

THE INTERSECTION OF MARKET MANIPULATION LAW AND MONOPOLIZATION UNDER THE SHERMAN ACT: DOES IT MAKE ECONOMIC SENSE?

*Shaun D. Ledgerwood, James A. Keyte, Jeremy A. Verlinda, and Guy Ben-Ishai**

Synopsis: Section 2 of the Sherman Act is increasingly being used to bring civil actions based on alleged acts of market manipulation. However, the elements of proof under the manipulation laws differ significantly from those required to prove a Section 2 claim, as do the types of injuries which these laws seek to address. For example, the ephemeral nature of manipulative behavior typically poses no durable anticompetitive effects on markets, as the resulting harm is limited to the time period of the fraud (or behavior otherwise creating an “artificial” price). Likewise, while the unilateral reduction of supply could raise manipulation concerns (*e.g.*, *KeySpan*), it has long been allowed under antitrust law, at least in the U.S. As practitioners in these fields, we address whether the use of antitrust laws—and, in particular, Section 2 of the Sherman Act—to address allegations of market manipulation makes economic sense.

I.	Introduction	48
II.	Summary of U.S. Market Manipulation and Antitrust Laws	51
	A. Anti-Manipulation Laws	51
	1. Fraud-Based Rules	52
	2. The CFTC’s Artificial Price Rule.....	54
	3. A Comparison of Proof of Manipulation under the Two Rules.....	54
	B. The Antitrust Laws.....	56
III.	Distinguishing Manipulative versus “Exclusionary” Behavior.....	58
	A. Acts That Can Cause a Manipulation.....	60
	1. Outright Fraud	60
	2. Transactional Fraud (<i>i.e.</i> , Intentionally-Uneconomic Behavior).....	61
	3. The Exploitation of Traditional “Market Power” in Manipulation Contexts	62
	a. “Strategic” Withholding	63

* Dr. Ledgerwood is a Principal with The Brattle Group specializing in the analysis of market manipulation in energy, commodity, financial, and securities markets. Mr. Keyte is the Director of Global Development at Brattle and the Director of The Fordham Competition Law Institute. Dr. Verlinda is a Principal with The Brattle Group specializing in the economics of antitrust claims, focusing on issues of monopolization, criminal price fixing, and merger analysis. Dr. Ben-Ishai is a Principal with The Brattle Group specializing in the economics of antitrust, securities and product liability matters. Drs. Ledgerwood and Verlinda are located in the company’s Washington, DC office. Mr. Keyte and Dr. Ben-Ishai are located in the company’s office in New York City. The authors wish to thank their many colleagues at *The Brattle Group* for their suggestions and input.

	b. “Uneconomic” Withholding	64
	4. Understanding “Market Power” in Manipulation Contexts.....	64
B.	Analysis of the Manipulation’s Linkage and Effects	66
	1. Evaluation of the Linkage between Cause and Effect.....	66
	a. Relevance of the Linkage to the Proof of Manipulation.....	67
	b. An Example of the Role of Liquidity in Manipulation.....	68
	c. The “Durability” of False or Fraudulent Information...	70
	2. Evaluation of the Manipulation’s Benefitting Positions and Leverage	71
	C. The Proof of Intent	72
IV.	Where Do Antitrust and Manipulation Law Intersect?	73
	A. Section 1 Liability for Manipulation: The KeySpan Case	74
	B. Do Section 2 and Manipulation Law Intersect?	76
	1. What if <i>KeySpan</i> Involved Unilateral Behavior?	76
	2. A Key Threshold Issue: Is the Manipulator Also a “Monopolist”?	77
	a. Should the Assessment of Monopoly Power Be an “Ex Ante” Exercise?.....	78
	b. The Requirement of “Durable” Monopoly Power.....	79
	c. It is Questionable to Infer Monopoly Power Solely from the Effects of Fraud.....	80
	3. Manipulation and the Section 2 Conduct Element	81
	a. “Leverage” in Manipulation Law vs. “Leverage” in Antitrust.....	81
	b. Potential Confusion over the Role of “Intent”	83
	C. Should Antitrust Be Used as an Additional Deterrent to Manipulation?	84
V.	Conclusion	85

I. INTRODUCTION

A *market manipulation* occurs when an economically rational actor injects information into the market to cause demand or supply to “falsely” or “artificially” deviate from their economic fundamentals.¹ For example, energy traders were alleged to place uneconomic bids or offers of power or natural gas to bias prices to artificially raise or lower closing prices (*i.e.*, “mark the close”) to benefit their derivatives or physical positions that were valued based on those prices.² As another example concerning the London InterBank Offered Rate (LIBOR), which is

1. We offer this definition of market manipulation given that there is no consensus as to how to define the phenomenon holistically under the existing U.S. anti-manipulation rules, based on the perpetration of a “fraud” or the creation of an “artificial price.” We discuss these rules in detail herein.

2. See, *e.g.*, *Constellation Energy Commodities Grp.*, 138 F.E.R.C. ¶ 61,168 at P 1 (2012) (alleged use of physical and “virtual” power trades to bias the value of derivatives contracts); *Energy Transfer Partners*, 120

the primary benchmark for short-term interest rates globally, LIBOR traders were accused of providing false quotes to bias a trade-based settlement (the British Bankers Association's London "fix") to benefit the values of positions tied to that benchmark.³ These deviations can cause unjustifiable wealth transfers and inefficient long-term investments. Manipulation also undermines trust in markets and can reduce economic efficiency even after the manipulative behavior has stopped.

To address concerns of manipulation, Congress provided several regulatory agencies with broad enforcement powers through anti-manipulation rules prohibiting the use of fraud or the creation of an "artificial" price. These prohibitions lie in contrast with the antitrust laws, which (broadly) are designed to address anti-competitive behavior that harms markets and consumers.⁴ Due to the jurisdictional limits of the regulatory agencies' authority,⁵ the inability for injured parties to seek relief under certain anti-manipulation statutes,⁶ and the lure of treble damages, private causes of action for manipulative acts are increasingly brought under the U.S. antitrust laws,⁷ typically alleging a collusive agreement amongst competitors under Section 1 of the Sherman Act.⁸

More recently, however, plaintiffs are invoking Section 2 of the Sherman Act, which does not require coordinated behavior.⁹ Indeed, a recent claim related to an alleged manipulation of electricity prices brought under Section 2 survived a motion to dismiss¹⁰ and settled for \$29 million,¹¹ allowing claimants otherwise foreclosed from relief under the existing manipulation rules to seek recovery under

F.E.R.C. ¶ 61,086 at P 5 (2007) (alleged use of uneconomic and fraudulent acts to lower natural gas prices to benefit a net-short physical index position and other financial derivatives that were directionally "short" to those prices).

3. See, e.g., Memorandum of Law in Opposition to Defendants' Motion to Dismiss the Schwab Plaintiffs' Amended Complaints at 8, *In re LIBOR-Based Fin. Instruments Antitrust Litig.*, 935 F. Supp. 2d 666 (S.D.N.Y. 2012) (No 1:11-md-2262-NRB).

4. See, e.g., *Atlantic Richfield Co. v. USA Petroleum Co.*, 495 U.S. 328, 334 (1990) (antitrust injury refers to the injury "attributable to an anticompetitive aspect of the practice under scrutiny.").

5. For example, FERC's lawsuit seeking to enforce its \$30 million civil penalty against Amaranth Advisors' trader Brian Hunter was dismissed by the court, which found that the CFTC has exclusive jurisdiction over the subject matter of the case. Consent Order for Civil Monetary Penalty and Other Equitable Relief against Brian Hunter, CFTC v. Brian Hunter, 07-Civ-6682 (RA), (S.D.N.Y., Sept. 15, 2014).

6. A private cause of action is not allowed under the anti-manipulation statute of FERC. Order No. 670, 18 C.F.R. §§ 1c.1(b) and 1c.2(b) (2010). The FERC's anti-manipulation rule is codified in 18 C.F.R. § 1c (2010), as enabled by the Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005), amending the Federal Power Act, 15 U.S.C. § 717c-1 and the Natural Gas Act, 16 U.S.C. § 824v(a). "Rule 1c" was adopted by the Commission on January 19, 2006. Order No. 670, *Prohibition of Energy Market Manipulation*, F.E.R.C. STATS. & REGS. ¶ 31,202, 71 Fed. Reg. 4,244 (2006).

7. Collectively, the U.S. antitrust laws consist of the Sherman Antitrust Act, 15 U.S.C. §§ 1-7 (1890); the Clayton Act, 15 U.S.C. §§ 12-27, 29 U.S.C. § 52-53 (1914); and the Federal Trade Commission Act, 15 U.S.C. §§ 41-58 (1914).

8. Section 1 states: "Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal." 15 U.S.C. § 1.

9. Section 2 states: "Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony [. . .]." 15 U.S.C. § 2.

10. *Merced Irrigation Dist. v. Barclays Bank PLC*, 165 F. Supp. 3d 122, 147 (S.D.N.Y. 2016).

11. Final Order and Judgment at 4, *Merced Irrigation Dist. v. Barclays Bank PLC*, No. 1:15-cv-04878-VM-GWG (S.D.N.Y. 2018).

anti-monopolization laws.¹² And the survival of several other cases asserting Section 2 claims based on some form of manipulation arguably makes this an emerging trend that warrants attention.¹³

These developments raise several interesting questions relevant to the intersection of antitrust and market manipulation law, particularly with respect to the prohibition against “monopolization” under Section 2 of the Sherman Act. To what extent do the elements of proof for manipulation align with those in antitrust under Section 2, particularly with respect to defining “market power” or “exclusionary” behavior? What gaps in problematic behavior does Section 2 cover that existing manipulation law does not, and vice versa? To what extent do the injuries covered by antitrust and manipulation law align? Finally, given the role that private antitrust suits have played to deter anticompetitive behavior—even when the regulatory agencies have withheld action—should antitrust suits provide a similar backstop in the deterrence of manipulative behavior?

As we will discuss, the elements of proof required by market manipulation and Section 2 differ significantly, due primarily to nature of the problematic behavior at issue—*e.g.*, fraud versus exclusionary conduct—and the durability of its effects. The nature of the injuries addressed also differ, with manipulation law focused on redressing the effects of market distortions caused by the behavior and antitrust focused on anticompetitive effects on ultimate consumers. Despite this, some courts considering the issues have allowed Section 2-based manipulation claims to proceed by inferring evidence of monopoly power, even when the concerning behavior and its effects lasted only ephemerally.¹⁴ Given the possibility that such inferences can lead to unwarranted Section 2 claims—and the attendant threat of treble damages—it is possible that this trend will cause market participants to withhold legitimate trades from the marketplace, thus robbing those markets of liquidity and increasing the ability of bad market actors to more easily use their “market power” in manipulative ways.

We begin by providing a discussion of the U.S. market manipulation laws, comparing them to U.S. antitrust laws. This reveals similarities and key differences in the standards required to prove liability under the two sets of laws. We next compare and contrast the economics of proving (or disproving) the elements of a market manipulation claim with the principles used in antitrust economics. While the mechanics of proving a claim brought under the anti-manipulation laws versus Section 2 of the Sherman Act can be similar, the nature of what is a cognizable violation is quite different between the two standards. Hence, we examine next points of intersection between antitrust and manipulation law by examining

12. The plaintiffs in this case were wholesale power customers who claimed to have been injured by the alleged manipulation of power prices by four Barclays Bank traders, activity that was prosecuted by a FERC enforcement action and settled for \$105 million. *Barclays Bank PLC*, 144 F.E.R.C. ¶ 61,041 (2013) (Order Assessing Civil Penalties), *Barclays Bank PLC*, 161 F.E.R.C. ¶ 61,147 (2017) (Order Approving Stipulation and Consent Agreement).

13. See, *e.g.*, *In re Crude Oil Commodity Futures Litig.*, 913 F. Supp. 2d 41 (S.D.N.Y. 2012); *In re Zinc Antitrust Litig.*, 155 F. Supp. 3d 337 (S.D.N.Y. 2016); *Thompson’s Gas & Elec. Serv., Inc. v. BP America Inc.*, 691 F. Supp. 2d 860 (N.D. Ill. 2010); *In re Dairy Farmers of Am., Inc. Cheese Antitrust Litig.*, 767 F. Supp. 2d 880 (N.D. Ill. 2011); *Shak v. JPMorgan Chase & Co.*, 156 F. Supp. 3d 462 (S.D.N.Y. 2016).

14. See *e.g.*, *In re Dairy Farmers*, 767 F. Supp. 2d at 904.

a case involving allegedly-manipulative behavior that was first considered by the agency with anti-manipulation authority, then later brought as a complaint under the antitrust laws. We use this case to help frame several questions that are central to the future application of antitrust law to market manipulation cases, particularly in cases involving unilateral conduct.

II. SUMMARY OF U.S. MARKET MANIPULATION AND ANTITRUST LAWS

Below, we discuss the statutes that empower four U.S. agencies with anti-manipulation enforcement authority—the Securities Exchange Commission (SEC), the Commodities Futures Trading Commission (CFTC), the Federal Energy Regulatory Commission (FERC), and the Federal Trade Commission (FTC)—and discuss the relevant antitrust laws enforced by the U.S. Department of Justice (U.S. DOJ) and FTC.¹⁵ Differences between these two bodies of law are unsurprising given the dissimilar circumstances that drove their need. However, because antitrust laws are increasingly being used to bring claims associated with manipulative acts, valid questions emerge as to whether these differences might somehow restrict the types of manipulative acts that can give rise to causes of action under antitrust principles.

A. Anti-Manipulation Laws

There are two types of market manipulation rules in the United States: fraud-based rules, including or based upon the SEC's Rule 10b-5;¹⁶ and the CFTC's "artificial price" rule, contained within the Commodity Exchange Act (CEA).¹⁷ As we will discuss later, some types of behavior prohibited by these rules can exhibit economic characteristics that are analogous to those presented in some antitrust claims. It is noteworthy that similar anti-manipulation laws are in place in the European Union (EU),¹⁸ suggesting that the discussion presented here also is relevant to the EU given competition laws similar to those used in the United States.¹⁹

15. While the discussion here centers on the U.S. anti-manipulation and antitrust laws, the concepts presented herein apply to other contexts where similar regulations are in place, including, for example, the European Union.

16. The SEC's anti-manipulation rule is codified at 17 C.F.R. § 240.10b-5 (2011) (promulgated under the authority granted in 15 U.S.C. § 78j(b)).

17. 7 U.S.C. § 13b, as contained in the Commodities Exchange Act (7 U.S.C. § 1 (2006)). Passed at the time of the CFTC's creation in 1974, the artificial price rule was designed to enhance the Commission's previously-existing anti-manipulation authority under Section 9(a)(2) of the CEA.

18. See, e.g., Regulation (EU) No 1227/2011 of the European Parliament and of the Council of 25 October 2011 on wholesale market integrity and transparency (REMIT) (anti-manipulation regulation covering wholesale power and gas transactions, which includes fraud-based and artificial price rules); and Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (market abuse regulation) and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC.

19. Cf. Treaty on the Functioning of the European Union (TFEU) art. 101 and 102 with Sherman Act Sections 1 and 2, respectively.

