November 2020

Regulating the Sale of Stock Exchange Market Data to High-Frequency Traders

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REGULATING THE SALE OF STOCK EXCHANGE MARKET DATA TO HIGH-FREQUENCY TRADERS

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Abstract

In 2014, author Michael Lewis published a bestselling book titled *Flash Boys: A Wall Street Revolt,* in which he argued that "high-frequency traders" have been able to gain an unfair advantage in the stock market, in part because stock exchanges and "dark pools"—alternative venues for trading stocks—have enabled those traders to obtain and trade on market data faster than other investors. A litany of lawsuits followed in short succession, asserting various theories of liability.[1]

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  * Professor of Law, Florida International University College of Law.
  1. *In re* Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342, 347 (S.D.N.Y. 2015), *vacated*, 878 F.3d 36 (2d Cir. 2017).

INTRODUCTION

The centerpiece of the enforcement program of the Securities and
Exchange Commission (SEC) is its "insider" trading prosecutions.[2]
Those cases typically involve individuals who trade on material
nonpublic information affecting the price of a publicly traded stock.[3] SEC
insider trading claims are based on that agency's premise that market
integrity and fairness require that all traders have equal access to
information material to the valuation of a publicly traded security.[4]

Despite the fervor that it has applied to its insider trading enforcement
actions, the SEC has endorsed unequal access to extremely market-
sensitive nonpublic information in the form of stock-exchange-generated
"market data."[5] High-frequency and other professional traders (HFTs) are
given preferred access to that data in exchange for lucrative fees charged
by the stock exchanges.[6] Market data fees are a "primary" source of
income for those exchanges, providing revenues that totaled $5.4 billion
in 2016.[7] "[T]here have been massive increases in fees for market data in

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2. *See* Peter J. Henning, *Insider Trading Remains a Fixture for Securities Enforcement*,
N.Y. TIMES (Jan. 1, 2019), https://www.nytimes.com/2019/01/01/business/dealbook/insider-
trading-enforcement-prosecution.html [https://perma.cc/Q4K2-AZGT] (describing recent high
profile insider trading prosecutions). *See generally* DAVID A. VISE & STEVE COLL, EAGLE ON THE
STREET (1991) (describing prosecutions for insider trading in the 1980s that became the SEC's
signature crime).

3. *See generally, e.g.*, WILLIAM K. S. WANG & MARC I. STEINBERG, INSIDER TRADING (3d
ed. 2010) (describing insider trading claims).

4. *See* Cady, Roberts & Co., Exchange Act Release No. 6668, 1961 WL 60638, at *4–5
(Nov. 8, 1961) (creating this "equal access" doctrine); *see also infra* Section IV.A (describing the
SEC's equal access doctrine and its limitations).

5. As one source notes, "[m]arket data is information about current stock prices, recent
trades, and supply-and-demand levels sold by national securities exchanges." *Market Data*,
SIFMA, https://www.sifma.org/explore-issues/market-data/ [https://perma.cc/C7A5-YVE4].

6. Gretchen Morgenson, *NYSE, Nasdaq Rival Aims to Shed Light on Fee Profits*, WALL
ST. J., https://www.wsj.com/articles/nyse-nasdaq-rival-aims-to-shed-light-on-fee-profits-115487
83330 [https://perma.cc/ZD6Q-EHXF] (last updated Jan. 29, 2019, 9:25 PM).

7. Letter from Melissa MacGregor, Managing Dir. & Assoc. Gen. Counsel, SIFMA, to
Brent J. Fields, Sec'y, SEC (Nov. 14, 2017), https://www.sifma.org/wp-content/
uploads/2017/11/SIFMA-Comments-on-SEC-NYSE-and-Cboe-Market-Data-Fee-Increases.pdf
[https://perma.cc/YZ9A-PB4C].

recent years."[8] One survey found that exchange market-data fees "skyrocketed" between 2010 and 2017, increasing by 1,100% during that period.[9]

The Securities Industry and Financial Markets Association (SIFMA)—the principal securities industry trade organization for investment banks, stock brokerage firms, and other financial institutions—has challenged the explosion in market-data-fee charges by the stock exchanges before the SEC and in the courts.[10] Traders disadvantaged by the unequal access to market data provided by the stock exchanges to HFTs have also challenged that disparity in the courts on a number of grounds.[11]

As SIFMA has asserted, ready access to stock-exchange-generated market data "is essential to America's world-leading capital markets because all participants need timely and complete data to make informed trading decisions."[12] Market data is an especially critical factor in the trading strategies of HFTs who are now dominating market volumes.[13]

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8. *Market Data*, *supra* note 5.

9. *Market Data*, PROJECT: INVESTED, http://www.projectinvested.com/market-data/ [https://perma.cc/M6QA-ELJ5].

10. *See id.*; *infra* notes 183–86, and accompanying text (describing those challenges).

11. *See In re* Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342, 347, 353–54 (S.D.N.Y. 2015), *vacated*, 878 F.3d 36 (2d Cir. 2017).

12. *Market Data*, *supra* note 9; *Market Data*, *supra* note 5. Another source also notes that "[m]arket data is a key part of successful markets, and as an industry we have consistently maintained that market data must be timely, comprehensive, nondiscriminatory, and accessible to all market participants at a reasonable cost." Kenneth Bentsen, *The Cost of Investing Is Going Down, So Why Are Market Data Fees Rising?*, REALCLEAR MKTS. (Jan. 31, 2019), https://www.realclearmarkets.com/articles/2019/01/31/the_cost_of_investing_is_going_down _so_why_are_market_data_fees_rising_103602.html [https://perma.cc/BAX9-VWGL].

13. City of Providence v. BATS Glob. Mkts., Inc., 878 F.3d 36, 41 (2d Cir. 2017) ("According to the plaintiffs, HFT firm transactions now account for nearly three-quarters of the exchanges' equity trading volume."), *cert. denied*, 139 S. Ct. 341 (2018); *see also* Hester Peirce, *Meeting Market Structure Challenges Where They Are*, 43 J. CORP. L. 335, 349 (2018) (describing the nature of HFT trading). As one court noted:

> Although there is no definitive definition of what constitutes HFT, the term generally refers to the practice of using computer-driven algorithms to rapidly move in and out of stock positions, making money by arbitraging small differences in stock prices—often across different exchanges—rather than by holding the stocks for an appreciable period of time.

Barclays Liquidity Cross, 126 F. Supp. 3d at 349. The information driving these algorithms includes pending limit orders that show the depth of the market for a particular stock or commodity. *See generally* Jonathan Brogaard et al., *Price Discovery Without Trading: Evidence from Limit Orders*, J. FIN. (forthcoming 2019). That information is analyzed by the HFTs' algorithms, which generate orders to respond to the expected market response to those pending orders, as where there is an order imbalance in long and short orders. *See infra* notes 108–09 and

HFTs are given privileged, advance access to critical market data by the exchanges in exchange for additional fees.[14] This preferred access provides HFTs with a substantial edge in their trading,[15] allowing HFTs to anticipate, game, and otherwise exploit the nonpublic orders of other traders.[16]

The SEC has endorsed this disparity in access to exchange market data by HFTs,[17] which conflicts with the SEC's concerns in other contexts regarding the use of unequal access to material nonpublic information, i.e., "insider trading."[18] The SEC has broadly claimed elsewhere that

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accompanying text (describing HFT trading). If the predicted change does not occur the HFT's orders are cancelled. Petter Dahlström et al., *The Determinants of Limit Order Cancellations*, EUR. FIN. MGMT. ASS'N, June 2017, at 1–2. This whole process is often completed in the merest fractions of a second. *See infra* note 109 and accompanying text. The preferred access by HFTs also includes "co-located" servers that HFTs place near the exchanges' servers to shave fractions of a second off order transmission times. *See infr*a notes 113–16 and accompanying text (describing the advantages of co-location). The exchanges rent space for this service. *See infra* note 113.

   14. *See infra* Section I.C (describing that preferred access).

   15. *See infra* Section I.C (describing how HFTs and other professional traders have supplanted traditional exchange-market makers). There has been much debate over whether the HFTs, on the one hand, are valuable to the market because they add liquidity and should be encouraged or whether, on the other hand, they are taking unfair advantage of slower, less sophisticated traders. *See* Jerry W. Markham, *High-Speed Trading on Stock and Commodity Markets—From Courier Pigeons to Computers*, 52 SAN DIEGO L. REV. 555, 556–57 (2015).

   16. As one court observed:

> The effects of HFT on the stock market are the subject of some controversy. Some commentators and, at points, the SEC, have stated that HFT firms have a positive effect on the market by creating significant amounts of liquidity, thereby permitting the national stock market to operate more efficiently and benefitting ordinary investors (including Plaintiffs). Others have sharply criticized the HFT firms' trading practices. Chief among their criticisms . . . is that the HFT firms use the speed at which they are capable of trading to identify the trading strategies being pursued by ordinary investors and react in a manner that forces ordinary investors to trade at a less advantageous price, with the HFT firm taking as profit a portion of the "delta"—that is, the difference between the price at which the ordinary investor would have traded and the price at which it actually traded as a result of the HFT firm's actions. For that reason, opponents of HFT, including Plaintiffs, often describe them as "predatory" or "toxic" trading strategies. More specifically . . . Plaintiffs allege that Defendants have provided the ingredients necessary for HFT firms to execute their predatory trading strategies and thereby enabled the HFT firms to exploit ordinary—that is, non-HFT—investors.

Barclays Liquidity Cross, 126 F. Supp. 3d at 350 (citations omitted).

   17. *See infra* notes 164–66 and accompanying text (describing the SEC's public utility-like approach to the regulation of these fees).

   18. *See infra* Section IV.A (describing the SEC's insider trading theory).

insider trading occurs on stock exchanges whenever a trader trades on the basis of unequal access to material nonpublic information.[19] Engaging in such activity can, and often does, result in a criminal conviction and jail time, as well as large civil fines.[20] Yet, the privileged access to exchange market data available to HFTs is allowed and even encouraged by the SEC.[21] It is more disconcerting that the SEC protects the unequal access of HFTs to this market data by limiting the fees that exchanges may charge to HFTs for that data, a process that is conducted through public-utility-like rate-setting proceedings.[22]

There is, of course, nothing inherently wrong with HFTs using their high-speed communication systems to trade ahead of slower traders.[23] That phenomenon has been present in the markets since the early days of stock trading. For example, traders with advance information have beaten other traders to the market using courier pigeons, smoke signals, telegraphs, telephones, fiber-optic cables, and, more recently,

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19. *See* Cady, Roberts & Co., Exchange Act Release No. 6668, 1961 WL 60638, at *3–5 (Nov. 8, 1961) (creating this doctrine); *see also infra* Part V (discussing unequal access to information claims).

20. *See 5 Surprising Facts About Insider Trading*, FINRA (May 3, 2017), https://www.finra.org/investors/5-surprising-facts-about-insider-trading [https://perma.cc/L4T7-PDUG]; *see also* Stephen M. Bainbridge, *Introduction* to RESEARCH HANDBOOK ON INSIDER TRADING 1 (Stephen M. Bainbridge ed., 2013) (describing insider trading as the most common violation of federal securities laws).

21. See *infra* Section II.A (discussing how the exchanges and the SEC have developed "maker-taker" arrangements to compensate HFTs for providing liquidity to the markets). As one author notes, HFT critics:

> [A]re concerned that HFT is harmful to retail investors, market quality and integrity, and market stability. They argue that HFT firms "front-run" the market. Critics also contend that even HFT's contribution to the market—the liquidity HFT provides—is not as good as it seems at first glance; it is less deep, more transient, and more disruptive than the liquidity offered by more traditional market makers. Some market observers classify as unfair the methods HFT firms use—co-locating their computers next to the exchanges' computers; paying for expensive private data feeds that are better and faster than the public ones; buying other potentially market-moving data; placing and cancelling many orders; and negotiating special order types that flash, hide, and slide.

Peirce, *supra* note 13, at 348–49 (footnotes omitted); *see also* City of Providence v. BATS Glob. Mkts., Inc., 878 F.3d 36, 41–43 (2d Cir. 2017) (describing claims of HFT abuses), *cert. denied*, 139 S. Ct. 341 (2018).

22. *See* Application of Sec. Indus. & Fin. Mkts. Ass'n, Exchange Act Release No. 84,432, 2018 WL 5023228, at *4–6 (Oct. 16, 2018); *see also* NetCoalition v. SEC, 615 F.3d 525, 527–28 (D.C. Cir. 2010) (finding the SEC failed to conduct a proper review of such fees), *superseded by statute*, Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010), *as recognized in* NetCoalition v. SEC, 715 F.3d 342 (D.C. Cir. 2013).

23. *See* Markham, *supra* note 15, at 557–59 (describing the high-speed communications HFTs use to trade and provide advantages over other slower traders).

microwaves.[24] That being said, the privileged access to exchange market data given to HFTs appears to conflict with SEC insider trading doctrines that criminalize the activities of other traders having unequal access to material nonpublic information. This privileged access by HFTs also raises concerns over whether those traders are being allowed to engage in illegal "front running." That practice is a subset of insider trading doctrines, *i.e.*, front running involves accessing the confidential trading plans of other traders and then trading in front or ahead of those customer orders.[25]

In 2014, a bestselling book exposed to the public the inequity in the access to exchange data by the HFTs.[26] That revelation resulted in much litigation over the unfairness of giving HFTs this information advantage.[27] Unfortunately, those cases have provided little guidance on the policy concerns raised by this disparate access to information or even its legality. The purpose of this Article is to address those issues. This Article will describe the nonpublic market data that the exchanges are selling to HFTs and other professional traders on a preferential basis. This Article will demonstrate that while this privileged access is inconsistent with the theoretical foundation for the SEC's insider trading programs, market data has historically been treated as a proprietary product of the exchanges. That is, the government has allowed the exchanges to sell that information on a selective basis in the same manner as other commodities.

Further, this Article contends that there is nothing inherently wrong with the sale of exchange data and that such data should not be treated as inside information. This Article supports this thesis through a comparative analysis of how insider trading is treated under the

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24. *See id.* (describing how those historical communications advances were used by traders to gain advantage).

25. "Front-running is the practice in which a 'broker execut[es] orders on a security for its own account while taking advantage of advance knowledge of pending orders from its customers.'" Dichter-Mad Family Partners, LLP v. United States, 707 F. Supp. 2d 1016, 1021 n.5 (C.D. Cal. 2010) (alteration in original) (quoting Complaint at 22, Dichter-Mad Family Partners, LLP v. United States, 707 F. Supp. 2d 1016 (C.D. Cal. 2009) (No. 2:09-cv-09061-SVW-FMO)), *aff'd*, 709 F.3d 749 (9th Cir. 2013) (per curiam). For example, the Justice Department brought criminal charges against individuals who disclosed the large orders of their brokerage firm customers to other traders who then traded in advance of those orders and profited from their market effect. *See* United States v. Mahaffy, 477 F. Supp. 2d 560, 563–64 (E.D.N.Y. 2007) (describing the referenced scheme), *aff'd in part and vacated in part*, United States v. Mahaffy, 285 F. App'x 797 (2d Cir. 2008).

26. *See generally* MICHAEL LEWIS, FLASH BOYS: A WALL STREET REVOLT (2014) (explaining the unfairness of the practice of high-frequency trading).

27. *See, e.g.*, *In re* Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342, 347–48 (S.D.N.Y. 2015), *vacated*, 878 F.3d 36 (2d Cir. 2017).

Commodity Exchange Act of 1936 (CEA).[28] That statute applies to commodity futures exchanges, where HFTs also dominate trading and have privileged access to exchange market data.[29] The CEA rejects the SEC's insider trading prohibitions when applied to commodity markets.[30] Instead, the CEA follows the common law doctrine that rejects the use of material nonpublic information in commodity transactions.[31] That approach, which does not require disclosure before trading, has been in place for over two centuries and has worked well.[32]

The adoption of this common law approach would relieve the SEC of its existing role of public-utility-like regulation of exchange market data fees. Instead, exchange charges for market data would be subjected to the antitrust laws. Those statutes are used to regulate monopolistic practices in other markets for fees charged for information or other commodity-like services. This Article will also address other market integrity issues associated with the privileged access of HFTs to exchange market data. This includes claims that the privileged access by HFTs to exchange market data constitutes "front running" or "misappropriation" of the trading information of other traders.

I. EXCHANGE DATA AS A PROPRIETARY ASSET—SOME HISTORY

A. *Stock Markets Become Data Centers*

The market data sold to the HFTs by the stock exchanges has historically been treated as a proprietary product that the exchanges own and may provide to select traders on a preferred basis.[33] Indeed, the central thesis of exchange trading from its inception in the United States was limiting access to market data and trading executions to a select group of exchange members. For example, in the 1792 Buttonwood Agreement, which was the genesis of the New York Stock Exchange (NYSE), the signers agreed that they would deal only in stocks among themselves and would "give a preference to each other in our

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28. Pub. L. No. 74-675, 49 Stat. 1491 (codified as amended at 7 U.S.C. §§ 1–27(f) (2012)). The CEA prohibits restrictions on trading on nonpublic information that may affect commodity futures prices, even if that information may have a market effect. *See id.* §§ 6b(b), 9(1); *see also infra* Part III (describing the commodity future exchanges which are regulated under the CEA).

