The Doctrinal Quandary of Manipulative Practices in Securities Markets: Artificial Pricing, Price Discovery, and Liquidity Provision

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This Article sketches a frame of analysis for the doctrinal quandary of manipulative practices in securities markets, drawing on the historical origins of the concept of market manipulation and the realities of the modern electronic marketplace. The essence of market manipulation is maintained to be in artificial pricing based on market activity, as opposed to other indicia of "artificiality," and this definitional approach is compared and contrasted to the process of price discovery and liquidity provision. The Article addresses several key themes relevant for today's securities markets, such as the phenomenon of exploratory trading, market making and the role played by market makers, the doctrine of open market manipulation, spoofing/layering and disruptive trading, and the implications of the market structure crisis.

I. INTRODUCTION

Rarely out of the headline news, market manipulation has always been a permanent fixture of securities markets. Even the earliest experiences of a modern-style stock exchange in the 17th century provide evidence of manipulative practices listed by a contemporaneous commentator among "the craftiest and most complicated machinations

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which exist in the maze of the Exchange and which require the greatest possible cunning."[1] Among recent examples, one might mention numerous incidences of "spoofing" and "layering,"[2] the mounting concerns about manipulation in volatility-based products,[3] the overlap of the manipulation-prone cryptospace with the regulatory regime governing securities markets,[4] and increasingly complex methods to detect market manipulation, whether broadly or narrowly defined.[5] Still, it is worth repeating a century-old observation:

1. JOSEPH DE LA VEGA, CONFUSION DE CONFUSIONES 30 (Hermann Kellenbenz ed. & trans., Harvard Graduate Sch. of Bus. Admin. 1957) (1688), https://babel.hathitrust.org/cgi/pt?id=uc1.32106019504239. For a description of such manipulative practices, with some of them involving both equities and options, together with other notable practices taking place in the Dutch securities markets at that time, see *id.* at 30–38.

2. *See, e.g.*, Andrew Ceresney, Dir., Div. of Enf't, U.S. Sec. & Exch. Comm'n, Market Structure Enforcement: Looking Back and Forward: Speech Before SIFMA Compliance & Legal Society New York Regional Seminar (Nov. 2, 2015), https://www.sec.gov/news/speech/ceresney-speech-sifma-ny-regional-seminar.html [https://perma.cc/8YHP-7GWV] ("The [U.S. Securities and Exchange] Commission also has brought a series of cases involving manipulation techniques known as 'layering' or 'spoofing.' In these schemes, the trader sends non-bona fide orders that he or she intends to cancel before they are executed in order to induce others to buy or sell securities at prices that do not represent actual supply and demand. . . . Layering and spoofing distort our markets by introducing false information about trading interest. These investigations can be challenging because they involve tremendous amounts of data, but we have been successful in identifying this conduct through our use of innovative data analytics.").

3. *See, e.g.*, *In re* Chi. Bd. Options Exch. Volatility Index Manipulation Antitrust Litig., 390 F. Supp. 3d 916, 923, 934 (N.D. Ill. 2019) (addressing the allegations that the Chicago Board Options Exchange "designed the VIX enterprise [i.e., the offering of volatility-based products] in a way that allowed anonymous traders to manipulate the market for their own benefit" and concluding that, "[t]hough Cboe may have designed a process with features that made it vulnerable to manipulation, the facts alleged in complaint do not support the conclusion that Cboe knew about these flaws at the time it designed the VIX enterprise or that it purposefully designed the market to facilitate manipulation"); *see also* Letter from Jason Zuckerman & Matt Stock, Zuckerman Law, to James McDonald, Dir., Div. of Enf't, U.S. Commodity Futures Trading Comm'n, et al. 2 (Feb. 12, 2018), https://assets.bwbx.io/documents/users/iqjWHBFdfxIU/r8LCxXQ4CfqU/v0 [https://perma.cc/PHH7-NDGA] (maintaining that "the liquidation of the VIX [exchange-traded products] last week was not due solely to flaws in the design of these products, but instead was driven largely by a rampant manipulation of the VIX index").

4. *See, e.g.*, SEC Chairman Jay Clayton, *Statement on Cryptocurrencies and Initial Coin Offerings*, U.S. SEC. & EXCHANGE COMMISSION (Dec. 11, 2017), https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11 [https://perma.cc/A8RP-D4WM] (discussing how certain cryptoassets may be classified as securities under federal securities law and articulating the concern that in markets in such cryptoassets "there is substantially less investor protection than in our traditional securities markets, with correspondingly greater opportunities for fraud and manipulation"); *see also* Order Setting Aside Action by Delegated Authority and Disapproving a Proposed Rule Change by Bats BZX Exchange, Inc. to List and Trade Shares of the Winklevoss Bitcoin Trust, Exchange Act Release No. 83,723, 83 Fed. Reg. 37,579 (July 26, 2018), https://www.gpo.gov/fdsys/pkg/FR-2018-08-01/pdf/2018-16427.pdf [https://perma.cc/B9XT-5XWX] (declining to approve a security listing based on a leading cryptocurrency in part because of concerns over market manipulation in the underlying market); *Kraken's Position on Regulation*, KRAKEN DIGITAL ASSET EXCHANGE (Apr. 22, 2018), https://blog.kraken.com/post/1561/krakens-position-on-regulation/ [https://perma.cc/MSA8-TJ2Q] (making a contentious statement that "[b]eing protected from market manipulation . . . doesn't matter to most crypto traders"); Thomas Bourveau et al., Initial Coin Offerings: Early Evidence on the Role of Disclosure in the Unregulated Crypto Market 5–6 (July 2018) (unpublished manuscript) (on file with author), https://www.marshall.usc.edu/sites/default/files/2019-03/thomas_bourveau_icos.pdf [https://perma.cc/B4GB-326S] (examining the market for "initial coin offerings," cryptoassets that potentially fit the definition of a security, and identifying "evidence consistent with some issuers strategically timing their capital raise during 'hot' markets and engaging in 'pump and dump' schemes that harm investors").

5. For a sample of such research, see Yi Cao et al., *Detecting Wash Trade in Financial Market Using Digraphs and Dynamic Programming*, 27 IEEE TRANSACTIONS ON NEURAL NETWORKS & LEARNING SYS. 2351 (2016), https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7298451 [https://perma.cc/4YXU-3E6Y];

"The operation [of market manipulation] is more easily seen than defined since it is always easier to see something in retrospect than when it is actually taking place. Yet no subject relating to brokerage is more hotly debated and none possesses, perhaps, as much intrinsic interest."[6]

Despite new iterations of manipulative practices and the rapid evolution of the modern electronic marketplace, there has not been an overhaul of the fundamental regulatory principles. Dating back to the New Deal era, the issue of market manipulation in the realm of securities regulation is still largely addressed by Section 9 of the Securities Exchange Act of 1934 (Exchange Act),[7] which contains specific anti-manipulative provisions, Section 10(b) of the Exchange Act[8] in tandem with Rule 10b-5[9] promulgated by the U.S. Securities and Exchange Commission (SEC), which embodies a general antifraud ban on manipulative and deceptive practices, Section 15(c) of the Exchange Act,[10] a similar antifraud ban on manipulative and deceptive practices of broker-dealers in particular, and Section 17(a) of the Securities Act of 1933 (Securities Act),[11] yet another general antifraud ban. The antifraud nature of the last three provisions is consistent with the traditional understanding of market manipulation in securities markets as a fraud-based offense, inevitably coloring the very word "manipulation."[12]

David Diaz et al., *Analysis of Stock Market Manipulations Using Knowledge Discovery Techniques Applied to Intraday Trade Prices*, 38 EXPERT SYS. WITH APPLICATIONS 12,757 (2011); Zhi-Qiang Jiang et al., *Trading Networks, Abnormal Motifs and Stock Manipulation*, 1 QUANT. FIN. LETTERS 1 (2013); Jia Zhai et al., *Computational Intelligent Hybrid Model for Detecting Disruptive Trading Activity*, 93 DECISION SUPPORT SYS. 26 (2017).

6. Albert W. Atwood, *The Exchanges and Speculation*, 20 MOD. BUS. 253 (Alexander Hamilton Inst. 1917), https://books.google.com/books?id=tvoJAAAAIAAJ.

7. 15 U.S.C. § 78i (2016), https://www.gpo.gov/fdsys/pkg/USCODE-2016-title15/pdf/USCODE-2016-title15-chap2B.pdf [https://perma.cc/626X-RLKZ].

8. *Id.* § 78j(b).

9. Employment of Manipulative and Deceptive Devices, 17 C.F.R. § 240.10b-5 (2018), https://www.govinfo.gov/content/pkg/CFR-2018-title17-vol4/pdf/CFR-2018-title17-vol4-chapII.pdf [https://perma.cc/9CJC-FZBY].

10. 15 U.S.C. § 78o.

11. *Id.* § 77q(a).

12. *See, e.g.*, United States v. Regan, 937 F.2d 823, 829 (2d Cir. 1991) (stating, in the context of Section 10(b) of the Exchange Act and Rule 10b-5, that "[f]ailure to disclose that market prices are being artificially depressed operates as a deceit on the market place and is an omission of a material fact") (quoting United States v. Charnay, 537 F.2d 341, 351 (9th Cir. 1976)); *In re* Initial Pub. Offering Sec. Litig., 241 F. Supp. 2d 281, 381 (S.D.N.Y. 2003) ("Where a defendant has engaged in conduct that amounts to 'market manipulation' under Rule 10b-5(a) or (c), that misconduct creates an independent duty to disclose. Failure to do so thus gives rise to a violation of Rule 10b-5(b).") (footnote omitted); Barrett & Co., Exchange Act Release No. 2901, 9 S.E.C. 319, 329 (May 22, 1941) (stating, in the context of Section 15 of the Exchange Act and Rule X15-C1-2, that "[i]t has been established in a long line of decisions that when a security is sold 'at the market,' the failure to disclose to purchasers the fact that the market price has been artificially inflated by the sellers' manipulation is an omission to state a material fact and constitutes a fraud on the purchasers"). On the other hand, some commentators have questioned the fraudulent nature of *all* manipulative activities, at least in other asset classes. *See, e.g.*, Craig Pirrong, *Energy Market Manipulation: Definition, Diagnosis, and Deterrence*, 31 ENERGY L.J. 1, 14 (2010), https://www.eba-net.org/assets/1/6/13-01-Pirrong-EnergyMarketManipulation-022510.pdf [https://perma.cc/E9C4-JU69] (stating, in the context of energy markets, that "[Rule] 10b-5-type language is reasonably applicable to fraud-based manipulations, but completely inappropriate for market power-based manipulations"). A similar uneasiness concerning some forms of market manipulation in securities markets has persisted as well. As remarked in a leading treatise on securities regulation, "Related to the field of fraud—but not altogether a part of it as a matter of legal analysis—is the matter of market manipulation." LOUIS LOSS ET AL.,

Some uncertainty about the very reach of legal tools aimed at market manipulation and their definitional clarity dates back to one of the earliest forays into the very possibility of creating federal securities law, the congressional Money Trust Investigation, also known as the Pujo Hearings.[13] The official report resulting from the hearings touched on many regulatory issues relevant for securities markets, for instance, in connection with corporate disclosure standards, insider trading, and short selling.[14] Not surprisingly, the topic of market manipulation had not escaped its attention, with the section labeled "Manipulation" addressing the following concerns:

> A very important phase of speculation on the New York Stock Exchange is the manipulation of prices up or down, as desired, without regard to the real value of the securities, and the creation of a false appearance of activity in particular stocks . . . . [T]his practice prevents the exchange from faithfully reflecting the current value of securities—one of its true functions . . . .[15]

More specifically, the report pointed to some instances of "prices [being] artificially raised or lowered through the concentration of buying or selling orders" and "unreal appearances of activity . . . created through the giving by the same person or persons of simultaneous orders to buy and sell particular stocks."[16] Importantly, the report also proposed a comprehensive federal statute, which, among other things, proscribed "manipulation" defined as trading practices

> for the purpose of giving to such transactions or to the market in such securities, or to the public, a false or misleading appearance of activity, or to artificially depress, inflate, or otherwise influence the market price thereof in order to sell or purchase or procure the sale or purchase of any of such securities of such issue, or to attract public attention to such securities to induce the purchase or sale thereof by others [or] for the simultaneous or substantially simultaneous purchase and sale of any such security by or for or on behalf of the same persons or interests, whether accomplished by means of genuine or fictitious purchases or sales, or both.[17]

Even this early effort to define and proscribe market manipulation had raised some lingering questions, such as the very definition of "artificial" price movements and whether false or misleading market activity expressed in terms of trading volume or any other metric could be logically separated from actual or intended artificial pricing.

Overarchingly, an analytical framework for crafting a definition of market manipulation should consider the process of price discovery and liquidity provision as key market mechanisms. Broadly speaking, the process of price discovery is a simultaneous aggregation of *trading interests* in the marketplace, which is based on the applicable

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SECURITIES REGULATION ch. 10[a] (5th ed. 2014 & Supp. 2017).

13. *Money Trust Investigation: Investigation of the Financial and Monetary Conditions in the United States Under House Resolutions Nos. 429 and 504 Before a Subcomm. of the H. Comm. on Banking and Currency*, 62d Cong. (1912–13), https://fraser.stlouisfed.org/title/80 [hereinafter *Pujo Hearings*].

14. REPORT OF THE COMMITTEE APPOINTED PURSUANT TO HOUSE RESOLUTIONS 429 AND 504 TO INVESTIGATE THE CONCENTRATION OF CONTROL OF MONEY AND CREDIT, H.R. REP NO. 62-1593 *passim* (1913), https://babel.hathitrust.org/cgi/pt?id=mdp.39015056056255 [hereinafter PUJO REPORT].

15. *Id.* at 46.

16. *Id.*

17. *Id.* at 173.

trading protocols and the mode of interaction of different trading venues, and the *informational content* of observed and perceived trading interests in order to arrive at some *equilibrium price* as a reflection of the marketplace's judgment with some degree of accuracy.[18] In its turn, liquidity provision represents a great variety of trading strategies—and a substantial portion of overall market activity—to enhance the interaction of other trading interests, and such strategies may likewise be performed by different types of market participants, including, but not limited to, designated market makers on organized trading venues.[19] Importantly, these two market mechanisms are interdependent: "Price discovery and liquidity provision interact in a mutually supporting manner: one would expect price discovery to be sharper in a more liquid market and, reciprocally, that liquidity provision would be more forthcoming in a market that delivers better price discovery."[20]

An approach to market manipulation incorporating the process of price discovery and liquidity provision could be utilized for several pivotal issues that reflect the decades of grappling with practical concerns and the evolution of the architecture of securities markets. Notably, the doctrinal standing of the so-called "open market" manipulation, as a concept that does not involve any fictitious/prearranged transactions or any communication to the marketplace other than orders and consummated transactions, is still unclear in some jurisdictions.[21] At the same time, this concept does have a great deal of weight despite its inherently blurry boundaries between legal and illegal conduct—for instance, whether all orders exposed in the market at arm's length could be described as bona fide or what

18. As insightfully described by other commentators, "*Price discovery* is achieved as orders are submitted to a market and turned into trades. A transaction price is, of course, determined each time a trade is consummated, but *price discovery* refers to something more fundamental. Price discovery refers to the search for a value that best reflects the broad market's desire to hold shares of a stock. In economic parlance, price discovery involves the search for an *equilibrium value*." Reto Francioni et al., *Secondary Market: Trading, Price Discovery, and Order Matching*, *in* EQUITY MARKETS IN TRANSITION: THE VALUE CHAIN, PRICE DISCOVERY, REGULATION, AND BEYOND 85, 85 (Reto Francioni & Robert A. Schwartz eds., 2017). To provide another definition, price discovery could be equated to "the efficient and timely incorporation of the information implicit in investor trading into market prices." Bruce N. Lehmann, *Some Desiderata for the Measurement of Price Discovery Across Markets*, 5 J. FIN. MKTS. 259, 259 (2002). For a mix of recent sources on the process of price discovery, see Evangelos Benos & Satchit Sagade, *Price Discovery and the Cross-Section of High-Frequency Trading*, 30 J. FIN. MKTS. 54 (2016); Tālis J. Putniņš, *What Do Price Discovery Metrics Really Measure?*, 23 J. EMPIRICAL FIN. 68 (2013); Haoxiang Zhu, *Do Dark Pools Harm Price Discovery?*, 27 REV. FIN. STUD. 747 (2014).

19. For instance, the function of market makers as liquidity providers could be described as follows: "Liquidity provision is the main role of market makers [which] involves offsetting temporary imbalances between buyers and sellers (demand and supply) in the market." Francioni et al., *supra* note 18, at 117. For a mix of recent sources on liquidity provision and liquidity providers, see Adam D. Clark-Joseph et al., *Designated Market Makers Still Matter: Evidence from Two Natural Experiments*, 126 J. FIN. ECON. 652 (2017); R. Gençay et al., *Price Impact and Bursts in Liquidity Provision*, 18 QUANT. FIN. 1129 (2018); Bruno Biais et al., *Who Supplies Liquidity, How and When?* (Bank for Int'l Settlements, Working Paper No. 563, 2016), https://www.bis.org/publ/work563.pdf [https://perma.cc/7AAS-UDPF].

20. Francioni et al., *supra* note 18, at 87.

21. For a recent discussion of the persisting circuit split with respect to open market manipulation, see CP Stone Fort Holdings, L.L.C. v. Doe, No. 16-cv-4991, 2016 U.S. Dist. LEXIS 141078, at *16–18 (N.D. Ill. Oct. 11, 2016). For a mix of in-depth sources on open market manipulation, see Gina-Gail S. Fletcher, *Legitimate Yet Manipulative: The Conundrum of Open-Market Manipulation*, 68 DUKE L.J. 479 (2018), https://scholarship.law.duke.edu/cgi/viewcontent.cgi?&article=3959&context=dlj [https://perma.cc/GD7H-CGEX]; Maxwell K. Multer, *Open-Market Manipulation Under SEC Rule 10b-5 and Its Analogues: Inappropriate Distinctions, Judicial Disagreement and Case Study: Ferc's Anti-Manipulation Rule*, SEC. REG. L.J., Summer 2011, at 97; Matthijs Nelemans, *Redefining Trade-Based Market Manipulation*, 42 VAL. U. L. REV. 1169 (2008), https://scholar.valpo.edu/cgi/viewcontent.cgi?article=1158&context=vulr [https://perma.cc/88E6-RWMF].

combinations of "real" orders are impermissible. Moreover, the modern electronic marketplace presents a host of issues relating to potentially manipulative practices, such as "spoofing" and "layering" now seen as being used to trick "market participants using algorithmic platforms"[22] or symbiotic relationships between trading venues and high-frequency traders (HFTs) based on inadequate disclosure, as exemplified by the monumental *City of Providence v. BATS Global Markets, Inc.*[23]

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II. THE JUDICIAL OAK AND THE SCOPE OF MARKET MANIPULATION

The most important legal tool against market manipulation, Section 10(b) of the Exchange Act implemented through Rule 10b-5, "a judicial oak which has grown from little more than a legislative acorn,"[25] is a more general—and concise—antifraud provision, which contains just one reference to "manipulative" devices in the Rule's caption without deciphering the meaning of this term. As summarized by a leading

22. Biremis Corp., Exchange Act Release No. 68,456, 105 SEC Docket 862, 868 (Dec. 18, 2012) (settled proceeding).

23. *In re* Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342 (S.D.N.Y. 2015), *aff'd in part, rev'd in part sub nom.* City of Providence v. BATS Glob. Mkts., Inc., 878 F.3d 36 (2d Cir. 2017), *panel reh'g and en banc reh'g denied*, No. 15-3057 (2d Cir. Mar. 13, 2018), *cert. denied*, 139 S. Ct. 341 (2018), *remanded sub nom. to In re* Barclays Liquidity Cross & High Frequency Trading Litig., 390 F. Supp. 3d 432 (S.D.N.Y. 2019), *cert. of interlocutory appeal denied*, No. 14-MD-2589 (JMF), 2019 U.S. Dist. LEXIS 118196 (S.D.N.Y. July 16, 2019).

24. It should be noted that the regulatory framework governing anti-manipulative measures in the futures/commodities space, while always possessing a flavor distinct from the securities space, has been developing on several dimensions in recent years. For a sample of sources discussing such developments, including similar themes of spoofing/layering and disruptive trading, oftentimes in the context of HFT, see Rosa M. Abrantes-Metz et al., *Revolution in Manipulation Law: The New CFTC Rules and the Urgent Need for Economic and Empirical Analyses*, 15 U. PA. J. BUS. L. 357 (2013), https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1432&context=jbl [https://perma.cc/G9SE-FDYV]; Gregory Scopino, *Do Automated Trading Systems Dream of Manipulating the Price of Futures Contracts? Policing Markets for Improper Trading Practices by Algorithmic Robots*, 67 FLA. L. REV. 221 (2015), https://scholarship.law.ufl.edu/cgi/viewcontent.cgi?article=1223&context=flr [https://perma.cc/ZK2Z-64DL]; Joseph D. Heinz, Note, *Spoofing: Ineffective Regulation Increases Market Inefficiency*, 67 DEPAUL L. REV. 77 (2017), https://via.library.depaul.edu/cgi/viewcontent.cgi?article=4041&context=law-review [https://perma.cc/5J3C-58MC]. For a perspective that considers various particularities of market manipulation in the futures/commodities space, see Craig Pirrong, *The Economics of Commodity Market Manipulation: A Survey*, 5 J. COMMODITY MKTS. 1 (2017).

25. Blue Chip Stamps v. Manor Drug Stores, 421 U.S. 723, 737 (1975).

commentator, "The essence of the fraud in a Section 10(b) manipulation case is the creation of an artificial price."[26] To be even more specific, the fraudulent nature lies in the intent, which translates into deceptive conduct, rather than the ultimate result, as "the defendant [must have] intended to deceive investors by artificially affecting the market price of securities."[27] In other words, market manipulation is a deliberate interference with the pricing mechanism that pushes the market price in the "wrong" direction or delays a move in the "correct" direction, and even a stable—or rather stabilized—price could be artificial. This approach matches a commonsensical definition of market manipulation provided by the U.S. Supreme Court in a non-securities context: "[M]arket manipulation in its various manifestations is implicitly an artificial stimulus applied to (or at times a brake on) market prices, a force which distorts those prices, a factor which prevents the determination of those prices by free competition alone."[28] To dwell on the significance of the term "artificial" itself, it would be logical to define it as a deliberate distortion of the underlying trading interest in a security expressed in terms of an interaction of supply and demand, which could be combined with informational distortions disseminated through a variety of other channels, in order to create a deviation from the equilibrium price as a representation of that security's intrinsic value. Moreover, while the concepts of "artificial price" and "equilibrium price" cannot possess a mathematical precision, especially in light of the fluidity of securities markets, the former has an "unsustainable" and "correctable" character. Yet another corollary is that market manipulation aims to create artificial price *patterns* with managed/magnified fluctuations that would not be observed otherwise, with one leg of a manipulative scheme intended to take place in the marketplace at—or based on—a distorted price. Such patterns are of course designed to generate profitable trading opportunities.

However, given that the very words "manipulation," "manipulate," and "manipulative" are often used freely and thus potentially invite a broad interpretation of their various dimensions,[29] the legal definition of "market manipulation" needs to be evaluated, as a starting point, from the perspective of its historical meaning, the circumstances of the adoption of the ban on manipulative practices, and the language accompanying this measure.[30] Interestingly, one of the earliest efforts to design a

26. JERRY W. MARKHAM, LAW ENFORCEMENT AND THE HISTORY OF FINANCIAL MARKET MANIPULATION 392 (2014).

27. ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87, 102 (2d Cir. 2007).

28. United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 223 (1940).

29. Occasionally, such broad usage occurs even in a legal context. For instance, one court described insider trading as a "manipulative act," relying, among other authorities, on the term "deceptive device" under Section 10(b) of the Exchange Act and Rule 10b-5 discussed in a leading precedent. *In re* Sec. Litig. BMC Software, Inc., 183 F. Supp. 2d 860, 868 n.18 (S.D. Tex. 2001) (citing United States v. O'Hagan, 521 U.S. 642, 652 (1997)). However, insider trading, as opposed to market manipulation, is based on "true" rather than "false" information, and the range of "deceptive devices" is inherently broader than just market manipulation. After all, as observed by another court in reliance on two key precedents decided under Section 10(b) of the Exchange Act and Rule 10b-5, one must account for a "narrow definition of manipulation." Schreiber v. Burlington N., Inc., 731 F.2d 163, 166 (3d Cir. 1984), *aff'd*, 472 U.S. 1 (1985) (citing Santa Fe Indus., Inc. v. Green, 430 U.S. 462, 477 (1977), and Ernst & Ernst v. Hochfelder, 425 U.S. 185, 199 (1976)).

30. Importantly, some early shades of the term "manipulation" did not necessarily have a negative connotation. *See, e.g.*, SERENO S. PRATT, THE WORK OF WALL STREET 255–56 (1st ed. 1903), https://babel.hathitrust.org/cgi/pt?id=hvd.hndp4y ("Manipulation is of two kinds, these being well indicated by the Standard Dictionary definitions of the word: 1, adroit or skilful [sic] management; 2, fraudulent or deceptive management. . . . [T]here is a higher type of manipulation [that] may be described as the fine art of buying and

regulatory framework, which was a quarter-century before the adoption of the Exchange Act, zeroed in on a problematic form of "manipulation of prices" as efforts "to make a profit as the result of fluctuations which have been planned in advance," meaning to "creat[e] high prices [or] to depress the prices."[31] This definition appears to be based on artificial pricing, and the same approach is visible contemporaneously with the emergence of federal securities law. For instance, while describing securities markets shortly before the Great Depression, one commentator defined market manipulation as "the creation of an artificial price by planned action, whether by one man or a group of men."[32] As another illustration, shortly before the adoption of the Exchange Act, the New York Stock Exchange (NYSE) passed a broad ban—with numerous scandals and the looming threat of direct federal intervention in the background—on participating, managing, financing, or assisting "a manipulative operation," with that term defined as an operation "organized or used intentionally for the purpose of unfairly influencing the market price of a security by means of options or otherwise."[33] This definition, with its emphasis on an "unfair" impact

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selling stocks to the best advantage."); SHORT SALES AND MANIPULATION OF SECURITIES 2 (1913), https://books.google.com/books?id=I20uAAAAYAAJ ("The manipulation of the speculative markets is . . . recognized as a necessary and useful part of the machinery of speculation, when it is honestly done. But dishonest manipulation of the markets is universally condemned, just as is any other dishonest manipulation in business.").

31. STATE OF N.Y., REPORT OF GOVERNOR HUGHES' COMMITTEE ON SPECULATION IN SECURITIES AND COMMODITIES 7 (June 7, 1909), https://ia802708.us.archive.org/32/items/reportofgovernor00newyuoft/reportofgovernor00newyuoft_bw.pdf [https://perma.cc/4RNU-3ZRN] [hereinafter HUGHES' COMMITTEE REPORT].

32. CHARLES A. DICE, THE STOCK MARKET 414 (1926), https://babel.hathitrust.org/cgi/pt?id=mdp.35128000269579. The very same passage was quoted, without proper attribution, in the context of defining the scope of market manipulation under the Commodity Exchange Act of 1936 in *General Foods Corporation v. Brannan*, 170 F.2d 220, 231 (7th Cir. 1948). Several other early commentators likewise stressed the importance of artificial pricing. *See, e.g.*, Atwood, *supra* note 6, at 253 ("Probably the most comprehensive explanation of manipulation is this: 'Putting up prices by virtue of ability to do so.' Manipulation almost invariably conveys the idea of artificiality."); S.S. HUEBNER, THE STOCK MARKET 324 (1922), https://babel.hathitrust.org/cgi/pt?id=hvd.32044036969061 ("Manipulation is difficult to define and conveys the idea of artificially influencing prices.").