1. Fraud-Based Rules

The original regulation prohibiting fraud-based manipulation is the SEC's Rule 10b-5, which prohibits (among other fraudulent acts) the use of a fraudulent device, scheme, or artifice in connection with the sale or purchase of a security made with the requisite *scienter* (fraudulent intent).²⁰ The elements of proof for a private cause of action involving a manipulative purchase or sale of securities under this rule are: "(1) a material misrepresentation or omission by the defendant; (2) scienter (intent); (3) a connection between the misrepresentation or omission and the purchase or sale of the security; (4) proof of reliance upon the misrepresentation or omission; (5) economic loss; and (6) loss causation."²¹ Only the first three elements need be shown by the SEC to bring a successful enforcement action under 10b-5—*i.e.*, there is no requirement to prove that the manipulative activity actually had a market impact under a fraud-based rule.²²

The case law shows that Rule 10b-5 has been effective against a variety of manipulative behaviors. For example, these include "spoofing," where bids or offers are placed with no intent of execution to motivate artificial price changes;²³ "pump-and-dump" schemes in which false information or uneconomic trades are used by the shareholders of a stock to "pump up" its price, allowing them to sell the stock at artificially high prices;²⁴ "marking the close," in which large, uneconomic buy or sell orders are placed at the end of the trading period to move the end-of-day "mark" up or down (respectively);²⁵ or "front running," in which stock traders buy or sell stock in advance of filling a large customer order, then fill the order uneconomically to create an artificially large price movement, allowing the trader to liquidate the position more profitably.²⁶

As concerns of fraudulent behavior emerged in other U.S. markets over time, Congress provided various regulatory agencies with their own fraud-based anti-manipulation authority:

- In the wake of Enron and the Western Power Crisis, FERC was given its current anti-manipulation authority through the *Energy Policy Act of 2005*,²⁷ which ties to the same statutory supports underlying the SEC's Rule 10b-5.²⁸ FERC adopted its new fraud-

20. 15 U.S.C. § 78j, codified in 17 CFR § 240.10b-5, subpart (a).

21. *Stoneridge Inv. Partners, LLC v. Sci-Atlanta, Inc.*, 128 S.Ct. 761, 768 (2008).

22. *Koch v. SEC*, 793 F.3d 147, 155 (D.C. Cir. 2015) ("The Court did not, by this language, require the SEC to prove actual market impact, as opposed to intent to affect the market, before finding liability for manipulative trading practices.").

23. *See, e.g.*, *SEC v. LEK Sec. Corp. et al.*, 276 F. Supp. 3d 49 (S.D.N.Y. 2017).

24. *See, e.g.*, Complaint, *SEC v. Eddy U. Marin and Shane R. Spierdowis*, No. 18-cv-21744 at 3 (S.D. Fla. 2018).

25. *See, e.g.*, Complaint, *SEC v. David Aubel and Robert Raffa*, No. 16-cv-10670 at 12 (D. Mass. 2016).

26. *See, e.g.*, *SEC v. Daniel Bergin, et al.*, No. 3:13-cv-1940 (N.D. Tex. 2013).

27. *See supra* note 6 and accompanying text.

28. 17 C.F.R. § 240.10b-5.

based anti-manipulation “Rule 1c” in 2006²⁹ and has used it frequently ever since.³⁰

- Following concerns of “excessive speculation” in oil and distillate markets, Congress gave the FTC 10b-5-based anti-manipulation authority through the *Energy Independence and Security Act of 2007*,³¹ which led to the promulgation of a final rule in 2009.³² The FTC has not used this anti-manipulation rule, leaving such enforcement to traditional regulators like the CFTC and FERC, who have active market surveillance and oversight programs.³³
- Following the 2008 Financial Crisis, the *Dodd-Frank Wall Street Reform and Consumer Protection Act*³⁴ (Dodd-Frank) added new fraud-based authority to the CFTC’s existing anti-manipulation powers (based on the creation of an “artificial” price).³⁵ The agency codified this as a new provision, 6(c)(1), in the CEA³⁶ and since has ramped up its enforcement efforts, garnering several settlements³⁷ and bringing some cases to court.³⁸

Despite concerns that portions of Dodd-Frank or other U.S. regulations might be “dismantled” or repealed outright under the Trump Administration,³⁹ the CFTC

29. 18 C.F.R. § 1c.

30. As of January 8, 2019, FERC has recovered over \$776 million in civil penalties, almost \$511 million in disgorgement and \$8.2 million of “other payments.” See FERC, CIVIL PENALTIES <https://www.ferc.gov/enforcement/civil-penalties/civil-penalty-action.asp?csr=16524958176462213036> (last visited Mar. 26, 2019).

31. 42 U.S.C. §§ 17301-17386 (2007).

32. The FTC’s anti-manipulation rule is codified in 16 C.F.R. Part 317, as enabled by Section 811 of Subtitle B of Title VIII of The Energy Independence and Security Act of 2007, 42 U.S.C. 17301-17305 (2007).

33. See THE GLOBAL ANTITRUST ECONOMICS CONFERENCE, INTERVIEW WITH PATRICIA GALVAN (Aug. 2, 2016), <http://www.eventbrite.com/e/interview-with-patricia-galvan-the-global-antitrust-economics-conference-tickets-26648344917>. Ms. Galvan is Deputy Assistant Director of the FTC’s Mergers III branch, and appeared as a panelist during The Global Antitrust Economics Conference.

34. Pub. L. No. 111-203, 124 Stat. 1376 (2010).

35. 7 U.S.C. § 9(1) and 7 U.S.C. § 13b, as amended by § 753 of Dodd-Frank (2010). Note that the prior authority to address manipulation existed in Section 9(a)(2) of the CEA before the CFTC was formed. Hofmayer v. Dean Witter & Co., 459 F. Supp. 733, 737–38 (N.D. Cal. 1978) (“A private right of action had been recognized, however, to enforce the anti-fraud provisions of the Commodity Exchange Act as it existed prior to the 1974 amendments The 1974 Act retained and strengthened the statutory prohibitions against fraud and manipulation.”) (citations omitted). However, fraud was not a necessary element of proof under Section 9(a)(2). See CFTC v. Kraft Foods Grp., Inc., 153 F. Supp. 3d 996, 1010 (N.D. Ill. 2015) (“[q]uite simply, Section 6(c)(1) contains explicit language requiring fraud, and Section 9(a)(2) does not.”).

36. See 17 C.F.R. Part 180 [hereinafter CFTC Manipulation Rule]. This is codified as a new provision 6(c)(1) in the CEA. 17 C.F.R. Part 180.1.

37. See, e.g., *Citibank, N.A.*, CFTC Docket No. 16-16 (May 25, 2016) (order imposing sanctions and reaching a \$250 million settlement for alleged manipulation of ISDAfix).

38. See, e.g., CFTC v. Kraft Foods Grp., No. 15-cv-02881 (N.D. Ill. 2015); CFTC v. Wilson, No. 13-cv-07884 (S.D.N.Y. 2013) (case dismissed in 2018).

39. Marilyn Geewax, *Trump Team Promises to “Dismantle” Dodd-Frank Bank Regulations*, NPR (Nov. 10, 2016), <http://www.npr.org/sections/thetwo-way/2016/11/10/501610842/trump-team-promises-to-dismantle-dodd-frank-bank-regulations>.

remains highly active in bringing enforcement actions against manipulative or disruptive trading practices.⁴⁰

2. The CFTC's Artificial Price Rule

Upon its creation, the CFTC received enhanced anti-manipulation authority through the Commodity Futures Trading Commission Act of 1974,⁴¹ which prohibited acts that intentionally result in the creation of an “artificial” price.⁴² Dodd-Frank retained this provision with the agency’s new fraud-based authority to maximize its anti-manipulation powers.⁴³ Consistent with the elements of proof under its original rule, proof of a manipulation under the artificial price standard requires showing:

- (1) That the accused had the ability to influence market prices; (2) that the accused specifically intended to create or effect a price or price trend that does not reflect legitimate forces of supply and demand; (3) that artificial prices existed; and (4) that the accused caused the artificial prices.⁴⁴

Whereas the burden of proof for an actual manipulation under a fraud-based standard requires the demonstration of cause and effect combined with fraudulent intent, proof of an actual manipulation under this rule requires the proof of causation, the intent (as well as ability) to create an artificial price, and demonstration that artificial prices existed—*i.e.*, that the manipulation had an actual effect.⁴⁵ Prosecution has proved difficult under this standard, due in part to the difficulty of differentiating an “artificial” price from a “normal” one in actively traded markets.⁴⁶

3. A Comparison of Proof of Manipulation under the Two Rules

While artificial price (*e.g.*, CEA Section 6(c)(3)) and fraud-based (*e.g.*, CEA Section 6(c)(1)) anti-manipulation rules have different legal standards of proof,⁴⁷ both follow a roughly equivalent economic logic of cause and effect. For example,

40. Gabriel T. Rubin, *Market Cheats Getting Caught in Record Numbers*, WALL STREET JOURNAL (Oct. 31, 2018), <https://www.wsj.com/articles/u-s-market-manipulation-cases-reach-record-1540983720> (October 31, 2018).

41. Pub. L. No. 93-463 (1974). This enhanced the existing anti-manipulation authority already available under Section 9(a)(2) of the CEA.

42. 7 U.S.C. § 13b (2011).

43. The new artificial price rule is codified as a new provision 6(c)(3) in the CEA. CFTC Manipulation Rule, 17 C.F.R. Part 180.2.

44. Final Rulemaking, *Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices - Prohibition on Price Manipulation*, 76 Fed. Reg. 41398, 41407 (to be codified at 17 C.F.R. pt. 180).

45. *Id.*

46. *See, e.g.*, CFTC v. Wilson, No. 13-cv-07884, at 18 (S.D.N.Y. 2018).

Proving the existence of an artificial price is difficult - and with good reason. As Judge Scheindlin noted in *Amaranth*, “[t]he laws that forbid market manipulation should not encroach on legitimate economic decisions lest they discourage the very activity that underlies the integrity of the markets they seek to protect. (Citation omitted).

47. *See, e.g.*, CFTC v. Kraft, 153 F. Supp. 3d at 1007 (“[t]here is no indication, in case law or elsewhere, that these new manipulation provisions—Section 6(c)(1) and Regulation 180.1—are governed by the same four part test that applies in cases under Section 6(c)(3) and Section 9(a)(2).”).

consider three examples that are consistent with a manipulation designed to increase the value of a derivatives position for natural gas by increasing the market price at a specific trading hub:

- A trader issues a false storage report predicting a large shortage at the hub, causing the market price to increase, thus benefiting its derivatives position;
- A trader buys natural gas in large quantities and at uneconomically high prices during the settlement period for the derivatives at the hub, thus benefiting its derivatives position; or
- A trader strategically withholds a large quantity of natural gas from the hub, thus benefiting its derivatives position.

These examples share a common sense of cause and effect, with the cause (outright fraud, intentionally-uneconomic trading, or the strategic use of market power) leading to a price effect in a linked market that benefits the value of a position tied to it (the derivatives).

Intentionally-uneconomic acts and some types of withholding, (the last two examples), have aspects that could be viewed as fraudulent while the price effect created by the false report (the first example) is no less “artificial.” As such, the intent requirements⁴⁸ of both rules can be satisfied simultaneously by proof of the intent behind the causal act and its resulting effect. Proof of the linkage between cause and effect is also similar under the two types of rules; proving the suspect’s employment of a manipulative device under a fraud-based theory is economically equivalent to proving its ability to cause that manipulative device to operate under the artificial price rule. Likewise, a potential defense to manipulative intent under either type of rule can be asserted if the causal act(s) can be shown to have served a *stand-alone legitimate business purpose* for the actor—*e.g.*, that the large purchase of the natural gas in the above example was necessitated by actual demand presented after the derivatives were acquired.

A key advantage for regulators bringing an enforcement action under a fraud-based rule is that proof of the creation of an actual artificial price is not needed to prove a manipulation.⁴⁹ This difference is material because the measurement of an artificial price can be challenging (at best) in an actively traded market—which explains why the CFTC successfully proved only one actual manipulation prior to 2010 using its rule,⁵⁰ and why it sought a fraud-based rule from Congress via Dodd-Frank.⁵¹ However, this difference is irrelevant if the party with the burden of proof seeks only to show that an *attempted* manipulation occurred. If so, the

48. This includes both the scienter requirement under fraud-based rules and the intent to create an artificial price under the CFTC’s artificial price statute. Courts have used parallel logic in assessing intent in anti-manipulation enforcement actions. *Koch*, 793 F.3d at 155 (intent to satisfy the scienter requirement of 10b-5 discussed as an intent to create an artificial market outcome).

49. However, a court in a recent CFTC enforcement action ruled that proof of a manipulation requires proof of the accused’s intent to cause artificial prices. Given lack of any such proof, the case was dismissed. *CFTC v. Wilson*, No. 13-cv-07884.

50. *DiPlacido*, [2007-2009 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 30,970 (CFTC Nov. 5, 2008).

51. COMMODITY FUTURES TRADING COMM’N, ANTI-MANIPULATION AND ANTI-FRAUD FINAL RULES (2010), https://www.cftc.gov/sites/default/files/idc/groups/public/@newsroom/documents/file/amaf_factsheet_final.pdf.

elements for proof essentially converge under both types of rules,⁵² as the proof of price effects, (and any related claims for damages or disgorgement), is then irrelevant.

If fraud is proven, criminal liability can attach for manipulation under several statutes, including wire fraud, commodities fraud or mail fraud, as well as conspiracy to commit these acts. The civil penalties for manipulation are also high, with some statutory penalties set originally at \$1 million per incident, per day,⁵³ and adjusted upward for inflation.⁵⁴

B. *The Antitrust Laws*

The relevant competition laws that potentially cover market manipulation are those which deal with collusive behavior in restraint of trade (Sherman Act Section 1 in the United States and Article 101 in the TFEU, hereinafter “Section 1” or “collusion” claims),⁵⁵ those which deal with unilateral conduct (Sherman Act Section 2 in the United States and Article 102 in the TFEU, hereinafter “Section 2” claims),⁵⁶ and the resulting case law that has refined and modified these over time.

There is no statutory antitrust claim focused on “manipulation.”⁵⁷ Nevertheless, civil causes of action covering allegedly-manipulative acts have recently included Section 1 and Section 2 claims.⁵⁸ Section 1 claims involve cases where traders across independent competitors allegedly coordinated their attempts to manipulate indices,⁵⁹ although they also can include explicit agreements to generate the funding necessary to make the alleged manipulation profitable.⁶⁰ Historically, Section 2 claims based on manipulative acts are far less common, given that the requisite element of “monopoly power”—*i.e.*, market dominance within a well-defined product and geographic market—usually is lacking (we discuss this in greater detail below).⁶¹ However, some courts seem willing to allow such claims

52. While the artificial price rule requires the additional proof of the accused’s ability to create an artificial price, such ability is usually shown concomitantly with proof of the causation and intent behind the behavior.

53. See 16 U.S.C. § 825o-1 (2005) (FERC civil penalty authority under the Federal Power Act).

54. Bipartisan Budget Act of 2005, Pub. L. No. 114-74, § 701, 129 Stat 584 (2015).

55. Sherman Act, 15 U.S.C. § 1 (2004).

56. *Id.* § 2.

57. General perceptions that manipulative behavior and anticompetitive behavior were distinct were provided in comments on the FTC’s anti-manipulation rule: “Congress’ choice of other models for the text for Section 811, which do not consider the competitive effect of conduct, demonstrates that Section 811 was not designed to overlap with the antitrust laws. Further, EISA Section 815(b) explicitly states that it does not ‘modify, impair, or supersede the operation of any of the antitrust laws.’ It would be inconsistent with this explicit savings clause to interpret Section 811 to apply to the same conduct as the antitrust laws apply and to impose different standards than do the antitrust laws.” ABA SECTION OF ANTITRUST LAW, COMMENTS ON FEDERAL TRADE COMMISSION “MARKET MANIPULATION” RULEMAKING (June 23, 2008), https://www.americanbar.org/content/dam/aba/administrative/antitrust_law/comments_ftcanpr.pdf.

