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INTRODUCTION

The 1968 science fiction novel, *Do Androids Dream of Electric Sheep?*, chronicles the actions of bounty hunter Rick Deckard as he tracks down six escaped androids who are visually and physically indistinguishable from normal humans but lack empathy.[1] To determine if a suspect is an android, Deckard needs to use a device called a Voight-Kampff testing apparatus to gauge a test subject's emotions by analyzing eye-muscle and capillary reactions to statements designed to trigger emotional responses.[2] An issue in the novel is whether the Voight-Kampff testing apparatus can distinguish representatives of the newest and most advanced (i.e., most human-like) model of android[3] from humans, or whether Deckard (and other bounty hunters) will have to develop a new and improved tool to do so.[4]

Today, federal regulators are faced with a very different and yet in some ways similar task: monitoring the actions of artificially-intelligent algorithmic trading robots—frequently referred to as "algo bots"—in a continuous effort to combat price manipulation and disruptive trading practices in the markets for futures contracts,[5] commodity options,[6] and

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1. *See generally* PHILIP K. DICK, DO ANDROIDS DREAM OF ELECTRIC SHEEP? (First Ballantine Books Trade Paperback ed. 1996) (1968). The 1982 film, *Blade Runner*, was loosely based on this novel. *See Blade Runner: Full Cast & Crew*, IMDB, http://www.imdb.com/title/tt0083658/fullcredits (last visited Dec. 14, 2014) (listing writing credits).

2. *See* DICK, *supra* note 1, at 48. For example, drawing from the novel, a statement might be: "You have a little boy and he shows you his butterfly collection, including his killing jar," and an answer might consist of, "I'd take him to the doctor." *Id.* at 49.

3. *See id.* at 30 (describing the "Nexus-6"—the newest and most advanced model of android).

4. *See id.* at 38–39, 56–57 (referring to, *inter alia*, advances in android technology that previously had made three earlier android testing methods obsolete, though new, effective methods were quickly developed each time).

5. A futures contract is

> [a]n agreement to purchase or sell a commodity for delivery in the future: (1) at a price that is determined at initiation of the contract; (2) that obligates each party to the contract to fulfill the contract at the specified price; (3) that is used

other derivatives.[7] Both Deckard the bounty hunter and the financial regulator for the futures and derivatives markets—the U.S. Commodity Futures Trading Commission (CFTC)[8]—must face off against the most technologically advanced thinking machines of their day. As with Deckard's analysis of the suspected androids, determining the mental state of suspects is critical to the CFTC's success because many civil enforcement causes of action require proof of a culpable mental state, such as scienter[9] or specific intent.[10]

For the CFTC, the existence of computer software programs that independently (i.e., on their own without specific human direction) place trades in futures contracts is not science fiction.[11] Electronic computer systems have largely replaced the human floor brokers and traders who once shouted out bids and offers in the physical trading pits of futures exchanges.[12] Now, almost all parts of the financial markets,

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to assume or shift price risk; and (4) that may be satisfied by delivery or offset.

CFTC Glossary, U.S. COMMODITY FUTURES TRADING COMMISSION, http://www.cftc.gov/ConsumerProtection/EducationCenter/CFTCGlossary/index.htm (last visited Dec. 14, 2014) (defining "futures contract").

6. An option is "[a] contract that gives the buyer the right, but not the obligation, to buy or sell a specified quantity of a commodity or other instrument at a specific price within a specified period of time, regardless of the market price of that instrument." *Id.* (defining "option"). A commodity option is "an option on a commodity or futures contract." *Id.* (defining "commodity option").

7. "Derivatives are broadly defined as financial instruments whose value is derived from other variables (referred to as 'reference assets' or 'underliers')." Kelly S. Kibbie, *Dancing with the Derivatives Devil: Mutual Funds' Dangerous Liaison with Complex Investment Contracts and the Forgotten Lessons of 1940*, 9 HASTINGS BUS. L.J. 195, 196 n.1 (2013).

8. The CFTC is the equivalent to the Securities and Exchange Commission (SEC), but regulates the markets for futures, options on futures, commodity options, swaps, and certain other derivatives. *See* 2 PHILIP MCBRIDE JOHNSON & THOMAS LEE HAZEN, DERIVATIVES REGULATION § 4.03, at 959 (2004).

9. *See infra* Section II.A.

10. *See infra* Subsection II.B.5. Deckard, on the other hand, had to determine if a suspect lacked proper emotional responses, a fact that marked one as an android. *See, e.g.*, DICK, *supra* note 1, at 49 ("The gauges remained inert, and he said to himself, An android response.").

11. *See* Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. 56,542, 56,573 app. 2 (Sept. 12, 2013) (to be codified at 17 C.F.R. ch. 1) (providing the statement of then CFTC Chairman Gary Gensler in support of new CFTC regulations regarding various forms of electronic and high frequency trading).

12. *See Hearing on High Frequency and Automated Trading in Futures Markets Before the S. Comm. of Agric., Nutrition & Forestry*, 113th Cong. (2014), *available at* http://www.ag.senate.gov/hearings/high-frequency-and-automated-trading-in-futures-markets (providing the written testimony of Andrei Kirilenko, professor of the practice of finance at the Sloan School of Management, Massachusetts Institute of Technology, and former chief economist for the CFTC); *id.* ("Today, trading floors have been replaced by server farms, prescribed gestures have been replaced by message protocols, and automated trading is not visible to the human eye. The traders themselves have been replaced by anonymous algorithms that often operate with little or no oversight."); SCOTT PATTERSON, DARK POOLS: HIGH-SPEED TRADERS, AI BANDITS, AND THE

including the markets for futures and other derivatives, are computerized and automated to some extent, from the exchanges to the traders.[13]

Consider, for example, Dagger. Dagger is not a villain in a science fiction novel or film; it is Citigroup's automated trading system (ATS)[14]:

> Bred and trained in secret by Citi's financial engineers, Dagger can stalk through more than 20 markets, public and otherwise—hunting anomalies, buying and selling, prowling through mountains of historical data—all at the behest of Citi's clients. . . . Dagger fulfills its duties in flickering silence, with a speed and acuity no human can match.
>
> "It's self-learning," [Citi's global head of algorithmic products] says. "The numbers keep updating, the strategy keeps adjusting itself. It gets smarter."[15]

And Dagger is not alone; there are many more of its kind at banks, hedge funds, and independent proprietary-trading[16] firms.[17] More

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THREAT TO THE GLOBAL FINANCIAL SYSTEM 273 (2012) (quoting U.S. Senator Ted Kaufman, who said, "We basically went from a market that was a floor-based market to a market that was digitalized and decimalized. . . . People came into the market and began to develop these high-speed computers. Human beings were no longer doing the trading, computers were. They developed these algorithms. It ran automatically."). *See generally* 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 (2008) (concluding that technological advances are making trading floors obsolete).

    13. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,542 ("U.S. derivatives markets have experienced a fundamental transition from human-centered trading venues to highly automated and interconnected trading environments. The operational centers of modern markets now reside in a combination of automated trading systems ('ATSs') and electronic trading platforms that can execute repetitive tasks at speed orders of magnitude greater than any human equivalent.").

    14. *See* Timothy Lavin, *Monsters in the Market*, ATLANTIC (June 8, 2010, 9:00 AM), http://www.theatlantic.com/magazine/archive/2010/07/monsters-in-the-market/308122/ (calling Dagger "a canny and powerful beast").