33. 11 N.Y. STOCK EXCH., MINUTES OF THE GOVERNING COMMITTEE 159, 160 (Feb. 13, 1934) [hereinafter NYSE, MINUTES OF THE GOVERNING COMMITTEE] (NYSE Rules, ch. XIV, sec. 15), *reproduced in* S. COMM. ON BANKING & CURRENCY, STOCK EXCHANGE PRACTICES, S. REP. NO. 73–1455, at 49 (1934), https://ia800501.us.archive.org/6/items/StockExchangePracticesReport1934/Stock%20Exchange%20Practices%20Report%201934.pdf [hereinafter SENATE REPORT ON STOCK EXCHANGE PRACTICES]. In a slightly earlier—and much milder—measure with some connection to market manipulation, the NYSE subjected its members to disclosure of their involvement in "all substantial pools, syndicates or joint account trading in specific securities listed on the Exchange" or "all substantial options related to securities listed on the Exchange" and, in both cases, granted the authority to the Committee of Business Conduct to "disapprove of [such] connection" if it were "likely to create prices which will not fairly reflect market values." 11 NYSE, MINUTES OF THE GOVERNING COMMITTEE, *supra*, at 52, 53–54 (Aug. 2, 1933) (NYSE Rules, ch. XV, secs. 6–7). For a discussion of the circumstances of the adoption and the scope of the NYSE general anti-manipulative rule, as well as the Exchange's earlier ban on trading practices "upsetting the equilibrium of the market and bringing about a condition of demoralization in which prices will not fairly reflect the market values" that did not use the words "manipulation" or "manipulative," during the heated congressional hearings leading to the adoption of the Exchange Act, see *Stock Exchange Practices: Hearings Before the S. Comm. on Banking & Currency*, 73d Cong. 6608–09, 6614–17 (1933–34), https://babel.hathitrust.org/cgi/pt?id=mdp.35112104696192 [hereinafter *Senate Hearings on Stock Exchange Practices*]. Notably, Richard Whitney, the NYSE President, stated that the general anti-manipulative rule would cover "activity in the market by buying and selling, but through proper change of ownership, that . . . may well unfairly influence the market." *Id.* at 6616. In other words, as contrasted to practices with no effective change of ownership, such as wash sales and matched orders, this rule effectively extended to what is now known as open

rather than just any impact on the market price or any other dimension of market activity, also indicates what the scope of manipulative activities had been understood to be. Finally, in a key decision addressing market manipulation issued shortly before the adoption of the Exchange Act, the allegations and analysis had been framed in terms of artificial pricing,[34] with a key relevant precedent—already decades-old at the time—condemning a scheme to "create an artificial price in the market" and calling it "as gross a fraud as has ever been committed."[35]

In its summary discussion of "regulation of manipulative devices," an influential Senate report accompanying the Exchange Act made the following observation: "Certain devices employed for the purpose of artificially raising or depressing security prices are specifically prohibited by the [Exchange Act]. Others have not been forbidden outright but have been placed under the control of the Securities and Exchange Commission."[36] Likewise, another passage emphasized the price dimension of market manipulation: "The purpose of the [Exchange Act] is . . . to purge the securities exchanges of those practices which have prevented them from fulfilling their primary function of furnishing open markets for securities where supply and demand may freely meet at prices uninfluenced by manipulation or control."[37] Moreover, two contemporaneous commentators provided the following definition of "market manipulation," while referring to the principal anti-manipulative statutory provisions in federal securities law provided by Sections 9 and 10 of the Exchange Act:

> The term "manipulation" may, in short, be applied to any practice which has as its purpose the deliberate raising, lowering or pegging of security prices. Buying and selling in themselves do, of course, affect price, but in a free and open market this is a natural consequence and not their preconceived purpose. Manipulation leads to an artificial and controlled price.[38]

However, while these commentators also focused on the price dimension and its artificiality, their questionable broad inclusion of "the deliberate raising, lowering or

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market manipulation. Moreover, at a much earlier date, the NYSE banned "orders for the purchase or sale of securities, which would involve no change of ownership." 6 NYSE, MINUTES OF THE GOVERNING COMMITTEE, *supra*, at 723, 723 (Feb. 5, 1913). Intriguingly, the deliberations over this rule mentioned the Pujo Hearings in connection with manipulative practices on the same page, *id*., which suggests that the timing of this measure was probably connected to these hearings. For the relevant coverage of the issue of market manipulation, including such practices as the appearance of trading activity with no effective change of ownership, see *Pujo Hearings*, *supra* note 13, *passim*; PUJO REPORT, *supra* note 14, *passim*.

34. United States v. Brown, 5 F. Supp. 81 *passim* (S.D.N.Y. 1933), *aff'd*, 79 F.2d 321 (2d Cir. 1935), *cert. denied*, 296 U.S. 650 (1935).

35. *Id.* at 87 (quoting Scott v. Brown, Doering, McNab & Co. [1892] 2 QB 724 at 727 (appeal taken from QBD) (Wright, J.) (UK)). In support of the above-quoted statement of the trial judge, on the appellate stage, it was stated that there is "no substantial distinction between false rumours and false and fictitious acts; the price in the shares in this case was artificial, and the premium unreal and nominal . . . put forward to induce the public to take shares." *Scott*, 2 QB at 730–31 (Lopes, L.J.). In a much later pronouncement, the U.S. Supreme Court observed that the precedent in question "broke new ground in recognizing that manipulation could occur without the dissemination of false statements." Schreiber v. Burlington N., Inc., 472 U.S. 1, 7 n.4 (1985).

36. SENATE REPORT ON STOCK EXCHANGE PRACTICES, *supra* note 33, at 54.

37. *Id.* at 81.

38. James Wm. Moore & Frank M. Wiseman, *Market Manipulation and the Exchange Act*, 2 U. CHI. L. REV. 46, 50 (1934), https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1251&context=uclrev [https://perma.cc/YC8P-T9PG].

pegging of security prices" would also cover a variety of trading strategies that do not necessarily involve artificial pricing.

The scope of the concept of market manipulation has been addressed on the highest level of the federal judiciary. As maintained by the U.S. Supreme Court in the context of Section 10(b) and Rule 10b-5, market manipulation is "virtually a term of art when used in connection with securities markets. It connotes intentional or willful conduct designed to deceive or defraud investors by controlling or artificially affecting the price of securities."[39] Notably, the Court quoted a dictionary definition of the verb "manipulate" at the time of the adoption of the Exchange Act—made specifically in the context of "exchanges," i.e., organized trading venues—as "[t]o force (prices) up or down, as by matched orders, wash sales, fictitious reports . . . ; to rig."[40] Another pivotal case decided by the U.S. Supreme Court in the context of Section 10(b) and Rule 10b-5—but also with a reference to "specific manipulative practices" prohibited by Section 9 of the Exchange Act—maintained that the concept of market manipulation "refers generally to practices, such as wash sales, matched orders, or rigged prices, that are intended to mislead investors by artificially affecting market activity."[41] One indication that this decision did not contemplate the existence of non-price artificial market activity is contained in the observation that "Congress meant to prohibit the full range of ingenious devices that might be used to *manipulate securities prices*."[42] The very definition of market manipulation as artificial pricing rather than other characteristics has been confirmed by other courts.[43] Moreover, the same approach has been repeatedly taken by the SEC, involving heavy reliance on the leading precedents articulated by the federal judiciary. For instance, as stated in one of its opinions in the context of several antifraud provisions, including Section 10(b) of the Exchange Act and Rule 10b-5, "Manipulation is 'intentional or willful conduct designed to deceive or defraud investors by controlling or artificially affecting the price of

39. Ernst & Ernst v. Hochfelder, 425 U.S. 185, 199 (1976). The same passage was also relied on in a later interpretation by the Court of the statutory provision addressing market manipulation in connection with tender offers: "We hold that the term 'manipulative' as used in § 14(e) [of the Exchange Act] requires misrepresentation or nondisclosure. It connotes 'conduct designed to deceive or defraud investors by controlling or artificially affecting the price of securities.'" *Schreiber*, 472 U.S. at 12.

40. *Ernst & Ernst*, 425 U.S. at 199 n.21 (quoting WEBSTER'S NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE 1496 (William Allan Nielson et al. eds., 2d unabr. ed. 1934)).

41. Santa Fe Indus. v. Green, 430 U.S. 462, 476 (1977).

42. *Id.* at 477 (emphasis added).

43. *See, e.g.*, Fezzani v. Bear, Stearns & Co., 716 F.3d 18, 25 (2d Cir. 2013) (characterizing market manipulation covered by Section 10(b) of the Exchange Act and Rule 10b-5 as "when an artificial or phony price of a security is communicated to persons who, in reliance upon a misrepresentation that the price was set by market forces, purchase the securities"); Desai v. Deutsche Bank Sec. Ltd., 573 F.3d 931, 940–41 (9th Cir. 2009) (stating that "[m]anipulative conduct . . . is actionable under Rule 10b-5(a) or (c) and includes activities designed to affect the price of a security artificially by simulating market activity that does not reflect genuine investor demand"); GFL Advantage Fund, Ltd. v. Colkitt, 272 F.3d 189, 207 (3d Cir. 2001) (concluding, in the context of Section 10(b) of the Exchange Act and Rule 10b-5, that market manipulation is produced by "injecting inaccurate information into the marketplace or creating a false impression of supply and demand for the security . . . for the purpose of artificially depressing or inflating the price of the security"); Gurary v. Winehouse, 190 F.3d 37, 45 (2d Cir. 1999) (stating, in the context of Section 10(b) of the Exchange Act and Rule 10b-5, that "[t]he gravamen of manipulation is deception of investors into believing that prices at which they purchase and sell securities are determined by the natural interplay of supply and demand"). Moreover, many courts appear to use the concepts of artificial pricing and artificial market activity interchangeably, just like the *Santa Fe* decision did. For some notable examples, see Koch v. SEC, 793 F.3d 147 *passim* (D.C. Cir. 2015); *Desai*, 573 F.3d 931 *passim*; ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87 *passim* (2d Cir. 2007).

securities.' It 'strikes at the heart of the pricing process on which all investors rely [and] attacks the very foundation and integrity of the free market system.'"[44]

The existence of a price impact, by itself, does not make a given trading strategy manipulative, which has been recognized by several courts.[45] This conclusion is not surprising, given that any trading strategy—or even a standalone order—may have some marginal impact on the prevailing market price, which does not trigger an artificial price impact in itself.[46] An even further inference is that a trading strategy that *intends* to produce a price impact is not necessarily manipulative, although that principle has been expressed more vaguely in the existing case law.[47] As an illustration, one court made the following

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44. Vladlen "Larry" Vindman, Securities Act Release No. 8679, Exchange Act Release No. 53,654, 87 SEC Docket 2311, 2315 (Apr. 14, 2006) (quoting *Ernst & Ernst*, 425 U.S. at 199, and L.C. Wegard & Co., Exchange Act Release No. 40,046, 53 S.E.C. 607, 617 (May 29, 1998), *aff'd*, 189 F.3d 461 (2d Cir. 1999) (unpublished table decision)) (footnotes omitted); *see also* Donald L. Koch, Exchange Act Release No. 72,179, Investment Advisers Release No. 3836, Investment Company Release No. 31,047, at 21 n.142 (May 16, 2014), *aff'd*, 793 F.3d 147 (D.C. Cir. 2015), https://www.sec.gov/litigation/opinions/2014/34-72179.pdf [https://perma.cc/V2DG-WG7U] (relying, in the context of several antifraud provisions, including Section 10(b) of the Exchange Act and Rule 10b-5, on the precedents maintaining that manipulation "connotes intentional or willful conduct designed to deceive or defraud investors by controlling or artificially affecting the price of securities" and that "[t]he gravamen of manipulation is deception of investors into believing that prices at which they purchase and sell securities are determined by the natural interplay of supply and demand, not rigged by manipulators" (quoting *Ernst & Ernst*, 425 U.S. at 199, and Wilson v. Merrill Lynch & Co., 671 F.3d 120, 130 (2d Cir. 2011) (quoting *Gurary*, 190 F.3d at 45)); Robert J. Setteducati, Securities Act Release No. 8334, Exchange Act Release No. 48,759, 81 SEC Docket 1723, 1726 (Nov. 7, 2003) (stating, in the context of several antifraud provisions, including Section 10(b) of the Exchange Act and Rule 10b-5, that "[a] manipulation has been defined as 'intentional or willful conduct designed to deceive or defraud investors by controlling or artificially affecting the price of securities'" and pointing to its earlier pronouncement that "[the manipulators'] failure to disclose that market prices are being manipulated not only constitutes an element of a scheme to defraud, but is also a material omission of fact in the offer and sale of securities" (quoting *Ernst & Ernst*, 425 U.S. at 199, and Pagel, Inc., Exchange Act Release No. 22,280, 48 S.E.C. 223, 228 (Aug. 1, 1985), *aff'd*, 803 F.2d 942 (8th Cir. 1986))); Patten Sec. Corp., Exchange Act Release No. 32,619, 54 SEC Docket 1126, 1128 (July 12, 1993) (stating, in the context of reviewing sanctions imposed by a self-regulatory organization, that "[m]anipulation is the deceptive movement of a security's price, accomplished by an intentional interference with the forces of supply and demand" (citing *Ernst & Ernst*, 425 U.S. at 199, and *Pagel*, 48 S.E.C. at 226)) (footnotes omitted).

45. *See, e.g.*, GFL Advantage Fund, Ltd. v. Colkitt, 272 F.3d 189, 205 (3d Cir. 2001) (endorsing, in the context of Section 10(b) of the Exchange Act and Rule 10b-5, "a construction [that] permits courts to differentiate between legitimate trading activities that permissibly may influence prices, such as short sales, and 'ingenious devices that might be used to manipulate securities prices'" (quoting *Santa Fe*, 430 U.S. at 477)); United States v. Mulheren, 938 F.2d 364, 368 (2d Cir. 1991) (applying, in the context of Section 10(b) of the Exchange Act and Rule 10b-5, the prosecution's theory that, "[w]hen the transaction is effected for an investment purpose . . . there is no manipulation, even if an increase or diminution in price was a foreseeable consequence of the investment"); SEC v. Masri, 523 F. Supp. 2d 361, 373 (S.D.N.Y. 2007) (stating, in the context of Section 10(b) of the Exchange Act and Rule 10b-5, that, "if a transaction would have been conducted for investment purposes or other economic reasons, and regardless of the manipulative purpose, then it can no longer be said that it is 'artificially' affecting the price of the security or injecting inaccurate information into the market"); *In re* Olympia Brewing Co. Sec. Litig., 613 F. Supp. 1286, 1292 (N.D. Ill. 1985) (stating, in the context of Sections 17(a) and 10(b) of the Exchange Act and Rule 10b-5, that "fluctuations in the market price of stock resulting from legitimate trading activities is a natural and lawful result of such activities").

46. Moreover, price impact, also referred to as "market impact" or "slippage," is a *cost* to many trading strategies. For a discussion of price impact as a cost in the context of HFT, see HAIM BODEK, THE PROBLEM OF HFT: COLLECTED WRITINGS ON HIGH FREQUENCY TRADING & STOCK MARKET STRUCTURE REFORM *passim* (2013).

47. Several commentators have defined market manipulation in a way that appears to cover *all* price impact-based trading strategies. *See* Moore & Wiseman, *supra* note 38, at 50 (defining market manipulation and

observation about short selling: "That short selling may depress share prices, which in turn may enable traders to acquire more shares for less cash (or in this case, for less debt), is not evidence of unlawful market manipulation, for they simply are natural consequences of a lawful and carefully regulated trading practice."[48] While the defendant in this particular case asserted that such short selling had been done for hedging purposes,[49] this pronouncement, in addition to the court's requirement of artificial pricing,[50] contemplated—or at least hinted at some room for—the legitimacy of price impact-based trading strategies.[51]

By contrast, another case somewhat reluctantly, expressing "misgivings about the government's view of the law," adopted the prosecution's theory "without deciding on this appeal, that an investor *may* lawfully be convicted under Rule 10b-5 [for market manipulation] where the purpose of his transaction is solely to affect the price of a security."[52] A later analysis of that opinion concluded that "the [*Mulheren*] Court chose not to decide whether charging that an investor has purchased shares on the open market with the sole intent of affecting the price of the security states a viable claim" and likewise declined to make an authoritative pronouncement on this issue.[53] Moreover, the court recited "the elements of an open-market manipulation claim outlined in *Mulheren*: 1) 'profit or personal gain to the alleged manipulator'; 2) deceptive intent; 3) market domination; and 4) economic reasonableness of the alleged manipulation,"[54] finding the last three to be lacking.[55] Furthermore, the court recognized that "[t]he intended scheme was to defraud investors into purchasing College Bound shares, the value of which defendants allegedly had helped inflate *artificially*,"[56] while *Mulheren*, unlike *GFL*, had no discussion of artificial pricing and hence did not consider the scenario of deliberately pushing the price to a non-artificial level. Later, the same court confirmed the ambiguity

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observing that "[b]uying and selling in themselves do, of course, affect price, but in a free and open market this is a natural consequence and not their preconceived purpose"); Wendy C. Perdue, *Manipulation of Futures Markets: Redefining the Offense*, 56 FORDHAM L. REV. 345, 348 (1987), https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=2770&context=flr [https://perma.cc/YGX8-FKBR] (defining, in the content of the futures/commodities space, "manipulation as conduct that would be uneconomical or irrational, absent an effect on market price"). However, this definition has been contested by other commentators: "One possible definition [with respect to market manipulation] is that any price change that results from trading designed to produce such a price change is an artificial price. This definition is unsatisfactory because trading with the purpose of producing a price change is not necessarily harmful. Consider again the example of an issuer that purchases its own shares to signal investors that the shares are undervalued. In this example, the trading moves prices in the correct direction and thus the resulting price change should not be labeled 'artificial.'" Daniel R. Fischel & David J. Ross, *Should the Law Prohibit "Manipulation" in Financial Markets?*, 105 HARV. L. REV. 503, 508 (1991).

48. *GFL*, 272 F.3d at 209–10.

49. *Id.* at 196.

50. *Id.* at 207 (stating that manipulation conduct under Section 10(b) of the Exchange Act and Rule 10b-5 must be "for the purpose of artificially depressing or inflating the price of the security").

51. *See, e.g.*, Multer, *supra* note 21, at 117 ("Under the standards of *GFL Advantage*, even if an investor engaged in concerted trading *specifically and for the sole purpose* of affecting the market price to benefit another position, that conduct would not be sufficient to impose liability.").

52. United States v. Mulheren, 938 F.2d 364, 368 (2d Cir. 1991) (emphasis added).

53. *In re* Coll. Bound Consol. Litig., Nos. 93 Civ. 2348 (MBM) & 94 Civ. 3033 (MBM), 1995 U.S. Dist. LEXIS 10684, at *14 (S.D.N.Y. July 28, 1995).

54. *Id.* at *15 (citing and quoting *Mulheren*, 938 F.2d at 370–72).

55. *Id.* at *15–21.

56. *Id.* at *41 (emphasis added).

of *Mulheren*, which "left open the question of whether a defendant who acts with, for example, the 'primary' intent of affecting a stock price could be criminally liable for securities fraud."[57]

Finally, another case approached short selling in connection with a securities purchase agreement, which provided for a grant of additional shares in the event of a price decline at certain points in time.[58] Relying on a precedent with somewhat similar factual circumstances, the court provided some protection for price impact-based trading strategies:

> Defendants argue that in the intervening years . . . the Second Circuit has settled the question of whether open-market sales, accompanied by a subjective intent to affect the price of a stock, could constitute market manipulation. And, in *ATSI*, the Second Circuit concluded that it was not [and] held that allegations of death spiral financing were insufficient, standing alone, to defeat a motion to dismiss.[59]

Additionally, the importance of artificial pricing was stressed in reliance on two appellate opinions.[60] However, it appears that the precedent in question had been interpreted too broadly, as its focus was on the sufficiency of the allegations rather than their content, especially given the observations in the appellate decision that the plaintiff "pleads no particular connection between the negative reaction of the stock price and anything the defendants did"[61] and "[t]he inference [the plaintiff] asks us to draw is too speculative even on a motion to dismiss."[62] In any instance, despite different shades of individual cases, the overall analysis of the case law on price impact-based trading strategies suggests that such strategies are not necessarily manipulative in themselves, which is a logical result. For example, even an intended price impact does not occur in a vacuum, as it *may* reflect the reactions of other market participants and be based on inferring certain bits of information.

While the very concept of market manipulation in the context of Section 10(b) of the Exchange Act and Rule 10b-5 has been traditionally tied to artificial pricing, the scepter of non-price market manipulation has made some appearances, owing its existence to judicial opinions and enforcement proceedings seeking to expand the scope of prohibited practices. In a true outlier opinion, one district court proclaimed the existence of non-price market manipulation,[63] which has not remained unnoticed. Quoting a key passage from the district court's opinion and relying on the fact that it had been affirmed by the Third Circuit, the government made the following claim: "The Third Circuit has held that '[t]here is nothing in the text of Section 10(b) that limits manipulation (a concept which, thanks to the boundless creativity of capitalism, can include many kinds of conduct) to price

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57. *In re* Initial Pub. Offering Sec. Litig., 241 F. Supp. 2d 281, 391 (S.D.N.Y. 2003).

58. Nanopierce Techs., Inc. v. Southridge Capital Mgmt., No. 02 Civ 0767 (LBS), 2008 U.S. Dist. LEXIS 6225 (S.D.N.Y. Jan. 28, 2008).

59. *Id.* at *8–9 (citing ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87 (2d Cir. 2007)).

60. *Id.* at *9 (relying on *ATSI*, 493 F.3d at 101, and GFL Advantage Fund, Ltd. v. Colkitt, 272 F.3d 189, 210 (3d Cir. 2001)).

61. *ATSI*, 493 F.3d at 103–04.

62. *Id.* at 104.

63. Rabin v. NASDAQ OMX PHLX LLC, 182 F. Supp. 3d 220, 244 (E.D. Pa. 2016), *aff'd*, 712 Fed. App'x 188 (3d Cir. 2017); *see also id.* ("I also have doubts that *GFL Adv. Fund* definitively holds that the manipulation element of private claims under 10(b) must always involve artificially impacted prices. . . . Market activities that did not have anything to do with the prices of securities simply were not before the court." (citing *GFL*, 272 F.3d 189)).

manipulation.'"[64] However, far from having any precedential value endorsed by any appellate court, this quote from the district court's opinion represents mere dictum.[65] More importantly, the appellate decision in this very case maintained that "[t]o state a claim for manipulation under [Section 10(b) of the Exchange Act and Rule 10b-5], a plaintiff must show [conduct] for the purpose of artificially depressing or inflating the price of the security."[66]

Such an expansion of the concept of market manipulation beyond the price factor could be criticized on several grounds, including its inconsistency with the history behind the anti-manipulative provisions and the weight of the existing case law, and perhaps such an interpretation could be characterized as lacking logical coherence in terms of the underlying harm. For instance, one analysis of the district court's decision in *Rabin* made the following observation:

> [The court] did say that "manipulation requires the injection of false information into a market or the creation of a false impression of supply and demand." This begs the question of how one might establish that there was an injection of false information or the creation of a false impression of supply and demand if there in fact is no price impact. In other words, the lack of a price impact might evidence that there was no false information or false supply and demand impression that could be the basis for finding manipulation.[67]

Likewise, this criticism could be extended to any trading strategy that does not aim to profit from artificial pricing. Moreover, when a trading strategy is implemented with real orders with no intent to impact the market price, it could become difficult, if not arbitrary, to determine when such a strategy involves "artificial" market activity.[68]

At the same time, the very presence of artificial market activity could be interpreted as indicative of one's intent to produce artificial pricing, whether ultimately successful or not.[69] In fact, market activity is a prerequisite for a doctrinal identification of market

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64. Memorandum of Law of the United States in Opposition to Claimant Joseph Taub's Motion to Dismiss the *In Rem* Forfeiture Complaint and to Vacate the December 9, 2016 Restraining Order or for a *Monsanto* Hearing at 29, United States v. Any and All Ownership Interest Held in the Name, on Behalf or for the Benefit of Joseph Taub and/or JT Capital, No. 2:16-cv-09158-JMV-JBC (D.N.J. Dec. 8, 2017) (quoting *Rabin*, 182 F. Supp. 3d at 244).

65. *See Rabin*, 182 F. Supp. 3d at 244 ("For purposes of this case, I do not have to resolve this quandary.").

66. *Rabin*, 712 Fed. App'x at 193. At the same time, this decision still injected some vagueness: "[W]hat the Supreme Court has described as 'manipulative' activity, which requires intentional conduct designed to defraud or deceive investors by artificially affecting a security's price, Ernst & Ernst v. Hochfelder, 425 U.S. 185, 199 (1976), or activity that stimulates the market in a way that does not reflect investor demand, Santa Fe Indus., Inc. v. Green, 430 U.S. 462, 476 (1977)." *Id.* at 194 (parallel citations omitted). However, there is little indication that the *Santa Fe* decision contemplated the existence of non-price manipulative market activity.

67. LOSS ET AL., *supra* note 12, ch. 10[D] n.2 (quoting *Rabin*, 182 F. Supp. 3d at 244).

68. On a related note, one court asserted in the context of Section 10(b) of the Exchange Act and Rule 10b-5 that "the simple fact that a party has conducted a matched order or wash sale (or a series of them) does not establish manipulative intent of any kind." Rockies Fund, Inc. v. SEC, 428 F.3d 1088, 1095 (D.C. Cir. 2005). Moreover, as an indication of the underlying harm, another court had observed in the context of the Commodity Exchange Act of 1936 that wash sales "are considered harmful because they create illusory price movements in the market." Wilson v. CFTC, 322 F.3d 555, 559 (8th Cir. 2003).

69. For instance, the SEC made the following claim in the context of Section 10(b) of the Exchange Act and Rule 10b-5, with the factual circumstances unambiguously dealing with artificial pricing: "Manipulation is the creation of deceptive value or market activity for a security, accomplished by the intentional interference with the free forces of supply and demand." Swartwood, Hesse, Inc., Exchange Act Release No. 31,212, 52 SEC

manipulation as such, as compared to other types of securities fraud. As asserted by one court, "A market manipulation claim . . . cannot be based solely upon misrepresentations or omissions."[70] Moreover, "[t]here must be some market activity, such as 'wash sales, matched orders, or rigged prices.'"[71] This limitation captures the traditional understanding of the term "market manipulation" even before the adoption of the Exchange Act:

> At common law, courts prohibited as manipulative schemes that interfered with the free market mechanism. Those schemes invariably involved transactions in the marketplace, the effects of which were to prevent the market price from accurately reflecting the market's unimpeded judgment of the stock's value. . . . An examination of the Securities Exchange Act itself does not support the position that Congress intended to expand the term "manipulative" beyond the common law view rather than limit it to certain activities in the marketplace that interfere with the market's proper functioning.[72]

Moreover, in a pivotal step to address the issue of "scheme liability," the U.S. Supreme Court had affirmed the appellate opinion that "concluded petitioner had not alleged that respondents engaged in a deceptive act within the reach of the § 10(b) private right of action, noting that only misstatements, omissions by one who has a duty to disclose, and *manipulative trading practices* . . . are deceptive within the meaning of the Rule [10b-5]."[73] The appellate court emphasized the market activity dimension of market manipulation: "'Manipulative,' as used in the securities context, is a 'term of art' and refers to illegal trading practices such as 'wash sales, matched orders, or rigged prices, that are intended to mislead investors by artificially affecting market activity.'"[74] Although omitted by the U.S. Supreme Court in its summary description, the appellate court also specifically maintained that such participation needs to be a direct one:

> The term "manipulative" in § 10(b) has the limited contextual meaning ascribed in *Santa Fe*. Thus, any defendant who does not make or affirmatively cause to be made a fraudulent misstatement or omission, or who does not *directly engage*

Docket 1557, 1561 (Sept. 22, 1992). While this definition of market manipulation in the alternative could be interpreted as leaving some room for a non-price variety of market manipulation, such market activity could also be seen as a proxy for the intent to create artificial pricing that may or may not lead to an actual "creation." Moreover, *Ernst & Ernst* was one of the decisions cited by the SEC to support this statement. *Id.* at 1561 n.16.

70. ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87, 101 (2d Cir. 2007) (citing Lentell v. Merrill Lynch & Co., 396 F.3d 161, 177 (2d Cir. 2005)).

71. *Id.* (quoting Santa Fe Indus. v. Green, 430 U.S. 462, 476 (1977)). Another court-provided example of "market activity" in the context of allegations of market manipulation, which were ultimately dismissed, describes "support bids, which were placed after the bidding deadline for other investors and with knowledge of their bids, [that] prevented auction failures and set clearing rates." *In re* Merrill Lynch Auction Rate Sec. Litig., 704 F. Supp. 2d 378, 390 (S.D.N.Y. 2010).

72. Hundahl v. United Benefit Life Ins. Co., 465 F. Supp. 1349, 1360–61 (N.D. Tex. 1979).

73. Stoneridge Inv. Partners, L.L.C. v. Sci.-Atlanta, Inc., 552 U.S. 148, 158 (2008), *aff'g In re* Charter Commc'ns, Inc., Sec. Litig., 443 F.3d 987 (8th Cir. 2006) (citing *In re Charter*, 443 F.3d at 992) (emphasis added). Importantly, the U.S. Supreme Court also rejected the argument that "there must be a specific oral or written statement before there could be liability under § 10(b) or Rule 10b-5" and emphasized that "[c]onduct itself can be deceptive." *Stoneridge*, 552 U.S. at 158. Moreover, as discussed in *supra* note 12, market manipulation could likewise be framed in terms of nondisclosure.

74. *In re Charter*, 443 F.3d at 990 (quoting Santa Fe Indus., Inc. v. Green, 430 U.S. 462, 476–77 (1977) (citing Ernst & Ernst v. Hochfelder, 425 U.S. 185, 199 & n.21 (1976), and Piper v. Chris-Craft Indus., Inc., 430 U.S. 1, 43 (1977))).

> *in manipulative securities trading practices*, is at most guilty of aiding and abetting and cannot be held liable under § 10(b) or any subpart of Rule 10b-5.[75]

Several other appellate decisions also point to or at least hint at the requirement of direct participation.[76] Moreover, there are some important examples of what does not appear to be "market activity" in connection with manipulative practices, even when combined with an economic transaction.[77] Still, the very meaning of "direct participation" has not been defined in a precise manner, whether in terms of bearing the immediate economic risk of transactions or even trading only in the principal capacity, participating in the execution process, or something else. Of course, one of the reasons why plaintiffs may be inclined to re-characterize certain types of conduct is procedural: "[W]here the sole basis for . . . claims is alleged misrepresentations or omissions, plaintiffs have not made out a market manipulation claim under Rule 10b-5(a) and (c), and remain subject to the heightened pleading requirements of the PSLRA [Private Securities Litigation Reform Act of 1995]."[78] Overall, the trend is for the courts to "have squarely rejected efforts to redefine 'manipulation' to cover conduct not involving the use of manipulative securities trades,"[79]

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75. *In re Charter*, 443 F.3d at 992 (citing *Santa Fe*, 430 U.S. at 476–77) (internal citation and footnote omitted) (emphasis added).