29. *See infra* Part III.

30. *See infra* Section IV.A (describing the common law approach); *see also infra* Section IV.C (describing the commodities markets' rejection of insider trading prohibitions).

31. *See infra* Section IV.A (describing the common law approach); *see also infra* Section IV.C (describing the commodities markets' rejection of insider trading prohibitions).

32. *See infra* notes 213–14 and accompanying text (describing this common law approach).

33. *See infra* Section I.B.

Negotiations."[34] The NYSE limited the number of its members and denied or restricted access to its trading room, where information on stock values was shared with members only.[35] For example, shortly after its formal creation in 1817, the NYSE prohibited its members from informing nonmembers of prices for stocks traded in the exchange's trading room.[36] That information was valuable for traders seeking to anticipate stock price movements, but its dissemination was limited to NYSE members.

The NYSE's secretive trading practices were not a *sine qua non* for the trading of stocks. In contrast to the NYSE's exclusive access to members only, a freely accessible over-the-counter (OTC) market developed in speculative stocks not listed on the NYSE.[37] That market was called the "curb" market, because it operated in the streets of New York.[38] It had no official membership and was accessible to anyone who had the wherewithal to participate.[39] It was an open market in which bid and ask quotations were shouted out in the street.[40] Messengers transmitted those quotes through written messages or by hand signals to broker offices, where brokers could use that information to formulate trading decisions.[41]

NYSE members were prohibited from trading NYSE-listed stocks in the curb market, but they could trade unlisted securities.[42] Curb market traders that were not NYSE members were barred from access to NYSE trading data.[43] The curb traders resorted to some desperate measures to gain access to that information. In 1837, the NYSE discovered that some nonmember traders had drilled a hole through a brick wall at the NYSE building that allowed them to overhear surreptitiously NYSE trading

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34. *See* Olivia B. Waxman, *How a Financial Panic Helped Launch the New York Stock Exchange*, TIME (May 17, 2017), http://time.com/4777959/buttonwood-agreement-stock-exchange/ [https://perma.cc/MV62-48HT] (describing the Buttonwood Agreement and its background).

35. *See* I JERRY W. MARKHAM, A FINANCIAL HISTORY OF THE UNITED STATES: FROM CHRISTOPHER COLUMBUS TO THE ROBBER BARONS (1492-1900), at 159 (2002) ("The NYSE . . . barr[ed] public access to its trading sessions.").

36. *Id.* at 124; *see* JEAN STROUSE, MORGAN: AMERICAN FINANCIER 70 (1999).

37. Ann Daly, *"The New York Curb Market. . . Which Has No Organization Whatever":The Enclosure of New York's Last Outdoor Stock Market, 1900-1921*, GOTHAM CTR. FOR N.Y.C. HIST. (Oct. 9, 2018), https://www.gothamcenter.org/blog/the-new-york-curb-market-which-has-no-organization-whatever-the-enclosure-of-new-yorks-last-outdoor-stock-market-1900-1921 [https://perma.cc/4MHM-297J].

38. *Id.*

39. *Id.*

40. *Id.*

41. *Id.*

42. *Id.*

43. I MARKHAM, *supra* note 35, at 159.

activity.[44] During the Civil War, NYSE did relent somewhat on nonmember access to its market data. Nonmembers were allowed to listen to trading on NYSE "through a keyhole for [a fee of] $100."[45] After the war, spectators were also allowed to watch trading from the gallery of the new NYSE floor located on Broad Street for a fee of only $50.[46] This set a precedent for selectively providing access to exchange market data for a fee.

The stock market also early on witnessed the development of advanced communications systems that gave some traders an information edge in the acquisition of market data. For example, the creation of the telegraph in the mid-nineteenth century facilitated the reporting of stock market transactions throughout the country.[47] The telegraph allowed traders to quickly transmit orders from remote locations, favoring traders with direct telegraph access to the exchanges.[48] The telegraph also opened a lucrative market for exchanges to sell trading data to broker offices around the country.[49] In 1890, the NYSE created the New York Quotation Company to handle the distribution of its trading data.[50]

The stock "ticker," another advanced communications device, further facilitated the development of the market for exchange data. The stock ticker allowed the exchange to transmit last sales reports off the exchange floor and displayed in brokers' offices around the country.[51] By the 1930s, some 9,000 ticker tape machines were displaying NYSE trading data in brokerage firm offices.[52] NYSE was also providing special access by members trading off the floor to market data through direct telephone lines[53] and "through a bank of telephone operators."[54]

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44. Bob Pisani, *Plundered by Harpies, An Early History of High-Speed Trading*, FIN. HIST., Fall 2014, at 2.

45. I MARKHAM, *supra* note 35, at 242.

46. *Id.* at 250.

47. *See* Pisani, *supra* note 44, at 22–23.

48. *Id.* The telegraph contributed to the consolidation of stock trading because most of the 250 or so exchanges operating in the nineteenth century became redundant and were closed. I MARKHAM, *supra* note 35, at 334.

49. *See* Pisani, *supra* note 44, at 23.

50. *See* Kenneth Silber, *The Ticker's Rise and Fall*, THINKADVISOR (Feb. 1, 2009, 2:00 AM), https://www.thinkadvisor.com/2008/02/01/the-tickers-rise-and-fall/?slreturn=2018110411 1948 [https://perma.cc/FWV9-PBRT].

51. *See* Pisani, *supra* note 44, at 23.

52. II JERRY W. MARKHAM, A FINANCIAL HISTORY OF THE UNITED STATES: FROM J.P. MORGAN TO THE INSTITUTIONAL INVESTOR (1900–1970), at 226 (2002).

53. I MARKHAM, *supra* note 35, at 301.

54. II MARKHAM, *supra* note 52, at 149.

B. *Exchange Market Data Is Deemed Proprietary*

Like the stock exchanges, trading in commodities on the Board of Trade of the City of Chicago (CBOT) and other commodity exchanges generated valuable market data for traders. This data became a highly marketable commodity, and the CBOT contracted with the Western Union telegraph company to provide data from its trading floor to subscribers throughout the country.[55] The CBOT used its control over this trading data to fend off competitive threats from "bucket shop" operators.[56] Bucket shops were simply gambling operations that used CBOT market data being disseminated through Western Union to price their betting activities.[57] Late in the nineteenth century, the CBOT sought to stop that practice by asking the courts to enjoin the bucket shop operators from accessing its Western Union market data through other subscribers.[58] This touched off a fight in state and federal courts through litigation in which the Consolidated Stock Exchange, the Gold and Stock Telegraph Company, and the Commercial Telegram Company claimed that exchange market data was a matter of public interest and not exchange property.[59]

After several setbacks in the lower courts,[60] the Supreme Court in 1905 upheld the right of an exchange to protect its proprietary market data from use by the bucket shops and other unauthorized persons.[61] That ruling set a strong precedent for the proprietary treatment of such information as a commodity that could be selectively sold to preferred market participants. The Court stated that "the plaintiff's collection of quotations is entitled to the protection of the law. It stands like a trade

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55. I MARKHAM, *supra* note 35, at 319.

56. *Id.* The NYSE was also the target of bucket shops. In 1905 there were some sixty bucket shop operators in Pittsburgh alone that were using NYSE trading information as the basis for betting schemes. II MARKHAM, *supra* note 52, at 6.

57. The Supreme Court defined a "bucket shop" as: "[A]n establishment, nominally for the transaction of a stock exchange business, or business of similar character, but really for the registration of bets, or wagers, usually for small accounts, on the rise or fall of the prices of stocks, grain, oil, etc. . . . ." Gatewood v. North Carolina, 203 U.S. 531, 536 (1906) (quoting State v. McGinnis, 138 N.C. 724 (1905)). Unlike legitimate brokers, the bucket shops did not transmit customer orders for execution on the exchanges. Instead, they played a game of "Heads I win, Tails you lose." *See* I MARKHAM, *supra* note 35, at 318. That is, if the market turned against the customer, the bucket shop kept the customers' monies and if adverse to the bucket shop, it would simply close and move its operations to a new location. Brendan Sapien, Note, *Financial Weapons of Mass Destruction: From Bucket Shops to Credit Default Swaps*, 19 S. CAL. INTERDISC. L.J. 411, 416 (2010).

58. I MARKHAM, *supra* note 35, at 319.

59. *See* J. Harold Mulherin et al., *Prices Are Property: The Organization of Financial Exchanges from a Transaction Cost Perspective*, 34 J.L. & ECON. 591, 606, 610–12 (1991).

60. *See, e.g.*, *id.* at 621–23.

61. Bd. of Trade of Chi. v. Christie Grain & Stock Co., 198 U.S. 236, 250–51 (1905).

secret. The plaintiff has the right to keep the work which it has done, or paid for doing, to itself."[62]

C. *Stock Exchange Floor Traders and "Specialists"*

Exchange trading data was also available on an even more privileged basis to traders operating on the floors of the stock exchanges.[63] Those exchange members were given a time and place advantage over other traders.[64] This is because stock quotations and last-sale reports were disclosed on the floor in advance of their transmission to other traders by telegraph or publication in newspapers.[65] That time and place advantage meant that floor traders trading for their own accounts could respond to current, real-time market data before off-exchange traders received that information. This provided a tremendous trading advantage to the floor traders.[66] The cost of that access was the requirement that the floor traders purchase an often very expensive membership on the exchange and pay membership fees.[67]

The SEC under the Securities Exchange Act of 1934[68] regulated the time and place advantage of stock exchange floor members.[69] In the 1960s, the SEC effectively eliminated the role of traders in trading opportunistically for their own accounts on exchange floors.[70] Nevertheless, "specialists" trading on their floors were allowed to retain their time and place advantage.[71] These specialists were required to pay for that advantage by accepting an obligation to make a "continuous," two-sided "fair and orderly" market.[72] The SEC and the stock exchanges contended that those obligations justified the time and place advantage of the specialists, i.e., they provided a valuable service to off-exchange

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62. *Id.* at 250.

63. *See* Markham, *supra* note 15, at 578.

64. *See id.* (describing the time and place advantage and its importance to traders).

65. *Id.* at 578–79.

66. *Id.* at 578.

67. *See id.* at 577–78.

68. Pub. L. No. 73-291, 48 Stat. 881 (codified as amended at 15 U.S.C. §§ 78a–78qq (2012)).

69. *See id.* § 78b(3) (recognizing necessary regulation because of the "markets . . . susceptibility to manipulation and control").

70. II MARKHAM, *supra* note 52, at 333–34.

71. *See In re* NYSE Specialists Sec. Litig., 503 F.3d 89, 92 (2d Cir. 2007) (explaining the advantages and powers of a specialist firm).

72. The requirement of a "continuous" market meant that the specialist had to stand ready to buy and sell the stocks in which it specialized throughout the trading day. *See id.* A "fair and orderly" market meant that the specialist was supposed to act as a stabilizing force in the market by buying stocks for its own account in a declining market and selling stock in a rising market. *See id.* at 92 n.2 (offering an example that demonstrates this).

traders and investors in the form of market liquidity.[73] That liquidity allowed traders and investors to quickly and efficiently enter and exit the market.

In addition to their time and place advantage, the exchanges gave specialists access to valuable nonpublic information by allowing them to maintain the "book" of pending customer "limit" orders.[74] The order book provides information on the depth of the market:

> Depth-of-book data includes the best bids and offers available on an exchange, as well as limit order information in an exchange's order book at inferior prices. Among other uses, this data provides pricing information that can inform traders how best to place trades that are larger than the quantities available at the best bid and offer.[75]

This market data allowed the specialist to forecast market direction and depth and to respond to market events in advance of other traders.[76] Off-floor electronic traders, including HFTs, have now largely supplanted the specialist function; exchanges have given HFTs preferential access to the electronic depth-of-order book in return for large fees.[77]

D. *Commodity Futures Exchange Floor Traders*

The CEA did not impose any restrictions on floor traders comparable to those adopted by the SEC under the Securities Exchange Act of 1934. Floor traders on the commodity exchanges were not subject to any

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73. *See* Nicholas Wolfson & Thomas A. Russo, *The Stock Exchange Specialist: An Economic and Legal Analysis*, 1970 DUKE L.J. 707, 741 (1970).

74. *See* Mark Borrelli, *Market Making in the Electronic Age*, 32 LOY. U. CHI. L.J. 815, 823–24 (2001). A limit order is one "in which the customer specifies a minimum sale price or maximum purchase price, as contrasted with a market order, which implies that the order should be filled as soon as possible at the market price." *CFTC Glossary*, U.S. COMMODITY FUTURES TRADING COMMISSION, http://www.cftc.gov/ConsumerProtection/EducationCenter/CFTC Glossary/index.htm#L [https://perma.cc/6VPT-TNGJ].

75. Application of Sec. Indus. & Fin. Mkts. Ass'n, Exchange Act Release No. 84,432, 2018 WL 5023228, at *2 (Oct. 16, 2018).

76. *See* Borrelli, *supra* note 74, at 896. Before electronic trading, order books displays were not available because such information was maintained privately by specialists, floor traders, and floor brokers. *See* II MARKHAM, *supra* note 52, at 125. The information then available was generally limited to current "bid" and "ask" quotes reported from the floor by voice communications. *See id.*

77. *See* Jerry W. Markham & Daniel J. Harty, *For Whom the Bell Tolls: The Demise of Exchange Trading Floors and the Growth of ECNs*, 33 J. CORP. L. 865, 866, 897–98 (2008); Markham, *supra* note 15, at 599–600.

market-making obligations.[78] Rather, those floor traders were allowed to trade opportunistically with the time and place advantage that their location on exchange floors provided them.[79] There was also no official specialist function on the commodity futures exchanges.[80] Instead, floor traders competed with each other on what were perceived as equal terms. Nevertheless, their time and place advantage allowed floor traders to act on market information before off-floor traders could respond.[81] Floor traders also had advance access to quotes by other floor traders and could react more quickly to that information than off-floor traders.[82] Like the stock exchange specialists, floor traders have been largely replaced by HFTs and other electronic, off-exchange traders.[83]

II. THE SEC'S NATIONAL MARKET SYSTEM

A. *The SEC Creates a Centralized Market System for Stocks*

The computer age for data creation and management slowly trickled into the securities markets in the 1960s. "The NYSE [instituted] an automated quotation system in 1965 [for its stocks] that allowed brokers to obtain quotes from 'talking' computers."[84] This was an improvement from manual transmission of such information, but it was still a delayed process that favored the specialists and members accessing the data.

The OTC market was also ripe for computerization. Quotes for OTC stocks were historically published manually through a news service provided by the National Quotation Bureau.[85] Those publications were

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78. *See* II MARKHAM, *supra* note 52, at 223.

79. *See* Jerry W. Markham, *Manipulation of Commodity Futures Prices—The Unprosecutable Crime*, 8 YALE J. ON REG. 281, 363, 367 (l99l) (advocating SEC-style fair and orderly floor trading requirements to prevent abuses on the floors of the commodity futures exchanges).

80. *See* Jerry W. Markham, *The Commodity Exchange Monopoly—Reform is Needed*, 48 WASH. & LEE L. REV. 977, 1017 n.160 (1991).

81. *See id.* at 978.

82. *See* Jerry W. Markham, *Prohibited Floor Trading Activities Under the Commodity Exchange Act*, 58 FORDHAM L. REV. 1, 36 (1989); Markham, *supra* note 80, at 978, 1022 (describing the time and place advantage of commodity exchange floor traders). The commodity exchange floor traders were required to register with the CFTC and were subject to CFTC regulation. 7 U.S.C. § 6(e) (2012). That regulation was loose and ineffective. *See* Markham, *supra*, at 4–5 (describing abuses of the time and place advantage by commodity exchange floor traders).

83. *See* Markham, *supra* note 15, at 599.