    15. *Id.*

    16. Propriety trading occurs "[w]hen a firm trades for direct gain instead of commission dollars. Essentially, the firm has decided to profit from the market rather than from commissions from processing trades." *Proprietary Trading*, INVESTOPEDIA, http://www.investopedia.com/terms/p/proprietarytrading.asp (last visited Dec. 14, 2014); *see also* Lynne Marek, *Quick-Buck Traders Get a Spokesman: Meet Keith Ross*, CRAIN'S CHI. BUS. (May 5, 2014), http://www.chicagobusiness.com/article/20140503/ISSUE01/305039968/quick-buck-traders-get-a-spokesman-meet-keith-ross ("Trading only for their owners' benefit and not outside customers, many of the Chicago proprietary trading firms, known as prop shops, started as small partnerships, but a handful, including Getco, grew into major firms with hundreds of people on

importantly, ATSs are not restricted to securities markets; they also operate in the futures and derivatives markets.[18]

ATSs generally trade based on instructions from computer algorithms,[19] often referred to as "algos."[20] An algorithm is "a step-by-step procedure for solving a problem or accomplishing some end especially by a computer."[21] But "[t]his rudimentary definition of

their payrolls. They all use automated algorithms to trade stocks, options, futures and bonds in split seconds, but some also place and cancel gobs of orders in high-frequency strategies.").

17. *See, e.g.*, Katherine Heires, *Algo Arms Race Has a Leader—For Now*, SEC. INDUS. NEWS, Dec. 18, 2006, at 1 ("[Financial] firms are constantly on the hunt for the next big algorithmic innovation, paying top dollar for relevant quantitative and programming skills and brandishing offerings with appropriately combative labels such as Guerrilla and Sniper (Credit Suisse), Ambush and Razor (Banc of America Securities), Cobra and Nighthawk (Instinet) and Dagger (Citigroup)."); Pierre Paulden, *Daggers, Dark Pools and Disintermediation*, INSTITUTIONAL INVESTOR (Apr. 12, 2007), http://www.institutionalinvestor.com/Article/132506 0/Search/TRADING-Daggers-Dark-Pools-and-Disintermediation.html ("Big brokerage houses like Citigroup and Merrill Lynch & Co.—some of which were openly hostile to electronic trading just a few years ago—are now fighting an all-out arms race to offer the most sophisticated algorithms, often giving them militaristic names like Credit Suisse's Sniper and Citi's Dagger.").

18. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,545 ("An established body of data indicates the importance of electronic and algorithmic trading in U.S. futures markets."). For example, "[b]y the end of the first quarter of 2010, ATSs accounted for over 50% of trading volume in a number of significant product categories at CME Group, Inc.'s [designated contract markets]." *Id.*; *see* RISHI K. NARANG, INSIDE THE BLACK BOX: THE SIMPLE TRUTH ABOUT QUANTITATIVE TRADING 5 (2009) ("The large presence of quants is not limited to equities. In futures and foreign exchange markets, the domain of commodity trading advisors (CTAs), there is a significant presence of quants. . . . [One estimate is that] 85 percent of assets under management among all CTAs are managed by quantitative trading firms."); *see also* MICHAEL LEWIS, FLASH BOYS 268–69 (2014) (describing individuals' efforts to construct extremely fast connections between the futures markets in Chicago and the stock market facilities in New Jersey for HFT firms seeking to take advantage of arbitrage opportunities from temporary price discrepancies). Indeed, some of the founders of well-known HFT firms started out trading on the floor of commodity futures exchanges. *See, e.g.*, PATTERSON, *supra* note 12, at 188–91.

19. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,542 ("[A]utomated trading environments are characterized precisely by their high degree of automation, and by the wide array of algorithmic and information technology systems that generate, risk manage, transmit, and match orders and trades, as well as systems used to confirm transactions, communicate market data and link related systems through high-speed communications networks.").

20. Charles Duhigg, *Stock Traders Find Speed Pays, in Milliseconds*, N.Y. TIMES (July 23, 2009), http://www.nytimes.com/2009/07/24/business/24trading.html.

21. MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 28 (10th ed. 1993); *see also* CHRISTOPHER STEINER, AUTOMATE THIS: HOW ALGORITHMS CAME TO RULE OUR WORLD 5 (2012) ("The classical definition of an algorithm says the device is a list of instructions that leads its user to a particular answer or output based on the information at hand. One could, for instance, write an algorithm for determining what jacket to wear to work in the morning. Inputs: temperature, presence of rain, presence of snow, wind speed, distance and pace you plan to walk, sun or cloud cover."); *id.* at 25 ("[A]lgorithms can be looked at as giant decision trees

algorithms . . . gives little justice to the colossal webs they have become thanks to computers."[22] Nowadays, ATSs are effectively robots: they use "multiple linked algorithms" that have "thousands of inputs, factors, and functions" and are "dynamic" and "capable of self-improvement."[23]

One form of automated trading is high-frequency trading (HFT),[24] which, generally speaking, involves using computers and computer programs to automatically send and cancel orders for trades at speeds faster than humans can think or react.[25] High-speed ATSs can "read"

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composed of one binary decision after another."); *id.* at 54 ("At its core, an algorithm is a set of instructions to be carried out perfunctorily to achieve an ideal result. Information goes into a given algorithm, answers come out.").

22. STEINER, *supra* note 21, at 6.

23. *Id.*; *see also* Heires, *supra* note 17 (discussing "'adaptive algorithms' with built-in intelligence that emulate human reactions to market changes"). "As Ian Bogost wrote in his book *Alien Phenomenology*, we don't have to go to other planets to find aliens. They live among us as algorithms." Dan Saffer, *Why We Need to Tame Our Algorithms Like Dogs*, WIRED (June 20, 2014, 6:30 AM), http://www.wired.com/2014/06/algorithms-humans-bffs (comparing the evolution of some wild wolves into human companions—that is, dogs—with the possible future evolution of algorithms and of the relationship between humans and algorithms).

24. Philip Stafford, *Computer Errors: Mishaps Prompt Greater Scrutiny of High Speed Traders*, FIN. TIMES (Oct. 16, 2012, 7:53 PM), http://www.ft.com/intl/cms/s/0/f8c3eb58-0e21-11e2-8b92-00144feabdc0.html (registration required for access) ("Typically conducted by investors trading their own capital, [HFT] transactions rely on superfast computers, and algorithms and automation to hold positions in assets for fractions of seconds."). The CFTC's Technology Advisory Committee (TAC) "received a definition of HFT from its working group panel of experts" that listed "[t]he attributes of HFT" as including:

> (a) Algorithms for decision making, order initiation, generation, routing, or execution, for each individual transaction without human direction;
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> (b) low-latency technology that is designed to minimize response times, including proximity and co-location services;
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> (c) high speed connections to markets for order entry; and
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> (d) recurring high message rates (orders, quotes or cancellations) determined using one or more objective forms of measurement, including (i) cancel-to-fill ratios; (ii) participant-to-market message ratios; or (iii) participant-to-market trade volume ratios.

Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,545.