58. See, e.g., *In Re: Chicago Bd. Options Exch. Volatility Index Antitrust Litig.*, 325 F. Supp. 3d 1374 (N.D. Ill. 2018).

59. See, e.g., Consolidated Amended Complaint, *In re Foreign Exch. Benchmark Rates Antitrust Litig.*, 13-cv-07789-LGS (S.D.N.Y. 2014).

60. See, e.g., *U.S. v. KeySpan Corp.*, 763 F. Supp. 2d 633 (S.D.N.Y. 2011).

61. As an exception, see *In re Term Commodities Cotton Futures Litig.*, No. 12 Civ. 5126 (ALC), *41-42 (S.D.N.Y. 2013) (market participant controlled large percentage of trades in a futures contract and thus was viewed as dominant).

to survive, at least at the motion to dismiss stage, based in part on what is referred to as “direct evidence” of monopoly power without complete reliance on market definition or market shares.⁶² For example, in *Merced Irrigation District*, a Section 2 claim against Barclays Bank, PLC for the alleged manipulation of power prices in the California ISO survived a motion to dismiss based on this theory.⁶³

As it relates to the subject of this article, the concept of “market power” or “monopoly power” is a critical one, particularly as it would appear to mean different things in these distinct regulatory contexts. Considering the application of antitrust law to manipulation, however, raises a threshold question as to what “market power” means and how it should be used in the different contexts. For example, the simple exploitation of market power does not necessarily constitute a violation of antitrust rules for abuse of monopoly power, at least under U.S. law.⁶⁴ A firm with monopoly power is generally expected to price its products or purchases to maximize profits, while, by contrast, regulatory oversight in certain industries (e.g., electricity, natural gas, telecommunications and consumer finance) may expressly restrict that ability through mitigation measures. Section 2 of the Sherman Act instead focuses on limiting *exclusionary conduct* that tends, through various means, to augment or preserve that power by improperly foreclosing opportunities of rivals.⁶⁵ As we discuss below, this is both a standard and limiting principle not found in manipulation law.

Thus, in antitrust contexts, an abuse of monopoly power encompasses behavior that harms rivals in a manner that must also harm consumers, such as predatory pricing,⁶⁶ exclusive dealing,⁶⁷ or other vertical restraints that may raise rivals costs or foreclose enough competition to affect market price. For example, behaviors such as tying,⁶⁸ bundling,⁶⁹ loyalty discounts,⁷⁰ or most-favored nation clauses⁷¹ have been considered possible means by which a firm with monopoly power might

62. See, e.g., *In Re: Zinc*, 155 F. Supp. 3d at 381; *Thompson’s Gas*, 691 F. Supp. 2d at 863; *In re Dairy Farmers*, 767 F. Supp. 2d at 902; *Shak*, 156 F. Supp. 3d at 486.

63. *Merced*, 165 F. Supp. 3d at 147.

64. By comparison, the exploitation of market dominance can be actionable under EU competition law and arguably has broader application. See James Keyte, *Why the Atlantic Divide on Monopoly/Dominance Law and Enforcement Is So Difficult to Bridge*, 33 ANTITRUST 113 (2018), https://awards.concurrences.com/IMG/pdf/fall18-keyte_c_.pdf?46917/c1e54a7d6d1a6274db374bd2b5715e1fc8d2bb3.

65. *Verizon Commc’ns v. Law offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004) [hereinafter *Trinko*]; *U.S. v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001). Areeda and Hovenkamp define exclusionary behavior as acts that:

(1) are reasonably capable of creating, enlarging, or prolonging monopoly power by impairing the opportunities of rivals; and (2) that either (2a) do not benefit consumers at all, or (2b) are unnecessary for the particular consumer benefits that the acts produce, or (2c) produce harms disproportionate to the resulting benefits.

Phillip Areeda & Herbert Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and their Application* ¶ 651a (Wolters Kluwer 2d ed. 2002).

66. See, e.g., *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993); *Matsushita v. Zenith Ratio Corp.*, 475 U.S. 574 (1986).

67. See, e.g., *U.S. v. Dentsply Int’l*, 399 F. 3d 181 (3d Cir. 2005).

68. See, e.g., *Eastman Kodak v. Image Tech. Servs.*, 504 U.S. 451 (1992); *Microsoft*, 253 F.3d 34.

69. See, e.g., *Le Page’s Inc. v. 3M Co.*, 324 F.3d 141 (3d. Cir. 2003).

70. *Id.*

71. See, e.g., *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039 (8th Cir. 2000).

harm competition. Critically, however, unlike market manipulation, these acts have generally been found to be violations of Section 2 only when they result in the creation or protection of *durable* monopoly power—*i.e.*, the immediate effects of the conduct, taken alone, is not enough.⁷²

Finally, in modern practice (at least under Section 2) the determination of a potential long-term output reduction examines whether the behavior in question is exclusionary and has no underlying business justification⁷³—*i.e.*, essentially a “rule of reason” type analysis of various unilateral behaviors or “vertical” agreements.⁷⁴

From the perspective of providing aggrieved parties some basis for relief, it is logical that antitrust might be seen, by some, as an appropriate outlet if no anti-manipulation laws were in force at the time the behavior occurred (*e.g.*, complaints involving LIBOR,⁷⁵ FOREX,⁷⁶ ISDAfix⁷⁷, and metals⁷⁸) or if the existing manipulation laws failed to provide a cause of action (*e.g.*, *Merced Irrigation District*).⁷⁹ Yet, some important incongruities exist suggesting that antitrust may not be appropriate or malleable enough to accommodate certain acts that can cause a manipulation, particularly if the basis for relief is limited to Section 2. Because a deeper understanding of the economics that are used to prove manipulative acts versus those used to prove anticompetitive behavior is helpful to this discussion, we turn now to a discussion of the different types of behavior that can violate the market manipulation and antitrust laws.

III. DISTINGUISHING MANIPULATIVE VERSUS “EXCLUSIONARY” BEHAVIOR

The breadth of behavior that has been prosecuted under the market manipulation rules has led some to a false impression that the phenomenon cannot be defined,⁸⁰ with the concern that regulators have overly-broad discretion to bring

72. For an interesting example of this principle applied to a FERC-related manipulation case, see *Rio Grande Royalty Co, Inc. v. Energy Transfer Partners, L.P.*, 786 F. Supp. 2d 1202 (2009) [hereinafter *Rio Grande*] (suppression of monthly natural gas prices across ten bidweeks was insufficient to prove the defendant possessed sustained monopoly power sufficient to support a claim for attempted monopolization).

73. See Herbert J. Hovenkamp, *The Antitrust Standard for Unlawful Exclusionary Conduct*, UNIV. OF PENN. L. SCH. (July 6, 2008), http://scholarship.law.upenn.edu/faculty_scholarship/1777.

74. See, *e.g.*, *Leegin Creative Leather Prod., Inc. v. PSKS, Inc.*, 551 U.S. 877 (2007) (where the court reversed the per se illegality of resale price maintenance standard it had set in *Dr. Miles and Colgate*, and the evolution from per se illegality (*Standard Oil*) towards a rule of reason standard (*Jefferson Parish, Independent Ink*) for tying and bundling.); *Dr. Miles Med. Co. v. John D. Park & Sons Co.*, 220 U.S. 373 (1911); *U.S. v. Colgate & Co.*, 250 U.S. 300, 307 (1919); *Standard Oil Co. v. U.S.*, 337 U.S. 293, 305-06 (1949); *Jefferson Parish Hosp. Dist. v. Hyde*, 466 U.S. 2, 9, 16-18 (1984); *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 126 S. Ct. 1281, 1292 (2006).

75. *In re Libor*, No 1:11-md-2262-NRB (S.D.N.Y. 2012).

76. *In re Foreign Exch.*, 13-cv-07789-LGS (S.D.N.Y. 2014).

77. *Alaska Elec. Pension Fund v. Bank of Am.*, No. 14-cv-07126 (S.D.N.Y. 2014).

78. See, *e.g.*, *In Re: Zinc*, No. 14-cv-3728 (KBF) (S.D.N.Y. 2016) (granting Motion to Dismiss Complaint on January 7, 2016, but allowing leave to amend). A Second Amended Class Action Complaint, filed on Feb. 11, 2016, partially survived another Motion to Dismiss. *Id.* (Partially dismissing the Complaint as to the Clayton Act claims but allowing the remaining claims to proceed).

79. *Merced*, 165 F. Supp. 3d at 147.

80. See, *e.g.*, Albert S. Kyle & S. Viswanathan, *How to Define Illegal Price Manipulation*, THE AM. ECONOMIC REV., 98 (2008), <http://w4.stern.nyu.edu/finance/docs/pdfs/Seminars/081m-kyleviswanathan.pdf>

enforcement actions based on an imprecise, “we know it when we see it” standard. From an economist’s perspective, the lack of a precise definition can lead to significant market inefficiency, caused in large part by fears that legitimate behavior might be identified wrongly by a regulator as manipulative—a “false positive.” Because the cost to defend against a manipulation investigation is large, many market participants simply opt not to engage in legitimate trades, thus robbing the market of liquidity and denying society the efficiency benefits which those trades would provide.

However, market manipulation is definable if viewed from the perspective of cause and effect. The cause of the manipulation is an act designed to create a distortion in the market away from its fundamentals, such as by executing uneconomic buy or sell orders during a settlement period to bias the price up or down (respectively). This act biases a market-related mechanism (such as the settlement price), that has the effect of increasing the value one or more positions to benefit the actor (such as financial derivatives tied to that price). Whether viewed under a fraud-based standard or artificial price rule, proof of the manipulation then requires showing that these elements were used intentionally to exploit the causation of the manipulative device presented.⁸¹

The temptation may be to extend these principals to an antitrust setting. For example, a firm could uneconomically buy up labor supplies to cause an increase in its rivals’ costs, which in the long run may have the effect of putting the rivals out of business to the benefit of the firm’s ability to later charge supra-competitive, market-wide prices. However, this example speaks to differences in the nature of the harms that the manipulation and antitrust laws seek to address. Whereas violations under manipulation law can be based on harms caused by short-run distortions of competitive processes, a Section 2 violation generally requires an effect that manifests over a longer time horizon—the notion of “durability.”⁸² Ephemeral effects that are easily correctable by normal market forces do not suffice. Thus, while these statutes may at times intersect, such as when harm over the long run might be measured as the cumulative harm incurred over shorter periods, this is not necessarily so across all applications.⁸³

To set the foundation for better defining the potential intersection of manipulation and antitrust law, it is useful first to consider the economics used to prove

(“with regard to trade-based manipulation, it may be difficult or impractical for the legal system to define and enforce such schemes as illegal price manipulation.”).

81. See, e.g., FERC OFFICE OF ENFORCEMENT, DIVISION OF ENERGY MARKET OVERSIGHT, ENERGY PRIMER: A HANDBOOK OF ENERGY MARKET BASICS 118-19 (Nov. 2015), <http://www.ferc.gov/market-over-sight/guide/energy-primer.pdf>; Gary Taylor et al., *Market Power and Market Manipulation in Energy Markets: From the California Crisis to the Present*, BRATTLE GRP. (Apr. 2015); Shaun Ledgerwood & Paul Carpenter, *A Framework for Analyzing Market Manipulation*, 8 REV. L. & ECON. 253 (2012); Shaun Ledgerwood & Dan Harris, *A Comparison of Anti-Manipulation Rules in U.S. and EU Electricity and Natural Gas Markets: A Proposal for a Common Standard*, 33 ENERGY L. J., 1 (2012).

82. *Colorado Interstate Gas Co. v. Nat. Gas Pipeline Co.*, 885 F.2d 683, 696 (10th Cir. 1989).

83. For example, antitrust remedies in the U.S. and EU can be designed to permanently alter the structure of a market in order to improve or restore competitiveness on a long-term basis. See, e.g., the EU Commission’s ruling against E.ON AG in Cases 39388 and 39389, IP/08/1774, 26 November 2008; OJ EU C36/8, 13 February 2009 (manipulation of energy and balancing markets redressed with divestiture of 5,000 MW of generation and requirement of company to sell off its transmission assets).

(or disprove) the elements that comprise a manipulation—*i.e.*, the causal act, a biased market linkage, an expected effect benefitting the actor, and the actor's manipulative intent. In the following discussion, we identify various economic aspects of proving the pieces of a manipulation claim that are similar to (or which can differ substantially from) the economic proof of a Section 2 violation.⁸⁴ Once these pieces are better understood, we turn to a broader discussion of the intersection of antitrust and manipulation causes of action in Part IV.

A. Acts That Can Cause a Manipulation

Three types of behavior either alone or in combination can cause a manipulation: *outright fraud*, such as the intentional spreading of false information or purposed omission of material facts intended to deceive; *transactional fraud*, in the form of intentional uneconomic behavior; and/or *the exploitation of market power*.⁸⁵ Prohibitions against the first two types of behavior should be unsurprising since the anti-manipulation statutes specifically prohibit fraudulent behavior—or, alternatively, the “artificial” price that results from the behavior. By comparison, the exploitation of market power as a cause of manipulation under these laws is perhaps less intuitive given that there is nothing inherently fraudulent about the exploitation of market power.

1. Outright Fraud

To prove manipulation by fraud often does not require significant economic analysis because documentary evidence typically establishes that the behavior was fraudulent and that the manipulator knowingly disseminated the information that they knew to be false. However, economic analysis can support the documentary evidence by demonstrating a linkage between the effect of the disseminated false information on the marketplace and the resulting gain to the actor. For example, FERC has pursued several enforcement actions alleging market participants overstated electricity demand to game market rules and qualify for market demand response payments,⁸⁶ bid unavailable generators into the market to obtain unmerited payments,⁸⁷ or placed circular schedules to relieve transmission congestion and allow greater energy sales into the market.⁸⁸ FERC also has pursued enforcement actions based on allegations that a market participant *omitted* material information to keep undeserved payments, such as by failing to inform the electric grid

84. Proof of monopolization consists of two elements: “(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.” *U.S. v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966). By comparison, proof of attempted manipulation requires “(1) that the defendant has engaged in predatory or anticompetitive conduct with (2) a specific intent to monopolize and (3) a dangerous probability of achieving monopoly power.” *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456 (1993).

85. *Ledgerwood & Carpenter*, *supra* note 81, at 256.

86. *Rumford Paper Co.*, 140 F.E.R.C. ¶ 61,030 (2012); *Lincoln Paper & Tissue, LLC*, 140 F.E.R.C. ¶ 61,031 (2012); *Competitive Energy Servs., LLC*, 140 F.E.R.C. ¶ 61,032 (2012); *Silkman*, 140 F.E.R.C. ¶ 61,033 (2012); *Enerwise Global Techs., Inc.*, 143 F.E.R.C. ¶ 61,218 (2013).

87. *N. Am. Power Partners*, 133 F.E.R.C. ¶ 61,089 (2010); *Polidoro*, 138 F.E.R.C. ¶ 61,018 (2012).

88. *Gila River Power, LLC*, 141 F.E.R.C. ¶ 61,136 (2012).

operator of generators unavailable due to outages⁸⁹ or maintenance,⁹⁰ or by failing to report burning a cheaper fuel (gas) in order to obtain larger payments based on a more expensive fuel (oil).⁹¹ Economic analyses supported these cases.⁹²

FERC is not alone in prosecuting market manipulations triggered by outright fraud. The CFTC has brought cases for “spoofing” by market participants to generate price movements that would allow them to buy and sell at more favorable prices,⁹³ as has the SEC.⁹⁴ The antitrust laws are also being used as the basis for private actions brought against alleged outright fraud in the *Libor* cases,⁹⁵ although these survive due to price fixing claims under Section 1.⁹⁶ We discuss the role that collusive agreements can play in manipulation later.