84. II MARKHAM, *supra* note 52, at 345.

85. *See* Nick K. Liqudis, *What Does It Mean When a Stock Trades on the Pink Sheets or the OTCBB?*, INVESTOPEDIA, https://www.investopedia.com/ask/answers/what-does-it-mean-when-stock-trades-pink-sheets-or-otcbb/ [https://perma.cc/8PUW-ARZ7]; *see also* II MARKHAM, *supra* note 52, at 347 ("The wholesale or 'inside' quotations for over-the-counter securities were

popularly referred to as the "Pink Sheets" because of the color of their newsprint.[86] The dissemination of this publication was delayed by the printing and manual distribution requirements. The SEC suggested in its 1963 "*Special Study of the Securities Markets*" that computers, albeit still in their infancy, could be used to more efficiently and quickly report price quotes in OTC stocks.[87] That observation was followed by the creation of Nasdaq in 1968.[88] Nasdaq introduced an innovative electronic trading system that displayed quotations of OTC stocks through computer terminals made available to brokers and professional traders.[89] Quote vendors began appearing and introducing desktop monitors into brokers' offices, which supplied continuously updated price data on actively traded stocks.[90]

The early appearance of computers on Wall Street did not prevent a near collapse of NYSE at the end of the 1960s. That event was the result of the inability of brokerage firms to handle the paperwork generated by an unexpected increase in trading volumes.[91] Several NYSE firms failed during that crisis.[92] This led the SEC to consider a complete revamping of the nation's stock markets. The result was that, in 1973, the SEC announced its intent to create a "Central Market System,"[93] "la[ying] the groundwork" for the creation of the "National Market System" (NMS) for the trading of public stocks.[94]

The SEC's plan for the NMS was to create a market involving "a system of communications by which the various elements of the marketplace, be the exchanges or OTC markets, are tied together."[95] The

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published by the National Quotation Bureau, which was controlled by Commerce Clearinghouse. The daily, hard-print quotations of dealers were printed in the 'pink sheets.'").

86. Liqudis, *supra* note 85.

87. *See* SEC, Report of Special Study of Securities Markets of the Securities and Exchange Commission, H.R. Doc. No. 88-95, pt. 2, at 12 (1963) ("To mention only one more development, recent improvements in communications and data processing have had notable effects on the mechanics of doing business and the allocation of business, and there are strong indications that the full potential of these developments has not yet been realized.").

88. II Markham, *supra* note 52, at 347.

89. *See id.*; *Our Heritage: The Evolution of Nasdaq*, NASDAQ, https://business.nasdaq.com/discover/nasdaq-story/our-heritage/index.html [https://perma.cc/MW2R-SH4P].

90. *See* II Markham, *supra* note 52, at 347.

91. SEC, Study of Unsafe and Unsound Practices of Brokers and Dealers, H.R. Doc. No. 92-231, at 13 (1971) (describing the 1967 paperwork crisis).

92. *Id.* at 27.

93. SEC, SEC Policy Statement: The Structure of a Central Market System 11–12 (1973). The SEC also evidenced this intent earlier in 1971. *See* Markham, *supra* note 15, at 601 n.283.

94. *See* Markham, *supra* note 15, at 601 & n.283

95. SEC, Statement of the Securities and Exchange Commission on the Future Structure of the Securities Markets 8 (1972).

NMS envisioned by the SEC sought to create "offices and on exchange floors, linked together by an electronic communications network (ECN) and subject to a common regulatory framework."[96] The SEC sought a centralized market structure that would assure customers of the "best execution" price for a security wherever it was traded.[97]

The SEC implemented the NMS in stages that took place over a period of several decades. The Securities Industry Automation Corporation (SIAC) was created in 1973 to promote automation and consolidation of trading in the stock exchanges.[98] SIAC acted as the central trade price reporter for the Consolidated Tape Association (CTA).[99] The CTA was created to consolidate the reporting of last-price sale reports on all stock exchanges through a composite tape.[100] The composite tape contained an "A" tape for NYSE stocks, a "B" tape for other exchange-listed stocks, and a "C" tape for NASDAQ-listed securities.[101]

Congress enacted legislation in 1975 that endorsed the SEC's NMS plan.[102] However, it took several decades for the SEC to adopt its present Regulation NMS, which comprehensively dictates the elements of the national market.[103] In the meantime, the doctrine of unexpected consequences intervened. Electronic trading platforms were transforming equity and commodity futures markets from floor-driven, open-outcry operations into computerized trading conducted by traders operating off

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96. SEC, *supra* note 93, at 12.

97. *See Best Execution*, U.S. SEC. & EXCHANGE COMMISSION, https://www.sec.gov/fast-answers/answersbestexhtm.html [https://perma.cc/AWR9-WXH4] (last modified May 9, 2011).

98. *See Securities Industry Automation Corporation*, N.Y. INST. FIN., https://www.nyif.com/dictionary/s/term/securitiesindustryautomationcorporation [https://perma.cc/T62X-PMXE].

99. *See* Joel Hasbrouck et al., *New York Stock Exchange Systems and Trading Procedures* 7 (N.Y. Stock Exch., Working Paper No. 93-01, 1993); *Securities Industry Automation Corporation*, *supra* note 98.

100. *See* Hasbrouck et al., *supra* note 99, at 7; *Overview*, CONSOLIDATED TAPE ASS'N, https://www.ctaplan.com/index [https://perma.cc/A3K5-D2EB].

101. *U.S. Consolidated Tape Data*, UTP PLAN, http://www.utpplan.com/DOC/Q11-0037%20Sip%20Stats%20Sheet_0114c.pdf [https://perma.cc/BW8X-SLAG]. The Chicago Board Options Exchange (CBOE) introduced exchange-traded stock options in 1973 and other exchanges soon followed suit. Morris Mendelson, *Exchange Traded Options and the Supply of Capital*, 2 J. COMP. CORP. L. & SEC. REG. 65, 65 (1979). The SEC conditioned the expansion of options trading on a requirement for centralized trade clearing, which was carried out by the Options Clearing Corporation (OCC). *Options Clearing Corporation (OCC)*, INVESTOPEDIA, https://www.investopedia.com/terms/o/occ.asp [https://perma.cc/854S-R8DU] (last updated May 31, 2018). The exchanges also agreed to the creation of the Options Price Reporting Authority (OPRA) that publicly reported last sale option transactions on all options exchanges. *See* Notice of Receipt of Plan Filed Pursuant to Section 11A(a)(3)(B) of the Securities Exchange Act of 1934, Exchange Act Release No. 16,519, 1980 WL 29398 (Jan. 22, 1980).

102. *See* Securities Acts Amendments of 1975, Pub. L. No. 94-29, 89 Stat. 97.

103. *See* 17 C.F.R. §§ 242.600–.613 (2018).

the floor.[104] Those electronic platforms removed the time and place advantage of the specialists and other classical market makers, including floor traders on the commodity futures exchanges.[105]

The HFTs trading on electronic platforms supplanted the specialists and floor traders as market makers. As a result of these and other pressures, the stock and commodity exchanges transformed themselves from organizations mutually owned by their members into public companies owned by shareholders, which needed new revenue sources to replace membership and other fees generated by the now-obsolete floor trading operations.[106] Market data fees charged to HFTs helped fill that void.[107]

The HFTs accomplished this coup partly through the use of immediate, real-time access to sensitive market information that was once available only to specialists and floor traders.[108] That information was then exploited by the HFTs' proprietary algorithmic trading programs, which generate and execute orders within fractions of a second.[109] HFTs determined their algorithms on the basis of a number of factors, including probability analysis of the trading and pending or anticipated orders of

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104. *See generally* Markham & Harty, *supra* note 77 (describing the implementation of new technology and its effects on the securities markets). The non-exchange electronic trading platforms were regulated by the SEC separately from the exchanges under Regulation ATS. *See* 17 C.F.R. §§ 242.300–.304.

105. *See generally* Markham & Harty, *supra* note 77 (explaining the effects of computerization on the futures industry).

106. Reena Aggarwal, *Demutualization and Corporate Governance of Stock Exchanges*, 15 J. App. Corp. Fin. 105, 106–07 (2002) (citing increased competition from ECNs as one major factor driving exchanges to demutualize).

107. *See id.* at 105.

108. *See* Richard Finger, *High Frequency Trading: Is it a Dark Force Against Ordinary Human Traders and Investors?*, Forbes (Sept. 30, 2018, 8:41 AM), https://www.forbes.com/sites/richardfinger/2013/09/30/high-frequency-trading-is-it-a-dark-force-against-ordinary-human-traders-and-investors/#6d7870676352 [https://perma.cc/SP72-GW77]. As the SEC observed, "[u]nlike years ago, trades today are transacted in milliseconds or faster and dispersed among many trading centers. These changes have allowed large market participants to employ sophisticated trading methods to trade electronically on multiple venues in huge volumes at very fast speeds." *SEC Adopts Large Trader Reporting Regime*, U.S. Sec. & Exchange Commission (July 26, 2011), http://www.sec.gov/news/press/2011/2011-154.htm [http://perma.cc/Y2N6-DPEY].

109. *See* Karl Flinders, *The Evolution of Stock Market Technology*, Computer Wkly. (Nov. 2, 2007, 2:59 PM), http://www.computerweekly.com/Articles/2007/11/02/227883/the-evolution-of-stock-market-technology.htm [https://perma.cc/K4T6-PAHJ]. "[A] single algorithm can submit hundreds of orders per second . . . ." Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. 56,542, 56,546 (proposed Sept. 12, 2013) (to be codified at 17 C.F.R. ch. 1). Computerized artificial intelligence is taking high-frequency trading to new levels. *See* Yavar Bathaee, *The Artificial Intelligence Black Box and the Failure of Intent and Causation*, 31 Harv. J.L. & Tech. 889, 909 (2018).

other traders.[110] That information was in the exchanges' depth-of-orders books, which the exchanges provided to HFTs in return for lucrative fees.[111] This access undercut the role of the specialists who once controlled access to that data.[112] HFTs obtained another time and place advantage through the "co-location" of their computer servers they placed at specially built exchange facilities, for which the exchanges charged more fees.[113]

In this new trading environment, computerized trading platforms provided electronic order-matching services that proved an efficient alternative to floor trading by open outcry. Among other things, electronic trading helped reduce the effects of "slippage" and "latency."[114] "Slippage" is a reference to "the potential change in the price of an investment between the time an order is contemplated, entered, and executed."[115] "Latency" is a reference to the delays in order entry and execution that increase the risk of slippage, i.e., the longer the execution time, the greater the likelihood of an adverse price movement or loss of a trading opportunity.[116]

In the days of exchange floor trading, latency and slippage placed off-floor traders at a severe disadvantage, while providing specialists and floor traders with a decided edge over those traders. Electronic trading removed the time and place advantages of specialists and floor traders. Their low latency access also "enables HFT firms to access stock prices a split second before the rest of the investing public."[117]

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110. *See* Finger, *supra* note 108 (describing how these algorithms work and their strategic advantages over traditional traders).

111. *See* CONG. RESEARCH SERV., HIGH-FREQUENCY TRADING: BACKGROUND, CONCERNS, AND REGULATORY DEVELOPMENTS 35 (2014).

112. *See* Markham, *supra* note 15, at 559–60.

113. As was observed in Congress: "Another key tactic used by high-frequency trading firms is co-location. This practice involves trading firms literally renting space for their computers in the same room as the computers that run the stock exchanges so that they can receive market information directly from the exchanges' computers as fast as possible." *Conflicts of Interest, Investor Loss of Confidence, and High Speed Trading in U.S. Stock Markets: Hearing Before the Subcomm. on Investigations of the Comm. on Homeland Sec. & Governmental Affairs*, 113th Cong. 5 (2014) (statement of Sen. McCain, Member, Subcomm. on Homeland Sec. & Governmental Affairs).

114. *See* Markham*, supra* note 15, at 560–61.

115. *Id.*; *see also* Goldstein v. Mortenson, 113 S.W.3d 769, 773 (Tex. Ct. App. 2003) ("The time expended in placing phone calls allowed market positions . . . to change, often resulting in serious losses . . . . The negative effect resulting from such a delay is known in the industry as 'slippage.'").

116. *See* Markham*, supra* note 15, at 560–61.

117. Elvis Picardo, *You'd Better Know Your High-Frequency Trading Terminology*, INVESTOPEDIA, http://www.investopedia.com/articles/active-trading/042414/youd-better-know-your-highfrequency-trading-terminology.asp [https://perma.cc/E5ZJ-8AT2] (last updated Feb. 13, 2018). The Commodities Futures Trading Commission (CFTC) has noted that:

The HFTs' efforts to reduce latency had remarkable success. "Public data from one exchange group, for example, indicates that roundtrip trade times on its trading platform fell from 127 milliseconds in 2004 to 4.2 milliseconds in 2011."[118] A millisecond is one thousandth of a second. "Another exchange group reported in 2010 that its average blended transaction time in futures and OTC markets was 1.25 milliseconds."[119]

Electronic trading has advantages beyond the reduction of risk from latency and slippage. Among other things, customer orders can be matched against each other without a specialist or floor trader taking the "spread."[120] However, the loss of the specialists and floor traders poses a

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> In response to the emphasis on speed by trading firms, [exchanges] have adopted highly automated trading systems that can offer extremely high-speed order entry and execution. In addition, to further reduce latency in transmitting market data and order messages, many trading markets offer co-location and/or proximity hosting services that enable market participants to place their servers in close proximity to the trading market's matching engine. Accordingly, the growth of co-location and/or proximity hosting services is largely related to the development of high frequency trading in the futures and option markets.

Co-Location/Proximity Hosting Services, 75 Fed. Reg. 33,198, 33,199 (proposed June 11, 2010) (to be codified at 17 C.F.R. pts. 36–38). As was observed in a Congressional hearing: "Another key tactic used by high-frequency trading firms is co-location. This practice involves trading firms literally renting space for their computers in the same room as the computers that run the stock exchanges so that they can receive market information directly from the exchanges' computers as fast as possible." *Conflicts of Interest, Investor Loss of Confidence, and High Speed Trading in U.S. Stock Markets: Hearing Before the Subcomm. on Investigations of the Comm. on Homeland Sec. & Governmental Affairs*, *supra* note 113; *see also Definition of Co-location*, FIN. TIMES, http://lexicon.ft.com/TERM?TERM=CO_LOCATION [https://perma.cc/RA8G-6N2W] ("'[C]o-location' shaves crucial milliseconds from the time it takes to complete a trade.").

118. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. 56,542, 56,546 (proposed Sept. 12, 2013) (to be codified at 17 C.F.R. ch. 1).

119. *Id.* In 2014, one exchange determined that "11% of all 2014 observable orders lasted less than one millisecond." *How Fast is High-Frequency Trading? Faster Than You Think*, EQUEDIA (May 3, 2015), http://www.equedia.com/how-fast-is-high-frequency-trading/ [https://perma.cc/3XEL-USP6]. "In today's electronic financial markets, a single investor can execute more than 10,000 trades a second, meaning more than 1,000 trades can happen in the blink of an eye." *High-Frequency Traders Need a Speed Limit*, BLOOMBERG OPINION (Jan. 25, 2015, 5:01 PM), https://www.bloomberg.com/opinion/articles/2015-01-25/high-frequency-traders-need-a-speed-limit [https://perma.cc/AQ5U-SZBS].

120. Specialists and floor traders quoted a two-sided market at a "spread." *See* JERRY W. MARKHAM ET AL., CORPORATE FINANCE: DEBT, EQUITY AND DERIVATIVE MARKETS AND THEIR INTERMEDIARIES 546–47 (3d ed. 2011) (describing profiting from the spread). That is, the specialist or floor trader would quote both a "bid" (buy) and "ask" (sell or offer). *See id.* The bid in this spread would be less than the ask price. *See id.* This meant that all things being equal the specialists or floor traders would profit by the difference in the spread as other traders bought and sold from those market makers. *See id.* Market makers never take "long-term views on where

concern that, in the absence of such market makers, liquidity gaps might occur. This is because the specialists and floor traders would no longer be willing to risk their capital to provide liquidity in the absence of their former time and place advantage and ability to profit on the spread.

To address this liquidity concern, the exchanges adopted various fee arrangements that compensated traders, such as HFTs, to provide liquidity to their markets and to charge traders benefiting from that liquidity—the so-called "maker-taker" exchange liquidity model. As the SEC described these arrangements:

> [T]he predominant transaction pricing structure that developed among equities exchanges to attract order flow is the "maker-taker" fee model. Specifically, out of thirteen equities exchanges, seven utilize the "maker-taker" fee model, in which they pay a rebate to a provider of liquidity and charge a fee to a taker of liquidity. Among the remaining exchanges, four utilize a "taker-maker" pricing model (also called an inverted model) where they charge a fee to a provider of liquidity and pay a rebate to a taker of liquidity, and two have a "flat fee" model. In recent years this area has attracted considerable attention and generated significant debate, focusing on the effects, both positive and negative, that exchange transaction-based pricing models may have on market quality and execution quality . . . .[121]

Informational and transmission advantages allow HFTs to receive order-book information on pending and executed orders before other traders. The HFTs now have the equivalent of the time and place advantage once enjoyed by the stock exchange specialists and floor traders in the open outcry pits. Moreover, the HFTs are specially compensated through rebates for their liquidity-providing orders. The HFTs' ability to execute orders at speeds faster than other traders has allowed them to dominate volume on the futures and securities markets. By 2009, some two-thirds of stock-market volume were attributable to

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stock prices [are] heading. Instead, [they] aim[] to profit off tiny differences between what investors [are] willing to pay for heavily traded stocks and what others [are] willing to sell them for." Aaron Lucchetti, *Firms Seek Edge Through Speed As Computer Trading Expands*, Wall St. J. (Dec. 15, 2006, 12:01 AM) https://www.wsj.com/articles/SB116615315551251136 [https://perma.cc/JT5Y-PU8D].