25. "According to one study, it takes a human being between 400 and 500 milliseconds to recognize and respond to a visual stimulus—let alone make a complicated financial investment decision." Eamon Javers, *How High-Speed Trading Is About to Get Speedier*, CNBC (Apr. 10, 2013, 1:08 PM), http://www.cnbc.com/id/100631346. "The fastest firms can now execute a trade in under 10 microseconds. It takes 350,000 microseconds just to blink your eye." Matthew Philips, *How High-Speed Traders Outraced the Profits*, BUSINESSWEEK (Oct. 16, 2012), http://www.businessweek.com/articles/2012-10-16/how-high-speed-traders-outraced-the-profits. "Definitions differ, but at its most basic, high-frequency trading implies speed: Using supercomputers, firms make trades in a matter of microseconds, or one-millionth of a second."

news reports and information on the Internet in fractions of a second and then use that information for trading purposes.[26] The move to computerized, automated trading environments went hand-in-hand with the arrival of computer and math whizzes[27]—commonly called "quants" or "quant traders," short for quantitative analysts or traders[28]—to the world of finance.[29] With the influx of quants, some of whom had experience working on software programs grounded in artificial

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Scott Patterson & Geoffrey Rogow, *What's Behind High-Frequency Trading*, WALL ST. J. (Aug. 1, 2009, 11:59 PM), http://online.wsj.com/article/SB124908601669298293.html (subscription required); *see also* PATTERSON, *supra* note 12, at 206 ("In the early 2000s, it was a matter of milliseconds, or thousandths of a second—two hundred times the average speed of human thought. By the end of the decade, high-speed firms would be measuring executions in microseconds, or one-millionth of a second. There was talk of trading in nanoseconds, one-billionth of a second."); Floyd Norris, *Time for Regulators to Impose Order in the Markets*, N.Y. TIMES (May 13, 2010), http://www.nytimes.com/2010/05/14/business/14norris.html ("The computers that now dominate trading are amazing. Their speed is measured in milliseconds. They can post and withdraw an order faster than you can read this word. If a fast computer is on the other side, then a trade can be made before any person could even notice a trade was possible.").

    26. *See* Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,560 ("[T]he data analyzed by trading algorithms can include government economic reports (e.g., GDP, unemployment, and inflation data), as well as economic reports from non-governmental organizations such as universities, trade groups, and other sources."); PATTERSON, *supra* note 12, at 196 ("[An HFT firm] started recruiting AI programmers skilled in machine-learning techniques [so that] [h]ighly sensitive programs would monitor reams of data coming from all corners of the market, learning dynamically on the fly which strategies worked best under a variety of circumstances."); Duhigg, *supra* note 20 ("Powerful algorithms—'algos,' in industry parlance—execute millions of orders a second and scan dozens of public and private marketplaces simultaneously. They can spot trends before other investors can blink, changing orders and strategies within milliseconds."); Vanessa Kortekaas & Philip Stafford, *Regulators Eye New Way to Spot Market Fraud*, FIN. TIMES (May 12, 2013, 2:23 PM), http://www.ft.com/intl/cms/s/0/8b823360-b407-11e2-ace9-00144feabdc0.html (registration required for access) ("This 'sentiment analysis' software monitors everything from macroeconomic news reports to rumours on merger and acquisition deals . . . . Software, such as Thomson Reuters' NewsScope and Deutsche Borse's Alphaflash, is already used in the investment industry—especially by hedge fund managers—to feed data into their automated trading tools.").

    27. *See, e.g.*, PATTERSON, *supra* note 12, at 196 ("[One firm] started poaching math and computer wonks from the Illinois Institute of Technology, a breeding ground for techheads."); *id.* at 206 (mentioning a quantitative trading firm that was "founded by a trio of math and computer experts from MIT and Harvard"); *id.* at 299 (referring to David Shaw, who had "taught computer science at Columbia University before jumping into finance," as "the legendary founder of D.E. Shaw, a giant New York hedge fund that used math and computers to mine hundreds of millions of dollars from the market year after year").

    28. *See, e.g.*, NARANG, *supra* note 18, at xi; Chris Gay, *Does High-Speed Trading Hurt Investors?*, U.S. NEWS (Dec. 3, 2012, 9:25 AM), http://money.usnews.com/money/personal-finance/mutual-funds/articles/2012/12/03/does-high-speed-trading-hurt-investors.

    29. *See* PATTERSON, *supra* note 12, at 45.

intelligence[30] and "machine learning,"[31] ATSs referred to as "black boxes"[32] and "algo bots"[33] began to dominate the trading on some exchanges.[34]

The increased presence of high-speed ATSs in the futures markets brought complaints of the "algo bots" engaging in abusive trading practices and price manipulation in violation of federal law and financial regulations. For example, then CFTC Commissioner Bart Chilton, who has referred to HFT firms as "cheetahs," stated in 2013 that the CFTC was investigating signs that HFT firms were engaging in

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30. *See, e.g.*, *id.* at 277 ("Artificial intelligence programs, the cutting edge of computer science, became the new key to riches. The programs were so sophisticated that they could read breaking news, just like a human reader scanning the pages of *The Wall Street Journal*. Only the computers could do so in milliseconds."); *id.* at 283 ("Computers were conducting more and more trades through complex AI-armed algorithms.").

31. *See, e.g.*, *id.* at 334 ("Machine learning . . . is everywhere around us—it's used by Netflix to predict what kinds of movies we like based on past choices, by Apple's photography software to zero in on human faces, by e-mail firewalls to block spam. And it is also a powerful method for investing, because a computer armed with a robust machine-learning algorithm can detect relationships in the stock market that people could never find.").

32. *See* NARANG, *supra* note 18, at xi (noting that quantitative trading strategies are also known as "black boxes"); Gay, *supra* note 28 (same); *see also* Alyse L. Gould, *Regulating High-Frequency Trading: Man v. Machine*, 12 J. HIGH TECH. L. 273, 285 & n.67 (2011) (noting that "[t]he secrecy is often referred to as trading in the 'black box,'" and that the term "originated out of the obscurity of the investment strategy"); Carol Clark & Rajeev Ranjan, *How Do Broker-Dealers/Futures Commission Merchants Control the Risks of High Speed Trading?* FED. RES. BANK CHI. 19 n.2 (June 2012), http://www.chicagofed.org/webpages/publications /policy_discussion_papers/2012/pdp_3.cfm ("Black box trading strategies are 100 percent automated, pre-programmed, and traders cannot interact or modify the algorithms.").

33. *See, e.g.*, PATTERSON, *supra* note 12, at 2–3 (discussing "Guerilla, the first mass-marketed robot-trading algorithm that could deftly buy and sell stocks in ways that evaded the detection of other algos, a lethal weapon in the outbreak of what became known as the Algo Wars"); *see also Rivlin Says U.S. Needs Bipartisan Budget Compromise*, BLOOMBERG TV (Aug. 28, 2012), http://www.bloomberg.com/video/rivlin-says-u-s-needs-bipartisan-budget-comprom ise-hRaoe9i9SSi4hP8ZyaLX_Q.html (asking Dr. Alice Rivlin, former director of the Office of Management and Budget, the following question: "[D]o you think the SEC should intervene and do something to basically take all these high-frequency traders, guys with co-located servers and algo bots that are front-running pension funds and mutual funds and sort of bring them to heel?").

34. *See, e.g.* PATTERSON, *supra* note 12, at 205 ("By the mid-2000s, just four firms— Automated Trading Desk, Renaissance, Tradebot, and Getco—accounted for roughly 25 to 30 percent of all stock trading in the United States."); *id.* at 196–97 (describing the high-speed automated trading firm, Getco, as "a dominant player in Treasuries, currencies, futures, and ETFs"); David L. Kornblau et al., *Market Manipulation & Algorithmic Trading: The Next Wave of Regulatory Enforcement?*, 43 SEC. REG. & L. REP. (BNA), at 1 (Feb. 20, 2012) (stating that "[c]omputerized trading," which is "[a]lso known as algorithmic trading, . . . now accounts for more than half of the trading volume in U.S. equities markets, and 60 percent of futures contract trading on the Chicago Mercantile Exchange").

a "shocking" amount of wash trading[35]—the name given for illegally taking both sides of prearranged, noncompetitive trades—in the futures markets.[36] Another common illegal practice of HFT firms is "spoofing,"[37] also called "quote stuffing" or "order stuffing."[38]

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35. The Commodity Exchange Act (CEA) prohibits wash trades, also called wash sales. Commodity Exchange Act, Pub. L. No. 112-105, § 4c(a)(1)–(2), 42 Stat. 998 (1922) (codified as amended at 7 U.S.C. § 6c(a)(1)–(2) (2012)); *see also* Scott Patterson et al., '*Wash Trades' Scrutinized*, WALL ST. J. (Mar. 17, 2013, 9:42 PM), http://online.wsj.com/news/articles/ SB10001424127887323639604578366491497070204 (subscription required).