2. Transactional Fraud (*i.e.*, Intentionally-Uneconomic Behavior)

A defining aspect of intentionally-uneconomic behavior is the lack of response it induces from participants on the same side of the market. If a seller seeks to obtain an above-market price by withholding output or capacity from the market, other sellers may undercut them, competing away the profit opportunity. By comparison, a seller who dumps trades into the market at sub-competitive prices faces *no competitive response from other sellers to prevent that sale*. Below-market sales (or above-market purchases) can be executed with impunity—contingent on a lack of liquidity on the other side of the market—because they face no competitive response.

Should such transactions be considered “fraudulent”? Economics tells us yes. An actor who inserts intentionally-uneconomic trades into the market is by definition not seeking to profit from those trades on a stand-alone basis, but rather to profit from the artificial bias those trades create to the benefit of other positions held by the actor. The distortions of prices or other outcomes can create inefficiency and cause unwarranted wealth transfers in the short run, and (if unabated)

89. *Holyoke Gas & Elec. Dep’t*, 137 F.E.R.C. ¶ 61,159 (2011).

90. *Berkshire Power Co.*, 154 F.E.R.C. ¶ 61,259 (2016).

91. *Maxim Power Corp.*, 151 F.E.R.C. ¶ 61,094 (2015).

92. More recently, the FERC has tended to bring enforcement actions for false information as tariff violations rather than as market manipulation claims, which typically results in smaller civil penalties but still requires economic analyses to compute disgorgement. *See, e.g., Wheelabrator Claremont Company, L.P.*, 164 F.E.R.C. ¶ 61,237 (2018); *Entergy Nuclear Power Marketing, LLC*, 164 F.E.R.C. ¶ 61,051 (2018); *Duke Energy Corporation*, 163 F.E.R.C. ¶ 61,189 (2018); *PSEG Energy Resources & Trade, LLC*, 163 F.E.R.C. ¶ 61,056 (2018); *Westar Energy, Inc.*, 160 F.E.R.C. ¶ 61,025 (2017).

93. *See, e.g., CFTC v. Igor B. Oystacher and 3 Red Trading LLC*, Case No. 15-cv-09196 (N.D. Ill. 2016); Press Release, *CFTC Orders Panther Energy Trading LLC and its Principal Michael J. Coscia to Pay \$2.8 Million and Bans Them from Trading for One Year, for Spoofing in Numerous Commodity Futures Contracts*, CFTC (July 22, 2013), <http://www.cftc.gov/PressRoom/PressReleases/pr6649-13>. Note that spoofing is banned as a “disruptive trading practice” under the CFTC rules, which allows for easier prosecution than would a manipulation case. However, this case could have been brought instead as a market manipulation given the facts presented.

94. *SEC v. LEK Secs. Corp. et al.*, 276 F. Supp. 3d at 54.

95. THE NEW YORK TIMES, TRACKING THE LIBOR SCANDAL (Mar. 23, 2016), http://www.nytimes.com/interactive/2015/04/23/business/dealbook/db-libor-timeline.html?_r=0#time370_10900.

96. *In re Libor*, 935 F. Supp. 2d 666 (S.D.N.Y. 2013); *Gelboim v. Bank of Am. Corp.*, 823 F.3d 759 (2d Cir. 2016) (vacating district court judgment dismissing complaints and remanding for further proceedings on the issue of antitrust standing).

can result in inefficient investment decisions and a reduction of market integrity over time.

Many of the enforcement actions brought by FERC and CFTC in the past two decades alleged the use of intentionally-uneconomic acts to cause a manipulation, such as concentrated trading designed to bias a market outcome (e.g., “marking” or “banging” the close),⁹⁷ uneconomic bidding to game one or more market processes,⁹⁸ or other uneconomic acts alleged to impact the markets for metals,⁹⁹ securities¹⁰⁰ and crops.¹⁰¹ Indeed, the CFTC’s only successful prosecution of a manipulation under its artificial price rule involved uneconomic trades used to bias power market price indices to benefit derivatives positions tied to those prices.¹⁰²

Antitrust also has been used to bring causes of action alleging intentionally-uneconomic behavior in financial products, although these have been based generally on complaints of collusion under Section 1.¹⁰³ However, if courts follow the logic used in *Merced Irrigation District* that direct evidence of market power is provided by the ability of a market participant to profitably move a market price,¹⁰⁴ it is possible that many more Section 2 claims stemming from intentionally-uneconomic acts could emerge and survive motions to dismiss.

3. The Exploitation of Traditional “Market Power” in Manipulation Contexts

The traditional use of market power is a ubiquitous concept in economics. Consider a company that owns a large percentage of the generating capacity in an electricity market, and assume that the company can economically withhold some of its capacity by offering its units into the market at high prices in periods of high demand, thereby causing the market to settle at a higher price. Alternatively, the company can physically withhold by shutting down some of its units, thus creating

97. See, e.g., *ETRACOM LLC*, 153 F.E.R.C. ¶ 61,314 (2015); *MISO Virtual & FTR Trading (Louis Dreyfus Energy Servs.)*, 146 F.E.R.C. ¶ 61,072 (2014); *BP Am. Inc.*, 144 F.E.R.C. ¶ 61,100 (2013); *Barclays Bank PLC*, 141 F.E.R.C. ¶ 61,084 (2012), *motion to dismiss denied* FERC v. Barclays Bank PLC, 105 F.Supp.3d 1121 (E.D. Cal. 2015); *Constellation*, 138 F.E.R.C. ¶ 61,168; *Deutsche Bank Energy Trading, LLC*, 140 F.E.R.C. ¶ 61,178 (2012); CFTC v. Optiver US, LLC, No. 08-cv-6560 (S.D.N.Y. 2008); *DiPlacido*, [2007-2009 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 30,970 (CFTC Nov. 5, 2008); *Amaranth Advisors L.L.C.*, 120 F.E.R.C. ¶ 61,085 (2007); *Energy Transfer Partners*, 120 F.E.R.C. ¶ 61,086 (2007). However, a recent enforcement action brought by the CFTC failed spectacularly under this theory because the trades and bids at issue were viewed by the court as legitimate. *CFTC v. Wilson*, No. 13-cv-07884 (S.D.N.Y. 2018).

98. See, e.g., *J.P. Morgan Ventures Energy Corp.*, 140 F.E.R.C. ¶ 61,227 (2012).

99. *Sumitomo Corp.*, [1996-1998 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 27,327, 46,496 (CFTC May 11, 1998), <http://www.cftc.gov/ogc/oporders98/ogcfsumitomo.htm>.

100. *SEC v. Masri*, 523 F. Supp. 2d 361 (S.D.N.Y. 2007); *Markowski v. SEC*, 274 F.3d 525 (D.C. Cir. 2001); *GFL Advantage Fund, Ltd. v. Colkitt*, 272 F.3d 189, 205 (3d Cir. 2001); *Koch*, 793 F.3d 147.

101. The CFTC has brought an enforcement action against a company alleging that it bought wheat futures contracts in an amount larger than it could possibly take delivery of, to benefit the value of its derivatives contracts and its ability to buy wheat cheaply in the spot market. *CFTC v. Kraft*, 153 F.Supp.3d at 1023. This has survived a motion to dismiss. *Id.*

102. *DiPlacido*, [2007-2009 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 30,970 (CFTC Nov. 5, 2008).

103. See, e.g., *In re Foreign Exch.*, 13-cv-07789-LGS (S.D.N.Y. 2014); *Simmtech Co. v. Barclays Bank PLC*, No. 13-cv-7953 (S.D.N.Y. 2013); *Larsen v. Barclays Bank PLC*, No. 14-cv-1364 (S.D.N.Y. 2014) (settlement re alleged collusive schemes to manipulate FOREX settlements).

104. *Merced*, 220 F.Supp.3d at 412.

a shortage that causes the market price to rise for the power that is sold. While the company generates less power under either example, and thus sacrifices some profit to lost sales volumes, the increase in the price obtained for the power that is sold could more than make up for this loss. The exercise of market power is consistent with microeconomic theory of firm behavior, where market participants are expected to maximize profits. Although this outcome might be inefficient relative to a competitive result in the short run, the profits made by the actor can incentivize entry into the market in the long run in furtherance of a competitive result.

This presents an interesting contrast to manipulation law. Although withholding may have a direct impact on market participants through higher prices, there is nothing necessarily *fraudulent* or *artificial* about the result. Thus, the proof of additional facts beyond the act of withholding are necessary to demonstrate that the actor used the market power it held for a manipulative purpose, whether to execute a fraudulent device, scheme or artifice or to create an artificial price. We discuss two examples of cases where such facts were alleged below.

a. “Strategic” Withholding

In a 2015 case, TransAlta Corporation (TransAlta), a generator in Alberta, Canada, was fined C\$56 million by the Alberta Utilities Commission for allegedly timing its generators’ physical outages to occur strategically during periods of high demand and limited supply, to increase prices in benefit to its sales under power purchase agreements.¹⁰⁵ While confirming that “the exercise of market power through economic withholding is not anticompetitive in and of itself,”¹⁰⁶ the Commission found that the *strategic* nature of the outages enhanced TransAlta’s position in a manner that intentionally “prevented a competitive response”¹⁰⁷ and thus “manipulated market prices away from a competitive market outcome.”¹⁰⁸

While this ruling was made in a non-U.S. jurisdiction, the case is instructive of the types of withholding that could be deemed problematic under U.S. anti-manipulation law. A generator’s strategic choice to alter the timing of its unit’s outages to maximize price impacts and benefit related positions could be viewed as the intentional insertion of false information into the market (*i.e.*, fraud), particularly if the outages are unrelated to those units’ actual mechanical needs or other legitimate purpose. The resulting movement “away from a competitive market outcome” could also be viewed as creating an “artificial” price to benefit of the power sales from other units. Both of these characterizations could be used to

105. Alberta Util. Comm’n, Decision 3110-D01-2015, Market Surveillance Administrator, Mkt. Surveillance Admin. allegations against TransAlta Corp.: Phase 1 523-552 (July 27, 2015), http://www.auc.ab.ca/regulatory_documents/ProceedingDocuments/2015/3110-D01-2015.pdf; Alberta Util. Comm’n, Decision 3110-D03-2015, Market Surveillance Administrator, Mkt. Surveillance Admin. allegations against TransAlta Corp.: Phase 2 – request for consent order 22-45 (October 29, 2015), http://www.auc.ab.ca/regulatory_documents/ProceedingDocuments/2015/3110-D03-2015.pdf (\$26,920,814.31 in disgorgement awarded, \$25 million monetary penalty).

106. *Mkt. Surveillance Admin. Allegations Against TransAlta Corp.: Phase 1*, at 484 (quoting Exhibit 14.06, MSA Application, Appendix 4, Expert report prepared by Dr. Church: The Competitive Effects of TransAlta’s Timing of Discretionary Outages, March 18, 2014, p. 4, paragraph 11).

107. *Id.* at P 523.

108. *Id.* at P 552.

meet the definition of a manipulation—that a wrongful act was used to bias market fundamentals to raise the market price, allowing the actor to earn unwarranted gains from one or more related positions that were tied to that price.

b. “Uneconomic” Withholding

Another example of withholding that can give rise to liability under the anti-manipulation laws arises when the withholding would be unprofitable (*i.e.*, uneconomic) within the four corners of the relevant market, but becomes profitable overall by garnering other payments or positions tied to the withholding’s effects. Earlier we discussed a scenario where a generation fleet owner directly increases the fleet’s power generation profits by withholding the output from some of its units to increase electricity prices in benefit to the sales of power from its remaining units. But what if the gains made on sales from the remaining units do not cover the lost profits from the units withheld? The owner would then be better off offering all of its units into the market at a more competitive price.

And yet, what if the owner’s withholding in the power market produced revenues from another source—say, a financial swap that increases in value with a higher energy price? If large enough, these additional revenues could make the withholding profitable overall. In contrast to “transactional” fraud, which requires no traditional market power at all to execute, manipulation in this modified generator example is a form of *uneconomic withholding*—*i.e.*, where the actor possesses *some* ability to increase prices through withholding, but the withholding would not be profitable absent additional funding provided from outside of the four corners of the relevant market. We discuss a real-world example of uneconomic withholding considered under both the FERC’s anti-manipulation standard and U.S. anti-trust law in Part III, below.

4. Understanding “Market Power” in Manipulation Contexts

“Market power” is not a required element of proof under either fraud-based or “artificial-price” manipulation rules. Rather, it is a concept that has been occasionally relied on, to various degrees, in establishing a mechanism to create some market bias, irrespective of the mechanism used to produce that result or the durability of the effect.¹⁰⁹ The traditional market power associated with withholding or “output restriction”—“monopoly power” if executed by a seller, or “monopsony power” if executed by a buyer—is but one way that market participants can create such bias. Intentionally-uneconomic behavior—*i.e.*, output *expansion*—is another.

109. See, *e.g.*, *Amaranth Advisors*, 120 F.E.R.C. ¶ 61,085 at P 58 (“However, where a firm uses some combination of market power and trading activity, against economic interest in one sector, in order to benefit its position in a related financial instrument by artificially moving the price, the firm likely crosses the line into the realm of manipulation.”). Likewise, the CFTC’s artificial price rule requires showing only that an alleged manipulator had the “ability to influence” a market price. CFTC Manipulation Rule, 17 C.F.R. Part 180.2.

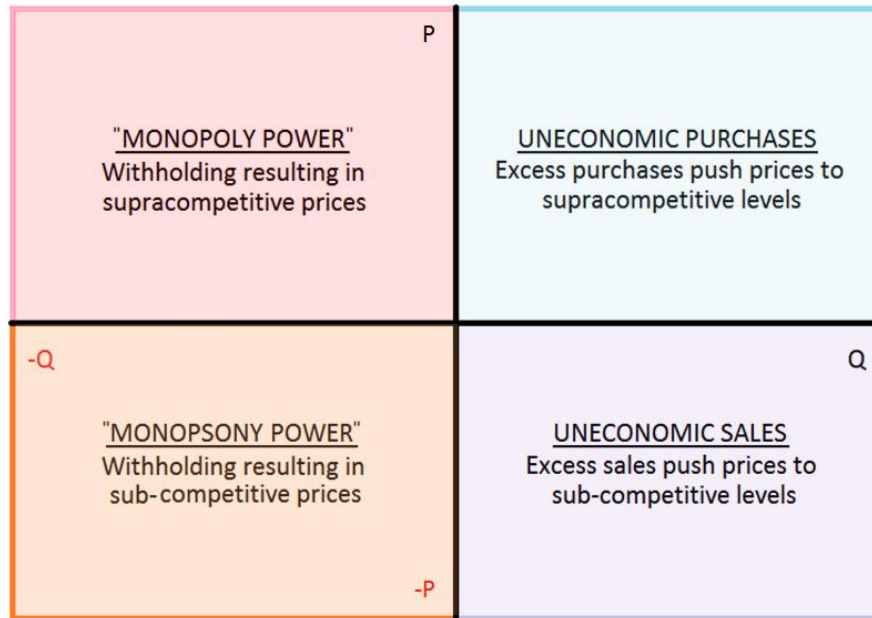


Figure 1
Market Power in the Context of Market Manipulation

We illustrate this above in Figure 1. The origin represents the output (Q) and price (P) that an actor (either a buyer or seller) would choose as profit maximizing in a competitive market. If the assumptions of a perfectly liquid and competitive market hold, the actor has the ability to buy or sell more ($Q > 0$, output expansion) or less ($Q < 0$, output restriction) than it would at the origin, but would derive no benefit from doing so because it cannot affect the market price—*i.e.*, it has no “market power.” However, if the assumptions of a perfectly liquid and competitive market are relaxed, the behavior could drive prices to either supra-competitive ($P > 0$) or sub-competitive ($P < 0$) levels, at least on an ephemeral basis.