76. *See* Regents of the Univ. of Cal. v. Credit Suisse First Bos. (USA), Inc., 482 F.3d 372, 390–91 (5th Cir. 2007) (relying on *Hundahl* and *Charter* to articulate the principle that "[m]anipulation requires that a defendant act directly in the market for the relevant security" and stating that "no circuit . . . recognizes a broader definition"); ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87, 100 (2d Cir. 2007) (stating that "case law in this circuit and elsewhere has required a showing that an alleged manipulator engaged in market activity aimed at deceiving investors as to how other market participants have valued a security").

77. *See* Lentell v. Merrill Lynch & Co., 396 F.3d 161, 164, 177–78 (2d Cir. 2005) (concluding that the allegations that the defendant had "issued false and misleading reports recommending that investors purchase shares of [certain companies], even though the analysts did not then believe that those companies were a good investment" did not amount to allegations of market manipulation and relying on an earlier decision that "refus[ed] to characterize allegations as market manipulation claims where alleged 'schemes to defraud' consisted largely of an aggregation of material misrepresentations to inflate stock, such as research reports containing misrepresentations of the underlying facts and use of false names to solicit investors" (citing Schnell v. Conseco, Inc., 43 F. Supp. 2d 438, 447–48 (S.D.N.Y. 1999))); *In re* CannaVest Corp. Sec. Litig., 307 F. Supp. 3d 222, 251 (S.D.N.Y. 2018) (stating that "an asset purchase—standing alone—is an unlikely basis for a market manipulation claim" and concluding that "Plaintiff's objection to this transaction [of buying assets essentially in exchange for shares] is that its value was overstated, not that the trading of CannaVest shares in connection the transaction was somehow manipulative").

78. *Lentell*, 396 F.3d at 177 (referencing Private Securities Litigation Reform Act of 1995, Pub. L. No. 104-67, § 101(b), 109 Stat. 737, 746–49 (codified at 15 U.S.C. § 78u-4(b)), https://www.govinfo.gov/content/pkg/STATUTE-109/pdf/STATUTE-109-Pg737.pdf [https://perma.cc/STS4-JTCG]; *see also In re* Initial Pub. Offering Sec. Litig., 241 F. Supp. 2d 281, 385–86 (S.D.N.Y. 2003) (stating that "[p]laintiffs do not need to plead the defendant's actual knowledge of the market manipulation scheme with particularity [under the PSLRA]" and referencing another court's logic that "[u]nlike most fraud—most notably misrepresentation claims . . . where at least some aspects of the time, place, and other details of a defendant's activity are within the knowledge of the plaintiff as a matter of course—market manipulation claims present circumstances in which the mechanism of the scheme is likely to be unknown to the plaintiffs" (quoting *In re* Blech Sec. Litig., 928 F. Supp. 1279, 1290–91 (S.D.N.Y. 1996))).

79. Daniel A. McLaughlin, *Liability Under Rules 10b-5(a)&(c)*, 31 DEL. J. CORP. L. 631, 640 (2006), http://www.djcl.org/wp-content/uploads/2014/08/Liability-under-Rules-l0b-5a-c.pdf [https://perma.cc/UWP3-7SWA]. As argued by the same commentator, "The position of the Second, Seventh, and Eighth Circuits is the only sensible reading of the Supreme Court's repeated emphasis on defining 'manipulative' practices to include types of conduct—'wash sales, matched orders, or rigged prices'—in which the common element is the execution of transactions that upset *the market mechanism itself*, rather than just the universe of information about the

although factual circumstances could make the relevant distinction blurry.[80]

On the other end of the spectrum, the broad nature of the antifraud prohibition provided by Section 10(b) of the Exchange Act and Rule 10b-5 allows reaching fraudulent practices based on market activity that have no intended impact of market prices. As observed earlier by the author,

> Recognizing that a security's price is not the only dimension of loss, the regulators have been on the path of finding fraudulent conduct even in the absence of any price impact when certain rules of trading venues are flaunted or abused—not just directly broken—in order to secure/reallocate an economic benefit that otherwise would not have accrued and likely at the expense of others.[81]

For instance, the SEC applied this approach to mismarking "professional" and "customer" order designations that resulted in a distorted determination by securities exchanges of "which orders received priority of execution and the amounts of all related transaction credits and debits, including liquidity rebates, 'take' fees, transaction costs, and cancellation fees," deprived these securities exchanges of certain fees, and "unfairly disadvantaged other professional market participants over whom the Respondents' 'customer' orders wrongly received priority of execution for orders at the same price."[82]

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issuer." *Id.* at 643 (quoting *Santa Fe*, 430 U.S. at 476).

80. In one key case triggered by the demise of Enron and decided under a variety of provisions, including Section 10(b) of the Exchange Act and Rule 10b-5, the court cited the requirement of "market activity" described in *Santa Fe* and used the expression "market manipulation through deceptive trading activity," while also adopting the requirement of artificial pricing articulated in *Ernst & Ernst*. *In re* Enron Corp. Sec., Derivative & ERISA Litig., 235 F. Supp. 2d 549, 568 n.8, 579 n.17 (S.D. Tex. 2002). On the other hand, the court essentially accepted the sufficiency of the allegations that treated the existence of Enron's various partnerships and special purpose entities intended to pad Enron's financial condition as "manipulative devices." For instance, the court referenced the allegations that such partnerships and special purpose entities "were manipulative devices, not independent third parties and not valid [special purpose entities], designed to move debt off Enron's books, inflate its earnings, and falsify Enron's reported financial results and financial condition at crucial times." *Id.* at 657. Likewise, the allegations maintained that "forward sales contracts of natural gas and oil by Enron [constituted] manipulative devices to disguise loans from JP Morgan to Enron so that it would not have to record approximately $3.9 billion of loans as debts on Enron's balance sheet." *Id.* at 659. A potential interpretation of this outcome is that, even in the absence of transactions in any securities in the relevant underlying market, such falsification of financial results, which is essentially a repackaging of misrepresentations and omissions not necessarily attached to any true relevant "market activity," could be classified as market manipulation. While this interpretation would be an unwarranted doctrinal stretch, the allegations in this case also contained numerous references to transactions in Enron's securities, such as "lucrative underwriting of Enron stock and bond offerings," *id.* at 637, and some instances of certain special purpose entities being "restructured and capitalized . . . by transferring even more Enron stock to them," *id.* at 660. For the allegations in this case and the corresponding usage of the term "manipulative device," see Consolidated Complaint for Violation of the Securities Laws, Newby v. Enron Corp., Civil Action No. H-01-3624 (S.D. Tex. Apr. 8, 2002), http://securities.stanford.edu/filings-documents/1020/ENE01/20020408_r02c_013624.pdf [https://perma.cc/3WUG-R3JN]. For additional criticism of the court's decision in *Enron* in connection with the scope of market manipulation, see McLaughlin, *supra* note 79, at 644–50.

81. Stanislav Dolgopolov, *Securities Fraud Embedded in the Market Structure Crisis: High-Frequency Traders as Primary Violators*, 9 WM. & MARY BUS. L. REV. 551, 592 (2018), https://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=1153&context=wmblr [https://perma.cc/K9F6-8QDN] [hereinafter Dolgopolov, *Securities Fraud Embedded in the Market Structure Crisis*].

82. Behruz Afshar, Securities Act Release No. 10,094, Exchange Act Release No. 78,043, Investment Company Act Release No. 32,144, 114 SEC Docket 1731, 1736–37, 1739 (June 13, 2016) (settled proceeding).

As shown by this discussion of the treatment of manipulative and other fraudulent practices under the most important antifraud provision in federal securities law, market activity aimed to produce artificial pricing defines the doctrinal scope of market manipulation and constitutes the essence of the fraud on the marketplace as a whole. While "defin[ing] the difference between an artificial and a non-artificial price . . . turns out to be much more difficult than it might at first appear,"[83] this distinguishing mark could be applied to a variety of scenarios, including open market manipulation. On a related note, one needs to be mindful of procedural elements, such as the critical role of "reliance on an assumption of an efficient market free of manipulation" in proper allegations of a market manipulation claim.[84]

III. SECTION 9(A)(2) AS ANOTHER CASE STUDY

As one of the legal tools in federal securities law to combat market manipulation in addition to Section 10(b) of the Exchange Act and Rule 10b-5, Section 9 of the Exchange Act contains a number of proscriptions, including practices commonly known as "matched

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A related scheme in the same proceeding, which was deemed to be manipulative by the SEC, likewise involved the maker-taker pricing model and corresponding liquidity rebates and taker fees. *Id.* at 1737–39.

83. Fischel & Ross, *supra* note 47, at 508.

84. ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87, 101 (2d Cir. 2007). An important clarification made later by the same court is that "[w]e do not read *ATSI's* reference to 'reliance on an assumption of an efficient market free of manipulation' as referring to a liquid, efficient market with prices publicly reported in real time. We read *ATSI's* reference to an 'efficient' market to mean only a *bona fide* 'market free of manipulation.'" Fezzani v. Bear, Stearns & Co., 716 F.3d 18, 23 n.3 (2d Cir. 2013). This expansive interpretation overrides the position taken by some courts that, "in *ATSI*, the Second Circuit essentially incorporated 'fraud on the market' into the standard for market manipulation by requiring that plaintiffs show 'reliance on an assumption of an efficient market.'" Dodona I, LLC v. Goldman, Sachs & Co., 847 F. Supp. 2d 624, 651 (S.D.N.Y. 2012). For an additional discussion of the more restrictive interpretation of the *ATSI* decision and the relevance of the fraud-on-the-market doctrine for allegations of market manipulation, including the issue of *presumed* reliance, see *In re* Merrill Lynch Auction Rate Sec. Litig., 704 F. Supp. 2d 378, 393–95 (S.D.N.Y. 2010), *aff'd sub nom.* Wilson v. Merrill Lynch & Co., 671 F.3d 120 (2d Cir. 2011). Moreover, in its dictum pronouncement, the *Fezzani* court saw, as an additional step, "some merit to a modified presumption of reliance in market manipulation cases because reliance by investors on a misrepresentation of a price as being set by an active, arms-length market may be presumed." *Fezzani*, 716 F.3d at 21 n.2 (citing Charles R. Korsmo, *Mismatch: The Misuse of Market Efficiency in Market Manipulation Class Actions*, 52 WM. & MARY L. REV. 1111, 1171 (2011), https://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=3378&context=wmlr [https://perma.cc/7WYP-9AGT]). The cited commentator asserted that "[t]he traditional requirement for gaining the benefit of the [fraud-on-the-market] presumption of reliance—a showing of market efficiency—should be abandoned in market manipulation cases. . . . Market efficiency simply does nothing to suggest a causal connection between reliance on the market price and manipulative conduct." Korsmo, *supra*, at 1180. By contrast, an earlier appellate opinion, which was criticized by the same commentator, drew a distinction between omissions and manipulative practices in the context of the presumption of reliance, while contrasting Rule 10b-5(b) and Rule 10b-5(a) and (c): "In order to succeed, manipulative schemes must usually remain undisclosed to the general public. If such nondisclosure of a defendant's fraud was an actionable omission, then every manipulative conduct case would become an omissions case." Desai v. Deutsche Bank Sec. Ltd., 573 F.3d 931, 940–41 (9th Cir. 2009) (citation omitted). Similarly, a concurring opinion dismissed as "legally unsupported and logically inadvisable" "the integrity of the market presumption," which was described as maintaining that "[t]he average investor in securities typically relies on the 'integrity of the market,' that is, that no one has destroyed its efficiency by manipulation." *Id.* at 943 (O'Scannlain, J., concurring). Yet in another take on this issue, in its declarative statement outside the context of a private right of action, the SEC appeared to suggest a universal character of reliance, stating that "[m]anipulation strikes at the integrity of the pricing process on which all investors rely." J.A.B. Sec. Co., Exchange Act Release No. 15,948, 17 SEC Docket 1086, 1092 (June 25, 1979).

orders" and "wash sales" "[f]or the purpose of creating a false or misleading appearance of active trading in any security other than a government security, or a false or misleading appearance with respect to the market for any such security"[85] and those done "for the purpose of pegging, fixing, or stabilizing the price of such security in contravention of such rules and regulations as the [SEC] may prescribe,"[86] as well as a variety of provisions dealing with derivative instruments, short selling, and practices that affect market volatility.[87] Among these provisions, Section 9(a)(2) holds special significance. In a string of recent enforcement actions, the SEC has repeatedly used this specific provision, suggesting its "catch-all" character in light of this subsection's broadly worded scope.[88] Even just years after the passage of the Exchange Act, when questioned about potential problems with defining market manipulation in connection with Section 9(a)(2), the SEC's leadership articulated the position that "it would be exceedingly difficult to draft a better definition than that now embodied in that subsection of the act."[89]

Historically, the SEC has articulated a broad reach of this subsection, for instance, while questioning the legality of some trading strategies expected to affect the market price, including those stemming from a good faith belief about a security's valuation, as shown by the following passage:

> The purpose of Section 9(a)(2) is . . . not to prohibit purchasing which may advance the market, or selling which may depress it. However, when purchasing is done under such circumstances that it must be expected to, and does, raise the price, and where the purpose of such purchasing is to induce others to purchase—presumably at the higher levels thus created—the statutory elements are present, and a violation of the Act is involved. . . . [F]urthermore, it is immaterial that the program is undertaken in a bona fide belief that the security ought for some reason to be selling at the higher level.[90]

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85. 15 U.S.C. § 78i(a)(1) (2016), https://www.gpo.gov/fdsys/pkg/USCODE-2016-title15/pdf/USCODE-2016-title15-chap2B.pdf [https://perma.cc/626X-RLKZ].

86. *Id.* § 78i(a)(6).

87. *Id.* § 78i(b)–(i).

88. For several recent examples of the SEC's use of Section 9(a)(2), typically in conjunction with one or more general antifraud provisions, namely, Section 17(a) of the Securities Act and Section 10(b) of the Exchange Act and Rule 10b-5, see Behruz Afshar, Securities Act Release No. 10,094, Exchange Act Release No. 78,043, Investment Company Act Release No. 32,144, 114 SEC Docket 1731, 1739 (June 13, 2016) (settled proceeding); Briargate Trading, LLC, Securities Act Release No. 9959, Exchange Act Release No. 76,104, 112 SEC Docket 3263, 3265 (Oct. 8, 2015) (settled proceeding); Visionary Trading LLC, Exchange Act Release No. 71,871, Investment Company Act Release No. 31,007, 108 SEC Docket 2594, 2599 (Apr. 4, 2014) (settled proceeding); Complaint at 46–55, SEC v. Lek Sec. Corp., No. 1:17-cv-01789-DLC (S.D.N.Y. Mar. 10, 2017), https://www.sec.gov/litigation/complaints/2017/comp-pr2017-63.pdf [https://perma.cc/3HTU-47Z9]; Complaint at 2–3, SEC v. Taub, No. 2:16-cv-09130 (D.N.J. Dec. 12, 2016), https://www.sec.gov/litigation/complaints/2016/comp-pr2016-261.pdf [https://perma.cc/5EW5-2Y88]; Complaint at 2–3, SEC v. Milrud, No. 2:15-cv-00237-KM-SCM (D.N.J. Jan. 13, 2015), https://www.sec.gov/litigation/complaints/2015/comp-pr2015-4.pdf [https://perma.cc/BD8H-W646].

89. *Proposed Amendments to the Securities Act of 1933 and the Securities Exchange Act of 1934: Hearings Before the H. Comm. on Interstate and Foreign Commerce*, 77th Cong. 68 (1942) [hereinafter *House Hearings on the Proposed Amendments to the Securities Acts*] (remarks of Ganson Purcell, Commissioner, U.S. Securities and Exchange Commission).

90. Opinion of General Counsel, Relating to the Anti-Manipulation Provisions of Section 9(a)(2)[,] 10(b) and 15(c)(1) of the Securities Exchange Act of 1934, as well as Section 17(a) of the Securities Act of 1933, Exchange Act Release No. 3056, 11 Fed. Reg. 10,984, 10,984 (Oct. 27, 1941).

Not surprisingly, even decades ago, one court described Section 9(a)(2) "'the very heart of the [Exchange Act]' and its purpose was to outlaw every device 'used to persuade the public that activity in a security is the reflection of a genuine demand instead of a mirage.'"[91]

Indeed, Section 9(a)(2) is worded quite broadly, making it illegal

> [t]o effect, alone or with [one] or more other persons, a series of transactions in any security registered on a national securities exchange, any security not so registered, or in connection with any security-based swap or security-based swap agreement with respect to such security creating actual or apparent active trading in such security, or raising or depressing the price of such security, for the purpose of inducing the purchase or sale of such security by others.[92]

A literal reading of this provision is likely to cover practically every in-and-out trading strategy as "a series of transactions . . . creating actual or apparent active trading," and to make suspect the entire universe of trading strategies based on—or perhaps just connected to—price impact.[93] Even adopting a relatively narrow definition of the word "induce," it would appear that orders merely improving the market—or, following the same logic, even its depth—would be covered, unless this very word is colored with some wrongful, deceptive meaning.[94] However, even the U.S. Supreme Court has rejected the argument that Section 9(a)(2) "is unconstitutional because it is vague, indefinite and uncertain, fixes

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91. Crane Co. v. Westinghouse Airbrake Co., 419 F.2d 787, 794 (2d Cir. 1969) (quoting 3 LOUIS LOSS, SECURITIES REGULATION 1549–55 (2d ed. 1961)). The first internal quote was from the SEC's report in response to a comprehensive package of proposed amendments to the federal securities statutes, including Section 9(a)(2), favored by several key players in the securities industry. More specifically, the SEC called Section 9 with its focus on "the all-important problem of manipulation of securities prices" as "the very heart of the [Exchange Act]" and opposed the proposed qualification to Section 9(a)(2) requiring "the purpose of creating a false or misleading appearance with respect to the market for such security." REPORT OF THE SECURITIES AND EXCHANGE COMMISSION ON PROPOSALS FOR AMENDMENTS TO THE SECURITIES ACT OF 1933 AND THE SECURITIES EXCHANGE ACT OF 1934, H. COMM. ON INTERSTATE & FOREIGN COMMERCE, 77TH CONG. 50 (Comm. Print 1941). The second internal quote was from a key Senate report accompanying the Exchange Act, which contemplated a broad reach of this subsection: "[Section 9(a)(2)] should perform the wholesome service of outlawing pool operations, as well as every other device used to persuade the public that activity in a security is the reflection of a genuine demand instead of a mirage." SENATE REPORT ON STOCK EXCHANGE PRACTICES, *supra* note 33, at 54.

92. 15 U.S.C. § 78i(a)(2).

93. Other commenters have pointed out this seeming overreach of Section 9(a)(2): "The first half of the proscription targets conduct that will be involved in virtually *any* trading strategy: buying or selling a security inherently involves the creation of an actual trade and frequently affects its price. The bite of the prohibition is thus left to the vague clause relating to purpose." Merritt B. Fox et al., *Stock Market Manipulation and Its Regulation*, 35 YALE J. ON REG. 67, 70 (2018), http://yalejreg.com/articlepdfs/35-JREG-67.pdf [https://perma.cc/GMZ8-HV69]. Likewise, a much earlier commentary criticized the scope of this subsection: "One objection to [the language of Section 9(a)(2) is] that it is generally necessary to effect a series of transactions in order to acquire a block of stock, because the offerings are by different sellers at varying prices above market, and cannot be acquired it one transaction. . . . In the second place a series of transactions does of necessity create active trading and does of necessity raise the price of such security. That this is done, 'for, the purpose of inducing *purchase* by others' can be anybody's claim—and with some show of reason." *House Hearings on the Proposed Amendments to the Securities Acts*, *supra* note 89, at 1359 (brief of Montague Geer, member of the bar).

94. For a discussion suggesting this interpretation of the word "induce," see Norman S. Poser, *Stock Market Manipulation and Corporate Control Transactions*, 40 U. MIAMI L. REV. 671, 704–05 (1986), https://repository.law.miami.edu/cgi/viewcontent.cgi?article=2156&context=umlr [https://perma.cc/D7MN-RJH5].

no ascertainable standard of guilt, and does not inform a person charged with violation thereof of the nature and cause of the accusation."[95] Accordingly, the broad reach of this subsection has to be interpreted and applied in light of its purpose.

Importantly, from the very beginning, the entire Section 9 of the Exchange Act has been captioned as "Prohibition of Manipulation of Security Prices."[96] Perhaps this Section should be viewed as a prohibition of market manipulation expressed in terms of artificial pricing, as understood at the time of the adoption of the Exchange Act, and a grant of authority to the SEC to regulate certain types of price-moving activities that overlap with market manipulation. Otherwise, the literal reading of Section 9(a)(2) may seem too broad. Interestingly, one of the working versions of Section 9 during the legislative process proscribed, in a more narrow fashion, "creating a false or misleading appearance of the volume of trading in such security or of establishing of price quotations therefor which do not truly reflect the market value of such security," with this dual trigger causing some debate,[97] but that language did not make it into the final version. On the other hand, another working version of Section 9 that prohibited trading practices "for the purpose of raising or depressing the price" with no other qualification, which was also controversial, remained unadopted.[98]

Importantly, each alternative trigger provided by Section 9(a)(2), "creating actual or apparent active trading" *or* "raising or depressing the price," could be reconciled with the goal of creating artificial pricing. In other words, while one trigger is based on market activity and the other one is based on a price move, with the former being even more overinclusive than the latter, either one could serve as indicia of the intent to produce artificial pricing. Still, some commentators have expressed skepticism that the existence of a price move, let alone an artificial price move, is required: "As far as the type of prohibited activity is concerned, there do not seem to be any reported cases without a price change, but it is clear that the creation of trading and changing the price are alternative requirements."[99] Putting aside the nearly all-encompassing reach of this interpretation, it is contradicted by several cases that trace a violation of Section 9(a)(2) to artificial pricing, sometimes specifically as an exclusive test.[100] In a similar fashion, another group of cases

95. Wright v. SEC, 112 F.2d 89, 94 (2d Cir. 1940).

96. Securities Exchange Act of 1934, Pub. L. No. 73-291, § 9, 48 Stat. 881, 889, http://www.legisworks.org/congress/73/publaw-291.pdf [https://perma.cc/3LYR-E3TA]. One commentator observed that "Section 9 of the 1934 Act, though nominally entitled 'Prohibition of Manipulation,' is actually a prohibition against doing certain defined acts." A.A. Berle, Jr., *Stock Market Manipulation*, 38 COLUM. L. REV. 393, 398 (1938). However, this enumeration of several practices, some of them broadly worded, is not incompatible with an overarching purpose of Section 9 as a constraint on its scope.

97. *Senate Hearings on Stock Exchange Practices*, *supra* note 33, at 7559–60.

98. *Id.* at 6508–10, 6630–31.

99. LOSS ET AL., *supra* note 12, ch. 10[c]. Likewise, one court, while finding evidence of artificial pricing, maintained that "§ 9(a)(2) of the Exchange Act, as noted, makes it sufficient proof of manipulation if the manipulator caused either actual or apparent activity *or* caused a rise in the market price." SEC v. Resch-Cassin & Co., 362 F. Supp. 964, 976 (S.D.N.Y. 1973).

100. *See, e.g.*, Sullivan & Long, Inc. v. Scattered Corp., 47 F.3d 857, 862, 864 (7th Cir. 1995) (The court stated, while defining market manipulation as "tactics by which traders, like monopolists, create artificially high or low prices, prices that do not reflect the underlying conditions of supply and demand," that "the essence of the offense [under Section 9(a)(2)] is creating 'a false impression of supply or demand.'"); Crane Co. v. Westinghouse Airbrake Co., 419 F.2d 787, 794 (2d Cir. 1969) ("Section 9(a)(2) was aimed at preventing an individual from dominating the market in a stock for the purpose of conducting a one-sided market at an artificial level for its own benefit and to the detriment of the investing public."); SEC v. Malenfant, 784 F. Supp. 141, 145 (S.D.N.Y. 1992)

indicates that a violation of this subsection is not necessarily tied to a price move as such, but must be connected to artificial market activity, sometimes with an explicit emphasis on the price effect of such activity,[101] which lends additional support to the requirement of artificial pricing. Both of these approaches provide some color on how market activity or price moves referenced in this subsection should be viewed. Moreover, one may point out that the case law has articulated a certain degree of fungibility between Section 9(a)(2), on one hand, and Section 10(b) and Rule 10b-5, on the other hand.[102] Given the requirement

("The [SEC] has alleged that these defendants developed a scheme to increase artificially the price of Texscan common stock [and thus] the complaint properly alleges violations of subsections 9(a)(1) and (2)."); Baum v. Phillips, Appel & Walden, Inc., 648 F. Supp. 1518, 1531 (S.D.N.Y. 1986), *aff'd on other grounds*, 867 F.2d 776 (2d Cir. 1989) (The court characterized Section 9(a)(2) violations, as a form of market manipulation, as involving instances of "artificially driving the price."); Ray v. Lehman Bros. Kuhn Loeb, Inc., 624 F. Supp. 16, 22 (N.D. Ga. 1984) ("[T]here [is no] evidence to support the plaintiff's contention that [the defendant] intended to profit from the alleged artificial price paid by the plaintiff for the stock. . . . Section 9(a)(2) does not condemn extensive buying of a security or buying which raises the price of a security . . . . A specific purpose to manipulate a security is required to establish a violation of the section."); Spencer Cos. v. Agency Rent-A-Car, Inc., No. 81-CV-2097-S, 1981 U.S. Dist. LEXIS 14678, at *7–8 (D. Mass. Sept. 21, 1981) ("[T]he second element necessary to establish a violation of § 9(a)(2) [is] manipulative purpose. Each of the above-cited cases involved a defendant who planned to use the high, artificially created market price to deceive people into thinking the stock was of great value and thus persuade them to buy the stock at the inflated price.").

101. *See, e.g.*, SEC v. Lek Sec. Corp., 276 F. Supp. 3d 49, 62 (S.D.N.Y. 2017) ("Section 9(a)(2), of course, does not proscribe all market transactions that raise or lower the price of a security. Rather, its purpose is to 'outlaw every device used to persuade the public that activity in a security is the reflection of a genuine demand instead of a mirage.'" (quoting *Crane*, 419 F.2d at 794)) (citation omitted); Sharette v. Credit Suisse Int'l, 127 F. Supp. 3d 60, 70 (S.D.N.Y. 2015) ("The central purpose of [S]ection 9(a) is not to prohibit market transactions which may raise or lower the price of securities, but to keep an open and free market where the natural forces of supply and demand determine a security's price." (quoting SEC v. Malenfant, 784 F. Supp. 141, 144 (S.D.N.Y. 1992) (quoting Trane Co. v. O'Connor Sec., 561 F. Supp. 301, 304 (S.D.N.Y. 1983) (citing Chris-Craft Indus., Inc. v. Piper Aircraft Corp., 480 F.2d 341, 383 (2d Cir. 1973)))); Spicer v. CBOE, Inc., No. 88 C 2139, 1990 U.S. Dist. LEXIS 14469, at *6 (N.D. Ill. Oct. 30, 1990) ("[Section 9(a)(2)] does not outlaw *all* actions that may raise or depress prices. It outlaws only one category of acts that may affect prices (though it is a very broad category)—acts that, by 'effecting a series of transactions,' create a 'mirage' of genuine demand where there is none."); *see also Chris-Craft*, 480 F.2d at 383 ("So long as the investor's motive in buying or selling a security is not to create an artificial demand for, or supply of, the security, illegal market manipulation is not established [in connection with Section 9(a)(2)].").

102. *See, e.g.*, Cowen & Co. v. Merriam, 745 F. Supp. 925, 931 (S.D.N.Y. 1990) ("The court concludes that defendants have manipulated Galco common stock within the meaning of § 9(a)(2), and therefore, violated § 10(b) of the Exchange Act, Rule 10b-5 thereunder, and § 17(a) of the Securities Act." (quoting SEC v. D'Onofrio, No. 72 Civ. 3507, 1975 U.S. Dist. LEXIS 12081, at *24 (S.D.N.Y. June 3, 1975))); SEC v. Resch-Cassin & Co., 362 F. Supp. 964, 975 (S.D.N.Y. 1973) ("It is well settled that the manipulative activities expressly prohibited by § 9(a)(2) of the Exchange Act with respect to a listed security are also violations of § 17(a) of the Securities Act and § 10(b) of the Exchange Act when the same activities are conducted with respect to an over-the-counter security."); Rockies Fund, Inc., Exchange Act Release No. 48,590, Investment Company Act Release No. 26,202, 81 SEC Docket 534, 538 n.13 (Oct. 2, 2003) ("[T]he manipulative conduct proscribed by Section 9 of the Exchange Act pertaining to securities registered on a national securities exchange, is deemed to be prohibited by Section 10 and Rule 10b-5 thereunder.") (internal citation omitted); Adrian C. Havill, Initial Decision No. 74, 60 SEC Docket 310, 315 (ALJ Aug. 31, 1995), *aff'd*, Exchange Act Release No. 40,726, 68 SEC Docket 1929 (Nov. 30, 1998) ("The manipulative activities expressly prohibited by Sections 9(a)(1) and 9(a)(2) of the Exchange Act with respect to a listed security constitute violations of Section 10(b) of the Exchange Act and Rule 10b-5 when such activities involve trading in the over-the-counter market."). Moreover, the SEC briefly experimented with a formal rule under Section 10(b) of the Exchange Act to extend the protections of Section 9(a) of the Exchange Act to over-the-counter securities. Barrett & Co., Exchange Act Release No. 2901, 9 S.E.C. 319, 329–31 (May 22, 1941). Finally, the reach of Section 9 of the Exchange Act was recently expanded from exchange-traded

of artificial pricing for the latter legal tool, which appears to impose a *lower* standard,[103] Section 9(a)(2) could be viewed in a similar light subject to its own requirements.