> U.S. regulators are investigating whether high-frequency traders are routinely distorting stock and futures markets by illegally acting as buyer and seller in the same transactions . . . .
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> Such transactions, known as wash trades, are banned by U.S. law because they can feed false information into the market and be used to manipulate prices. Intentionally taking both sides of a trade can minimize financial risk for the trading firm while potentially creating a false impression of higher volume in the market.
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> The [CFTC] is focused on suspected wash trades by high-speed firms in futures contracts tied to the value of crude oil, precious metals, agricultural commodities and the Standard & Poor's 500-stock index, among other underlying instruments . . . .

Id.

36. Ann Saphir, *UPDATE 1-US Regulators Examining 'Wash Trades,' CFTC's Chilton Says*, REUTERS (Mar. 18, 2013, 6:47 PM), http://www.reuters.com/article/2013/03/18/cftc-washtrades-chilton-idUSL1N0CADUD20130318 ("The practice is barred under CFTC and exchange rules because it can create the appearance of an active market where there is none. . . . But the CFTC's surveillance data shows the practice is 'voluminous' and widespread among high-frequency trading firms, said Chilton . . . ."); *see also* Silla Brush, *High-Frequency Firms' Wash Trades Need U.S. Review, Chilton Says*, BLOOMBERG (Mar. 17, 2013, 11:22 PM), http://www.bloomberg.com/news/2013-03-18/high-frequency-firms-wash-trades-need-u-s-rev iew-chilton-says.html ("High-frequency trading firms conduct transactions with themselves in ways that distort liquidity in derivatives markets and warrant regulatory review, according to [then CFTC Commission member] Bart Chilton."); Sakthi Prasad & Mridhula Raghavan, *U.S. Regulators Probing High-Speed Traders for "Wash Trades,"* REUTERS (Mar. 17, 2013, 11:16 PM), http://www.reuters.com/article/2013/03/18/us-cftc-washtrades-idUSBRE92H02A2013031 8 ("The [CFTC] is investigating suspected wash trades by high-speed firms in futures contracts tied to crude oil, precious metals, agricultural commodities and the Standard & Poor's 500 stock index, among other underlying instruments . . . .").

37. In addition to violating CEA § 4c(a)(5)(C), the CFTC also has combatted spoofing with CEA § 4c(a)(2)(B)'s prohibition against causing non-bona fide prices to be reported and CEA § 9(a)(2)'s prohibition on causing false, misleading or knowingly inaccurate reports to be delivered that affect the price of a commodity. *See* Commodity Exchange Act § 4c(a)(5)(C) (codified as amended at 7 U.S.C. § 6c(a)(5)(C)); *In re* Gelber Group, LLC, No. 13-15, Comm. Fut. L. Rep. (CCH) ¶ 32,534, 2013 WL 525839, at *3–4 (C.F.T.C. Feb. 8, 2013); *In re* Bunge Global Mkts., Inc., No. 11-10, 2011 WL 1099346, at *3–4 (C.F.T.C. Mar. 22, 2011); *cf. In re* Lorenzen, No. 13-16, Comm. Fut. L. Rep. (CCH) ¶ 32,535, 2013 WL 525841, at *1, *3–4 (C.F.T.C. Feb. 8, 2013) (noting respondent's violation of the prohibition against wash sales);

Spoofing is defined as "bidding or offering with the intent to cancel the bid or offer before execution."[39] By engaging in spoofing, HFT firms can flood markets with orders and then cancel them almost immediately after they are placed, thereby disrupting markets.[40]

Press Release, CFTC, *CFTC Sanctions Gelber Group, LLC $750,000 for Trading Abuses on Two Exchanges* (Feb. 8, 2013), *available at* http://www.cftc.gov/PressRoom/PressReleases/pr65 12-13 (same). The CFTC has argued that spoofing gives other market participants a "misleading impression of increasing liquidity" and thereby constitutes attempted manipulation in violation of CEA §§ 6(c), 6(d), and 9(a)(2). Complaint at 2, CFTC v. Moncada, No. 12-CV-8791 (S.D.N.Y. 2012); *see also* Press Release, CFTC, *CFTC Files Complaint in Federal Court Against Eric Moncada, BES Capital LLC, and Serdika LLC Alleging Attempted Manipulation of Wheat Futures Contract Prices, Fictitious Sales, and Non-Competitive Transactions* (Dec. 4, 2012), *available at* http://www.cftc.gov/PressRoom/PressReleases/pr6441-12.

38. *See* Reuters, *S.E.C. to Study Rapid-Fire Stock Orders*, N.Y. TIMES (Sept. 7, 2010), http://www.nytimes.com/2010/09/08/business/08sec.html ("Federal regulators are examining certain practices involving 'quote stuffing,' where large numbers of rapid-fire stock orders are placed and canceled almost immediately, the chairwoman of the Securities and Exchange Commission, Mary L. Schapiro, said on Tuesday."); *see also* Peter J. Henning, *Markets Evolve, as Does Financial Fraud*, N.Y. TIMES (Nov. 12, 2013, 7:01 AM), http://dealbook.nytimes.com/2013/11/11/markets-evolve-as-does-financial-fraud/ ("When orders are entered and canceled in the blink of an eye, is that 'order stuffing' intended to affect prices or just a common—if quite rapid—way of doing business?"). Some sources appear to differentiate spoofing from quote/order stuffing, although both strategies involve placing orders for trades and then canceling them before execution. *See, e.g.*, Eliot Lauer et al., *Stay Afloat in the New Wave of High-Frequency Trading Actions*, N.Y. L.J. (Feb. 25, 2013), http://www.newyorklawjournal.com/id=1202589088509 (subscription required) ("The CFTC's interpretation seems to also prohibit layering[, another disruptive HFT tactic,] and quote stuffing . . . ."). Additionally, it appears that "[s]poofing in the securities industry is a bit different than in the commodities industry in that it is considered a form of market manipulation and requires that certain orders be executed." Matthew F. Kluchenek & Jacob L. Kahn, *Deterring Disruptions in the Derivatives Markets: A Review of the CFTC's New Authority over Disruptive Trading Practices*, 3 HARV. BUS. L. REV. ONLINE 120, 131 (2013), http://www.hblr.org/2013/03/deterring-disruption-in-the-derivatives-markets-a-review-of-the-cftcs-new-authority-over-disruptive-trading-practices/.

