Boston College Law Review

Volume 53 | Issue 1 Article 3

1-1-2012

The Transformation of American Energy Markets and the Problem of Market Power

David B. Spence
McCombs School of Business, University of Texas at Austin, david.spence@mccombs.utexas.edu

Robert Prentice
McCombs School of Business, University of Texas at Austin, rprentice@mail.utexas.edu

THE TRANSFORMATION OF AMERICAN ENERGY MARKETS AND THE PROBLEM OF MARKET POWER

David B. Spence*
Robert Prentice**

Abstract: Traditionally, American energy markets have been regulated using a combination of antitrust law and public utility law: the former has predominated in oil markets and the latter in markets for natural gas and electricity. Over time, energy markets have grown increasingly complex and competitive, due partly to changing market conditions (for example, in oil markets) and partly to regulation (in natural gas and electricity markets). Increasingly competitive energy markets meant increased risk for energy companies; those companies turned to energy derivatives as a way to hedge that risk. High energy prices and charges of manipulation in twenty-first century energy markets have led regulators to a new approach, one that borrows from securities regulation and focuses attention on "manipulation and deceit" by energy market participants. The securities model may be a bad fit for energy markets, however, because reliance on this new approach exposes consumers to price risks associated with the exercise of market power by sellers, risks to which buyers were not subject under traditional approaches to regulation. Specifically, the securities regulation model overlooks important ways in which sellers can exert market power at the expense of consumers in the absence of fraud or deceit. This is due to the way securities case law interprets the term "manipulation," and to some regulators' common assumptions about the ways in which market participants respond to price changes—assumptions that do not apply or apply only weakly in some energy markets. In this Article, we explore the origins of these "bad fit" problems, and examine their implications for the future of American energy markets.

* Associate Professor of Law, Politics, and Regulation, McCombs School of Business, University of Texas at Austin, and Professor of Law, University of Texas at Austin. Professor Spence would like to thank Kelly Cavazos, Joseph Ritchick, and Ellen Herzog for their research assistance in connection with the preparation of this Article.

** Ed and Molly Smith Professor of Business Law, McCombs School of Business, University of Texas at Austin.

Introduction

Institutions shape markets,[1] and that has certainly been true of energy markets. Throughout most of their history, American energy markets have been regulated using a combination of antitrust law and public utility law: the former has predominated in oil markets and the latter in markets for natural gas and electricity. Each of these approaches is aimed at preventing abuses of market power and other forms of unfair competition in energy markets. Antitrust regulation relies primarily on ex post enforcement to punish unfair competition after it occurs, hoping that punishment will deter future anticompetitive behavior; whereas traditional public utility regulation relies on ex ante regulation, controlling the terms and conditions of competition in natural gas and electricity markets from the outset.[2] As energy markets have grown increasingly complex and competitive, these traditional approaches have been supplemented and partly supplanted by a new approach—one that uses a model of regulation borrowed from securities law; that model is focused less on controlling market power and more on market manipulation based upon fraud and deceit.

We argue that this new approach increases consumers' exposure to price risks associated with the exercise of market power. Part I of this Article recounts the development and evolution of the traditional energy regulatory regime during the twentieth century, examining the management of competition in oil markets using antitrust law separately from that of natural gas and electricity markets using public utility law.[3] This Part concludes by documenting the rise of competition in late twentieth-century energy markets, owing to the declining influence of so-called "western oil majors" in oil markets and the regulatory restructuring of natural gas and electricity markets. Part II examines the implications of these changes that eventually led regulators to transplant the securities regulation model into energy markets in a series of legislative and regulatory developments over the last five years.[4] We note here that increasingly competitive energy markets meant increased

---

[1] This is a founding premise of institutional economics, or the market-institutional perspective within economics. The idea is that markets are embedded in a particular social, political, and legal context that shapes market behavior. For a good treatment of this perspective, see generally The Political Economy Reader: Markets as Institutions (Naazneen H. Barma & Steven K. Vogel eds., 2008).

[2] The Federal Trade Commission's (FTC) merger approval process, a form of ex ante control, is an exception to this general statement.

[3] *See infra* notes 8–95 and accompanying text.

[4] *See infra* notes 96–238 and accompanying text.

risk for energy companies, which turned to energy derivatives[5] as a way to hedge that risk. The last decade has seen increasingly active and robust markets for both the physical delivery of energy and energy derivatives. Regulators, cognizant of the possibility that sophisticated energy traders might be able to manipulate prices in these markets at consumers' expense, looked to securities regulation for ways to regulate that risk. Part III examines the limits of this securities regulation model in energy markets.[6] We argue that, by focusing on fraud and deceit, the securities regulation model misses ways in which sellers of energy in physical markets can exercise market power at the expense of buyers, even in the absence of fraudulent or deceptive conduct. We argue further that regulators exacerbate this problem by employing some erroneous assumptions about the self-correcting nature of energy markets—assumptions that have led regulators to tolerate scarcity-induced high prices for extended periods of time, particularly in electricity markets. Finally, we offer some concluding thoughts and brief observations about the future trajectory of energy regulation.[7]

I. The Evolution of Regulation in American Energy Markets

From their beginnings, oil, gas, and electricity markets in the United States provoked public concern about the vulnerability of consumers to the machinations and manipulations of powerful producers, transporters, and sellers of energy. Commercial development of oil and natural gas[8] arose in the mid and late nineteenth century.[9] Both products almost immediately enjoyed wide use in heating, lighting, and industrial applications. The development of electricity as a commercial product

---

[5] In this context, the term "derivatives" refers to a class of financial instruments or contracts that are derived from markets for the physical delivery of energy. Energy futures contracts are an example of an energy derivative. These derivatives are explained more fully. *See infra* notes 100–123 and accompanying text.

[6] *See infra* notes 239–360 and accompanying text.

[7] *See infra* notes 361–363 and accompanying text.

[8] In its early years, the natural gas (methane extracted from underground deposits) industry competed with gas manufactured from coal (so-called "coal gas"), which was widely used in lighting applications in the nineteenth and early twentieth centuries. Eventually, electricity supplanted gas as a source of lighting, but natural gas continued to thrive as a source of energy for industry and, eventually, home heating and cooking. *See* Maury Klein, The Power Makers: Steam, Electricity, and the Men Who Invented Modern America 140–42 (2008).

[9] The first natural gas well was drilled near Fredonia, New York, in what is now called the Marcellus Shale. *See* Eileen Lash & Gary Lash, *The Early History of Natural Gas: "Kicking Down the Well*," The SUNY Fredonia Shale Research Institute, http://www.fredonia.edu/shale institute/history.asp (last visited Nov. 20, 2011).

lagged a few decades behind, but quickly penetrated the lighting, household appliance, and industrial applications markets in urban areas during the early decades of the twentieth century.[10] Policymakers and regulators have always recognized the critical importance of energy to consumers, and their central task has been to balance the desire to harness the benefits of competition with the risks unbridled markets pose to vulnerable consumers. These concerns produced two different regulatory responses, both aimed at ensuring an adequate supply of energy at reasonable prices. In oil markets, regulators relied primarily on antitrust law as a tool of ex post control, using lawsuits to punish the exercise of market power and push markets toward greater competition.[11] In electric and gas markets, by contrast, government regulators chose the public utility model, a form of ex ante regulatory control. That model accepted the absence of competition on the premise that these network industries were natural monopolies,[12] granting to electric and gas companies monopoly service rights. In exchange, electric and gas companies ceded control over their rates and certain other terms of electric and gas services.[13]

A. *Oil Markets, Antitrust, and the Ex Post Control of Market Power*

It was not long after "Colonel" Edwin Drake discovered oil in Western Pennsylvania that John D. Rockefeller established the Standard Oil Company in Cleveland, Ohio.[14] For most of the rest of the nineteenth century, the Pennsylvania "oil patch" produced the lion's share of oil in the United States and, by the later part of that century, Rockefeller had positioned Standard Oil to become the dominant refiner and retailer of that oil. Much of Standard Oil's growth and success was attributable to Rockefeller's business acumen: strategic sense, attention to detail, scru-

---

[10] For a comprehensive description of the early days of electric power, see KLEIN, *supra* note 8, at 98–117.

[11] Indeed, popular revulsion at (anti)competitive practices in the oil industry helped shape the content of antitrust statutes, and those statutes were applied to the oil industry in several high-profile twentieth-century cases. *See infra* notes 20–46 and accompanying text.

[12] Generally, economists define a natural monopoly as an industry (or discrete segment of an industry) over which the costs of production are increasing over the entire range of output. HAL R. VARIAN, INTERMEDIATE MICROECONOMICS: A MODERN APPROACH 451–58 (8th ed. 2010).

[13] For a summary history of rate regulation, see Robert E. Cleaves, IV, *Constitutional Protection for the Utility Investor: The Confiscation Doctrine After* Cleveland Electric Illuminating Co. v. Public Utilities Commission of Ohio, 12 B.C. ENVTL. AFF. L. REV. 527, 533–34 (1985).

[14] *See* RON CHERNOW, TITAN: THE LIFE OF JOHN D. ROCKEFELLER, SR. 129–55 (1998).

pulous control of costs, technical ingenuity, and willingness to integrate in order to control costs and supplies.[15] The company's success was also built, however, on Rockefeller's sharp-elbowed approach to competition, including price-fixing arrangements by Standard Oil subsidiaries and affiliates, management of pipelines to benefit affiliated shippers, and a briefly successful but ill-conceived "South Improvement Scheme" —a plan to force railroads to tax competitors' oil shipments and transfer the revenue from that tax to Standard Oil.[16] Like many of the industrialists of his day, Rockefeller believed that by absorbing or destroying weaker companies he was providing a social benefit: not the "creative destruction"[17] that was hailed as the key to competitive prices for consumers, but rather the kind of market stability that only a benevolent monopolist can provide.[18] To Rockefeller, the kind of competition the neoclassical economic model envisioned wreaked havoc on families and communities; indeed, he described competition as "destructive" and "a sin."[19]

Most of the public saw things differently. Public opposition to Rockefeller's Standard Oil "trust" and other large holding companies gave rise to the antitrust movement,[20] whose first major legislative accomplishment was the Sherman Act of 1890[21] prohibiting "combination[s] . . . in restraint of trade" and "attempt[s] to monopolize."[22] When several exposés of Standard Oil's (anti)competitive practices appeared in *McClure's Magazine* between 1902 and 1904,[23] it set the stage for federal antitrust prosecution of Standard Oil. In 1911, in *Standard Oil Co. of New Jersey v. United States*, the U.S. Supreme Court held that Standard Oil was indeed a monopoly and combination in restraint of trade.[24] The Court reaffirmed the goal of fostering competitive markets

---

[15] For a detailed account of this growth, see *id.* at 129–72.

[16] For a description of the scheme, see *id.* at 135–42. *See also* Daniel Yergin, The Prize: The Epic Quest for Oil, Money & Power 41 (1992).

[17] *See* Joseph A. Schumpeter, Capitalism, Socialism, and Democracy 81–86 (6th ed. 1987).

[18] *See* Chernow, *supra* note 14, at 168; Yergin, *supra* note 16, at 42–43.

[19] *See* Chernow, *supra* note 14, at 144.

[20] *See id.* at 537–59; Yergin, *supra* note 16, at 81–98.

[21] Ch. 647, 26 Stat. 209 (codified as amended at 15 U.S.C. §§ 1–7 (2006)).

[22] 15 U.S.C. §§ 1–2.

[23] *See, e.g.*, Ida M. Tarbell, *The History of the Standard Oil Company: Chapter I—The Birth of an Industry*, 20 McClure's Mag., Nov. 1902, at 3, 3. The articles became a best-selling book. *See generally* Ida Tarbell, The Story of Standard Oil (David M. Chalmers ed., Harper & Row 1966) (1904) (presenting a detailed narrative of the history of Standard Oil).

[24] 221 U.S. 1, 81–82 (1911).

by controlling the misuse of market power and ordered Standard Oil's dissolution into thirty-four separate production companies.[25] Thus, antitrust law became the weapon of choice in combating market power abuses in the oil industry. Indeed, the public hearings that led to the passage of the Clayton Act[26] and the Federal Trade Commission Act[27] in 1914 featured a dissection of Standard Oil's anticompetitive practices, many of which were subsequently defined as violations of the law within those two statutes.[28]

Meanwhile, the competitive landscape of the oil industry was changing in other ways. Oil production in the United States had begun to expand to new regions, particularly Texas, Oklahoma, and Louisiana, where several large oilfields were discovered near the turn of the century. The need to transport oil from fields to market gave rise to the construction of the first system of oil pipelines, and the Hepburn Act of 1906[29] subjected pipelines to price regulation by the Interstate Commerce Commission (ICC) as common carriers.[30] As each new field was discovered, the oil industry experienced a series of boom-and-bust cycles, accompanied by wild swings in oil prices—the very sort of destructive competition Rockefeller lamented. These cycles were encouraged by the common law "rule of capture," which permitted any single owner of mineral rights in a multi-owner oilfield to produce as much oil as possible from the field.[31] In addition to its effects on prices, the rule of capture led to tremendous waste because it provided a disincentive for owners to manage production (for example, by coordinating both the placement of wells and production rates from those wells) so as to maintain pressure levels in the field. The result was production

---

[25] *Id.*

[26] Ch. 323, 38 Stat. 730 (1914) (codified as amended at 15 U.S.C. §§ 12–27 (2006) and 29 U.S.C. §§ 52–53 (2006)).

[27] Ch. 311, 38 Stat. 717 (1914) (current version at 15 U.S.C. §§ 41, 58).

[28] *See* CHERNOW, *supra* note 14, at 617.

[29] Ch. 3591, 34 Stat. 584 (codified as amended in scattered sections of 49 U.S.C. (2006)).

[30] The Federal Energy Regulatory Commission (FERC) now sets rates for interstate oil pipelines because the ICC was abolished in 1995. ICC Termination Act of 1995, Pub. L. No. 104-88, § 101, 109 Stat. 803, 803.

[31] Specifically, the rule of capture specifies that no single owner of a portion of the field may prevent an adjoining landowner from producing oil and gas from the field, even if that production pulls minerals from under adjoining lots. *See, e.g.*, Barnard v. Monongahela Natural Gas Co., 65 A. 801, 802–03 (Pa. 1907). For an analysis of the rule of capture and its effects, see generally Bruce M. Kramer & Owen L. Anderson, *The Rule of Capture—An Oil and Gas Perspective*, 35 ENVTL. L. 899 (2005).

that was both physically and economically inefficient.[32] In this way, a boom-and-bust cycle drove large price swings in the oil industry as new fields were discovered. After the discovery of the massive East Texas field in 1930, which exacerbated oversupply problems and depressed prices, producers appealed for governments to step in.[33]

Consequently, state legislatures in oil-producing states began enacting "conservation" statutes authorizing state regulators to organize production so as to promote efficiency.[34] This kind of state-managed production not only helped reduce waste—it also had the happy consequence (for producers) of stabilizing prices, sometimes at levels that exceeded competitive rates. Under these conservation schemes, it was not uncommon for state governments to restrict production by some owners of mineral rights and to regulate the introduction of each owner's product into pipelines. Some of those owners challenged state production regulations on constitutional grounds. Courts upheld these conservation laws against challenges on substantive due process,[35] and commerce clause[36] grounds, reasoning that their primary purpose was to prevent waste and manage resources, a proper exercise of the state's police power. Another set of cases challenged these arrangements on antitrust grounds: courts ruled that, even though these regulatory systems limited competition, the fact that they were managed by a state

---

[32] Production by multiple owners of a single field constitutes a classic prisoner's dilemma. While the parties might wish to cooperate in order to maximize production from a single field, there is an ever-present temptation for each individual owner to defect from any cooperative arrangement, thereby garnering more revenue. On the other hand, if all parties to the agreement defect, the market for oil is glutted and prices fall.

[33] *See* Stephen L. McDonald, Petroleum Conservation in the United States: An Economic Analysis 36–38 & n.27 (1971).

[34] These statutes are predicated upon the doctrine of "correlative rights" —a recognition that each owner of the single field has the rights to a fair share of production and production revenues. The process of managing the rights of multiple owners of a single oilfield involves prorating production and sharing revenues. State commissions like the Texas Railroad Commission and the Oklahoma Corporation Commission oversee these processes. For a brief history of the early proration orders issued by the Texas and Oklahoma commissions, see McDonald, *supra* note 33, at 36–37. For a good discussion of the state commissions' various approaches to this task, see generally Richard J. Pierce, Jr., *State Regulation of Natural Gas in a Federally Deregulated Market: The Tragedy of the Commons Revisited*, 73 Cornell L. Rev. 15 (1987).

[35] *See, e.g.*, Champlin Ref. Co. v. Corp. Comm'n of Okla., 286 U.S. 210, 232–34 (1932).

[36] *See, e.g.*, Cities Serv. Gas Co. v. Peerless Oil & Gas Co., 340 U.S. 179, 186–89 (1950) (holding that the statutory grant of power to the Oklahoma Corporation Commission to regulate the taking of natural gas from a common source of supply so as to prevent waste and protect the public interest does not violate the Commerce Clause of the federal Constitution).

agency qualified the regime for immunity from antitrust laws under the state action exemption.[37]

Despite state regulation, oil production in the early years of the Great Depression still proved difficult to coordinate. Independent producers[38] evaded the production restrictions imposed by state commissions, and oil prices remained low—artificially low in the view of the Roosevelt Administration, which used authority granted under the National Industrial Recovery Act[39] (NIRA) to impose further restrictions on oil production and to police violations of those restrictions.[40] This planning-based approach to the management of markets[41] helped bring prices up, until the Supreme Court struck down NIRA on nondelegation grounds in 1935.[42] That same year, Congress approved the formation of an interstate compact among oil-producing states, through which the members voluntarily coordinated their oil production to reduce waste.[43] These changes brought some stability to prices and helped make production more efficient at and across individual fields. Whereas state governments were permitted to stabilize produc-

---

[37] State action immunity was first recognized in the case of *Parker v. Brown*, 317 U.S. 341, 351–52 (1943). For a discussion of the relationship between the state action doctrine and state conservation regulation, see generally Chiawen C. Kiew, *Contracts, Combinations, Conspiracies, and Conservation: Antitrust in Oil Unitization and the Intertemporal Problem*, 99 Nw. U. L. Rev. 931 (2005).

[38] Independent producers can be distinguished from the larger, so-called "majors." The majors were typically vertically integrated operations, with storage and refining capacity. The independents competed only in the production segment of the industry, and needed an immediate outlet for whatever oil they produced. Consequently, independent producers were more likely to violate proration agreements, increasing supply and depressing the price.

[39] Ch. 90, 48 Stat. 195 (1933), *invalidated by* A.L.A. Schechter Poultry Corp. v. United States, 295 U.S. 495 (1935).

[40] Those who evaded production restrictions were said to be selling "hot oil" in interstate commerce. The administration's efforts to contain the introduction of hot oil into commerce included the creation of an oil code, giving Secretary of the Interior Harold Ickes extraordinary federal police powers. Yergin, *supra* note 16, at 251–54; *see also* D. Bruce Johnsen, *Property Rights to Cartel Rents: The* Socony-Vacuum *Story*, 34 J.L. & Econ. 177, 184 (1991); Daniel A. Crane, *The Story of* United States v. Socony-Vacuum*: Hot Oil and Antitrust in the Two New Deals* 3–5 (Jacob Burns Inst. for Advanced Legal Studies, Working Paper No. 173, 2006).

[41] NIRA has been cited as an example of the kind of planning-based approach that characterized the first New Deal, but it was largely abandoned after 1935. 2 Bruce Ackerman, We the People: Transformations 310 (1998).

[42] *See A.L.A. Schechter Poultry Corp.*, 295 U.S. at 541–42; Panama Ref. Co. v. Ryan, 293 U.S. 388, 432–33 (1935).

[43] *Interstate Oil and Gas Commission Charter*, Interstate Oil & Gas Compact Comm'n, http://www.iogcc.state.ok.us/charter (last visited Dec. 2, 2011). The compact still exists, and counts thirty states among its members. *See id.*

tion levels for producers without risk of antitrust liability, private agreements aimed at the same objectives remained legally suspect on antitrust grounds. The Supreme Court affirmed as much in 1940 in the case of *United States v. Socony-Vacuum Oil Co.*,[44] in which the Court upheld a conviction of several oil companies, including progeny of the original Standard Oil Company,[45] for colluding to fix prices on spot markets (essentially by cornering the market) for oil in East Texas and the Midwest.[46] Thus, as policymakers and courts rejected Rockefeller's vision of planned development led by a dominant firm, reasoning that such a firm would try to capture monopoly rents, they established in its place a planning system overseen by regulators—one that restricted production and propped up prices as a policy objective.

In the decades after World War II, market conditions changed in ways that reduced the ability of investor-owned oil companies to exert market power in the first place, at least with respect to crude oil prices. As postwar American oil consumption grew rapidly, crude oil markets became geographically broader.[47] Despite discoveries of large oilfields in Alaska, overseas producers supplied an increasing percentage of American oil consumption.[48] By 1970, the center of world oil market power had shifted to the Organization of Petroleum Exporting Countries (OPEC), itself a cartel that established production quotas so as to prop up world oil prices. An OPEC boycott[49] of the United States and price controls imposed by the Nixon Administration produced a series of market distortions during the 1970s, including gasoline shortages and price increases that led some industrial consumers to shift away

---

[44] 310 U.S. 150, 210–31 (1940).

[45] "Socony" is derived from the "Standard Oil Company of New York." Echoing John D. Rockefeller, the defendants claimed that their agreement to prop up prices was necessary to avoid some of the destructive "evils" of competition. The court rejected that claim. *Id.* at 211–12.

[46] Ironically, the price-fixing arrangement at issue in *Socony-Vacuum* was one that had been organized originally under federal government oversight pursuant to NIRA. *See* Crane, *supra* note 40, at 4–12; *see also* Johnsen, *supra* note 40, at 185–89 (arguing that majors were willing to participate in this arrangement in lieu of expanding their own production in order to prop up prices).

[47] *See U.S. Oil Demand by End-Use Sector, 1950–2004*, U.S. Energy Info. Admin., http://www.eia.doe.gov/pub/oil_gas/petroleum/analysis_publications/oil_market_basics/dem_image_us_cons_sector.htm (last visited Dec. 2, 2011); *see also* Yergin, *supra* note 16, at 391.

[48] Yergin, *supra* note 16, at 391–412.

[49] *Id.* at 606–32.

from oil in favor of coal or electricity as a fuel source.[50] The energy crises of the 1970s coincided with the rise of government-owned national oil companies (NOCs) in other oil-producing nations, some of which rose from the remnants of nationalized private firms. Thus, while the ancestors of Exxon Mobil, Royal Dutch Shell, British Petroleum (BP), Chevron and other private companies once controlled the lion's share of world oil production and reserves, it is now the NOCs that collectively dominate the world's oil reserves.[51]

In any case, the price for crude oil is now set largely by world supply and demand.[52] The world's crude oil is traded using index crudes named after particular oilfields, such as "West Texas Intermediate" (WTI) or "Brent Crude." These index crudes correspond to characteristics of the product, such as density, sulfur content, etc.[53] The decentralization of production and supply, combined with an approximately twenty-five percent increase in global consumption of oil since 1980[54] means that the volume of oil trade has increased drastically in recent decades. By the end of the twentieth century, however, it had become clear that American regulators had little power to promote competitive crude oil prices through regulation. Antitrust enforcers retained jurisdiction over sales of retail products refined from oil (such as gasoline,

---

[50] *See* Int'l Energy Agency, Oil Supply Security: Emergency Response of IEA Countries 50 (2007) (showing a sharp trend away from oil-fired generation after the oil crises of the 1970s).

[51] A list of the world's top oil and gas companies by proven reserves is dominated by state-owned companies, with Exxon Mobil placing highest among investor-owned majors at fourteenth. *See World's Largest Oil and Gas Companies*, PetroStrategies, Inc., http://www.petrostrategies.org/Links/worlds_largest_oil_and_gas_companies.htm (last updated Oct. 11, 2011, 8:42 AM).