IV. EXPLORATORY TRADING AS AN ILLUSTRATION OF THE PROCESS OF PRICE DISCOVERY

The process of price discovery performs the task of aggregating various trading interests and their informational content, ultimately leading to some prevailing price as a constantly shifting target. Of course, such trading interests have to be "real" or "bona fide," rather than illusory, in order to not interfere with this mechanism, although market manipulation is not the only friction inhibiting the process of price discovery.[104] As a colorful illustration, one judicial opinion from the 19th century condemned prearranged trading as "operations on the Stock Exchange (popularly called 'rigging the market') for the purpose of bringing the said shares up to a fictitious value in the market" and made the following pronouncement:

> [G]oing into the market pretending to buy shares, by a person whom you put forward to buy them, who is not really buying them, but is only pretending to buy them, in order that they may be quoted in the public papers as bearing a premium, which premium is never paid – is one of the most dishonest practices to which men can possibly resort. . . . [A] more abominable fraud, and more difficult of detection, cannot be found.[105]

This pronouncement highlights the importance of non-bona fide trading interests as one of the key indicators of market manipulation and hence artificial pricing.

Of course, a "true" price is an abstract concept, and, at any given time, there could be a range of non-artificial prices for the same security, but the process of price discovery is much more tangible. Moreover, the concept of market manipulation could exist autonomously from the concept of intrinsic value, especially for assets with very uncertain or subjective valuation, which showcases the importance of the process of price discovery and its distortions. At the same time, the very definition of price discovery needs to account for the strategic behavior of market participants and their frequent unwillingness to openly broadcast their trading intentions to the point of deliberate masking, which does not equate

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securities to all non-government securities. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 929L(1), 124 Stat. 1376, 1861 (2010), https://www.gpo.gov/fdsys/pkg/PLAW-111publ203/pdf/PLAW-111publ203.pdf [https://perma.cc/G45Y-6DL4]. In other words, this provision now applies to over-the-counter securities and hence makes analogizing Sections 9(a)(2) and 10(b) of the Exchange Act even more appropriate.

103. *See, e.g.*, Chemetron Corp. v. Bus. Funds, Inc., 682 F.2d 1149, 1165 (5th Cir.1982), *vacated on other grounds*, 460 U.S. 1007 (1983) ("Rule 10b-5(a) and (c) . . . require no additional proof of facts creating a higher burden of proof when compared to subsections 9(a)(1), (2), and (6). In fact, Rule 10b-5(a) and (c) create a lower burden of proof."); Multer, *supra* note 21, at 106 (stating that, "[w]hile Section 9 of the Securities Exchange Act addresses manipulation of securities prices, it requires the specific intent 'for the purpose of inducing the purchase or sale of such security by others' or 'for the purpose of creating a false or misleading appearance [of market activity]'" and discussing the advantages of using Section 10(b) of the Exchange Act and Rule 10b-5) (footnotes omitted).

104. *See, e.g.*, THIERRY FOUCAULT ET AL., MARKET LIQUIDITY: THEORY, EVIDENCE, AND POLICY xii (2013) (stating that "various market imperfections affect price formation, liquidity, and speed of price discovery"); Francioni et al., *supra* note 18, at 94 (stressing "the relationship between the quality of price discovery and a market's architecture").

105. Rubery v. Grant [1872] 26 LT 538 at 539 (Ch) (Malins, V.C.) (UK).

to market manipulation.[106] Moreover, speculative trading that searches for some equilibrium and challenges existing prices is an integral part of this mechanism. In sum, the process of price discovery, as a strategic game, will always have some leeway and subjectivity being reflected in the equilibrium price, which is an abstract concept tracked by observed market prices.

One practice closely linked to the process of price discovery—and hence difficult to characterize as truly manipulative—is "exploratory trading," which has been described as "a form of costly information acquisition [which] does not generate information that relates directly to the traded asset's fundamental value, but that pertains rather to unobservable aspects of market conditions that could eventually become public, ex-post, through ordinary market interactions."[107] In other words, various exploratory combinations of trading interests—and the relevant conditional logic—assist in revealing a true picture of market liquidity.

The issue of exploratory trading has been considered by various regulators, but not in a uniform manner. For instance, without using the term "exploratory trading," the SEC referred to this phenomenon under the umbrella of an "order anticipation strategy" that "does not involve violation of a duty, misappropriation of information, or other misconduct," which was illustrated by "the employment of sophisticated pattern recognition software to ascertain from publicly available information the existence of a large buyer (seller), or the sophisticated use of orders to 'ping' different market centers in an attempt to locate and trade in front of large buyers and sellers."[108] On the other hand, using the label of "abusive liquidity detection," the Canadian regulators had asserted that

> strategies which enter orders (disclosed or iceberg during the pre-open, or "pinging") to detect the existence of a large buyer or seller with the intention to trade ahead of, rather than with, the large buyer or seller, is a manipulative and deceptive practice . . . . This strategy harms the large trading interest when after a profitable price movement, the trades are reversed, or in the event the price moves contrary to the position taken, the trading interest of the large buyer or seller may be viewed as a free option to trade against.[109]

Moreover, some commentators have argued that the scope of market manipulation should include "superficially unprofitable trading designed to generate information about the likelihood of an asymmetric price response ([corresponding to] a more general idea of

106. This lack of a general obligation to disclose one's trading intentions has never been seriously questioned, and, in fact, concealment of trading intentions is enabled by such methods as special trading algorithms, "dark" trading venues with no pre-trade transparency, and hidden order types on otherwise "lit" trading venues.

107. Adam D. Clark-Joseph, Exploratory Trading 48–49 (Dec. 31, 2014) (unpublished manuscript) (on file with author), https://www.aeaweb.org/aea/2015conference/program/retrieve.php?pdfid=1133 [https://perma.cc/78QN-BS46].

108. Concept Release on Equity Market Structure, Exchange Act Release No. 61,358, 75 Fed. Reg. 3594, 3609 (Jan. 14, 2010), https://www.govinfo.gov/content/pkg/FR-2010-01-21/pdf/2010-1045.pdf [https://perma.cc/U4R7-DGW5].

109. INV. INDUS. REG. ORG. OF CAN., IIROC NOTICE NO. 13-0053, GUIDANCE ON CERTAIN MANIPULATIVE AND DECEPTIVE TRADING PRACTICES 5 (Feb. 14, 2013), http://www.iiroc.ca/Documents/2013/02a24cf0-770e-4d23-8d32-e46c4cda32c1_en.pdf [https://perma.cc/7LYG-8VL6]. A pinging order was defined as "a tradeable order that can be used to search for and access all types of non-displayed liquidity, including in dark pools and dark orders on displayed marketplaces." *Id.* at 5 n.3.

'exploratory trading')."[110]

Even more assertively, one commentator provided the following approach to classifying exploratory trading by HFTs as manipulative:

> [O]ne could conceptualize high-speed pinging and front running as two parts of one overarching deceptive and manipulative contrivance. First, the HFT firm attempts to detect large trades by sending out "ping" orders for trades, immediately cancelling the orders if the pings do not result in executed trades. If, however, the ping orders become executed trades, the HFT firm uses the material, nonpublic information about the other person's trading intentions, strategies, and price sensitivities that was obtained from the pinging to front run the rest of the other person's trades. The HFT firm likely could engage in this overarching contrivance more effectively if it had quicker access than most other market participants to trade data from the futures exchange, with the relevant data including, but not limited to, its own trade order confirmations.[111]

The same commentator maintained that

> the initial 'ping' orders for trades are deceptive because the purpose of those initial trades is to locate a large trade and, once a large trade is discovered, to enable the HFT firm to engage in trading practices that raise or lower the price more than would have been the case in the absence of that HFT firm's manipulative and deceptive device.[112]

Continuing this logic, it was further argued that

> one could view the initial 'ping' orders and trades as not true orders and trades, but merely decoys. In this manner, high-speed pinging could be construed as a 'manipulative or deceptive device' that would be prohibited by Exchange Act Section 10(b) and SEC Rule 10b-5, and, accordingly . . . Section 6(c)(1) [of the Commodity Exchange Act of 1936] and . . . Rule 180.1 [of the U.S. Commodity Futures Trading Commission].[113]

Beyond a mere theoretical discussion, this issue has relevance for the courtroom. For instance, responding to the defense's argument that a subset of orders "interacted with other market participants to elicit information about supply and demand,"[114] the government in one case asserted that "[e]ven trades that take place in an effort 'to elicit information about supply and demand' are nevertheless manipulative if they are 'intended to mislead investors by artificially affecting market activity' or 'to deceive or defraud investors by controlling or artificially affecting the price of securities.'"[115] However, it is very doubtful

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110. Fox et al., *supra* note 93, at 123.

111. Gregory Scopino, *The (Questionable) Legality of High-Speed "Pinging" and "Front Running" in the Futures Markets*, 47 CONN. L. REV. 607, 625 (2015).

112. *Id.* at 689.

113. *Id.* at 690 (footnote omitted).

114. Memorandum of Law in Support of Claimant Joseph Taub's Motion to Dismiss the *In Rem* Forfeiture Complaint and to Vacate the December 9, 2016 Restraining Order or for a *Monsanto* Hearing at 18, United States v. Any & All Ownership Interest Held in the Name, on Behalf or for the Benefit of Joseph Taub and/or JT Capital, No. 2:16-cv-09158-JMV-JBC (D.N.J. Nov. 7, 2017).

115. Memorandum of Law of the United States in Opposition to Claimant Joseph Taub's Motion to Dismiss the *In Rem* Forfeiture Complaint and to Vacate the December 9, 2016 Restraining Order or for a *Monsanto* Hearing at 28, United States v. Any & All Ownership Interest Held in the Name, on Behalf or for the Benefit of

that exploratory orders by themselves, as opposed to being combined with other legs of a trading strategy, could be truly manipulative.

More generally, any broadly worded classification of exploratory trading as manipulative is highly questionable. Besides not inherently producing any false information, if done with "real" orders that could be immediately executed, this type of trading generates additional information about supply and demand. Such bits and pieces of information are revealed not just to a specific market participant engaging in exploratory trading but oftentimes also to the market at large. For instance, demonstrating that there are no buyers or sellers at certain prices or that there are some trading interests at those points is unlikely to mislead the market as a "false" piece of information. As another illustration, a trading strategy that intends to produce some price impact as a result of exploratory trading, for instance, through the revelation of additional information about trading interests or a lack thereof—and hence the distribution and relative scarcity of liquidity at certain points—is hardly manipulative almost by definition. Detection and reaction to inferred trading interests through exploratory trading, with various degrees of precision, do not equate to an artificial scarcity of liquidity and hence artificial pricing, despite a wealth redistribution caused by such trading strategies in a zero-sum game, given their time horizon. Overall, a pragmatic approach to exploratory trading would be very cautious about classifying this activity as market manipulation on its own.

V. LIQUIDITY PROVISION AND MARKET MAKERS

An important issue is to what extent liquidity provision may overlap with—or be distinct from—manipulative practices. This issue also highlights the longstanding role of market makers as market participants that provide liquidity. For instance, even London's inchoate securities market in the 18th century showed that "the dealer was becoming a stabilizer in the market, normally ready to buy and to sell, and professionally interested in adjusting demand and supply."[116] Likewise, suspicions directed at market makers in connection with alleged market manipulation, as well as their defense as key players in securities markets, are not recent phenomena. A blue-ribbon panel's study of trading practices in the early 20th century specifically asserted that what seemed to be "manipulation of prices" could in reality be "for the purpose of making a market for issues of new securities" and appropriate when "bids and offers [are] *bona-fide*, open to all sellers and buyers."[117] Still, one of the members of the committee criticized some practices based on non-bona fide trading interests:

> When it is desired to "make a market" for a security, the practice is to artificially create a semblance of demand with the price going steadily upward . . . . The mechanism employed is for the holders of a large majority (or all) of the shares to select one person as manager, being at all times prepared to buy any shares offered for sale by others at the market price. . . . [I]n large part the plan is

Joseph Taub and/or JT Capital, No. 2:16-cv-09158-JMV-JBC (D.N.J. Dec. 8, 2017) (first quoting Santa Fe Indus. v. Green, 430 U.S. 462, 476 (1977); then quoting Ernst & Ernst v. Hochfelder, 425 U.S. 185, 199 (1976)) (internal citations omitted).

116. P.G.M. DICKSON, THE FINANCIAL REVOLUTION IN ENGLAND: A STUDY IN THE DEVELOPMENT OF PUBLIC CREDIT, 1688–1756, at 496 (1967).

117. HUGHES' COMMITTEE REPORT, *supra* note 31, at 7.

> executed by what are known as "matched orders" and "washed sales."[118]

Similarly, a decades-long commentary pointed out that the line between market making and market manipulation could be a blurry one:

> Manipulation in the sense of a creation of artificial values must not be confused with a bona-fide sponsorship of a stock to bring its merits to the attention of the market. On the other hand, it is very difficult to determine where honestly conceived attempts at "making a market" end, and manipulation, in the sense of a planned creation of exaggerated values, begins.[119]

Moreover, according to one commentator, a portion of activities of the infamous stock pools preceding the adoption of the Exchange Act amounted to market making rather than true manipulation,[120] while "the [Senate] committee [conducting the hearings leading to the Exchange Act] and the press interpreted the term 'market making' as indicating artificial market conditions."[121] Importantly, the role played by exchange specialists as designated market makers was also questioned in connection with stock pools:

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118. Maurice L. Muhleman, *The Stock Exchange*, 73 THE INDEPENDENT (N.Y.) 1466, 1472 (1912), https://babel.hathitrust.org/cgi/pt?id=uc1.b3075994. Some parallels could be drawn to the contemporaneous British securities markets, although the account in question does not specify to what extent matched orders and wash sales might have been involved: "In making a market with a view to obtaining a Stock Exchange quotation, the method usually employed is for the promoter to make a market through the agency of brokers and jobbers [i.e., market makers],—the brokers bidding for the shares at a premium until such time as sufficient shares have been applied for by the public, the jobbers looking to obtain an allotment. The operation occasionally results in a loss, and as the jobbers require to be indemnified, this is made good by the promoter." A.P. POLEY & F.H. CARRUTHERS GOULD, THE HISTORY, LAW, AND PRACTICE OF THE STOCK EXCHANGE 70 (1907), https://books.google.com/books?id=wxkpAAAAYAAJ. For a notable illustration of a "pooling" agreement between promoters of new companies and jobbers, which was held to be enforceable, with its terms allegedly involving an allocation of shares to jobbers and a commitment to repurchase excess shares from jobbers to promoters in exchange for making a market, see Sanderson & Levi v. British Westralian Mines & Shares Corp. [1898] 43 SJ 45 (QBD), *aff'd*, [1899] TIMES (London), July 19, 1899, at 4 (AC) (UK). Importantly, the facts of this case do not indicate the use of matched orders and wash sales, and the appellate court concluded that "in making a price the plaintiffs told the simple truth, for at the prices they made they were in truth and in fact willing either to buy or to sell." *Sanderson & Levi*, TIMES (London), July 19, 1899, at 4 (Smith, L.J.). Moreover, as observed with respect to this case in *United States v. Brown*, 5 F. Supp. 81 (S.D.N.Y. 1933), liability could be avoided "only by scrupulously maintained honesty of dealing," *id.* at 93. Even this early episode illustrates the relevance of concerns about market manipulation in connection with issuer-to-market maker compensation arrangements. For a recent discussion of this issue in the context of the SEC's approval of such compensation arrangements for certain exchange-traded products, as well as mechanisms to mitigate manipulative practices, see Order Approving a Proposed Rule Change by NYSE Arca, Inc. to Implement a One-Year Pilot Program for Issuers of Certain Exchange-Traded Products, Exchange Act Release No. 69,706, 78 Fed. Reg. 35,340, 35,344, 35,347 n.91 (June 6, 2013), https://www.govinfo.gov/content/pkg/FR-2013-06-12/pdf/2013-13886.pdf [https://perma.cc/6Q94-GLPT]; Order Approving a Proposed Rule Change by NASDAQ Stock Market LLC to Establish the Market Quality Program, Exchange Act Release No. 69,195, 78 Fed Reg. 18,393, 18,397–98, 18,401 n.112 (Mar. 20, 2013), https://www.govinfo.gov/content/pkg/FR-2013-03-26/pdf/2013-06882.pdf [https://perma.cc/4JEU-5SMV]. For the author's discussion of issuer-to-market maker compensation arrangements more generally, see Stanislav Dolgopolov, *Linking the Securities Market Structure and Capital Formation: Incentives for Market Makers?*, 16 U. PA. J. BUS. L. 1, 39–50 (2013), https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1459&context=jbl [https://perma.cc/T4AL-VBDJ].

119. DICE, *supra* note 32, at 451–52.

120. PAUL G. MAHONEY, WASTING A CRISIS: WHY SECURITIES REGULATION FAILS 105–06, 108–09 (2015).

121. *Id.* at 109.

> Manipulative practices on the exchanges have been materially abetted in many cases by the cooperation of specialists. In pool operations, particularly, the services of the specialist in the security marked for manipulation have proved invaluable to the pool managers. The specialist's information regarding the state of the market or its trend was important to persons conducting large operations in the security.[122]

Among areas of particular concern were "the superior knowledge [of a specialist] derived by him from his possession of the [order] book [in an assigned security]," the use of discretionary orders by a specialist on behalf of a stock pool, and related dealings in options involving a specialist.[123]

Overall, market makers have been a frequent target in market manipulation-focused lawsuits, which is not surprising in light of their pivotal role in the marketplace and hence opportunities to create artificial prices.[124] Moreover, multiple roles played by market makers could magnify such opportunities.[125] As observed earlier by the author, "While

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122. SENATE REPORT ON STOCK EXCHANGE PRACTICES, *supra* note 33, at 47.

123. *Id.* at 47–48. In fact, the NYSE reacted by prohibiting any specialist from, "be[ing] interested in a pool dealing or trading" in specialty securities and, likewise, from "acquir[ing] or grant[ing], in connection with a pool operation, an option to buy or sell or to receive or deliver shares" of specialty securities. 10 NYSE, MINUTES OF THE GOVERNING COMMITTEE, *supra* note 33, at 612, 612 (Sept. 21, 1932) (NYSE Rules, ch. XIV, sec. 11), *reproduced in* SENATE REPORT ON STOCK EXCHANGE PRACTICES, *supra* note 33, at 48. For the approval of this rule in the same form, see 10 NYSE, MINUTES OF THE GOVERNING COMMITTEE, *supra* note 33, at 613, 619 (Sept. 28, 1932). Moreover, only a year and a half later, the NYSE adopted, *on the same day*, a general anti-manipulative rule combined with rules prohibiting any specialist from "acquir[ing] and grant[ing] any option to buy or sell or to receive or deliver shares" in specialty securities and from, "directly or indirectly, disclos[ing] to any person [other than NYSE officials] any information in regard to the orders entrusted to him as specialist." 11 *id.* at 159, 160 (Feb. 13, 1934) (NYSE Rules, ch. XIV, secs. 11–12 & 15). Some implications of the controversial role played by specialists were also addressed in the Exchange Act, which limited such a market participant's "dealings so far as practicable to those reasonably necessary to permit him to maintain a fair and orderly market, and/or to those necessary to permit him to act as an odd-lot dealer," effectively prohibited "a specialist or an official of the exchange [from] disclos[ing] information in regard to orders placed with such specialist," and banned "a specialist acting as a broker [from] effect[ing] on the exchange any transaction except upon a market or limited price order." Securities Exchange Act of 1934, Pub. L. No. 73-291, § 11(b), 48 Stat. 881, 891–92, http://www.legisworks.org/congress/73/publaw-291.pdf [https://perma.cc/3LYR-E3TA].

124. As argued by one commentator, "The market making obligations place market makers in control of market prices. As such, unscrupulous market makers can abuse their positions by engaging in manipulative practices." THOMAS LEE HAZEN, THE LAW OF SECURITIES REGULATION § 14.10[6] (7th ed. 2016 & Supp. 2018). However, the economic function of market makers does not even require the existence of any formal trading obligations and privileges, which apply only to designated market makers on organized trading venues. In fact, one early commentator viewed trading activities of over-the-counter market makers with at least some suspicion in the context of "the general types of manipulation": "If [an over-the-counter market maker] conceives it desirable in his own interest or in the interest of the issuer or others, he may be able to maintain the market price of the security or to raise it or depress it." Comment, *Regulation of Stock Market Manipulation*, 56 YALE L.J. 509, 515 (1947), https://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?article=4493&context=ylj [https://perma.cc/KJ65-A7QN].

125. For a notable example of manipulative practices by a firm serving as a market maker and an underwriter, which resulted in an even greater discretion in setting prices, see Michael J. Markowski, Exchange Act Release No. 43,259, 73 SEC Docket 471 (Sept. 7, 2000), *reconsideration denied*, Exchange Act Release No. 43,503, 73 SEC Docket 1520 (Nov. 1, 2000), *aff'd*, 274 F.3d 525 (D.C. Cir. 2001). As observed by the SEC in the context of the dual role of the firm in question, "The price leadership in a security that results from almost exclusive control over the source of supply empowers an underwriter to set prices arbitrarily. We have previously pointed out that, 'if that power is abused, the result is a manipulation.'" *Markowski*, 73 SEC Docket at 473 (quoting Pagel, Inc., Exchange Act Release No. 22,280, 48 S.E.C. 223, 226 (Aug. 1, 1985), *aff'd*, 803 F.2d 942 (8th Cir. 1986)).

there are many illustrations of market makers being involved in manipulative activities, the bulk of them involves something more than 'real' transactions—quite often a conspiracy with issuers and their insiders."[126] However, while rarer, the "open market" scenario involving market makers is not unknown.[127] Likewise, the infamous scandal of the 1990s involving collusive practices of NASDAQ market makers showed that these practices, such as "numerous occasions in which market makers have asked other market makers to move their displayed quotations in a particular direction to help the requesting market maker trade (often with customers) at prices more favorable to the requesting market maker," "working together to coordinate quote movements or transactions . . . thereby facilitating trades at prices that are more favorable for the market makers, often at the expense of their customers," and "enter[ing] into agreements to widen their [bid-ask] spreads in particular stocks," could be seen by the SEC as manipulative under several antifraud provisions, including Section 10(b) of the Exchange Act and Rule 10b-5.[128] More generally, as

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A broader concern relates to manipulative practices when a security is introduced to the marketplace in an initial public offering or otherwise, whether the underwriter and the market maker in question are the same, collaborating, or independently operating parties. One temptation is, as urged by an early commentator, to "[s]trike out the word 'manipulation,' and substitute 'establishment of values' in transactions [introducing a security to the marketplace]." W.C. VAN ANTWERP, THE STOCK EXCHANGE FROM WITHIN 172–73 (1913), https://books.google.com/books?id=yvAsAAAAYAAJ. However, there is a lot of room for abuse based on manipulative practices precisely in such situations.

126. Stanislav Dolgopolov, *The Maker-Taker Pricing Model and Its Impact on the Securities Market Structure: A Can of Worms for Securities Fraud?*, 8 VA. L. & BUS. REV. 231, 254–55 (2014) [hereinafter Dolgopolov, *The Maker-Taker Pricing Model*]; *see also* SEC v. Diversified Corp. Consulting Grp., 378 F.3d 1219, 1222–23 (11th Cir. 2004) (describing the allegations against a market maker for manipulative activities, such as "essentially bidding against himself [thus] sending a false signal to investors" and entering into "an agreement with [the issuer] whereby [the issuer] supplied Rosen with shares at a price that would guarantee him a profit," in the context of Section 17(a) of the Securities Act and Section 10(b) of the Exchange Act and Rule 10b-5); SEC v. Sayegh, 906 F. Supp. 939, 948 (S.D.N.Y. 1995) (describing the allegations against a trader at a market making firm for manipulative activities, such as "limiting the available supply," "causing shares to be placed in non-paying accounts to avoid open market liquidation," and "using other market makers to create the illusion of an active market in the stock," in the context of Section 10(b) of the Exchange Act and Rule 10b-5); Robert Grady, Securities Act Release No. 7668, Exchange Act Release No. 41,309, 69 SEC Docket 1392, 1392 (Apr. 19, 1999) (settled proceeding) (describing the allegations against a trader at a market making firm for manipulative activities, such as "set[ting] the initial price based solely upon the directions of a major shareholder and promoter" and "effect[ing] trades with the understanding that other participants in the scheme would protect him from risk of loss by buying any long position or covering any short position," in the context of Section 17(a) of the Securities Act and Section 10(b) of the Exchange Act and Rule 10b-5).

127. Dolgopolov, *The Maker-Taker Pricing Model*, *supra* note 126, at 255 n.89; *see also* Weseley v. Spear, Leeds & Kellogg, 711 F. Supp. 713, 714–17 (E.D.N.Y. 1989) (describing a settlement in connection with the allegations that an exchange specialist had inflated the opening price in the aftermath of the "Black Friday" of October 19, 1987 and hence engaged in manipulative activities in the context of Section 10(b) of the Exchange Act); J. Newman & Co., Exchange Act Release No. 14,384, 13 SEC Docket 1401, 1402 (Jan. 17, 1978) (describing the allegations against an options market maker for manipulative activities in connection with transactions in the related stock in the context of Sections 9(a)(2), 10(a), and 10(b) of the Exchange Act and Rules 10a-1 and 10b-5).

128. Report Pursuant to Section 21(a) of the Securities Exchange Act of 1934 Regarding the NASD and the NASDAQ Market, Exchange Act Release No. 37,542, 52 S.E.C. 882, 902 & n.59, 923 & n.79 (Aug. 8, 1996). A later enforcement action maintained that "the coordinated entry of bid and/or ask quotations by market makers into the Nasdaq system for the purpose of artificially affecting the price of subsequent transactions . . . constituted market manipulation in violation of the antifraud provisions of Section 15(c)(1) of the Exchange Act and Rule 15c1-2 thereunder . . . ." Certain Market Making Activities on NASDAQ, Exchange Act Release No. 40,900, 68 SEC Docket 2693, 2695 (Jan. 11, 1999) (settled proceeding). Looking at such practices of NASDAQ market

described by one commentator, market power by itself is not necessarily manipulative:

> [T]he existence of dominance and control may not be per se manipulation. When that domination is achieved through intentional conduct by the dominant market maker or through collusion, then there is a manipulation taking place. A dominated, and hence noncompetitive, market will enable the dominant market maker to maintain larger spreads and thereby reap greater market making profits.[129]

Still, this approach illustrates that even transaction costs, as a result of tinkering with the forces of supply and demand, could create artificial pricing.

On the other hand, many trading practices of market makers are not manipulative, despite some degree of control or discretion over pricing exercised by these market participants. In the process of providing liquidity, market makers constantly test supply and demand for a given security through different prices and trading interests of varying sizes, sometimes at several price points at the same time, and, to varying degrees, they participate in the process of price discovery—sometimes enhanced by a given trading venue's institutional framework—throughout the applicable trading period and its specific points, such as openings, closings, and the introduction of new securities.[130] As argued in one theoretical study, which is still relevant for the modern electronic marketplace, "[M]arket makers have the ability and the incentives to undertake costly price discovery by experimenting with prices ('testing the waters') to induce statistically more information[al] order flow."[131] Another key principle is that market makers constantly need to manage their inventory positions, including the maintenance of a target position, which could be done by adjusting both "buy" and "sell" prices in the market.[132] Moreover, the traditional function of minimizing price fluctuations and hence price stabilization performed by certain types of market makers has been recognized in the existing regulatory framework, including Regulation M as a set of "prophylactic" anti-manipulation rules in connection with securities offerings with a specific safe harbor crafted for these market participants.[133]

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makers, the same enforcement action also found violations of Section 10(b) of the Exchange Act and Rule 10b-5. *Id*. *passim*.

129. HAZEN, *supra* note 124, § 14.10[6].

130. *See, e.g.*, INTERCONTINENTAL EXCH., INC., DMMS: DESIGNATED MARKET MAKERS 1 (2016), https://www.nyse.com/publicdocs/nyse/markets/nyse/designated_market_makers.pdf [https://perma.cc/ET7E-ZTEE] ("NYSE's opening and closing auctions are the largest single volume events of the trading day. DMMs contribute capital in the auctions to satisfy market demand, and provide human judgment and communication.").