Withholding, for instance, may enable a seller to exercise monopoly power to produce a supra-competitive price, or a buyer using monopsony power to push prices to sub-competitive levels. This requires that the participant has at least some ability to constrain its competitors *on the same side of the market*, either due to traditional market power acquired through some form of market dominance or through some ephemeral market power acquired circumstantially, such as when a generator is “pivotal” in hours when system constraints bind.¹¹⁰

As for price effects created by uneconomic purchases and sales, success depends on the depth of the orders *on other side of the market*. Note that the roles of buyers and sellers are the reverse of those in the prior examples, with buyers responsible for raising market prices and sellers for lowering them. This counter-intuitive result underlies why such behavior is “uneconomic.” Compared to a

110. See Brandts et al., *Pivotal Suppliers and Market Power in Experimental Supply Function Competition*, 124 *ECON. J.* 579, 887-916 (2013), <https://doi.org/10.1111/econj.12058>.

profit-maximizing competitive price and output combination at the origin, selling more at a lower price or buying more at a higher price must be less profitable by comparison on a stand-alone basis, and thus “uneconomic” relative to the actor’s opportunity cost. Such losses would typically not be incurred intentionally but for some ancillary benefit.

Much anti-manipulation enforcement activity centers on informational and transactional fraud given the price and other market distortions they create.¹¹¹ However, the ephemeral nature of the distortions that are typically produced by such behavior seems less suited to causes of action under Section 2 of the Sherman Act, which requires durable effects. Notwithstanding, as we discuss later, several antitrust actions have been brought under Sections 1 and 2 based on alleged manipulations triggered by such acts, and a few courts have allowed claims to proceed based on direct evidence of manipulation-oriented “market power”—*i.e.*, the mere ability to move a market price in any manner, such as through intentionally-uneconomic trades.

B. Analysis of the Manipulation’s Linkage and Effects

If a valid cause is established, the next step for the party seeking to prove the manipulation is to determine whether the pieces were in place for the actor to benefit from its effects. There are two elements to this. First, it must be shown that the causal act biased (or in the case of an attempted manipulation, *could* have biased) a market mechanism linked to the value of payments or other targeted market positions that could benefit the actor. Second, it must be shown that the actor expected to receive payments that could benefit from the bias created in sufficient quantities to outweigh costs incurred to trigger the scheme—*i.e.*, a position of a size sufficient to motivate the fraudulent behavior.

1. Evaluation of the Linkage between Cause and Effect

Assuming a causal act is established, a clear linkage between that act and other payments, assets or positions from which the actor could benefit must be proven. The linkage between cause and effect is often self-evident, such as when the causal act directly biases a price that is directly used to value the position(s) that benefit from its intended effect. For example, an intentionally-uneconomic sale of natural gas futures during a settlement period would predictably tend to lower the settlement price, thus benefitting a derivatives position that is “short” to that price. But what if that uneconomic sale was made one minute *prior* to the settlement period, such that the resulting low price does not directly contribute to the settlement but could “frame the open” for subsequent trades made during the settlement to execute at lower prices? Economic analysis is useful to assess whether a linkage exists between a suspected manipulation’s cause and effect, as well as to measure the strength of that linkage.

Such analysis is needed to support the determination of liability as well as the computation of damages. For example, knowing that a sale of natural gas futures during the settlement would logically have caused the price to fall, how do we

111. See *supra* notes 86-104.

measure the drop in price attributable to that *specific* sale? Given the fact that even legitimate sales also tend to lower the market price, how do we then determine the amount of that identified price drop that was legitimate (*i.e.*, due to the normal forces of supply and demand) or manipulative (*i.e.*, “artificial”)?

a. Relevance of the Linkage to the Proof of Manipulation

The last question is important for three reasons.¹¹² First, there is the need to *establish* the linkage between cause and effect so as to prove the seller *could* have expected his natural gas futures sales to have affected the index.¹¹³ Although proof of an actual manipulation requires demonstration of a price-effect, proof of an attempted manipulation requires showing only that the actor knew (or, perhaps, should have known) of this linkage and attempted to exploit it.¹¹⁴

Second, if this linkage is established, assessment of the strength of the linkage is needed to show the extent of the seller’s *ability* to create an artificial price and, necessarily, whether an actual manipulation was possible.¹¹⁵ If the causal act is withholding, ability is conferred by the market power held by the actor to raise (sellers) or lower (buyers) prices above or below competitive levels. Conversely, if the causal act is intentionally-uneconomic behavior, ability is conferred by a lack of participation on the other side of the market sufficient to absorb the uneconomic volumes without a significant price effect—*i.e.*, a lack of market liquidity. For example, more liquidity on a stock exchange provides a “deeper” order book better able to absorb intentionally-uneconomic trades with less impact on the market clearing price.¹¹⁶ We discuss this in further detail below.

Third, if a causal link is proven and the seller’s ability to manipulate is shown, calculation of the price impact of the sales is then necessary to estimate the extent to which the behavior distorted market fundamentals, thus creating an artificial price. Whether used for manipulation or for antitrust purposes, “the difference between th[is] ‘artificial price’ caused by the manipulation and the ‘but-for’ [market] price that [] would have existed” had the manipulative sales not occurred is the basis for determining damages—which could be trebled if the claim is successfully brought in antitrust.¹¹⁷

112. This discussion is consistent with the CFTC’s approach to proving manipulation under its artificial price statute. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, Section V: Discussion of CEA Section 6(c)(3) and Final Rule 180.2, Section B: Commission Determination, 76 Fed. Reg. 41,398, 41,407 (July 14, 2011) (to be codified at 17 C.F.R. pt. 180).

113. Ledgerwood & Carpenter, *supra* note 81, at 289.

114. *Id.*

115. Even a very uneconomic sale would not have a large effect on the price in a highly liquid market. By comparison, at times when there is little liquidity, even relatively small sales could potentially have a large impact on the market price.

116. In a very deep and liquid market, attempts to throw uneconomic sell (or buy) orders into the market are more likely only to execute the trades available at the existing bid (or ask), with no further impact on the market price or the prevailing bid/ask spread. A larger price impact is then possible only with an even larger uneconomic order, thus increasing the size of the loss the manipulator must bear to produce its intended price effect.

117. Shaun Ledgerwood & Dan Harris, *Market Manipulation Economics Considerations*, 10 EU ENERGY L. (John Ratliff & Robert Grasso, eds., forthcoming).

b. An Example of the Role of Liquidity in Manipulation

In the example above, a large sale of natural gas futures at a loss during a settlement period would predictably tend to lower the settlement price, potentially benefitting a derivatives position that is “short” to that price. But what if the actor who placed that trade contends that he traded during the settlement not to affect the price, but because the market was most liquid at that time? In actively traded spot markets, how can a trader know when legitimate trades could inadvertently create a large price impact—and potentially be viewed as suspect by a regulator?

A spot market is essentially a continuously clearing auction wherein matched demand bids and supply offers are continuously cleared (removed) from the market.¹¹⁸ Assuming a competitive (elastic) supply and less competitive (inelastic) demand, the market looks like Figure 2:

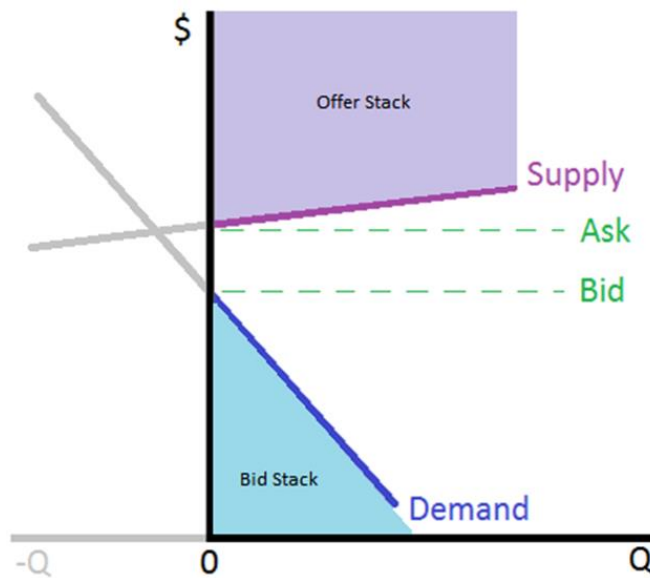


Figure 2
Liquidity, Elasticity and the Ability to Manipulate

The grey shaded regions of the demand and supply curves do not exist, as quantity (Q) cannot be negative. Thus, at $Q > 0$, there remains a best (highest) bid (Bid) and best (lowest) offer (Ask) that form the existing Bid/Ask spread. Without buyers being willing to raise their bids (or new buyers entering who are willing to do so) or sellers being willing to lower their prices (or new sellers to enter and do so), no further trading will occur. Thus, in trade-based manipulations that require

118. INVESTOPEDIA, SPOT MARKET (July 10, 2018), <https://www.investopedia.com/terms/s/spotmarket.asp>.

executed trades to post to bias the market price, withholding as a stand-alone strategy is of limited effectiveness since it will tend only to reduce the liquidity of the actor's side of the market and/or widen the existing Bid/Ask spread.

The present liquidity of this market is reflected by the elasticities of the market supply and demand curves. Note that the elastic supply curve shows an offer stack that is relatively deep, such that a relatively large increase in demand would be well absorbed by the existing sellers, resulting in relatively little increase in the market price. By comparison, the inelastic demand curve shows a thinner bid stack, such that a relatively large increase in supply could overwhelm the existing buyers, resulting in a relatively large decrease in the market price. This relates to the effectiveness of uneconomic behavior as a means to move prices.

Given the elasticities of supply and demand assumed in Figure 2, an uneconomic market sell order would cross the existing Bid/Ask spread to register transactions, and could drive the prices of cleared transactions significantly lower because of the inelastic demand curve—*i.e.*, lack of liquidity empowers manipulation triggered by uneconomic trades. By comparison, if a buyer threw an uneconomic market buy order into this market, it too would cross the existing Bid/Ask spread to register transactions, but would be unlikely to significantly raise the price much higher due to the elastic supply curve—*i.e.*, robust liquidity thwarts manipulation.

While withholding is generally of little stand-alone use to manipulate spot markets (unless the act of widening a bid/ask spread itself creates a bias), its use on one side of the market can be combined with uneconomic trades on the other to produce an enhanced effect. In litigation involving foreign exchange rates, for example, traders were alleged to have engaged in behavior that could be used in combination such that one or more traders would withhold buying a currency at times when others were selling (and vice versa).¹¹⁹ This could combine the causal elements described in the previous section; by withholding purchases, one trader could reduce the liquidity of the buy-side of the market at the same time that the other was making an uneconomic sale, thus increasing the manipulation's effectiveness in generating a price impact.

While the long term effects that such coordinated behavior would have on competition if repeated on a quid pro quo basis over time are uncertain, courts certainly appear willing to find such conduct, subject to appropriate pleading and proof requirements, violative of Section 1 of the Sherman Act.¹²⁰ However, as we will discuss in Section IV, it is less clear that such behavior should give rise to actionable Section 2 claims, for in the long term these distortions are unlikely to involve exclusionary conduct or to cause an antitrust injury.

119. See Claer Barrett & John Aglionby, *Traders' Forex Chatroom Banter Exposed*, FINANCIAL TIMES (Nov. 12, 2014), <https://www.ft.com/content/47c32ec4-6a34-11e4-8fca-00144feabdc0> (traders withheld trades from one side of the market, "clearing the decks" to maximize the price impact caused by coordinated uneconomic trades on the other side [described as "saving ammo"]).

120. See *In re Foreign Exch.*, 13-cv-07789-LGS (S.D.N.Y. 2016).

c. The “Durability” of False or Fraudulent Information¹²¹

While the potential impact of uneconomic trades placed during a settlement period seems clear, what if those trades are executed *before* the settlement period, such that the resulting price does not directly contribute to the settlement, but could “frame the open” for subsequent trades made during the settlement at higher prices? Consider the example posed below, showing a hypothetical time series of bids, offers and executed trades in a commodity market:

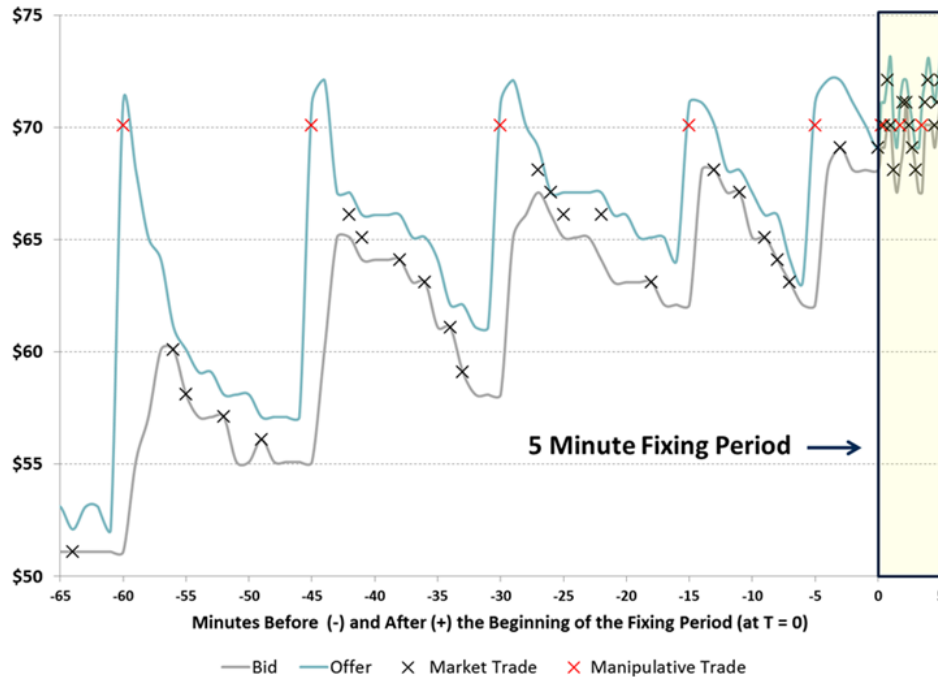


Figure 3
The Durability of Information from Fraudulent Trades¹²²

Figure 3 shows “tick data” for this market from 65 minutes (T-65) before a five minute settlement window begins (T=0). “The light blue line shows the price of the lowest offer to sell, and the grey line the price of the highest bid to buy. The gap between the blue and the grey lines is [therefore] the prevailing bid-ask spread, and the crosses indicate the time and the price at which a trade was executed. Red crosses indicate trades that were executed by a manipulative trader, while black crosses show the legitimate trades executed by other market participants.”¹²³

The market begins in a narrow trading range with a bid of \$51 and ask of \$52. An hour before the settlement (T-60), the actor places an uneconomic bid large

121. This section is adapted from Ledgerwood & Harris, *supra* note 117.

122. *Id.*

123. *Id.*

enough to overwhelm the existing offer stack and clears at \$70/MWh. Other market participants react to this trade, lifting their bids and offers higher. “The bid-ask spread will at first widens as the stack of offers made at \$70/MWh and below execute. This [] cause[s] some buyers to reevaluate and raise their bids above the low \$50s, but also will bring new sellers into the market with offers less than \$70/MWh, to replace the sub-\$70/MWh offers that just cleared.”¹²⁴

“The introduction of new offers and increased bids causes the bid-ask spread to narrow [], albeit at a higher level than before the trader introduced the \$70/MWh bid. As the bid-ask spread narrows, shown in Figure [3] by the blue and grey lines coming together again, new trades will execute at levels between the prior extremes of the low \$50s and \$70/MWh, but typically will tend to revert toward original levels if the \$70/MWh price is viewed as an anomaly. The ‘poisoned’ price data from the manipulative trade remains, but its effects will tend to dissipate as fresh trading data enters the market.”¹²⁵

“But what if the manipulator is determined to continue to push prices higher? As shown in Figure [3], suppose the trader reacts to the decline in prices by again placing manipulative trades for \$70/MWh 45 minutes before the fixing period, then placing the same trade again at 30, 15 and 5 minutes before the period (T-45, T-30, T-15 and T-5, respectively). The repetition reinforces perceptions that the prior high-priced trades were not anomalous, causing buyers to raise their bids even higher and making sellers less willing to lower their offers below the \$70/MWh price. By the time the fixing period starts, the market has moved toward the manipulative bid price of \$70/MWh, with the trades within the settlement period clearing within \$2/MWh of that price.”¹²⁶

This example points to an important feature that can distinguish the role of “market power” in manipulation cases from more traditional antitrust applications. While a manipulative actor can use intentionally-uneconomic trades to bias market prices from competitive levels, *the effect of that bias tends to be ephemeral, concluding once the causal activity ceases*. To the extent the fraudulent information fed to the market can be reinforced and the intent behind it concealed from the market—it would be ignored otherwise—its durability can be maintained *yet remains rooted in the deception*. While proof of the sustainability of an increase or decrease in prices is unnecessary for causes of action brought under the anti-manipulation laws, courts considering equivalent causes of action brought under the antitrust laws might view an absence of durable market power as problematic.