[52] "Unlike oil's first century, over the last 20 years no single nation, government, cartel or corporation has controlled its fate. Markets have determined prices and investment . . . ." Tom Bower, Oil: Money, Politics, and Power in the 21st Century, at xv–xvi (2009); *see also* Paul Krugman, Op-Ed., *The Finite World*, N.Y. Times, Dec. 27, 2010, at A19 (attributing the volatility of oil prices over the last three years to the forces of world supply and demand, particularly demand from China).

[53] For a description of the differences between certain index crudes, see *Frequently Asked Questions: What Are the Differences Between Various Types of Crude Oil Prices?*, U.S. Energy Info. Admin., http://www.eia.gov/tools/faqs/faq.cfm?id=11&t=6 (last updated May 26, 2011).

[54] According to the U.S. Energy Information Administration (EIA), world consumption increased from just over sixty-three million barrels per day in 1980 to about eighty-five million barrels per day in 2008. (A barrel of oil is forty-two gallons.) During that same period, consumption in the United States has increased more modestly, from just over 17 million barrels per day in 1982 to about 19.5 million barrels per day 2008. *World Petroleum Consumption, Annual Estimates, 1980–2008*, U.S. Energy Info. Admin. (Oct. 6, 2009), http://www.eia.gov/emeu/international/oilconsumption.html (click first "xls" hyperlink to download report).

propane, heating oil, etc.), and the U.S. Commodity Futures Trading Commission (CFTC) retained some jurisdiction over the trading of oil as a commodity. OPEC and large producing countries may try to influence world crude oil prices, but investor-owned oil companies cannot.

B. *Gas and Electricity Markets: Public Utilities and the Ex Ante Control of Market Power*

The regulatory response to the problem of market power in natural gas and electricity markets has differed from that of oil markets. Some have advocated government provision of gas and electric services as a solution to the market power problem. This impulse was particularly strong in the movement for "public power,"[55] which was a staple of nineteenth-century populism and early twentieth-century progressivism. That movement gave birth to federal power agencies[56] and the many hundreds of municipal utilities[57] that dot the American electric power landscape. But the model that eventually emerged as dominant in American natural gas and electricity markets was that of a private (investor owned) "public utility." As far back as *Munn v. Illinois*[58] in 1877, the Supreme Court recognized that when an economic activity becomes "affected with a public interest," it may become a proper subject for regulation, including price regulation.[59] Thus, rather than use ex post enforcement actions to punish monopoly or anticompetitive behavior under antitrust laws, American legislators decided to permit regulators to certify monopoly providers of natural gas and electric services, and to set the prices of those services ex ante, via regulatory fiat.

By the early 1900s, most states had established utilities commissions charged with regulating electric and gas companies, which included setting their rates.[60] In 1927, the Supreme Court's decision in

---

[55] In 1940, there were a sufficient number of municipal electric utilities to trigger the formation of the American Public Power Association.

[56] These include, for example, the Bonneville Power Administration and the Tennessee Valley Authority. For a good description of the public power movement, see ROBERT A. CARO, THE YEARS OF LYNDON JOHNSON: THE PATH TO POWER 518–28 (1982).

[57] For a list of major municipal utilities, see *251 Publicly Owned Electric & Gas Utilities (US)*, THE UTILITY CONNECTION, http://www.utilityconnection.com/page2e.asp# (last visited Dec. 2, 2011).

[58] 94 U.S. 113, 133–36 (1876). The Court concluded that the operation of grain elevators in Chicago was an industry that was "affected with a public interest," upholding price regulations on grain storage activities imposed by the State of Illinois. *Id.* at 129, 133–36.

[59] *See id.* at 129, 133–36.

[60] The first state public utility commission, the Massachusetts Board of Gas and Electric Light Commission, was created in the late nineteenth century. *See* Alfred E. Forstall, *Governmental Control of the Price of Gas*, 3 PUB. POL'Y: A MEDIUM FOR DIFFUSING CORRECT

Public Utilities Commission of Rhode Island v. Attleboro Steam & Electric Co. circumscribed the power of these state commissions to set rates for energy sold in interstate commerce, paving the way for federal regulation of public utilities.[61] The Federal Power Act (FPA) of 1935 and the Natural Gas Act (NGA) of 1938 authorized the Federal Power Commission (FPC or "the Commission")[62] to regulate wholesale sales of electricity and natural gas, respectively, in interstate commerce, leaving the regulation of retail sales (mostly) to the states.[63] In order to address concerns about the accumulation of power by natural gas and electricity trusts across multiple states, Congress also passed the Public Utility Holding Company Act of 1935 (PUHCA), limiting the horizontal reach of utility holding companies.[64]

By this time, public utilities were delivering gas and electricity to customers over growing networks of pipelines and wires.[65] These companies tended to be vertically integrated,[66] and they provided their customers with a bundled product: energy (electricity or natural gas) coupled with the service of transmitting it from seller to buyer. The FPC

Econ. Instruction on Questions of Pub. Pol'y, Nov. 24, 1900, at 329, 332 (describing the Massachusetts Commission as the "only organized attempt at government control of the gas business in the United States"). The National Association of Regulatory Utility Commissioners was established in 1889, offering testimony to the existence of multiple state commissions by that point.

[61] 273 U.S. 83, 89–90 (1927) (prohibiting state regulation of rates for a wholesale sale of electricity across the Massachusetts-Rhode Island border), *abrogated by* Ark. Elec. Coop. Corp. v. Ark. Pub. Serv. Comm'n, 461 U.S. 375, 393 (1983).

[62] Natural Gas Act, Pub. L. No. 76-88, ch. 556, 52 Stat. 821, 821–22 (1938) (codified as amended at 15 U.S.C. § 717 (2006)); Federal Power Act, Pub. L. No. 74-333, ch. 687, pt. 2, 49 Stat. 803, 847–48 (1935) (codified as amended at 16 U.S.C. § 824 (2006)). The FPC and FERC are one and the same agency: the FPC's name was changed in 1977 to FERC. Department of Energy Organization Act, Pub. L. No. 95-91, §§ 401–402, 91 Stat. 565, 582–85 (1977) (codified as amended at 42 U.S.C. §§ 7171–7172 (2006)).

[63] 16 U.S.C. § 824(b)(1) (2006).

[64] Pub. L. No. 74-333, ch. 687, 49 Stat. 803 (codified at 16 U.S.C. §§ 79–79z). The portions of PUHCA relevant to this analysis were repealed by the Energy Policy Act of 2005. *See* Pub. L. No. 109-58, § 1263, 119 Stat. 594.

[65] One of the first commercial length natural gas pipelines was built in 1891 and carried gas from wells in Indiana to the city of Chicago. Most of the modern pipeline system, however, was built after World War II. *The History of Natural Gas*, U.S. Dep't of Energy, http://fossil.energy.gov/education/energylessons/gas/gas_history.html (last updated Mar. 29, 2011). Modern electric transmission systems became possible only after George Westinghouse's development of an alternating current transmission system in the late 1800s. Westinghouse's innovation built upon Nikola Tesla's work with transformers (which enabled companies to increase and decrease voltage along the transmission system). Klein, *supra* note 8, at 329–30.

[66] This kind of integration was less complete on the gas side. Indeed, the NGA was a response to complaints by natural gas producers about alleged abuses committed by owners of pipelines. *See* Richard J. Pierce, Jr., *The Evolution of Natural Gas Regulatory Policy*, Nat. Resources & Env't, Summer 1995, at 53, 53–54.

and its state analogues approved the utility's revenue requirements (for wholesale and retail sales, respectively), permitting electric and gas utilities to recover their reasonably incurred costs and a fair return (but no more) on their capital investments.[67] The utility filed a tariff with the commission, specifying how it would recover its revenues through the rates it charged each class of customers—residential, commercial, or industrial. Both the FPA and the NGA specified that the FPC must set rates at a "just and reasonable" level: rates that would permit utilities to attract sufficient capital to provide reliable service to customers, but without capturing monopoly rents.[68] From this common starting point, the regulation of natural gas and electric markets took parallel— sometimes intersecting, but generally distinct—paths forward.

1. Natural Gas Markets

Although substantial vertical integration in both the natural gas and electricity industries existed prior to World War II, most wellhead production of natural gas was not controlled by gas utilities; to the contrary, there were thousands of wellhead producers of gas in the United States. Like oil production, gas production follows the rule of capture and became subject to the same kind of state conservation regulation as oil production.[69] In the years immediately following passage of the NGA, the FPC permitted sales by wellhead producers (whose point of sale was at the introduction of their gas to the pipeline system owned by gas utilities) at market rates, regulating prices charged only for those wholesale transactions involving parties downstream of the wellhead. In 1955, however, the Supreme Court held in *Phillips Petroleum Co. v. Wisconsin* that wellhead sales were subject to rate regulation under the NGA,[70] a decision that led eventually to the establishment of rates that discouraged exploration and production. The resulting natural gas

---

[67] The standard way of describing the rate making process is to say that, in rate cases, utility commissions typically make rate decisions using the following equation: $R = Br + O$, where R represents the company's total revenue requirements, B represents the rate base, r represents the permissible rate of return on investment, and O represents permissible operating expenses. Assets that are used and are useful to the company's task of supplying electric service are includable within the rate base, and are those on which the company is guaranteed a fair return.

[68] In practice, courts have shown great deference to FERC's rate making decisions. *See* Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591, 617–18 (1944).

[69] *See supra* notes 34–46 and accompanying text.

[70] 347 U.S. 672, 685 (1954).

shortage[71] prompted Congress to pass the Natural Gas Policy Act of 1978 ("NGPA"),[72] a labyrinthian statute that eventually deregulated wellhead gas sales, and brought rational pricing to the market for wellhead sales (sometimes called "first sales") of gas.[73]

Experience with phased deregulation of wellhead sales under the NGPA, combined with a sea change in economic thinking about the wisdom of public utility rate regulation[74] led policymakers to begin to reconsider the traditional regulatory model for natural gas. The NGPA did not deregulate prices of wholesale transactions downstream of wellhead sales; the FPC continued to regulate the rates charged for those sales, and those sales remained bundled. In the 1970s and 1980s, economists began to rethink the wisdom of this approach, and to challenge the ideas that the provision of energy service is a natural monopoly and that the production and delivery of energy are necessarily one bundled product.[75]

---

[71] In the early 1970s, U.S. proven reserves of natural gas had fallen to a little over two-hundred trillion cubic feet. At that time, American consumption was in the neighborhood of twenty trillion cubic feet a year, leading some analysts to state that the United States had only ten years worth of natural gas supply and reserve. *See* Fed. Power Comm'n, Annual Report 30–36 (1971).

[72] Pub. L. No. 95-621, 92 Stat. 3352 (15 U.S.C. §§ 3301–3432 (2006)).

[73] For a description of the early effects of the NGPA, see generally Richard J. Pierce, *Reconsidering the Roles of Regulation and Competition in the Natural Gas Industry*, 97 Harv. L. Rev. 345 (1983). For a description of the strange and unpredictable trajectory of natural gas prices during the slow deregulation process under the NGPA, see James M. Griffin & Henry B. Steele, Energy Economics and Policy 301–03 (1986).

[74] The impulse to restructure both the electric and the gas industries was part of a trend in economic thinking in the 1970s and 1980s that observed increased faith in the ability of markets to achieve efficient outcomes through competition and reduced faith in the ability of governments to achieve efficient outcomes through regulation. *See* Sidney A. Shapiro & Joseph P. Tomain, Regulatory Law and Policy: Cases and Materials 20–21 (3d ed. 2003) (describing a move away from regulation in general and noting the effect on natural gas and electricity industries); David B. Spence, *Can Law Manage Competitive Energy Markets?*, 93 Cornell L. Rev. 765, 770–74 (2008) (describing the "unbundling" of energy production and distribution as a result of changing economic and political views of regulation in the United States and Europe during the 1980s); *see also* Harold Demsetz, *Why Regulate Utilities?*, 11 J.L. & Econ. 55, 65 (1968); Oliver E. Williamson, *Franchise Bidding for Natural Monopolies—In General and with Respect to CATV*, 7 Bell J. Econ. 73, 73–76 (1976).

[75] Furthermore, rate regulation of investor-owned utilities entails considerable transaction costs. *See* Antonio Estache & David Martimort, *Politics, Transaction Costs, and the Design of Regulatory Institutions* 1–2 (World Bank Policy Research, Working Paper No. 2073, 1999), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=620512 (describing transaction costs in regulation as an asymmetric information problem).

Regulators must depend on the regulated firms to divulge their cost information. While public utility commission staff and ratepayer advocate groups intervene in rate cases and review this information, they cannot hope to overcome the information asymmetries

In 1992, the Federal Energy Regulatory Commission (FERC) ordered full unbundling of gas transmission services from gas sales by all pipelines in its Order 636;[76] by this time, it had already begun to authorize wholesale sales of gas at market based rates.[77] Cognizant of the potential for sellers of gas to abuse market power, FERC granted this authority only to sellers that were unaffiliated with pipelines.[78] After Order 636, pipeline customers—mostly local distribution utilities, electric generators, and large industrial users participating in wholesale markets—were free to buy their gas at the best available price, hiring the pipeline only to transport the gas at posted, regulated rates. As the twentieth century drew to a close, gas transmission remained subject to rate regulation under the NGA, but most wholesale sales of the natural gas itself were made at market rates.[79]

Then, as now, the physical trading of natural gas consumed in the United States happens mostly at twenty-four American trading hubs, such as the Henry Hub in Louisiana, and a few additional hubs in Canada.[80] Natural gas produced at the wellhead varies in quality (mainly by the type and amount of impurities mixed with the methane), but it is traded as a fungible commodity. Its price varies not with quality, but with location; regional price differences reflect the cost of transporting gas from producers to consumers. Unlike oil markets, natural gas markets are regional. The United States produces most of its own natural gas, but also imports some gas as well (mostly by pipeline from Canada and

---

inherent in the process. *See id.* To its critics, a system with high transaction costs, information asymmetries, and perverse incentives will yield unnecessarily high electric rates in both wholesale and retail markets. For a good discussion of these efficiency issues, see Stephen Breyer, *Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform*, 92 Harv. L. Rev. 547, 551, 609 (1979) (providing a basic framework for analyzing regulation and concluding that the energy market is a good candidate for "less restrictive alternatives" to regulation).

[76] Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol, Order No. 636, 57 Fed. Reg. 13,267, 13,270 (FERC Apr. 16, 1992) (to be codified at 18 C.F.R. pt. 284); Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol; Order Denying Rehearing and Clarifying, Order Nos. 636 and 636-A, 57 Fed. Reg. 57,911, 57,914 (FERC Nov. 27, 1992).

[77] Regulations Governing Blanket Marketer Sales Certificates, 57 Fed. Reg. 57,952, 57,953 n.4 (FERC Dec. 8, 1992) (to be codified at 18 C.F.R. pt. 284).

[78] FERC Blanket Marketing Certificates, 18 C.F.R. § 284.402 (2011).

[79] *See id.*

[80] For a full description of natural gas trade flows and market centers in the United States, see U.S. Energy Info. Admin., Office of Oil & Gas, Natural Gas Market Centers: A 2008 Update 1, 7 fig.3 (2009), *available at* http://www.eia.doe.gov/pub/oil_gas/natural_gas/feature_articles/2009/ngmarketcenter/ngmarketcenter.pdf.

by tanker in the form of liquefied natural gas, or LNG).[81] The development of more efficient, less expensive methods to extract plentiful natural gas trapped very deep under the ground in shale deposits across the country promises to make the United States even more self-sufficient.[82]

2. Electricity Markets

While the evolution of electricity markets is similar in many respects to that of natural gas markets, there are at least two important differences. First, twentieth-century electric utilities were more vertically integrated than their natural gas counterparts, in that traditional electric utilities owned most of their own generation. Thus, merchant generators were virtually unheard of prior to 1980, and arms-length transactions on wholesale markets were relatively few. Second, unlike oil or natural gas, electricity is not storable.[83] That is, the amount of electricity being produced and added to the electric grid by generators must be roughly equivalent to the amount removed from the grid by consumers at any given point in time. Thus, while both gas and electric networks must maintain a certain level of balance, the problem is far more acute on the electric grid than it is in the natural gas pipeline network. Failure to keep the system in balance can result in system failure, like the massive blackouts that hit the northeastern United States in 1965 and the upper Midwest in 2003.[84]

These differences have complicated the journey from regulation to markets within the electric industry, though that journey has followed the same conceptual path as natural gas restructuring. Vertically integrated electric utilities charging administratively set rates dominated the

---

[81] The United States consumed about 646 billion cubic meters of natural gas in 2009, and produced more than two-thirds of that amount domestically. BP Statistical Review of World Energy June 2011, at 22–25 (2011), http://www.bp.com/sectionbodycopy.do?categoryId=7500&contentId=7068481 (click hyperlink to "Statistical Review of World Energy 2011"). The United States now produces more than five-sixths of its natural gas needs. *See id.*

[82] The technical advances that have made this possible are associated with horizontal drilling and the process of hydraulic fracturing, which permits gas companies to produce more gas from shale deposits. For a good description of this industry and its regulation, see generally Hannah Wiseman, *Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation*, 20 Fordham Envtl. L. Rev. 115 (2009).

[83] Gas networks have some associated storage capacity, but it is measured typically in days, rather than months. *See* William F. Bailey et al., *State Regulation of Oil and Gas Production*, *in* 1 Energy Law and Transactions: 2011 Cumulative Supplement, ch. 5, § 5.01[2] (David J. Muchow & William A. Mogel eds., 2011).

[84] *See infra* notes 124–148 and accompanying text.

electricity industry well into the 1990s.[85] The seeds of change were sown with the passage of the Public Utility Regulatory Policies Act of 1978[86] (PURPA), which promoted conservation and "alternative" forms of electricity production by providing financial incentives to new, nonutility producers[87] of renewable electricity and cogeneration.[88] The presence of nonutility generators in the market created pressure for nondiscriminatory access to the electric grid, so that these nonutility generators could sell their electricity directly to retailers or industrial customers. Congress responded to that pressure in the Energy Policy Act of 1992[89] ("EPAct 1992") by authorizing FERC to order electric utilities to "wheel" power (that is, to transmit power for third parties) over their transmission lines.[90] FERC exercised that power in 1996 when it promulgated Orders 888 and 889, mandating (1) that electricity transmission from electricity sales in wholesale markets be unbundled and (2) that owners of transmission lines act as common carriers providing transmission service on a nondiscriminatory basis to affiliated and non-affiliated companies alike.[91] As a consequence of this unbundling, FERC began to authorize wholesale sellers of electricity to charge market-based rates on

---

[85] U.S. Energy Info. Admin., The Changing Structure of the Electric Power Industry 2000: An Update, at i, 5–8 (2000), http://www.eia.gov/cneaf/electricity/chg_stru_update/update2000.pdf [hereinafter Changing Structure].

[86] Pub. L. No. 95-617, 92 Stat. 3117.

[87] In PURPA parlance, these nonutility generators were called "qualifying facilities" (or "QFs") because they qualified for the financial benefits offered under the statute.

[88] PURPA defined "alternative" energy facilities to include various forms of renewable energy like solar, wind, and geothermal, as well as small hydroelectric facilities and cogeneration plants. Cogeneration facilities produce electricity as well as usable heat energy, and most of the many hundreds of cogeneration facilities built after the passage of PURPA in the 1980s were gas-fired. 16 U.S.C. § 824a-3 (2006).

[89] *See* Pub. L. 102-486, 106 Stat. 2776 (1992).

[90] *Id.* §§ 711 (repealed), 712, 721, 106 Stat. at 2905–11, 2915 (current version at 16 U.S.C. §§ 824j, 2621 (Supp. III 2011) (requiring open access to transmission lines).

[91] Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities, Order 888, 61 Fed. Reg. 21,540, 21,541–43 (FERC May 10, 1996) (to be codified at 18 C.F.R. pt. 37); Open Access Same-Time Information System (Formerly Real-Time Information Networks) and Standards of Conduct, Order 889, 61 Fed. Reg. 21,737, 21,740–41 (FERC Apr. 24, 1996) (to be codified at 18 C.F.R. pt. 37). Order 888 required transmission line owners to file so-called "open-access tariffs" offering nondiscriminatory transmission services and to "functionally unbundle" transmission from electricity sales. Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services By Public Utilities, Order 888, 61 Fed. Reg. at 21,541–43. Order 889 mandated transparency in transmission services by requiring all takers of transmission services (including affiliates of the transmission owner) to take such services using an open-access posting system. Open Access Same-Time Information System (Formerly Real-Time Information Networks) and Standards of Conduct, Order 889, 61 Fed. Reg. at 21,740–41.

a broad scale, conditioning those grants of authority on the sellers' lack of market power.[92] Transmission rates remained regulated.

At around the same time, a sizeable minority of American states began to introduce competition and market-based rates into their retail markets, with California, Texas, and New York leading the way.[93] As a consequence of these developments, many incumbent utilities in these states sold most of their generation assets or spun them off into subsidiaries, increasing the profile of independent merchant generators, marketers, and brokers within the industry. Consequently, the number and volume of arms-length transactions on wholesale electricity markets grew by leaps and bounds, straining the capacity of both the transmission grid and regulators. In response, FERC pushed owners of transmission lines to form "independent system operators" (ISOs) and "regional transmission organizations" (RTOs) to help manage the grid, ensure system reliability, and guard against discrimination and the exercise of market power in the provision of transmission services.[94] By the turn of the century, active electricity trading hubs had arisen around several of these ISOs and RTOs, including the Pennsylvania-New Jersey-Maryland (PJM) ISO, the New York ISO, the California ISO, and the New England ISO.[95] In states that opted out of retail restructuring, some public utilities continued to generate most of the electricity they sold to customers, while others satisfied most of their electricity needs from wholesale markets. In any case, because electricity demand is highly variable (both daily and seasonally), most electricity retailers must participate in these spot markets in order to balance supply with demand.

II. Twenty-First Century Energy Markets: Toward a Securities Regulation Model

By the turn of the twenty-first century, oil, gas, and electricity markets had become ever more decentralized and competitive. The owners of transmission networks—oil and gas pipelines, and the electric grid—remained subject to rate regulation, but within the energy industry, disaggregated markets and intense competition now prevailed where vertical integration had once been the norm. Wholesale sales of elec-

---

[92] *See, e.g.*, Entergy Services, Inc., 58 F.E.R.C. ¶ 61,234 (1992) (authorizing electricity sales at market-based rates).

[93] *See Changing Structure*, *supra* note 85, at 74–77.

[94] Regional Transmission Organizations, Order No. 2000, 89 F.E.R.C. ¶ 61,285 (1999).

[95] For a description of the status of electricity trading hubs at the turn of the century, see *Changing Structure*, *supra* note 85, at 74–78.

tricity and gas that had once been informal, inter-firm transactions[96] were now arms-length transactions between unaffiliated companies. Table 1 summarizes some of the important characteristics of American energy markets in the twenty-first century.

Table 1: Characteristics of Energy Product Markets

	Wholesale Market Characteristics	Retail Market Characteristics	Product Characteristics
Crude Oil	World market price, with regional and quality adjustments; Bilateral and spot markets; Competition.	Unregulated market; competitive market for refined products.	Crude oil varies by quality and energy content; Can be stored.
Natural Gas	Regional (subnational) prices; Bilateral and spot (including system balancing) markets; Competition and market prices in all phases except transmission, where prices are regulated.	Mostly regulated monopolies; some competitive market.	Limited quality variation; Limited storage capacity.
Electricity	Local and Regional (subnational) prices; Bilateral and spot (including system balancing) markets; Competition and market prices, except for internal production by vertically integrated firms; Transmission prices are regulated.	Regulated monopolies in three-fourths of states; remainder have competitive markets.	Fungible commodity; Cannot be stored in commercial quantities.

Today, the energy commodities trade is booming, but it is also much more complex and less regulated than ever before, provoking concerns that consumers may be exploited in these turbulent, modern energy markets.[97] More specifically, regulators worry about detecting

[96] For public utilities, these transactions were relatively informal: when power was needed, neighboring utilities would step in and provide it with the understanding that the buyer would reciprocate in the seller's time of need, and each party could recover their costs through regulated rates.