131. J. Chris Leach & Ananth A. Madhavan, *Intertemporal Price Discovery by Market Makers: Active Versus Passive Learning*, 2 J. FIN. INTERMEDIATION 207, 208 (1992).

132. As observed by the author earlier, "Providers of liquidity do not passively absorb order imbalances, but continuously manage their inventories by adjusting the width and the midpoint of the bid-ask spread or by selectively initiating orders." Stanislav Dolgopolov, *Insider Trading and the Bid-Ask Spread: A Critical Evaluation of Adverse Selection in Market Making*, 33 CAP. U. L. REV. 83, 111 (2004) (footnotes omitted). Moreover, from a theoretical perspective, a key study maintained that market makers must "pursue a policy of relating their prices to their inventories in order to avoid failure: it cannot be the case that they simply respond to temporary fluctuations in demand and supply." Mark B. Garman, *Market Microstructure*, 3 J. FIN. ECON. 257, 267 (1976).

133. For the SEC's discussion of the goals of this rule at the time of its adoption and the relevant role of market makers, see Anti-Manipulation Rules Concerning Securities Offerings, Securities Act Release No. 7375, Exchange Act Release No. 38,067, Investment Company Act Release No. 22,412, International Series Release

Another key consideration is that, aside from any formal trading obligations and privileges possessed by designated market makers, other de facto market makers acting as providers of liquidity need to be considered as well. Opportunistic liquidity provision, the phenomenon not necessarily described by a continuous maintenance of two-sided quotes and oftentimes manifested in one-sided trading interests, is hardly a new topic, whether in the context of manual traders of both bygone and present days or HFTs in the modern electronic marketplace.[134] The model of opportunistic liquidity provision is also dependent on constantly testing supply and demand, as well as transferring/arbitraging liquidity across time, to capture trading profits, which are sometimes described by such concepts as "liquidity arbitrage" and "liquidity premium." For instance, one academic study pointed out that "the equilibrium asset price reflects the limited risk-taking capacity of market makers" and contemplated the existence of "a liquidity premium for one side of the market."[135] Likewise, another academic study maintained that "liquidity arbitrageurs [engage in] tracking price pressures due to liquidity frictions and entering the market in order to provide immediacy and to cash the liquidity premium."[136] Of course, the liquidity premium almost by definition is not stable, which periodically enables certain trading strategies. Also, given the use of the concept of arbitrage, a widely quoted appellate opinion addressing the conduct of a market maker could be referenced: "Arbitrage is not market manipulation. The opposite of a practice that creates artificial prices, it eliminates artificial price differences."[137]

The complex relationship between liquidity provision and market manipulation requires separating manipulative practices from trading strategies that provide liquidity but may superficially resemble manipulative ones, for instance, by exercising discretion over prices or actively probing trading interests. However, manipulative practices could be packaged with a broader role of providing liquidity, such as the very function of "making a market," which is compounded by multiple hats worn by many market makers. Likewise, another area of concern lies in manipulative practices based on abuses relating to the process of price discovery by market makers in light of their role in this process, particularly by designated market makers operating within a trading venue's institutional framework, or other formal trading obligations and privileges applicable to this category of market makers. Moreover, more complex manipulative schemes could involve cooperation among market makers and other parties, such as corporate insiders and promoters, while other schemes may fit the definition of open market manipulation.

No. 1039, 62 Fed. Reg. 520 *passim* (Dec. 20, 1996) (codified at 17 C.F.R. pts. 200, 228–30, 240 & 242), https://www.gpo.gov/fdsys/pkg/FR-1997-01-03/pdf/97-1.pdf [https://perma.cc/789R-U95V].

134. For a discussion of opportunistic liquidity provision in different contexts and its pressures on designated market makers, see Stanislav Dolgopolov, *Regulating Merchants of Liquidity: Market Making from Crowded Floors to High-Frequency Trading*, 18 U. PA. J. BUS. L. 651 *passim* (2016), https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=1514&context=jbl [https://perma.cc/Y5GW-XT9J] [hereinafter Dolgopolov, *Regulating Merchants of Liquidity*].

135. Christian Ewerhart & Natacha Valla, *Financial Market Liquidity and the Lender of Last Resort*, FIN. STABILITY REV., Feb. 2008, at 133, 142 n.11, https://publications.banque-france.fr/sites/default/files/medias/documents/financial-stability-review-11_2008-02.pdf [https://perma.cc/BF3Q-JTVY].

136. Serge Darolles et al., When Market Illiquidity Generates Volume 3 (Oct. 5, 2011) (unpublished manuscript) (on file with author), http://www.crest.fr/ckfinder/userfiles/files/pageperso/gmero/MERO_DAROLLES_LeFOL_OCT_2011.pdf [https://perma.cc/X3KT-C4NG].

137. Sullivan & Long, Inc. v. Scattered Corp., 47 F.3d 857, 862 (7th Cir. 1995).

VI. SPOOFING/LAYERING AND DISRUPTIVE TRADING

A case study of both overlaps and differences between disruptive trading and manipulative trading is presented by the much-discussed phenomenon of spoofing and layering. Interestingly, the case law on spoofing and layering as a form of market manipulation is confined to a handful of procedural decisions.[138] Moreover, the SEC's enforcement actions in this area are essentially limited to settlements, which are not binding as precedent.[139] The only contested adjudication known to the author discussed spoofing as a form of "auto-execution manipulation" that took advantage of the automated execution feature offered by market makers.[140] Indeed, the very term "spoofing" as a manipulative practice had been introduced by the SEC in a series of enforcement actions under Section 17(a) of the Securities Act and Section 10(b) of the Exchange Act and Rule 10b-5 in the late 1990s–early 2000s to address a very similar scenario reflecting the realities of the then-existing marketplace: improving the National Best Bid and Offer (NBBO) on either side and then transacting on *the other side of the market at the improved price but for a larger order size* through a market maker guaranteeing an automated execution, as well as typically cancelling the original NBBO-setting order.[141] As observed by the SEC, such

138. In one of these key decisions, the court denied a motion to dismiss in connection with allegations of spoofing and layering, while observing that "[the] [p]laintiff has identified a consistent pattern of placing thousands of Deceptive Orders, cancelling those orders and then flashing and reversing position, across multiple markets." CP Stone Fort Holdings, LLC v. Doe, No. 16-cv-4991, 2017 U.S. Dist. LEXIS 42069, at *11 (N.D. Ill. Mar. 22, 2017). In another lawsuit, the court denied a motion to dismiss a variety of charges in connection with allegations of spoofing and layering and subsequently denied a motion for summary judgment in connection with these allegations. SEC v. Lek Sec. Corp., 276 F. Supp. 3d 49 *passim* (S.D.N.Y. 2017), *summ. judgment denied*, No. 17-cv-1789 (DLC), 2019 U.S. Dist. LEXIS 50663 *passim* (S.D.N.Y. Mar. 26, 2019). Moreover, for the same lawsuit, the court essentially disqualified every single expert for the defendant and declined to disqualify any of the experts for the regulatory agency. SEC v. Lek Sec. Corp., 370 F. Supp. 3d 384 (S.D.N.Y. 2019), No. 17-cv-1789 (DLC), 2019 U.S. Dist. LEXIS 47214 (S.D.N.Y. Mar. 21, 2019), 2019 U.S. Dist. LEXIS 60202 (S.D.N.Y. Apr. 8, 2019), *reconsideration denied in part, granted in part*, 2019 U.S. Dist. LEXIS 77874 (S.D.N.Y. May 8, 2019), *reconsideration denied*, 2019 U.S. Dist. LEXIS 77879 (S.D.N.Y. May 8, 2019).

139. For several recent examples of such settlements, see Behruz Afshar, Securities Act Release No. 10,094, Exchange Act Release No. 78,043, Investment Company Act Release No. 32,144, 114 SEC Docket 1731 (June 13, 2016) (settled proceeding); Briargate Trading, LLC, Securities Act Release No. 9959, Exchange Act Release No. 76,104, 112 SEC Docket 3263, 3265 (Oct. 8, 2015) (settled proceeding); Biremis Corp., Exchange Act Release No. 68,456, 105 SEC Docket 862 (Dec. 18, 2012) (settled proceeding); Hold Bros. On-Line Inv. Servs., LLC, Exchange Act Release No. 67,924, Investment Company Release No. 30,213, 104 SEC Docket 2686 (Sept. 25, 2012) (settled proceeding).

140. Terrance Yoshikawa, Exchange Act Release No. 53,731, 87 SEC Docket 2580, 2586 & n.36 (Apr. 26, 2006).

141. For the relevant enforcement actions, almost all of them settlements, see Cary R. Kahn, Securities Act Release No. 8449, Exchange Act Release No. 50,046, 83 SEC Docket 1065 (ALJ July 20, 2004) (default order); Jason T. Frazee, Securities Act Release No. 8209, Exchange Act Release No. 47,522, 79 SEC Docket 2361 (Mar. 18, 2003) (settled proceeding); Leonard Sheehan, Securities Act Release No. 8208, Exchange Act Release No. 47,521, 79 SEC Docket 2359 (Mar. 18, 2003) (settled proceeding); Joseph R. Blackwell, Securities Act Release No. 8030, Exchange Act Release No. 45,018, 76 SEC Docket 502 (Nov. 5, 2001) (settled proceeding); Israel M. Shenker, Securities Act Release No. 8029, Exchange Act Release No. 45,017, 76 SEC Docket 501 (Nov. 5, 2001) (settled proceeding); Robert J. Monski, Securities Act Release No. 7975, Exchange Act Release No. 44,250, 74 SEC Docket 1815 (May 3, 2001) (settled proceeding); Ian Fishman, Securities Act Release No. 7547, Exchange Act Release No. 40,115, 67 SEC Docket 783 (June 24, 1998) (settled proceeding). For a description of the same scenario in a civil action brought by the SEC, see Litigation Release No. 17,221, SEC Files Actions Against Six Individuals for "Spoofing," U.S. SEC. & EXCHANGE COMMISSION (Nov. 5, 2001), https://www.sec.gov/litigation/litreleases/lr17221.htm [https://perma.cc/L89F-ZKR3]. One notable variation of

market makers "guarantee[d] execution of orders up to 5,000 shares at the NBBO, regardless of quoted size"[142] and included those operating on NASDAQ's Small Order Execution System.[143] In a representative statement, the SEC characterized the underlying trading strategy as the one that "repeatedly engaged in a precise pattern of conduct meant to affect the NBBO and permit execution of orders at prices that would not otherwise have been available in the market [and hence] interfered with the free forces of supply and demand and undermined the integrity of the NBBO."[144] However, one theoretical complication is to what extent NBBO-improving orders, which were available for execution, could be considered "non-bona fide" or contribute to artificial pricing, which perhaps points to the imperfections of the contemporaneous trading architecture and technology exploited by such traders. Moreover, implying that some of these orders could be very much real, the SEC itself had observed in one of the relevant enforcement actions that, "[a]fter moving the bid or offer quote to the desired price, and obtaining an execution, [the trader] would either cancel his initial market moving order *or allow it to be filled*."[145] Likewise, recognizing the scenario of such orders getting executed, two commentators observed that a trader engaging in "spoofing," as described by the SEC, "runs the risk that the spurious bid will be hit by some other seller, increasing the manipulator's long position," while noting the existence of "one group of buyers who are compelled to match the manipulator's spurious bid: dealers whose order preferencing arrangements require them to execute the preferenced order flow at the best prevailing price."[146]

Going forward to the modern electronic marketplace, there have been numerous attempts to define and fit the practices of spoofing and layering to the new environment with the ultimate goal of satisfying the definition of market manipulation. Notably, the Financial Industry Regulatory Authority (FINRA) provided the following descriptions of "spoofing" and "layering":

> Generally, spoofing is a form of market manipulation which involves placing certain non-bona fide order(s), usually inside the existing National Best Bid or Offer (NBBO), with the intention of triggering another market participant(s) to join or improve the NBBO, followed by canceling the non-bona fide order, and entering an order on the opposite side of the market. Layering involves the placement of multiple, non-bona fide, limit orders on one side of the market at

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the above-described trading strategy involved the use of preexisting hidden "all-or-none" limit orders, as opposed to market orders or marketable limit orders, for executing transactions on the other side of the market. *Monski*, 74 SEC Docket at 1815–16.

142. *Fishman*, 67 SEC Docket at 783 n.2; *see also Yoshikawa*, 87 SEC Docket at 2582, 2584, 2586 (referencing a witness's testimony that "it was common industry practice for market makers to execute automatically, at the NBBO, orders in share amounts greater than the share amounts in the order that set the NBBO, even in the absence of any formal automatic execution agreement between the market maker and the broker, based on . . . a 'business understanding,'" dismissing the defendant's argument that "the lack of a formal agreement . . . shows that any decision by the market makers to execute his larger limit orders automatically was a business decision of the market maker, over which [the defendant] had no influence or control," and pointing out that the prior enforcement actions relating to spoofing by contrast had involved guaranteed execution).

143. *Shenker*, 76 SEC Docket at 501.

144. *Monski*, 74 SEC Docket at 1816.

145. *Blackwell*, 76 SEC Docket at 503 (emphasis added).

146. Joel Hasbrouck & Gideon Saar, *Limit Orders and Volatility in a Hybrid Market: The Island ECN* 24 (N.Y. Univ., Stern Sch. of Bus., Dep't of Fin, Working Paper No. FIN-01-025, 2002), https://ssrn.com/abstract=310940.

> various price levels at or away from the NBBO to create the appearance of a change in the levels of supply and demand, thereby artificially moving the price of the security. An order is then executed on the opposite side of the market at the artificially created price, and the non-bona fide orders are immediately canceled.[147]

In its turn, the SEC provided the following consolidated definition of "spoofing" and "layering" under the label of "layering" as a manipulative practice:

> In general, layering occurs when a trader creates a false appearance of market activity by entering multiple *non-bona fide* orders on one side of the market, at generally increasing (or decreasing) prices, in order to move that stock's price in a direction where the trader intends to induce others to buy (or sell) at a price altered by the non-*bona fide* orders.[148]

A more detailed description of one of the relevant episodes painted the following picture:

> Notably, each time the trader submitted a series of non-*bona fide* orders on one side of the market, the trader drove the inside bid up (or the inside ask down). In addition, when viewed in combination with other displayed orders, the pressure orders created the appearance of a liquidity imbalance. Market participants that use trading algorithms often program their algorithms to react to such market signals.[149]

Finally, a prominent firm specializing in market surveillance defined spoofing as "the act of entering visible non-bona fide orders with the intent to mislead other traders as to the true level of supply or demand in the market."[150] On the other hand, this definition is based on the assumption that spoofing may occur when a trader improves the NBBO: "By entering a new best bid (offer), a spoofer is able to entice other buyers (sellers) to execute against his offer (bid) at a superior (inferior) price than he would otherwise obtain."[151] Moreover, the following definition of "layering" as "one of the most common variants of spoofing" was provided: "Layering is the act of placing multiple visible non-bona fide orders with the intent of creating a false impression of supply or demand, thereby pushing market prices to levels at which the participant can obtain opposite-side executions at more favorable prices than would have otherwise been possible."[152]

Arguably, there are some potential inconsistencies in these definitions, notably with

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147. Press Release, Fin. Indus. Reg. Auth., Inc., FINRA Joins Exchanges and the SEC in Fining Hold Brothers More Than $5.9 Million for Manipulative Trading, Anti-Money Laundering, and Other Violations (Sept. 25, 2012), https://www.finra.org/media-center/news-releases/2012/finra-joins-exchanges-and-sec-fining-hold-brothers-more-59-million [https://perma.cc/6TVQ-8K74].

148. Biremis Corp., Exchange Act Release No. 68,456, 105 SEC Docket 862, 863 (Dec. 18, 2012) (settled proceeding). The SEC defined "non-*bona fide* orders" as those "that the trader does not intend to execute." *Id.* at 866.

149. *Id.* at 867.

150. *What Is Spoofing?*, TRILLIUM MGMT., LLC, https://www.trlm.com/knowledgebase/what-is-spoofing/ (last visited July 26, 2018) [https://perma.cc/FK9V-2MFA].

151. *Id.*; *see also id.* ("Spoofing can occur when a trader narrows the spread by entering a new best offer (bid), is joined by other traders at that new best offer (bid), and then executes as a buyer against the joining liquidity (either at the joined best offer or at the midpoint).").

152. *What Is Layering?*, TRILLIUM MGMT., LLC, https://www.trlm.com/knowledgebase/what-is-layering/ (last visited Apr. 8, 2019) [https://perma.cc/2X2P-SJYT].

respect to NBBO-improving orders. If a market participant actually improves the market by tightening the NBBO, such orders are available for immediate execution, for instance, by interacting with a manually entered order, an algorithm-triggered order, or a prior hidden order, which raises the question to what extent such NBBO-improving orders could be characterized as non-bona fide.[153] Moreover, an immediate execution is probably a more likely scenario, given the extent of automation, compared to the era when the concept of spoofing had been introduced by the SEC in its enforcement actions. At the same time, such NBBO-improving orders could have no other purpose, information-generating or otherwise, except to distort the NBBO as a benchmark, while accepting the risk of otherwise undesired execution just as a cost of doing business, especially if there are large size disparities for orders placed on the opposite sides of the market.[154] For instance, in another iteration of allegations relating to spoofing in connection with liquidity rebates offered by certain securities exchanges under the maker-taker pricing model, the SEC penalized the two-sided usage of hidden all-or-none limit orders combined with NBBO-improving orders on the other side designed to attract additional trading interests and then to be cancelled, with the latter category of orders "designated 'professional,' presumably to avoid raising any suspicions of a wash trade and to decrease the likelihood of an execution (due to the lower priority of 'professional' orders)."[155] Still, certain NBBO-improving orders could be meant to be executed or at least exposed to the market, which is a strong presumption for classifying them as bona fide, in connection with building up or liquidating a position and/or being conditional in their nature.[156] This scenario illustrates potential difficulties with characterizing the underlying trading strategy as truly manipulative in every single case. Accordingly, there is a possibility that the provided definitions of spoofing and layering could catch active trading strategies that rely on exploratory trading and probe supply and demand at certain price points, as well as provide liquidity. Yet, more generally, manipulative practices could potentially involve tightened markets, as illustrated by several enforcement actions relating to the over-the-counter

153. This scenario should be contrasted to the one in which the orders in question have been placed outside the NBBO. For example, as observed in one enforcement action involving conduct labeled as "layering," the trader "generally entered [non-bona fide] orders at prices primarily outside of the NASDAQ [Best Bid and Offer] and thereby reduced the risk that these non-bona fide orders would be executed contrary to his intent." Trillium Brokerage Srvs., LLC, Letter of Acceptance, Waiver and Consent No. 20070076782-01 (Fin. Indus. Reg. Auth., Inc. Aug. 5, 2010), http://www.finra.org/sites/default/files/fda_documents/2007007678201_FDA_JM992354.pdf [https://perma.cc/N75L-A8YR]. In another enforcement action involving conduct labeled as "spoofing," it was similarly observed that, "[b]ecause Oscher placed the non-bona fide orders on the NYSE and then cancelled them prior to the open in that stock, they were not subject to market risk." Briargate Trading, LLC, Securities Act Release No. 9959, Exchange Act Release No. 76,104, 112 SEC Docket 3263, 3264 (Oct. 8, 2015) (settled proceeding).

154. Interestingly, in an earlier lawsuit, the SEC even provided an alternative name for spoofing as "small lot baiting." Litigation Release No. 18,926, Final Judgments Entered Against Three Individuals for Engaging in Manipulative Trading Scheme, U.S. SEC. & EXCHANGE COMMISSION (Oct. 7, 2004), https://www.sec.gov/litigation/litreleases/lr18926.htm [https://perma.cc/WU82-5EZ].

155. Behruz Afshar, Securities Act Release No. 10,094, Exchange Act Release No. 78,043, Investment Company Act Release No. 32,144, 114 SEC Docket 1731, 1737–39 (June 13, 2016) (settled proceeding).

156. It should be noted that in one of the relevant enforcement actions the SEC referenced the defendant's argument that small NBBO-improving orders had been used for probing for hidden orders, but this argument was dismissed as factually non-credible and inconsistent. Terrance Yoshikawa, Exchange Act Release No. 53,731, 87 SEC Docket 2580, 2583, 2585–86 (Apr. 26, 2006).

market.[157] On the other hand, key differences between typical over-the-counter and exchange markets need to be taken into account, with the inherently greater liquidity and the availability of trading interests at different price points of the former.

The debate over the practices of spoofing and layering has been affected by new rulemaking measures adopted by several self-regulatory organizations (SROs), namely the rules of individual securities exchanges and FINRA that target "disruptive quoting and trading activity" but sometimes retain the labels of "spoofing" and "layering."[158] Importantly, the pioneering proposal in this area by BATS, which was later withdrawn, specifically referenced spoofing and layering,[159] but the adopted version used the label of "disruptive trading and quoting activity," while pointing to the incidences of "a pattern of disruptive quoting and trading activity indicative of manipulative layering or spoofing."[160]

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157. For instance, in one enforcement action, the SEC observed in its findings of market manipulation that a market maker in an over-the-counter security "increased the high bid at times when the firm already had a substantial inventory position in AEC and was effecting retail sales below its inside bid" and relied on its prior enforcement action to articulate that, "where market-maker, while raising its bids for a stock, made the bulk of its sales at prices at or below its bid prices, market-maker must have recognized that its bid quotes were inflated." Randolph K. Pace, Exchange Act Release No. 32,153, 53 SEC Docket 2330, 2333 & n.18 (Apr. 15, 1993) (citing Gob Shops of Am., Inc., Securities Act Release No. 4075, 39 S.E.C. 92, 101–02 (May 6, 1959)). Moreover, in a widely cited opinion, the court listed "price leadership by the manipulator" among "various factors which characterize attempts by manipulators to raise the price of an over-the-counter security." SEC v. Resch-Cassin & Co., 362 F. Supp. 964, 976 (S.D.N.Y. 1973). In yet another enforcement action, the SEC drew a distinction that recognized the legitimacy of experimenting with various prices: "At least in the context of a competitive market, we would agree that raising the ask price may be a proper way to gauge *demand*. However, reliance on such a technique presupposes that the market has properly accounted for the element of *supply*. In this case, Patten's activities removed that element [by restricting the available supply]. As a result, the forces of supply and demand could not 'freely meet', and there was no legitimate market for Patten to 'test.'" Patten Sec. Corp., Exchange Act Release No. 32,619, 54 SEC Docket 1126, 1131 (July 12, 1993) (footnotes omitted).

158. *See, e.g.*, Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by Financial Industry Regulatory Authority, Inc. to Provide a Process for an Expedited Proceeding and Adopt a Rule to Prohibit Disruptive Quoting and Trading Activity, Exchange Act Release No. 79,361, 81 Fed. Reg. 85,650 (Nov. 21, 2016), https://www.gpo.gov/fdsys/pkg/FR-2016-11-28/pdf/2016-28458.pdf [https://perma.cc/DC3R-WR9W]; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by The NASDAQ Stock Market LLC to Provide a Process for an Expedited Suspension Proceeding and Adopt a Rule to Prohibit Disruptive Quoting and Trading Activity, Exchange Act Release No. 77,913, 81 Fed. Reg. 35,081 (May 25, 2016), https://www.govinfo.gov/content/pkg/FR-2016-06-01/pdf/2016-12775.pdf [https://perma.cc/H4G4-SHH7]; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by Bats EDGX Exchange, Inc. to Adopt Rule 8.17 to Provide a Process for an Expedited Suspension Proceeding and Rule 12.15 to Prohibit Layering and Spoofing, Exchange Act Release No. 77,589, 81 Fed. Reg. 22,691 (Apr. 12, 2016), https://www.govinfo.gov/content/pkg/FR-2016-04-18/pdf/2016-08820.pdf [https://perma.cc/U735-T6AG]; Order Granting Approval of a Proposed Rule Change by BATS Exchange, Inc. to Adopt Rule 8.17 to Provide a Process for an Expedited Suspension Proceeding and Rule 12.15 to Prohibit Disruptive Quoting and Trading Activity, Exchange Act Release No. 77,171, 81 Fed. Reg. 9017 (Feb. 18, 2016), https://www.gpo.gov/fdsys/pkg/FR-2016-02-23/pdf/2016-03740.pdf [https://perma.cc/3256-3462].

159. Notice of Filing of a Proposed Rule Change by BATS Exchange, Inc. to Adopt New Rule 8.17 to Provide a Process for an Expedited Suspension Proceeding and Rule 12.15 to Prohibit Layering and Spoofing, Exchange Act Release No. 75,693, 80 Fed. Reg. 50,370 (Aug. 13, 2015), https://www.gpo.gov/fdsys/pkg/FR-2015-08-19/pdf/2015-20421.pdf [https://perma.cc/HAN4-HLBQ].

160. Order Granting Approval of a Proposed Rule Change by BATS Exchange, Inc. to Adopt Rule 8.17 to Provide a Process for an Expedited Suspension Proceeding and Rule 12.15 to Prohibit Disruptive Quoting and Trading Activity, 81 Fed. Reg. at 9017 n.13. Moreover, BATS agreed with the criticism that "certain non-spoofing or non-layering trading activity could fall within the previously proposed definitions of 'layering' and 'spoofing' while, at the same time, certain manipulative layering or spoofing activity could fall outside those proposed definitions." *Id.* at 9021.

Regardless of the label being used, these rules typically emphasize that no express intent is specifically required,[161] which means that the targeted practices have been defined differently from market manipulation. At the same time, such definitions mimic the existing definitions of "spoofing" and "layering," as illustrated by the pioneering approach chosen by BATS:

> Disruptive Quoting and Trading Activity Type 1 would entail a frequent pattern in which the following facts are present: (1) A party enters multiple limit orders on one side of the market at various price levels (the "Displayed Orders"); (2) following the entry of the Displayed Orders, the level of supply and demand for the security changes; (3) the party enters one or more orders on the opposite side of the market of the Displayed Orders (the "Contra-Side Orders") that are subsequently executed; and (4) following the execution of the Contra-Side Orders, the party cancels the Displayed Orders. Disruptive Quoting and Trading Activity Type 2 would entail a frequent pattern in which the following facts are present: (1) A party narrows the spread for a security by placing an order inside the national best bid and offer ("NBBO"); and (2) the party then submits an order on the opposite side of the market that executes against another market participant that joined the new inside market established by the party.[162]

The description provided by FINRA, an SRO that has a much broader reach in the securities industry than an individual exchange, is very similar:

> *Trading Scenario One*: A frequent pattern in which the following facts are present: (1) A party enters multiple limit orders on one side of the market at various price levels; (2) following the entry of the limit orders, the level of supply and demand for the security changes; (3) the party enters one or more orders on the opposite side of the market that are subsequently executed; and (4) following the execution, the party cancels the original limit orders. *Trading Scenario Two*: A frequent pattern in which the following facts are present: (1) A party narrows the spread for a security by placing an order inside the national best bid and offer and (2) the party then submits an order on the opposite side of the market that executes against another market participant that joined the new inside market established by the party.[163]

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161. *See, e.g.*, Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by Financial Industry Regulatory Authority, Inc. to Provide a Process for an Expedited Proceeding and Adopt a Rule to Prohibit Disruptive Quoting and Trading Activity, Exchange Act Release No. 79,361, 81 Fed. Reg. at 85,653 ("FINRA notes that, like BATS Rule 12.15, it has defined the prohibited disruptive quoting and trading activity by modifying the traditional definitions of layering and spoofing to eliminate an express intent element."); Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by Bats EDGX Exchange, Inc. to Adopt Rule 8.17 to Provide a Process for an Expedited Suspension Proceeding and Rule 12.15 to Prohibit Layering and Spoofing, 81 Fed. Reg. at 22,695 ("[T]he Exchange notes that it has defined the prohibited disruptive quoting and trading activity by modifying the traditional definitions of layering and spoofing to eliminate an express intent element that would not be proven on an expedited basis and would instead require a thorough investigation into the activity.") (footnote omitted).

162. Order Granting Approval of a Proposed Rule Change by BATS Exchange, Inc. to Adopt Rule 8.17 to Provide a Process for an Expedited Suspension Proceeding and Rule 12.15 to Prohibit Disruptive Quoting and Trading Activity, 81 Fed. Reg. at 9018.

163. Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by Financial Industry Regulatory Authority, Inc. to Provide a Process for an Expedited Proceeding and Adopt a Rule to Prohibit

The introduction of these rules has not been uncontested. For instance, one public comment—by a securities firm that itself later became entangled in a lawsuit involving allegations of spoofing and layering—offered the following scolding criticism:

> [T]he Proposal's broad and subjective definitions of Disruptive Quoting and Trading Activity encompass strategies that consist of competitive trading algorithms that narrow spreads and add depth and liquidity to the market, thereby benefitting investors. Instead of protecting investors . . . the practical result of the Proposal is to vest the Exchange with the extraordinary power to eliminate risk from the front-running strategies of its high-frequency trading members and owners at the expense of investors under the guise of preventing manipulation.[164]

While finding the proposed procedural safeguards sufficient, even the SEC recognized the concern that "the proposed definitions of the prohibited disruptive quoting and trading activities may be too broad, such that they may encompass legitimate quoting or trading activity, such as market making."[165] In other words, one possibility raised by this regulatory debate is a collision of two types of de facto market makers and their respective models of opportunistic liquidity provision.