39. Commodity Exchange Act § 4c(a)(5)(C) (codified at 7 U.S.C. § 6c(a)(5)(C)).

40. *See Sen. Jack Reed Holds a Hearing on Computerized Trading*, POL. TRANSCRIPT WIRE (Sept. 24, 2012), *available at* http://search.proquest.com/docview/1069271973?accountid =10920 (subscription required) (providing the testimony of David Lauer, a market structure and high-frequency trading consultant to Better Markets, a nonprofit, non-partisan organization that advocates for strong financial regulation); *id.* ("Absolute[ly], there is a way to manipulate prices in markets, especially with the current speed of systems right now . . . . There's well-documented evidence of practices such as 'stuffing' which is to slow down the channel of a direct proprietary feed in order to pick off participants that are slower or unable to keep up with a high volume of data."); Marty Steinberg, *CFTC Charges Trading Firm Under New 'Antispoofing' Authority*, CNBC (July 22, 2013, 10:49 AM), http://www.cnbc.com/id/10090278 2 ("Spoofing, a form of disruptive trading practice that is becoming more common with the entrance of high speed trading, is a scheme in which false price bids are entered and then pulled back before anyone can execute them. It's done to create 'liquidity' at certain prices for big offers, and then make money from smaller offers . . . ."); *see also, e.g.*, Silla Brush & Lindsay Fortado, *Panther, Coscia Fined over High-Frequency Trading Algorithms*, BLOOMBERG (July 22, 2013, 11:28 AM), http://www.bloomberg.com/news/2013-07-22/panther-coscia-fined-over-

Additionally, "banging the close"—the practice of "buying or selling large volumes of commodity contracts in the closing moments of a trading day" with the intent to move the price of the contract (or contracts)—is another illegal[41] disruptive trading tactic that HFT firms reportedly employ in derivatives markets.[42]

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high-frequency-trading-algorithms-1-.html ("Panther, based in Red Bank, New Jersey, and Coscia used a computer algorithm that placed and quickly canceled bids and offers in futures contracts for commodities including oil, metals, interest rates and foreign currencies, the [CFTC] said in a statement today. The enforcement action was the CFTC's first under Dodd–Frank Act authority to target disruptive trading practices."); Dina ElBoghdady, *High-Frequency Trading Firm Panther Energy Fined in 'Spoofing' Case*, WASH. POST (July 22, 2013), http://www.washingtonpost.com/business/economy/high-frequency-trading-firm-fined-in-spoofing-case/2013/07/22/361e26bc-f2d8-11e2-ae43-b31dc363c3bf_story.html ("A high-speed trading firm in New Jersey and its owner agreed on Monday to pay $2.8 million to settle federal charges that they used a disruptive market trading practice that was banned by Congress three years ago. The Commodity Futures Trading Commission accused Panther Energy Trading and its owner, Michael J. Coscia, of using sophisticated computer algorithms to illegally place and quickly cancel bids on commodity contracts, a practice known as 'spoofing.'"); Steve Stroth, *Oil-Trade 'Spoofing' Allegations Reviewed by CFTC, Chilton Says*, BLOOMBERG (June 24, 2013, 11:50 AM), http://www.bloomberg.com/news/2013-06-24/oil-trade-spoofing-allegations-reviewed-by-cftc-chilton-says.html.

41. David Cho, *CFTC Charges Firm with Manipulating Oil Prices*, WASH. POST (July 25, 2008), http://www.washingtonpost.com/wp-dyn/content/article/2008/07/24/AR2008072403831.html. "Banging the close" violates the Commodity Exchange Act § 4c(a)(5)(B) (codified at 7 U.S.C. § 6c(a)(5)(B)), although the CFTC has civilly prosecuted such activity with the statutory provisions prohibiting price manipulation in CEA §§ 6(c) and 9(a)(2). Commodity Exchange Act § 6c (codified at 7 U.S.C. § 9(1)); *id.* § 9(a)(2) (codified at 7 U.S.C. § 13(a)(2)); *see* CFTC v. Wilson, No. 13 Civ. 7884(AT), 2014 WL 2884680, at *15 (S.D.N.Y. June 26, 2014) (denying a motion to dismiss where a high-speed trading firm was accused of banging the close in violation of CEA §§ 6(c) and 9(a)(2)); Press Release, CFTC, CFTC Charges Donald R. Wilson and His Company, DRW Investments, LLC, with Price Manipulation (Nov. 6. 2013) [hereinafter Press Release: CFTC Charges Wilson and His Company], *available at* http://www.cftc.gov/PressRoom/PressReleases/pr6766-13; *see also* Casey Sullivan, *NY Judge Rules Regulator's Case Against Speed-Trading Firm DRW to Proceed*, REUTERS (June 26, 2014, 8:04 PM), http://www.reuters.com/article/2014/06/27/pricerigging-donwilson-idUSL2N0P72AH20140627 (stating that Wilson and his firm, DRW, were accused "of manipulating the price of an interest rate swap futures contract in 2011" by engaging in "a practice known as 'banging the close'").

42. David Sheppard & Jonathan Stempel, *High-Frequency Trader Optiver Pays $14 Million in Oil Manipulation Case*, REUTERS (Apr. 20, 2012, 12:54 AM), http://www.reuters.com/article/2012/04/20/us-optiver-settlement-idUSBRE83J01220120420 (noting a "case [where the CFTC] alleged that traders in Optiver's Chicago office reaped a $1 million profit by engaging in a practice called 'banging the close,' in which the firm attempted to move U.S. oil prices by executing a large volume of deals during the final moments of trading"); Landon Thomas Jr., *Inquiry Stokes Unease over Trading Firms That Shape Markets*, N.Y. TIMES (Sept. 3, 2009), http://www.nytimes.com/2009/09/04/business/global/04optiver.html; David Sheppard, *'Milestone' U.S. Oil Manipulation Case Unsettles Traders*, REUTERS (Apr. 20, 2012, 10:14 AM), http://www.reuters.com/article/2012/04/20/cftc-manipulation-idUSL2E8FK2K020120420 ("In its first major case against an algorithmic trader and the biggest financial penalty involving manipulation in the oil futures market, the [CFTC] said late Thursday that a court settlement

The CFTC's mission is to protect market participants from fraud, manipulation, and abusive practices.[43] To that end, the CFTC brings civil enforcement actions against persons who are violating (or have violated) the Commodity Exchange Act (CEA)[44] and the CFTC regulations[45] promulgated thereunder.[46] Indeed, the CFTC has initiated investigations and actions against HFT firms for spoofing,[47] banging the close,[48] and manipulating the price of futures contracts,[49] but in those cases, evidence apparently showed that humans had directed the improper trading practices (or the defendants had admitted as much in settling).[50]

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required the Amsterdam-based company to disgorge $1 million in profits and pay $13 million over allegations it used a rapid-fire tool nicknamed 'The Hammer' to influence U.S. oil prices in 2007.").

43. *See About the CFTC: Mission & Responsibilities*, CFTC, http://www.cftc.gov/About/ MissionResponsibilities/index.htm (last visited Dec. 14, 2014).

44. 7 U.S.C. §§ 1–27f.

45. 17 C.F.R. §§ 1.1–1.75 (2014).

46. *Law & Regulation: Enforcement*, CFTC, http://www.cftc.gov/lawregulation/enforcem ent/index.htm (last visited Dec. 14, 2014).

47. *E.g.*, Press Release, CFTC, CFTC Orders Panther Energy Trading LLC and Its Principal Michael J. Coscia to Pay $2.8 Million and Bans Them from Trading for One Year, for Spoofing in Numerous Commodity Futures Contracts (June 22, 2013) [hereinafter Press Release: CFTC Orders Panther Energy to Pay $2.8 Million], *available at* http://www.cftc.gov/PressRoom/ PressReleases/pr6649-13; *see also* Nathaniel Popper, *New Powers Invoked to Curb a High-Speed Trading Feint*, N.Y. TIMES (July 22, 2013, 12:19 PM), http://dealbook.nytimes.com/2013/07/22/high-speed-trading-firm-is-fined-and-barred/ ("Regulators are using new powers to crack down on a high-speed trading firm that they contend was trying to manipulate the prices of futures contracts.").

48. *E.g.*, Press Release, CFTC, Federal Court Orders $14 Million in Fines and Disgorgement Stemming from CFTC Charges Against Optiver and Others for Manipulation of NYMEX Crude Oil, Heating Oil, and Gasoline Futures Contracts and Making False Statements (Apr. 19, 2012) (quoting Enforcement Director David Meister's statement that "[m]anipulative schemes like 'banging the close' harm market integrity"), *available at* http://www.cftc.gov/PressRoom/PressReleases/pr6239-12.