[97] *See, e.g.*, Gerald Norlander, *May the FERC Rely on Markets to Set Electric Rates?*, 24 Energy L.J. 65, 88 (2003); Rachel Warnick Petty, *A Light in the Darkness: The Case for Judicial Antitrust Enforcement in the Electric Wholesale Industry*, 5 Tex. J. Oil, Gas, & Energy L. 55, 55–57 (2009); Jacqueline Lang Weaver, *Can Energy Markets Be Trusted? The Effect of the Rise and Fall of Enron on Energy Markets*, 4 Hous. Bus. & Tax L.J. 1, 6–25 (2004).

the exercise of market power by sellers in wholesale markets, and the rapidly growing markets for complex energy derivatives[98] provide additional opportunities for companies to enrich themselves at the expense of consumers. These worries have been exacerbated by the significant price volatility and price increases witnessed in the energy markets over the last decade. Investigations following the California electricity crisis in 2000–2001 revealed a variety of ways in which wholesale sellers exerted market power or manipulated electricity and gas markets to the detriment of buyers.[99] Regulators found that some of these manipulative techniques exploited relationships between physical markets for energy and derivatives markets. Later in the decade, as oil and gas prices spiked to unprecedented levels, regulators and policymakers expressed concerns that speculators in physical and derivatives markets were driving prices beyond levels attributable to the forces of supply and demand for physical energy.

A. *The Rise of Energy Derivatives*

Energy derivatives markets emerged as a response to increased price risk: that is, formerly dominant market participants like the oil majors and traditional public utilities turned to energy derivatives (such as energy futures contracts) to hedge their new exposure to price risk in energy commodities markets. Commodities traders have used derivatives to hedge price risk for centuries, and the Commodities Exchange Act (CEA)[100] has regulated (mostly agricultural) commodities futures since the time of the New Deal.[101] Traders in energy derivatives markets may be energy companies interested in the physical delivery of oil, gas, or electricity, or they may be banks and other financial speculators interested purely in the possibility of making money by speculating in the market. In essence, derivatives are bets based on projections of the future price of the commodity: typically, at settlement, the party who bet wrong pays the party who bet right. Some derivatives, like "futures"[102] or "option"[103] contracts, are standardized contracts traded on

---

[98] For a fuller explanation of energy derivatives, see *infra* notes 100–123 and accompanying text.

[99] *See infra* notes 149–180 and accompanying text.

[100] 7 U.S.C. § 1 (2006).

[101] For an interesting history of commodities regulation in the United States, see Wendy L. Gramm & Gerald D. Gay, *Scams, Scoundrels, and Scapegoats: A Taxonomy of CEA Regulation over Derivative Instruments*, J. Derivatives, Spring 1994, at 6, 8–16.

[102] An energy futures contract is a contract in which one party agrees to provide the other party with energy on a future date at a specified price. Futures contracts are traded

exchanges like the New York Mercantile Exchange (NYMEX); these have traditionally been regulated by the CFTC.[104] Other so-called "over-the-counter" (OTC) energy derivatives, like "forward contracts"[105] or "swaps,"[106] may or may not be standardized, and have traditionally been less closely regulated.

Commodities exchanges like NYMEX or the Chicago Board of Trade (CBOT) are structured similarly to securities exchanges like the New York Stock Exchange. They are membership organizations that engage in considerable self-regulation under the oversight of a federal regulator—in this case the CFTC. Exchange trading of commodities entails relatively little risk of counterparty default, since members must meet specified capital requirements and exchange-traded derivatives (including energy futures) are settled daily; that is, as the market price of the commodity moves relative to the futures contract price, the parties' accounts are debited or credited to account for the difference. Most futures contracts do not contemplate delivery of the commodity at expiration; instead, the parties settle only their financial differences. If one party was hedging and needs to buy or sell the underlying physi-

---

on commodities exchanges and the exchange assumes some of the credit risk (risk of default by either party). Such contracts are cleared daily and usually settled financially—that is, no physical delivery of energy takes place. For a good description of energy futures contracts, see N.Y. Mercantile Exch., Inc., A Guide to Energy Hedging 6 (1999).

[103] An option contract is a contract in which one party purchases the right to make a future purchase or sale at an agreed-upon price. Black's Law Dictionary 1203 (9th ed. 2009). The purchaser of the option pays for it regardless of whether the option is ever exercised. *Id.* For an account of the use of options in energy markets, see Steven Ferrey, *Inverting Choice of Law in the Wired Universe: Thermodynamics, Mass, and Energy*, 45 Wm. & Mary L. Rev. 1839, 1937–38 (2004).

[104] Changes to the Commodities Exchange Act in 1974 established the basics of the current regulatory regime administered by the CFTC. Commodity Futures Trading Commission Act of 1974, Pub. L. No. 93-463, 88 Stat. 1389 (codified as amended at 7 U.S.C. §§ 1–27 (2006)).

[105] Forward contracts are like futures contracts in that they too represent an agreement to deliver and take energy in the future at an agreed-upon price. Forward contracts, however, are not traded on commodities exchanges and leave the parties with more credit risk. For a good description of forward contracts, see Thomas G. Kelch & Howard J. Weg, *Forward Contracts, Bankruptcy Safe Harbors and the Electricity Industry*, 51 Wayne L. Rev. 49, 63–80 (2005).

[106] Swaps represent a bet on future market prices whereby the contracting parties agree to exchange their interest-payment obligations. Black's Law Dictionary, *supra* note 103, at 1585. For an explanation of the use of swaps, see Carolyn H. Jackson, Note, *Have You Hedged Today? The Inevitable Advent of Consumer Derivatives*, 67 Fordham L. Rev. 3205, 3208–14 (1999).

cal commodity, it does so in the spot or "cash" markets.[107] OTC derivative markets, by contrast, arose outside of CFTC jurisdiction, and typically involve greater counterparty risk.

The first energy derivatives arose during the 1980s in oil markets.[108] The NYMEX began trading oil futures in the early 1980s,[109] and oil derivatives markets grew exponentially throughout the 1990s and into the twenty-first century. For example, the total volume of NYMEX futures contracts in light sweet crude oil (West Texas Intermediate (WTI) crude, traded in one-thousand barrel increments) increased from fewer than 100,000 contracts in 1985 to more than 1.5 million contracts in 2007.[110] The NYMEX began trading natural gas futures contracts (in 10,000 MMBtu[111] increments) in 1990, and electricity futures (traded in a variety of increments) in 1996; in both of these markets, volumes also grew quickly and steadily.[112]

While the CEA prohibits both manipulation and "corner[ing]" of commodities markets,[113] the 1974 amendments to the CEA broadened the CFTC's jurisdiction over commodities futures, by expanding the definition of the term "commodity," requiring that all futures trading be done on regulated exchanges. The statute neglected to define "futures contracts," however, putting some OTC trading into legal doubt, particularly trading in forward contracts, which are less standardized

---

[107] For a good explanation of exchange trading of energy derivatives, see Alexia Brunet & Meredith Shafe, *Beyond Enron: Regulation in Energy Derivatives Trading*, 27 Nw. J. Int'l L. & Bus. 665, 670–71 (2007).

[108] A senior trader for Royal Dutch Shell, created a forward contract called "15 day Brent," based upon crude found in the Brent field in the North Sea. The contract required physical delivery at a specified price and location. For a description of the origins of this derivative and subsequent attempts by traders to corner the market, see Bower, *supra* note 52, at 44–57.

[109] For a brief history of the NYMEX and early oil futures trading on the exchange, see Yergin, *supra* note 16, at 724–26. Trade in home heating oil and some other retail energy products preceded trade in crude oil by several years. *Id.*

[110] *See* EIA, Short-Term Energy Outlook Supplement: Energy Price Volatility and Forecast Uncertainty 5 fig. 3 (2009) [hereinafter 2009 Energy Outlook Supp.], *available at* http://205.254.135.7/forecasts/steo/special/pdf/2009_sp_05.pdf.

[111] A British Thermal Unit, or Btu, is the amount of heat required to increase the temperature of a pound of water (which weighs exactly sixteen ounces) by one degree Fahrenheit. The term "MMBtu" means one million (one thousand thousands) Btus.

[112] For example, the total volume of open Henry Hub natural gas futures contracts at the start of 1991 was only a few thousand; it had increased to more than 150,000 by 2009. *See* 2009 Energy Outlook Supp., *supra* note 110, at 6 fig. 4.

[113] *See* 7 U.S.C. § 13(a)(2) (2006) (held unconstitutional as applied in United States v. Radley, 659 F. Supp. 2d 803, 820 (S.D. Tex. 2009)).

OTC substitutes for futures.[114] In the late 1980s, this uncertainty was exacerbated by a case decided in 1990 by the U.S. District Court for the Southern District of New York, *Transnor (Bermuda) Ltd. v. BP North America Petroleum.*[115] Although commentators continue to dispute the relative culpability of the parties in this case,[116] the key question was whether the fifteen-day Brent contracts were "futures" subject to CFTC regulation or "forwards" exempt from regulation. The court concluded that because fifteen-day Brent contracts were relatively standardized instruments, most of which were executed without any physical delivery of the underlying commodity, they were futures contracts subject to CEA jurisdiction.[117]

In 1992, Congress amended the CEA to authorize the CFTC to exempt certain commodities derivatives from CEA regulation,[118] authority that the CFTC exercised in 1993 by exempting energy forward contracts from its regulations.[119] Congress took more definitive action

---

[114] *Id.* § 1a(6)(A). The CEA does not define a futures contract, but it does refer to contracts "of sale of a commodity for future delivery." *Id.* Courts have tended to distinguish between futures and forwards based upon the parties' purposes. Forward contracts involve transactions in which the parties intend (and can accommodate) physical transfer of the actual commodity. Futures contracts are contracts whose primary purpose is to assume or shift price risk without transferring the underlying commodity. *See* CFTC v. Co Petro Mktg. Grp., Inc., 680 F.2d 573, 578–79 (9th Cir. 1982); NRT Metals, Inc. v. Manhattan Metals (Non-Ferrous), Ltd., 576 F. Supp. 1046, 1050–51 (S.D.N.Y. 1983).

[115] 738 F. Supp. 1472, 1489–93 (S.D.N.Y. 1990).

[116] According to a report, investor-owned oil companies resorted to "skulduggery" by "churning trades of [Brent crude]" so as to depress the price. Bower, *supra* note 52, at 53. These phony trades were conducted in order to "reap lucrative tax advantages from the 15-day market." *Id.* Transnor, according to the report, was the victim of a squeeze—a kind of manipulation of market prices based upon purchase of a dominant share of the available supply. *Id.* at 55–57. By contrast, another report states that Transnor was merely "attempt[ing] to recover losses resulting from trades" after an unexpected decline in prices. Gramm & Gay, *supra* note 101, at 15; *see also* Louis Phlips, *Oligopolistic Pricing of Crude Oil Futures*, 68 Econ. Record 75, 102 (1992) (using game theoretic methods to analyze the fifteen-day Brent crude market during the late 1980s and concluding that oligopolistic conditions in that market enabled "producers of Brent crude to influence the [price] in their favour near maturity").

[117] *Transnor*, 738 F. Supp. at 1489–93. The court acknowledged that fifteen-day Brent contracts "may represent binding commitments to buy or sell physical oil," but "the real question . . . is whether the transactions are more like bargains for the purchase and sale of crude oil than speculative transactions tacitly expected to end by means other than delivery." *Id.* at 1491–92. The court concluded that since the "opportunity" to settle without delivery is a "common practice" in the market, fifteen-day Brent crude contracts were indeed futures. *Id.*

[118] Futures Trading Practices Act of 1992, Pub. L. No. 102-546, 106 Stat. 3590 (codified as amended in scattered sections of 7 U.S.C.).

[119] In April 1993, the CFTC promulgated a final order generally exempting from the CEA qualifying energy contracts commercial participants and certain other specified enti-

seven years later when it passed the Commodities Futures Modernization Act (CFMA), exempting from most CFTC regulation OTC trading of energy derivatives by sophisticated or institutional parties.[120] This provision became known as "the Enron loophole."[121] Passage of the CFMA sparked a rapid expansion in OTC trading, including trading of both the standardized and non-standardized derivatives on electronic exchanges, particularly London's Intercontinental Exchange (ICE). For example, the U.S. Government Accountability Office (GAO) reported a more than fourfold increase in trading of energy derivatives on the ICE between 2003 and 2006.[122]

This explosive growth in the use of energy derivatives coincided with a period of price volatility on energy markets.[123] Energy markets experienced a succession of price shocks during the first decade of the twenty-first century, beginning with the California electricity crisis in the winter of 2000–2001, which led to a succession of prosecutions of electricity and gas traders in the early 2000s. In the ensuing years, oil and gas markets experienced unprecedented price spikes and volatility. Analysts disagree about the role played by derivatives trading and speculation in this price behavior. Yet, in each case, regulators responded by imposing new rules on physical and financial energy markets—rules borrowed from securities laws.

B. *The California Electricity Crisis and Its Aftermath*

1. What Went Wrong

When California moved to competitive markets after 1996, its wholesale power market was structured so as to discourage the use of derivatives and long-term bilateral contracts by the incumbent electrical utilities that were the major purchasers in the California wholesale

---

ties entered. Exemption for Certain Contracts Involving Energy Products, 58 Fed. Reg. 21,286, 21,293–94 (Apr. 20, 1993).

[120] 7 U.S.C. § 2(h)(1) (2006).

[121] By the end of the twentieth century, Enron had become the largest and most innovative trader of energy commodities in the United States; acting as both a broker and participant in energy commodities markets, Enron had sought the CFMA's broad exemption for OTC trading of energy derivatives. For a summary of the rise of Enron's participation in energy commodities trading in the latter part of the twentieth century, see generally Weaver, *supra* note 97.

[122] U.S. Gov't Accountability Office, GAO-08-25, Commodity Futures Trading Commission: Trends in Energy Derivatives Markets Raise Questions About CFTC'S Oversight 18 fig.3 (2007) [hereinafter Trends in Energy Derivatives].

[123] *See id.* at 18–19.

market.[124] California required most electricity sales to be conducted through a spot market, which seemed to work fairly well until the winter of 2000–2001, at which point it experienced an unusually severe and sustained price spike in which daily average prices rose to many times historic levels.[125] That is, wholesale buyers who were used to paying less than $50 per megawatt hour for electricity were paying monthly *average* wholesale prices that exceeded $250 per megawatt hour for certain months during that winter of 2000–2001.[126]

A variety of forces contributed to the crisis, including insufficient generating capacity to meet peak demand,[127] short-term supply restrictions,[128] a rapid rise in generator costs,[129] transmission bottlenecks,[130] retail-price caps in some parts of California (which kept demand high

---

[124] In the initial phases of the restructured California market, the California Public Utilities Commission (PUC) did not permit use of long-term or futures contracts. Further, having had no previous experience with price risk, the California utilities did not make much use of these tools when the PUC relaxed its restrictions against their use immediately prior to the crisis. U.S. Cong. Budget Office, Causes and Lessons of the California Electricity Crisis 21–22 (2001), *available at* http://www.cbo.gov/ftpdocs/30xx/doc3062/CaliforniaEnergy.pdf.

[125] *See* Michael W. Lynch & Adrian Moore, *Power Tripped: Faulty Re-regulation Turns Out the Lights in the Golden State*, Reason, June 2001, at 33, 38–39.

[126] *See id.*

[127] As has been widely reported, electric capacity in California declined during the 1990s, while demand grew by more than ten percent. *See Subsequent Events—California's Energy Crisis*, U.S. Energy Info. Admin. Electricity, http://www.eia.doe.gov/cneaf/electricity/california/subsequentevents.html (last modified June 8, 2005, 2:30 PM).

[128] These included a drought in the Pacific Northwest, which reduced the amount of hydroelectric power available in the California market. California traditionally relies on hydroelectric generation for about twenty-five percent of its power. *See, e.g.*, Ahmad Faruqui et al., *Getting Out of the Dark: Market-Based Pricing Could Prevent Future Crises*, 24 Regulation, Fall 2001, at 58, 59, *available at* http://www.cato.org/pubs/regulation/regv24n3/specialreport2.pdf#page=2. In addition, the supply of natural gas to feed gas-fired generators in southern California was interrupted by an explosion at an El Paso pipeline in the winter of 2000–2001. *See Energy Crisis Overview: How We Got Here*, SFGate.com (May 8, 2001), http://articles.sfgate.com/2001-05-08/bay-area/17596648_1_electricity-rate-freeze-power-exchange.

[129] Natural gas prices in California were high as the crisis began and steadily increased to unprecedented levels as generators ran nonstop to take advantage of high wholesale electricity prices. *See, e.g.*, *What Can Be Learned from California's Electricity Crisis?*, Research Brief Pub. Pol'y Inst. of Cal., Jan. 2003, at 1–2, *available at* http://www.ppic.org/content/pubs/rb/RB_103CWRB.pdf.

[130] Path 15 is the major north-south transmission line in California. *See, e.g.*, News Release, California ISO, ISO Board of Governor's [sic] Approves Path 15 Upgrade: Board Finds Project Cost Effective and Good for the Grid (June 25, 2002), *available at* www.caiso.com/Documents/ISOBoardGovernor'sApprovesPath15UpgradeBoardFindsProjectCostEffectiveandGood_theGrid.pdf. At the time of the crisis, its capacity narrowed to two 500 kilovolt (kV) lines in central California, which was insufficient to handle the necessary load. The line is being expanded to three 500 kV lines. *Id.*

despite very high wholesale prices), and manipulation of the market by sellers. In hindsight, the California market design seemed to invite manipulation by channeling most sales through the California Power Exchange (CalPX) spot market, and providing that all sales would be made at the market clearing price. Supply margins were low to nonexistent during periods of peak use, so individual sellers could charge very high rates during these peak periods, resulting in a windfall for all sellers during those periods. Wholesale buyers (mainly the incumbent large utilities) were obliged to provide electric service to their customers, most of whom were paying rates for power that were capped (by statute) at levels often below the wholesale price. Thus, price spikes did not trigger any decrease in consumer demand, providing even more incentive to wholesale sellers to charge ever higher prices. Post-crisis investigations of California's dysfunctional electricity markets revealed that many sellers took advantage of these unique opportunities to capture scarcity rents.[131]

It also emerged that large numbers of market participants engaged in a variety of forms of fraud and manipulation on California spot markets.[132] Some sellers withheld generation to increase scarcity and drive up price.[133] Others merely capitalized on scarcity, recognizing that they could charge exorbitant rates knowing that wholesale purchasers and retailers had no choice but to buy the power in order to serve their customers.[134] Some scheduled fraudulent transactions that created congestion on the electric grid, so as to be able to claim compensation (under California grid congestion relief rules) when the transactions were subsequently canceled.[135] Some scheduled multiple, high-volume "wash

---

[131] For a good summary of the various techniques used to "game" the California markets during the crisis, see FERC, Docket No. PA02-2-00, Final Report on Price Manipulation in Western Markets: Fact-Finding Investigation of Potential Manipulation of Electric and Natural Gas Prices, at ES-1 to -3 (2003) [hereinafter Final Report on Manipulation]. The term "scarcity rents" (or, sometimes, "economic rent"), refers to profits over and above those sellers could earn in a competitive market due to the relative scarcity of the product sold. *See, e.g.*, Varian, *supra* note 12, at 422–27.

[132] *See* FERC, Initial Report on Company-Specific Separate Proceedings and Generic Reevaluations; Published Natural Gas Price Data; and Enron Trading Strategies: Fact-Finding Investigation of Potential Manipulation of Electric and Natural Gas Prices 1–2 (2002), *available at* http://news.findlaw.com/hdocs/docs/enron/fercenron81302rpt.pdf.

[133] Subsequent FERC investigations confirmed that holders of generation scheduled unplanned outages in order to create this kind of scarcity. *See* Final Report on Manipulation, *supra* note 131, at VI-54 to -55.

[134] *Id.*

[135] CalPX conducted both "day-ahead" and "real-time" bid auctions. The day-ahead market was used to enable both the CalPX and the California ISO to price power for the

trades" whereby each party to the transaction agreed to sell the other an identical amount of electricity at unusually high or low prices. The purpose of these wash trades was to influence spot market prices on published indices; those indices, in turn, were used to settle obligations under futures or other derivatives contracts that the parties to the transaction held.[136]

Enron was given credit for devising many of these techniques,[137] but their use in the California electricity market during 2000–2001 was widespread. Moreover, oil traders had been using many of these suspect techniques for years (including creating and profiting from supply squeezes and the provision of false information to publishers of price indices).[138] Prior to the California electricity crisis, Enron had perfected many of these techniques using information it discovered while operating a commodities trading platform for others.[139] In the wake of the California electricity crisis, FERC, the CFTC, and the U.S. Justice Department brought civil and criminal enforcement actions against participants in that market. Collectively, these enforcement actions resulted in jail time for a few individual defendants, and more than four billion dollars in fines, penalties, and disgorgement of profits for about twenty-five corporate and individual defendants.[140]

---

next day's delivery and to schedule the electricity flows for the next day. After day-ahead bidding, CalPX would then submit the transaction data to California ISO, and California ISO balanced load and generation and identified congestion problems. If there were no congestion problems, the CalPX's initial schedule of generation and load would be used. If, however, congestion was found, the schedule would be modified using adjustment bid processes to charge users for using congested pathways and to compensate those who would reschedule load to relieve congestion. The California ISO real-time market was then used to balance actual load in real-time to reflect these changes. For a fuller description of such techniques, see FINAL REPORT ON MANIPULATION, *supra* note 131, at VI-26 to -30.

[136] In this way, wash trades' only purpose was to influence indices so as to benefit the traders in the settlement of other contracts. *See id.* at VII-1 to -16.

[137] Post-crisis investigations revealed that Enron did indeed popularize many of these techniques. It circulated memos explaining several of the more popular techniques for gaming the California market. These memos are viewable at FERC's webpage dedicated to the California energy crisis. *Addressing the 2000–2001 Western Energy Crisis: Enron Trading Memos*, FERC, http://www.ferc.gov/industries/electric/indus-act/wec.asp (last updated Oct. 21, 2010).

[138] BOWER, *supra* note 52, at 129–52.

[139] *See* Weaver, *supra* note 97, at 60.

[140] *Largest Fines, Penalties and Refunds Ordered by Federal and State Authorities Against Corporations for Manipulation of the West Coast Energy Market and Natural Gas Price Index Manipulation*, PUB. CITIZEN, http://www.citizen.org/documents/camarketfines.pdf (last visited Dec. 2, 2011). There appears to be some disagreement about the total number of enforcement actions (and the dollar amount of settlements) arising out of the California crisis. In December of 2005, FERC issued a press release claiming that, at that point in time, it had overseen more than $6.3 billion in settlements, in cases involving sixty investi-

Investigations into the failure of Western power markets during the California electricity crisis also revealed attempts to manipulate natural gas markets, some of which involved manipulation of prices at trading hubs far from California. Between 2002 and 2006, the CFTC initiated enforcement actions involving manipulation of natural gas futures and forward markets, many of which involved the submission of false information about contract prices in an attempt to influence published price indices. For example, in one case, the trading arm of El Paso Corporation ("El Paso") was charged with submission of regular false information to publishers of gas price indices; these indices were used to settle derivatives contracts and to price gas in long-term supply contracts between gas suppliers and electric utilities.[141] The fraud included submission of information about trades that never occurred, as well as submission of false trade volumes, and more.[142] El Paso settled the case and paid a fine of twenty million dollars.[143] Similar charges were lodged (and settled), for example, against Williams Energy Companies[144] and Reliant Energy,[145] among many others. For its part, FERC brought some corresponding actions against pipeline owners for violating rules against sharing information with affiliated companies.[146] FERC also initiated, settled, and adjudicated a large number of proceedings against companies in connection with anticompetitive behav-

---

gations of market manipulation. News Release, FERC, Commission Reports to Congress on Refund Case Status; Notes Final Refunds Affected by $6.3 Billion in Settlements (Dec. 28, 2005), http://www.ferc.gov/media/news-releases/2005/2005-4/12-28-05.asp.

[141] *See In re* El Paso Merchant Energy, L.P., CFTC Docket No. 03-09, Order Instituting Proceedings Pursuant to Sections 6(c) and 6(d) of the Commodity Exchange Act, Making Findings and Imposing Remedial Sanctions 2 (Mar. 26, 2003), http://www.cftc.gov/files/enf/03orders/enfelpaso-order.pdf.