Overall, the concepts of spoofing and layering are still in the state of flux, given the infancy of authoritative case law. While general descriptions of these concepts are consistent with the scope of the doctrine of market manipulation, it is not always clear what specific applications would pass that hurdle and what categories of trading practices, such as liquidity provision, could otherwise be caught in the net. For instance, more guidance is needed with respect to when NBBO-improving orders, including those that are very much "real," could be manipulative, which is closely connected to the issue of intent.[166] A related concern is that the concepts of spoofing and layering should not rely on an arbitrary definition of "non-bona fide orders," especially given the prevalence of high order cancellation rates in the marketplace, a phenomenon with a potentially far-reaching effect caused, among other things, by fragmentation of order flow across different trading venues

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Disruptive Quoting and Trading Activity, 81 Fed. Reg. at 85,652.

164. Samuel F. Lek, Chief Exec. Officer, Lek Sec., Comment Letter to the SEC on the Proposed Rule Change by BATS Exchange Inc. to Adopt Rule 8.17 to Provide a Process for an Expedited Suspension Proceeding and Rule 12.15 to Prohibit Disruptive Quoting and Trading Activity 2 (Dec. 28, 2015), https://www.sec.gov/comments/sr-bats-2015-101/bats2015101-3.pdf [https://perma.cc/H9JY-YJ2X].

165. Order Granting Approval of a Proposed Rule Change by BATS Exchange, Inc. to Adopt Rule 8.17 to Provide a Process for an Expedited Suspension Proceeding and Rule 12.15 to Prohibit Disruptive Quoting and Trading Activity, 81 Fed. Reg. at 9024–25. For a further discussion of various concerns expressed in the comment letters for this proposal, including whether the provided definitions are too restrictive, overinclusive, or susceptible to being gamed, see *id.* at 9020–25.

166. Interestingly, in the futures/commodities space, "spoofing," as one type of disruptive conduct, has been defined as "bidding or offering with the intent to cancel the bid or offer before execution." Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 747, 124 Stat. 1376, 1739 (2010) (codified at 7 U.S.C. § 6c(a)), https://www.gpo.gov/fdsys/pkg/PLAW-111publ203/pdf/PLAW-111publ203.pdf [https://perma.cc/G45Y-6DL4]. Moreover, as observed by one court with respect to this provision, "although a conviction for spoofing does not require any showing of market manipulation, it is clear that the purpose of spoofing is to artificially skew markets and accordingly make a profit." United States v. Coscia, 866 F.3d 782, 793 n.40 (7th Cir. 2017), *panel reh'g and en banc reh'g denied*, No. 16-3017, 2017 U.S. App. LEXIS 17157 (7th Cir. Sept. 5, 2017), *cert. denied*, 138 S. Ct. 1989 (2018). Notably, in that particular lawsuit, the defendant had argued that he "noticed there was more trading done when one side was larger than the other [and] made a program to make a market as tight as possible with different lopsided markets." *Id.* at 790.

and hence multiplication of conditional logic. As asserted by one commentator:

> HFT market makers portray themselves as hapless victims of adverse selection, but it's only because they want to display size on multiple exchanges that they're at risk. . . . If HFT market makers posted no more than their bona fide interest and cut back where they traded as a result, perhaps we wouldn't have so many market centers, and perhaps exchange groups like BATS would finally consolidate their order books. . . . The problem for HFT market maker firms is to distinguish what they do when they "offer more liquidity than they're prepared to trade in one go" from spoofing.[167]

Finally, another key development is the emergence of SRO rulemaking that targets certain "disruptive" practices as proxies for spoofing and layering without labeling them as identical to market manipulation, which may as well promise a more effective way of dealing with the underlying problem by conserving enforcement resources. More generally, while there is some overlap between manipulative and disruptive practices, market disruptions may not even be the source of profitability for certain trading strategies. One key question is whether market disruptions constitute a byproduct—perhaps not even necessarily anticipated—or an integral part of the strategy in question in order to produce artificial pricing. Accordingly, different legal tools may be needed to address the overlapping and yet distinct universes of manipulative and disruptive practices, as illustrated by the SEC's consideration of a general anti-disruptive rule.[168] After all, some forms of price impact-based and exploratory trading strategies may have a disruptive effect, especially considering a potential cumulative effect produced by different market participants.

VII. THE LIMITS OF OPEN MARKET MANIPULATION

By definition, open market manipulation is confined to trading strategies based on an arm's-length interaction with the marketplace rather than more direct forms of deception, such as disinformation disseminated through other channels.[169] For instance, one of the polar opposites of open market manipulation is the infamous "pump-and-dump" scam

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167. R.T. Leuchtkafer (pseud.), Comment Letter to the SEC on the Proposed Rule Change by BATS Exchange Inc. to Adopt Rule 8.17 to Provide a Process for an Expedited Suspension Proceeding and Rule 12.15 to Prohibit Disruptive Quoting and Trading Activity 6, 8 (Dec. 14, 2015), https://www.sec.gov/comments/sr-bats-2015-101/bats2015101-1.pdf [https://perma.cc/GPN6-E5P9].

168. For a discussion of the SEC's efforts in this area, see Dolgopolov, *Securities Fraud Embedded in the Market Structure Crisis*, *supra* note 81, at 595–96 & n.106.

169. One of the most important implications of this concept is that trading interests openly exposed in the marketplace could serve as a component of a manipulative trading strategy. For instance, one court recently observed that, "[t]o the extent that [the defendants] argue that the entry of an order in the open market may never constitute manipulative conduct, they are wrong" in the context of charges under Section 17(a) of the Securities Act and Section 10(b) of the Exchange Act and Rule 10b-5. SEC v. Lek Sec. Corp., 276 F. Supp. 3d 49, 64 (S.D.N.Y. 2017). At a later procedural state, the same court likewise dismissed the argument that, "[b]ecause every order . . . placed [by one of the defendants] was a 'real, actionable' order . . . [such] orders were incapable of sending false price signals into the market." SEC v. Lek Sec. Corp., No. 17-cv-1789 (DLC), 2019 U.S. Dist. LEXIS 50663, at *5 (S.D.N.Y. Mar. 26, 2019). A key opinion relating to a different regulatory framework similarly rejected the defendant's position that "because 'his orders were fully executable and subject to legitimate market risk,' they were not, as a matter of law, fraudulent" in the context of a charge for commodities fraud under the Commodity Exchange Act of 1936. *Coscia*, 866 F.3d at 796–97.

described as "the touting of a company's stock (typically small, so-called 'microcap' companies) through false and misleading statements to the marketplace [with manipulators] who stand to gain by selling their shares after the stock price is 'pumped' up by the buying frenzy they create."[170] Moreover, iterations of non-"open market" practices could include "unauthorized placements and parking of stock, secret sales without disclosing the real party in interest, guaranteeing profits to encourage short selling by others, fraudulently low appraisals, painting the tape, and matched orders."[171] On the other hand, in the context of open market manipulation, arm's-length artificial activities by themselves constitute the very mechanism aimed at producing artificial prices. Of course, in addition to actual transactions, even orders and other indications of trading interest contribute to the totality of information and hence have a potential impact on price. Moreover, the very term "open market" may refer to a gamut of scenarios, with some key data points being: (i) transacting in the *same security* on available trading venues, which may use a variety of trading protocols, (ii) transacting in *related securities*, such as equities and options, on available trading venues, and (iii) transacting in a given security and entering into private contractual arrangements with the price of that security serving as a reference point. While no scenario is immune from charges of market manipulation even when underlying orders and transactions are very much real, certain distinctions among these categories are important.

Although nuanced variations of the concept of open market manipulation adopted by different courts, as well as its occasional de facto rejection,[172] are expected to persist, just as a mere prediction, this concept is unlikely to disappear or even significantly contract, given its appeal in light of numerous practices that date back to the old days or have emerged in the modern electronic marketplace. Also, the very skepticism over the feasibility of open market manipulation could be taken too far, given its blurry boundaries between the concepts of "legitimate transactions," "real transactions," and "non-artificial pricing," as illustrated by a potential interpretation of the following passage from a key judicial decision: "[The plaintiff] fails to understand that increasing the supply of stocks by selling them on the open market in legitimate transactions to real buyers does not artificially affect prices and therefore cannot be manipulative."[173]

It is worth reexamining the significance and reach of open market manipulation in the context of more general pronouncements regarding manipulative practices, even drawing on some case law not directly supportive of the open market variation. Notably, the much-used definitional approach to manipulative activities as "a false impression of supply or demand"[174] captures a key dimension of the scope of the abusive conduct intended to create

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170. *"Pump-and-Dumps" and Market Manipulations*, U.S. SEC. & EXCHANGE COMMISSION, https://www.sec.gov/fast-answers/answerspumpdumphtm.html (last modified June 25, 2013) [https://perma.cc/B2QW-T2EA].

171. SEC v. Masri, 523 F. Supp. 2d 361, 367 (S.D.N.Y. 2007) (citing GFL Advantage Fund, Ltd. v. Colkitt, 272 F.3d 189, 207–08 (3d Cir. 2001)) (footnote omitted).

172. For a detailed description of such variations in connection with a pivotal lawsuit, see Petition for Writ of Certiorari for Defendants-Appellants at 20–30, BATS Glob. Mkts., Inc. v. City of Providence, *cert. denied*, 139 S. Ct. 341 (2018) (No. 18-210).

173. *GFL*, 272 F.3d at 210 n.10.

174. The existing case law, oftentimes in the context of Section 10(b) of the Exchange Act and Rule 10b-5, typically draws this phrase from *Sullivan & Long, Inc. v. Scattered Corporation*, 47 F.3d 857, 862, 864 (7th Cir. 1995), which, in turn, was quoting the plaintiffs' brief in the context of Section 9(a)(2) of the Exchange Act. It appears that the original language had been taken from *Spicer v. CBOE, Inc.*, No. 88 C 2139, 1990 U.S. Dist.

a perception of a short-term imbalance of trading interests or a fundamental misvaluation of a given security. Likewise, in line with the focus on actual trading, the following pronouncement is insightful: "In identifying activity that is outside the 'natural interplay of supply and demand,' courts generally ask whether *a transaction* sends a false pricing signal to the market."[175] Moreover, according to another court, market manipulation "serv[es] no purpose other than to transmit false information to the market and artificially affect prices."[176] In other words, orders and transactions of a given trading strategy, which may represent some mixture of "real" and non-bona fide trading interests, could be conveying a false picture to the marketplace and affecting its informational environment in order to produce artificial pricing. On a related note, one definition of open market manipulation in an academic study insightfully points to price fluctuations through "exercising unsupported price pressure [which] creates societal costs."[177]

A checklist for the applicability of open market manipulation should account for trading strategies that are not necessarily, or are even unlikely to be, manipulative. For instance, masking one's trading intentions is a hallmark of many types of trading strategies rather than of market manipulation. Accordingly, a false impression of supply and demand is probably better understood in terms of deliberately misrepresenting actual *trading interests* rather than concealing *trading intentions*. Moreover, some predictable price patterns based on microstructural mechanics, such as the phenomena of mean reversion or bid-ask bounce, are not necessarily manipulative,[178] as contrasted to artificial pricing patterns. In other words, the existence of manipulative activities cannot be triggered by a mechanic response in the course of the trading process, which is better understood as a form of price impact, but should rather be based on false appearances. Furthermore, taking advantage of other market participants' outright errors and imperfect assumptions about pricing, including assumptions about supply and demand, cannot be manipulative per se.[179]

LEXIS 14469, at *8 (N.D. Ill. Oct. 30, 1990), also in the context of Section 9(a)(2) of the Exchange Act. It should be noted that the phrase from *Scattered* is sometimes quoted as "a false impression of supply and demand," such as in *GFL Advantage Fund, Ltd. v. Colkitt*, 272 F.3d at 207, in the context of Section 10(b) of the Exchange Act and Rule 10b-5. Moreover, both of these pivotal cases stressed the importance of artificial pricing in this definitional approach, maintaining that relevant practices need to be "manipulative in the sense—the only possibly relevant legal sense—of bringing about artificial prices," *Scattered*, 47 F.3d at 865, or "for the purpose of artificially depressing or inflating the price of the security," *GFL*, 272 F.3d at 207.

175. Wilson v. Merrill Lynch & Co., 671 F.3d 120, 130 (2d Cir. 2011) (quoting ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87, 100 (2d Cir. 2007) (quoting Gurary v. Winehouse, 190 F.3d 37, 45 (2d Cir. 1999))) (emphasis added). Of course, the very concepts of "false impression" and "natural interplay" are not entirely new. As observed by one commentator over a century ago, "[W]e must assume as our major premise in discussing [market manipulation] that any artificial interference with the natural operation of supply and demand is pernicious; from the standpoint of economics it is harmful." VAN ANTWERP, *supra* note 125, at 169.

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

177. Nelemans, *supra* note 21, at 1176.

178. As an example, for the relevance of isolating the phenomenon of bid-ask bounce in the context of allegations of market manipulation, see Respondents' Memorandum of Law in Support of Appeal of Initial Decision at 7, 21, 26, Donald L. Koch, Admin. Proceeding File No. 3-14355 (Sec. & Exch. Comm'n Sept. 10, 2012), https://www.sec.gov/litigation/apdocuments/3-14355-event-91.pdf [https://perma.cc/MLB8-TKVC].

179. Notably, in several recent lawsuits based on allegations of market manipulation, the defense presented the argument that the underlying trading strategies that appeared to disadvantage market makers had been based on some imperfections of these market participants' pricing models and approaches. In one of these lawsuits, it was maintained that "[the claimant's] significant trading profits were not the product of fraud and market manipulation but rather were based on his unique ability to capitalize on anomalies between the 'lit' market, *i.e.*, the exchange markets, and the off-exchange markets." Memorandum of Law in Support of Claimant Joseph

By the same logic, any discussion of manipulative practices that interact with—and take advantage of—algorithms[180] needs to consider that not every trading strategy that takes advantage of algorithms is necessarily manipulative, as it may merely incorporate certain imperfections of a given algorithm, as manifested in the trading process, and hence exert some corrective pressure in the marketplace. As a reminder from the era of Jesse Livermore, "He is a devil of a clever fellow when he wins. But when he loses money the other fellow was a crook; a manipulator!"[181] Similar logic could be applied to speculation more generally, including trading tactics challenging or defending the price in question: "When speculation runs to excess it is often incorrectly termed manipulation. . . . [The] intent [of a professional trader] may be that of a gambler, but that is quite a different matter."[182]

The concept of "domination and control" has some overlap with open market manipulation, although this concept is also important for the non-"open market" type, being dependent on the characteristics of the underlying marketplace and relevant securities, such as the traditional dealer-based over-the-counter market.[183] Some commentators have questioned the importance of this factor on its own, implying a weaker link to open market manipulation:

Domination and control only takes on significance in the context of manipulation

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Taub's Motion to Dismiss the *In Rem* Forfeiture Complaint and to Vacate the December 9, 2016 Restraining Order or for a *Monsanto* Hearing at 32, United States v. Any and All Ownership Interest Held in the Name, on Behalf or for the Benefit of Joseph Taub and/or JT Capital, No. 2:16-cv-09158-JMV-JBC (D.N.J. Nov. 7, 2017). More specifically, "several off-exchange market makers appear to have created a business model that would provide both informed and uninformed investors with access to large blocks of liquidity . . . a circumstance that [the claimant] recognized and on which he was able to capitalize in a legitimate way when using his liquidity arbitrage strategy." *Id.* at 33. Likewise, in another lawsuit, the defense presented the argument that options market makers were offering unreasonably oversized liquidity, which led to the emergence of adverse trading strategies. SEC v. Lek Sec. Corp., 370 F. Supp. 3d 384, 401–03 (S.D.N.Y. 2019).

180. For an insightful discussion of this topic, see Jakob Arnoldi*, Computer Algorithms, Market Manipulation and the Institutionalization of High Frequency Trading*, 33 THEORY CULTURE & SOC. 29 (2015). One potential illustration of how a trading strategy interacting with an algorithm may be manipulative was given by an exchange executive: "The core function of an [automated trading system] is built around the belief that the order book only comprises orders that are intended to trade and is a 'true' reflection of supply and demand." ALAN JUKES, NASDAQ, INC., VISUALIZING THE 'SIGNATURE' OF SPOOFING 1 (2017), http://www.complinet.com/net_file_store/new_editorial/n/a/NASDAQ-WHITEPAPER.pdf [https://perma.cc/2J5N-7NMP].

181. EDWIN LEFÈVRE, REMINISCENCES OF A STOCK OPERATOR 244–45 (1923), https://babel.hathitrust.org/cgi/pt?id=uc1.$b70449.

182. Atwood, *supra* note 6, at 257.

183. One leading case noted "various factors which characterize attempts by manipulators to raise the price of an over-the-counter security: (a) price leadership by the manipulator; (b) dominion and control of the market for the security; (c) reduction in the floating supply of the security; and (d) the collapse of the market for the security when the manipulator ceases his activity." SEC v. Resch-Cassin & Co., 362 F. Supp. 964, 976 (S.D.N.Y. 1973). The court further observed that "the tactic of inserting successively higher bids in the pink sheets has the effect of giving an appearance of activity. However, it also has the effect of causing a price rise. Similarly, the use of actual purchases and sales at successively higher prices not only has the effect of giving an appearance of activity, it raises the price of the over-the-counter security." *Id.* at 976–77. For a comprehensive historical discussion of manipulative practices in over-the-counter markets, which also illustrates the importance of comparisons with exchange-traded securities, see Martin A. Rogoff, *Legal Regulation of Over-the-Counter Market Manipulation: Critique and Proposal*, 28 ME. L. REV. 149 (1976), https://mainelaw.maine.edu/faculty/wp-content/uploads/sites/4/rogoff-mlr-28.pdf [https://perma.cc/P88R-RMFC].

> under the federal securities laws when it is closely intertwined with other practices that make the overall activity manipulative. These other practices often include the manipulator retaining physical possession of the stock certificates, thereby inhibiting trading by other persons, the manipulator establishing and utilizing nominee and controlled brokerage accounts to conduct directed and prearranged trades, the manipulator using circular trading where the transfer of the manipulated securities starts and ends with the manipulator and in the process passes through nominee and controlled accounts, the manipulator engaging in 'free-riding' practices to fuel and inflate price and volume, the manipulator issuing false and misleading press releases regarding the products of the company whose securities are being manipulated, and the manipulator abruptly withdrawing from the market, thereby causing the price of the stock to collapse shortly thereafter.[184]

Still, domination and control expressed in terms of market power could be manifested during short time periods, as illustrated by the traditional practice known as "banging the close" or "marking the close." For instance, in its recent enforcement action relating to trading activity during closing auctions on NASDAQ, the SEC made the following finding:

> By using high-powered computers, complex algorithms, and rapid-fire trades, Athena manipulated the closing prices of tens of thousands of stocks during the final seconds of almost every trading day during the Relevant Period. . . . Although Athena was a relatively small firm, it dominated the market for these stocks in the last few seconds. Its trades made up over 70% of the total NASDAQ trading volume of the affected stocks in the seconds before the close of almost every trading day.[185]

Another key observation was that "[m]anipulating the closing process can increase market volatility (thereby frustrating the very purpose of the closing auction) and throw off critical metrics linked to the closing price of stocks."[186] The very essence of the applicable trading strategies was based on price impact:

> Athena configured Gravy [one of its algorithms] so that it would have a price impact [but] continuously grappled with the challenge of balancing the beneficial price impact of its last second strategies, such as Gravy, with the detrimental consequences of getting 'stuck' by pushing the price of the stocks too far.[187]

Furthermore, as a more general statement, domination and control need not be based on unique advantages or substantial financial resources, as opposed to a mere willingness to undercut price-wise. As maintained by two commentators,

> While it is certainly true that market power and outright fraud are means by which to cause a directional price movement, there is a third type of behavior

184. Lewis D. Lowenfels & Alan R. Bromberg, *Securities Market Manipulation: An Examination and Analysis of Domination and Control, Frontrunning, and Parking*, 55 ALB. L. REV. 293, 296 (1991).

185. Athena Capital Research, LLC, Exchange Act Release No. 73,369, Investment Advisors Act Release No. 3950, 109 SEC Docket 5762, 5763 (Oct. 16, 2014) (settled proceeding).

186. *Id.* at 5764.

187. *Id.* at 5767. For a more general discussion of the implications of closing auctions, see Carole Comerton-Forde & James Rydge, *Call Auction Algorithm Design and Market Manipulation*, 16 J. MULTINATIONAL FIN. MGMT. 184 (2006).

> that is oddly understudied in the literature and which intersects both of these categories: *uneconomic trading*. Specifically, a manipulator needs no market power in any traditional sense to directionally move a price in opposition to its stand-alone self-interest.[188]

Price impact-based trading strategies, as discussed earlier, are not necessarily manipulative. This position is illustrated by a recent decision in the context of the futures/commodities space:

> Unable to prove that the settlement prices were actually inflated or above fair market value, the [U.S. Commodity Futures Trading Commission] resorts to a tautological fallback argument that endeavors to conflate artificial prices with the mere intent to affect prices. . . . In other words, because Defendants understood and intended that their bids would affect the settlement price—and by consequence, variation margin on DRW's open positions—those bids were inherently manipulative, regardless of whether they were reflective of fair market value and regardless of whether they were designed to attract counterparties for future transactions. This theory, which taken to its logical conclusion would effectively bar market participants with open positions from ever making additional bids to pursue future transactions, finds no basis in law. Indeed, it is simply an attempt to read out the artificial price element of the *Amaranth* test by collapsing it into the subjective intent requirement.[189]

Even at the oral argument stage, the court criticized the regulatory agency's circular approach to outlawing price impact-based trading strategies:

> There are multiple elements for market manipulation, and . . . a central one . . . is artificiality. Artificiality is not proven or disproven by intent. . . . Your theory, it seems to me, is that [Defendants] had intent to affect the prices, and because they had intent to affect the prices, that means that [the prices] were illegitimate, which means that the prices were artificial, [but that] is . . . circular . . . .[190]

Moreover, price impact-based trading strategies could be two-sided and employed in combination with liquidity provision and/or exploratory trading, which indicates that such a strategy should have a wrongful purpose, which of course may not be that easy to delineate, or involve wrongful means, such as non-bona fide trading interests, in order to be considered manipulative.[191]

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188. Shaun D. Ledgerwood & Paul R. Carpenter, *A Framework for the Analysis of Market Manipulation*, 8 REV. L. & ECON. 253, 254 (2012).

189. CFTC v. Wilson, No. 13 Civ. 7884 (RJS), 2018 U.S. Dist. LEXIS 207376, at *45–46 (S.D.N.Y. Nov. 30, 2018) (citing *In re* Amaranth Nat. Gas Commodities Litig., 730 F.3d 170, 173–75 (2d Cir. 2013)) (internal citation omitted).

190. *Id.* at *46. Importantly, the regulatory agency had declined to appeal this decision of the district court. *CFTC Spokesperson Statement on DRW Case*, U.S. COMMODITY FUTURES TRADING COMMISSION (Feb. 27, 2019), https://www.cftc.gov/PressRoom/SpeechesTestimony/richardsonstatement022719 [https://perma.cc/98KX-RD2J].

191. For comparison, the regulatory approach chosen by the European Union in its complex definition of "market manipulation" with several alternative triggers prohibits "entering into a transaction, placing an order to trade or any other activity or behaviour which affects or is likely to affect the price of one or several financial instruments . . . which employs a fictitious device or any other form of deception or contrivance." Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on Market Abuse (Market

A related issue concerns potential discrepancies between observed prices and perceived true values of the underlying securities. As stated by the SEC in the context of several antifraud provisions, including Section 10(b) of the Exchange Act and Rule 10b-5, in connection with the stock promoter's actions to buy shares in the open market through real orders in coordination with other traders, "Manipulation violates the antifraud provisions even when it is employed in an attempt to bring the stock price artificially to a level where the manipulator believes it should rightfully be."[192] In its turn, the supporting case emphasized, with a reference to Section 10(b) of the Exchange Act, that "a fraudulent scheme to manipulate price is unlawful even if the goal is to get the stock to a price more reflective of its 'true worth'" and stated that "hiring illegitimate stock promoters who seek to drive the price up by generating trading by making undisclosed payments to brokers to push the stock with their customers," a scenario that follows a non-open market pattern, would be manipulative.[193] The court also made the following statement:

> [A] defendant may be guilty of manipulation even if he believes a stock is underpriced or even if in fact a stock is trading below its actual value. . . . Whether the price of a stock is "artificial" does not turn on whether the stock is trading above or below its "true worth." Rather, the trading price of a stock is determined by available information and market forces, and a stock is trading at an "artificial level" when it is trading at a level above what market forces would otherwise dictate.[194]

However, if interpreted rigidly, this position could potentially interfere with the process of price discovery to the point of arbitrary scrutiny of otherwise legitimate trading strategies. At a very minimum, it is questionable whether real orders, as opposed to non-bona fide trading interests, always "artificially" push the price toward a good faith value in that trader's eyes. The following passage from one enforcement action illustrates some potential dilemmas with this approach:

> A manipulation may be accomplished without wash sales, matched orders, or other fictitious devices. Actual buying with the design to create activity, prevent price falls, or raise prices for the purpose of inducing others to buy is to distort the character of the market as a reflection of the combined judgments of buyers and sellers, and to make of it a stage-managed performance. Whether or not his belief is, in good faith, that the free market has undervalued the securities, the manipulator's design in raising prices is to create the appearance that a free market is supplying demand whereas the demand in fact comes from his planned

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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, art. 12(1)(b), 2014 O.J. (L 173) 1, 30, https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0596&from=en [https://perma.cc/HG9Y-JW28]. Likewise, "the extent to which orders to trade given or transactions undertaken by persons with a significant buying or selling position . . . lead to significant changes in the price" is only listed among "non-exhaustive indicators, which shall not necessarily be deemed, in themselves, to constitute market manipulation." *Id.* Annex I(A), at 55. In other words, this element of the definition of market manipulation refrains from covering price impact-based trading strategies as such.

192. Vladlen "Larry" Vindman, Securities Act Release No. 8679, Exchange Act Release No. 53,654, 87 SEC Docket 2311, 2317 (Apr. 14, 2006) (citing United States v. Hall, 48 F. Supp. 2d 386, 386–87 (S.D.N.Y. 1999)).

193. *Hall*, 48 F. Supp. 2d at 386–87.

194. *Id*.

> purpose to stimulate buyers' interest.[195]

While even a series of real transactions could produce an unsustainable momentum with corresponding profit opportunities, this scenario is incompatible with a good faith belief about the underlying value of the security in question. Moreover, one powerful incentive is to speculate on discrepancies between an observed price and a perceived true value rather than to employ short-term techniques that rely on non-bona fide orders in order to move the price in an essentially temporary manner.

Turning more closely to exploratory trading, one useful distinction is whether the trading strategy in question identifies pockets of illiquidity or exploits pockets of fragility.[196] Probing liquidity gaps cannot be described as manipulative in nature; in fact, such trading activity may be seen as performing one of the tasks of price discovery, as contrasted to the exploitation of vulnerabilities generating distortionary price cascades as a form of disruptive trading. Searching for liquidity gaps—and demonstrating their existence—may provide some value to other market participants, and a potentially two-sided nature of such trading strategies should not be ignored. More generally, it is essential to identify exploratory trading before characterizing some practice as manipulative. For instance, one academic study described "loss-based manipulative behavior" as "intentionally losing money on anomalous price-making trades to benefit the value of the trader's related price-taking positions, where losses are measured relative to the trader's opportunity costs."[197] However, exploratory trading could be in some instances "uneconomical," with some evidence consistent with this conclusion presented by a leading academic study focusing on small *aggressive* orders.[198] In other words, the losing nature of some transactions may point to the process of price discovery rather than an artificial price impact on a related position.

To identify certain manipulative practices, one must distinguish ex post and ex ante intent to cancel. Many orders—and certainly the bulk of orders for numerous trading strategies—are meant to be canceled in response to market conditions, oftentimes under a broad range of scenarios.[199] By contrast, some orders are never meant to be executed from the very beginning, although a portion of them may end up being executed as a cost of doing business, and this scenario should be compared to the existence of an exploratory order's informational value. In any instance, there might be some gray areas, as illustrated by one leading financial economist's perspective:

> With improvements in technology and changes in trading rules, there is greater ability to control orders (both place and cancel orders quickly) and consequently,

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195. Halsey, Stuart & Co., Exchange Act Release No. 4310, 30 S.E.C. 106, 112 (Sept. 21, 1949).

196. In that respect, the author disagrees with the approach that essentially appears to equate pockets of illiquidity with fragility in connection with exploratory trading. Fox et al., *supra* note 93, at 79–80. In the author's view, fragility would be more akin to a market disruption rather than the existence of liquidity imbalances that could be arbitraged out, with both of these phenomena having a corresponding price impact.