49. *E.g.*, Press Release: CFTC Charges Wilson and His Company, *supra* note 41.

50. For example, in the *Optiver* case, the CFTC had evidence of traders openly discussing "hammering" and "bully[ing]" the price of oil. Press Release, CFTC, Case Background Information: *CFTC v. Optiver US, LLC, et al.* (July 24, 2008), *available at* http://www.cftc.gov/ ucm/groups/public/@newsroom/documents/file/enfoptiverbackground.pdf (quoting Optiver employees and traders discussing their scheme to manipulate the price of oil); *see also* Thomas Jr., *supra* note 42 (discussing the transcripts and taped conversations about HFT under scrutiny by the CFTC). Similarly, the CFTC's Complaint against Donald R. Wilson and his HFT firm, DRW Investments LLC., references statements made, *inter alia*, by Wilson and his employees. *See, e.g.*, Complaint at 16–17, 19, 21, CFTC v. Wilson, No. 13 CV 7884 (S.D.N.Y. Nov. 6, 2013), *available at* http://www.cftc.gov/ucm/groups/public/@lrenforcementactions/documents/ legalpleading/enfdrwcomplaint110613.pdf; *see also Wilson*, No. 13 Civ. 7884(AT), 2014 WL 2884680, at *4–5 (quoting statements made by traders and one of the defendants). Additionally, on July 22, 2013, the CFTC issued an Order simultaneously filing and settling the first case involving its new Dodd–Frank Act anti-spoofing authority. *See* Press Release: CFTC Orders Panther Energy to Pay $2.8 Million, *supra* note 47. The behavior at issue appears to have been

The question then arises as to whether the CFTC's existing arsenal of CEA and CFTC regulatory provisions is sufficient to combat ATS misconduct that humans did *not* initiate or direct. What if, based on the facts of a case, an ATS engaged in improper trading practices—wash trades, spoofing, or manipulating derivatives prices for example—without any human wanting the ATS to do so? What if no human programmed, oversaw, or operated an ATS with scienter or with any culpable mental state beyond, say, negligence? If a business entity that was using a self-learning ATS engaged in wash trading or banging the close (without a human intentionally programming or directing the ATS to do so), would that business entity face the same legal consequences as a business entity employing human traders that had engaged in exactly the same conduct?[51]

Many causes of action under the CEA require proof that a human involved with the improper activity acted with a culpable mental state. Accordingly, those causes of action would be ineffective in circumstances where computerized trading bots, without specific human direction, engaged in disruptive trading conduct while continuously modifying their own algorithms and independently altering their trading practices in response to the tactics of other ATSs in the markets.

Others have discussed the difficulty of proving scienter in circumstances involving ATSs.[52] But what if it is not just difficult but

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so egregious that it came to the attention of, and was ultimately punished by, the CFTC, the United Kingdom's Financial Conduct Authority, and disciplinary officials with the exchanges where the trades took place. *Id.*

51. Specifically, this Article seeks to analyze circumstances in which an ATS engages in manipulative or disruptive trading practices that are identical to trading practices that have warranted CFTC prosecution when directed by humans, i.e., conduct mirroring that of defendants in prior CFTC enforcement cases. *See, e.g.*, CFTC v. Parnon Energy, Inc., 875 F. Supp. 2d 233, 244 (S.D.N.Y. 2012); Consent Order, CFTC v. Optiver US, LLC, No. 08 Civ. 6560 (S.D.N.Y. Apr. 19, 2012), *available at* http://www.cftc.gov/ucm/groups/public/@lrenforce mentactions/documents/legalpleading/enfoptiverorder041912.pdf; Order, *In re* Gelber Group, No. 13-15, Comm. Fut. L. Rep. (CCH) ¶ 32,534, 2013 WL 525839 (C.F.T.C. Feb. 8, 2013).

52. See, for example, Kara Scannell & Arash Massoudi, *Battle to Keep HFT Probe on Right Lines*, FIN. TIMES (Mar. 10, 2013, 6:53 PM), http://www.ft.com/cms/s/0/b8a5b6e4-8849-11e2-b011-00144feabdc0.html. The article provides the following quotes:

> "Unless there is evidence of intent to manipulate, it's hard to derive intent from raw trading data," said one government official.
>
> To bring a manipulation case, the government would have to find a way to show a person programmed the code to manipulate trades.
>
> "How people will pull those signals apart will be complex," said Tyler Moeller, chief executive of Broadway Technology, which builds electronic trading platforms.
>
> "Determining if the trades were related and were actually manipulative and that

impossible to prove scienter or any other culpable mental state—e.g., specific intent—in a particular case because, in fact, no human actually had intended the ATS in question to do anything improper or even recklessly disregarded the risk that such conduct would occur? Under these circumstances, causes of action that have a scienter or culpable mental state requirement—statutory or regulatory provisions used to target wash trades,[53] price manipulation,[54] fraud-based manipulation,[55] and spoofing[56]—most likely would be ineffective. That would seem to mean, for example, that (in the futures and derivative markets) banging the close is lawful if an ATS—such as Citigroup's Dagger—bangs the close without a human intending for the ATS to do so, unless of course there is another regulatory mechanism for prohibiting such conduct. While regulators could ultimately decide that there are legitimate reasons to prohibit only reckless or intentionally manipulative and disruptive trading practices, treating identical conduct differently based on a person's mental state could create a loophole through which ATS-initiated manipulative and disruptive trading practices could escape sanction.[57]

This Article seeks to determine if the CFTC needs new tools to combat disruptive, manipulative, or otherwise harmful trading practices that originate solely from the "minds" of ATSs.[58] Part I of this Article

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there was malicious human intent behind them can be extremely difficult," he said.

Id.

53. A wash trade violation requires at least proof of intentional conduct. *See In re* Morgan Stanley & Co., No. 12-22, Comm. Fut. L. Rep. (CCH) ¶ 32,218, 2012 WL 3262462, at *4 n.4 (C.F.T.C. June 5, 2012); *see also supra* note 35 (discussing the prohibition against wash trades under the CEA).

54. A price manipulation claim requires proof that the defendant specifically intended to cause a derivative to have an artificial price. *Parnon Energy*, 875 F. Supp. 2d at 244.

55. A fraud-based manipulation cause of action requires proof of scienter, which is satisfied by proof of reckless or intentional conduct. *See* Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. 41,398, 41,404 (July 14, 2011) (codified at 17 C.F.R. pt. 180 (2014)).

56. Spoofing requires proof of scienter beyond recklessness, meaning at least intentional conduct. Antidisruptive Practices Authority, 78 Fed. Reg. 31,890, 31,896 (May 28, 2013).

57. *Cf.* Caitlin Kline, Derivatives Specialist for Better Markets, Transcript of Technology Advisory Committee Meeting of the U.S. CFTC 158–59 (Feb. 10, 2014), *available at* http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/tac_021014_transcript.pdf ("[P]ractices that are illegal when performed by humans, should be equally illegal when done by computers" and if that is not the case, "then there is an urgent need to adapt the rulebook to match the playing field").

58. Some industry leaders, and even regulators themselves, have said that financial regulatory agencies have not kept up with the technological changes in the financial markets. *See* Silla Brush, *High-Speed Traders Outpace CFTC's Oversight, O'Malia Says*, BLOOMBERG (May 7, 2014, 12:01 AM), http://www.bloomberg.com/news/2014-05-06/high-speed-trades-

provides a brief regulatory background of the derivatives markets, then examines the increased automation in those markets today, and concludes by looking at the CFTC's initial responses to the issues raised by automation. Part II briefly looks at the law concerning different mental states for causes of action. Part III examines the CFTC's pre- and post-Dodd–Frank Act tools to police disruptive and manipulative trading practices, which are causes of action that, generally speaking, have scienter or culpable mental state requirements. This makes these tools ineffective in situations where none of the prospective defendants acted with the requisite mental state.