[142] *Id.*

[143] *See* Press Release, CFTC, El Paso Trading Unit Agrees to Pay $20 Million to Settle CFTC Charges of Attempted Manipulation and False Reporting (Mar. 26, 2003), http://www.cftc.gov/opa/enf03/opa4765-03.htm.

[144] *See* Press Release, CFTC, Williams Companies and Williams Energy Marketing and Trading Pay $20 Million to Settle Commodity Futures Trading Commission Charges of Attempted Manipulation and False Reporting (July 29, 2003), http://www.cftc.gov/opa/enf03/opa4824-03.htm.

[145] *See* Press Release, CFTC, Reliant Energy Services, Inc. to Pay $18 Million to Settle Charges of False Reporting and Attempted Manipulation, as Well as Charges of Wash Sales (Nov. 25, 2003), http://www.cftc.gov/opa/enf03/opa4869-03.htm.

[146] News Release, FERC, Williams Companies Agree to Pay $7.6 Million to Settle Investigation of Storage Information Sharing (June 15, 2005), http://www.ferc.gov/media/news-releases/2005/2005-2/06-15-05-williams.pdf; News Release, FERC, Commission Accepts $8.1 Million to Resolve Improper Sharing of Gas Storage Inventory Information (Aug. 2, 2004), http://www.ferc.gov/media/news-releases/2004/2004-3/08-02-04.pdf (involving affiliates of Dominion Resources, Inc.).

ior in Western natural gas spot and transmission markets during the California electricity crisis. For example, in one proceeding before FERC, the California PUC charged El Paso with withholding transmission capacity in its pipelines to drive up natural gas prices in the periods immediately before and during the California crisis.[147] FERC approved a settlement of that proceeding in 2003, one that called upon El Paso to pay a combination of refunds and fines totaling $1.69 billion.[148]

2. Toward a Securities Regulation Approach

The California crisis revealed that while FERC had anticipated some of the forms of unfair competition that emerged after restructuring (such as discrimination by owners of gas and electric transmission lines in favor of their affiliates), it apparently had not foreseen some of the ways in which sellers on competitive wholesale markets were able to capture and abuse market power, or to influence prices in the spot and derivatives markets. Exercising its continuing responsibility to regulate competition and ensure that wholesale rates (including market-based rates) were "just and reasonable,"[149] the agency's initial response to the crisis focused on preventing and deterring wholesale sellers from acquiring and abusing market power. FERC's previous grants of authority to charge market prices for energy had always been conditioned on the sellers' lack of market power; however, long-standing precedent under both the FPA and the NGA—the so-called "filed rate doctrine"[150]—prohibited FERC from retroactively penalizing sellers who charged market rates that had been "filed" with FERC.[151] In the wake of the California crisis, courts affirmed the agency's conclusion that the market rates charged by FERC-authorized sellers in the California spot markets were "filed rates" for purposes of the filed rate doctrine.[152] Therefore, in the event a seller authorized to charge market-based rates acquires market power—the power to capture scarcity rents by influencing

---

[147] *See* Pub. Utils. Comm'n of Cal., 105 F.E.R.C. ¶ 61,201 (2003) (Order on Contested Settlement), *available at* http://large.stanford.edu/publications/coal/references/ferc/docs/20031114-0380(4507651).pdf.

[148] *Id.* at 3.

[149] 16 U.S.C. § 824e (2006).

[150] The filed rate doctrine has its origins in the case of *Keogh v. Chi. & Nw. Ry. Co.*, 260 U.S. 156, 161–65 (1922). For a good discussion of the doctrine and its relevance in competitive electricity markets, see generally Jim Rossi, *Lowering the Filed Tariff Shield: Judicial Enforcement for a Deregulatory Era*, 56 Vand. L. Rev. 1591 (2003).

[151] *Keogh*, 260 U.S. at 165.

[152] California *ex rel.* Lockyer v. FERC, 383 F.3d 1006, 1011–13 (9th Cir. 2004); *see infra* notes 350–356 and accompanying text.

price—the only remedy available to FERC at the time was to revoke that seller's authority to charge market-based rates *prospectively*. FERC can do this in either of two ways: (1) by reimposing cost-based rates for that seller, or (2) by imposing rate caps for that seller in the relevant market (what it calls "mitigation").[153]

FERC's initial reaction to the problem of market power in dysfunctional markets was to try to tighten the conditions under which it granted the authority to charge market-based rates and to improve its ability to monitor and detect the acquisition of market power by sellers. In 2003, it adopted new conditions—called "market behavior rules"—applicable to any wholesale seller of electricity authorized to charge market-based rates.[154] Rule 2, in particular, prohibited "[a]ctions or transactions that are without a legitimate business purpose . . . [which] . . . foreseeably could manipulate market prices . . . ."[155] Next, FERC sought to strengthen the checks it used to determine whether a seller has market power, both before any grant of authority to charge market-based rates and afterward: in April 2004, the agency adopted new "market power screens" to assess generators' or sellers' market power.[156] The new screens examined not only a seller's market share, but also the question of whether it is a "pivotal supplier" within its geo-

---

[153] FERC can penalize and/or order refunds only when a seller's actions contradict the conditions under which it was granted authority to charge market-based rates. Indeed, most of the enforcement proceedings that arose out of the California crisis and resulted in refunds and penalties fell into this latter category. *See infra* notes 347–360 and accompanying text. The Energy Policy Act of 2005 added language making this authority more explicit. *See* 16 U.S.C. § 824e(e)(2).

[154] Order Amending Market-Based Rate Tariffs and Authorizations, Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations, 105 F.E.R.C. ¶¶ 61,218, 62,142 (Nov. 17, 2003), *reh'g denied*, 107 F.E.R.C. ¶ 61,175 (May 19, 2004) [hereinafter Market Behavior Rules].

[155] *Id.* ¶ 62,147. In its order finalizing the market behavior rules, FERC explained that a seller might be found to be in violation of the anti-manipulation restrictions contained in Rule 2 if it physically withheld capacity from the market "for the purpose of raising the sales price obtainable by other units participating in the market . . . ." *Id.* ¶¶ 62,147–48. The order was ambiguous when it came to the legality of merely capturing large scarcity rents in dysfunctional markets, like California's 2000–2001 electricity markets. The agency considered adopting a provision that would prohibit sellers from bidding such high prices into spot markets that the bid would act so as to raise the market clearing price. FERC rejected the adoption of that language, but expressly declined to rule that this kind of "economic withholding" does not constitute manipulation in violation of the market behavior rules. *Id.* ¶¶ 62,145, 62,155–56.

[156] *See* News Release, FERC, Commission Revises Interim Generation Market Power Screen and Mitigation Policy; Seeks Public Input on Future Market Power Rulemaking 1–2 (Apr. 14, 2004), http://www.ferc.gov/media/news-releases/2004/2004-2/04-14-04-market.pdf.

graphic markets during times of peak demand.[157] Later that same year, FERC took action to strengthen its ability to detect the acquisition of market power by requiring sellers to report changes in their market power status,[158] and began revoking the authority to charge market-based rates from sellers who could not satisfy the agency's new market power screens.[159]

Congress weighed in on the question of how to police competition in energy markets with the passage of the Energy Policy Act of 2005. Sections 315 and 1283 of the public law amended the FPA and NGA, respectively, and directed FERC to adopt an approach to regulating energy markets that focuses on fraud, and prohibits the use of "any manipulative or deceptive device or contrivance"[160] by market participants. This language was explicitly borrowed from section 10(b) of the Securities and Exchange Act of 1934.[161] The statute also incorporated into the new regulatory regime the same scienter requirements found in the securities laws.[162] In early 2006, FERC issued its Order 670,[163] making it illegal to "use or employ any device, scheme, or artifice to defraud" or to engage in "any act, practice, or course of business that operates or would operate as a fraud or deceit upon any entity" in connection with the purchase or sale of energy subject to FERC jurisdiction.[164] FERC indicated that it would incorporate case law interpreting

---

[157] *Id.* This screen was aimed directly at the problem that arose in California: namely, the ability of sellers who did not engage in manipulation or withholding of supply to command very high rates for their power simply because of scarcity and the price inelasticity of demand. *See id.*

[158] Reporting Requirement for Changes in Status for Public Utilities with Market-Based Rate Authority, Order No. 652, 70 Fed. Reg. 8253, 8253–54 (FERC Feb. 10, 2005) (to be codified at 18 C.F.R. pt. 35).

[159] *See* News Release, FERC, Commission Acts on Market-Based Rate Filings, Advances New Market Oversight Policy (Dec. 15, 2004), http://www.ferc.gov/media/news-releases/2004/2004-4/12-15-04-mbr.pdf (ordering companies that failed the indicative screens to file a delivered price test, propose case-specific market power mitigation, or accept default cost-based rates and file cost support for those rates).

[160] Energy Policy Act of 2005, Pub. L. No. 109-58, § 315, 119 Stat. 594, 691 (codified as amended at 15 U.S.C. § 717c-1 (2006)); § 1283, 119 Stat. at 979–80 (codified as amended at 16 U.S.C. § 824v (2006)).

[161] 15 U.S.C. § 78j(b) (2006).

[162] Like section 10(b) of the Securities Exchange Act, sections 315 and 1283 of the Energy Policy Act of 2005 criminalize "willful and knowing" violations. *See* 15 U.S.C. § 717c-1; 16 U.S.C. § 824v.

[163] Prohibition of Energy Market Manipulation, Order No. 670, 71 Fed. Reg. 4244, 4246 (FERC Jan. 19, 2006) (to be codified at 18 C.F.R. pt. 1c).

[164] 18 C.F.R. § 1c.2 (2011).

section 10(b) and Rule 10b-5[165] into its understanding of this new rule, where appropriate and relevant.[166]

This new language seems to exclude from its coverage the mere use of innocently acquired market power (in dysfunctional markets like California's 2000–2001 markets) to capture scarcity rents (no matter how dysfunctional the market), and raised the question of whether physical withholding or economic withholding would be covered by the rule. FERC answered some of these questions shortly after issuing Order 670 when it rescinded Rule 2 of its market behavior rules. FERC specifically rejected the notion that Rule 2 had been aimed at curbing market power or at anticompetitive conduct not involving deception and fraud:

> [M]arket power is a structural issue to be remedied, not by behavioral prohibitions, but by processes to identify and, where necessary, mitigate market power that a tariff applicant may possess or acquire. This occurs in the screening process before the Commission grants an application for market-based rate authority, on consideration of changes in the seller's status or operations, and in the triennial review of market-based rate authorization . . . .[167]

The language in Order 670 addressing fraud and manipulation does cover many of the other forms of anticompetitive conduct witnessed in the California markets, including the use of wash trades, the artificial creation and relief of transmission congestion, various forms of collusion, and the submission of false information.[168]

Since the implementation of this new approach borrowed from securities regulation, FERC has continued to scrutinize market conditions in electric and gas markets,[169] and has revoked some sellers' au-

---

[165] 17 C.F.R. § 240.10b-5 (2011).

[166] *See* News Release, FERC, Commission Finalizes Rule Barring Market Manipulation 2 (Jan. 19, 2006), http://www.ferc.gov/media/news-releases/2006/2006-1/01-19-06-M-1.pdf.

[167] FERC, Docket No. EL06-16-000, Order Revising Market-Based Rate Tariffs and Authorizations, Investigation of the Terms and Conditions of Public Utility Market-Based Rate Authorizations 10 (Feb. 16, 2006), http://www.ferc.gov/whats-new/comm-meet/021606/E-4.pdf. As the excerpt implies, sellers are required to notify the agency of changes in their status, meaning changes that implicate the extent to which they can exert market power. FERC also engages in a separate triennial review of firms' markets and market power. *See id.* at 10, 21.

[168] *See* Prohibition of Energy Market Manipulation, Order No. 670, 71 Fed. Reg. at 4254.

[169] Specifically, on June 21, 2007, FERC issued its Order 697, which fine-tuned its approach to preventing and detecting market power and other anticompetitive practices in electricity markets. Market-Based Rates for Wholesale Sales of Electric Energy, Capacity

thority to charge market-based rates.[170] In 2007, FERC and the CFTC began to coordinate their efforts to manage enforcement in energy markets.[171] The agencies brought a coordinated enforcement action against Amaranth, a hedge fund charged with manipulating the price of NYMEX natural gas futures in order to influence the settlement prices on other contracts it held.[172] That case was settled in 2009 for $7.5 million.[173] The CFTC brought additional actions against the following entities: (1) BP for attempting to corner the propane market, resulting in the imposition of a $303 million fine and deferred criminal prosecution by the U.S. Department of Justice;[174] (2) ConAgra Trade Group for false reporting of trades on the NYMEX crude oil exchange, a case that was settled for $12 million;[175] and (3) Cantor Fitzgerald for fraudulent wash sales in gasoline markets, which was settled with the payment of a $100,000 fine.[176] In another enforcement action, FERC charged Energy Transfer Partners with attempts to manipulate the price of natural gas traded at the Houston Ship Channel.[177] The case was settled, and En-

---

and Ancillary Services by Public Utilities, Order No. 697, 72 Fed. Reg. 72,239, 72,242 (FERC Dec. 20, 2007) (to be codified at 18 C.F.R. pt. 35).

[170] *See, e.g.*, News Release, FERC, Commission Revokes Companies' Market-Based Rates, Terminates 206 Proceeding for N.M. Utility's Control Area (Apr. 20, 2006), http://www.ferc.gov/media/news-releases/2006/2006-2/04-20-06-E-12.pdf; News Release, FERC, Eight Companies' Market-Based Rate Authority Revoked, Six Others Put on Notice; SCE&G's Mitigation Conditionally Accepted, CLECO's Section 206 Proceeding Terminated (Feb. 16, 2006), http://www.ferc.gov/media/news-releases/2006/2006-1/02-16-06-eqr.pdf.

[171] After the passage of the Energy Policy Act of 2005, the CFTC and FERC signed a memorandum of understanding aimed at coordinating their regulation of energy markets. News Release, FERC, FERC Chairman Kelliher and CFTC Chairman Jeffery Sign MOU on Information Sharing, Confidentiality (Oct. 12, 2005), http://www.ferc.gov/media/news-releases/2005/2005-4/10-12-05.pdf.

[172] *See* Press Release, CFTC, U.S. Commodity Futures Trading Commission Charges Hedge Fund Amaranth and Its Former Head Energy Trader, Brian Hunter, with Attempted Manipulation of the Price of Natural Gas Futures (July 25, 2007), http://www.cftc.gov/PressRoom/PressReleases/pr5359-07.

[173] *See* Press Release, CFTC, Amaranth Entities Ordered to Pay a $7.5 Million Civil Fine in CFTC Action Alleging Attempted Manipulation of Natural Gas Futures Prices (Aug. 12, 2009), http://www.cftc.gov/PressRoom/PressReleases/pr5692-09 [hereinafter Amaranth]; News Release, FERC, FERC Approves $7.5 Million Civil Penalty in Amaranth Case (Aug. 12, 2009), http://www.ferc.gov/media/news-releases/2009/2009-3/08-12-09.pdf.

[174] *See* Press Release, CFTC, BP Agrees to Pay a Total of $303 Million in Sanctions to Settle Charges of Manipulation and Attempted Manipulation in the Propane Market (Oct. 25, 2007), http://www.cftc.gov/PressRoom/PressReleases/pr5405-07.

[175] ConAgra Trade Grp., Inc. C.F.T.C. Docket No. 10-14, at 3–5 (Aug. 16, 2010).

[176] Cantor Fitzgerald & Co., C.F.T.C. Docket No. 11-08, at 3–6 (Feb. 22, 2011).

[177] *See* FERC, Fact Sheet, Docket No. IN06-3-002, Energy Transfer Partners, L.P., et al. (ETP) (2007), http://www.ferc.gov/media/news-releases/2007/2007-3/07-26-07-etp-fs.pdf.

ergy Transfer Partners agreed to pay a total of $30 million in fines and other costs.[178]

Meanwhile, in organized electricity markets, FERC has enlisted the ISOs and RTOs to monitor these markets and detect the existence of market power in individual firms, with FERC oversight.[179] Those market monitoring efforts focus not only on the spot price of electricity, but also on electric transmission capacity markets and new ISO/RTO-operated markets for new electric generating capacity.[180] FERC also monitors markets for the physical delivery of natural gas and for natural gas transmission capacity.

C. *Oil and Gas Prices and Derivatives Markets*

As the litigation produced by the California crisis was wending its way toward a conclusion, prices in crude oil markets were climbing steadily, eventually reaching unprecedented levels in 2007 and early 2008, before falling precipitously later that year. Figure 1 summarizes the bumpy trajectory of oil prices over the last decade.

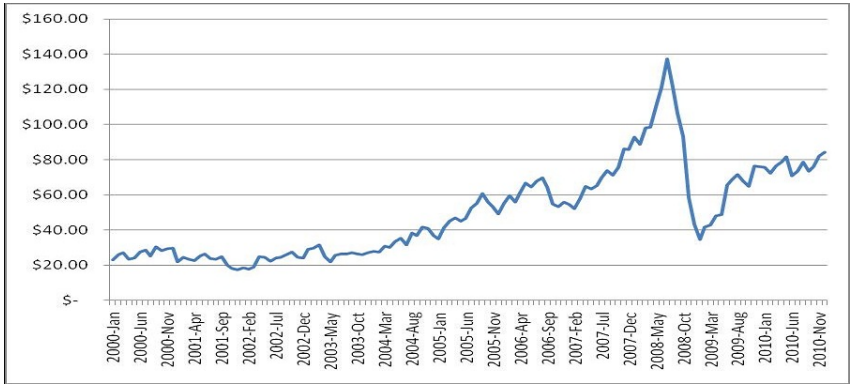

Figure 1: Monthly Oil Prices, 2000–2010 ($/barrel)[181]

---

[178] *See* News Release, FERC, FERC Approves Record $30 Million Settlement in ETP Market Manipulation Case (Sept. 21, 2009) [hereinafter Market Manipulation Case], http://www.ferc.gov/media/news-releases/2009/2009-3/09-21-09.pdf.

[179] Wholesale Competition in Regions with Organized Electric Markets, Order No. 719, 73 Fed. Reg. 64,100, 64,101–02 (FERC Oct. 28, 2008) (to be codified at 18 C.F.R. pt. 35).

[180] These so-called "capacity markets" were created by some transmission organizations to try to provide additional incentives for the construction of new generating capacity. For a description of the New York ISO's capacity markets, see *About NYISO: The Capacity Market*, N.Y. Indep. Sys. Operator, http://www.nyiso.com/public/about_nyiso/understanding_the_markets/capacity_market/index.jsp (last visited Dec. 2, 2011).

[181] *Spot Prices for Crude Oil and Petroleum Products*, U.S. Energy Info. Admin., http://www.eia.gov/dnav/pet/pet_pri_spt_s1_w.htm (click "download series history," which opens excel spreadsheet, and then click "Data 1") (last updated Dec. 14, 2011).

Natural gas prices did not experience quite so steady and drastic a rise, but were characterized by high peaks and considerable volatility over the same period. Indeed, natural gas prices have been notoriously volatile since their deregulation under the NGPA. This is because there is more variation in the seasonal demand for natural gas, storage opportunities are limited,[182] and consumer price elasticities of demand for natural gas are low,[183] particularly where gas is used for home heating. Figure 2 shows that winter peak prices did indeed spike to very high levels in the years prior to the oil price crash in 2008.

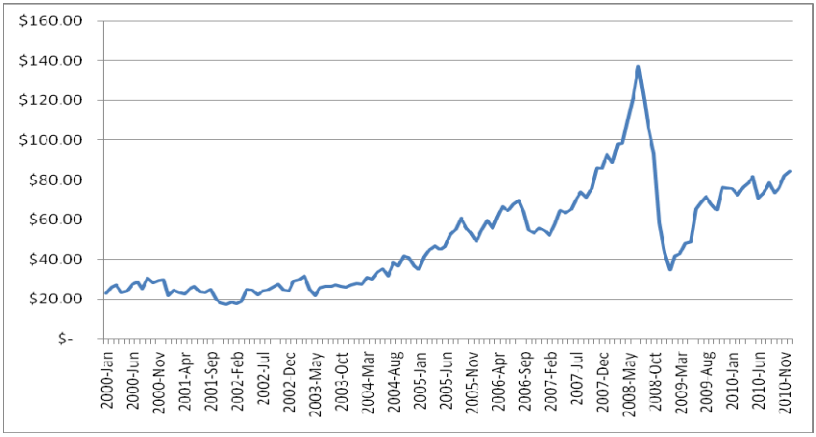

Figure 2: Monthly Price of Natural Gas at Henry Hub ($/million Btu)[184]

What accounts for this price behavior? Were these price increases driven primarily by the forces of supply and demand? Or were these increases driven more by the participation of banks and other "non-commercial" traders in energy markets? Were speculators or other sophisticated traders manipulating these markets so as to take profits at the expense of energy companies and, ultimately, energy consumers?[185]

---

[182] *See* Bailey, *supra* note 83, § 5.01[2].

[183] For studies estimating the price elasticity of energy demand, see generally Steven H. Wade, *Price Responsiveness in the AEO2003 NEMS Residential and Commercial Buildings Sector Models*, U.S. Energy Info. Admin., http://www.eia.doe.gov/oiaf/analysispaper/elasticity/ (last visited Nov. 21, 2011).

[184] Dow Jones & Co., *Natural Gas Price Index: Henry Hub, LA—10 Year Chart*, Forecast-Chart.com, http://www.forecast-chart.com/chart-natural-gas.html (last updated Nov. 28, 2011).

[185] There is some disagreement over the proper definition of "speculators" or "speculation" in this context. The CFTC applies the term "noncommercial" to all forms of participation by parties who are not actually attempting to hedge price risk. Others would distinguish between those who arbitrage the difference between concurrent prices in two distinct markets and those who are speculating on future price (neither hedging nor arbi-

Prompted by the concerns of constituents, Congress held hearings to investigate the run-up in energy prices prior to the 2008 crash.[186] In those hearings, witnesses and committee members expressed concerns that oil industry mergers had permitted oil companies to exert market power over oil and gas prices,[187] and that the participation of speculators in energy markets may be driving prices to "artificially" high levels.[188] In one hearing, the subcommittee chairman made specific mention of the cases brought against BP, Amaranth, and Energy Transfer Partners, noting that it was "Enron all over again."[189] Congress's suspicion of the role of speculators in driving up energy prices was fed by a 2006 Senate report concluding that extensive participation by noncommercial entities in oil and gas futures markets was playing a significant role in propping up demand, and therefore prices, in physical energy markets.[190]

---

traging). In 1982, the CFTC reports began classifying entities in the futures markets as either commercial or noncommercial traders. Commercial traders were those that had commercial activity or physical dealing with the underlying commodity and faced price risks in cash markets that were hedged in futures markets. Noncommercial traders, or speculators, were those who took an opposite position to commercial traders. CFTC, Staff Report on Commodity Swap Dealers & Index Traders with Commission Recommendations 1–2 (2008) [hereinafter Staff Report on Commodity Swap Dealers], *available at* http://www.loe.org/images/content/080919/cftcstaffreportonswapdealers09.pdf. Since September 2009, the CFTC's Commitment of Traders Report has separated traders into four categories rather than classifying them as either commercial or noncommercial. Commercial traders are now split between "traditional" commercials (oil dealers, energy producers, refiners, and merchants, etc.) and commodity swap dealers, which includes most commodity index traders. Noncommercial traders are now split into managed money traders (hedge funds) and "other non-commercial traders" that have reportable positions. Bahattin Büyükşahin & Michel A. Robe, Does "Paper Oil" Matter? Energy Markets' Financialization and Equity-Commodity Co-Movements 9–10 (Feb. 15, 2011) (unpublished manuscript), *available at* http://www.iadb.org/document.cfm?id=35779678.

[186] In convening a hearing before the House of Representatives Committee on Energy and Commerce, Subcommittee on Oversight and Investigations, Chairman Bart Stupak acknowledged that the hearing was driven by the concerns of constituents, noting, "I was at a funeral last Saturday, and when the monsignor greeted me, he said, 'My God, Bart, you have to do something about these gas prices.'" *Gasoline Prices, Oil Company Profits and the American Consumer: Hearing Before the Subcomm. on Oversight & Investigations of the H. Comm. on Energy & Commerce*, 110th Cong. 1 (2007) (statement of Bart Stupak, Chairman).

