein, *supra* note 40, at 196.

321. *Id.*

322. Ahmad Faruqui & Sanem Sergici, *Household Response to Dynamic Pricing of Electricity: A Survey of 15 Experiments*, 38 J. REG. ECON. 2, 193, 194 (2010).

323. *See id.*

324. Marc Levinson, *Is the Smart Grid Really a Smart Idea?*, ISSUES IN SCI. & TECH., Fall 2010, available at <http://www.issues.org/27.1/levinson.html> (last visited Oct. 26, 2012).

325. *See id.*

of supply.³²⁶ If the wholesale price matches or exceeds their bid in a given hour, these customers must curtail their demand by the bid amount or pay the wholesale price of power at the time.³²⁷ Allowing large consumers to bid their demand can thus provide incentives to reduce power consumption during periods of high prices.

In recent years, state regulators and utilities have also tried to expose a greater number of residential customers to wholesale prices (or some proxy of them). These programs create at least some modest variation in retail rates that reflect the changing costs of producing power within a given day. Technological changes like advanced metering and remote control of appliances have permitted experimentation in this area.³²⁸ Utilities have run pilot programs in which a small subset of residential ratepayers pay different peak and off-peak prices (time-of-use pricing) or very high rates during hours with very high demand (critical peak pricing) and receive enabling technologies like advanced thermostats that take electricity prices into account when setting indoor air temperatures.³²⁹

Replacing fixed retail rates with variable prices for even a minority of customers can discipline generators from exercising market power. If demand fell in response to higher prices, exercising market power would not be as profitable as it is currently. Generators would recognize that exercising market power would sometimes be unprofitable as higher prices trigger a fall in the quantity of power used.³³⁰ In fact, experimental studies have suggested that demand-side responses could completely defeat the exercise of market power.³³¹ Even if these findings do not translate perfectly into real-world markets, demand-side responses would, at the very least, create electricity markets that resemble other markets in which price signals play an important function in disciplining oligopolistic producers.³³² Empirical research supports the theoretical argument that real-time pricing would lead to changes in electricity usage,

326. M.H. Albadi & E.F. El-Saadany, *A Summary of Demand Response in Electricity Markets*, 78 *ELECTRIC POWER SYSTEMS RES.* 1989, 1990 (2000).

327. See P. Jazayeri et al., *A Survey of Load Control for Price and System Stability*, 20 *IEEE TRANSACTIONS ON POWER SYSTEMS* 1504, 1507 (2005) (describing New York's demand bidding program).

328. Faruqui & Sergici, *supra* note 322, at 193.

329. *Id.*

330. Jon Wellinohoff & David L. Morenoff, *Recognizing the Importance of Demand Response: The Second Half of the Wholesale Electric Market Equation*, 28 *ENERGY L.J.* 389, 401–02 (2007).

331. Stephen J. Rassenti et al., *Controlling Market Power and Price Spikes in Electricity Networks: Demand-Side Bidding*, 100 *PROC. NAT'L ACAD. SCI.* 2998, 3003 (2003).

332. See Bushnell, *supra* note 79, at 289 (“Even a relatively modest elasticity of .075, when applied to the entire system demand through a dynamic pricing regime, reduces wholesale prices by 40 percent.”).

even among residential consumers. Demand reductions in peak hours have ranged from 3 percent for time-of-use pricing schemes to 44 percent for critical-peak pricing programs combined with enabling technologies.³³³ For profit-maximizing generators, the threat of the quantity of power demanded falling in response to higher prices would alter the economic calculus of unilaterally or jointly exercising market power.

CONCLUSION

In the electric power industry, the courts have failed to follow Alfred Kahn's recommendations on how to replace price regulation with market pricing. The federal judiciary has not permitted full enforcement of the antitrust laws even as markets have supplanted state regulators in setting wholesale electricity prices. Despite the persistent problem of market-power abuse in electricity markets, the courts have continued to apply the filed-rate doctrine—created by the Supreme Court in an era in which regulators fixed final prices on many essential services—to bar private antitrust damages actions against power suppliers accused of anticompetitive conduct. Several circuits have held that even in a market environment, courts should refrain from applying the antitrust laws to their fullest degree. These courts have overstated the institutional capabilities of industry regulators and understated the competence of the judiciary. Congress or the Supreme Court should limit the application of this doctrine, which has created an oligopolistic market without the usual oversight from private antitrust enforcers. As the KeySpan episode in New York illustrates, private antitrust enforcement can help deter more explicit forms of collusive conduct between market participants.

Yet, eliminating the filed-rate doctrine would not cure the persistent market-power problems seen in electricity markets. The antitrust laws, as they are interpreted today, do not proscribe unilateral withholding and impose high evidentiary burdens on establishing tacit collusion—two significant forms of anticompetitive behavior witnessed in electricity markets. The California electricity crisis in 2000 and 2001 and TXU's elevation of wholesale prices in Texas in the summer of 2005 likely could not have been remedied through private antitrust damages actions. Although they inflicted significant harm on the public—leading in California to perhaps as much as \$20 billion in wealth transfers from ratepayers

333. Faruqui & Sergici, *supra* note 322, at 221.

to generators—these episodes were likely the result of unilateral profit-maximizing behavior that does not run afoul of the antitrust laws.

With the limits of private antitrust enforcement in wholesale power markets, state and federal regulators must play the lead role in creating competitive market structures. They should apply greater scrutiny to generation mergers and extant market power, promote the construction of new transmission lines, and encourage the deployment of real-time pricing for ratepayers. The first two policies would address two supply-side factors—high market concentration and small geographic markets—that have made power markets susceptible to the exercise of unilateral and collective market power by generators. The third policy would help remedy the inelastic demand that makes the exercise of market power so profitable for generators. Although many skeptics view the creation of electricity markets as a failed experiment, regulators could still create markets conducive to competition and redeem the once-great promise of industry restructuring.