121. Transaction Fee Pilot for NMS Stocks, 84 Fed. Reg. 5202, 5202–03 (proposed Feb. 20, 2019) (to be codified at 17 C.F.R. pts. 200, 242) (footnotes omitted).

HFTs.[122] One study found that between 2012 and 2014, automated trading systems accounted for over sixty percent of equity futures.[123] By 2010, HFTs had "largely . . . replaced more traditional types of liquidity providers in the equity markets."[124]

Regulation NMS laid the groundwork for this market transformation without much consideration of the consequences of its effects:

> The SEC adopted a system [in Regulation NMS] that put the premium on speed in execution at a specific price, without considering the effect it would have upon the balance between market professionals' duties and responsibilities to customers and the effects on the market in general. Regulation NMS essentially shifted the duties from the specialists and market makers to the traders themselves by imposing rules that required brokers to execute orders in the fastest manner possible, prompting brokerage firms and exchanges to interconnect and develop sophisticated computer systems to route trades in a maze-like fashion.[125]

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122. Jason Zweig, *Staying Calm in a World of Dark Pools*, *Dark Doings*, WALL ST. J. (Oct. 24, 2009, 11:59 PM), https://www.wsj.com/articles/SB125633417039504555?ns=prod/accounts-wsj [https://perma.cc/Q4WX-98CN].

123. RICHARD HAYNES & JOHN S. ROBERTS, AUTOMATED TRADING IN FUTURES MARKETS 4, 5 tbl.3 (2015), http://www.cftc.gov/idc/groups/public/@economicanalysis/documents/file/oce_automatedtrading.pdf [https://perma.cc/E8RL-RUZR].

124. Concept Release on Equity Market Structure, 75 Fed. Reg. 3594, 3607 (proposed Jan. 21, 2010) (to be codified at 17 C.F.R. 242). The SEC noted in that regard:

> Highly automated exchange systems and liquidity rebates have helped establish a business model for a new type of professional liquidity provider that is distinct from the more traditional exchange specialist and over-the-counter ("OTC") market maker. In particular, proprietary trading firms and the proprietary trading desks of multi-service broker-dealers now take advantage of low-latency systems and liquidity rebates by submitting large numbers of non-marketable orders (often cancelling a very high percentage of them), which provide liquidity to the market electronically.

Id. at 3599. The dark side of these rebates has been the entry of large numbers of fictitious trades that give the false appearance of liquidity. *See, e.g.*, *In re* Gelber Group, LLC, CFTC No. 13-15, 2013 WL 525839 (Feb. 8, 2013); Rosenthal Collins Capital Markets, LLC, CFTC No. 17-17, 2017 WL 2839495 (June 29, 2017).

125. Bradley J. Bondi, *Memo To Michael Lewis: The Excesses of High-Speed Trading Are a Direct Result of SEC Micromanagement*, FORBES (Apr. 29, 2014, 10:46 AM), http://www.forbes.com/sites/realspin/2014/04/29/memo-to-michael-lewis-the-excesses-of-high-speed-trading-are-a-direct-result-of-sec-micromanagement/ [https://perma.cc/24Q9-EHWX].

B. *NMS Data Sharing Requirements*

The SEC's conceptual NMS sought "to link securities markets nation-wide in order to distribute market data economically and equally and to promote fair competition among all market participants."[126] Key to this goal was uniform market availability of market data.[127] This included a centralized display of price quotations for stocks traded in multiple markets.[128] As implemented, Regulation NMS requires exchanges and other market centers to make information on prices and volumes available automatically for all securities in all markets and to allow all qualified broker–dealers access to the markets.[129]

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126. NetCoalition v. SEC, 615 F.3d 525, 528 (D.C. Cir. 2010), *superseded by statute*, Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010), *as recognized in* NetCoalition v. SEC, 715 F.3d 342 (D.C. Cir. 2013); *see also NetCoalition*, 715 F.3d at 345 (quoting the language used in *NetCoalition I*).

127. As was noted in one report on this issue:

> Information is the lifeblood of a financial market and the procedures for collecting and disseminating information have a direct impact on the public's trust and confidence in the financial system. The importance of market information was stated elegantly by the Securities and Exchange Commission . . . when it noted that a "consolidated, real-time stream of market information has been an essential element in the success of the U.S. securities markets. It is the principal tool for enhancing the transparency of the buying and selling interest in a security, for addressing the fragmentation of the buying and selling interest among different market centers, and for facilitating the best execution of customers' orders by their broker-dealers."

MICHAEL J. BARCLAY, REPORT TO THE SEC ADVISORY COMMITTEE ON MARKET INFORMATION RE: SECURITIES EXCHANGE ACT RELEASE NO. 34-42208, at 1 (2001), https://www.sec.gov/divisions/marketreg/marketinfo/appendixk.pdf [https://perma.cc/423M-LGZV] (quoting SEC Concept Release: Regulation of Market Information and Revenues, Release No. 34-4228, at 4).

128. SEC, *supra* note 93, at 11.

129. In adopting Regulation NMS, the SEC stated that:

> Regulation NMS includes new substantive rules that are designed to modernize and strengthen the regulatory structure of the U.S. equity markets. First, the "Order Protection Rule" requires trading centers to establish, maintain, and enforce written policies and procedures reasonably designed to prevent the execution of trades at prices inferior to protected quotations displayed by other trading centers, subject to an applicable exception. To be protected, a quotation must be immediately and automatically accessible. Second, the "Access Rule" requires fair and non-discriminatory access to quotations, establishes a limit on access fees to harmonize the pricing of quotations across different trading centers . . . .

Regulation NMS, 70 Fed. Reg. 37,496, 37,496 (June 29, 2005) (to be codified in scattered sections of 17 C.F.R.).

The NMS resulted in the creation of market data that was, in some instances, necessary for market participants to meet their NMS obligations and, in other instances useful, though not necessary. Market data is "distributed exclusively by exchanges in a two-tier system comprised of (1) a stream that distributes [to the public] 'best-priced' quotations and 'last-sale' [prices] for securities, and [(2)] faster proprietary data products that include 'depth-of-book' information that shows all other bid offers."[130] The SEC classified these two tiers as "core data" and "non-core data," and further authorized the exchanges to sell this data to market participants.[131] Core data is used by industry participants to meet their "best execution"[132] and "trade-through"[133] obligations under Regulation NMS.[134] Core data is consolidated from

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130. *Market Data*, *supra* note 5.

131. *See* Regulation NMS, 70 Fed. Reg. at 37,569. "Because exchanges control both tiers of information, they have enormous pricing power over the cost to access the data." *Market Data*, *supra* note 5. As the SEC noted:

> When a market participant submits an order to an exchange (or cancels or modifies one), or when an exchange executes an order, that action creates data that is valuable to other market participants because of the information it provides about the price and quantity of executed transactions and the investor trading interest in particular securities. Because that data is valuable (individually and in combination with other order and execution data), the exchanges sell that data to market participants. Exchanges have packaged and monetized the provision of market data in several ways, including monetizing within the following two categories of data: core and non-core data.

Application of Sec. Indus. & Fin. Mkts. Ass'n, Exchange Act Release No. 84,432, 2018 WL 5023228, at *4 (Oct. 16, 2018) (footnote omitted).

132. The best execution requirement requires broker–dealers to execute customer orders at the national best bid or offer (NBBO) available on any exchange where the security is traded. *See* FINRA, REGULATORY NOTICE 15-46, at 2 (2015), https://www.finra.org/sites/default/files/notice_doc_file_ref/Notice_Regulatory_15-46.pdf [https://perma.cc/874J-36WT] (describing the best execution obligation).

133. The trade through or "order protection" rule prevents the execution of orders at prices less favorable than pending orders on any exchange. Memorandum from SEC Division of Trading & Markets to the SEC Market Structure Advisory Committee (Apr. 30, 2015), https://www.sec.gov/spotlight/emsac/memo-rule-611-regulation-nms.pdf [https://perma.cc/Q7BL-J5ME] (describing the "trade-through" rule).

134. The SEC has noted:

> Core data for each NMS security consists of three components: (1) last sale reports, which include the price at which the latest sale of the security occurred, the size of the sale, and the exchange where the execution took place; (2) the current highest bid and lowest offer for the security, along with the number of shares available at those prices, at each exchange; and (3) the "national best bid and offer," or NBBO, which is the highest bid and lowest offer currently available on a U.S. exchange and the exchange(s) where those prices are

NMS market participants by central data processers called "securities information processors" (SIPs).[135] These are "monopolistic" entities that operate under joint industry plans that are controlled by the exchanges and the Financial Industry Regulatory Authority (FINRA).[136] The SEC's "Access Rule" in Regulation NMS "requires fair and non-discriminatory access to quotations, [and] establishes a limit on access fees to harmonize the pricing of quotations across different trading centers. . . ."[137]

The exchanges also generate, and charge fees for, additional market data that the SEC labels as "non-core data."[138] This information is not required to be reported to SIPs for central distribution.[139] Instead, the exchanges may sell this information separately to HFTs or other market participants.[140] Non-core data includes depth-of-order book information that plays a key role in the algorithmic trading of HFTs.[141] Non-core data

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available.

Application of Sec. Indus. & Fin. Mkts. Ass'n, Exchange Act Release No. 84,432, 2018 WL 5023228, at *4 (Oct. 16, 2018) (footnote omitted).

135. *Id.*

136. *Id.* The development of this process was described by one court as follows:

> Prior to 1975, the U.S. stock market was fragmented among several stock exchanges. In general, investors seeking to purchase a stock on a particular exchange interacted only with investors also trading on that exchange, and stocks were often traded at different prices on different exchanges. In 1975, Congress amended the Exchange Act to, among other things, give the SEC authority to issue rules that would stitch the disparate exchanges into a single national market. Since those amendments, the SEC has enacted a host of regulations to fulfill Congress's vision of a unified national stock market. In 2005, those measures were consolidated into a rule known as "Regulation NMS" ("NMS" being short for "national market system"), which, among other things, requires exchanges to produce national market system plans ("NMS Plans") to facilitate the development and operation of a national market for securities. Pursuant to its NMS Plan, an exchange must transmit real-time information regarding transactions on that exchange to a centralized entity (the "Processor") that then consolidates the information into a single, unified data feed (or "consolidated feed").

In re Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342, 348–49 (S.D.N.Y. 2015) (citations omitted), *vacated*, 878 F.3d 36 (2d Cir. 2017).

137. Regulation NMS, 70 Fed. Reg. 37,496, 37,496 (June 29, 2005) (to be codified in scattered sections of 17 C.F.R.).

138. Application of Sec. Indus. & Fin. Mkts. Ass'n, Exchange Act Release No. 84,432, 2018 WL 5023228, at *4 (Oct. 16, 2018).

139. *Id.*

140. *Id.*

141. "Broadly speaking, this term [depth-of-order book] refers to the quantity of buying and selling interest and the potential activity on each side of the market." SEC, REPORT OF SPECIAL

may be supplied to HFTs in advance of the core data supplied to other market participants.[142] "These time and information differences may offer valuable trading opportunities."[143]

The fees charged by the exchanges for non-core data are substantial. Professional traders (including HFTs) pay a monthly fee for direct access to this data, plus a monthly fee for each device using the data.[144] Non-professional traders pay a lower per-device fee to broker–dealers subscribing to this service.[145] However, this information is not supplied directly to non-professional customers. Rather, they have to obtain it indirectly from their broker-dealers or other firms having data distribution licenses issued by the exchanges.[146] This causes a substantial

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STUDY OF SECURITIES MARKETS OF THE SECURITIES AND EXCHANGE COMMISSION, H.R. DOC. NO. 88-95, pt. 2, at 17 (1963). The SEC has further described this non-core data as follows:

> In addition to the best bids and offers available on an exchange, depth-of-book data includes the outstanding limit orders to buy stocks at prices lower, or to sell stocks at prices higher, than the best prices on each exchange. In other words, and using a potential purchase as an example, depth-of-book data provides a trader who may want to buy a number of shares that exceeds the number of shares available at the best price with the number of displayed shares available at prices that are higher than the best price. This information allows the trader to determine the degree to which the total purchase price for her larger purchase would be expected to differ from what the broker would pay if the trade were smaller in size and could be executed in full at the prevailing best price. If a larger purchase could be executed at or close to the prevailing best price, the market is said to have "depth"—specifically, depth on the ask side (e.g., willing sellers at or just above the prevailing best price).
>
> Depth-of-book data provides market participants with other valuable supplemental information. For example, depth-of-book-data can provide a trader with the ability to calculate market imbalance information at various price levels. This information allows the trader to gain a fuller picture of the balance of supply and demand within a market across multiple price levels, which could potentially provide a directional market signal. Turning back to the example of a broker seeking to execute a large purchase, if there is depth on the ask side of the market (those willing to sell) so that the larger purchase can be made at or slightly above the prevailing market price but there is little depth on the bid side of the market (those willing to buy), that imbalance may provide a bearish signal.

Application of Sec. Indus. & Fin. Mkts. Ass'n, Exchange Act Release No. 84,432, 2018 WL 5023228, at *5 (Oct. 16, 2018) (footnotes omitted).

142. Application of Sec. Indus. & Fin. Mkts. Ass'n, Exchange Act Release No. 84,432, 2018 WL 5023228, at *5 (Oct. 16, 2018).

143. *Id.*

144. *See, e.g.*, *id.* at *6 (noting that there was a monthly fee for direct access to the data feed and for devices used).

145. *See, e.g.*, *id.* (explaining that professional subscribers paid $30 in monthly device fees while nonprofessionals paid $10).

146. *See id.*

latency disadvantage, especially when the trader does not have the benefit of server co-location. The exchanges thus provide privileged access to this data to some 100 firms that have been responsible for up to ninety percent of trades.[147] Ultimately, the exchanges provide unequal access to critical trading data, and this small universe of HFTs is uniquely qualified to exploit it through co-location and algorithmic trading.[148]

HFTs are favored in other ways. As noted above, electronic exchanges provide monetary incentives to HFTs that supply liquidity to the market and thereby help fill gaps in order matching.[149] Such incentives are necessary because the HFTs are not subject to any market-making obligations, such as those previously imposed on specialists.[150] Instead, the exchanges pay for order flow originated by the HFTs, creating a self-serving circle of revenue between the HFTs and the exchanges.[151] This arrangement allows the HFTs to prey on other slower, less-informed traders.

C. *SEC Market Data Rate Setting Efforts*

1. Background

The 1960s witnessed a sea change in the approach taken by the courts and the SEC in the control exercised by stock exchanges over their trading data. In *Silver v. New York Stock Exchange*,[152] the United States Supreme Court held that the antitrust laws applied to the actions of NYSE in cutting off direct telephone connections that were transmitting market data from member firms to non-member firms.[153] The Court recognized that the non-member subscribers should have been given notice and opportunity to be heard before those links were severed.[154] That decision, however, provides little or no antitrust protection to persons seeking access to exchange market data. In other cases, the Supreme Court held that the antitrust laws preempted the federal securities laws where the challenged actions were subject to SEC oversight.[155]

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147. *See id.* at *18.

148. *See id.*

149. *See* Picardo, *supra* note 117.

150. *See supra* notes 72, 76–77 and accompanying text.

151. *See supra* notes 121–22 and accompanying text (describing the fee arrangements used to manage market liquidity).

152. 373 U.S. 341 (1963).

153. *Id.* at 365.

154. *Id.* The connections that were severed included stock ticker service directly to the plaintiff from the NYSE floor. *Id.* at 344.

155. *See, e.g.*, Credit Suisse Sec. (USA) LLC v. Billing, 551 U.S. 264, 283 (2007) (finding underwriting activities enjoyed antitrust immunity because of SEC oversight); Gordon v. N.Y. Stock Exch., Inc., 422 U.S. 659, 691 (1975); *see also* United States v. Nat'l Ass'n of Sec. Dealers,

The SEC conducts oversight of exchange market data fees, but that oversight may not completely shield the exchanges from private actions under the federal securities laws. In *City of Providence v. BATS Global Markets, Inc.*,[156] the United States Court of Appeals for the Second Circuit held that stock exchanges were subject to liability under the anti-manipulation provisions of the Securities Exchange Act with respect to their two-tier system for fees charged to HFTs and the fees charged to other traders with more limited access to market data.[157] The Second Circuit rejected a claim that the exchanges' self-regulatory role and SEC oversight granted the exchanges absolute immunity from lawsuits challenging their fees.[158] The Court held that this conduct, if proved, was actionable under the Securities Exchange Act.[159]

Inc., 422 U.S. 694, 734–35 (1975) (implying repeal of antitrust laws for resale restrictions for mutual fund shares).