[187] *Id.* at 13, 74.

[188] *See Energy Speculation: Is Greater Regulation Necessary to Stop Price Manipulation?: Hearing Before the Subcomm. on Oversight & Investigations of the H. Comm. on Energy & Commerce*, 110th Cong. 3 (2007) (statement of Bart Stupak, Chairman) [hereinafter *Energy Speculation*].

[189] *Id.* at 3–4.

[190] Staff of Permanent Subcomm. on Investigations, S. Comm. on Homeland Sec. & Gov't Affairs, 109th Cong., The Role of Market Speculation in Rising Oil and Gas Prices: A Need to Put the Cop Back on the Beat 2 (Comm. Print 2006) (reproduced in *Energy Speculation*, *supra* note 188, at 218).

Certainly, there is a relationship between derivatives markets and physical markets. When an energy derivative contract culminates in the execution of a sale on spot markets, that sale takes place at the contract price. Likewise, if commercial traders see futures prices going up, that may influence the amount they are willing to pay or demand for energy in spot markets. In this way, derivatives prices can influence spot market prices. Theoretically, however, a trader's success in the derivatives market ought to be a function of how well that trader predicts future prices in physical markets. For every participant betting on a price increase in the future, there is a corresponding counterparty betting on a decrease. In this way, over the long run, the forces of supply and demand in the physical markets ought to discipline futures markets—not the other way around. It is at least conceptually possible, however, that the participation of noncommercial traders in futures markets could overwhelm market fundamentals in either of two ways. First, as we have noted, traders could try to distort prices by reporting fraudulent trades or attempting to corner the market. Second, noncommercial traders could become irrationally exuberant about energy commodities: that is, they could be attracted to the market based upon an irrational or inaccurate understanding of market fundamentals, thereby distorting prices.[191] Indeed, the increase in energy prices prior to the 2008 collapse corresponded to a significant increase in participation by noncommercial traders in futures markets,[192] leading to the inference that those traders may have contributed to the increase. In the words of one former oil trader and CNBC contributor, "a good trader never bothers much with what the asset he is trading is truly worth—the only thing that matters is that he can sell it to someone else for more than what he paid," and the "dumb money" was chasing energy prior to 2008.[193]

There is substantial evidence that speculative bubbles can persist in markets:[194] behavioral finance[195] and behavioral economics[196] have pro-

---

[191] This kind of participation by noncommercial traders would only distort prices if the exuberance or error was predominantly in one direction or the other—that is, if these traders were predominately betting on either a price increase or a price decrease. For example, if most new investors who were attracted to oil futures markets were convinced (incorrectly) that the price of oil in future spot markets was likely to grow at a substantial rate, their sustained participation in futures markets could push prices in those markets beyond levels explained by underlying supply and demand for oil.

[192] *See* Trends in Energy Derivatives, *supra* note 122, at 18 fig.3.

[193] Dan Dicker, Oil's Endless Bid: Taming the Unreliable Price of Oil to Cure Our Economy 66–74, 165 (2011).

[194] *See, e.g.*, J. Bradford De Long et al., *Noise Trader Risk in Financial Markets*, 98 J. Pol. Econ. 703, 735 (1990) (concluding that "noise trading can lead to a large divergence between market prices and fundamental values"); Andrei Shleifer & Robert W. Vishny, *The*

duced theories that help explain why bubbles can be sustained over time, even in supposedly efficient markets.[197] One theory, which is based in large part upon the representativeness heuristic established by Daniel Kahneman and Amos Tversky,[198] is that bubbles arise because investors extrapolate past outcomes too far into the future, believing that excellent past performance will continue indefinitely.[199] This error may be compounded by groupthink,[200] as "[c]ontagious 'exuberance'

Limits of Arbitrage, 42 J. Finance 35, 54 (1997) (concluding that when prices diverge from fundamental values there are often many limitations that prevent arbitrageurs from effectively profiting from that gap, meaning that bubbles may persist). Milton Friedman has argued that speculative bubbles are impossible because people who buy high and sell low would be quickly wiped out. Milton Friedman, *The Case for Flexible Exchange Rate*, *in* Essays in Positive Economics 157 (1953). A commentator has observed that Friedman's view "points to a sheltered existence." John Plender, *On Bubbles, Balzac and the Dismal Science*, Fin. Times (London), Dec. 27, 2004, at 18.

[195] *See, e.g.*, Hersh Shefrin, Beyond Greed and Fear: Understanding Behavioral Finance and the Psychology of Investing 299–308 (2000); Lars Tvede, The Psychology of Finance 108–12 (1999); 2 Advances in Behavioral Finance 424 (Richard H. Thaler, ed., 2005).

[196] *See, e.g.*, Richard H. Thaler, Quasi-Rational Economics, at xi–xxii (1991); Advances in Behavioral Economics 3–14 (Colin Camerer et al. eds. 2004); Behavioral Economics and Its Applications 1–6 (Peter Diamond & Hannu Vartiainen eds., 2007).

[197] Behavioral economics and behavioral finance represent applications of behavioral psychology principles to economic behavior. *See generally* Choices, Values, and Frames (Daniel Kahneman & Amos Tversky eds., 2000) (discussing several major theories of decision-making behavior); Heuristics & Biases (Thomas Gilovich et al. eds, 2002) (discussing the theory of judgment based on simplified heuristics); Research on Judgment and Decision Making: Currents, Connections, and Controversies (William M. Goldstein & Robin M. Hogarth eds., 1997) (discussing the intellectual foundation of several research traditions in the study of judgment and decision making).

[198] Pursuant to the representativeness heuristic, people tend to extrapolate too much from a small sample size, especially if the sample is salient to them. Thus, someone might believe that if Google stock has outpaced the stock market for the past two years, it will continue to do so, well into the future. *See* Scott Plous, The Psychology of Judgment and Decision Making 109–20 (1993) (describing the "representativeness heuristic").

[199] *See, e.g.*, Nicholas Barberis & Andrei Shleifer, *Style Investing*, 68 J. Fin. Econ. 161, 190 (2003) (arguing that asset "[p]rices deviate substantially from fundamental values as [investment] styles become popular or unpopular"); Nicholas Barberis, Andrei Shleifer & Robert Vishny, *A Model of Investor Sentiment*, 49 J. Fin. Econ. 307, 308–09 (1998) (relying on the representativeness heuristic to suggest that "investors might classify some stocks as growth stocks based on a history of consistent earnings growth, ignoring the likelihood that there are very few companies that just keep growing[,]" and also relying on the "conservatism" principle to suggest that investors update their beliefs very slowly in the face of new evidence); Josef Lakonishok, Andrei Shleifer & Robert W. Vishny, *Contrarian Investment, Extrapolation, and Risk*, 49 J. Finance 1541, 1551, 1564, 1574 (1994) (noting evidence that people often do not understand reversion to the mean and therefore believe that stocks that have performed above average in the past will continue to do so, and that this consistent overestimation can persist for a long time).

[200] David Tuckett, *Addressing the Psychology of Financial Markets*, Economics: The Open-Access, Open-Assessment E-Journal, Nov. 20, 2009, at 1–3, http://www.economics-

can . . . seize asset markets, leading to evidence-resistant investment frenzies."[201] Another theory is based on the notion of overconfidence, which is well established in human decision making generally[202] and in investing behavior specifically.[203] The notion here is that when investors research a stock or asset, they tend to overvalue the private information that they generate and undervalue the public information that comes from the market.[204] As they profit during a rising market, investors may become more and more confident. Attribution errors or biases lead people to think that their investment successes are due to their own abilities.[205] These investors may completely change the way they think about themselves "so that their self-esteem [is] promoted by a sense that they [are] smart investors."[206] Their subsequent decision making, then, can be based on how their mind frames the circumstances.[207] For ex-

---

ejournal.org/economics/journalarticles/2009-40 (for PDF, click "Download (pdf, 165.1 kB)"). Groupthink involves, in part, cohesive groups (such as investors sharing belief in a particular strategy) reinforcing each others' thinking and ignoring negative information by viewing the deliverers of bad news as people who "just don't get it." *See* IRVING L. JANIS, VICTIMS OF GROUPTHINK: A PSYCHOLOGICAL STUDY OF FOREIGN-POLICY DECISIONS AND FIASCOES 1–5 (1972).

[201] Roland Bénabou, *Groupthink: Collective Delusions in Organizations and Markets* 1 (Nat'l Bureau of Econ. Research, Working Paper No. 14764, 2008).

[202] *See* PLOUS, *supra* note 198, at 222–27.

[203] *See* MAX. H. BAZERMAN, JUDGMENT IN MANAGERIAL DECISION MAKING 138–40 (7th ed. 2009) (citing several research studies analyzing the success of various investment strategies); *see also* ROBERT J. SHILLER, IRRATIONAL EXUBERANCE 145 (2000) ("Overconfidence in judgments can at times influence people to believe that they know when a market move will take place, even if they generally believe as an intellectual matter that stock prices are not forecastable.").

[204] *See* Kent Daniel, David Hirshleifer & Avanidhar Subrahmanyam, *Investor Psychology and Security Market Under- and Overreactions*, 53 J. FINANCE 1839, 1865–66 (1998) (creating models to explain why investors sometimes overreact to new information and other times underreact).

[205] *See generally* Kent Daniel et al., A Theory of Overconfidence, Self-Attribution, and Security Market Under- and Over-reactions (Feb. 19, 1997) (unpublished manuscript), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2017 (analyzing self-attribution bias by investors).

[206] GEORGE A. AKERLOF & ROBERT J. SHILLER, ANIMAL SPIRITS: HOW HUMAN PSYCHOLOGY DRIVES THE ECONOMY, AND WHY IT MATTERS FOR GLOBAL CAPITALISM 154 (2009); SHILLER, *supra* note 203, at 44, 60–64, 67 (describing bubbles as "naturally occurring Ponzi schemes" in that overconfident investors' initial success brings more irrationally exuberant investors into the market); *see also* MITCHELL ZUCKOFF, PONZI'S SCHEME: THE TRUE STORY OF A FINANCIAL LEGEND 113–14 (2005).

[207] *See* BAZERMAN, *supra* note 203, at 46–58 (regarding framing effects generally). *See generally* Richard H. Thaler, *Mental Accounting Matters*, 12 J. BEHAV. DECISION MAKING 183 (1999) (explaining how money is not completely fungible in human decision making and how humans often make different decisions based upon which "pocket" they view the money as belonging in; for example, they are more likely to spend frivolously if the money was won in a lottery than if it was earned by their labors).

ample, gamblers in Las Vegas who have just won money are more likely to take riskier bets than gamblers who have just lost money;[208] similarly, investors who have done well investing in a stock or asset feel like their profits are "house money" and they are more likely to take risks continuing to invest in that stock or asset thereby bidding it up to further heights.[209] A single bias such as overconfidence can get most noise traders pointing in a single direction;[210] alternatively, other investors may know intellectually that the asset must be overvalued, but they anticipate nevertheless that the values will continue to rise based on their understanding of others' views.[211] All of these phenomena can exacerbate bubbles.

Nonetheless, many of the studies of the 2003–2008 energy market price spikes concluded that price increases were driven primarily by the forces of supply and demand. In July 2008, a special task force convened by the CFTC published its analysis of crude oil prices, concluding that "there is no statistically significant evidence that the position changes[212] of any category or subcategory of traders systematically af-

---

[208] *See generally* Richard H. Thaler & Eric J. Johnson, *Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice*, 36 Mgmt. Sci. 643 (1990) (demonstrating "house money" effects).

[209] *See, e.g.*, Nicholas Barberis, Ming Huang & Tano Santos, *Prospect Theory and Asset Prices*, Q.J. Economics 1, 2, 4, 48 (2001) (proposing, consistent with Kahneman and Tversky's prospect theory, that people who have been successful in their investing will become less risk averse, and noting that Kahneman and Tversky's model's predictions "exhibit phenomena very similar to what has been observed in historical data").

[210] *See* Andrei Shleifer, Inefficient Markets: An Introduction to Behavioral Finance 173–74 (2000). There is evidence that less experienced investors may be more prone to some of these investing errors that lead to bubbles than are more experienced investors. *See* Robin Greenwood & Stefan Nagel, Inexperienced Investors and Bubbles 2–3, 27 (June 9, 2008) (unpublished manuscript), *available at* http://ssrn.com/abstract=963050. That said, there is also plenty of evidence that experts are just as prone as nonexperts to many of the heuristics and biases that plague human attempts at rational decision making, such as overconfidence. *See* Robert A. Prentice, *Chicago Man, K-T Man, and the Future of Behavioral Law and Economics*, 56 Vand. L. Rev. 1663, 1726–29 (2003).

[211] Ravi Dhar & William N. Goetzmann, *Bubble Investors: What Were They Thinking?* 28–30 (Yale Int'l Ctr. for Fin., Working Paper No. 06-22, 2006), *available at* http://ssrn.com/abstract=683366 (based on surveys of investors during the dot.com boom). This is a so-called rational bubble, but usually the participants irrationally believe that they can be the last person off the ship before it sinks. For example, a London banker justified his participation in the South Sea Bubble by explaining that "when the rest of the world are [sic] mad, we must imitate them [sic] in some measure." John Carswell, The South Sea Bubble 161 (1960).

[212] In commodities trading parlance, a "position" is the type and size of the trader's holdings in a particular derivative. For example, a trader who has purchased futures based on the expectation that prices will go up (the right to purchase the commodity at a price certain in the future) is said to have taken a "long position." One who purchases futures on the expectation that prices will go down (the right to sell the commodity price at a

fect prices,"[213] and that price increases prior to the 2008 crash were "largely due to fundamental supply and demand factors."[214] Those basic conclusions were echoed in studies by the Brookings Institution,[215] and the GAO.[216] These studies noted that over the relevant period, the growth in demand for oil outpaced growth in supply,[217] and spare production capacity shrunk.[218] Some pointed to the price (in)elasticity of demand for oil as an exacerbating factor.[219] Inventories declined during the relevant period, further implying market-driven prices.[220] Furthermore, the American dollar, the currency in which oil prices are typically denominated, lost value during this period,[221] which contributed to the price increase. The 2008 fall in oil prices also corresponded with an economic downturn, further supporting the connection between demand for the physical product and its price.[222] The GAO's analysis of this issue is fairly typical: citing the collective wisdom of the CFTC, FERC, investment banks, and others. The GAO seems to conclude that it was very unlikely that a speculative bubble could be sustained for a

---

price certain in the future) is said to have taken a "short position." Either position can be large (high-volume) or small (low-volume).

[213] Interagency Task Force on Commodity Mkts., Interim Report on Crude Oil 31 (2008) [hereinafter ITF Interim Report], *available at* http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/itfinterimreportoncrudeoil0708.pdf.

[214] *Id.* at 3.

[215] James D. Hamilton, *Causes and Consequences of the Oil Shock of 2007–08*, Brookings Papers on Econ. Activity, Spring 2009, at 215, 225–34, *available at* http://www.brookings.edu/~/media/Files/Programs/ES/BPEA/2009_spring_bpea_papers/2009a_bpea_hamilton.pdf.

[216] Trends in Energy Derivatives, *supra* note 122, at 19.

[217] *Id.* at 21 (citing unspecified data from the EIA); ITF Interim Report, *supra* note 213, at 11–13; Hamilton, *supra* note 215, at 225–34.

[218] Trends in Energy Derivatives, *supra* note 122, at 21; ITF Interim Report, *supra* note 213, at 11–13; Hamilton, *supra* note 215, at 225–28.

[219] ITF Interim Report, *supra* note 213, at 14; Hamilton, *supra* note 215, at 228–34.

[220] Ricardo J. Caballero, Emmanuel Farhi & Pierre-Olivier Gourinchas, *Financial Crash, Commodity Prices, and Global Imbalances*, Brookings Papers on Econ. Activity, Fall 2008, at 1, 11, *available at* http://www.brookings.edu/~/media/Files/Programs/ES/BPEA/2008_fall_bpea_papers/2008b_bpea_caballero.pdf; *see also* ITF Interim Report, *supra* note 213, at 4.

[221] Trends in Energy Derivatives, *supra* note 122, at 21; ITF Interim Report, *supra* note 213, at 14–15; Kenneth B. Medlock, III & Amy Myers Jaffe, *Who Is in the Oil Futures Market and How Has It Changed?* 15–17 (James A. Baker Inst. for Pub. Policy, Rice Univ., Working Paper, Aug. 26, 2009) (arguing that investors were attracted to oil-linked index funds as a way to escape the declining value of the dollar, causing a "vicious cycle" in which "continually rising oil prices feed the US trade deficit").

[222] After using a mathematical model to analyze speculators' likely role, one author concludes that speculators may have had a role, but did not play the *central* role, in the price increases. Hamilton, *supra* note 215, at 234–40.

period of time sufficient to explain the long climb in prices leading up to the 2008 crash.[223]

None of these studies entirely discounted the effects of the participation of noncommercial traders, however.[224] To the contrary, most noted how difficult it is to determine true underlying demand in the midst of a bubble. There were dissenters who ascribed a larger role to speculators and speculation in driving up energy prices.[225] Significantly, price spikes provoked a broader discussion about derivatives markets generally, and led many in the energy policy community to conclude that there was, indeed an ongoing potential for manipulation of those markets, at least in the short-term due to gaps in the regulatory regime. Consequently, Congress took a series of steps to close those gaps, in part by embracing once again the securities regulation approach for energy markets.

The Energy Independence and Security Act of 2007 (EISA), addressed manipulation of petroleum markets in much the same way Congress had earlier addressed manipulation of electric and gas markets: namely, by prohibiting the use of any "manipulative or deceptive device or contrivance" in wholesale petroleum transactions,[226] and prohibiting "false or misleading" reporting of information about wholesale

---

[223] *See* Trends in Energy Derivatives, *supra* note 122, at 21–24; *see also* Hamilton, *supra* note 215, at 240; James D. Hamilton, *Understanding Crude Oil Prices* 14–16 (Univ. of Cal. Energy Inst., Working Paper, June 2008) (paper on file with authors) (noting that an ongoing speculative price bubble would have to be matched by an unsustainable continuous inventory accumulation or cuts in production, in which case one might better attribute the price increase to the reduced supply). *But cf. Energy Speculation*, *supra* note 188, at 15 (testimony of Michael Greenberger, law professor) (seeming to endorse the conclusions of a Senate staff report that noncommercial traders have used trading in exempt OTC markets to "drive up needlessly the price of energy commodities over what economic fundamentals dictate"); Medlock & Jaffe, *supra* note 221, at 11–12 (arguing that, after January 2006, levels of noncommercial participation in futures markets became a leading indicator of price, and that lags in supply increases can allow speculative bubbles to persist, "at least for short periods of time").

[224] "[T]he speed and magnitude of the price collapse leads one to give serious consideration to the alternative hypothesis that this episode represents a speculative price bubble that subsequently popped." Hamilton, *supra* note 215, at 16. An energy analyst also ascribes the price increases of the early 2000s to supply-demand imbalances. *See* Daniel Yergin, The Quest: Energy, Security, and the Remaking of the Modern World 160–62 (2011).

[225] *See, e.g.*, FERC, 2008 State of the Markets Report 6–9, 25–33 (2009), *available at* http://www.ferc.gov/market-oversight/reports-analyses/st-mkt-ovr/2008-som-final.pdf (concluding that "[p]hysical fundamentals alone cannot explain natural gas prices," and pointing to the participation of speculators (though not "manipulation") as a driver of prices).

[226] 42 U.S.C. § 17301 (Supp. III 2010).

petroleum transactions, including price information.[227] Next, Congress closed part of the Enron loophole in its May 2008 farm bill, subjecting OTC trading of formerly exempt energy derivatives on electronic trading facilities to CFTC regulation.[228] This brought forward contracts and other derivatives traded on the ICE within the CFTC's regulatory jurisdiction.[229]

Finally, in 2010, Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank"), Title VII of this Act closed what had become known as the "swaps loophole."[230] Prior to the legislation, swaps dealers had been selling investors contracts the returns of which were tied to (energy) commodity price indices, exposing the dealers to significant price risk. To hedge that risk, swaps dealers purchased exchange traded futures contracts in the corresponding commodities. Reasoning that swaps dealers in this instance were acting as hedgers—that is, that they needed to hedge commodity price risk (just as commercial traders do)—the CFTC and NYMEX had extended to swaps dealers the same exemptions from position limits that they extended to commercial traders.[231] This enabled noncommercial traders to speculate on energy prices in much larger volumes than they would have otherwise been able, but for the exemptions. Dodd-Frank required standardized swaps to be traded on regulated exchanges, and directed the CFTC to set position limits and margin requirements[232] for swaps transactions.

The CFTC estimates that implementation of the requirements of Dodd-Frank will require many tens of rulemakings, only some of which

---

[227] *Id.* § 17302. The U.S. Federal Trade Commission has promulgated rules implementing this mandate. Prohibitions on Market Manipulation, 74 Fed. Reg. 40,686, 40,689–90 (FTC Aug. 12, 2009) (to be codified at 16 C.F.R. pt. 317).

[228] Food, Conservation, and Energy Act of 2008, Pub. L. No. 110-234, 122 Stat. 923 (to be codified at 7 U.S.C. § 8701).

[229] In fact, the CFTC had waived regulation of ICE trading through a series of no-action letters, based on the notion that United Kingdom rules already regulated that market. As a result, ICE began trading futures in West Texas intermediate crude, a so-called "look-alike" contract that was identical to the WTI contracts on NYMEX. Under pressure, however, the CFTC closed this so-called "London loophole" in 2008. *See* Press Release, CFTC, CFTC Conditions Foreign Access on Adoption of Position Limits on London Crude Oil Contract (June 17, 2008), http://www.cftc.gov/PressRoom/PressReleases/pr5511-08.

[230] Pub. L. No. 111-203, tit. VII, 124 Stat. 1376, 1641 (to be codified in scattered sections of 7, 15 U.S.C.).

[231] The CFTC imposes position limits—limits on the size (volume) of a position (long or short) that a trader can take. *See infra* note 235.

[232] In futures trading, "margins" are the good faith deposits required by an exchange to mitigate credit risk and facilitate the operation of the marketplace.

are underway.[233] The CFTC is proposing that swap dealers and major swap participants be required to register with the CFTC and be subject to the margin requirements, reporting, recordkeeping, and business conduct requirements established under section 4 of the CEA.[234] The CFTC has also proposed position limits[235] for traders, though swaps for bona-fide hedging are exempt from position limits.[236] In addition, the CFTC has proposed margin requirements for: (1) uncleared swaps entered into by major swap participants and swap dealers who are not banks when there is no prudential regulator imposing capital requirements and variation and (2) for swaps that are not cleared by clearing

---

[233] To view the CFTC's Dodd-Frank website, see *Dodd-Frank Act*, CFTC, http://www.cftc.gov/LawRegulation/DoddFrankAct/index.htm (last visited Dec. 2, 2011).

[234] Registration of Swap Dealers and Major Swap Participants, 75 Fed. Reg. 71,379, 71,380 (proposed Nov. 23, 2010) (to be codified at 17 C.F.R. pts. 3, 23, & 170). In its proposed definition of a "swap dealer," the CFTC has taken a functional approach—one that focuses on the dealer's relationship with counterparties. Further Definition of "Swap Dealer," "Security-Based Swap Dealer," "Major Swap Participant," "Major Security-Based Swap Participant," and "Eligible Contract Participant," 75 Fed. Reg. 80,174, 80,177 (proposed Dec. 21, 2010) (to be codified at 17 C.F.R. pts. 1 & 240). Similarly, the proposed definition of "major swap participant" focuses on the risk associated with the entity's swap and on market impacts. *Id.* at 80,185–86.

[235] Position Limits for Derivatives, 76 Fed. Reg. 4752, 4757, 4762 (proposed Jan. 26, 2011) (to be codified at 17 C.F.R. pts. 1, 150, 151). The CFTC will set "visibility reporting levels" for referenced energy contracts when it believes about twenty owners over a year would exceed these levels. *Id.* at 4761. Visibility levels for NYMEX Light Sweet Crude Oil and Henry Hub National Gas would be set at a lower level as the CFTC believes these are important to the national economy. *Id.* The CFTC's rules also require a trader who controls or holds positions in referenced contracts that exceed proposed visibility levels to submit more information concerning their derivatives and cash market activities in order to monitor positions for energy contracts for the market's largest traders. *Id.* at 4761.