2. Evaluation of the Manipulation’s Benefitting Positions and Leverage

Assuming the manipulation’s cause and linkage are proven, the third element needed to prove a manipulation requires showing (a) that the actor was positioned to benefit from the directional bias it created in the linkage, and (b) that those positions were of a size sufficient to produce profits that *more than cover* any losses incurred by the actor in executing the scheme—an attribute we refer to as

124. *Id.*

125. *Id.*

126. Ledgerwood & Harris, *supra* note 117.

leverage. The need for leverage follows from the proposition that a profit-maximizing entity would never knowingly execute a manipulative scheme with a net-negative expected value. A lack of leverage can indicate that the benefitting positions are in place to serve the legitimate business purpose of *hedging* the actor's risk of legitimately accruing losses in the "causal" act, a possibility inherent to most profit-seeking behavior.

Successful manipulation depends upon a ratcheting effect between cause and effect. As the costs of the act(s) used to cause the manipulation increase, the amount of profits derived from the benefitting positions must increase as well for leverage to exist. All other things remaining constant, a successful manipulation therefore becomes more likely as: (a) the cost of the act(s) causing the manipulation declines (*e.g.*, information-based fraud often is cheaper to engage in than intentionally-uneconomic behavior or the profit sacrifice that results from withholding); (b) the reactivity of the mechanism linking cause and effect increases (*e.g.*, through less liquidity on an index); and (c) the size of the benefitting position(s) grows. Leverage therefore results from the interaction of a manipulation's components, and must be evaluated economically to understand the cost/benefit calculus behind the actor's alleged scheme.

C. *The Proof of Intent*

U.S. manipulation laws also require as proof of the offence that the accused actor behaved with some level of requisite intent.¹²⁷ However, proof of a manipulation's cause and effect does not necessarily prove intent. The party with the burden of proof must also be able to refute legitimate explanations for the behavior of concern.¹²⁸ For example, the proof of a manipulation involving uneconomic trading should show that the losses were not incurred by the actor in the legitimate pursuit of stand-alone profits, which can be difficult when economic and documentary evidence support the actor's alternative explanation. Likewise, evidence of what appears to be leveraged benefitting positions may result in a "false positive" if other unobserved positions in the actor's portfolio reveal them to be legitimate hedges.

In addition to confirming the mechanics of an alleged manipulation, economic analysis is useful to prove (or disprove) manipulative intent. Proof of repeated losses incurred over time may suggest that the behavior was not pursued for a stand-alone, legitimate business purpose, as may proof of recognition by the accused of the broader profitability of the alleged scheme over time. However, even evidence of sustained losses over time may not be determinative of manipulative intent, for legitimate trading strategies can exchange losses incurred over time in pursuit of a potentially large payout, assuming the expected benefits outweigh the expected costs. Market actors should be mindful that the inverse is true as well: lack of profits from an attempted manipulation is not a defense to prosecution, for proof of manipulation under fraud-based rules and proof of attempted

127. 18 C.F.R. § 1c (2006); Order No. 670, F.E.R.C. STATS. & REGS. ¶ 31,202 at P 49 (describing the scienter requirement of the FERC's anti-manipulation rule); 17 C.F.R. pt. 180 (discussion of the intent requirements of the CFTC's fraud-based and artificial price rules).

128. *See supra* note 117.

manipulation under an artificial price rule *do not require proof that the manipulation was ultimately successful*.¹²⁹

Documentary evidence can be particularly important in establishing the intent of an alleged manipulation, particularly when inflammatory communications become known. For example, a *Financial Times* article discussing the settlement of charges in an alleged FOREX manipulation quoted a trader saying “Get it up to 60/70 then bash the fck out of it.”¹³⁰ Whether intended or not, this communication suggests the ability of the trader to raise the index at issue to a specified level, then depress it in furtherance of a subversive scheme. Market participants must be aware that such statements are frequently used as evidence in regulatory complaints and any attendant civil or criminal actions.¹³¹

By comparison, the relevance of intent to antitrust is greatly diminished. The issue of intent in antitrust cases, when it arises, has focused on its relevance to the anticipated effects,¹³² whereas market manipulation instead focuses on the intent to execute the manipulation itself. Nevertheless, an assessment of intent under manipulation and antitrust law *could* align where proof of an actor’s fraudulent intent or intent to create an artificial price demonstrates that the actor’s behavior lacks legitimate business justification (assuming the other elements of a Section 2 claim are met).

IV. WHERE DO ANTITRUST AND MANIPULATION LAW INTERSECT?

A brief comparison of traditional antitrust law and economics with the law and economics of market manipulation seems to show only a few points of intersection. For example, the concept of defining the product and geographic dimensions of a “relevant market” for antitrust purposes may bear little relation to defining the extent of a manipulative scheme that transcends traditional market boundaries. Likewise, notions of fraudulent behavior or the attendant concept of an “artificial” price are not endemic to antitrust law. As the above discussion suggests, these institutions may converge only under certain circumstances—for example, where allegations of collusion are involved or the unilateral conduct is from a truly dominant firm and involves exclusionary behavior (rather than merely exploitive conduct).

To assist this discussion, we first analyze *KeySpan*, a case which involved allegedly uneconomic withholding to manipulate the value of a bilaterally acquired derivative.¹³³ This case is particularly interesting because it was evaluated first by FERC under its fraud-based anti-manipulation rule,¹³⁴ and later by the U.S.

129. Ledgerwood & Carpenter, *supra* note 81, at 289.

130. *See supra* note 119.

131. For example, trader Michael Coscia, owner of Panther Energy Trading LLC was sentenced to prison for three years after admitting to spoofing during a deposition. *See* Press Release, *supra* note 93; U.S. v. Michael Coscia, 866 F.3d 782, 795 (7th Cir. 2017).

132. *See, e.g., Microsoft*, 253 F.3d at 59.

133. *KeySpan*, 763 F. Supp. 2d at 633.

134. *See* FERC Enforcement Staff Report, *Findings of a Non-Public Investigation of Potential Market Manipulation by Suppliers in the New York City Capacity Market*, FERC Docket Nos. IN08-2-000 & EL07-39-000 (Feb. 28, 2008) [hereinafter FERC KeySpan Report].

DOJ as a Section 1 violation.¹³⁵ We then use this case as a baseline platform to frame several questions that may be relevant to the future consideration of antitrust law to address manipulative behavior.

A. Section 1 Liability for Manipulation: The KeySpan Case

In 2007, several market participants filed a complaint with FERC alleging that KeySpan Corporation (KeySpan), Astoria Generating Company Acquisitions, LLC (Astoria) and Morgan Stanley Capital Group Inc. (Morgan Stanley) manipulated the New York City Installed Capacity (ICAP) market in 2006.¹³⁶ KeySpan and Astoria were two large owners of generation capacity serving New York City.¹³⁷ From 2003-2005, KeySpan consistently bid its Ravenswood plant into the ICAP market at its FERC-approved bid cap, often with some capacity not accepted.¹³⁸ The result was that the majority of KeySpan's 2,250 MW of capacity cleared at its cap, suggesting that it successfully engaged in economic withholding during this period.¹³⁹

In early 2006, 1,000 MW of new generation was positioned to enter the ICAP market.¹⁴⁰ According to the allegations later made by the U.S. DOJ, this additional capacity would have required KeySpan to withhold a larger amount of capacity from the market to keep the price at its bid cap, potentially leaving an insufficient amount to clear at the cap to make the withholding profitable overall.¹⁴¹ Due to its reduced leverage in the ICAP market, KeySpan's expected profit-maximizing choice was to bid more (or all) of its capacity into the auction at lower prices and then accept whatever auction price emerged.¹⁴² Despite the entry of new generation, however, the prices for the May 2006 ICAP auction remained at levels consistent with KeySpan's bid cap.¹⁴³

Upon investigation, it was discovered that KeySpan (through Morgan Stanley) executed a financial derivative tied to Astoria's 1,800 MW fleet of generators that were eligible to participate in the 2006 ICAP auction.¹⁴⁴ This gave KeySpan additional leverage needed to profitably withhold a larger volume of MW from the auction, keeping the market clearing price at its bid cap to benefit both the smaller amount of its own physical capacity that cleared the auction and the value of its

135. Complaint, *U.S. v. KeySpan Corp.*, No. 10-cv-01415 (S.D.N.Y. 2010) [hereinafter U.S. DOJ KeySpan Complaint].

136. FERC KeySpan Report, *supra* note 134, at 2.

137. *Id.* at 4.

138. U.S. DOJ KeySpan Complaint, *supra* note 135, at ¶ 20; *KeySpan*, 763 F. Supp. at 636.

139. In comparison to physical withholding, where a seller would simply choose not make some capacity available to the auction, economic withholding involves the seller making all of its capacity available but at a price sufficiently high to be marginal, thus leaving some MW of capacity to not clear in the auction. As discussed above, this is a profitable stand-alone strategy if the gains made on the MW that clear at the higher price more than offset the losses incurred on the MW withheld. Because the "bid cap" price used to execute this withholding was approved by FERC, this outcome was neither fraudulent nor did it result in an "artificial" price.

140. FERC KeySpan Report, *supra* note 134, at 9.

141. *KeySpan*, 763 F. Supp. 2d at 636.

142. *Id.*

143. FERC KeySpan Report, *supra* note 134, at 7.

144. *Id.* at 10-12; *KeySpan*, 763 F. Supp. 2d at 636.

derivative.¹⁴⁵ Through the derivative, KeySpan was therefore able to tap an additional recoupment source that, when added to the revenues earned from its own resources within the ICAP market, made its allegedly uneconomic act of withholding profitable overall.¹⁴⁶

After investigating the behavior, FERC Enforcement staff found that KeySpan's bids made at its (Commission-approved) bid cap did not constitute manipulation,¹⁴⁷ prompting the agency to close the case without ruling on its merits.¹⁴⁸ The U.S. DOJ then filed an antitrust complaint against KeySpan alleging that its agreement with Morgan Stanley (as well as the agreement between Morgan Stanley and Astoria) violated Section 1.¹⁴⁹ Although the complaint and competitive impact statement focused primarily on the anticompetitive nature of the agreement, the order settling the case characterized their concerted activity as a *manipulation*.¹⁵⁰

The *KeySpan* court awarded disgorgement as a remedy—a first for any anti-trust-based action—as a deterrent against “those who seek to leverage derivative products in the restraint of trade.”¹⁵¹ This same remedy is used by the FERC in its enforcement actions in place of private actions for damages, which are otherwise precluded under its anti-manipulation rule.¹⁵²

The approach used by the court in *KeySpan* might suggest that manipulation law and antitrust law could, at least under certain circumstances, converge to support an antitrust claim based on manipulative conduct. And, to be sure, Section 1 of the Sherman Act has been in play here for some time: if independent competitors agree to manipulate a price (directly or indirectly), courts often entertain *per se* or “quick look” challenges to the conduct in question.¹⁵³ Apart from the question of whether the defendants in fact conspired, the interesting Section 1 issues in these manipulation cases have focused on the elements of “antitrust injury” and causation—*i.e.*, the requirement in all Sherman Act cases to prove that the injury flows from competition-reducing activity, which is a prerequisite for Section 1 exposure under any theory.¹⁵⁴

145. *KeySpan*, 763 F. Supp. 2d at 636.

146. *Id.*

147. FERC KeySpan Report, *supra* note 134, at 3.

148. *Id.* at 17. Note that this case (considered in early 2008) preceded the successes the FERC has since had in bringing enforcement actions for alleged market manipulation. If the same facts were presented to FERC Office of Enforcement staff today, it is more likely that a finding of manipulation would result.

149. U.S. DOJ KeySpan Complaint, *supra* note 135, at 1; *see also* U.S. v. Morgan Stanley, No. 11-cv-6875 (S.D.N.Y. 2012).

150. *KeySpan*, 763 F. Supp. 2d at 635.

151. *Id.* at 642. Morgan Stanley also paid \$4.8 million for its role in the alleged manipulation. *U.S. v. Morgan Stanley*, No. 11-cv-6875 at 3.

152. *See supra* note 6 and accompanying text. Note that a group of KeySpan's customers attempted to form a plaintiff class on the basis of the manipulation under federal and state antitrust laws, but was barred from doing so based on (1) lack of standing as indirect purchasers under federal antitrust law and (2) preemption of the state antitrust claims under the filed rate doctrine given the FERC's jurisdiction over wholesale markets. *See* Simon v. KeySpan Corp., No. 11-2265-cv (2d Cir. 2012).

153. For discussion, *see* Gregory J. Werden, *Antitrust Analysis of Joint Ventures: An Overview*, 66 ANTITRUST L. J. 701 (1998).

154. *See, e.g.*, Brunswick v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477 (1977); *Atlantic Richfield*, 495 U.S. 328.