156.   878 F.3d 36 (2d Cir. 2017), *cert. denied*, 139 S. Ct. 341 (2018).

157.   *Id.* at 51–52. As the Second Circuit described these claims:

> Here, plaintiffs allege that the defendant exchanges created products and services for HFT firms that illicitly "rigged the market" in the firms' favor in exchange for hundreds of millions of dollars in fees. According to plaintiffs, these products and services 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.
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> . . . 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.

Id. at 49.

158.   *Id.* at 48.

159.   *Id.* at 52. Earlier, in *Lanier v. BATS Exchange, Inc.*, the Second Circuit upheld the dismissal of breach of contract claims charging that stock exchanges were allowing HFTs to access market data faster than other market participants receiving information from securities information processors. Lanier v. BATS Exch., Inc., 838 F.3d 139, 142–43 (2d Cir. 2016). The Court held that such claims were preempted by the Securities Exchange Act and that the SEC had authorized such disparate access. *Id.* at 143. In another case, *Citadel Securities LLC v. Chicago Board Options Exchange, Inc.*, a district court held that the CBOE was immune from a suit challenging fees charged by that exchange to market makers as payments for order flow from customers. Citadel Sec. LLC v. Chi. Bd. Options Exch., Inc., No. 16 C 9747, 2018 WL 5264195, at *4 (N.D. Ill. Oct. 23, 2018). The suit claimed the exchange was not properly monitoring whether trades were subject to the fees. *Id.* at *1, *4. The court ruled that that such activity was within the

The SEC's efforts to oversee the amounts of fees charged by the exchanges for non-core data have been challenged twice in the District of Columbia Court of Appeals. In the first challenge, *NetCoalition v. SEC*,[160] the court held that the SEC could properly allow market forces, i.e., competition among the exchanges in attracting order flow, to assure that fees were fair and reasonable.[161] The court also held, however, that the record evidence considered by the SEC did not support its conclusion as to the effectiveness of that competition.[162]

The same fees were challenged again after remand, but the D.C. Circuit concluded that it did not have the power to review the exchange rule in the absence of an order of the SEC resolving a challenge to the fees.[163] The SEC issued such an order on October 16, 2018.[164] There, the SEC reversed itself, finding that market forces were not shown to be adequate to assure that exchange fees are reasonable and fair.[165] The exchanges must now seek to justify their claim that market discipline makes a public utility-like rate setting decision by the SEC unnecessary. Following that decision, a number of large institutional traders and HFTs announced plans to create a low-cost electronic that would provide reduced fees for members and compete with NYSE and Nasdaq.[166] If successful, this venture would be a return to the exchanges of yesteryear that provided privileged time and place access to members at reduced fees.[167]

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regulatory role of the exchange and, therefore, immune from suit. *Id.* at *4; *see also In re* Barclays Liquidity Cross & High Frequency Trading Litig., 126 F. Supp. 3d 342, 359–60 (S.D.N.Y. 2015) (dismissing similar claims on grounds of exchange immunity and failure to properly plead other allegations), *vacated*, 878 F.3d 36 (2d Cir. 2017); *cf.* Zola v. TD Ameritrade, Inc. 889 F.3d 920 (8th Cir. 2019) (preempting a state class action with respect to claim that defendant routed orders to venues where HFTs could take advantage of the orders in exchange for rebates).

160. 615 F.3d 525 (D.C. Cir. 2010), *superseded by statute*, The Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010), *as recognized in* NetCoalition v. SEC, 715 F.3d 342 (D.C. Cir. 2013).

161. *Id.* at 535.

162. *Id.* at 537–44.

163. *NetCoalition*, 715 F.3d at 354.

164. *See* Application of Sec. Indus. & Fin. Mkts. Ass'n, Exchange Act Release No. 84,432, 2018 WL 5023228 (Oct. 16, 2018).

165. *Id.* at *2–3.

166. *See* Diptendu Lahiri, *Wall Street Financial Firms Plan New Exchange to Challenge NYSE, Nasdaq*, REUTERS (Jan. 7, 2019, 8:56 AM), https://www.reuters.com/article/wallstreet-exchange/wall-street-financial-firms-plan-new-exchange-to-challenge-nyse-nasdaq-idUSL3N1Z73S9 [https://perma.cc/J4JP-AY5J].

167. Other new exchanges are also forming to compete with existing exchanges for market data fees. *See, e.g.*, Alexander Osipovich & Gunjan Banerji, *As Stock Exchanges Multiply, Miami Wants In on the Game*, WALL ST. J. (Mar. 4, 2019, 8:02 AM), https://www.wsj.com/articles/stock-exchange-competition-heats-up-as-miax-eyes-launch-11551704521 [https://perma.cc/7FRD-YCZF].

2. Transaction Fees

Coupled with the uncertainty over the fairness of market data fees is the related concern over fees for completed transactions through exchange facilities, so-called core data. The SEC established a uniform limitation on data fees for this market data as a part of Regulation NMS.[168] That appropriation of exchange proprietary information is inconsistent with the view that information is a commodity that should trade freely at prices set by the market, not the government. It is, however, necessary for the operation of the NMS's mandate of best execution[169] and for the enforcement of the trade through the rule because such information is needed to meet those obligations.[170] The SEC, therefore, mandated the disclosure of the exchange market data needed to carry out that and other NMS obligations for linked stock markets. "The implementation of this mandate by the SEC did improve linkages between exchanges, but it also weakened the property rights of information producers."[171]

In 2018, the SEC went further in its determination to regulate market data by mandating a pilot program that it will use to analyze the effects of execution fees and related rebate pricing that encourage traders to conduct a large volume of transactions on particular exchanges.[172] That pilot program will seek to determine the effects of execution fees and rebates, including maker-taker payments, "on order routing behavior, execution quality, and market quality."[173] The SEC's pilot fee program separates listed stocks into groups with different fee price controls for each of those categories.[174] NYSE challenged this pilot fee program in court, charging that the plan was an "unnecessary exercise in government price-setting that will add a new layer of complexity to equity markets."[175] NYSE further asserted that "the SEC's pilot cuts at the heart

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168. Regulation NMS, 70 Fed. Reg. 37,496, 37,503 (June 29, 2005) (to be codified in scattered sections of 17 C.F.R.) (setting the uniform fee limitation at $0.003 per share).

169. *See id.* at 37,505.

170. *See id.* at 37,496, 37,503.

171. Corinne Bronfman & James A. Overdahl, *Would the Invisible Hand Produce Transparent Markets* 7 (Commodity Futures Trading Comm'n, Working Paper No. 92-10, 1993).

172. *See* 17 C.F.R. § 242.610T (2019); Transaction Fee Pilot for NMS Stocks, 84 Fed. Reg. 5202, 5203 (Feb. 20, 2019) (to be codified at 17 C.F.R. pts. 200, 242).

173. Press Release, SEC, SEC Adopts Transaction Fee Pilot for NMS Stocks (Dec. 19, 2018), https://www.sec.gov/news/press-release/2018-298 [https://perma.cc/JH7N-V4NE].

174. Transaction Fee Pilot for NMS Stocks, 84 Fed. Reg. at 5203.

175. Stacy Cunningham, *We're Suing the SEC to Protect the Stock Market*, WALL ST. J. (Feb. 14, 2019, 6:57 PM), https://www.wsj.com/articles/were-suing-the-sec-to-protect-the-stock-market-11550188636 [https://perma.cc/NS95-6WKW]. The SEC stayed its pilot program pending the outcome of this litigation. Alexander Osipovich, *SEC Delays Program to Rein in Rebates in Win for Stock Exchanges*, WALL ST. J., Mar. 29, 2019, https://www.wsj.com/articles/

of NYSE's core mission of providing an orderly, transparent and efficient marketplace."[176]

3. Clearing Fees

The SEC also has inconsistently regulated clearing fees charged by the Options Clearing Corporation (OCC). The OCC was designated under the Dodd–Frank Act[177] as a systemically important financial utility, which subjected it to increased regulatory scrutiny.[178] The OCC then developed a capital enhancement plan that included an increase in the amount of the capital contributions of its shareholder exchange members.[179] Those shareholders were to be compensated for their contributions from fees charged to clearing members that use the OCC to clear and settle trades.[180] The action was approved by the SEC in deference to the OCC's determination of its necessity, but was later challenged in the D.C. Circuit.[181] That court held that the SEC had failed to consider properly whether this plan was consistent with requirements in the Securities Exchange Act governing the OCC.[182]

The circuit court remanded the issue to the SEC for its further consideration.[183] The plan was then again challenged by SIFMA.[184] The SEC thereafter reversed its earlier position and rejected the OCC fees for its capital plan.[185] The SEC took this action on the grounds that the OCC did not comply with its bylaws in adopting the new fee structure and that there was a lack of information from the OCC to justify the fee charges as not being a burden on competition.[186]

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sec-delays-program-to-rein-in-rebates-in-win-for-stock-exchanges-11553827006 [https://perma.cc/8MJY-SDMZ].

176. *Id.*

177. Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified as amended at 12 U.S.C. §§ 5301–5641 (2012)).

178. *See* Susquehanna Int'l Grp., LLP v. SEC, 866 F.3d 442, 443 (D.C. Cir. 2017).

179. *See id.* at 444.

180. *Id.*

181. *Id.* at 444–46.

182. *See id.* at 446. For example, the Securities Exchange Act requires that a clearing agency "not impose any burden on competition not necessary or appropriate in furtherance of the purposes of" the Act. 15 U.S.C. § 78q-1(b)(3)(I) (2012).

183. *Susquehanna Int'l Grp.*, 866 F.3d at 451.

184. Letter from Ellen Greene, Managing Dir., SIFMA, to Brent J. Fields, Sec'y, SEC 2 (Apr. 10, 2018), https://www.sifma.org/wp-content/uploads/2018/04/Response-to-OCC-Capital-Plan.pdf [https://perma.cc/5EWJ-WS4U].

185. *See* Order Disapproving Proposed Rule Change Concerning the Options Clearing Corporation's Capital Plan, 84 Fed. Reg. 5157 (Feb. 13, 2019).

186. *See id.*

III. COMMODITY FUTURES MARKETS

The CFTC regulates commodity futures exchanges under the CEA.[187] Commodity futures exchanges deal in derivative instruments, i.e., futures, options, and swaps.[188] Historically, the commodities underlying those contracts were agricultural products.[189] Today, most of those underlying commodities are financial instruments that are subject to SEC regulation.[190] Nevertheless, futures and options on such instruments are regulated by the CFTC when their derivatives are traded on a futures exchange.[191] Although there has been much debate over whether this interconnection between the securities and commodity markets justifies consolidated regulation of both markets, political forces have blocked efforts to achieve that goal.[192] Instead, the two markets have separate and, in many cases, quite different regulations.[193] For example, there is no legislation supporting the development of an NMS in the commodity futures markets. The CFTC has not advocated the adoption of such a regulatory approach. As a consequence, there is no national market

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187. 7 U.S.C. §§ 1–27f.

188. *See* Jerry W. Markham, *Regulation of Commodity Futures and Exchange-Traded Options*, 264 Sec. Prac. Portfolio Series (BNA), at A-1 to -8 (2015) (describing the elements of, and differences between, futures, options and swap contracts).

189. *See* Markham, *supra* note 80, at 982 (describing the regulation of futures contracts on agricultural commodities).

190. James Chen, *What is a Derivative?*, INVESTOPEDIA, https://www.investopedia.com/ask/answers/12/derivative.asp [https://perma.cc/TY3Q-DBBU] (last updated May 19, 2019).

191. *See* Markham, *supra* note 80, at 1001 nn.126–27.

192. In 2008, the U.S. Treasury Department recommended that the CFTC and SEC be consolidated into a single agency. *See* DEP'T OF THE TREASURY, BLUEPRINT FOR A MODERNIZED FINANCIAL REGULATORY STRUCTURE 11 (2008). The Financial Crisis of 2008 delayed that effort, but a Treasury Department report issued in 2009 sought coordinated regulation among financial services regulators, particularly the SEC and CFTC. *See* DEP'T OF THE TREASURY, FINANCIAL REGULATORY REFORM: A NEW FOUNDATION: REBUILDING FINANCIAL SUPERVISION AND REGULATION 50 (2009). A joint study by the CFTC and the SEC sought to harmonize their regulations. *See* U.S. COMMODITY FUTURES TRADING COMM'N & SEC, A JOINT REPORT OF THE SEC AND THE CFTC ON HARMONIZATION OF REGULATION 1–2 (2009). However, the Dodd-Frank Act rejected consolidated regulation. Instead, it divided jurisdiction over swaps between the SEC and the CFTC. *See* Jerry W. Markham, *Regulation of Swap and Other Over-the-Counter Derivative Contracts*, 263 Sec. Prac. Portfolio Series (BNA), at A-17 (2014). The SEC was given jurisdiction over securities swaps, and the CFTC was given jurisdiction over commodity swaps. *Id.* Joint jurisdiction was given to the SEC and CFTC over "mixed" swaps that had characteristics of both securities and commodity swaps. *See id.*

193. *See* Jerry W. Markham, *Merging the SEC and CFTC—A Clash of Cultures*, 78 CIN. L. REV. 537, 544, 548, 552 (2009) (describing those differences and the history between the agencies that keep them separate).

system for futures trading. Rather, futures and options on particular underlying commodities are usually traded on only one exchange.[194]

Like the stock exchanges, the commodity futures markets sell non-core data at prices that are tiered based on the level of access sought by traders.[195] The greater the access to an exchange's order-books' market depth, the higher the fees charged by vendors distributing that market data and by exchanges for co-location of servers.[196] Unlike the SEC, the CFTC does not seek to regulate exchange market data fees. Congress amended the CEA in 2000 to include a requirement that commodity futures exchanges "shall make public daily information on settlement prices, volume, open interest, and opening and closing ranges for actively traded contracts on the contract market."[197] This required data disclosure is principally used to price open positions or inventory at the end of the

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194. The SEC advocated, as a part of its NMS effort, for the development of common clearing and the elimination of exchange rules that curb competition between stock exchanges in the same securities. *See* Regulation NMS, 70 Fed. Reg. 37,496, 37,596 (June 29, 2005) (to be codified in scattered sections of 17 C.F.R.). The result has been often fierce competition between exchanges. In contrast, commodity futures exchanges generally do not compete with each other with respect to particular contracts. *See* James Chen, *Against Actual*, INVESTOPEDIA, https://www.investopedia.com/terms/a/againstactual.asp [https://perma.cc/794D-J4QW] (last updated May 27, 2018). It is a winner-take-all competition, which means, once market share is gained, one exchange will own all trading in the contract as long as it is of interest to traders. This exchange monopoly has been fostered by the lack of common clearing in the futures industry. The Department of Justice has noted:

> [T]he control exercised by futures exchanges over clearing services – including (a) where positions in a futures contract are held ("open interest"), and (b) whether positions may be treated as fungible or offset with positions held in contracts traded on other exchanges ("margin offsets") – has made it difficult for exchanges to enter and compete in the trading of financial futures contracts. If greater head-to-head competition for the exchange of futures contracts could develop, we would expect it to result in greater innovation in exchange systems, lower trading fees, reduced tick size, and tighter spreads, leading to increased trading volume.

DEP'T OF THE TREASURY, TREAS-DO-2007-0018, COMMENTS OF THE UNITED STATES DEP'T OF JUSTICE 1 (2008).

195. *See, e.g.*, *Licensing Market Data*, CME GROUP, https://www.cmegroup.com/market-data/licensing-market-data.html [https://perma.cc/CNN9-7H5M].

196. *See, e.g.*, *How Much Does Market Data Cost and What Data Do I Need?*, TRADOVATE, https://tradovate.zendesk.com/hc/en-us/articles/115011506088-How-much-does-market-data-cost-and-what-data-do-I-need- [https://perma.cc/AS59-3PER] (illustrating that Market Depth Level 2 Data costs more than Top of Book Level 1 Data).

197. Section 7 of Title 7 of the U.S. Code added to the CEA by the Commodity Futures Modernization Act of 2000, Pub. L. No. 106-554, 114 Stat. 2763 (codified as amended in scattered sections of 7, 11, 12, and 15 U.S.C.). *See* 7 U.S.C. § 7 (2012).

trading day.[198] It does not provide "non-core" data in the form of depth-of-order-book pending limit orders.[199] More timely, real-time disclosures were required by the Dodd–Frank Act[200] in 2010 for swaps transactions.[201] CFTC regulations adopted under that statute require real-time disclosure of swap transactions and pricing data.[202] Nevertheless, those rules allow delayed reporting for certain large trades in which immediate disclosure could have undue market effects and harm traders whose positions would be exposed to other traders.[203]

   The fact that the CFTC does not regulate exchange fees for exchange generated market data makes those fees more susceptible to antitrust challenges.[204] As is the case for stock exchanges, the federal antitrust laws are not explicitly preempted by CFTC regulatory oversight. Nevertheless, courts find an implied repeal when necessary, to make the CEA work and where the CFTC is actively regulating the subject of an antitrust claim.[205] The courts have yet to fully assess the application of the antitrust laws and the effects of the CFTC's hands-off approach to exchange data fee regulation. In one case, *Braman v. CME Group, Inc.*,[206] a district court dismissed manipulation and fraud claims brought under the CEA, antitrust law, and other laws concerning preferred access for HFTs to exchange market data.[207] Rather than finding an implied repeal,

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   198. The CFTC is charged with updating net-position-changes data for FCMs. *Net Position Changes Data*, U.S. COMMODITY FUTURES TRADING COMMISSION, https://www.cftc.gov/MarketReports/NetPositionChangesData/index.htm [https://perma.cc/SHC2-59QU].