[236] *Id.* at 4771. The CFTC's proposed rules define a bona fide hedging transaction as applied to all referenced contracts as one that:

> (i) Represents a substitute for transactions made or to be made or positions taken or to be taken at a later time in a physical marketing channel; (ii) Is economically appropriate to the reduction of risks in the conduct and management of a commercial enterprise; and (iii) Arises from the potential change in the value of—(A) Assets that a person owns, produces, manufactures, processes, or merchandises or anticipates owning, producing, manufacturing, processing or merchandising; (B) Liabilities that a person owns or anticipates incurring; or (C) Services that a person provides or purchases, or anticipates providing or purchasing; or (iv) Reduces risks attendant to a position resulting from a swap that . . . [w]as executed opposite a counterparty for which the transaction would qualify as a *bona fide* hedging transaction [in (i), (ii), or (iii) or meets the requirements of (i), (ii), or (iii)] . . . .

Id.

organizations.[237] Perhaps most importantly for energy markets, since the enactment of Dodd-Frank, the CFTC has also proposed additional rules on market manipulation that would subject end-users to disclosure requirements. Moreover, the CFTC has clarified that "reckless conduct" could constitute manipulation, and has explicitly prohibited "attempted price manipulation."[238]

III. Competition and Consumer Protection Under the New Regulatory Regime

The rise of more active and competitive energy markets begat more active and competitive energy derivatives markets. Because these two types of energy markets are interrelated, and because derivatives markets share some of the characteristics of securities markets, it is perhaps understandable that regulators would turn to securities regulation in their efforts to manage modern energy markets. Energy markets are still evolving, and the move to a securities regulation model is the latest in a series of steps aimed at fine-tuning those markets. It remains to be seen, however, whether this approach will be effective. Its logic is clear: free and competitive energy markets cannot realize the benefits of competition if they are being manipulated at the expense of consumers. Hence, the new regulatory model tries to combat manipulation and market power by focusing regulators' attention on fraud and deception in energy markets. In so doing, however, the new regulatory model may be diverting attention away from other ways in which market participants might acquire and use market power without using fraud or deceit. For example, market participants might corner or squeeze markets at the expense of consumers; or pivotal suppliers (particularly of electricity) might acquire and maintain market power, and subsequently capture scarcity rents over a sustained period of time. For these reasons, the new regime may not afford consumers as much pro-

---

[237] Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants, 76 Fed. Reg. 23,732, 23,733 (proposed Apr. 28, 2011) (to be codified at 17 C.F.R. pt. 23).

[238] Prohibiting of Market Manipulation, 75 Fed. Reg. 67,657, 67,659, 67,661 (proposed Nov. 3, 2010) (to be codified at 17 C.F.R. pt. 180). To satisfy the "recklessness" requirement, there must be a specific intent to defraud or manipulate, or to recklessly do so. *Id.* at 67,659. Negligence is not enough to fulfill this requirement. *Id.* Many commentators have raised concerns about whether or not recklessness is an appropriate standard. *See id.* To satisfy the "attempted" manipulation standard, the violator must intend to manipulate and commit "an overt act in furtherance of that intent." *Id.* at 67,660.

tection from the exercise of market power as did the traditional antitrust and public utility regimes.

A. *Corners, Manipulation, and Deceit*

1. Manipulation Under the Securities Laws

In patterning the energy market anti-manipulation rules after section 10(b) of the Securities Exchange Act of 1934 ("1934 Act") and Rule 10b-5, Congress followed well developed precedent.[239] Section 10(b) punishes any "manipulative or deceptive device or contrivance" in violation of SEC rules such as 10b-5. This Rule reads:

> It shall be unlawful for any person, directly or indirectly, by the use of any means or instrumentality of interstate commerce, or of the mails or of any facility of any national securities exchange,
>
> (a) To employ any device, scheme, or artifice to defraud,
>
> (b) To make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or
>
> (c) To engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security.[240]

Over the years, the vast majority of Rule 10b-5 cases have involved false statements or omissions of material fact—that is, violations of subsection (b) of Rule 10b-5.[241] This led to a focus on fraud and deception in enforcement of that section, which courts then carried over to subsections (a) and (c) of Rule 10b-5, including in cases that first and foremost involved manipulation.

---

[239] Congress borrowed the section 10(b) language from section 17(a) of the 1933 Securities Act. *See* Thomas Lee Hazen, The Law of Securities Regulation 442 (6th ed. 2009) ("Promulgated in 1942, Rule 10b-5 was patterned directly upon section 17(a) of the 1933 Act."). The Securities Act borrowed it from New York's Martin Act. Aaron v. SEC, 446 U.S. 680, 700 n.18 (1980). The Martin Act, in turn, borrowed the language from a federal mail-fraud statute enacted in 1872. Beth Israel Med. Ctr. v. Smith, 576 F. Supp. 1061, 1066 (S.D.N.Y. 1983).

[240] Employment of Manipulative and Deceptive Devices, 17 C.F.R. § 240.10b-5 (2011).

[241] *See* Robert A. Prentice, *Scheme Liability: Does It Have a Future After* Stoneridge*?*, 2009 Wisc. L. Rev. 351, 360.

In the 1976 case of *Ernst & Ernst v. Hochfelder*,[242] the Supreme Court wrote that manipulation "is and was virtually a term of art when used in connection with securities markets. It connotes intentional or willful conduct designed to deceive or defraud investors by controlling or artificially affecting the price of securities."[243] Thereafter, through a series of decisions, the Court repeatedly held that, in order to be manipulative, statements and conduct must be deceptive.[244] Lower courts have followed this precedent in manipulation cases, with the U.S. Court of Appeals for the Second Circuit observing that "[t]he gravamen of manipulation is deception of investors into believing that prices at which they purchase and sell securities are determined by the natural interplay of supply and demand, not rigged by manipulators."[245] The U.S. Court of Appeals for the Seventh Circuit has agreed, holding that "manipulation is a *kind* of fraud; deceit remains essential."[246]

Because of this tie between manipulation and deception, virtually all Rule 10b-5 manipulation cases have involved either false statements or what might be termed "false trading" (or both). The classic securities manipulation scheme involving false statements is the "pump-and-dump" scheme in which manipulators purchase shares of a company and then use false advertising or fake press releases to stimulate interest in its shares. These false representations pump up the market price; the manipulators then dump their shares at a quick profit.[247] For example, in *United States v. Moldofsky*, a 2002 case decided by the U.S. District Court for the Southern District of New York, the defendant bought shares of a company and then anonymously posted fake messages regarding the company on an investors' internet message board in an attempt to raise its stock price so that he could dump his shares for a quick profit.[248] Alternatively, a brokerage firm might quote excessive

---

[242] 425 U.S. 185, 199 (1976).

[243] *Id.* (citing WEBSTER'S INTERNATIONAL DICTIONARY (2d ed. 1934)).

[244] *See, e.g.*, Schreiber v. Burlington N., Inc., 472 U.S. 1, 6–7 (1985); Chiarella v. United States, 445 U.S. 222, 234–35 (1980); Santa Fe Indus., Inc. v. Green, 430 U.S. 462, 472 (1977).

[245] Gurary v. Winehouse, 190 F.3d 37, 45 (2d Cir. 1999).

[246] Foss v. Bear, Stearns & Co., 394 F.3d 540, 542 (7th Cir 2005).

[247] *See, e.g.*, United States v. Ware, 577 F.3d 442, 445 (2d Cir. 2009) (misleading press releases inflate share price); SEC v. Gordon, No. 09-CV-0061-CVE-FHM, 2009 U.S. Dist. LEXIS 66427, at *4 (N.D. Okla. July 28, 2009) (misrepresentations distributed to market in mass spam e-mails); SEC v. Sierra Brokerage Servs., 608 F. Supp. 2d 923, 935 (S.D. Ohio 2009) (internet touting campaign, posting numerous messages on online investor message boards).

[248] No. 00 CR. 388, 2002 U.S. Dist. LEXIS 19853, at *1–5 (S.D.N.Y. Oct. 21, 2002); *cf.* Varljen v. H.J. Meyers, Inc., No. 97 Civ. 6742, 1998 U.S. Dist. LEXIS 10493, at *3–6

prices for a company's stock in order to make it appear that there was demand where none existed.[249]

A manipulation claim based solely on misrepresentations or omissions would be a violation of subsection (b) of Rule 10b-5, but, as at least one court has held, not of subsections (a) and (c) because these sections require *actions.*[250] Those actions may involve false trades that give a misleading impression of market activity. The Supreme Court held in its 1977 decision in *Santa Fe Industries, Inc. v. Green*[251] that manipulation "refers generally to practices, such as wash sales, matched orders, or rigged prices, that are intended to mislead investors by artificially affecting market activity."[252] Examples of "false trades" include: (1) "bearding," whereby traders disguise their true interest in a security or create the appearance of heightened interest in the marketplace by using third parties to make trades on their behalf while hiding their involvement;[253] (2) wash sales of the kind made during the California energy crisis;[254] (3) "matched trades," whereby manipulators either trade shares amongst themselves, sometimes at escalating prices[255] or instigate two other parties to act as contra-parties to a trade to create the false appearance that there is real interest in the subject stock;[256] (4) rigged prices; and (5) "painting the tape" or "painting the close," which involves intensive trading near the end of the trading day for the purpose of setting the stock's ending price (and therefore its beginning price the next trading day) at an artificial level.[257] These maneuvers are

---

(S.D.N.Y. July 14, 1998) (finding manipulation where defendants made repeated false statements to customers, disseminated false information into the market regarding the value of stock, induced inexperienced brokers to sell large volumes of the subject company's shares to reluctant buyers, and refused to execute customers' sell orders); SEC v. Lorin, 877 F. Supp. 192, 196–97 (S.D.N.Y. 1995), *aff'd in part, rev'd in part*, 76 F.3d 458 (2d Cir. 1996) ("The law . . . provides for an inference of market manipulation through domination and control where a broker consistently quotes bids for stock that exceed the amounts created by the demand for that stock on the open market.").

[249] *Varljen*, 1998 U.S. Dist. LEXIS 10493, at *2–3.

[250] Lentell v. Merrill Lynch & Co., 396 F.3d 161, 177–78 (2d Cir. 2005) (citing Schnell v. Conseco, Inc., 43 F. Supp. 2d 438, 447–48 (S.D.N.Y. 1999)).

[251] 430 U.S. at 476.

[252] *Id.* (citing *Hochfelder*, 425 U.S. at 199).

[253] *See, e.g.*, SEC v. Sayegh, 906 F. Supp. 939, 945 (S.D.N.Y. 1995).

[254] In securities law, wash trades typically involve traders who buy and sell a similar number of a company's shares at about the same time, producing no real change in ownership but giving the impression of interest in the company's shares. *See, e.g.*, SEC v. U.S. Envtl., Inc., 155 F.3d 107, 109 (2d Cir. 1998).

[255] *See, e.g.*, *Sierra Brokerage Servs.*, 608 F. Supp. 2d at 960–61.

[256] *See, e.g.*, United States v. Georgiou, 744 F. Supp. 2d 613, 628 (E.D. Pa. 2010).

[257] Also known as "marking the tape."

so transparently fraudulent that they are "patently manipulative, serving no purpose other than to transmit false information to the market and artificially affect prices."[258] In the context of a Rule 10b-5(b) claim, many courts hold that a defendant's failure to disclose that market prices are being manipulated constitutes a material omission that violates section 10(b) of the 1934 Act.[259] These false trading practices are so emblematic of fraudulent manipulation that the "defendant's manipulative intent can be inferred from the conduct itself."[260]

Significantly, because in most courts' estimation fraud and deceit are a necessary part of any Rule 10b-5 violation, open market activity that does not involve false statements or false trading is generally not treated as manipulative. In *GFL Advantage Fund, Ltd. v. Colkitt*,[261] the U.S. Court of Appeals for the Third Circuit in 2001 explicitly accepted the proposition that normal trading cannot be manipulative without more, observing that it might be difficult to "distinguish between legitimate trading strategies intended to anticipate and respond to prevailing market forces and those designed to manipulate prices and deceive purchasers and sellers."[262] Therefore, the court held that not only must there be evidence of a subjective intent to manipulate—the element that many courts consider to be the sine qua non of manipulation[263]—there must also be evidence that the alleged manipulator "engaged in . . . deceptive or manipulative conduct by injecting . . . inaccurate information into the marketplace or creating a false impression of supply and demand for the stock."[264] Where false trading occurs, it clearly meets this requirement. The court in *GFL Advantage* held, however, that short sales alone—even in substantial quantities—could not meet this requirement and that "some other deceptive practice" was required.[265] As examples of "other deceptive practices," the court listed activities such as unauthorized placement and parking of stock, secret sales without disclosing the real party in interest, encouraging others to sell short by guaranteeing profits, fraudulently low appraisals, painting the tape, and matched sales.[266]

---

[258] SEC v. Masri, 523 F. Supp. 2d 361, 367 (S.D.N.Y. 2007).

[259] *Sierra Brokerage*, 608 F. Supp. 2d at 961.

[260] *Masri*, 523 F. Supp. 2d at 367.

[261] 272 F.3d 189, 205 (3d Cir. 2001).

[262] *Id.*

[263] *Varljen*, 1998 U.S. Dist. LEXIS 10493, at *16.

[264] *GFL Advantage*, 272 F.3d at 207.

[265] *Id.* at 207–08, 211; *see also* Cohen v. Stevanovich, 722 F. Supp. 2d 416, 425 (S.D.N.Y. 2010) (holding that short selling, by itself, is not manipulative, even in large volumes).

[266] *GFL Advantage*, 272 F.3d at 207–08.

In open-market manipulation cases, then, the most common formulation of the relevant factors includes: (1) "'profit or personal gain to the alleged manipulator'"; (2) "*deceptive* intent"; (3) "market domination"; and (4) "economic reasonableness of the alleged manipulation."[267]

2. The Uncertain Case for Open Market Manipulation in Securities Cases

Nondeceptive manipulation in the form of corners or other blatant exercises of market power is less frequent in securities markets than in energy and commodities markets;[268] in securities markets, market power almost never appears except in the presence of false statements and/or false trading. Therefore, the issue of whether fraud or deception is an essential element of manipulation is less important in securities law than in energy and commodities law. Perhaps that is why the issue is unsettled. One can build a logical case for finding securities manipulation even in the absence of false statements or false trades, but the case must overcome some existing precedents. Unless such a case can be made, however, agencies and courts applying section 10(b) precedent to alleged manipulation of energy markets will be less likely to penalize open market manipulation not involving deception, such as a naked exercise of market power. Although the vast majority of case law indicates that deception is a necessary element of Rule 10b-5 manipulation, in this section we make the case that: (1) Rule 10b-5 should be construed to protect against nondeceptive manipulation and (2) despite courts' claims to the contrary, Rule 10b-5 often has been construed that way.

First, the language of section 10(b) of the 1934 Act distinguishes deception from manipulation ("manipulative *or* deceptive devices"). Therefore, it seems obvious that a device may be (1) deceptive without being manipulative, (2) deceptive and manipulative, or (3) manipulative without being deceptive. Although the Supreme Court often states that matters of statutory interpretation start with the language of the statute,[269] in divining the meaning of the term "manipulation," the Court has paid precious little attention to the wording of section 10(b). By requiring that acts be deceptive in order to be manipulative, the

---

[267] *In re* Coll. Bound Consol. Litig., Nos. 93 Civ. 2348, 94 Civ. 3033, 1995 U.S. Dist. LEXIS 10684, at *15 (S.D.N.Y. July 31, 1995) (emphasis added) (quoting United States v. Mulheren, 938 F.2d 364, 370–72 (2d Cir. 1991)).

[268] Steve Thel, *Regulation of Manipulation Under Section 10(b): Security Prices and the Text of the Securities Exchange Act of 1934*, 1988 Colum. Bus. L. Rev. 359, 433.

[269] United States v. Ron Pair Enters., 489 U.S. 235, 241 (1989).

Court has functionally collapsed the two terms.[270] The Supreme Court relied upon little more than a simple dictionary definition when it first set the precedent that manipulation requires deception.[271] Nevertheless, examining in detail the legislative history of the 1934 Act, as well as its purposes and provisions, one commenter has built a very strong case for a broader view.[272] The primary reason the 1934 Securities Exchange Act was enacted was to protect the integrity of stock market prices.[273] An exhaustive examination led to the conclusion that "[t]he SEC's authority to regulate the use of manipulative devices and contrivances under § 10(b) extends to all practices that contribute to disorder in the market or that give voice to speculative sentiment there."[274] Although the Supreme Court has repeatedly focused on disclosure when discussing the 1934 Act, many, many provisions of the 1934 Act "reflect a concern with the effect that trading itself has on [stock] price."[275]

There are a number of judicial opinions containing language supporting the idea that manipulation occurs when the price of a security is divorced from the forces of supply and demand, whether or not there is deception. Most of those opinions, however, involve defendants whose behavior was intended to create a false impression of the value of stock. Consider a form of open market manipulation called "domination and control." In *SEC v. Resch-Cassin & Co.*, a 1973 case from the Southern District of New York,[276] an underwriter was selling an "all or none" offering for a company named "Africa." The offering price was ten dollars per share and Resch-Cassin told several potential investors that the aftermarket price would be around twenty-two dollars per share. In fact, the offering was not going well and the firm faced the likelihood that it would have to cancel the offering and give back the money being held in escrow. There was little demand for Africa's shares, so to maintain its stock price or even to raise it, the firm enlisted confederates to buy Africa stock and sell it among themselves at in-

---

[270] Thel, *supra* note 268, at 385 (noting that the Court's decisions have "deprived the word manipulative of any independent significance").

[271] *See Hochfelder*, 425 U.S. at 199 (quoting WEBSTER'S INTERNATIONAL DICTIONARY (2d ed. 1934)).

[272] *See* Thel, *supra* note 268, at 374–82.

[273] *Hochfelder*, 425 U.S. at 195 ("The 1934 Act was intended principally to protect investors against manipulation of stock prices through regulation of transactions upon securities exchanges and in over-the-counter markets, and to impose regular reporting requirements on companies whose stock is listed on national securities exchanges.").

[274] Thel, *supra* note 268, at 438.

[275] *Id.* at 376.

[276] 362 F. Supp. 964, 966–75 (S.D.N.Y. 1973).

creasingly higher prices. In trying to determine whether "manipulation" had occurred, the court looked for four factors, none of which was deception. The four factors were: (1) price leadership by the manipulator, (2) dominion and control of the market for the security, (3) reduction in the floating supply of the security, and (4) the collapse of the market for the security when the manipulator ceases activity.[277] The court found "[a]ll the classic elements of an over-the-counter manipulation"[278] to be present[279] and ruled for the SEC, finding that defendants' actions violated Rule 10b-5.[280] The defendants argued that they were engaged in "normal trading" rather than false trading in the form of wash sales and matched trades, but the court concluded that their trades "were designed to induce others to purchase the security," and hence were manipulative.[281]

There are other cases that reject the language in the *GFL Advantage* opinion that normal trading cannot be manipulative without more. For example, in a 2002 case from the Southern District of New York, *Nanopierce Technologies, Inc. v. Southridge Capital Management LLC*,[282] Nanopierce Technologies ("NPCT") sought financing from Southridge in exchange for shares of NPCT. The agreement contained so-called "reset rights" that would give Southridge more shares of NPCT if NPCT's share price declined. Southridge promised not to abuse this reset right by doing something scurrilous like short selling NPCT shares to drive down the stock price. NPCT alleged, however, that Southridge did exactly that through straw parties and confederates. As soon as the deal was closed, NPCT's agents began selling NPCT shares almost every day, accounting for over half the volume of NPCT share trading and driving the stock price steadily down from $2.63 to $0.32, even though no adverse information about NPCT's prospects entered the marketplace.[283] Relying on

---

[277] *Id.* at 976; *see also* SEC v. Martino, 255 F. Supp. 2d 268, 286–87 (S.D.N.Y. 2003) (adopting these four elements for a domination and control manipulation claim).

[278] *Resch-Cassin*, 362 F. Supp. at 978.

[279] The court found "dominion and control" by Nagler-Weissman (the brokerage firm) from the fact that it purchased or caused to be purchased two-thirds of the total shares bought even though there were eighteen other broker-dealers in the pink sheets at the time. *Id.* at 977.

[280] The practices outlined also violated section 9(a)(2) of the 1934 Act, which was "'aimed at preventing an individual from dominating the market in a stock for the purpose of conducting a one-sided market at an artificial level for its own benefit and to the detriment of the investing public.'" *Id.* at 978 (quoting Crane Co. v. Westinghouse Air Brake Co., 419 F.2d 787, 794 (2d Cir. 1969)).

[281] *Id.* at 977.

[282] No. 02 Civ. 0767, 2002 U.S. Dist. LEXIS 24049, at *4–7 (S.D.N.Y. Oct. 10, 2002).

[283] *Id.*

GFL Advantage, the defendants argued that the simple act of selling NPCT shares could not be manipulative when NPCT had not alleged that defendants had injected false information into the market.[284] The court admitted that the law was uncertain on this issue,[285] but the court sided with plaintiffs, citing a 1995 decision from the Southern District of New York, *In re College Bound Consolidated Litigation*,[286] to find deceptive intent:

> [T]his Court is drawn ineluctably to the opinion that NPCT has adequately alleged that Defendants have "engaged in deceptive or manipulative conduct by . . . *creating a false impression of supply and demand* for the security." Although NPCT does not currently allege significant short sales, it does allege (1) subjective intent to depress the value of NPCT stock, based on a financing agreement that provides a motive for manipulation; (2) timing of sales beginning the first trading day after closing and continuing until liquidation; (3) dominant or near-dominant trading volume throughout a six month period; (4) significant amounts of trading conducted through a non-market maker; and (5) an extensive pattern of similar investments and subsequent stock price drops in other companies.[287]

In these cases, it is trading in sufficient volume to move price that comprises the manipulation.[288]

---

[284] *Id.* at *18–19.

[285] *Id.* at *21. Indeed, this question had been left open by the Second Circuit. *See Mulheren*, 938 F.2d at 368.

[286] 1995 U.S. LEXIS 10684, at *15.

[287] *Nanopierce Techs.*, 2002 U.S. Dist. LEXIS 24049, at *30 (emphasis added); *see also* Markowski v. SEC, 274 F.3d 525, 529 (D.C. Cir. 2001) (finding manipulation in trades that maintained high prices and absorbed all unwanted securities into inventory in order to prevent sales from driving the stock price down).

[288] *See* United States v. Regan, 937 F.2d 823, 829 (2d Cir. 1991) (concluding that an underwriter manipulated the market by arranging for a trader to sell 40,000 shares short without disclosing that the underwriter was the moving party behind the transaction). The importance of failure to disclose can be seen by comparing two recent cases arising from the subprime mess. In *In re Merrill Lynch Auction Rate Sec. Litig.* the plaintiffs alleged that Merrill Lynch had manipulated the auction rate security market to create an appearance of a functioning market when, in reality, it participated as an underwriter, an auction dealer, and a bidder in its own account, and had prevented more than 5800 auctions from failing by placing bids for its own account. 704 F. Supp. 2d 378, 383–84 (S.D.N.Y. 2011). The court found no deception (and therefore no manipulation) because Merrill had disclosed that it played all three roles and might intervene in auctions. *Id.* at 390–93. On the other hand, in a similar factual situation, a different court found that Deutsche Bank had

Alternatively, the defendant may acquire market power by controlling a large majority of the available stock. In a 1986 case decided by the U.S. Court of Appeals for the Eighth Circuit, *Pagel, Inc. v. SEC*,[289] a broker-dealer that underwrote a public offering of Film-Tec Corporation arranged the offering so that it and its customers controlled more than ninety percent of Film-Tec's stock.[290] Over the course of the next several months, when it suited Pagel's purposes, Film-Tec's stock price rose, even though there was no economic justification for it. When the principal of Pagel, Inc. needed a tax loss, Pagel arranged for it to happen, utilizing nothing more than its domination of the market for Film-Tec stock.[291] The Eighth Circuit affirmed an SEC finding of manipulation. Although the key to the scheme was an exercise of market power, the Court managed to find deceit:

> When individuals occupying a dominant position engage in a scheme to distort the price of a security for their own benefit, they violate the securities laws by perpetrating a fraud on all public investors. In addition, their failure to disclose that market prices are being manipulated not only constitutes an element of a scheme to defraud, but is also a material omission of fact in the offer and sale of securities.[292]

If failure to disclose manipulation automatically constitutes a deceptive omission, then there will be precious few securities manipulation cases that do not involve deception. Twenty years ago, it was observed that "[p]erhaps the word deceptive is now broad enough to encompass any interference with the market."[293] If all courts follow this practice (and clearly many do) they have invented a practical work-around for the defective Supreme Court rulings that functionally read nondeceptive manipulation out of section 10(b).