Part IV analyzes the failure-to-supervise cause of action under CFTC Regulation 166.3.[59] It determines that this regulation potentially could be an effective weapon against ATS-initiated behavior that disrupts or manipulates derivative markets because: (1) a Regulation 166.3 claim does not require proof of an underlying violation of the CEA or CFTC Regulations, and (2) decisions analyzing Regulation 166.3 appear to apply a reasonableness standard (as opposed to a scienter requirement) in scrutinizing whether a firm diligently supervised its employees and agents in connection with its business as a CFTC registrant.[60] More specifically, although never explicitly stated, Regulation 166.3 violation decisions appear to apply a reasonableness standard that analyzes whether a reasonably prudent *registrant*—as opposed to a reasonably prudent person—would have acted the same in similar circumstances. Part IV also suggests that, to ensure that Regulation 166.3 will effectively deter disruptive and manipulative trading practices by

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outpace-cftc-s-oversight-o-malia-says.html (quoting former CFTC Commissioner Scott O'Malia, who stated that "[t]he CFTC lacks the technology necessary to routinely oversee the millions of messages traders send every day to futures exchanges"); Ari Burstein, Senior Counsel, Inv. Co. Inst. & ICI Global, Speech at the TradeTech Asia Conference: Assessing the Impact of Global Regulatory Reform—Are We Best Serving the Markets and Investors? (Nov. 8, 2012), *available at* http://www.ici.org/iciglobal/news/speeches/12_burstein_singapore ("One thing is clear: regulations governing the financial markets have not kept pace with the significant changes in trading practices. We are therefore pleased that regulators have started to focus on some of the critical issues surrounding technology, automated trading, and the challenges posed for effectively overseeing the markets."); Dan Waters, Managing Dir., ICI Global, Speech at the ICI Global Trading and Market Structure Conference: Amid Global Market Complexity, a Simple Focus on Investors (Dec. 4, 2012), *available at* http://www.ici.org/iciglobal/news/speeches/12_dw_trading ("Technological advances in trading may also enable those who would manipulate markets to do so more easily and cheaply. Another challenge is regulatory: Simply put, changes in trading practices have outpaced regulations governing the financial markets. The potential for market abuse and disorderly trading related to computer generated orders remains troubling.").

59. 17 C.F.R. § 166.3 (2013).

60. The term "registrant" includes "any person who is registered or required to be registered with the [CFTC] pursuant to the [CEA] or any rule, regulation, or order thereunder." 17 C.F.R. § 166.1(a). For a discussion of decisions analyzing Regulation 166.3, see Part IV.

registrants' ATSs, the CFTC could promulgate a rule making clear that a registrant's duty to diligently supervise its employees in connection with its business as a registrant includes making sure that employees monitor ATSs for improper trading practices.

This Article is the first to: (1) suggest that Regulation 166.3 is most likely the best tool for combatting improper trading practices by ATSs where no human connected to the activities had the requisite scienter; (2) contend that Regulation 166.3 uses a reasonableness standard that is best viewed as a reasonably prudent registrant (as opposed to a reasonably prudent person) standard for diligence in connection with supervisory duties; and (3) point out that this standard establishes, as a baseline, mandatory awareness of requirements in the CEA and applicable CFTC and self-regulatory organization (SRO) rules and guidelines.

I. BACKGROUND

This Part first provides the regulatory background of the derivatives market. Next, it examines the increased automation of trading in those markets today. Finally, it concludes with a review of the CFTC's initial responses to the issues raised by automation.

A. *Regulatory Framework for Futures and Other Derivatives*

The CEA is the federal statute governing the financial markets for futures contracts, commodity options, swaps, and other derivatives.[61] In 2010, Congress enacted the Dodd–Frank Wall Street Reform and Consumer Protection Act (Dodd–Frank Act).[62] Title VII of the Dodd–Frank Act[63] amended the CEA, *inter alia*, to establish a comprehensive new regulatory framework, largely overseen by the CFTC, for swaps.[64] The Dodd–Frank Act also gave the CFTC additional authority to combat fraud-based manipulation and disruptive trading practices.[65]

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61. *See* 1 JOHNSON & HAZEN, *supra* note 8, § 1.14[1], at 284.

62. Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010), *available at* http://www.sec.gov/about/laws/wallstreetreform-cpa.pdf.

63. Title VII of the Dodd–Frank Act is named the Wall Street Transparency and Accountability Act of 2010. *Id.* § 701, 124 Stat. at 1641.

64. *See* Seema G. Sharma, *Over-the-Counter Derivatives: A New Era of Financial Regulation*, 17 LAW & BUS. REV. AMS. 279, 281–82 (2011); *see also* Timothy E. Lynch, *Derivatives: A Twenty-First Century Understanding*, 43 LOY. U. CHI. L.J. 1, 13 n.48 (2011). Generally speaking, "[a] swap contract is an agreement to exchange future cash flows." MICHAEL DURBIN, ALL ABOUT DERIVATIVES 29 (2d ed. 2011).

65. *See, e.g.*, Lauer et al., *supra* note 38 (stating that "Dodd-Frank provides the CFTC with 'new ammo in [its] enforcement arsenal' through broader anti-manipulation authority and new 'disruptive practices' authority, likely to trigger enforcement activity in the futures and commodities markets for high-frequency traders," and predicting that "[t]he recent surge of

Although not specifically defined in the CEA or CFTC Regulations promulgated thereunder,[66] the CEA refers to a futures contract as a "contract[] of sale of a commodity for future delivery."[67] The CEA defines the term, "commodity," with remarkable breadth to include, among other things, "all . . . goods and articles, except onions . . . and motion picture box office receipts . . . , and all services, rights and interests . . . in which contracts for future delivery are presently or in the future dealt in."[68] The CEA requires intermediaries in the derivatives markets—futures commission merchants (FCMs),[69] introducing brokers (IBs),[70] commodity trading advisors (CTAs),[71] commodity pool operators (CPOs),[72] and their associated persons (APs)[73]—to register with the CFTC.[74] The CFTC delegated administration of its registration function to the National Futures Association (NFA). The NFA is a registered futures association and the SRO for the futures, swaps, and derivatives industry. In its capacity as SRO, the NFA promulgates and enforces rules prohibiting its members from engaging in improper conduct.[75]

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interest in high-frequency trading, and the CFTC's expanded authority under Dodd-Frank, signal a substantial future increase in enforcement and litigation activity in this area").

66. Nikolei M. Kaplanov, *Nerdy Money: Bitcoin, The Private Digital Currency, and the Case Against Its Regulation*, 25 LOY. CONSUMER L. REV. 111, 147 (2012).

67. 7 U.S.C. § 2(a)(1) (2012).

68. Commodity Exchange Act, Pub. L. No. 112-105, § 1a(9), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 1a(9)). For additional insight and analysis concerning the CEA's broad definition of the term "commodity," see Paul M. Architzel & John P. Connelly, *Delivery on Futures Contracts as a Legal Requirement*, 36 BUS. LAW. 935, 936–39 (1981).

69. Commodity Exchange Act § 1a(28) (codified at 7 U.S.C. § 1a(28)) (defining FCM). "The [FCM], if in the securities business, would probably be called a brokerage house. . . . A person wishing to trade on the CFTC-regulated markets may open an account at a [FCM] . . . . Trading orders are given by the customer, directly or indirectly, to the FCM." 1 JOHNSON & HAZEN, *supra* note 8, § 1.06[1], at 195–96.