B. Do Section 2 and Manipulation Law Intersect?

As discussed above, courts in recent years have begun to consider whether and to what extent Section 2 can be invoked to condemn allegedly-manipulative activity.¹⁵⁵ In sharp contrast to Section 1, however, there are institutional features of Section 2 that may prevent its ready extension to address unilaterally-executed manipulations. Courts addressing Section 2 cases often proceed with caution as, by definition, there is no concerted reduction in rivalry, and courts are hesitant to engage in the business of deciding what unilateral conduct is just aggressive competition versus “exclusionary” conduct.¹⁵⁶ This concern is heightened in the U.S., where “monopolies” are allowed to set price and output as they wish—*i.e.*, there is no violation for “abusive” pricing in the U.S. On the contrary, unilateral conduct that merely sets or influences output and price is viewed by the Supreme Court as the fruits of success which, if anything, provide incentives to innovate and perhaps should even draw market entry.¹⁵⁷

Applying Section 2 of the Sherman Act to unilaterally-executed manipulations therefore raises a host of issues unrelated to Section 1 concerns: How is “monopoly power” defined in the context of manipulative conduct? What is the ability to “affect” a price if it depends solely on the fraud itself that can temporarily alter or avoid normal market forces to quickly drive a price up (or down)? How is “exclusionary” conduct defined in the Section 2 manipulation context? Does the competitive process itself have to be compromised in the sense of harming rivals to the detriment of ultimate consumers? Or is it enough that the monopolist engages in some form of unilateral conduct that “artificially” raises the price compared to what it would be without the conduct? These are analytical challenges only now surfacing in the courts. Below, we draw from *KeySpan* and other recent cases to tease out these issues.

1. What if *KeySpan* Involved Unilateral Behavior?

The agreement between *KeySpan* and Morgan Stanley gave rise to government challenge under Section 1. This makes some sense because, in certain circumstances, an agreement to manipulate a market can have the effect of increasing the “market power” of the firms involved. This can be done through adding heft to the causal act, reducing the liquidity of the linkage exploited, or (as in *KeySpan*) increasing the payoff from the manipulation’s effect. Like price fixing and other potential “naked” restraints of trade, agreements to manipulate markets can reduce incentives to engage in competitive behavior that might otherwise exist absent the agreement.

However, what if *KeySpan* had instead created its benefitting derivative position with no agreement from other market participants? For example, if financial derivatives had been available that tied to the ICAP auction price, *KeySpan* could unilaterally have assembled derivative position that would benefit from the higher

155. See *supra* note 13 and accompanying text; *Merced*, No. 15-cv-04878-VM.

156. Herbert Hovenkamp, *Exclusion and the Sherman Act*, 72 U. CHI L. REV. 147 (2005).

157. See, e.g., *Trinko*, 540 U.S. 398.

capacity price without the need to collude with anyone.¹⁵⁸ The current manipulation laws could then provide a remedy for both the manipulation of the physical capacity market (FERC) and the derivatives market (CFTC) given the uneconomic nature of the withholding. But would this claim also be actionable in antitrust without an agreement—*i.e.*, as a Section 2 violation?

From a purely economic perspective, one (in theory) could argue that manipulative behavior that violates Section 1 should also provide an antitrust remedy when otherwise identical conduct (*e.g.*, withholding of output) is executed unilaterally by a single market actor. After all, as in *KeySpan*, the direct effect of the agreement relates not as much to the actor's ability to cause the price increase, but rather embellishes the actor's incentive to manipulate by providing the actor with an additional source of recoupment from the manipulation's effect.¹⁵⁹ This differs from other Section 1 manipulation-based cases where the agreements at issue involved combining trading or reporting activity in order to augment the actors' combined ability to cause a manipulation to occur.¹⁶⁰

Yet, from a jurisprudential perspective, the unilateral nature of the conduct matters, especially under long-established Section 2 principles that set a relatively high bar for causes of action against individual market participants. In a Section 2 case, a plaintiff must demonstrate that the defendant possessed "monopoly power," engaged in "exclusionary" conduct and caused an "antitrust injury"—*i.e.*, the "type" of harm intended to be addressed by Section 2.¹⁶¹ And while some recent decisions¹⁶² involving manipulative conduct have allowed Section 2 claims to survive motions to dismiss based on "plausible" assertions of "direct evidence"—*i.e.*, the ability to move a market price profitability coupled with manipulative conduct—fundamental Section 2 requirements could be significant impediments to those cases as they proceed beyond the pleading stage and courts are forced to grapple with Section 2's more exacting requirements.

2. A Key Threshold Issue: Is the Manipulator Also a "Monopolist"?

There are some "manipulation" cases where a defendant is alleged to acquire, or seek to acquire, what would be viewed as traditional "monopoly power"—*i.e.*, the power to "control price or exclude competition" based on a dominant share of the relevant market controlled by the defendant.¹⁶³ For example, the manipulator in a traditional market "corner" acquires a dominant market position through a

158. For exchange-traded instruments cleared multilaterally, all trading occurs with the exchange such that counterparties have no direct interactions.

159. Shaun D. Ledgerwood & Wesley J. Heath, *Rummaging Through the Bottom of Pandora's Box: Funding Predatory Pricing Through Contemporaneous Recoupment*, 6 VIRGINIA L. & BUS. REV. 3 (2012).

160. For example, the UK Financial Conduct Authority (FCA) fined Citibank N.A. £225,575,000 for manipulating FOREX markets, in part due to the coordination of its traders with traders from other banks to increase the effect which the collective trades would have in setting rates (*e.g.*, "giving you the ammo"). See FIN. CONDUCT AUTH., FINAL NOTICE 2014: CITIBANK N.A. 17 (Nov. 11, 2014), <https://www.fca.org.uk/publication/final-notices/final-notice-citi-bank.pdf>.

161. See, *e.g.* *Brunswick*, 429 U.S. 477 at 489; *Trinko*, 540 U.S. at 407; and *U.S. v. Grinnell Corp.*, 384 U.S. at 570–71.

162. See *supra* notes 10, 13.

163. See, *e.g.*, In re Aluminum Warehousing Antitrust Litigation, 2014 WL 4277510 (2014).

series of uneconomic purchases made over time.¹⁶⁴ Such cases share characteristics that align the “monopoly power” relevant to antitrust contexts and the broader types of “market power” that can arise in manipulation cases. But, apart from the issue of durability (discussed below),¹⁶⁵ these are not the most novel cases as they relate to defining monopoly power.

More recently, a few cases have allowed Section 2 claims to proceed where so-called “direct evidence” of monopoly power is plausibly alleged.¹⁶⁶ In *Merced Irrigation District*, the court allowed the plaintiff’s monopolization claim to proceed, alleging that by “intentionally engaging in large quantities of money-losing purchases and sales in the daily markets to reap profits from its swap contracts,” Barclays had plausibly violated Section 2 by moving index prices “in its favor.”¹⁶⁷ And in *In Re Zinc*, the court upheld a Section 2 claim based solely on the unilateral ability to control warehousing costs (allegedly through misconduct), which in turn artificially influenced the price of zinc by inflating the prices reported to Platts.¹⁶⁸ For these courts, and a few others,¹⁶⁹ the unilateral ability to influence a price has been sufficient to prove the monopoly power element of Section 2 without reference to a robust market definition and market share analysis.¹⁷⁰ As described below, these cases raise several fundamental concerns about how courts should define monopoly power, especially in the context of manipulation.

a. Should the Assessment of Monopoly Power Be an “Ex Ante” Exercise?

An often overlooked threshold question is at what point in time one should assess monopoly power? Most relevant is Section 2’s prohibition on the “maintenance” of monopoly power. As a matter of statutory construction, the Supreme Court has explained that this involves assessing whether the defendant possessed monopoly power, and then improperly maintained that pre-existing power.¹⁷¹ And often in these contexts, courts have observed the tautological nature of defining

164. See, e.g., *Sumitomo Corp.*, [1996-1998 Transfer Binder] Comm. Fut. L Rep. (CCH) ¶ 27,327, 46,496 (CFTC May 11, 1998) (alleged corner of copper market). Cf. a short-term corner, executed through uneconomic purchase at the expiry of a futures contract. See Ledgerwood & Carpenter, *supra* note 81, at 264-265; Craig Pirrong, *Detecting Manipulation in Futures Markets: The Feruzzi Soybean Episode*, 6 AM. L. & ECON. REV. 28 (2004).

165. See *infra* Part IV.B.2.b.

166. See *supra* note 62.

167. *Merced*, No. 15-cv-04878-VM at 37.

168. See *supra* note 13.

169. *Id.*

170. In the context of a Section 2 monopolization case, in particular, all of these courts had to distinguish or side step both *Spectrum Sports*, 506 U.S. 447 (reconfirming that market definition is required in a Section 2 case) and *Heerwagen v. Clear Channel Commc’ns.*, 435 F.3d 219 (2d Cir. 2006) (holding that even “direct” proof of monopoly power must be made “in reference” to a well-defined antitrust market). See also *Republic Tobacco Co. v. No. Atl. Trading Co.*, 381 F.3d 717, 734 (7th Cir. 2004) (under the direct evidence approach, the contours of the relevant market must be defined); *Carpenter Tech. Corp. v. Allegheny Techs.*, 2011 WL 4528303 at 11 (E.D. Pa. 2011) (no court has endorsed “direct proof of monopolization” without inference to a relevant market).

171. See *Trinko*, 540 U.S. 398; see also *U.S. v. Grinnell Corp.*, 384 U.S. at 570-71.

monopoly power without reference to substitutes and by conflating the inquiry with the alleged misconduct.¹⁷²

In the context of manipulation, this temporal distinction is quite important. For example, if the court in *Merced Irrigation District* were to ask first whether the defendant could “control” price or output in reference to a market *independent* of the allegedly-manipulative conduct, these cases would be problematic—there does not appear to be such an ability and, more disturbingly, the court does not even consider the question.¹⁷³ By contrast, accepting a claim of monopoly power based on any ability to influence a price caused through fraud could effectively make every such actor a *per se* monopolist under Section 2. As it relates to unilaterally-executed manipulations, then, as long as courts conflate the assessment of monopoly power with the conduct itself, the result will effectively read the “maintenance” language out of Section 2.

b. The Requirement of “Durable” Monopoly Power

Another analytical problem caused by conflating the question of monopoly power with the conduct itself is that it runs directly into the durability principle underlying Section 2. It has long been established that Section 2 is concerned with the improper maintenance of *durable* monopolies.¹⁷⁴ Thus, where entry barriers are low or a firm’s monopoly power is “contestable,” Section 2 is not implicated because the monopoly power cannot be “maintained.”¹⁷⁵ A particularly instructive case is *Rio Grande*, in which the plaintiff alleged that the defendant fraudulently dominated fixed priced natural gas baseload sales during certain bid weeks over a two-year period.¹⁷⁶ Even accepting the allegations, the court found that the mere ability to move a price did not rise to the level of alleging durable monopoly power—*i.e.*, the power to control the long-term price:

Plaintiff’s Relevant Market is limited to trades made during bid week, the last week of each month. Even within that market definition, Plaintiff alleges only that Defendants possessed an ability to suppress prices 10 times. “A distinction is often drawn between market power – some degree of power to affect price by increasing or reducing output – monopoly power – the power to set a price significantly above the competitive level and sustain such a price for a substantial period of time.”¹⁷⁷

172. See, e.g., *In re Remeron Direct Purchaser Antitrust Lit.*, 376 F. Supp. 2d 675, 679-80 (D.N.J. 1993) (explaining why, in a Section 2 maintenance case, the alleged monopoly power of a branded drug must be assessed before generic entry).

173. *Merced*, No. 15-cv-04878-VM.

174. *Carpenter Tech Corp.*, 2011 WL 4528303 at 6.

175. See Areeda & Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and their Application* ¶801d, at 323 (Wolters Kluwer 3d ed. 2007); see also *Colo. Interstate Gas Co. v. Natural Gas Pipeline Co. of Am.*, 885 F.2d 683, 695-96 (10th Cir. 1989) (finding a firm lacked monopoly power because its “ability to charge monopoly prices will necessarily be temporary”); *U.S. v. Syufy Enterprises*, 903 F.2d 659 (9th Cir. 1990) (even with 100% market share, there can be no monopoly power if entry barriers are low); *Emrigra Group v. Fragomen, Del Ray Bernson & Lowey, LLP*, 612 F. Supp. 2d 330, 362 (2009) (“market power can only persist when entry barrier . . . block rivals’ entry or expansion.”).

176. *Rio Grande*, 786 F. Supp. 2d at 1202.

177. *Id.* at 1212 (citations omitted).

The court held, as a matter of law, that these allegations could not meet the monopoly power requirement.¹⁷⁸

The few courts that have allowed these causes of action to proceed have not grappled with this limiting principle. Whether the manipulation alleged simply moved a price or led to a temporary market “corner” of a position,¹⁷⁹ the analyses of “monopoly power” by these courts have made no reference to the limiting principle of durable changes in market structure.

The predictable result exposes a stark and troubling relationship between manipulation law and Section 2: courts infer monopoly power from any manipulation that affects or influences price, even when the duration of the “monopoly” typically is co-terminus with the fraud itself. Taken to its logical conclusion, this bypasses the durability principle altogether by condemning one day or even one act of successful manipulation under Section 2. The problem is not hypothetical, as at least one court has found such limited behavior to be evidence of market power, clearly without regard to the durability principle underlying Section 2.¹⁸⁰

c. It is Questionable to Infer Monopoly Power Solely from the Effects of Fraud

Finally, and most fundamentally, the few courts that have inferred monopoly power from the mere ability to affect price have failed to analyze whether harm from such conduct could be an “antitrust injury”—*i.e.*, the “type” of harm Section 2 was intended to address.¹⁸¹

As we discussed above, proof of manipulation requires showing the intentional exploitation of a market linkage between cause and effect for some fraudulent purpose (or to produce some “artificial” result). Yet the nature of these elements and their interdependence in creating “market power” themselves casts doubt on whether the behavior is consistent with the concept of an “antitrust injury.” For example, fraud placed into the market through misinformation requires no market share (or market definition) to accomplish its desired effect. The use of uneconomic trades to bias a price-making mechanism typically does not require a large “market share” of trades at all, particularly if the mechanism is illiquid. And even uneconomic or strategic withholding or overbidding may not provide sufficient evidence of dominance given that recoupment of profits from outside of the four corners of the relevant market could be necessary for the behavior to be net-profitable.¹⁸²

Nevertheless, some courts have been willing—at least at the initial pleading stage—to consider direct evidence of market power based solely on the unilateral

178. *Id.* at 1213.

179. *Thompson’s Gas*, 691 F. Supp. 2d at 866.

180. *In re Dairy Farmers*, 767 F. Supp. 2d at 880.

181. *Id.* at 907.

182. In the context of over bidding, in particular, the conduct appears analogous to a predatory investment strategy that, under Section 2, would require proof of the ability to “recoup” the investment in a well-defined market controlled by the defendant. See *Weyerhaeuser Co. v. Ross-Simmons Harvard Lumber Co., Inc.*, 549 U.S. 312 (2007). That argument, however, did not prevail—at least at the motion to dismiss stage in *In re: Term Commodities Cotton Futures Litig.*, No. 12 Civ. 5126 (ALC) (S.D.N.Y. 2013).

ability to profitably move prices in an illiquid market, reducing the burden on claimants to prove dominance within a relevant market.¹⁸³ The Section 2 claim brought in *Merced Irrigation District* survived a motion to dismiss based just on such logic.¹⁸⁴ The analytical problem this creates is readily apparent. If the only conduct that gives rise to a finding of “monopoly power” is an undisclosed manipulation that has some effect on price, then Section 2 would effectively be converted into a treble damages manipulation statute based on a finding of monopoly power that exists only to the same degree and extent as the fraud itself.¹⁸⁵ Indeed, in circumstances where the “power” would evaporate as soon as the market is informed and competes away the price increase, this itself should be strong evidence of a lack of monopoly power. We suspect that courts will have to directly address this issue at a later stages of such proceedings.