The cases discussed thus far involved false representations, false trades, or transactions featuring domination and control that—in some

---

not adequately disclosed that the forces of supply and demand were not fully at play because it had disclosed that it *might* intervene in the market when, in fact, it intervened in every single auction that it held. La. Pac. Corp. v. Money Mkt. 1 Inst. Inv. Dealer, No. C 09-03529 JSW, 2011 U.S. Dist. LEXIS 32414, at *19–21 (N.D. Cal. Mar. 28, 2011).

[289] 803 F.2d 942, 948 (8th Cir. 1986).

[290] *Id.* at 943.

[291] *Id.* at 944.

[292] *Id.* at 946 (quoting *In re* Pagel, Inc., Exchange Act Release No. 22,280, [1985–1986 Transfer Binder] Fed. Sec. L. Rep. (CCH) ¶¶ 83,909, 87,752 (Aug. 1, 1985)).

[293] Thel, *supra* note 268, at 437.

fashion—sent false signals to the markets.[294] Most of the courts stressed that defendants' acts made it appear that the market was fair, rather than being artificially contrived.[295] But what about open attempts to corner markets, attempts which create no misimpression whatsoever about the fairness of those markets? Does that behavior constitute manipulation? The case law seems a bit contradictory on this point. Both *United States v. Mulheren*,[296] a 1991 case decided by the Second Circuit, and *College Bound*[297] indicated that conspicuous purchases on the open market could not be manipulative because they would not be deceptive.[298] Nevertheless, although the courts said otherwise, some of the language in the *Mulheren* and *College Bound* opinions seems to imply that "domination and control" manipulation could be established based on misuse of a long-time, truly dominant market position *even in the absence of deception.* Is it possible that manipulative intent alone can make illicit what would otherwise be legal open-market transactions?

Some lower courts appear to have rejected this notion;[299] others appear open to it.[300] The issue was discussed in some detail in a 2007 decision from the Southern District of New York, *SEC v. Masri*,[301] in which the court faced an alleged manipulative scheme involving paint-

---

[294] *See, e.g., Crane*, 419 F.2d at 795 (finding potential manipulation where a company allegedly sought to raise a tender offer target's price by buying a large volume of shares on the open market while secretly selling them at a loss).

[295] *See, e.g.*, SEC v. Rega, No. 73 Civ. 2944, 1975 U.S. Dist. LEXIS 11581, at *35–36 (S.D.N.Y. July 3, 1975) (dealing with a domination and control manipulation case wherein defendant controlled approximately ninety percent of the issuer's stock). As one court noted, "'while misrepresentations affect investor beliefs by directly injecting false information into the marketplace, market manipulation affects beliefs indirectly by creating circumstantial evidence that positive information has entered the market.'" *Merrill Lynch*, 704 F. Supp. 2d at 390 (quoting Catton v. Def. Tech. Sys., Inc., No. 05 Civ. 6954, 2006 U.S. Dist. LEXIS 205, at *27 (S.D.N.Y. Jan. 3, 2006)).

[296] 938 F.2d at 370–71.

[297] 1995 U.S. LEXIS 10684, at *16–17.

[298] The *College Bound* opinion explained,

> In *Mulheren*, the Court determined that "none of the traditional badges of manipulation" were present, in significant part, because Mulheren "conspicuously purchased the shares . . . in the open market." The crucial element of deception therefore was missing. Here as well, plaintiffs have presented no facts which suggest that the open-market purchase itself, through Prudential-Bache Securities, Inc., was deceptive.

Id. (citations omitted).

[299] *See, e.g., In re* Initial Pub. Offering Sec. Litig., 241 F. Supp. 2d 281, 391 (S.D.N.Y. 2003).

[300] *See, e.g.*, Nanopierce Tech., Inc. v. Southridge Capital Mgmt., No. 02 Civ. 0767, 2003 U.S. Dist. LEXIS 21854, at *23–27 (S.D.N.Y. Dec. 4, 2003).

[301] 523 F. Supp. 2d at 369–70 (referring to the practice as "marking the close").

ing the close.[302] In that case, the court rejected as "go[ing] too far" the SEC's argument that end-of-day transactions by themselves are actionable as manipulative.[303] On the other hand, the court also refused "to adopt defendants' proposed per se rule that open-market activity cannot be considered manipulative based solely on manipulative intent, that is, without additional deceptive or fraudulent conduct."[304] *GFL Advantage* had created that rule out of whole cloth, the *Masri* court concluded.[305] The court believed that the intentional distortion of prices was clearly violative of 10b-5, even without the injection of inaccurate information into the market or the creation of a false impression of market activity.[306] The court said:

> [I]f an investor conducts an open-market transaction with the intent of artificially affecting the price of the security, and not for any legitimate economic reason, it can constitute market manipulation. Indeed, "the only definition [of market manipulation] that makes any sense is subjective—it focuses entirely on the intent of the trader." Allegations of other deceptive conduct or features of the transaction are only required to the extent that they render plausible allegations of manipulative intent.[307]

Cornering is rare in securities markets, but not unheard of.[308] In 1988, a brokerage firm and its customers held approximately 115 percent of the public float (all of the available shares as well as stock that had been sold short) of Chase Medical. The brokerage firm attempted a "short squeeze" by calling in the stock loans of short sellers. Had it worked, the shorts would have been forced to buy the stock controlled

---

[302] *See* SEC v. Schiffer, 1998 U.S. Dist. LEXIS 6339, at *4–5 (S.D.N.Y. May 5, 1998); *see also* Thomas C. Kocherhans, Exchange Act Release No. 36556, 60 SEC Docket 2210, 2212 (Dec. 6, 1995) (defining the practice as "attempting to influence the closing price of a stock by executing purchase or sale orders at or near the close of the market").

[303] *Masri*, 523 F. Supp. 2d at 370.

[304] *Id.* at 371.

[305] *Id.* at 371–72.

[306] *Id.* at 372. Although the *GFL Advantage* court might not accept the rationale, the *Masri* court did observe that "it may be argued that an open-market transaction made with manipulative intent in fact injects inaccurate information into the marketplace." *Id.* at 372 n.17.

[307] *Id.* at 372 (quoting Daniel R. Fischel & David J. Ross, *Should the Law Prohibit "Manipulation" in Financial Markets?*, 105 Harv. L. Rev. 503, 510 (1991)).

[308] *See* Liz Moyer, *Cornering the Bond Market?*, Forbes.com (Sept. 28, 2006, 6:00 AM), http://www.forbes.com/2006/09/27/treasury-bond-markets-corner-biz_cx_lm_0928treasury.html (noting a Department of Treasury investigation into manipulation in the bond market, and citing earlier examples).

by the brokerage firm at inflated prices. Unfortunately for the firm, trading in Chase Medical was halted. Later, the SEC took action against several of the participants, and many were punished despite the fact that it was market power—not deception—that was the key to the scheme.[309]

Certainly most manipulative conduct is deceitful, but that is not always the case. Consider the *Mulheren* facts. Famed arbitrageur and criminal Ivan Boesky had acquired 3.4 million shares of Gulf & Western, which he hoped to use as the basis for a leveraged buyout. When his takeover efforts were rejected, he offered to sell his shares back to the company at 45 dollars per share. Marvin Davis, chairman of the board, showed some interest in acquiring the shares but refused to pay 45 dollars, which was above market price. Boesky arranged for a broker, Mulheren, to engage in a series of staged purchases, which drove the price up to 45 dollars per share, at which point Boesky sold his shares.[310] This little maneuver made Boesky 850,000 dollars in just six minutes.[311] Assume instead, however, that the trading had been done by Boesky himself. What if, just before the close of trading, when shares were trading at 44 and 3/4 dollars, he publicly announced that he was willing to pay a premium for shares and offers 45 dollars, raising the price to that level just as the market closes? Assume next that Boesky held a second press conference and announced that he bid 45 dollars for purposes of raising the market price to 45 dollars so that Davis would be bound to repurchase all his shares at that amount. If Boesky then called Davis and demanded that Gulf & Western buy his 3.4 million shares at 45 dollars, would not Davis refuse on grounds that the price was the result of manipulation? Would any court fail to find manipulation in violation of Rule 10b-5 on these facts, even though Boesky had been open and transparent about his "normal trade"? We doubt it.

---

[309] *See, e.g.*, *Sayegh*, 906 F. Supp. at 946; Vincent Militano, Exchange Act Release No. 36,312, 1995 SEC LEXIS 2579, at *2 (Sept. 29, 1995) (order instituting public administrative proceedings, making findings, and imposing remedial sanctions) (noting that Militano had pled guilty to securities fraud in connection with the manipulation of Chase Medical stock).

[310] *See* Steve Thel, *$850,000 in Six Minutes—The Mechanics of Securities Manipulation*, 79 Cornell L. Rev. 219, 252–53 (1994).

[311] This profit, admittedly, came at a cost of $64,406; all told, this leaves a very nice return on investment. Incredibly, the Second Circuit held not only that this was not manipulation, but also that no reasonable jury could have found that it was, overturning the jury verdict. *See Mulheren*, 938 F.2d at 372.

3. Implications for Energy Markets

It remains to be seen how the regulation of energy markets will be affected by prior case law under section 10(b) of the Securities Exchange Act. Most recent prosecutions of unfair trade practices in energy markets have focused on deceptive behavior.[312] One exception is the CFTC's prosecution of BP in 2007, which was based on BP's attempts to corner the propane market. In settling the case, BP acknowledged facts that amounted to an open corner—that is, an attempt to influence prices, purely by engaging in transactions of sufficient volume to move the market price.[313] The CFTC brought that case under the Commodities Exchange Act, which explicitly prohibits corners. Physical markets in natural gas (as distinguished from propane) and electricity are traditionally governed by FERC, subject to the "manipulative or deceptive device" language of the Federal Power Act (FPA) and Natural Gas Act (NGA). That language does not explicitly prohibit corners and squeezes. FERC's only major manipulation prosecution under the new regime to date was its collaborative enforcement effort (along with the CFTC) of Amaranth, a case that involved deception.[314]

One economist argues that the modern regulatory regime is ill-equipped to prosecute market power manipulation in energy markets.[315] Although the Commodities Exchange Act proscribes market power manipulation (corners), there is a contention that it typically (1) ignores market power manipulations that exploit scarcity conditions created in part by the trader's own positions and (2) invites courts to look for the presence of deception or fraud in such cases (just as have courts in securities cases). For example, whereas BP settled charges of cornering the propane market, the case against individual BP employees who participated in the corner was dismissed, in part because the government tried to convince the judge that the corner was "a type of fraud or deceit."[316] There is even more criticism of the new securities regulation approach found in the FPA and NGA, observing that because it does not explicitly cover corners, the framework is "completely

---

[312] *See* Amaranth, *supra* note 173; Market Manipulation Case, *supra* note 178.

[313] *See* CFTC v. BP Prods. N. Am., Inc., Consent Order for Permanent Injunction and Other Relief, Docket No. 06-C-3503 (N.D. Ill. Oct. 25, 2007), *available at* http://www.cftc.gov/ucm/groups/public/@lrenforcementactions/documents/legalpleading/enfbporder102507.pdf.

[314] *See* Amaranth, *supra* note 173.

[315] Craig Pirrong, *Energy Market Manipulation: Definition, Diagnosis, and Deterrence*, 31 Energy L.J. 1, 1 (2010).

[316] *Id.* at 13 (citing United States v. Radley, 659 F. Supp. 2d 803, 820 (S.D. Tex. 2009)).

misguided and hopelessly ill-suited" to the purpose of regulating market power manipulation.[317] Others argue that the term "manipulation" is sufficiently flexible to cover market power manipulation.[318]

It is easy to see how the securities regulation approach, with its focus on deceit, is much better suited to securities markets than to energy markets. Its focus on deceptive behavior makes sense in securities markets because the value of the item traded—company shares—is directly dependent upon *information* about those shares. In energy markets, traders are fully informed about the characteristics of the thing being traded—oil, gas, or electricity. Rather, what matters is its relative *scarcity*. Hence, there is at least a strong theoretical argument that the new focus on deception misses the mark. More importantly, it seems to offer buyers less protection than do traditional public utility rate regulation or antitrust principles.

B. *The Problem of Incidental Market Power*

A new focus on deception raises additional issues because sophisticated traders can squeeze or corner energy markets without deception. For example, traders may take a large position—say, in futures—as a legitimate hedge, and then capitalize on that position when market conditions change by squeezing the market.[319] Similarly, sellers of energy can acquire market power simply by becoming pivotal suppliers during times of scarcity. That is what happened during the California electricity crisis, when individual wholesale sellers of electricity found themselves able to determine the market clearing price during times of scarcity.[320] Indeed, electricity markets are particularly susceptible to this

---

[317] *Id.* at 2. In addition, the CFTC may face resource constraints in its efforts to monitor derivatives markets. *See* Tom Braithwaite, *CFTC Seeks to Calm Opponents on Derivatives*, Fin. Times (London), Feb. 16, 2011, at 5.

[318] This group includes representatives of FERC's Division of Energy Market Oversight. *See* Shaun D. Ledgerwood, Screens for the Detection of Manipulative Intent Abstract (Dec. 19, 2010) (unpublished manuscript), *available at* http://ssrn.com/abstract=1728473. One author acknowledges that there is a "case for questioning the appropriateness of fraud-based statutes to prevent 'market power manipulations.'" *Id.* at 9. But, to the extent that counterparties are unaware of the manipulators' acquisition of market power, this has been seen as a form of deception. *See id.* at 9–10.

[319] *See e.g.* Ind. Farm Bureau Coop. Ass'n, [1982–1984 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶¶ 21,796, 27,285 (Dec. 17, 1982). The CFTC decided not to prosecute this as manipulation, concluding that the defendant was entitled to "[seek] the best price from the existing situation." *Id.*

[320] As noted, *see supra* notes 96–238 and accompanying text, FERC flirted with, but abandoned, the notion of classifying sellers who acquire market power in this way (that is,

problem because electricity cannot be stored. FERC has the power to limit the ability of suppliers to charge monopoly prices when and if the agency detects this kind of market power. Yet, because of the imperfect fit between competitive energy markets and some of the remaining features of the traditional public utility regime, incumbent sellers of energy (particularly electricity) can nevertheless capture scarcity rents at the expense of consumers over extended periods of time.[321]

1. FERC's Approach to the Exercise of Market Power

Recall that FERC tries to control the exercise of market power in physical markets for natural gas and electricity (and fulfill its obligation to ensure that wholesale rates are "just and reasonable") by revoking a seller's power to charge market-based rates for energy in the future and/or "mitigating" that seller's market power by imposing price caps. FERC's mitigation price caps are typically set at levels FERC believes are

---

without engaging in manipulation or deception, but rather due to conditions beyond their control) as violators of the agencies' market behavior rules.

[321] There is objection to our use of the term "incidental market power." *See* private correspondence on file with authors. We believe, however, that the term fits the phenomena we are describing in this paragraph. We do agree that manipulation may arise outside the two primary settings we analyze here involving either deception or an exercise of market power. A third type of manipulation can derive from what has been called "[u]neconomic trading: [b]ids significantly above or offers significantly below market [value.]" Shaun Ledgerwood, Triggers and Targets: The Anatomy of Market Manipulation 2 (July 22, 2011) (unpublished manuscript), *available at* http://ssrn.com/abstract=1893225. Such trading can manipulate stock or energy prices without the manipulator holding market power and without any direct deception (although, as noted above, some courts might find deception from the simple fact that the manipulator is failing to disclose the manipulation). The Amaranth case is an example of uneconomic trading, and in describing it and others, one author explains:

> The common thread among these cases confirms that this type of trigger [uneconomic trading] is especially problematic in energy markets, wherein the likelihood of a successful manipulation is enhanced by frequent episodes of inelastic demand and supply, heavy reliance on price indices as the price-making mechanism, and the use of price-making transactions by market participants that simultaneously hold large physical and financial price-taking positions. Because the execution of trades at a loss requires no market power in any traditional sense, loss-based manipulations can be executed by any entity that holds sufficient financial or physical leverage such that the losses it intentionally takes on its price-setting trades are more than offset by the resulting gains made in its targeted positions.

Id. at 4 (citations omitted); *see also* Shaun Ledgerwood & Paul Carpenter, A Framework for Analyzing Market Manipulation 9 (Apr. 16, 2011) (unpublished manuscript), *available at* http://ssrn.com/abstract=1811764.

sufficiently high to attract investment in new supply,[322] reflecting the hope or expectation that new firms will enter the market to bring the price down to competitive levels. There is a clear logic to this approach. In order for markets to work, prices must be permitted to fluctuate: only high prices will invite entry and depress consumer demand (at least in theory). This view also seems fairly consistent with modern antitrust analysis, which includes the notion that for some industries, scale can be associated with increased efficiency,[323] as well as the notion that the market can often be counted on to discipline monopolies through the entry of competitors and/or through innovation that transforms the market.[324]

In electricity markets this dynamic can be interrupted by legal barriers to entry (such as insurmountable permitting requirements). One might argue, however, that these regulatory barriers represent choices made by state and local governments to avoid the social costs associated with generating facilities within their communities (such as pollution). Therefore, we might infer that these communities *choose* sustained high energy costs as the price of avoiding those unwanted social costs. By that logic, FERC's mitigation policy takes the right approach by setting rate caps at levels high enough to invite entry but for those legal barriers. That conclusion, however, rests on a simplistic view of political choice. Even if the majority of the community seeks construction of new generating capacity, prospective developers may be discouraged from developing in areas where opposition from a small subset of the community is strong. Local opposition can be expressed in a variety of forms, from legislation to litigation to direct protest. Sophisticated "not

---

[322] FERC's approach to this issue is explained in its Order No. 719. Wholesale Competition in Regions with Organized Electric Markets, Order No. 719, 73 Fed. Reg. 64,100, 64,101–02 (FERC Oct. 17, 2008) (to be codified at 18 C.F.R. pt. 35). Commenters had argued that the order would leave customers without tools to respond to high prices during times of scarcity, but FERC rejected those arguments.

[323] For an example of this view, with a particular focus on transaction costs and the "make or buy" question—i.e., whether it is more efficient for the firm to acquire goods in arms-length transactions or to integrate vertically or horizontally. *See* The Nature of the Firm: The Origins, Evolution, and Development 3–17 (Oliver E. Williamson & Sidney G. Winter eds., 1991); Oliver E. Williamson, *Economies as an Antitrust Defense Revisited*, 125 U. Pa. L. Rev. 699, 703–24 (1977). For an extension of this analysis in the context of antitrust law, see generally John J. Siegfried & Edwin H. Wheeler, *Cost Efficiency and Monopoly Power: A Survey*, 21 Q. Rev. Econ. & Bus. 25 (1981). Judge Richard Posner and others continue to make the case for the inefficiency of monopoly, arguing that economists sometimes underestimate social costs associated with firms' expenditures in order to acquire monopoly power. *See* Richard A. Posner, Antitrust Law 9–32 (2d ed. 2001).

[324] Richard A. Posner, Economic Analysis of Law 354–55 (8th ed. 2011) (discussing new entry); *id.* at 361–65 (discussing innovation).

in my backyard" (NIMBY) groups can block a project even if they represent a minority viewpoint.[325] In such cases, it is difficult to ascribe shortages to regulatory barriers or community choice.

Putting aside the presence of local opposition or regulatory barriers to entry, construction of new generating capacity is a complicated business proposition, one fraught with what investors call "political risk." Virtually every segment of the industry faces the possibility of regulatory change that could alter market fundamentals. Government provides a bewildering array of subsidies and assistance to virtually every fuel source used to generate electricity.[326] And, these programs come and go quickly,[327] which makes it difficult for prospective investors in new capacity to be sure that their plants will be cost competitive compared to those of their current and future competitors. Nor is the demand side of the equation much more certain. New programs designed to promote energy efficiency, for example, could reduce demand for electricity by more than twenty percent, if implemented.[328]

---

[325] There is a large body of literature on NIMBY groups: how they arise, their effectiveness, and potential solutions to NIMBY problems. Economists typically propose compensation of opponents as a solution to the NIMBY problem, and as a way to promote Kaldor-Hicks efficiency. Compensation, however, is much more tractable in theory than in practice, and can raise moral hazard problems as well. Often, it is not possible to compensate NIMBY group members, either because of political barriers or moral hazard (hold-up) problems. For a good discussion of this literature and these issues, see generally Vicki Been, *What's Fairness Got to Do with It? Environmental Justice and the Siting of Locally Undesirable Land Uses*, 78 Cornell L. Rev. 1001 (1993).

[326] *See* Envtl. Law Inst., Estimating U. S. Government Subsidies to Energy Sources: 2002–2008, at 3–4 (2009), *available at* http://www.elistore.org/Data/products/d19_07.pdf.

[327] Examples of this policy fluidity are legion. The renewable energy industry in the United States has suffered from a lack of predictability when it comes to subsidies. Erin Dewey, Note, *Sundown and You Better Take Care: Why Sunset Provisions Harm Renewable Energy Industry and Violate Tax Principles*, 52 B.C. L. Rev. 1105, 1134–35 (2011). The production tax credit for renewable energy was, until relatively recently, renewed on an annual or biannual basis, leaving the industry unsure of whether the subsidies would be available in the future. *See id.* at 1127–28. The threat of additional regulation of greenhouse gas emissions has hung over the coal-fired power industry for more than a decade now, posing a risk that the cost of generating electric power from coal will increase significantly in the years to come. Future natural gas prices in the United States depend in part on the availability of ample supplies of gas trapped in shale deposits. The process of producing gas from those deposits—called "hydraulic fracturing"—has provoked local opposition, a ban on drilling in parts of New York State, and a U.S. EPA study aimed at determining whether additional regulation is warranted. *See* EPA, Office of Research & Development, Hydraulic Fracturing Research Study 1–2 (2010), *available at* http://www.epa.gov/owindian/tribal/pdf/hydraulic-fracturing-fact-sheet.pdf.

[328] *See* Hannah Choi Granade et al., McKinsey & Co., Unlocking Energy Efficiency in the U.S. Economy 91 (2009), *available at* http://www.mckinsey.com/Client_Service/Electric_Power_and_Natural_Gas/Latest_thinking/Unlocking_energy_efficiency_in_

All of this uncertainty can make it exceptionally difficult for a prospective developer of a new generating plant to estimate future project revenues. The prospective generator may face the prospect of selling all of its energy in a spot market, and may be cost-competitive in that market only during periods of peak demand. In that case, it may need peak rates to be higher than the FERC-imposed mitigation rate cap, even if that cap provides excessive scarcity rents to existing sellers.

Thus, it is unreasonable to assume that high electricity prices will invite entry. To the contrary, wholesale sellers may be able to sustain market power and capture scarcity rents for extended periods of time. In the words of former FERC Chairman William Massey:

> [A] spot market reflecting short-term marginal energy prices, coupled with inelastic supply and demand, may not send the correct price signals in time to motivate new entry of capacity resources at the time they are needed . . . . [E]conomic theory suggests that sufficient generation capacity would develop to meet a market-based reliability standard if . . . prices were able to fluctuate freely and if demand were able to see and respond to wholesale prices. However, these conditions for an efficient level of generation are not present in the current markets and probably not in the foreseeable future in newly-formed markets.[329]

If FERC's only solution to this problem is to mitigate market power after it detects it—that is, to impose price caps that are set at levels designed to, but which do not actually, invite entry—this means that consumers may be stuck paying prices considerably in excess of competitive levels for extended periods of time.[330]

For example, in 2008, the FERC Office of Enforcement investigated the potential abuse of market power in the New York City capacity market,[331] after complaints by buyers in that market that some of the sellers of capacity were engaging in economic withholding (strategic bidding to raise the market clearing price).[332] In its report on the inves-

---

the_US_economy.aspx (to access full report, click "Read full report (PDF-6.37 MB)" hyperlink below report summary).