   199. 7 U.S.C. § 7(d)(8) (referencing "settlement prices, volume, open interest, and opening and closing ranges" as data that shall be made public, but not non-core data).

   200. Pub. L. No. 111-203, 124 Stat. 1376 (2010) (codified as amended at 12 U.S.C. § 5301 (2012)).

   201. *Id.* at 1696.

   202. 17 C.F.R. § 43.1 (2018).

   203. 17 C.F.R. § 43.5 (2018); *see also* Real-Time Public Reporting of Swap Transaction Data, 77 Fed. Reg. 1182, 1184–85 (proposed Jan. 9, 2012) (to be codified at 17 C.F.R. pt. 43) (explaining that the "market impact" should be considered by the CFTC when setting time delays).

   204. The CFTC has, however, brought and settled administrative cases charging that futures commission merchants (FCMs) improperly calculated the amount of exchange and clearing fees that were passed on to the FCMs' customers. *See, e.g.*, Morgan Stanley & Co. LLC, CFTC No. 17-28, 2017 WL 4838599 (Sept. 28, 2017); Merrill, Lynch, Pierce, Fenner & Smith Inc., CFTC No. 17-25, 2017 WL 4480414 (Sept. 22, 2017); J.P. Morgan Sec. LLC, CFTC No. 17-04, 2017 WL 948842 (Jan. 11, 2017) (respondent failed to pay out some $7 million in exchange fee rebates); Barclays Capital, Inc., CFTC No. 16-25, 2016 WL 6522642 (Aug. 4, 2016).

   205. *See, e.g.*, Am. Agric. Movement, Inc. v. Bd. of Trade of Chi., 977 F.2d 1147, 1158 (7th Cir. 1992); *see also* Strobl v. N.Y. Mercantile Exch., 768 F.2d 22, 29 (2d Cir. 1985) (failing to recognize a repeal of the antitrust laws).

   206. 149 F. Supp. 3d 874 (N.D. Ill. 2015).

   207. *Id.* at 881. The complaint charged that the exchanges:

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the antitrust claims were dismissed on the grounds that the complaint's tiered fee claims failed to establish a conspiracy or monopoly that would violate the antitrust laws.[208]

IV. THE LAW OF INSIDER TRADING

A. *Securities Markets—Background*

The centerpiece of the SEC's regulatory efforts since the 1960s has been its effort to combat trading in publicly traded securities using material, nonpublic "inside" information.[209] The SEC made this a crime through a 1961 administrative consent order styled *Cady, Roberts & Co.*[210] The SEC reasoned that traders should have equal access to material nonpublic information that could affect stock prices.[211] The order further stated that traders possessing such information must refrain from trading in the affected security until the information is disseminated effectively to the marketplace as a whole.[212]

Prior to the decision in *Cady, Roberts*, state courts refused to recognize insider trading as a cognizable claim under the common law.[213] As Professor Barbara Bader Aldave has noted, "the majority common law rule was that directors and other insiders owed a fiduciary duty to their corporation, but not to its shareholders, and that such insiders could trade in the corporation's securities without full disclosure."[214] Indeed, a leading state law decision dismissing an insider trading claim against insiders trading in their company's stock on the Boston stock exchange

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> together with a sophisticated class of technology-driven entities known commonly as "high frequency traders" . . . have provided and utilized information asymmetry along with clandestine incentive agreements and illegal trading practices to create a two-tiered marketplace that disadvantages the American public and all other futures marketplace participants, all the while continuing to represent to the public and their regulators that they continue to provide transparent and fair trading markets to the global market.

Id. (alteration in original) (quoting Second Amended Complaint at 1–2, Braman v. CME Grp., Inc., 149 F. Supp. 3d 874 (N.D. Ill. 2014) (No. 1:14-cv-02646)).

    208. *See id.* 894–96.

    209. Markham, *supra* note 15, at 613–14, 614 n.349.

    210. Exchange Act Release No. 6668, 1961 WL 60638 (Nov. 8, 1961).

    211. *Id.* at *5–6.

    212. *Id.* at *5.

    213. A New York court ruled in 1868 that directors of a corporation owed no duty to disclose nonpublic information about their company before buying or selling its stock. *See* Carpenter v. Danforth, 52 Barb. 581, 588 (N.Y. Gen. Term 1968).

    214. Barbara Bader Aldave, *Misappropriation: A General Theory of Liability for Trading on Nonpublic Information*, 13 HOFSTRA L. REV. 101, 104 & n.21 (1984) (noting that "[i]llustrative cases from eighteen states are cited in *Chenery Corp v. SEC*") (emphasis added).

was handed down only shortly before the SEC was created in 1934.[215] Consequently, it may be safely assumed that members of Congress were on notice that an insider trading prohibition would not be included by implication in the federal securities laws on the basis of common law fraud standards then existing. Rather, Congress likely concluded that it would have to impose such a prohibition expressly in federal legislation, if such a prohibition was desired.

Congress did not include the insider trading prohibition now claimed by the SEC in the federal securities laws when those statutes were adopted in the 1930s.[216] That omission was telling in light of the fact that insider trading was criticized in congressional hearings on the Securities Exchange Act of 1934.[217] After considering these concerns, Congress included only a very narrow insider trading prohibition, instead of the broader insider trader prohibition created by the SEC in the *Cady, Roberts* case. That provision is found in § 16 of the Securities Exchange Act, which precludes a narrow range of "insiders," i.e., officers, directors, and shareholders holding more than ten percent of a public company's stock, from making a profit from transactions conducted within six months of each other.[218] Non-insiders were not subject to this provision, and the identified insiders were free to trade for a profit if they had owned their company's stock for more than six months.[219]

The scope of the *Cady, Roberts* insider trading prohibition knows no such boundaries. As posited in that decision, anyone, anywhere, commits fraud by trading on material, nonpublic "inside" information about a public company. Although it recognized that the existing common law on insider trading was weighted heavily against creating such a crime, the SEC ruled that it was unconstrained by common law fraud concepts.[220] Rather, its opinion asserted that "the securities acts may be said to have generated a wholly new and far-reaching body of Federal corporation

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215. Goodwin v. Agassiz, 186 N.E. 659, 661 (Mass. 1933).

216. Congress did not add prohibitions on insider trading until it amended the Securities Exchange Act to increase disclosure requirements in 1964. Act of Aug. 20, 1964, Pub. L. No. 88-467, 78 Stat. 565.

217. As Yale Professor William O. Douglas, later SEC chairman and Supreme Court Justice, noted in 1934: "Recent court records and Senate hearings are replete with specific and illustrative material [involving] . . . trading in securities of the company by virtue of inside information. . . . These are not peculiar to recent times. They are forms of business activity long known to the law." William O. Douglas, *Directors Who Do Not Direct*, 47 HARV. L. REV. 1305, 1306 (1934).

218. 15 U.S.C. § 78p(b) (2012).

219. *See id.*

220. *See* Cady, Roberts & Co., Exchange Act Release No. 6668, 1961 WL 60638, at *4–6 (Nov. 8, 1961).

law."[221] Under this uncertain authority, the SEC concluded that its antifraud powers should incorporate fiduciary duty concepts to engraft insider trading prohibitions into the securities laws.[222]

Cady, Roberts cited, as the basis for the creation of its "classical" insider trading prohibition, the "inherent unfairness involved where a party takes advantage of such information knowing it is unavailable to those with whom he is dealing."[223] This claim of "unfairness" would seemingly apply to HFTs trading on nonpublic information that is, as a practical matter, available only to a limited number of such traders. Surely, it is no less unfair to allow HFTs, with their already inherent time and place advantages, to trade on restricted data than it is to allow corporate insiders to trade.

The Second Circuit generally approved of the insider trading theory created by the SEC in *Cady, Roberts* in a high-profile case involving the Texas Gulf Sulphur Company.[224] The Supreme Court, however, subsequently tried to limit the reach of this administratively invented crime by requiring proof that the defendant had some duty to maintain the confidentiality of the information.[225] The Court stated that "a duty to disclose . . . does not arise from the mere possession of nonpublic market information."[226] "Moreover, neither the Congress nor the [Securities and Exchange] Commission ever has adopted a parity-of-information rule. Instead the problems caused by misuse of market information have been addressed by detailed and sophisticated regulation that recognizes when use of market information may not harm operation of the securities markets."[227]

The Supreme Court, nevertheless, left open doors that allowed the SEC to effectively apply its insider trading theory to a very broad range of cases. In *United States v. O'Hagan*,[228] the Supreme Court concluded that it would recognize two forms of insider trading: (1) "classical" insider trading by a corporate official as in the *Cady, Roberts* case, and (2) the "misappropriation" of inside information by third parties.[229] In *Dirks v. SEC*,[230] the Supreme Court further held that someone tipped on inside information (a "tippee") by a corporate official (the "tipper") could be liable for inside trading if the tipper received some benefit from the

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221. *Id.* at *3.
222. *See id.* at *4–6.
223. *Id.* at *4.
224. *See* SEC v. Texas Gulf Sulphur Co., 401 F.2d 833, 848 (2d Cir. 1968).
225. *See* Chiarella v. United States, 445 U.S. 222, 232–35 (1980).
226. *Id.* at 235.
227. *Id.* at 233.
228. 521 U.S. 642 (1997).
229. *Id.* at 652.
230. 463 U.S. 646 (1983).

trading.[231] That decision was premised on the somewhat strained theory that the tippee in such instances inherited the fiduciary duty of the tipper to keep such information confidential.[232]

B. *Securities Markets—"Classical" Theory for Insider Trading*

The "classical" theory of insider trading by corporate officers using nonpublic information about their company is premised on the agency's view that such trading is a breach of those individuals' fiduciary duty to their corporate shareholders.[233] As noted above, however, prior to the adoption of the antifraud provision in the Securities Exchange Act of 1934, on which the SEC's insider trading claims are premised, state courts had generally ruled that fiduciary duties did not create a basis for insider trading liability.[234]

The Supreme Court decisions adopting the SEC's insider trading claims have mixed the distinction between a breach of fiduciary duty and the commission of fraud. Section 10(b) of the Securities Exchange Act is an antifraud statute.[235] A breach of fiduciary duties, as New York Court of Appeals Justice Benjamin Cardozo famously asserted in *Meinhard v. Salmon*,[236] is not dependent on a showing the elements of fraud, such as fraudulent intent. In *Meinhard*, the court found a breach of the fiduciary duty of loyalty even though there was "no thought to hold that Salmon

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231. *Id.* at 661–62. The Supreme Court later clarified that the benefit to the tipper need not be substantial and that a personal relationship would justify the finding of an indirect benefit. Salman v. United States, 137 S. Ct. 420, 427–28 (2016).

232. *Dirks*, 463 U.S. at 659.

233. *See O'Hagan*, 521 U.S. at 652.

234. *See supra* notes 213–15 and accompanying text. To be sure, the Supreme Court held in *Strong v. Repide*, 213 U.S. 419 (1909), that there may be some unusual, special facts that may have to be disclosed by insiders trading in their company's stock. *Id.* at 431–34 (holding that insiders having nonpublic information that increased the value of the stock of a company by ten times current trading prices required disclosure). After the SEC's announcement of its new insider trading rule in the *Cady, Roberts & Co.* case, the New York Court of Appeals held in *Diamond v. Oreamuno*, 248 N.E.2d 910 (N.Y. 1969), that trading on inside information was a breach of fiduciary duty on the part of corporate employees engaging in such activity. *Id.* at 914. The New York court in that opinion expressly recognized the right of action created by the SEC under Section 10(b) and incorporated it into New York law as a breach of fiduciary duty. *Id.* at 914–15. That decision was followed by some other states. *See, e.g.*, *In re* ORFA Sec. Litig., 654 F. Supp. 1449, 1458 (D.N.J. 1987); Kahn v. Kolberg Kravis Roberts & Co., 23 A.3d 831, 840 (Del. 2011). The Supreme Court of Florida, however, declined to follow the "innovative ruling" of the New York Court in *Diamond*. Schein v. Chasen, 313 So. 2d 739, 746 (Fla. 1975). The Seventh Circuit followed the Florida decision in considering the scope of Indiana law on this subject. Freeman v. Decio, 584 F.2d 186, 196 (7th Cir. 1978).

235. *See Securities Exchange Act of 1934*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/securities_exchange_act_of_1934 [https://perma.cc/95S6-WT9D].

236. Meinhard v. Salmon, 164 N.E. 545 (N.Y. 1928).

was guilty of a conscious purpose to defraud" and that "[v]ery likely" he was acting in "good faith."[237]

The Supreme Court did, however, recognize a distinction between the elements required to establish fraud under Section 10(b) of the Securities Exchange Act of 1934 and the lower standards adopted by courts for fiduciary duty violations. In *Ernst & Ernst v. Hochfelder*,[238] the Court held that Section 10(b) is a fraud standard that requires "intentional or willful conduct designed to deceive or defraud investors."[239] The Supreme Court went further in *Santa Fe Industries, Inc. v. Green*,[240] rejecting a claim that SEC Rule 10b-5 brought "within the ambit of the Rule all breaches of fiduciary duty in connection with a securities transaction."[241] The Court further stated that "the claim of fraud and fiduciary duty breach in the complaint states a cause of action under any part of Rule 10b-5 only if the conduct alleged can be fairly viewed as 'manipulative or deceptive' within the meaning of the statute."[242] Of course, insider trading does not fairly fall within those terms because, when Section 10(b) was enacted, such activities were not viewed to be manipulative or deceptive, or even breaches of fiduciary duties.

The Supreme Court partially set aside those principles when it considered the application of Rule 10b-5 to the classical theory of insider trading in *Chiarella v. United States*.[243] There, the Court held that a duty of disclosure would arise under common law where there was "a fiduciary or other similar relation of trust and confidence between them."[244] In finding such a fiduciary duty on the part of corporate insiders to anonymous purchasers of their company's stock, the Court cited the SEC's *Cady, Roberts* decision.[245] That administrative settlement order, however, had simply made up that duty, ignoring the long-standing precedent holding there was no such duty. To the extent that Congress wanted to prohibit insider trading, it distinctly limited such a restriction to officers, directors, and ten-percent shareholders making profits from trading in their company's stock within a six-month period.[246]

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237. *Id.* at 548.

238. 425 U.S. 185 (1976).

239. *Id.* at 199. *See generally* Jerry W. Markham, *Fiduciary Duties Under the Commodity Exchange Act*, 68 NOTRE DAME L. REV. 199, 200 (1992) (describing the development of fiduciary duty concepts at common law and their application to federal laws).

240. 430 U.S. 462 (1977).

241. *Id.* at 472–74.

242. *Id.* at 473–74.

243. 445 U.S. 222 (1980).

244. *Id.* at 227–28 (quoting RESTATEMENT (SECOND) OF TORTS § 551(2)(a) (AM. LAW INST. 1976)).

245. *Id.* at 226–27.

246. 15 U.S.C. § 78p (2012).

The Court in *Chiarella* rejected a claim of insider trading under Section 10(b) where a printer traded on information he discovered while typesetting disclosure documents that were to be filed with the SEC.[247] The *Chiarella* decision noted that at common law a failure to disclose material nonpublic information arose only where there was a duty to disclose.[248] Chiarella had no such duty.[249] The Court declined to consider whether the misappropriation of inside information would violate the Securities Exchange Act because that issue had not been properly raised in the lower courts.[250]

In another case, *Carpenter v. United States*,[251] the Supreme Court was evenly divided on whether insider trading on misappropriated information violated the federal securities laws.[252] In a unanimous opinion holding that such conduct violated mail and wire fraud statutes, the Court cited the New York state court opinion in *Diamond v. Oreamuno*[253] as authority for its recognition of insider trading as the basis for mail and wire fraud charges.[254] The New York court in *Diamond* relied on the *Cady, Roberts* decision in reaching its "innovative ruling," which was rejected by state courts that chose to follow common law precedents rejecting such claims.[255]

In contrast to the broad reach sought by the SEC in its *Cady, Roberts* decision, under *Chiarella* and *Carpenter*, outsiders legally gaining knowledge of inside information could trade on such an information disparity even if that trading was unfair to other traders. For example, a famous football coach who overheard a conversation disclosing inside information while he was sunbathing in a university grandstand could legally trade on that information.[256] In contrast, a psychiatrist trading on inside information learned from a patient violated Section 10(b) because he breached a fiduciary duty of confidentiality owed to the patient.[257] A

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247. *Chiarella*, 445 U.S. at 224–25.