3. Manipulation and the Section 2 Conduct Element

An equally distinct and important element of Section 2 is that the defendant engaged in misconduct that Section 2 is intended to address.¹⁸⁶ As noted above, this cannot mean abusive pricing or other unilateral conduct that, without more, merely affects output or price. Instead, courts have interpreted Section 2 as condemning only “exclusionary” conduct—*i.e.*, conduct that impedes the competitive process by making it more difficult for rivals to compete on the merits.¹⁸⁷

As it relates to manipulative conduct, the requirement raises some abstract yet fundamental issues. Assume, for example, that a firm engages in no conduct that affects rivals’ ability to compete in the marketplace—*e.g.*, no tying, bundling, exclusive dealing, or predatory pricing, but that the unilaterally-executed manipulative conduct directly (or indirectly) elevates market prices. Can such conduct be viewed as “exclusionary” without effectively rewriting Section 2 as an abuse or exploitation statute? The answer is likely “no” for several distinct reasons.

a. “Leverage” in Manipulation Law vs. “Leverage” in Antitrust

To start, “leverage” in antitrust parlance is quite different than the “leverage” concept we describe above concerning manipulation cases. In antitrust law, it is

183. Although market dominance is not required to bring a Section 1 claim, greater market dominance among colluding actors can augment the anticompetitive harm of a collusive act. For example, if larger buy orders are more likely to upwardly-bias a specific price-making mechanism, collusion to increase the size of buy orders placed on that mechanism tends to increase the likelihood that the bias successfully occurs. *See Spectrum Sports*, 506 U.S. at 455.

184. *Merced*, No. 15-cv-04878-VM, at 34-40.

185. For example, with respect to a Section 2 claim based on fraud on the Patent Office—*i.e.*, a *Walker Process* claim—plaintiff must still prove monopoly power independent of the fraud. *See generally* *Walker Process Equipment v. Food Machinery and Chemical Corp.*, 382 U.S. 172, 179 (1965) (highlighting that the fraud may satisfy the misconduct element, but that “all the elements otherwise necessary to establish a § 2 monopolization charge” must still be proven).

186. *Microsoft*, 253 F.3d at 59.

187. *See, e.g., Trinko*, 540 U.S. 398; *see also Microsoft*, 253 F.3d at 58 (the anticompetitive conduct must “harm the competitive process and thereby harm consumers.”); *Arroyo-Melecio v. Puerto Rican Am. Ins. Co.*, 398 F. 3d 56, 69 (1st Cir. 2005) (absent exclusionary conduct, “a monopolist is entitled to exploit a monopoly in order to maximize its profits.”).

now settled that Section 2 is not violated when a monopolist “leverages” its monopoly power in one market to achieve a competitive advantage in a related market; to violate Section 2 in the related market, the actor must monopolize it as well (or at least have the dangerous probability of doing so).¹⁸⁸ Thus, while *KeySpan* demonstrates that an *agreement* that increases the pecuniary gains made from a manipulative act can give rise to antitrust exposure,¹⁸⁹ it is a wholly different question to ask whether Section 2 is implicated where a market participant unilaterally obtains revenues from positions that are made more valuable through a market process, and thus increases the amount of “leverage” (from a manipulation perspective) that may *incentivize* a manipulative scheme.

To address this question, an example that reverses the manipulation’s logic of cause and effect is helpful. Consider a trader who holds a large financial position that is valued by a price index, such that the value of the position would increase by \$10 for every \$1 increase in the index price. This position *could* provide the leverage needed to fund a manipulation. The trader has an *incentive* to raise the index price—say, through the execution of uneconomic purchases—and could rationally lose any amount up to \$10 on those purchases if he expects the result to increase the index price by \$1 or more. Assuming the trader is willing to manipulate the index, the size of his benefitting position therefore influences how much of a loss the trader can bear to produce the needed impact on the index.¹⁹⁰

However, *incentive* does not necessarily confer *ability* to set prices unilaterally. In a perfectly-liquid market, no achievable volume of uneconomic purchases by the trader in the prior example should be able to bias the index price. Likewise, if the New York City ICAP market was sufficiently competitive, *KeySpan* could have withheld the entirety of its plant’s output from the market and not have (materially) increased the market price. But as markets become less liquid or less competitive, a window providing an ability to manipulate opens. The issue then becomes one of whether the expected revenues provided from the benefitting positions are sufficient to exceed the expected costs required to manipulate. Larger revenues from benefitting positions, as well as lack of liquidity in price-making mechanisms, therefore increase the ability of a market actor *profitably* to engage in the causal act—and, thus, could be argued in theory to provide the “market power” needed to manipulate the market.

More importantly, however, the notion of being exposed to Section 2 liability from “leveraging”—*e.g.*, using power in one market to cause harm in another—was put to rest for good in *Trinko*.¹⁹¹ As it now stands, an assessment of an alleged Section 2 violation is limited to the relevant market in which the requisite anti-competitive effects must be demonstrated.¹⁹² By comparison, in manipulation cases, harms can arise due to market distortions caused by behavior outside the “market” and which often are limited to very short and episodic events. Although

188. See, *e.g.*, *Trinko*, 540 U.S. 398; see also *Schor v. Abbott Labs.*, No. 05-3344 (7th Cir. 2006).

189. *KeySpan*, 763 F. Supp. 2d at 633.

190. As discussed previously, the liquidity of the index is critical to this calculus—*i.e.*, if there are fewer trades that currently comprise the index, a smaller loss is required to produce the same \$1 impact on the index, all other things being constant.

191. *Trinko*, 540 U.S. at 398.

192. *Id.* at 408.

recent cases suggest that antitrust law could extend to manipulations funded from broader sources of recoupment when *agreements* are involved,¹⁹³ causes of action based on unilateral conduct will be harder cases to prove, especially if they rely on any concept of “leveraging” harm or misconduct in one market to another.

Finally, in many of these manipulation “leveraging” scenarios, the defendant is not engaging in any conduct that affects a rival’s ability to participate in the competitive process. Rather, the defendant is engaging in efforts that simply affect price, directly or indirectly.¹⁹⁴ Whether such conduct may violate other laws is not the point; instead, allowing—expressly or implicitly¹⁹⁵—such conduct to constitute “exclusionary” behavior under Section 2 without restricting rivals’ ability to compete all but invites courts to second-guess what is appropriate unilateral decision making.

Compared to established categories of Section 2 exclusionary conduct, manipulation is a less definitive concept that can be improperly alleged in circumstances where the behavior at issue is in fact legitimate (*e.g.*, placing large trades into properly-hedged positions at times when the market is illiquid). Disproof of such allegations is costly, whether against an agency investigation or in litigation, especially if a claim is allowed to proceed beyond a motion to dismiss. If such allegations are also allowed to provide the sole basis for allegations of Section 2 misconduct, the threat of treble damages only adds to the potential cost. This can potentially chill much legitimate trading activity for fear of the false positives that could result.

b. Potential Confusion over the Role of “Intent”

A final area of departure between manipulation law and Section 2 is on the subject of “intent.” Under manipulation law, in addition to demonstrating the mechanics of cause and effect in an alleged scheme, the parties must prove the alleged actor’s intent, whether viewed as the intent to commit a fraudulent scheme or the intent to create an “artificial” price.¹⁹⁶ In sharp contrast, in Section 2 monopolization cases, intent is not an element of the claim and in fact is viewed as confounding. Hence, while intent may be relevant to support evidence of anticipated effects, Section 2 does not prohibit firms from engaging in non-exclusionary conduct, even when it is specifically intended to harm rivals or limit output or

193. *See, e.g.*, *In re Foreign Exch.*, 13-cv-07789-LGS (S.D.N.Y. 2014) (in which traders are alleged to have conspired to manipulated the settlement prices of foreign currency pairs through a variety of actions, including the coordinated use of uneconomic trades and the withholding of liquidity to maximize the price impacts of their collective actions).

194. *See, e.g.*, *Rio Grande*, 786 F. Supp. 2d at 1211 (because Section 2 requires, at a minimum, conduct that “tends to impair the opportunities of rivals,” alleged fraudulent conduct that simply moves prices cannot be viewed as “exclusionary”).

195. *See supra* note 14; *Merced*, No. 15-cv-04878-VM.

196. Shaun D. Ledgerwood & Jeremy A. Verlinda, *Derivatives’ Roles in Manipulation*, 37 No. 9 FUTURES AND DERIVATIVES L. REP. NL2 (Oct. 2017).

price.¹⁹⁷ This is because even highly procompetitive behavior is often intended to harm or eliminate rivals and to give the acting firm more power over price.

A focus on manipulative intent, as opposed to the objective nature of the conduct and its effects, therefore is not useful in Section 2 contexts. Not since *Alcoa*¹⁹⁸ has a court condemned what may be viewed as intentional, unilateral manipulation (there of output, overbuilding to deter entry)—again, because courts are extremely reluctant to find Section 2 liability based on “intent” without reference to conduct that harms a *competitive process*. Unless the allegedly-manipulative behavior does so, such as by altering the structure of the market in a manner consistent with the other elements of monopolization or attempted monopolization claims discussed above, Section 2 does not apply. Otherwise, courts would find themselves effectively regulating all unilateral decisions of firms that do little more than affect a market output or price on an ephemeral basis.

C. *Should Antitrust Be Used as an Additional Deterrent to Manipulation?*

The outcomes of *Merced Irrigation District* and the *Libor* cases demonstrates that, in some cases, it is possible that liability may attach from *both* manipulation and Sherman Act lines of authority—along with attendant civil damages, fines, civil penalties and criminal liabilities—to provide a significant deterrent effect.¹⁹⁹ This is especially so when the manipulation can be cast in a Section 1 context, setting aside for the moment complex questions of causation and antitrust injury.

For example, the U.S. DOJ secured fines of several billion dollars based on price fixing charges against multiple banks in FOREX,²⁰⁰ and the multi-district class-action litigations that followed this and other financial benchmark cases may likewise result in damages that run to the billions of dollars.²⁰¹ This combination of antitrust fines, damages, and potential criminal sentences can, of course, greatly exceed the disgorgement and civil penalties levied by U.S. agencies in their anti-manipulation actions. And, no doubt, recent and pending legal actions alleging conspiracies to manipulate various financial products and commodities suggest that Section 1 will continue to have a significant role in this area, subject to important causation and antitrust injury limitations.

But what of Section 2 cases, where agreements are not at issue and the underlying basis of the claim is the exercise of “monopoly power” through fraud or the intent to create an artificial price? Some may argue that the combination of imperfect enforcement against manipulative actors and the inadequate remedies provided by disgorgement from FERC or damages under the CEA does not effectively deter such behavior, requiring additional equitable and legal remedies to

197. See, e.g., *Microsoft*, 253 F.3d at 59 (with the exception of an attempt claim—where specific intent is a required element—Section 2 focuses on effects, not upon the intent behind it; hence, intent in a maintenance claim is only relevant to the extent it helps to understand likely effects of the conduct).

198. *U.S. v. Aluminum Co. of America*, 148 F.2d 1073 (2d Cir. 1945).

199. *Ledgerwood & Verlinda*, *supra* note 196.

200. See Gina Chon, Caroline Binham, & Laura Noonan, *Six Banks Fined \$5.6bn Over Rigging Of Foreign Exchange Markets*, FINANCIAL TIMES (May 20, 2015), <http://ig-legacy.ft.com/content/23fa681c-fe73-11e4-be9f-00144feabdc0#slide0>.

201. *Id.*

fully redress claimants' harms²⁰² and civil penalties to provide sufficient behavioral deterrence.

Yet, separate and apart from the Section 2 impediments we discuss here, a key economic consideration suggests that such a policy shift would be ill-advised. A key factor that inhibits the ability of market actors to engage in successful manipulation is robust liquidity in the mechanisms that can serve as linkages between cause and effect. In an environment of regulatory certainty where unwarranted enforcement actions or lawsuits (based either in antitrust or manipulation law) do not exist, market participants can execute legitimate trades without fear that they might inadvertently affect those linkages, thus providing the liquidity needed to inoculate markets from manipulative acts should they occur.

In reality, there is uncertainty with respect to the possibility of unwarranted investigations and enforcement actions related to what may ultimately be proven—at substantial expense to the market participant due to legal fees and business disruption—to be legitimate trades. The potential for private litigation only heightens this risk, made worse in the case of antitrust claims given the threat of treble damages. This tends to incentivize market actors to avoid placing legitimate trades, thus robbing the markets of the liquidity those trades provide and paradoxically increasing the ability—or “market power”—of bad market actors intent on manipulation. While the Section 2 hurdles themselves might spell the end to types of antitrust-based manipulation cases we addressed herein, these real life market considerations should be considered by courts as well.

V. CONCLUSION

From an economic perspective, the cause and effect of manipulation might seem at first blush to suggest that such behavior could also give rise to a Section 2 violation—*e.g.*, some act confers “market power” sufficient to bias a market mechanism linked to other positions held by the actor that benefit from the bias created, the effect of which is net-profitable to the actor. However, a deeper dive into the law and economics behind the two institutions reveals that in most circumstances they do not overlap. Specifically:

- The “market power” used to manipulate a market typically is an ephemeral event caused by a fraudulent act (or an act intended to create an “artificial” price), which lacks the durability requirement of “monopoly power” anticipated by Section 2²⁰³;
- The transient nature of the bias created, while capable of distorting wealth in a manner that might be actionable under market manipulation law, is unlikely to have exclusionary effects, given that the

202. See U.S. DOJ KeySpan Complaint, *supra* note 135, at 4 (For example, the NYISO required KeySpan to offer its plant into later auctions at a zero price as a condition of the plant's later divestiture. While this is a Section 1 example, courts in the U.S. and EU make use of equitable remedies in unilateral conduct cases as well.) See *supra* note 83 and accompanying text (EU Commission's ruling against E.On required divestiture of generation and transmission assets).

203. See *supra* Part IV.B.2.b.

biases created are limited to the duration of the fraud and do not foreclose rivals from the market²⁰⁴;

- Whereas the exploitation of cross-market leverage as a source of funding for manipulations is highly relevant (and, indeed, feeds the manipulator's "market power" in such contexts), cross-market leverage in Section 2 cases is not appropriate unless it can be shown that the actor has, or probably will have, monopoly power in both markets²⁰⁵; and
- Although intent (whether fraudulent or the intent to create an "artificial" price) is a key requirement of proof in manipulation cases, the role of intent in a Section 2 monopolization case is limited to the extent which it informs anticompetitive effects.²⁰⁶

Even more daylight appears between the two institutions when considering their treatment of traditional monopoly behavior—*e.g.*, withholding supply to raise prices in benefit to other units sold in the same market, such that the net effect of the withholding is profitable on a stand-alone basis. Absent other facts, such withholding is fully legal under Section 2 (which is not an "exploitation" statute). Likewise, it should not be actionable under the manipulation laws given that a monopoly price is neither "artificial" nor fraudulent as a matter of economic principles.²⁰⁷ Potential liability would only attach if additional facts became available—*e.g.*, exclusionary behavior or the long-term cornering of a market—which would tend to push the analysis in one direction or the other.

In sum, there may well be rare circumstances where Section 2 should apply to manipulative behavior, such as where the anticompetitive effects of the manipulative behavior are both durable and exclusionary. Barring such facts, the ultimate intersection of market manipulation and antitrust law will likely be confined to Section 1 contexts, assuming all other elements of a Section 1 claim are established.

204. See *supra* Part III.B.1.c.

205. See *supra* Part IV.B.3.a.

206. See *supra* Part IV.B.3.b.

207. Because a monopoly price is merely the profit maximizing price within the four corners of the relevant market, it serves a stand-alone, legitimate business purpose and thus is neither "artificial" nor the product of fraud.