[329] William L. Massey, Robert S. Fleishman & Mary J. Doyle, *Reliability-Based Competition in Wholesale Electricity: Legal and Policy Perspectives*, 25 Energy L.J. 319, 348 (2004).

[330] It has been called "a political reality" that "energy prices will not be allowed to reach the levels that are necessary for resource adequacy." *Id.* at 349.

[331] See *supra* note 180 for a description of capacity markets.

[332] FERC, Staff Report: Findings of a Non-Public Investigation of Potential Market Manipulation by Suppliers in the New York City Capacity Market 2 (2008),

tigation, the Commission staff rejected these complaints, but noted that: (1) some sellers in the New York City market had market power and operated under a FERC-imposed bidding cap; (2) despite setting the price at a level intended to invite entry, entry had not occurred in the market; and (3) as a consequence, sellers who were subject to rate caps consistently offered their capacity at those caps, and sellers not subject to caps offered their capacity into the market at rates exceeding the cap.[333] Noting that the investigation was governed by FERC's Order 670 anti-manipulation rules, the report stated that "[e]conomic withholding . . . is not a per se violation" of those rules; moreover, the bidding behavior observed in the New York City capacity market was consistent with those rules because enforcement staff found no evidence that that bidding behavior "involved fraud or deception and, therefore, constituted market manipulation."[334]

This kind of situation is not what proponents of energy markets envisioned, but it reflects the agency's belief that, with the appropriate fine tuning, markets will prevail in the long run.[335] Although faith in markets seems to have prevailed at FERC, it did so over the objections of some economists and legal scholars who foresaw some of the current problems we are experiencing in energy markets.[336] In particular,

---

available at http://www.ferc.gov/legal/staff-reports.asp (select "Electric" tab to access hyperlink to report).

[333] *Id.* at 2–16.

[334] *Id.* at 15–17.

[335] Some organized electricity spot markets—those overseen by ISOs and RTOs—address this problem by using automatic mitigation procedures that reduce offer prices from the generators whose prices violate certain criteria. For an analysis of the automatic mitigation procedure used in New York State ISO markets, see Daniel L. Shawhan et al., *An Experimental Test of Automatic Mitigation of Wholesale Electricity Prices*, 29 Int'l. J. Ind. Org. 46, 52 (2011), which concludes that, in conditions of high market power, automatic mitigation procedures "did not keep electricity prices nearly as close to marginal cost as [they] did . . . under [low market power conditions]," and also suggests that, irrespective of problems in New York City's capacity markets, automatic mitigation may minimize the effects of market power in New York City's electricity spot markets. Under Order 719, FERC requires ISOs and RTOs to employ mitigation procedures in spot markets, though not necessarily the kind of mitigation used by the New York ISO. *See, e.g.*, Midwest Indep. Transmission Sys. Operator, Inc., 127 F.E.R.C. ¶¶ 61,054, 61,273 (2009) (Order on Rehearing & Compliance) (requiring Midwest ISO to impose mitigation and finding that its "proposal to simply refer potential exercises of market power to the Commission" is inconsistent with Order 719).

[336] Indeed, the economic argument for deregulation was based on a comparison of competition and public utility regulation that employed much more generous assumptions about the former (e.g., that markets will tend toward perfect competition, the absence of transaction costs in bargaining, etc.) than the latter (e.g., that the policy process was prone to corruption and inefficiency). *See, e.g.*, Victor P. Goldberg, *Regulation and Administered Contracts*, 7 Bell J. Econ. 426, 427 (1976).

transaction cost economics and industrial organization scholarship offer insights into possible problems associated with disaggregating public utility functions. For example, when a firm's assets are constructed at a particular location for a particular purpose (the problem of "asset specificity"), that firm faces the risk that its contractual counterparties (those from whom it buys or to whom it sells) will act opportunistically, taking advantage of the firm's lack of alternative options to "hold up" the firm on price.[337] In electricity markets, virtually all of the participants' investments are characterized by some degree of asset specificity: neither demand nor supply is geographically mobile. In these situations, it might be dangerous to assume that arms-length transactions in the market (such as spot markets) will produce more efficient outcomes than vertical integration would have. Noting that asset specificity was the norm in the electricity industry, one author argued prior to restructuring that reliance on anonymous spot market transactions to supply electricity is likely to fail "because the sinking of relationship-specific investments transforms a large-numbers bargaining situation ex ante into a small-numbers bargaining situation ex post," creating opportunities for buyers or sellers to extract rents from the other and consequent disincentives to invest in capacity.[338] In other words, there are good reasons to expect (1) that individual electricity suppliers in wholesale spot markets will be able to exert market power, *even when there are many sellers*, and (2) that this situation can persist for extended periods of time. This is not merely of historical interest: increasing percentages of wholesale sales of American energy currently occur on spot markets.[339]

---

[337] The Nature of the Firm, *supra* note 323, at 42–43; Paul L. Joskow, *Asset Specificity and the Structure of Vertical Relationships: An Empirical Evidence*, *in* The Nature of the Firm, *supra* note 323, at 117, 121–22. *See generally* Benjamin Klein, Robert G. Crawford & Armen A. Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J. Law & Econ. 297 (1978) (noting the particular trouble asset specificity poses for spot markets).

[338] Joskow, *supra* note 337, at 123–25; *see also* Pirrong, *supra* note 315, at 5 (noting that in an illiquid market, individual traders may be able to persistently—even permanently—affect price). Indeed, one author excludes electricity markets from an analysis of market power, because "[d]etecting, and hence deterring, manipulation in electricity markets is far more difficult" because electricity cannot be stored. Pirrong, *supra* note 315, at 8 n.15. *See generally* Jim Rossi, *The Common Law "Duty to Serve" and Protection of Consumers in an Age of Competitive Retail Public Utility Restructuring*, 51 Vand. L. Rev. 1233 (1998) (discussing risks to consumer protection posed by restructuring and advocating various measures to mitigate those risks).

[339] *See* Ezra Hausman, Rick Hornby & Allison Smith, Synapse Energy Econ., Inc., Bilateral Contracting in Deregulated Electricity Markets: A Report to the American Public Power Association 1–3 (2008), *available at* http://www.publicpower.org/files/PDFs/EMRISynapseBilateralsReport2008.pdf (noting that over reliance on spot

Certainly, this kind of sustained supra-competitive pricing may be permissible under modern economic thinking, but like much of modern antitrust policy,[340] it is almost certainly inconsistent with Congress's intentions in enacting the antitrust laws. Economists are concerned primarily with the allocative inefficiency of monopoly. That is, they consider monopolies to be inefficient not because the move from competition to monopoly produces transfers of surplus from consumers to producers,[341] but rather because it produces a "deadweight loss"—potential social value that is captured *neither* by the producer nor the consumer.[342] Yet, when members of Congress sought to restrict monopoly through antitrust and public utility statutes, they were responding to constituents' preferences, few if any of which had much to do with allocative efficiency.[343] Indeed, antitrust and public utility legislation in the United States was motivated by distributive questions, such as voters' fears of exploitation by monopolies and popular opposition to the higher prices

---

markets "has resulted in windfall profits for owners of existing generation"). Nor are long-term contracts a perfect solution to this problem. Long-term supply contracts can act as barriers to entry for prospective sellers of energy; indeed, the European Commission's efforts to create competitive energy markets have focused on long-term supply contracts as barriers to entry. For a discussion of these issues in a transaction cost economics context, see generally Giuseppe Bellantuono, *Contract Law, Regulation and Competition in Energy Markets*, 10 Competition & Regulation in Network Industries 159 (2009).

[340] One author contends that modern antitrust jurisprudence has become almost entirely divorced from the intent of the legislatures that enacted the Sherman Act, the Clayton Act, and the Federal Trade Commission Act. Herbert Hovenkamp, Federal Antitrust Policy: The Law of Competition and Its Practice 59–60 (1985).

[341] *See, e.g.*, Terry Calvani & John Siegfried, Economic Analysis and Antitrust Law 6 (2d ed. 1988) (arguing that "transfer payment[s] from consumers to producers in the form of higher prices and higher profits is not the concern of the efficiency but of equity . . . [and] economics has little to say about who 'deserves' the payment"). *But cf.* Richard Posner, Antitrust Law: An Economic Perspective 8–18 (1976) (arguing that economic analysis ought not treat the transfer of wealth from consumer to producer as costless to society because businesses will engage in socially wasteful spending in order to secure monopoly profits).

[342] *See* Calvani & Siegfried, *supra* note 341, at 25–28; Hovenkamp, *supra* note 340, at 18–20; Varian, *supra* note 12, at 447–51; *see also* Geoffrey Rothwell & Tomás Gómez, Electricity Economics: Regulation and Deregulation 30–32 (2003).

[343] "The concepts of allocative efficiency and deadweight loss from monopoly were almost certainly not known to the framers of the Sherman Act . . . [and] only a few statements in the debates leading up to the Sherman Act sound even remotely like efficiency arguments, and even these are ambiguous." Hovenkamp, *supra* note 340, at 49–50. Indeed, it had previously been argued that economic thinking at the time was opposed to the passage of the Sherman Act because most economists believed that large enterprises were more efficient. *See* Herbert Hovenkamp, Enterprise and American Law: 1836–1937, at 308–15 (1991).

and lower quantities associated with monopoly production.[344] Indeed, natural gas and electricity markets are partially insulated from direct antitrust regulation precisely because FERC is charged with regulating those markets so as to maintain just and reasonable prices.[345] One might argue, then, that as FERC gives energy markets a freer hand, electricity and natural gas markets ought to be subject to the full range of antitrust rules and remedies as are oil markets.[346]

2. Consistency with FPA and NGA

The discussion above suggests a question: if supra-competitive prices are a sustained feature of some energy markets, are those prices "just and reasonable" (as is required) under the FPA and NGA? Both the FPA and the NGA were enacted during a time when cost-of-service rate regulation was the norm. On one hand, it is probably reasonable to infer that members of Congress expected the Federal Power Commission, the predecessor of FERC, to set wholesale rates using that method, and thereby to protect buyers from high prices.[347] On the other

---

[344] *See, e.g.*, Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 HASTINGS L.J. 65, 93–96 (1982); Louis B. Schwartz, *"Justice" and Other Non-Economic Goals of Antitrust*, 127 U. PA. L. REV. 1076, 1076 (1979). *But see* Robert Bork, *Legislative Intent and the Policy of the Sherman Act*, 9 J. LAW & ECON. 7, 7 (1966) (concluding that "Congress intended the courts to implement . . . only that value we would today call consumer welfare"). Still others argue that the antitrust statutes were designed simply to protect small business, regardless of efficiency or other concerns. *See, e.g.*, JACK BLICKSILVER, DEFENDERS AND DEFENSE OF BIG BUSINESS IN THE UNITED STATES, 1880–1900, at 122–128 (1985); HOVENKAMP, *supra* note 340, at 247; Terry Calvani, *Consumer Welfare Is Prime Objective of Antitrust*, LEGAL TIMES, Dec. 24/31, 1984, at 14, 18–22 (quoting opinions to that effect from Judge Learned Hand and Justice William O. Douglas).

[345] For further discussion of this issue, see *supra* note 322 and accompanying text and *infra* notes 347–360 and accompanying text.

[346] *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, 300 (2003) (arguing that the filed rate doctrine is a poor fit for the newly competitive energy markets); *see also* Norlander, *supra* note 97, at 88; Jacqueline Lang Weaver, *Can Energy Markets Be Trusted? The Effect of the Rise and Fall of Enron on Energy Markets*, 4 HOUS. BUS. & TAX L.J. 1, 6–25 (2004).

[347] The Supreme Court has said that the primary aim of the NGA was to

> protect consumers against exploitation at the hands of natural gas companies . . . . Moreover, the investigations of the Federal Trade Commission had disclosed that the majority of the pipeline mileage in the country used to transport natural gas, together with an increasing percentage of the natural gas supply for pipe-line transportation, had been acquired by a handful of holding companies. State commissions, independent producers, and communities having or seeking the service were growing quite helpless against these combinations.

hand, buyers on wholesale markets are typically sophisticated parties, and both the FPA and NGA regimes have long contemplated bilateral contracts for wholesale sales of energy at freely negotiated rates.[348] Furthermore, there is well-established case precedent under both statutes for the proposition that FERC has discretion in the particular methods it uses to establish just and reasonable rates.[349] Does that mean that the current regime, under which sellers can charge market rates on fluctuating spot markets subject to FERC oversight, is consistent with the FPA and NGA?

FERC believes that the answer to this question is "yes," and that this issue has been resolved by the courts. Indeed, in a 2006 decision, *California ex rel. Lockyer v. FERC*, the U.S. Court of Appeals for the Ninth Circuit did conclude that market-based rates satisfy the FPA's "just and reasonable" standard.[350] Two earlier Supreme Court decisions from the 1990s, addressing attempts by regulators to move toward market-based rates (outside of the energy industry), cast doubt on that conclusion. In 1990, in *Maislin Industries, U.S. v. Primary Steel, Inc.*, the Court overturned the ICC's decision to allow negotiated (rather than regulated) rates for certain trucking services.[351] In 1994, in *MCI Telecommunications Corp. v. AT&T*, the Court struck down an attempt by the Federal Communications Commission (FCC) to stimulate competition by waiving the filing requirement for long-distance rates charged by long-distance carriers who lacked market power.[352] In both cases, the Court found that the agency's removal of regulatory requirements in order to stimulate competition was inconsistent with the statutory scheme.

In *Lockyer*, the Ninth Circuit faced the questions of whether market-based rates for electricity charged by wholesale sellers in the dysfunctional California electricity spot markets of 2000–2001 were (1) "just and reasonable" under the FPA, and (2) protected by the filed rate doctrine. The case was an appeal from a FERC decision answering both questions in the affirmative and concluded that FERC had no power to

---

Fed. Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591, 610–11 (1944) (citations omitted).

[348] Indeed, the so-called "Mobile-Sierra" doctrine stands for the proposition that freely negotiated rates are presumed to be just and reasonable under both the FPA and NGA. For more on this doctrine, see *infra* note 356 and accompanying text.

[349] *See Hope Natural Gas*, 320 U.S. at 611–14 (holding that rates are just and reasonable if they are fair to the parties, irrespective of the method used to calculate them).

[350] 383 F.3d 1006, 1013 (9th Cir. 2004); *see also* La. Energy & Power Auth. v. FERC, 141 F.3d 364, 365 (D.C. Cir. 1998) (approving market based rates).

[351] 497 U.S. 116, 134–36 (1990).

[352] 512 U.S. 218, 234 (1994).

order refunds as a consequence. The Ninth Circuit distinguished the *Maislin* and *MCI* cases by noting that, unlike the ICC and the FCC regulatory schemes, the FPA contemplates the existence of negotiated, market-based rates. Moreover, said the court, FERC conditions its grants of power to charge market rates on the absence of market power, and monitors markets to regulate the exercise of market power when it does arise.[353] Specifically, the court concluded that market-based rates are filed rates because of the requirement that sellers periodically report information about their sales and market position to FERC; otherwise, failure to report changes in market power by sellers can trigger the finding that rates fail to satisfy the "just and reasonable" requirement of the FPA, triggering the right to retroactive refunds.[354]

While the Supreme Court denied certiorari in the *Lockyer* case, it did review a challenge to long-term wholesale power purchase contracts entered into by several wholesale buyers in western power markets shortly after the collapse of California's electricity markets discussed in the 2008 case of *Morgan Stanley Capital Group, Inc. v. P.U.D. No. 1 of Snohomish County*.[355] The *Morgan Stanley* Court concluded that the contracts at issue were protected from judicial challenge by the "Mobile-Sierra doctrine," which requires FERC to presume that freely negotiated contract rates satisfy the "just and reasonable" standard under both the FPA and the NGA.[356]

While all of this suggests that courts see FERC's approach to market-based pricing as consistent with the FPA and NGA regulatory regimes, there remains room for doubt. The *Morgan Stanley* holding confirmed only the validity of long-term contract rates negotiated between sophisticated parties, a principle that was well-established under both the FPA and NGA prior to restructuring and market-based pricing. The Supreme Court has never addressed the question of whether spot market rates are protected by the filed rate doctrine or consistent with the

---

[353] *Lockyer*, 383 F.3d at 1013. For a more detailed description of how FERC monitors markets in this way, see *supra* notes 167–180 and accompanying text.

[354] *Lockyer*, 383 F.3d at 1013. Indeed, since 2001, FERC has conditioned its grants of market-based rate making authority on the right to order retroactive refunds. *See* Order Establishing Refund Effective Date and Proposing to Revise Market-Based Rate Tariffs and Authorizations, Docket No. EL01-118-00, 97 F.E.R.C. ¶¶ 61,220, 61,975 (Nov. 20, 2001).

[355] 554 U.S. 527, 530 (2008).

[356] *Id.* at 530, 553–55. For additional support for this view, see generally Michael J. Gergen, George D. Cannon, Jr. & David G. Tewksbury, *Market-Based Ratemaking and the Western Energy Crisis of 2000 and 2001*, 24 Energy L.J. 321 (2003). For a conflicting view, see generally Norlander, *supra* note 97 (questioning the legal basis of FERC's market-based ratemaking initiative and concluding that it conflicts with FERC's statutory duty under Section 206 of the FPA).

FPA or NGA. Indeed, opponents of market-based rates can cling to an argument drawn from Justice Antonin Scalia's words in the *Maislin*, *AT&T*, and *Morgan Stanley* opinions. In *Maislin*, Justice Scalia's concurring opinion noted that "deregulation" must be accomplished within the "framework of the existing statutory scheme," and that if Congress wants the kind of deregulation the ICC is proposing, that choice is Congress's—not the ICC's—to make.[357] In *MCI*, Justice Scalia's majority opinion notes that the FCC's attempts to stimulate competition by waiving filing requirements "may be a good idea, but it was not the idea Congress enacted into law in 1934."[358] Most importantly, in *Morgan Stanley*, Justice Scalia's majority opinion goes out of its way to note that the Court specifically declined to rule on the question of whether market-based rates are consistent with the FPA, stating at the outset of the opinion that "[w]e have not hitherto approved, and express no opinion today, on the lawfulness of the market-based-tariff system."[359] Later in the opinion, he adds, "We reiterate that we do not address the lawfulness of FERC's market-based-rates scheme, which assuredly has its critics. But any needed revision in that scheme is properly addressed in a challenge to the scheme itself, not through a disfigurement of the venerable *Mobile-Sierra* doctrine."[360] For opponents of market-based rates, this language offers hope. To the extent that this remains an open question, there is an argument that the "just and reasonable" language in both the FPA and the NGA signifies Congressional intent to protect consumers against the kind of supra-competitive prices that can arise in energy markets.

Conclusion

Watching regulators grapple with the problem of market power in energy markets, one is reminded of an old joke about the economist who, while walking along a busy city sidewalk, passes by a one-hundred dollar bill lying on the ground. When asked by his friend why he did not pick up the bill, the economist responds, "That cannot be [a $100 bill]. If there were actually a $100 bill, someone would have picked it up."[361] Modern energy regulators sometimes seem to employ similarly

---

[357] *Maislin*, 497 U.S. at 138 (Scalia, J., concurring).

[358] *MCI*, 512 U.S. at 231–34.

[359] 554 U.S. at 538.

[360] *Id.* at 548.

[361] The origins of this joke are unknown. For a version of it, however, see *Funny Economists Jokes*, Workjoke: Profession Jokes, http://www.workjoke.com/economists-jokes.html (last visited Dec. 2, 2011).

unrealistic assumptions about the way energy markets work. Energy markets are more competitive than ever before, yet they do not behave the way economic models suggest they should.

Changing conditions in the oil industry, and the move from public utility regulation to competition and market-based pricing in the natural gas and electricity industries has increased the risk that powerful actors in those markets will use market power to extract rents at the expense of consumers. Believing in the benefits of competition, regulators have tried to guard against that risk by monitoring markets and providing participants in those markets with the tools to protect themselves against price risk—tools such as energy derivatives. The relationship between physical markets for energy and energy derivatives markets, however, has created new opportunities for manipulation for savvy market participants. In a partial attempt to limit those opportunities, regulators have turned to the tools of the securities laws, regulating competition in energy and energy derivatives markets by proscribing manipulation and deceit.

This regulatory approach is new to energy markets. The regulators charged with implementing it (particularly the CFTC and FERC) seem inclined to follow the lead of securities regulators by focusing their enforcement attention on actors who use deceptive methods, while taking a gentler attitude toward the capture of scarcity rents by sellers who acquire market power without using deception. In securities regulation, this focus reflects the importance of information and deception in securities markets. In energy regulation, by contrast, the ability to extract rents depends more upon the capture of market power than upon deception or misleading others. Presumably, however, energy regulators are reticent about punishing the mere exercise of market power in energy markets, because they fear that doing so will discourage entry; correspondingly, they assume that high prices will invite entry and encourage consumption. Unfortunately, in some energy markets (particularly electricity markets), participants do not respond to price signals in predictable ways.

Ironically, then, this new approach to regulation may simultaneously permit the exercise of market power and insulate supracompetitive prices from challenges based upon traditional public utility law or antitrust law principles. This is not only an irony, but also a triumph of dynamic statutory interpretation. Both the public utility statutes and the antitrust statutes were designed to limit the exercise of market power in energy markets yet, in modern energy regulation and jurisprudence, these original statutory objectives have been overtaken

by modern economic thinking about the costs and benefits of market power, and ways to address those costs and benefits.

Of course, modern American energy markets are still evolving, and regulators are evolving along with them, if usually a step or two behind. It is possible that these efforts will eventually bear fruit, that regulators will find better ways to identify and deter market power, and that energy markets will begin to behave in ways that are consistent with traditional economic expectations. Perhaps new limits on the use of energy derivatives imposed by the 2010 Dodd-Frank law will make energy derivatives markets more responsive to market fundamentals and less volatile. Perhaps the CFTC will decide to use its already-existing authority more aggressively to punish attempts to corner energy markets in the absence of deception. Perhaps FERC's market monitoring and mitigation efforts will grow more effective over time.[362] Perhaps courts will find more ways to punish egregious examples of naked market power manipulation in energy markets (as they have in securities markets), by inferring or imputing the presence of deception in those cases.

In any case, it seems unlikely that politicians and regulators will permit poorly functioning markets to persist for very long. It is often said that energy is the lifeblood of the economy,[363] and consumers will not tolerate high energy prices for sustained periods of time. At some point, politicians or FERC may lose faith in the ability of market-based rates to satisfy the "just and reasonable" standard in natural gas and/or electricity markets, or in the ability of hedgers to use derivatives to protect consumers against high prices and price volatility. For the immediate future, however, it seems that the CFTC and FERC plan on continuing to take a relatively light-handed approach to the problem of market power in energy markets.

---

[362] The automatic mitigation procedures employed by NYISO, described *supra* note 180, may represent just this kind of regulatory learning or adaptation.

[363] *See, e.g.*, United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 226 n.59 (1940) (describing the oil price fixing arrangements at issue there as a "threat to the central nervous system of the economy."); Amory B. Lovins, *DOD's Energy Challenge as Strategic Opportunity*, 57 Joint Force Q. 33, 33 (2010), *available at* http://www.ndu.edu/press/lib/images/jfq-57/lovins.pdf ("Energy is the lifeblood of modern societies and a pillar of America's prowess and prosperity."); Kathleen A. McGinty, Sec'y of the Dep't of Envtl. Prot. for the Commonwealth of Pa., Keynote Address at the Widener Law Journal Symposium, Facing Climate Change: Tools and Opportunities for Pennsylvania (Mar. 25, 2004), *in* 14 Widener L.J. 11, 18 (2004) ("Energy, as you know, is the lifeblood of our entire economy.").