248. *Id.* at 227–28.

249. *See id.* at 235.

250. *Id.* at 239.

251. 484 U.S. 19 (1987).

252. *Id.* at 27–28. As described below, the Supreme Court later concluded in *O'Hagan* that misappropriation violated Section 10(b). *See* United States v. O'Hagan, 521 U.S. 642, 659 (1997).

253. 248 N.E.2d 910 (N.Y. 1969).

254. *Carpenter*, 484 U.S. at 27–28.

255. *Diamond*, 248 N.E.2d at 914. Courts applying Indiana and Florida laws and precedent have declined to follow this "innovative ruling." *See* Freeman v. Decio, 584 F.2d 186, 196 (7th Cir. 1978); Schein v. Chasen, 313 So. 2d 739, 746 (Fla. 1975).

256. *See* SEC v. Switzer, 590 F. Supp. 756, 766 (W.D. Okla. 1984) (explaining that a football coach who inadvertently overheard information at a track meet was not barred from trading on that information under Rule 10b-5).

257. United States v. Willis, 737 F. Supp. 269, 277 (S.D.N.Y. 1990).

logical distinction between these two cases is missing; the injury suffered by the traders buying the stock in both cases is identical, but only one set of traders has a cognizable claim for redress.[258]

This conversion of a fiduciary duty into a fraud claim becomes even more convoluted when applied to "tippees," i.e., persons receiving nonpublic information from a corporate insider. The SEC claimed that it was unfair to allow those traders to benefit from nonpublic information at the expense of others.[259] The Supreme Court limited the scope of that administratively invented extension of Section 10(b) and Rule 10b-5 in *Dirks v. SEC*. There, Raymond Dirks was tipped by an insider about a massive fraud scheme that was inflating the value of a company's stock.[260] Dirks, an investment adviser, was following the company on behalf of his clients.[261] Those clients sold some $16 million of their stock in the company before the fraud was publicized.[262] Even though Dirks had not traded for his own account, the SEC charged him with insider trading because he had tipped his clients on the fraud.[263] The SEC contended that "anyone who knowingly receives nonpublic material information from an insider has a fiduciary duty to disclose before trading."[264] The Supreme Court held, however, that the mere receipt of information from an insider does not create such a special relationship between the tippee and the corporation's shareholders.[265]

The Court in *Dirks* gave general approval to the *Cady, Roberts* opinion but reiterated its holding in the *Chiarella* case, i.e., that Section 10(b) does not require equal information among all traders.[266] Rather, there must be some duty to disclose imposed on the tippee through the tipper.[267] This will occur where the disclosure is in breach of the tipper's fiduciary duty.[268] The Court in *Dirks* ruled that such a breach occurs where the insider, viz., the tipper, will benefit directly or indirectly from

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258. *Id.*
259. Dirks v. SEC, 463 U.S. 646, 653–54 (1983).
260. *Id.* at 649.
261. *See id.*
262. *Id.* Dirks had tried to alert the SEC and the *Wall Street Journal* on the fraud, but that newspaper was skeptical of the claim and refused to publish an article on it until trading in the company's stock was halted. *See id.* at 649–50; Fred Barbash, *SEC Censure of Dirks Overturned*, WASH. POST (July 2, 1983), https://www.washingtonpost.com/archive/business/1983/07/02/sec-censure-of-dirks-overturned/b4ffff77-cb79-4432-857e-8d453a306eb8/?utm_term=.03b87d54ac26 [https://perma.cc/243V-6SSJ].
263. *See Dirks*, 463 U.S. at 650–51.
264. *Id.* at 656.
265. *Id.* at 656 n.15.
266. *Id.* at 655–59.
267. *See id.* at 657–58.
268. *See id.* at 659.

the disclosure because "absent a breach by the insider, there is no derivative breach."[269] The Court stated that such a breach could occur where a gift of confidential information is given to a friend or relative, because it would be the equivalent of trading by the insider and then giving the profits to the friend or relative.[270]

The non-core market data sold by the exchanges to the HFTs is nonpublic material information with which HFTs are tipped in exchange for fees. Nevertheless, the SEC has allowed the exchanges to sell this information to HFTs on a preferred basis, which conflicts with the action taken by the SEC in the wake of the *Dirks* case. There, the Court noted the importance of the role of investment advisers in ferreting out information by meeting individually with corporate officers or others who have inside information.[271] "It is the nature of this type of information, and indeed of the markets themselves, that such information cannot be made simultaneously available to all of the corporation's stockholders or the public generally."[272]

The Court refused to hold Dirks liable as an insider when he tipped his clients with inside information.[273] Despite that ruling, the SEC refused to drop its *Cady, Roberts* mandate of equal access to nonpublic information after losing on that issue in *Dirks*. Instead, the SEC promulgated Regulation FD (Regulation Fair Disclosure).[274] That regulation prohibits the officers of public companies from making selective disclosures of company matters to financial analysts, institutional investors, or other traders.[275] Such officers may discuss company operations only with an analyst and only in meetings open to all analysts.[276] This restriction was intended to prevent traders, like Dirks, from receiving selective disclosures that allow them to get a jump on other traders.[277] In adopting Regulation FD, the SEC stated that "to the

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269. *Id.* at 662.

270. *Id.* at 664. In a subsequent case, *Salman v. United States*, 137 S. Ct. 420 (2016), the Supreme Court held that the benefit bestowed on the tipper needed to establish tippee liability for a friend or relative tipped on inside information need not be direct or "pecuniary or similarly valuable in nature." *Id.* at 425 (quoting United States v. Newman, 773 F.3d 438, 452 (2014), *abrogated in part by Salman*, 137 S. Ct. at 428).

271. *Dirks*, 463 U.S. at 659.

272. *Id.*

273. *Id.* at 665.

274. 17 C.F.R. § 243.100 (2018).

275. *See id.*

276. *See* Selective Disclosure & Insider Trading, Securities Act Release No. 7887, Exchange Act Release No. 42,259, Investment Company Act Release No. 24,209, 1999 WL 1217849 (proposed Dec. 19, 2000).

277. *See* Antony Page & Katy Yang, *Controlling Corporate Speech: Is Regulation Fair Disclosure Unconstitutional?*, 39 U.C. DAVIS L. REV. 1, 11 (2005) (discussing application of Regulation FD).

maximum extent practicable, [we believe that all investors should] have access to an issuer's material disclosures at the same time."[278] This was viewed to be a matter of "fundamental fairness to all investors."[279] The SEC further stated that

> Issuer selective disclosure bears a close resemblance in this regard to ordinary "tipping" and insider trading. In both cases, a privileged few gain an informational edge – and the ability to use that edge to profit – from their superior access to corporate insiders, rather than from their skill, acumen, or diligence.[280]

This concern would seemingly apply to non-core exchange data sold selectively to HFTs. The tiered pricing for that information effectively denies access by other traders to such data on a timely basis. As the SEC stated with respect to Regulation FD:

> Although the antifraud provisions of the securities laws do not require that all traders possess equal information when they trade, we believe that our disclosure rules should promote fair treatment of large and small investors by, among other things, giving all investors timely access to material information an issuer chooses to disclose.[281]

C. *Commodity Markets—"Classical" Insider Trading Claims Rejected*

Inside information in the commodity markets takes many forms. For example, businesses use these markets to hedge themselves against commercial price risks. These risks may flow from the loss of value in an existing inventory or from the risk of price increases in inventory yet to be acquired.[282] Hedgers are often large commercial firms that have

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278. Paul S. Maco, Dir., Office of Mun. Sec., SEC, Remarks before the Joint Annual Conference of the National Council of Health Facilities Authorities and the National Association of Higher Education Facilities Authorities (Sept. 13, 2000).

279. Selective Disclosure & Insider Trading, Securities Act Release No. 7887, Exchange Act Release No. 42,259, Investment Company Act Release No. 24,209, 1999 WL 1217849 (proposed Dec. 19, 2000).

280. Selective Disclosure & Insider Trading, Securities Act Release No. 7881, Exchange Act Release No. 43,154, Investment Company Act Release No. 24,599, 2000 WL 1201556 (Aug. 15, 2000).

281. Selective Disclosure & Insider Trading, Securities Act Release No. 7887, Exchange Act Release No. 42,259, Investment Company Act Release No. 24,209, 1999 WL 1217849 (proposed Dec. 19, 2000).

282. *See* Merrill Lynch, Pierce, Fenner & Smith, Inc. v. Curran, 456 U.S. 353, 358 (1982) (describing how hedging provides "well-recognized benefits" to commercial firms).

nonpublic information concerning their own purchasing or selling plans that may have a market effect.[283]

Despite such informational advantages, commodity futures traders have not been saddled with the insider trading prohibition invented by the SEC in *Cady, Roberts*. The Supreme Court rejected such an approach over two hundred years ago in *Laidlaw v. Organ*.[284] Writing for the Court there, Chief Justice John Marshall held that a purchaser of tobacco had no duty to disclose to the seller the buyer's prior nonpublic knowledge of the signing of the Treaty of Ghent.[285] The public announcement of that treaty subsequently caused a significant rise in tobacco prices.[286]

The CFTC has also heretofore rejected the SEC's approach to insider trading. Shortly after it was created, the CFTC conducted a study on insider trading in the commodity markets. The resulting report found that, like HFTs given privileged access to exchange market data: "[T]raders on the floor of an exchange may have advantages of time and place over others. Such access to superior or more timely information is inherent in the markets, and futures market participants voluntarily accept this situation if they choose to trade."[287]

The CFTC noted in that report that, in one instance, the chief economist for a large trading firm publicly announced "his forecast that interest rates would fall."[288] That announcement had a strong market effect on futures prices.[289] Prior to the announcement, the economist's

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283. *Hedge Fund Operational Due Diligence Education Series – Understanding Material Nonpublic Information in the United States*, CORGENTUM, https://www.corgentum.com/research/hedge-fund-operational-due-diligence-material-nonpublic-information-united-states.html [https://perma.cc/PH6F-NH8M]; *Hedgers & Speculators*, DANIELS TRADING, https://www.danielstrading.com/education/futures-options-101/hedges-speculators [https://perma.cc/755N-EAMN].

284. 15 U.S. (2 Wheat.) 178, 193 (1817).

285. *Id.* at 195.

286. *Id.* at 184–86, 193. In rejecting that claim, Justice Marshall's opinion stated that:

> The question in this case is, whether the intelligence of extrinsic circumstances, which might influence the price of the commodity, and which was exclusively within the knowledge of the vendee, ought to have been communicated by him to the vendor? The court is of the opinion that he was not bound to communicate it. It would be difficult to circumscribe the contrary doctrine within proper limits, where the means of intelligence are equally accessible to both parties. But at the same time, each party must take care not to say or do anything tending to impose upon the other.

Id. at 195.

287. COMMODITY FUTURES TRADING COMM'N, A STUDY OF THE NATURE, EXTENT AND EFFECTS OF FUTURES TRADING BY PERSONS POSSESSING MATERIAL, NONPUBLIC INFORMATION 54–55 (1984).

288. *Id.* at 42.

289. *Id.* at 42–43.

firm purchased several million dollars of futures contracts on financial instruments that profited from the market effect of his prediction.[290] In the securities industry, such practices may be deemed a violation of Section 10(b) of the Securities Exchange Act of 1934.[291] Nevertheless, the CFTC's insider trading report concluded that an inside trading prohibition in the form of the classical theory adopted by the SEC was unnecessary in the futures markets.[292]

Congress confirmed the CFTC's approach to insider trading on commodity futures exchanges when it amended the CEA in 2008. That amendment added a proviso to the antifraud provisions of § 6b of the CEA,[293] which states that § 6b's prohibitions do not require disclosure of "nonpublic information that may be material to the market price, rate, or level of the commodity or transaction, except as necessary to make any statement made to the other person in or in connection with the transaction not misleading in any material respect."[294]

The Dodd–Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd–Frank Act) added to the CEA language taken from Section 10(b) of the Securities Exchange Act of 1934. This was the statute that the SEC had used to create its insider trading prohibition.[295] That language was borrowed to better prosecute price manipulation schemes under the CEA.[296] Congress made clear, however, that this amendment did not create an insider trading prohibition under the CEA. This was accomplished by adding the same language that was included in the 2008 CEA amendments, which adopted the approach taken in the *Laidlaw* case for insider trading in commodities.

The CFTC subsequently announced that it is permissible under the Dodd–Frank amendment for traders "to withhold information that a market participant lawfully possesses about market conditions . . . either

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290. *Id.* at 43.

291. In *Zweig v. Hearst Corp.*, 594 F.2d 1261 (9th Cir. 1979), the Court held that a financial columnist could violate Section 10b of the Securities Exchange Act by purchasing stock before publishing an article that would cause a rise in the stock's value and then selling the stock for a profit, a practice known as "scalping." *Id.* at 1267; *see* Bruce A. Kohn, Note, *The First Amendment and "Scalping" by a Financial Columnist: May a Newspaper Article Be Commercial Speech?*, 57 IND. L.J. 131, 131 (1982); *see also* Feldman v. Simkins Indus., Inc., 679 F.2d 1299, 1304 (9th Cir. 1982) (explaining the facts and significance of *Zweig*).

292. *See* COMMODITY FUTURES TRADING COMM'N, *supra* note 287, at 59

293. 7 U.S.C. § 6b (2012).

294. *Id.* § 6b(b).

295. *See* 15 U.S.C. § 78j(b).

296. Dodd–Frank Wall Street Reform and Consumer Protection Act § 753, Pub. L. No. 111-203, 124 Stat. 1750 (2010) (codified as amended in scattered sections of 7 U.S.C. (2012)).

in an anonymous market setting or in bilateral negotiations."[297] The CFTC thus recognized "that unlike securities markets, derivatives markets have long operated in a way that allows for market participants to trade on the basis of lawfully obtained material nonpublic information."[298]

Despite these limitations on insider trading prohibitions, the CEA and CFTC regulations prohibit exchange officials from trading on inside information obtained in their roles as self-regulators.[299] This raises the issue of whether the exchange is "tipping" other traders, i.e., the exchanges giving HFTs nonpublic information before other traders for fees. In one case, the CFTC charged that an exchange was responsible for the leaks of nonpublic information about the orders of other traders by an employee to a third-party trader in exchange for entertainment expenses.[300] A district court refused to dismiss those charges.[301]

D. *Insider Trading—Misappropriation and Front Running*

Although Section 10(b) of the Securities Exchange Act is an antifraud standard, it was never intended to be an all-purpose statute to attack fraud everywhere for anything even remotely related to a security.[302] Rather, it is a term of art addressed to manipulative activities that affect securities prices.[303] Of course, as a commodity, proprietary material nonpublic information should be protected from theft.[304] However, theft was already covered by the mail and wire fraud statutes before the new crime of insider trading was invented under Section 10(b) of the Securities

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297. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. 41,398, 41,402 (July 14, 2011) (to be codified at 17 C.F.R. pt. 180).

298. *Id.* at 41,403.

299. 7 U.S.C. § 13(e); 17 C.F.R. § 1.59(b)(1)(i) (2018).

300. U.S. Commodity Futures Trading Comm'n v. Byrnes, 58 F. Supp. 3d 319, 320–21 (S.D.N.Y. 2014).

301. *Id.* at 320.

302. *See* Blue Chips Stamps v. Manor Drug Stores, 421 U.S. 723, 749 (1975) (noting how the plaintiff must be the purchaser or seller of a security where fraud under Section 10b is claimed).

303. *See* Santa Fe Indus., Inc. v. Green, 430 U.S. 462, 476 (1977).

304. Ironically, the SEC was itself subject to a massive misappropriation of material nonpublic information from its confidential files. A group of hackers stole the information and used it to make large profits by trading in stocks of companies filing financial reports with the SEC before those reports were made publicly available. Dave Michaels & Gabriel T. Rubin, *How to Make Money Trading: Hack Into SEC, Peek at 157 Secret Earnings Reports*, WALL ST. J. (Jan. 15, 2019, 7:40 PM), https://www.wsj.com/articles/overseas-trader-network-charged-with-hacking-secs-corporate-filing-trove-11547562262 [https://perma.cc/LF2N-JDDE].