197. Ledgerwood & Carpenter, *supra* note 188, at 256.

198. Clark-Joseph, *supra* note 107.

199. *See, e.g.*, CP Stone Fort Holdings, L.L.C. v. Doe, No. 16-cv-4991, 2016 U.S. Dist. LEXIS 141078, at *19 (N.D. Ill. Oct. 11, 2016) ("[T]here [is no] allegation of how many orders were executed, how long the ultimately cancelled orders had remained resting and available for execution prior to cancellation, or whether the platform rules required the orders to be exposed further. Defendant is correct that plaintiff's theory boils down to an allegation that 'if a subset of orders was ultimately cancelled, those orders, in hindsight, must never have been intended to be executed.'").

> there has been a dramatic increase in cancellation rates. . . . [M]y own perspective is that although such orders could be manipulative if there is no intent or interest in executing the orders being placed, we should regard cancellations as a way for traders to protect themselves when their contingent orders cannot be filled. However, this is a somewhat elusive issue as the actual intent could be to execute a particular order with low, but nonzero, likelihood. This leaves ambiguous the answer to how small of an expected fill rate signifies manipulative intent.[200]

In other words, the issue relating to high cancellation rates continues to be highly dependent on demonstrating one's intent in addition to observable characteristics of relevant orders.

One pivotal issue in the context of open market manipulation relates to the existence of an "external interest" in a related asset, with market activity being conducted in a "reference asset" in the open market, as contrasted to two-sided market activity in the same security. As remarked by one commentator,

> [M]anipulative schemes are often most interesting—and, for the manipulator, most attractive—when the profit comes not from trading at the manipulated price, but from a contract or other arrangement that will provide the manipulator with a profit if price moves in a particular direction or reaches a certain level. If a manipulator can benefit from controlling prices without making offsetting trades, manipulation will be profitable even if the price effects of purchases and sales are perfectly symmetrical, so long as the profit made possible by the price change exceeds the costs of the manipulative trades.[201]

However, while a position in a related asset may be established via private contractual arrangements with unique terms and conditions, such as an options grant to an executive or a merger agreement, both legs may take place on impersonal markets, as illustrated by the parallel existence of trading venues for equities and related options contracts. Some commentators also pointed out that the existence of an "external interest" impacted by a price change has an impact on the cost of contracting,[202] but not every type of external interest involves truly customizable private contracting.

Some trading strategies based on external interest may contribute to the process of

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200. Chester Spatt, *Security Market Manipulation*, 6 ANN. REV. FIN. ECON. 405, 410 (2014).

201. Steve Thel, *$850,000 in Six Minutes – The Mechanics of Securities Manipulation*, 79 CORNELL L. REV. 219, 247–48 (1994), https://scholarship.law.cornell.edu/cgi/viewcontent.cgi?article=2504&context=clr [https://perma.cc/3EEN-B5EQ].

202. Fox et al., *supra* note 93, at 109–10. As discussed by earlier commentators, "[W]hen the possibility of contract-based manipulation is a concern, contracts can be written to deter the practice." Fischel & Ross, *supra* note 47, at 524. Such contractual provisions indeed exist, and "gentlemen's agreements" on that matter are also possible. *See, e.g.*, ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87, 94, 105 (2d Cir. 2007) (describing the contractual provisions in a securities purchase agreement, which provided for a market price-based conversion feature, "not to enter a short position prior to closing or cover a short position entered into prior to execution of the agreement using converted common stock"); Nanopierce Techs., Inc. v. Southridge Capital Mgmt., No. 02 Civ 0767 (LBS), 2008 U.S. Dist. LEXIS 6225, at *5–7, *15 (S.D.N.Y. Jan. 28, 2008) (describing a securities purchase agreement, which provided for a grant of additional shares in the event of a price decline at certain points in time, and the allegations of one party's oral representation that "it would not 'manipulate' [the issuer's] stock"); *see also ATSI*, 493 F.3d at 105 (observing, in the context of the relevant contractual provision that, "[w]hile the failure to carry out a promise in connection with a securities transaction might constitute breach of contract, it 'does not constitute fraud unless, when the promise was made, the defendant secretly intended not to perform or knew that he could not perform.'" (quoting Gurary v. Winehouse, 190 F.3d 37, 44 (2d Cir. 1999))).

price discovery, including the elimination of mispricing disparities, and/or involve two-sided liquidity provision in related assets. For instance, it has been recognized in the academic literature that price discovery could take place across related markets.[203] Furthermore, a trading strategy involving related assets always has a potential to produce a variety of price moving iterations spreading to different markets, for instance, through exploratory trading or price impact-based trading in just one of the assets. By contrast, other trading strategies based on external interest could, by design, have no other purpose, as indicia of manipulative behavior, than to take advantage of mechanical and, oftentimes, temporary cross-asset relationships, as contrasted to, for instance, making a meaningful contribution to price discovery to the market in the reference asset. As a related illustration, some trading strategies in related assets may be seen as an exercise of control over the marketplace through leverage.[204] That is not to say that this distinction constitutes a bright line for the universe of trading strategies based on external interest, and a multitude of nuances could be involved. Still, the level of scrutiny should be lower for a trading strategy in related markets that are open and transparent to other market participants—and thus enable countervailing trading strategies—compared to a trading strategy involving substantial control over a reference asset or the very nature of cross-asset relationships based on customized contractual arrangements. Likewise, with further integration of certain related markets exemplified by the interaction of trading of equities and related options, as opposed to private contractual arrangements or only weakly connected trading venues, it becomes more difficult to engage in market manipulation. Furthermore, taking advantage of mispricings across related markets, such as those in equities and options, does not necessarily involve a deliberate distortion in one of these markets, although it could also be accompanied by predictable price patterns, for instance, as a result of hedging activities by other market participants.

On the other hand, problematic practices operating across equities and options markets have been on the regulators' radar for decades, as exemplified by the phenomenon of "minimanipulation," which could also be classified as falling under such categories as "cross-market manipulation" and "cross-product manipulation":

> A relatively small commitment of capital to an options position can result in substantial percentage gains if a favorable movement in the price of the underlying stock causes a corresponding favorable movement in the price of the option. An attempt to influence the price movement in a stock to benefit a previously established options position is referred to as a stock/option manipulation. If the attempted manipulation is of short duration, and involves a relatively slight price movement in the stock, the effect is often called minimanipulation. . . . Because only a small movement in the price of the

203. *See, e.g.*, Joel Hasbrouck, *One Security, Many Markets: Determining the Contributions to Price Discovery*, 50 J. FIN. 1175, 1176 (1995) (stating, in the context of the process of price discovery, that "'one security' . . . should be taken broadly, to include securities that may be technically distinct, but are closely linked by arbitrage or short-term equilibrium considerations [such as] a stock and a call option on the stock [or] the index and the index futures contract").

204. *See* Fletcher, *supra* note 21, at 525 ("[G]iven the linkage between asset closing prices and derivatives, a savvy manipulator would not need to dominate the price for weeks to be profitable; mere minutes would be sufficient."); Multer, *supra* note 21, at 105 ("Leverage is how derivatives make open-market manipulations possible and profitable. By taking a leveraged position that will benefit from the price-moving trades, behavior that might ordinarily be self-deterring becomes potentially very profitable.").

> underlying stock will result in substantial percentage gains on the related options, stock/option minimanipulation may even be accomplished without the manipulator engaging in any actual stock transactions. He might prevent a move in the stock price or move the price merely by placing a large order just above or below the market which could momentarily influence the price of the stock in the opposite direction. . . . Effecting stock transactions to depress or prevent a rise in the price or a stock in order to prevent near-the-money, at-the-money, or slightly in-the-money call options from being exercised, and to protect a previously received premium, is referred to as capping. Similarly, effecting stock transactions to prevent a decline in the price of a stock, in order to assure that put options written on the stock will not be exercised and that premiums previously received will be protected, is referred to as pegging. These practices are most likely to occur just before expiration of the options series, when the probability of exercise is highest. Capping and pegging are forms of minimanipulation.[205]

Yet, even at that time, it was recognized that minimanipulation is "very difficult to distinguish from the legitimate activities of market professionals who are continuously trading stock and options in quantities sufficient to affect prices of both securities."[206] Logically, while still being vaguely defined by the courts and regulators, minimanipulation appears to be based on some combination of a degree of domination and control during the relevant time window as a price moving technique and a corresponding distortion of price discovery in at least one of such related markets.

Going beyond theoretical formulas, it becomes necessary to use some practical illustrations of manipulative practices based on external interest. A classic description of the era of the infamous "bucket shops," which essentially took the other side of their customers' margin-backed bets on fluctuations of stock prices, points out that, oftentimes, such margin money was "enough to pay the shop to thimblerig the market on the New York

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205. REPORT OF THE SPECIAL STUDY OF THE OPTIONS MARKET TO THE SECURITIES AND EXCHANGE COMMISSION, H.R. DOC. NO. 96-IFC3, at 173–75 (Comm. Print 1978), https://ia801702.us.archive.org/8/items/respecials00unit/respecials00unit.pdf [https://perma.cc/5ZCA-B7KD] [hereinafter SEC'S SPECIAL STUDY OF THE OPTIONS MARKET]. Moreover, the regulators were particularly concerned with the phenomenon of minimanipulation in the context of market making. For instance, while discussing the proposal to integrate equities and options trading, it was considered that an options market maker could misuse "his presence on the floor and his resultant ability to observe stock orders, transactions, and patterns of trading and quotations, the buying interest for the stock in the crowd and on the book." *Id.* at 890. Likewise, in connection with the same proposal, it was considered that "the market information and competitive advantages of the [stock] specialist may provide him with opportunities and the ability to engage in improper conduct with minimal risk of loss or detection." *Id.* at 912. Yet another variation of the same concern related to the proposal of dual market making in NASDAQ stocks and corresponding options: "A dual marketmaker . . . may be able to trade options on the basis of changes he is about to make in his quotations for an underlying security. Similarly, he may be able to engage in options transactions as a result of customer or marketmaker orders or inquiries that he has received with respect to an underlying security prior to the time that NASDAQ quotations for that security change, if at all, to reflect the orders or inquiries." *Id.* at 960. For several examples of enforcement actions against market makers in connection with allegations of minimanipulation, see J. Newman & Co., Exchange Act Release No. 14,384, 13 SEC Docket 1401 (Jan. 17, 1978); HAP Trading, LLC, File No. 13-0054 (Bus. Conduct Comm., Chi. Bd. Options Exch., Inc. May 12, 2014) (settled proceeding), https://www.cboe.com/publish/DisDecision/13-0054.pdf [https://perma.cc/J33Y-RSPQ].

206. SEC'S SPECIAL STUDY OF THE OPTIONS MARKET, *supra* note 205, at 180. For some empirical evidence on the magnitude of minimanipulation in a more modern setting, see Sophie Xiaoyan Ni et al., *Stock Price Clustering on Option Expiration Dates*, 78 J. FIN. ECON. 49 (2005).

Stock Exchange and wipe [customers] out."[207] As explained further, "This seldom cost the bucket shop more than a couple of points on a few hundred shares, and they made thousands of dollars. . . . Whenever there was an unexplained sharp drop which was followed by instant recovery, the newspapers in those days used to call it a bucket-shop drive."[208] More modern examples of similar practices abound. For instance, one court held that trading a significant number of shares near the close in order to prevent assignment of expiring exchange-traded options would be manipulative.[209] Similarly, another court maintained that purchases "for the purpose of preventing the price from falling below $5 per share in order to induce the Buyer Defendants to purchase the two million share block" on the basis of an informal agreement about the desired price are manipulative.[210] Likewise, the SEC penalized an investment advisor in connection with manipulation via "improper marking-the-close trades . . . designed to boost artificially the reported performance results of its clients' accounts, which used the closing price of the fund on the last day of the quarter to determine the quarterly return on clients' investments."[211] In the same fashion, the SEC penalized a trader for buying activity to maintain the market price of an affiliated company at or over $1.00 per share to avoid delisting, despite the use of open market transactions.[212] These examples, as well as the rest of the checklist discussed above, provide tools for delineating the doctrine of open market manipulation as a complex mosaic with numerous nuances and gray areas.

VIII. THE IMPLICATIONS OF THE MARKET STRUCTURE CRISIS

The evolving architecture of today's securities markets presents a host of problems for the doctrine of market manipulation. The phenomenon described as the "market structure crisis" has arisen from an explosive mix of technological, regulatory, and competitive factors and is closely linked to the role played by HFT in the modern electronic

207. LEFÈVRE, *supra* note 181, at 19; *see also* Atwood, *supra* note 6, at 248 ("To prevent loss and ruin many bucketers often unite and make a drive against the market to force down prices and thus ruin their customers. . . . Suppose several of these concerns have orders to 'buy' a large number of shares of a given stock. Technically they are short of the market. It is perfectly feasible for them to go to regular brokers, if the brokers will take their business, and if not directly, then thru dummies, and sell a great block of stock short, thus breaking the market and wiping out the margins the customers have on hand."); David Hochfelder, "*Where the Common People Could Speculate": The Ticker, Bucket Shops, and the Origins of Popular Participation in Financial Markets, 1880–1920*, 93 J. AM. HIST. 335, 344 (2006) ("When buckets shop proprietors saw that many of their customers wagered on a certain stock, they placed orders on legitimate exchanges to sell minimum lots of the stock at a price sufficiently below its current quotation to 'wash down' the price. When the low quotation came through on the ticker, the bucket shop closed out its customers' margins.").

208. LEFÈVRE, *supra* note 181, at 19–20. Ironically, some traders on the NYSE appeared to have used a reverse tactic to take advantage of bucket shops by transacting on the exchange floor in coordination with their agents placing bets with bucket shops at certain times. *Id.* at 20.

209. SEC v. Masri, 523 F. Supp. 2d 361, 372 (S.D.N.Y. 2007).

210. Sunrise Fin., Inc. v. PaineWebber, Inc., 4 F. Supp. 2d 1035, 1041, 1043 (D. Utah 1998).

211. Schultz Inv. Advisors, Inc., Securities Act Release No. 8650, Exchange Act Release No. 53,029, Investment Advisers Act Release No. 2470, 87 SEC Docket 4, 7 (Dec. 28, 2005) (settled proceeding). Notably, one empirical study provided "evidence suggesting that some hedge funds manipulate stock prices on critical reporting dates" and observed that such "patterns are stronger for funds that have higher incentives to improve their ranking relative to their peers." Itzhak Ben-David et al., *Do Hedge Funds Manipulate Stock Prices?*, 68 J. FIN. 2383, 2383 (2013).

212. Kirlin Sec., Inc., Exchange Act Release No. 61,135, 97 SEC Docket 1241, 1251–52 (Dec. 10, 2009).

marketplace.[213] The very role of HFT has raised concerns about new iterations of manipulative practices: "Momentum ignition, quote-stuffing, spoofing and layering are some examples of existing trading practices which may have an abusive and manipulative purpose and that may benefit from the edge of HFT-style technology and the complex and fragmented nature of modern financial markets."[214] In fact, one complaint is that some HFT trading strategies may "look as if they are testing the boundaries of liquidity provision *versus* market manipulation."[215] Moreover, some commentators have sought to classify certain widespread HFT-associated practices, such as "electronic front-running," a term popularized in a financial bestseller,[216] as manipulative: "Like its traditional counterpart, electronic front running seeks to manipulate the marketplace by executing trades ahead of a known future price change, thereby profiting once the price moving order is executed."[217] However, some caution is warranted with respect to a wide variety of HFT-associated practices, as the above statement, for instance, is contrary to the traditional understanding of the term "front-running" as involving an agency relationship and the historically indelible existence of inherent advantages possessed by certain market participants, whether on manual or automated trading platforms.[218]

One of the distinguishing characteristics of the market structure crisis is the existence of informational asymmetries in trading protocols of various trading venues and corresponding disclosure deficiencies, including direct discrepancies between the disclosed trading protocols and their actual operation, as exemplified by the order type controversy.[219] In other words, some practices stem not from inherent advantages of certain

213. For an extensive discussion of this phenomenon, see HAIM BODEK & STANISLAV DOLGOPOLOV, THE MARKET STRUCTURE CRISIS: ELECTRONIC STOCK MARKETS, HIGH FREQUENCY TRADING, AND DARK POOLS (2015).

214. TECHNICAL COMM., INT'L ORG. OF SEC. COMM'NS, FR09/11, FINAL REPORT, REGULATORY ISSUES RAISED BY THE IMPACT OF TECHNOLOGICAL CHANGES ON MARKET INTEGRITY AND EFFICIENCY 30 (Oct. 2011), http://www.iosco.org/library/pubdocs/pdf/IOSCOPD361.pdf [https://perma.cc/E7BD-XCTQ]. For an insightful discussion of a more novel phenomenon of quote stuffing in the context of HFT, which could be either a deliberately manipulative practice or a byproduct of other trading strategies, see Ryan J. Davies & Erik R. Sirri, *The Economics of Trading Markets*, *in* SECURITIES MARKET ISSUES FOR THE 21ST CENTURY 149, 199–200 (Merritt B. Fox et al. eds., 2018). Moreover, as maintained by other commentators in an empirical study, "HFT quote stuffing could increase the gap of prices between markets, contrary to the evidence that HFT has helped align prices across markets [and] manipulators could profit by artificially creating latencies in trading data feeds that would make arbitrage possible by taking advantage of the HFT induced price differences between markets." David Diaz & Babis Theodoulidis, Financial Markets Monitoring and Surveillance: A Quote Stuffing Case Study 5 (Jan. 10, 2012) (unpublished manuscript) (on file with author), https://ssrn.com/abstract=2193636.

215. *Dark Pools, Flash Orders, High-Frequency Trading, and Other Market Structure Issues: Hearing Before the Subcomm. on Sec., Ins., & Inv. of the S. Comm. on Banking, Hous., & Urban Affairs*, 111th Cong. 42 (2009) (remarks of Robert C. Gasser, President and Chief Executive Officer, Investment Technology Group), https://www.gpo.gov/fdsys/pkg/CHRG-111shrg56562/pdf/CHRG-111shrg56562.pdf [https://perma.cc/Q3N4-75RR].

216. MICHAEL LEWIS, FLASH BOYS: A WALL STREET REVOLT *passim* (2014).

217. Tom C.W. Lin, *The New Market Manipulation*, 66 EMORY L.J. 1253, 1290 (2017), http://law.emory.edu/elj/_documents/volumes/66/6/lin.pdf [https://perma.cc/D47A-DRUC].

218. For a critique of extending the meaning of the term "front-running" by the author and other commentators, see Dolgopolov, *Regulating Merchants of Liquidity*, *supra* note 134, at 700–01.

219. As asserted by the author earlier, "[T]he so-called order type controversy is symptomatic of many advantages occurring in the modern market structure in connection with informational asymmetries in advanced functionalities, which may range from merely undocumented gray areas to discrepancies with formal documentation that constitute direct contradictions." Dolgopolov, *Securities Fraud Embedded in the Market Structure Crisis*, *supra* note 81, at 561. For an illustration relating to one category of order types in the context of

market participants based on speed, technology, and mere means to purchase hardware and enhanced data and other products, but rather from the ability to navigate non-transparent market structure shortcuts, oftentimes as a result of selective disclosure by trading venues themselves. Furthermore, as two commentators observed, trading strategies under the umbrella of "HFT scalping," which is characterized by "[t]he sophisticated usage of special order types and order matching engines [including relevant] undocumented features of special order types," may only appear to be linked to more traditional manifestations of market manipulation:

> [T]he core activity of HFT scalping strategies might be inadvertently attributed to less prevalent abuses such quote stuffing, spoofing, pinging, or more discriminatory order anticipation and "statistical front-running" models. Many of the effects are correctly attributed to HFT firms, but are byproducts of large scale HFT scalping strategies rather than primary strategies in of themselves.[220]

Therefore, one critical question is whether such novel practices could be categorized as manipulative.

In fact, this very issue, among others of importance, has been authoritatively addressed in a key appellate opinion by the Second Circuit under Section 10(b) of the Exchange Act and Rule 10b-5 in a sharp reversal of the district court's decision, and this opinion is likely to mold the case law on market manipulation in the years to come.[221] The focus of the case—aimed at the leading exchanges rather than HFT firms themselves—was on "three products and services [offered by the defendant securities exchanges] for 'favored' HFT firms—proprietary data feeds, co-location services, and complex order types,"[222] with the plaintiffs stressing the importance of the combined use of these three categories.[223] The Second Circuit ultimately concluded that the plaintiffs, with market manipulation as the lynchpin of their allegations,

> have sufficiently pled that the exchanges created a fraudulent scheme that benefited HFT firms and the exchanges, sold the products and services at rates that only the HFT firms could afford, and failed to fully disclose to the investing public how those products and services could be used on their trading platforms.[224]

The court provided the following description of the allegations:

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inadequate disclosure, see Haim Bodek, *A Case Study in Regulatory Arbitrage and Information Asymmetry: High Frequency Trading and the Post Only Intermarket Sweep Order*, *in* GLOBAL ALGORITHMIC CAPITAL MARKETS: HIGH FREQUENCY TRADING, DARK POOLS, AND REGULATORY CHALLENGES 28 (Walter Mattli ed., 2019).

220. Haim Bodek & Mark Shaw, *Introduction to HFT Scalping Strategies*, *in* BODEK, *supra* note 46, at 18, 19, 21.

221. For this lawsuit's procedural history, including a denial of the writ of certiorari by the U.S. Supreme Court, see *In re* Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342 (S.D.N.Y. 2015), *aff'd in part, rev'd in part sub nom.* City of Providence v. BATS Glob. Mkts., Inc., 878 F.3d 36 (2d Cir. 2017), *panel reh'g and en banc reh'g denied*, No. 15-3057 (2d Cir. Mar. 13, 2018), *cert. denied*, 139 S. Ct. 341 (2018), *remanded sub nom. to In re* Barclays Liquidity Cross & High Frequency Trading Litig., 390 F. Supp. 3d 432 (S.D.N.Y. 2019), *cert. of interlocutory appeal denied*, No. 14-MD-2589 (JMF), 2019 U.S. Dist. LEXIS 118196 (S.D.N.Y. July 16, 2019).

222. *City of Providence*, 878 F.3d at 41.

223. *Id.* at 43.

224. *Id.* at 52.

> According to plaintiffs, these products and services [proprietary data feeds, co-location services, and complex order types] provided HFT firms with the ability to access market data at a faster rate, obtain non-public information, and take priority over ordinary investors' trades. Plaintiffs further allege that the exchanges failed to disclose the full impact that such products and services would have on market activity and knowingly created a false appearance of market liquidity that, unbeknownst to plaintiffs, resulted in their bids and orders not being filled at the best available prices. For example . . . plaintiffs allege that the exchanges, without adequate disclosure, used a certain type of complex order that allowed HFT firms to place orders that remained hidden on an individual exchange until a stock reached a certain price, at which point the previously hidden orders jumped the queue ahead of the traditional orders of ordinary investors waiting to trade. According to plaintiffs, the use of these orders resulted in a system where plaintiffs "purchased and/or sold shares at artificially distorted and manipulated prices," including by paying higher prices for stocks. Plaintiffs further allege that, unbeknownst to them, the proprietary data feeds and co-location services provided HFT firms with virtually exclusive access to detailed trading data in time to "front-run" other market participants by anticipating large pending transactions, buying and driving up the prices for the stocks before those orders were placed, and forcing investors to pay more for those stocks than they otherwise would have.[225]

Importantly, the court pushed the point of inadequate disclosure even further:

> [P]laintiffs concede that the exchanges may have told ordinary investors about the *existence* of proprietary data feeds and co-location services, but assert that the exchanges did not publicly disclose the full range or cumulative effect that such services would have on the market, the trading public, or the prices of securities. Plaintiffs further contend that the exchanges did not disclose, or selectively disclosed, complex order types.[226]

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225. *Id.* at 49 (internal citation omitted). Although neither the district court's opinion nor the Second Circuit's opinion made any reference to "spoofing" and "layering," this aspect had also been articulated in the complaint: "So-called 'spoofing' and 'layering' . . . are HFT strategies that use non-bona fide orders, or orders that a trader does not intend to have executed, that are designed to induce others to buy or sell the security at a price not representative of actual supply and demand. Such practices are designed to and do manipulate the market, and the Exchanges cause and profit from such manipulations." Second Consolidated Amended Complaint for Violation of the Federal Securities Laws, at 113–14, City of Providence v. BATS Glob. Mkts., Inc., No. 1:14-cv-02811-JMF (S.D.N.Y. Nov. 24, 2014).

226. *City of Providence*, 878 F.3d at 50. The court specifically referenced the enforcement action that penalized EDGA and EDGX "for providing order types that functioned differently from the descriptions that the exchange filed with the SEC and for selectively disclosing an order type's functionality only to certain HFT firms." *Id.* at 43 (citing EDGA Exch., Inc., Exchange Act Release No. 74,032, 110 SEC Docket 3510 (Jan. 12, 2015) (settled proceeding)). Moreover, the court noted the existence of enforcement actions against securities exchanges in connection with proprietary data feeds and co-location services for violations of the Exchange Act and SEC rules. *Id.* at 42. One cited enforcement action penalized the New York Stock Exchange for sending information via proprietary data feeds *before* sending it for consolidation for the "official" data feed. N.Y. Stock Exch. LLC, Exchange Act Release No. 67,857, 104 SEC Docket 2455 (Sept. 14, 2012) (settled proceeding). Another cited enforcement action, among other things, penalized the New York Stock Exchange for offering co-location services, sometimes with non-transparent and non-public fee schedules, without proper rulemaking procedures. N.Y. Stock Exch. LLC, Exchange Act Release No. 72,065, 108 SEC Docket 3659 (May 1, 2014)

Moreover, the district court's controversial assertion that the plaintiffs "fail to explain how merely enabling a party to react more quickly to information can constitute a manipulative act, at least where the services at issue are publicly known and available to any customer willing to pay"[227] was questioned. The appellate court deflected the argument that mere freely available speed-based advantages were at stake: "It is true that 'the market is not misled when a transaction's terms are fully disclosed.' But here there is a contested question of fact as to the extent and accuracy of the disclosure."[228]

Likewise, the court asserted the existence of "market activity" tying the defendant exchanges to the alleged manipulative acts:

> The exchanges assert that the foregoing allegations are insufficient because the plaintiffs do not allege that the exchanges themselves engaged in any manipulative "trading activity." The exchanges do not cite, and we are not aware of, any authority explicitly stating that such a claim must concern a defendant's trading activity.[229]

The court quoted the following key passage from a leading precedent: "[C]ase law in this circuit and elsewhere has required a showing that an alleged manipulator engaged in *market activity* aimed at deceiving investors as to how other market participants have valued a security."[230] Accordingly, the conclusion was that "plaintiffs have sufficiently alleged that the exchanges engaged in conduct that manipulated market activity."[231] Likewise, the

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(settled proceeding). At a very minimum, the existence of these practices relating to proprietary data feeds and co-location services had compounded informational asymmetries relating to trading protocols, just like the described order type practices.

227. *In re* Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342, 362 (S.D.N.Y. 2015). Moreover, the court cited the following passage from a leading precedent: "[N]ondisclosure is usually essential to the success of a manipulative scheme." *Id.* (quoting Santa Fe Indus., Inc. v. Green, 430 U.S. 462, 477 (1977)). This statement was made in the context of the district court's conclusion that "the SDNY Plaintiffs fail to allege that the Exchanges misrepresented or failed to disclose material information regarding either the proprietary data feeds or co-location services." *Id.* at 361. This pronouncement is particularly surprising because the plaintiffs had indeed discussed the relevance of the above-referenced NYSE settlements relating to proprietary data feeds and co-location services, as well as the anticipated Direct Edge settlement relating to order types and the SEC's focus on order type practices more generally. Second Consolidated Amended Complaint for Violation of the Federal Securities Laws at 129–31, City of Providence v. BATS Glob. Mkts., Inc., No. 1:14-cv-02811-JMF (S.D.N.Y. Nov. 24, 2014). Moreover, the same court also recognized the allegation that "the Exchanges either did not disclose many of these order types to ordinary investors or marketed them exclusively to HFT firms, so that the ordinary investors were unaware of their existence." *In re Barclays Liquidity Cross*, 126 F. Supp. 3d at 354. Accordingly, this district court's analysis was inconsistent and, at a very minimum, not properly extended to order type practices. After all, certain order type functionalities essentially allow to react quicker to information, which was essentially acknowledged in the same opinion by referencing the allegation that "hide-and-light orders appear only when a stock reaches a particular price, thereby ensuring that the trader that places a hide-and-light order is always at the front of the order queue." *Id.* at 352.

228. *City of Providence*, 878 F.3d at 50 (quoting *Wilson*, 671 F.3d at 130) (internal citation omitted). Quite similarly, considering relevant cases on transactions in auction rate securities, another court observed that "[t]he market is not misled when a transaction's terms are fully disclosed" and pointed out, in its deflection of allegations of market manipulation, that the defendant "was required to place a written description of its material auction practices and procedures," with such disclosures being deemed sufficient. *In re* Merrill Lynch Auction Rate Sec. Litig., 704 F. Supp. 2d 378, 390–93 (S.D.N.Y. 2010), *aff'd sub nom.* Wilson v. Merrill Lynch & Co., 671 F.3d 120 (2d Cir. 2011).

229. *City of Providence*, 878 F.3d at 50 (internal citation omitted).

230. *Id.* at 50 (quoting ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87, 100 (2d Cir. 2007)).