Exchange Act.[305] Nevertheless, the SEC's misappropriation theory of insider trading under Section 10(b) was recognized by the Supreme Court in its *O'Hagan* decision.[306]

The CFTC initially rejected the adoption of a misappropriation theory. In its 1984 report on inside trading in the futures markets, the CFTC stated that:

> [I]t is not always clear who is injured by such trading. One of the parties injured by the misappropriation of information, the source of the information, may not even trade in the futures markets although that party's cash market positions could be affected indirectly. In addition, the party transacting with the insider may claim harm by his or her lack of access to the nonpublic information.[307]

"Front running" is a form of misappropriation.[308] This practice involves the use of advance knowledge of pending or proposed orders of other traders that will have market effects and from which the front runner can profit.[309] The concern, in the context of privileged access to exchange order-book data by HFTs, is that such access allows HFTs to trade in front of other traders who do not have equal access. HFT algorithms can also use order-book data to ferret out the trading patterns of other traders and to profit from that knowledge.[310] As one complaint alleged, preferred access to exchange market data:

> provided HFT firms with virtually exclusive access to detailed trading data in time to "front-run" other market participants by anticipating large pending transactions,

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305. *See* Carpenter v. United States, 484 U.S. 19, 24 (1987) (considering both mail and wire fraud claims and misappropriation under Section 10b of the Securities Exchange Act).

306. United States v. O'Hagan, 521 U.S. 642, 652–54 (1997).

307. COMMODITY FUTURES TRADING COMM'N, *supra* note 287, at 57.

308. *See, e.g.*, *What Is Front Running?*, CFI, https://corporatefinanceinstitute.com/resources/knowledge/trading-investing/front-running/ [https://perma.cc/R3XG-8WWN] ("Front running is considered a form of market manipulation and insider trading because a person who commits a front running activity expects security's price movements based on the non-public information."); *see also* COVINGTON & BURLING, CFTC ENFORCEMENT OUTLOOK: INSIDER TRADING 2–4 (2016), https://www.cov.com/-/media/files/corporate/publications/2016/10/cftc_enforcement_outlook_insider_trading.pdf [https://perma.cc/4X45-UB6A] (discussing the misappropriation theory and derivatives markets).

309. *See* City of Providence v. BATS Glob. Mkts., Inc., 878 F.3d 36, 42 (2d Cir. 2017) (describing front running claims involving advanced access by HFTs to exchange market data), *cert. denied,* 139 S. Ct. 341 (2018).

310. *See* Shobbit Seth, *The World of High Frequency Algorithmic Trading*, INVESTOPEDIA, https://www.investopedia.com/articles/investing/091615/world-high-frequency-algorithmic-trading.asp [https://perma.cc/J6FC-U563] (last updated May 19, 2019).

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.[311]

The CFTC has, over the years, brought a handful of cases involving front running of customer orders and there have been a couple of criminal cases involving such claims.[312] Front running claims have typically involved a broker trading ahead of its own customers or employees trading on market moving trading plans of their employer.[313] HFTs are not trading in front of their customers. Rather, they are trading in front of, or taking advantage of, independent traders. As an SEC Commissioner has noted, "[t]he HFT firm 'has no preexisting relationship with the trader placing the order that the HFT detects,' which means that the HFT firm is not breaking any duty to the other trader."[314] Of course, the same is true of classical insider trading where the person buying from, or selling to, the insider generally has no preexisting relationship with the insider.

Although the CFTC was prohibited from adopting a classical theory of insider trading by Dodd–Frank and earlier 2008 legislation,[315] it continued to press for a front running prohibition in Rule 180.1, adopted after Dodd–Frank.[316] In adopting the rule, the CFTC stated that Rule 180.1 may prohibit "trading on the basis of material nonpublic information in breach of a pre-existing duty (established by another law or rule, agreement, understanding, or some other source)."[317] It also prohibited trading on the basis of "material nonpublic information that was obtained through fraud or deception."[318] This seems to adopt a

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311. *BATS Glob. Mkts.*, 878 F.3d at 49.

312. *See generally* United States v. Dial, 757 F.2d 163 (7th Cir. 1985) (upholding mail and wire fraud convictions where brokers breached fiduciary duty to customers by trading ahead of their orders); Commodity Futures Trading Comm'n v. Kelly, Comm. Fut. L. Rep. (CCH) ¶ 27,465 (S.D.N.Y. 1998) (entering a CFTC injunctive action with a criminal prosecution for front running employer's orders); *In re* Ruggles, CFTC No. 16-34, [2016–2017 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 33,872 (Sept. 29, 2016) (entering a consent order for front running); *In re* Motazedi, CFTC No. 16-02, [2015–2016 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 33,599 (Dec. 2, 2015) (entering a consent order for front running).

313. *See, e.g.*, Dial, 757 F.2d at 168.

314. Peirce, *supra* note 13, at 350 (quoting Merritt B. Fox et al., *The New Stock Market; Sense and Nonsense*, 65 DUKE L.J. 191, 227 (2015)).

315. *See supra* notes 293–97 and accompanying text.

316. 17 C.F.R. § 180.1 (2018).

317. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. 41,398, 41,430 (July 14, 2011) (codified at 17 C.F.R. pt. 180); *see* Andrew Verstein, *Insider Trading in Commodities Markets*, 102 VA. L. REV. 447, 464–65 (2016) (discussing this rule and conducting a comparative analysis of insider trading prohibitions in the securities and commodities markets).

318. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. at 41,403.

misappropriation theory for insider trading in the futures markets despite the rejection of such a prohibition in the agency's 1984 insider trading report.[319]

The CFTC seems poised to expand its enforcement of Rule 180.1. In 2018, the CFTC created a new "Insider Trading and Information Protection Task Force," which will prosecute misappropriation of confidential information, front running, and unauthorized disclosures of information about customer trading.[320] The reference to "Insider Trading" in the title of this task force suggests that the CFTC is seeking to gain some of the spotlight obtained by the SEC in the press through the invention of the crime of insider trading. Whatever the case, it is unlikely that the CFTC will claim that the privileged data fee arrangements for HFTs will constitute front running or misappropriation of customer information. To do so would expand insider trading prohibitions even beyond the SEC's positions on the subject.

V. EXCHANGE MARKET DATA FEES SHOULD NOT BE REGULATED

The SEC's law against insider trading suffers from the fact that the agency administratively created this crime on the premise that unequal access to information is unfair to other traders. As a result, prohibited insider trading has no real definition beyond what the SEC or a court may say it is on any given day. Claims brought by traders against exchanges giving HFTs unequal access to market data are premised on this unfairness theory wrapped in the cloak of fiduciary duties. The SEC resisted applying insider trading prohibitions to the sale of this data, but has reversed course on deferring to market forces to regulate associated fees.[321] This seems to signal an effort to continue to regulate such fees through public utility-like proceedings. The SEC's announcement of its pilot program to measure the effects of transaction fees on market efficiency[322] will undoubtedly raise the unfairness issue, i.e., the SEC will be asked to regulate exchange fees and rebates in ways that will reduce this "unfairness" to other traders.

Critics of HFTs having privileged access to market data, particularly non-core data, will continue to attack tiered fees for that data on the ground that it allows HFTs to front run the orders of other traders. The CFTC's new "Insider Trading and Information Protection Task Force" will also be tempted and pressured to create novel theories that will attack

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319. *See supr*a note 307 and accompanying text.
320. Katherine Berk, *The CFTC Pushes into New Insider Trading Terrain*, COLUM. BUS. L. REV. ONLINE (Nov. 27, 2018, 10:59 AM), https://cblr.columbia.edu/the-cftc-pushes-into-new-insider-trading-terrain/ [https://perma.cc/PGM7-N49R].
321. *See supra* Section IV.C.
322. *See supra* note 172 and accompanying text.

the HFTs' order detection algorithms, which rely on privileged market data access as a form of front running.

Hopefully, the SEC and CFTC will resist efforts to subject exchange market data fees to the "unfairness" theory on which insider trading prohibitions are premised. Exchange market data is simply a commodity that has value to its proprietor, i.e., the exchange. As a commodity, information has value that, when brought to market, should reward the person possessing and transmitting it to market faster than other traders through a better price received for order executions. This is not a one-sided bargain. The rapid introduction of new information by traders motivated to bring the information to market creates market efficiency benefits.

Nonpublic information has been used to gain profits in the commodity markets for over two centuries, as illustrated by the United States Supreme Court's decision in *Laidlaw v. Organ*.[323] The SEC should acknowledge what the Supreme Court recognized in *Laidlaw*: There should be no duty imposed to assure that counterparties have access to nonpublic information.[324] That is the rule in the futures markets. In other words, unequal access to information is not unfair. Rather, trading on such information assures faster, more efficient pricing because the possessor will have a profit incentive to bring this information to the market. Prices will respond to the signals emitted by the trader buying or selling on the basis of the nonpublic information. Market efficiency outweighs concerns with unfairness to other traders in the commodity markets, and that should be the case for the securities markets.

This is not a radical concept. Commodities may be marketed in a variety of ways that provide differing levels of access or service to purchasers of commodities. For example, Amazon offers premium delivery services for a fee.[325] Information, in particular, is often sold at prices that vary based on the speed and nature of the access being sold. Look no further than your most recent hotel stay, where you may have been given the choice of free Internet, which is slow, or faster Internet for a fee.[326] Cable television subscribers are also provided varying levels of

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323. *See* 15 U.S. (2 Wheat.) 178, 184–86 (1817).

324. *See id.* at 195.

325. *Explore Business Prime Benefits*, AMAZON, https://www.amazon.com/businessprime ?hvptwo=&hvnetw=g&hvadid=275306224776&hvpone=&ref=pd_sl_22g97rcr8p_e&force-full-site=1&_encoding=UTF8&hvpos=1t1&hvdev=c&hvexid=&hvqmt=e&tag=googhydr-20&hvta rgid=kwd-10567466461&hvrand=84862121070081986006 [https://perma.cc/WD4M-KCQL].

326. *See, e.g.*, *Member Benefits*, HILTON, https://hiltonhonors3.hilton.com/en/explore/ benefits/index.html [https://perma.cc/B43B-SRGY] (offering free wi-fi to persons frequently staying at a Hilton hotel).

service and are charged based on the information content and level they want to access.[327]

The SEC has modified its approach to inside information with respect to non-core market data fees by allowing privileged access to be sold to a select group of traders, i.e., HFTs. Nevertheless, its penchant for regulating the flow of information in the securities markets continues. Initially, the SEC deferred to exchange competition to regulate the amounts of fees for non-core market data.[328] This meant that non-core market data could be sold to the highest bidders, viz., the HFTs. The HFTs, however, contend that the exchanges are overcharging for this information and have appealed to the SEC to regulate the amounts of those fees. As described above, the SEC's hands-off approach to exchange fees was successfully challenged in a circuit court, which found that the SEC's economic approach to the fairness of the fees lacked rigorous application.[329] Afterwards, and as a result of provisions in the Dodd–Frank Act of 2010, the SEC began taking a more proactive approach in finding exchange fees to be excessive.[330]

In the meantime, traders suffering from the privileged access to non-core data sold to HFTs are claiming that this access is unfair and have made fraud and other claims challenging this access.[331] The courts are still sorting out the validity of such claims. Whatever the outcome of future challenges to the SEC's utility-like regulation over exchange market data fees, issues and claims of unfairness will continue. The ultimate question that needs to be answered is simply whether exchanges should make available such material nonpublic information for sale to the highest bidder. That question has been addressed and answered by Congress in the commodity futures markets, where the CEA rejected unfairness claims relating to unequal access to nonpublic information. The CFTC has been precluded by statute from restricting trading on inside information even if that information may have a market effect on commodity futures prices.[332]

On the other side of the coin, public utility-like regulation should not protect HFTs from high fees. If the fees are too high, the HFTs can exit

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327. *See, e.g.*, *Xfinity Subscription Package*s, COMCAST, https://www.xfinity.com/learn/digital-cable-tv/svod [https://perma.cc/AQ49-4P79] (describing several subscription on-demand packages).

328. *See supra* Section IV.C.

329. *See supra* notes 134–35 and accompanying text.

330. *See* Morgenson, *supra* note 6.

331. *See supra* notes 171–72 and accompanying text. *See generally* Chi. Bd. Options Exch. v. SEC, 889 F.3d 837 (7th Cir. 2018) (affirming a decision by the SEC in which the court deferred to the SEC's conclusion that the agency did not have jurisdiction to hear claims by broker–dealers seeking an accounting and damages from exchanges charging improper fees).

332. Pub. L. No. 74-675, 49 Stat. 1491 (codified as amended at 7 U.S.C. §§ 1–27(f) (2012)).

the market and seek or create alternative trading venues or seek protection under the antitrust laws if the exchanges exercise their monopoly power improperly. That ability gives large institutional traders tremendous bargaining power. As it is now, the HFTs are gaming the exchanges by using the SEC as their tool to reduce exchange fees. Apparently frustrated by that delayed process, HFTs are formulating competitive threats to the exchanges that seek a reduction in fees. As noted above, that effort includes the creation of competing exchanges.[333] That competition should be allowed to proceed. It will provide a real market test for keeping market data fees reasonable through competition.

CONCLUSION

The SEC's development of the NMS was premised on the ability of stockbrokers to readily access core data to fulfill their NMS customer order execution responsibilities. The SEC initially deferred to the market in setting the levels for those fees, i.e., the agency allowed competition among exchanges and other trading venues for volume to assure that high fees did not effectively bar brokers' access to that data. The SEC has now reversed that approach, holding that the exchanges have not shown that market forces were adequate to assure fair and reasonable fees. In taking this action, the SEC is trying to act as a referee in the fight over data fees between SIFMA members and the stock exchanges. In carrying out this role, the SEC has switched from one side to the other without any real economic support for its positions. At the same time, the SEC has left the investing public to the tender mercies of the HFTs in their preferred access to non-core data. The effect of this two-tiered approach is that the SEC is fostering an unlevel playing field on dubious policy grounds.

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333. *See supra* notes 52, 166 and accompanying text. An existing exchange is also competing on fees and to operate its systems in a way that lessens the trading advantages of HFTs. *See* Morgenson, *supra* note 6; *see also* Cezary Podkul, *Study Finds 'Speed Bumps' Help Protect Ordinary Investors*, WALL ST. J. (June 14, 2018, 7:00 AM), https://www.wsj.com/articles/study-finds-speed-bumps-help-protect-ordinary-investors-1528974002 [https://perma.cc/UUC3-L98S] (describing IEX's effort to equalize market access for all traders). The SEC also approved a pilot program by an exchange that slows down order entry (speed bump) to remove or reduce latency advantages of HFTs. Chi. Stock Exch., *Pilot Program Approved for LEAD Speed Bump*, MEDIUM (Oct. 20, 2017), https://medium.com/@TradeOnCHX/pilot-program-approved-for-lead-speed-bump-9954c01a2926 [https://perma.cc/8Z88-SLS3]; *see also* Markham, *supra* note 15, at 612–13 (describing other efforts to slow the HFTs' ability to formulate and enter orders faster than other traders). Competition with exchange fees is also arriving from "single dealer" based exchanges in which a large financial institution acts as the counterparty to clients that are buying and selling stocks. Alexander Osipovich, *After Job Cuts, Deutsche Bank Plans New Electronic Stock-Trading Venture*, WALL ST. J., Mar. 29, 2019, https://www.wsj.com/articles/after-job-cuts-deutsche-bank-plans-new-electronic-stock-trading-venture-11553802022 [https://perma.cc/3QW4-J8ME].

The SEC could, of course, double down and start regulating non-core data fees and exchange rebates.[334] This would lessen the disparity of access to the extent that smaller traders may be better able to afford reduced fees for this data. This access would not, however, remove the speed advantage of the HFTs' computerized algorithmic trading and their use of high-speed lines and other modern communication advances. Moreover, the large financial institutions that SIFMA represents do not need the SEC's assistance in bargaining for lower fees. The SEC is, in any event, ill-equipped for its role of setting fees for market data. That public-utility style regulation should be abandoned in favor of the forces of market competition. This competition is now arriving in the guise of new exchanges that are forming to challenge data fees. In the meantime, if the current exchanges are using their monopoly power to exact unreasonable fees, the antitrust laws will provide adequate protection, especially if the securities laws are deemed not to impliedly repeal those statutes.

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334. In March 2019, the SEC announced that it was reviewing the multi-tier pricing and rebate programs now used by the exchanges. The SEC study will seek to determine whether those arrangements are placing smaller traders at an unfair advantage. John McCrank, *Exclusive: SEC Scrutinizes Fairness of Exchange Pricing*, REUTERS (Mar. 7, 2019, 1:43 PM), https://www.reuters.com/article/us-sec-exchanges-fees-exclusive/exclusive-sec-scrutinizes-fair ness-of-stock-exchange-pricing-idUSKCN1QO2CY [https://perma.cc/B6YR-WJE3]. The SEC chairman also revealed that the agency would be seeking to speed up dissemination of core data as a means for reducing the disparity of access to market data. Gabriel T. Rubin & Alexander Osipovich, *SEC Chief Wants Smaller Investors to Have Better, Faster Stock Data*, WALL ST. J., https://www.wsj.com/articles/sec-chief-wants-smaller-investors-to-have-better-faster-stock-data-11552052700 [https://perma.cc/UJ6L-YLLV] (last updated Mar. 8, 2019, 2:03 PM).