231. *Id.*

Second Circuit rejected the characterization of the allegations as aiding and abetting:

> It is true that if the HFT firms had not used these products and services, the plaintiffs could not have suffered their alleged harm. But the plaintiffs do not assert that the exchanges simply facilitated manipulative conduct by the HFT firms. Instead, the plaintiffs contend that the exchanges were co-participants with HFT firms in the manipulative scheme and profited by that scheme.[232]

This statement certainly covers a narrower range of scenarios than a mere provision of products and services, being dependent on the existence of a clearly defined manipulative scheme.

An important doctrinal part of *City of Providence* was articulated by the district court in the context of the allegations against Barclays in connection with its dark pool activities,[233] although Barclays was dropped as a defendant on appeal.[234] The alleged manipulative scheme was described as follows:

> First, Barclays allegedly disclosed to HFT firms important, otherwise non-public information regarding transactions in the dark pool. For example, it provided at least some HFT firms with the "logic" of the servers operating the dark pool, which enabled those firms to refine their aggressive trading strategies. Second, Barclays either failed to establish or actively undermined various protections for ordinary investors using its dark pool. . . . Despite taking those actions to benefit the HFT firms – thereby enabling them to exploit ordinary investors – Barclays nevertheless represented that its dark pool was safe and that the SDNY Plaintiffs were not at risk of being exploited by HFT firms.[235]

Consistent with its prior reading of the term "market manipulation," the district court concluded that, "as they did with respect to the Exchanges, the SDNY Plaintiffs fail to adequately plead that Barclays committed any manipulative acts."[236] However, by contrast to its analysis of the allegations against the exchanges, the court devoted a considerable

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232. *Id.* at 51. One similar case decided under the Commodity Exchange Act of 1936 relied on the district court's reversed opinion to conclude that, "[a]ssuming some artificial price did exist, the allegations indicate that it would have been caused by the HFTs, not by the Exchange Defendants." Braman v. CME Grp., Inc., 149 F. Supp. 3d 874, 889 (N.D. Ill. 2015). The court also made the following pronouncement:

> The plaintiffs [in *City of Providence*], like the plaintiffs here, alleged that the exchange defendants, like the exchange defendants here, catered to HFTs, allowing them to amass a significant speed advantage over ordinary investors and to employ trading strategies that exploited that speed advantage to the detriment of ordinary investors, and then failed to disclose the special treatment afforded those traders. . . . The same is true here: even if, as plaintiffs allege, the defendants created this two-tiered marketplace, the existence of the marketplace itself is not alleged to have caused price fluctuations, artificiality or losses. It is the HFTs' trades that cause any manipulation of prices, any artificiality and any losses.

Id. However, this statement about *City of Providence* is arguably a mischaracterization of the allegations and, at a minimum, a restrictive reading of the concept of causation in light of the alleged complex manipulative scheme.

233. *In re* Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342, 363–66 (S.D.N.Y. 2015).

234. *City of Providence*, 878 F.3d at 40 n.2.

235. *In re Barclays Liquidity Cross*, 126 F. Supp. 3d at 363–64. The court also made a reference to the allegations that "Barclays provided services—including co-location—that could be used effectively only by HFT firms." *Id.* at 364 (footnote omitted).

236. *Id.* at 364.

amount of effort examining the issue of reliance. This analysis dismissed the relevance of a key precedent establishing the presumption of reliance based on omissions: "[The plaintiffs'] theory of liability is based primarily, if not entirely, on Barclays's alleged misrepresentations, with any omissions playing only a minor role in exacerbating the misrepresentations' effect."[237] Moreover, the court observed that the plaintiffs "indicated at oral argument that they were really inviting the Court to apply a novel presumption of reliance based on the fairness and integrity of the market."[238] This presumption was similarly dismissed:

> [A]n integrity-of-the-market presumption [as proposed] would effectively excuse a plaintiff from pleading or proving reliance for *any* market-manipulation claim simply by asserting that the actions at issue somehow affected the fairness of the market or the extent to which the transaction price was the product of an "arms-length market." In doing so, it would all but eliminate the reliance requirement for a market manipulation claim against any entity involved in the operation of a market for securities . . . .[239]

In addition to the earlier discussion of the issue of presumption of reliance and the state of the case law,[240] the conclusions of the district court could be criticized in favor of a *rebuttable* presumption. For instance, one of the key cases quoted in the opinion in support of the court's position as "declining to recognize a 'novel "integrity of the market" presumption'"[241] dealt with a somewhat dissimilar scenario in which the allegations maintained that "the market for UBS ARS [auction rate securities] would not have existed absent Defendants' manipulative conduct,"[242] as contrasted to established/liquid securities widely known to the marketplace relevant for *City of Providence*. Moreover, potential misrepresentations about the applicable trading protocol, whether in the case of Barclays or the defendant exchanges, are unlikely to have created an immediate price effect with a definite direction and gained relevance only in combination with later trading activities, while being hardly discoverable through outside due diligence.[243] Furthermore,

237. *Id.* at 365 (relying on Affiliated Ute Citizens of Utah v. United States, 406 U.S. 128 (1972)).

238. *Id.* at 366. For instance, the court quoted the plaintiffs as articulating "a presumption of reliance on the integrity of markets operated fairly." *Id.* at 365 n.8.

239. *Id.* at 366.

240. For this discussion, see *supra* note 84.

241. *In re Barclays Liquidity Cross*, 126 F. Supp. 3d at 366 (quoting *In re* UBS Auction Rate Sec. Litig., No. 08-CV-2967 (LMM), 2010 U.S. Dist. LEXIS 59024, at *88 n.19 (S.D.N.Y. June 10, 2010)).

242. *In re UBS*, 2010 U.S. Dist. LEXIS 59024, at *88. The court also distinguished this presumption from the "fraud-created-the-market" doctrine with its focus on the "very existence" and "marketability" of the underlying securities, despite the plaintiffs' classification of their argument as falling under "fraud-created-the-market." *Id.* at *86–88. For an extensive discussion of different variations of this doctrine, see Michael J. Kaufman & John M. Wunderlich, *Fraud Created the Market*, 63 ALA. L. REV. 275 (2012), https://www.law.ua.edu/resources/pubs/lrarticles/Volume%2063/Issue%202/Wunderlich.pdf [https://perma.cc/5YFT-ZQVF].

243. For the author's earlier endorsement of the concept of presumed reliance on "the integrity of the trading protocol," which by definition is narrower than the integrity based on "fair" markets, see Dolgopolov, *Securities Fraud Embedded in the Market Structure Crisis*, *supra* note 81, at 583–85; Stanislav Dolgopolov, *Providing Liquidity in a High-Frequency World: Trading Obligations and Privileges of Market Makers and a Private Right of Action*, 7 BROOK. J. CORP. FIN. & COM. L. 303, 342 (2013), https://brooklynworks.brooklaw.edu/cgi/viewcontent.cgi?article=1043&context=bjcfcl [https://perma.cc/32GL-3SLE] [hereinafter Dolgopolov, *Providing Liquidity in a High-Frequency World*].

misrepresentations relating to the applicable trading protocol may also be difficult to separate from omissions in a logical fashion. As an illustration, the description of order type-related abuses in the complaint[244] allows framing some of such practices as either: (i) a nondisclosure of certain features of order types or the existence of order types themselves or (ii) a misstatement of general order matching rules. In any instance, in a more recent iteration of this lawsuit, now in connection with the allegations relating to the defendant exchanges rather than Barclays, the district court held that "Plaintiffs are entitled to rely on the *Affiliated Ute* presumption," without "reach[ing] Plaintiffs' alternative arguments" of actual reliance and the reliance on the integrity of the market.[245] The following justification was provided: "[T]he Second Circuit has already held that Plaintiffs' claim is premised on the Exchanges' 'fail[ure] to fully disclose' how HFT firms could use certain products and services on the Exchanges' trading platforms [and] has resolved the question whether this case 'involv[es] primarily omissions' in the affirmative."[246]

At another procedural stage, the two key questions presented to—but ultimately unreviewed by—the U.S. Supreme Court by the defendant exchanges were "[w]hether a private plaintiff states a valid securities-fraud claim by pleading that the defendant enabled a third party to commit the acts that caused the allegedly fraudulent harm, where the primary violator undisputedly exercised an independent choice to commit those acts" and "[w]hether a plaintiff states a claim for market manipulation where it is undisputed that the defendant did not engage in any trading activity."[247] Moreover, the defendants effectively continued to insist that no false information had been disseminated to the marketplace: "[The Second Circuit] found the manipulative-act element met based on non-trading conduct that did not inject any information about any security into any market, much less inaccurate information."[248] Yet, this statement is completely contrary to the concept of "a false impression of supply and demand" created by certain manipulative practices[249] and the nature of the allegations relating to informational asymmetries in trading protocols caused by the defendant exchanges' disclosure practices, which were illustrated by specific examples drawing on several enforcement actions.

Moreover, the defendant exchanges emphasized potential implications for their disclosure obligations:

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244. Second Consolidated Amended Complaint for Violation of the Federal Securities Laws at 67–108, City of Providence v. BATS Glob. Mkts., Inc., No. 1:14-cv-02811-JMF (S.D.N.Y. Nov. 24, 2014).

245. *In re* Barclays Liquidity Cross & High Frequency Trading Litig., 390 F. Supp. 3d 432, 447–48 (S.D.N.Y. 2019). The court still commented that "Plaintiffs may face an uphill battle in proving any harm at all." *Id.* at 444. At a later procedural state, the same court reaffirmed the applicability of the *Affiliated Ute* presumption, maintaining that "the Exchanges fail to demonstrate that sufficient ground for difference of opinion exists to warrant an exceptional interlocutory appeal." *In re* Barclays Liquidity Cross & High Frequency Trading Litig., No. 14-MD-2589 (JMF), 2019 U.S. Dist. LEXIS 118196, at *14–15 (S.D.N.Y. July 16, 2019).

246. *In re Barclays Liquidity Cross*, 390 F. Supp. 3d at 448–49 (first citing and quoting City of Providence v. BATS Glob. Mkts., Inc., 878 F.3d 36, 52 (2d Cir. 2017); then quoting Waggoner v. Barclays PLC, 875 F.3d 79, 93 & n.24 (2d Cir. 2017)).

247. Petition for Writ of Certiorari for Defendants-Appellants at i, BATS Glob. Mkts., Inc. v. City of Providence, *cert. denied*, 139 S. Ct. 341 (2018) (No. 18-210). Importantly, the defendants had declined to bring up for review "jurisdictional and immunity issues," *id.* at 9 n.3, which were also unfavorably decided for them in the appellate opinion. *City of Providence*, 878 F.3d at 44–48.

248. Petition for Writ of Certiorari for Defendants-Appellants at 4, *City of Providence*, 139 S. Ct. 341 (No. 18-210).

249. GFL Advantage Fund, Ltd. v. Colkitt, 272 F.3d 189, 207 (3d Cir. 2001).

> [T]he Exchanges' disclosure duties plainly do not require predictions about the "full impact" and "cumulative effect" of the ways in which third parties might use, or misuse, the Exchanges' products. That would set up an absurd system of virtually boundless disclosure obligations, whereby each Exchange must formulate and then disclose predictions regarding the potential effects of every new product or service it offers, a requirement found nowhere in the Exchange Act.[250]

On the other hand, the scope of disclosure obligations of securities exchanges *should* be defined by the universe of available trading functionalities, which also depend on an accurate description of other products and services, rather than the universe of innumerable trading strategies relying on such functionalities. Furthermore, skirting the nature of the allegations, another argument questioned the role played by the exchanges:

> The secondary actors in [several aiding-and-abetting] cases are analogous to trusted accomplices who help a burglar plan and execute a heist, whereas the Exchanges more closely resemble the store that sold him the crowbar he used. If the former is not sufficient to overcome the aiding-and-abetting prohibition, then the latter surely cannot be.[251]

At a very minimum, this analogy is inconsistent with the allegations, as well as the pivotal enforcement action showing that some exchanges had tailored their trading functionalities to specific market participants in exchange for explicit promises of additional business and "provided complete and accurate information about the operation of HNS [Hide Not Slide] and the benefits offered by that order type to some, but not all, of [exchange] members."[252] Of course, proving the existence of such a manipulative scheme involving all of these defendant exchanges and HFTs based on hard facts is a different matter. Finally, the defendant exchanges attempted to revisit the reach of open market manipulation by pointing to trading strategies of HFTs: "Respondents do not allege that HFT firms engaged in wash sales or other 'fictitious transactions'; instead, the HFT firms' trades involved 'real customers, real transactions, and real money.'"[253] However, the approach to manipulation in the alleged scheme is, at least in some respects, unquestionably non-"open market," as it relies on informational asymmetries embedded in the market architecture and its features rather than trading strategies on their own.

In some respects, *City of Providence* does not present a radically new approach to manipulative practices. For instance, treating some order matching abuses as market manipulation has some history behind it. In fact, one leading precedent recognized a sufficient legal claim for market manipulation under Section 10(b) of the Exchange Act and Rule 10b-5 with respect to the practices essentially amounting to order matching abuses by exchange specialists that combined the roles of order matching agents and market participants through their principal trading activities.[254] More specifically, the

250. Petition for Writ of Certiorari for Defendants-Appellants at 27, *City of Providence*, 139 S. Ct. 341 (No. 18-210).

251. *Id.* at 18.

252. EDGA Exch., Inc., Exchange Act Release No. 74,032, 110 SEC Docket 3510, 3513–17 (Jan. 12, 2015) (settled proceeding).

253. Petition for Writ of Certiorari for Defendants-Appellants at 26, *City of Providence*, 139 S. Ct. 341 (No. 18-210) (quoting Markowski v. SEC, 274 F.3d 525, 528 (D.C. Cir. 2001)).

254. *In re* NYSE Specialists Sec. Litig., 405 F. Supp. 2d 281, 292, 311–16 (S.D.N.Y. 2005), *aff'd in part,*

plaintiffs alleged

> (i) "interpositioning" in violation of the Specialist Firms' "negative obligation," in which a Specialist Firm "steps in the way" of matching orders of public sellers and/or buyers of stock to generate riskless profits to the detriment of [other market participants]; (ii) "trading ahead" or "front-running," in which Specialist Firms take advantage of their confidential knowledge of public investors' orders . . . and trade for their own account as principals before completing orders placed by public investors; (iii) "freezing the book," in which a Specialist Firm freezes its Display Book on a stock so it can first engage in trades for its own account prior to entering and then executing public investors' orders . . . .[255]

From a procedural standpoint, the same court also articulated the reliance element, which appears to contradict the conclusions of the district court in *City of Providence* that remained unaddressed on appeal:

> Just as information about a specific security is reflected in the price of that security, so too is information about the manner in which transactions would be completed reflected in the price of securities generally. Plaintiffs may be presumed to have relied upon information indicating that securities would be matched by specialists, as opposed to be bought and sold at artificially high and low prices.[256]

While the defendant specialists were securities firms that engaged in proprietary trading and hence were separate from securities exchanges themselves, the relevance of this case to *City of Providence* is that such specialists typically served as order matching agents that kept order books. With the recent "deagentization" of designated market makers,[257] the order matching function, in fact, has been absorbed by securities exchanges.

Another group of cases sheds some light on the reach of liability for primary violations of parties that do not directly engage in "trading activity"—whether or not different from

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rev'd in part, 503 F.3d 89 (2d Cir. 2007), *class cert. granted*, 260 F.R.D. 55, 79 (S.D.N.Y. 2009). However, in a related criminal case against an individual specialist, *United States v. Finnerty*, 533 F.3d 143 (2d Cir. 2008), in which the prosecution "abandoned on appeal any claim of market manipulation," *id.* at 148, the court concluded that the underlying conduct contrary to the NYSE's rules had not been proven to constitute violations of Section 10(b) of the Exchange Act and Rule 10b-5, lacking "proof that Finnerty conveyed a misleading impression to customers," *id.* at 149. For a description of *Finnerty*, as well as other similar proceedings, and a reconciliation of these two decisions, see *In re NYSE Specialists*, 260 F.R.D. at 63–64, 79. For the author's discussion of *VanCook v. SEC*, 653 F.3d 130 (2d Cir. 2011), which explicitly overruled the earlier *Finnerty* decision, see Stanislav Dolgopolov, *High-Frequency Trading, Order Types, and the Evolution of the Securities Market Structure: One Whistleblower's Consequences for Securities Regulation*, 2014 U. ILL. J.L. TECH. & POL'Y 145, 158–60 & nn.72–78, http://illinoisjltp.com/journal/wp-content/uploads/2014/05/Dolgopolov.pdf [https://perma.cc/64MA-SV7K] [hereinafter Dolgopolov, *High-Frequency Trading, Order Types, and the Evolution of the Securities Market Structure*].

255. *In re NYSE Specialists*, 260 F.R.D. at 64.

256. *In re NYSE Specialists*, 405 F. Supp. 2d at 319; *see also In re NYSE Specialists*, 260 F.R.D. at 79 ("The Specialist Firms . . . can point to no evidence that investors did not rely on specialists executing their trades on the NYSE in accordance with their obligations under the law."). This approach to reliance in *In re NYSE Specialists* would have exposed to liability "[an] entity involved in the operation of a market for securities." *In re* Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342, 366 (S.D.N.Y. 2015).

257. For a discussion of the previous dual role of specialists as proprietary traders and order matching agents and the phenomenon of "deagentization" of designated market makers on securities exchanges, see Dolgopolov, *Providing Liquidity in a High-Frequency World*, *supra* note 243, at 343–44.

the concept of "market activity," as distinguished in *City of Providence*—and hence do not bear the immediate economic risk of transactions, while potentially realizing some proportionate tangible benefit from the scheme in question. This scenario corresponds to a manipulative scheme involving multiple parties with different roles, just like the one with HFTs in addition to the defendant exchanges as violators, in which only one group of defendants is conducting transactions in their respective names and therefore is undoubtedly engaging in "market activity." For instance, in a case involving allegations of market manipulation by a broker-dealer that functioned as a market maker and Bear Stearns that notably played the role of a clearing broker and hence was involved in the execution process, the court "held that in order to state a claim against Bear Stearns, Plaintiffs must allege 'that Bear Stearns *caused* or *directed* trading by Blech & Co.'s customers or *solicited* or *induced* them to buy Blech Securities at inflated prices.'"[258] Moreover, the court stressed that there were no "allegations that Bear Stearns did anything in an attempt to affect the price of such securities."[259] While the court ultimately concluded that it would take more than just pointing to the functions of a clearing broker to allege direct participation in manipulative activities,[260] there was quite a bit of ambiguity whether a truly collaborative scheme, if any, had existed among the defendants.[261] On the other hand, the formula provided by the court—whether the defendant "caused or directed" investors to trade, "solicited or induced" investors to trade at artificial prices, or potentially played a role in affecting prices—has quite a bit of relevance for *City of Providence*. Given the nature of the interaction between investors and the defendant exchanges, especially in light of the court's description of the scope of the alleged manipulative acts, it is logical to see such interaction as a solicitation to engage in transactions based on certain market data and trading functionalities and a consummation of transactions through the order matching function performed by securities exchanges. Likewise, the court's conclusion that "a plaintiff asserting a market manipulation claim must allege direct participation in a scheme to manipulate the market for securities"[262] sets a different standard than that of a defendant bearing the immediate economic risk of transactions. Yet another court held that an individual trader "can be primarily liable under § 10(b) for following a stock promoter's directions to execute stock trades that [the trader] knew, or was reckless in not knowing, were manipulative, even if [the trader] did not share the promoter's specific overall purpose to manipulate the market for that stock."[263] In the context of this holding, there is also at least some resemblance to the order matching function performed by securities exchanges. In yet another case, while analyzing the allegations of the manipulative scheme involving

258. *In re* Blech Sec. Litig., 961 F. Supp. 569, 583 (S.D.N.Y. 1997) (quoting *In re* Blech Sec. Litig., 928 F. Supp. 1279, 1295 (S.D.N.Y. 1996)). The Second Circuit subsequently described this line of reasoning with approval, stating that "the alleged '*instigation* of trading that Bear Stearns knew or should have known would result in fraudulent trades that would artificially inflate the price of the Blech Securities,' and Bear Stearns's subsequent 'clearing of the resultant fraudulent trades for its own pecuniary benefit' constituted 'an attempt to affect the price of the Blech Securities' and was therefore sufficient to state a claim for primary liability under § 10(b) [of the Exchange Act]." Levitt v. J.P. Morgan Sec., Inc., 710 F.3d 454, 467 (2d Cir. 2013) (quoting *In re Blech*, 961 F. Supp. at 584–85).

259. *In re Blech*, 928 F. Supp. at 1295.

260. *In re Blech*, 961 F. Supp. at 584–85.

261. For an extended description of the role played by Bear Stearns, see *In re* Blech Sec. Litig., No. 94 Civ. 7696 (RWS), 2002 U.S. Dist. LEXIS 19835, at *10–34 (S.D.N.Y. Oct. 17, 2002).

262. *In re Blech*, 961 F. Supp. at 580.

263. SEC v. U.S. Envtl., Inc., 155 F.3d 107, 108 (2d Cir. 1998).

several parties as primary violators, including those merely disseminating information, in light of *Stoneridge Investment Partners, LLC v. Scientific-Atlanta, Inc.*,[264] the leading "scheme liability" precedent, one court concluded that "[t]hese actions are not part of an indirect chain too remote for liability, but are direct actions that caused certain false or misleading information to be publicly disseminated into the marketplace and, as alleged by Plaintiffs, artificially inflate Galena's stock price."[265] In other words, by contrast to the above-referenced cases, the emphasis was on information dissemination rather than some form of involvement in the execution process, while the allegations in *City of Providence* involved a combination of both.

Overall, *City of Providence* transformed the very scope of the underlying problem by not just stressing the nontransparent features and shortcuts that gave advantages such as early access to information and queue priority to HFTs, which does not necessarily resemble the traditional pattern of market manipulation with respect to these market participants alone,[266] but rather recognizing the feasibility of a manipulative scheme perpetrated cooperatively by securities exchanges and HFTs. In other words, false and misleading disclosure practices of securities exchanges relating to various technical aspects of their respective trading protocols have enabled market activity by HFTs that are alleged to be manipulative. After all, the defendant exchanges and not HFTs have been alleged to broadcast a false and misleading picture to the marketplace in the form of market data, order books, and available trading functionalities, and this scenario does not fit the profile of an undisclosed third party too remote to the alleged wrongdoing.

In other words, the logic of *City of Providence* essentially hinges on disclosure practices of the defendant exchanges that produced informational asymmetries in trading protocols and the role played by the defendant exchanges in the process of transaction execution, which could draw on several precedents describing complex manipulative schemes with a variety of primary violators. The very existence of hidden advantages described in the allegations, which in some instances directly contradicted official disclosures by the defendant exchanges, had presented a false picture to other market participants. After all, beyond being an undisclosed party or even a party just known to have some dealings with other alleged violators, a securities exchange provides the applicable trading protocol, offers market data and other products, displays orders, and effects transactions via its order matching engine.[267]

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264. 552 U.S. 148 (2008).

265. *In re* Galena Biopharma, Inc. Sec. Litig., 117 F. Supp. 3d 1145, 1198–99 (D. Or. 2015). The "market activity" element of market manipulation was referenced several times in the opinion. *Id.* at 1180, 1194–95.

266. In his earlier work, the author had expressed some skepticism that classifying certain practices of HFTs themselves as market manipulation in the context of the order type controversy could be easily accomplished. Dolgopolov, *High-Frequency Trading, Order Types, and the Evolution of the Securities Market Structure*, *supra* note 254, at 154 n.53.

267. This expansive reach of primary liability under Section 10(b) of the Exchange Act and Rule 10b-5 is also consistent with *Lorenzo v. SEC*, 139 S. Ct. 1094 (2019), a non-market manipulation case that dealt with distinctions and overlaps of this Rule's subsections (a) and (c) that "capture a wide range of [fraudulent] conduct," and subsection (b) that covers making of false and misleading statements, *id.* at 1100–01. The Court's reasoning subjected to primary liability a party describing himself as being among "peripheral players," *id.* at 1104, and contrasted "direct transmission of false statements" to "concealed fraud" by secondary violators, *id.* Moreover, the appellate court's affirmed opinion pointed out that the defendant's "role was not 'undisclosed' to investors" and that "[t]he recipients were fully alerted to his involvement." Lorenzo v. SEC, 872 F.3d 578, 590 (D.C. Cir. 2017). Notably, the defendant exchanges observed in their certiorari brief that "review of [*City of Providence*]

Moreover, the existence of informational asymmetries in trading protocols is a more convincing—and tangible—argument than a mere cost barrier created by pricing of certain products and services or nondisclosure of the universe of potential uses of certain products and services, such as trading functionalities. The allegations of informational asymmetries relating to the very rules of the game also give some teeth to the allegations relating to such practices as "electronic front-running," "latency arbitrage," and "rebate arbitrage,"[268] which had been previously popularized in a financial bestseller.[269] While it has been argued that, in its traditional sense, "front-running . . . is not manipulation since effects are not market wide,"[270] the imprecisely labeled "front-running" presented by various manifestations of the market structure crisis is different, especially given its truly market-wide effects.

As a final observation, *City of Providence* also provides a path for liability of HFTs themselves. For instance, a subset of trading strategies used by HFTs, which were earlier described as "an opportunistic and discriminatory mimic of traditional market making—where HFT uses opaque advantages, including special order types, instead of explicit market making privileges—without the market making obligations,"[271] could conceivably be classified as manipulative and thus expose these market participants to liability despite being connected to liquidity provision.

IX. CONCLUSION

Like many other legal doctrines, the one of market manipulation cannot be defined with absolute precision, instead being fact-intensive and guided by the evolution of the marketplace, but this doctrine needs to remain consistent with its goals and the very nature of the trading process. At the same time, no major overhaul of the fundamental regulatory principles in this area is even required for the modern electronic marketplace: the real challenge is a logical and consistent interpretation of the doctrine of market manipulation. Notably, the concepts of the process of price discovery and liquidity provision should not be ignored. Price discovery points in the direction opposite to market manipulation, and providing liquidity—or engaging in arbitrage or speculation more generally—need not be coupled with manipulative activities. That is not to say that market manipulation does not occur in tandem with any of these activities. More generally, a holistic evaluation of trading strategies is necessary to identify a manipulative intent and isolate manipulative and otherwise non-manipulative components of such strategies.

A proper goal is to approach the very scope of market manipulation cautiously. For instance, any non-price "manipulation" presents a very different mechanic of the underlying harm, and some recent attempts to expand the doctrinal reach to mere market activity is quite problematic. While "artificial market activity" is a necessary element for

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alongside [the then-pending] *Lorenzo* would allow the Court to comprehensively resolve the confusion surrounding primary and secondary liability." Petition for Writ of Certiorari for Defendants-Appellants at 33, BATS Glob. Mkts., Inc. v. City of Providence, *cert. denied*, 139 S. Ct. 341 (2018) (No. 18-210).

268. Second Consolidated Amended Complaint for Violation of the Federal Securities Laws *passim*, City of Providence v. BATS Glob. Mkts., Inc., No. 1:14-cv-02811-JMF (S.D.N.Y. Nov. 24, 2014).

269. LEWIS, *supra* note 216, *passim*.

270. Albert S. Kyle & S. Viswanathan, *How to Define Illegal Price Manipulation*, 98 AM. ECON. REV. (PAPERS & PROC.) 274, 274 (2008).

271. Bodek & Shaw, *supra* note 220, at 23. For a discussion of how the description of HFTs as liquidity providers could be qualified, see Dolgopolov, *Regulating Merchants of Liquidity*, *supra* note 134, at 693–707.

creating "artificial pricing," the former does not function independently. Similarly, focusing on granularities of price changes in the modern electronic marketplace does not transform a wide variety of practices to market manipulation, which, after all, requires certain price patterns to capitalize on deliberate deviations from the equilibrium price. Moreover, the scope of analysis should include an interaction of different types of trading strategies in an essentially zero-sum game in the short run. The process of price discovery inevitably involves various market participants' trading strategies, risk tolerance, capital commitments, and conditional or even erroneous pricing assumptions. All of these factors impact the path of price fluctuations to some equilibrium, without necessarily producing any deliberate artificial pricing. Likewise, mere additional trading activity and price volatility, even including market disruptions, should not be equated to market manipulation. That is not to say that all of these practices are harmless, but they need to be defined and addressed through other legal tools. As another illustration, some degree of discretion, if not control, over prices in terms of orders and transactions is inevitable in connection with the process of price discovery and liquidity provision, but that does not necessarily cross the line separating artificial from non-artificial pricing. Furthermore, with respect to a market participant's intent to move the market price in a certain direction, a wrongful purpose or means should be identified in order to make an inquiry whether such a price would have been artificial.

The doctrine of market manipulation is an evolving organism, and the identification of wrongful practices and analytical approaches, such as the phenomenon of quote stuffing or the concept of open market manipulation, is an ongoing process. Gray areas and blind spots are inevitable, and some degree of discretion exercised by the courts and regulators to reframe certain issues, such as in the case of *City of Providence* that has solidified the reach of this doctrine, is also a critical factor. Shifting perceptions about the boundaries of the doctrine of market manipulation and its elements require attention, as illustrated by such key issues as the definition of "market activity," the concept of non-bona fide orders, the extent of the legitimacy of price impact-based trading strategies, and the distinction between primary and secondary violators in complex manipulative schemes.