70. Commodity Exchange Act § 1a(31) (codified at 7 U.S.C. § 1a(31)) (defining an IB as any person (except anyone registered as an associated person (AP) of an FCM) who solicits or accepts orders for, *inter alia*, the purchase or sale of any futures contract, swap or commodity option; and who does not accept any money to secure any trades that may result from those orders).

71. *Id.* § 1a(12) (codified at 7 U.S.C. § 1a(12)) (defining CTA as, *inter alia*, any person who, for compensation or profit, engages in the business of advising others as to the value or advisability of trading in any futures contract, commodity option, swap, or other derivative).

72. *Id.* § 1a(11) (codified at 7 U.S.C. § 1a(11)) (defining CPO as "any person engaged in a business that is of the nature of a commodity pool, investment trust, syndicate, or similar form of enterprise, and who, in connection [to that business], solicits, accepts, or receives [funds from others] . . . for the purpose of trading in commodity interests").

73. 17 C.F.R. § 1.3(aa) (2013) (defining AP as, generally speaking, a human—called "natural person" in the CFTC Regulations—who is the agent of another registrant and who either solicits funds or trading orders or who supervises those who do so).

74. *See, e.g.*, Commodity Exchange Act § 4d(a)(1) (codified at 7 U.S.C. § 6d(a)(1)); *id.* § 4d(g) (codified at 7 U.S.C. § 6d(g)).

75. *See, e.g.*, Performance of Registration Functions by National Futures Association with Respect to Swap Dealers and Major Swap Participants, 77 Fed. Reg. 2708, 2709 (Jan. 19, 2012)

Under the CEA, most trading in futures contracts must take place on CFTC-regulated exchanges, which are called designated contract markets (DCMs).[76] CME Group is a Chicago-based corporation that owns several major DCMs, including the Chicago Mercantile Exchange (CME), New York Mercantile Exchange (NYMEX), and Chicago Board of Trade (CBOT).[77] CME Group's electronic trading system for its DCMs is CME Globex.[78]

DCMs also are SROs and, accordingly, must police their markets for disruptive and improper trading practices by their members.[79] Section 5 of the CEA describes the regulatory obligations—in the form of twenty-three "Core Principles"—that exchanges must comply with, both initially upon receiving a designation as a contract market and on an ongoing basis thereafter.[80] For example, Core Principle 4 for DCMs

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(providing a CFTC order "authorizing NFA . . . to perform the full range of registration functions under the CEA and the [CFTC's] regulations with regard to [swap dealers and major swap participants]" and listing all previous such grants of authority to NFA concerning other intermediaries); Registration of Swap Dealers and Major Swap Participants, 77 Fed. Reg. 2613, 2619 (Jan. 19, 2012) ("[T]he [CFTC] intends to delegate its full registration authority under the CEA and its regulations to NFA with respect to applicants for registration, and registrants, as [a swap dealer or major swap participant].ial"); Gary Rubin, *CFTC Regulation 1.59 Fails to Adequately Regulate Insider Trading*, 53 N.Y.L. SCH. L. REV. 599, 606 (2008) ("The 1974 [Commodity Futures Trading Commission Act] also authorized the creation of 'registered futures associations.' This legislation led to the establishment of the [NFA], a nationwide [SRO], for the futures industry, in 1982."). Among other things, NFA prohibits its members from "[e]ngag[ing] in manipulative acts or practices regarding the price of a commodity futures contract." *See* NAT'L FUTURES ASS'N, NFA MANUAL, COMPLIANCE RULES R. 2-2, *available at* http://www.nfa.futures.org/nfamanual/NFAManual.aspx?RuleID=RULE%202-2&Section=4 (last visited Dec. 14, 2014). NFA also requires members to "observe high standards of commercial honor and just and equitable principles of trade in the conduct of their commodity futures business." *Id.* R. 2-4.

76. *See* 1 JOHNSON & HAZEN, *supra* note 8, § 1.04[1], at 150–51.

77. *See CME Group Overview*, CME GROUP (2013), http://www.cmegroup.com/company /files/cme-group-overview.pdf. CME is a "for-profit company [that] operates the world's largest futures exchange." Lynne Marek, *Futures Regulators Challenged by Changing Industry*, CRAIN'S CHI. BUS. (Apr. 22, 2013), http://www.chicagobusiness.com/article/20130420/ISSUE0 1/304209982/futures-regulators-challenged-by-changing-industry; *see also* Andrew Harris & Matthew Leising, *CME Sued on Claims High-Frequency Traders Bought Access*, BLOOMBERG (Apr. 14, 2014), http://www.bloomberg.com/news/print/2014-04-13/cme-gave-high-frequency-traders-peek-at-market-lawsuit-claims.html (describing CME Group as the "owner of the world's largest futures market").

78. *CME Group Overview*, *supra* note 77 ("Today, more than 80 percent of the trades at CME Group are electronic.").

79. *See* 1 JOHNSON & HAZEN, *supra* note 8, § 1.04[3], at 167 (stating that, to receive CFTC approval to be a DCM, "[t]he most important focus . . . is on the ability of the applicant for contract market designation to show that it has adequately provided for the prevention of conduct that would interfere with the ability of the market to reflect true economic conditions"). Generally, a DCM's members are FCMs. *See id.* § 1.06, at 196–97.

80. Commodity Exchange Act, Pub. L. No. 112-105, § 5(d)(1)(A)(i), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 7(d)(1)(A)(i) (2012)).

states that exchanges must "have the capacity and responsibility to prevent manipulation [and] price distortion . . . through market surveillance, compliance, and enforcement practices and procedures."[81] Likewise, Core Principle 12 ("Protection of markets and market participants") requires exchanges to "establish and enforce rules (A) to protect markets and market participants from abusive practices committed by any party, including abusive practices committed by a party acting as an agent for a participant; and (B) to promote fair and equitable trading on the contract market."[82] To that end, CFTC Regulation 38.152 requires DCMs to prohibit abusive trading practices, including front running and wash trading.[83] Similarly, CFTC Regulation 38.156 states that each DCM "must maintain an automated trade surveillance system capable of detecting and investigating potential trade practice violations."[84]

In turn, to comply with the Core Principles and CFTC Regulations, DCMs adopt rules to govern the behavior of their members. For example, CBOT has a rule prohibiting wash trades and another rule prohibiting prearranged, prenegotiated, and noncompetitive trades.[85] The CFTC, in fulfilling its supervisory role over DCMs, conducts rule enforcement reviews to ensure that DCMs are complying with the Core Principles and CFTC Regulations.[86] In this capacity, the CFTC has stated that a DCM "should require market participants whose automated trading systems or algorithms result in trading patterns that are indicative of apparent violations of [DCM] rules to discontinue the use of such systems or algorithms until the cause of the apparent violations is identified and remedied."[87] One of the primary objectives of the Core

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81. *Id*. § 5(d)(4) (codified at 7 U.S.C. § 7(d)(4)).

82. *Id.* § 5(d)(12) (codified at 7 U.S.C. § 7(d)(12)).

83. 17 C.F.R. § 38.152 (2013); *see also id.* § 38.651 (stating, *inter alia*, that a DCM "must have and enforce rules that are designed to promote fair and equitable trading and to protect the market and market participants from abusive practices").

84. *Id.* § 38.156 (stating that "the automated trade surveillance system must have the capability to detect and flag specific trade execution patterns and trade anomalies"); *see also id.* § 38.153 (providing the requirement that a DCM must have the "[c]apacity to detect and investigate rule violations"); *id.* § 38.157 (providing the requirement that a DCM must conduct "[r]eal-time market monitoring").

85. *See* CME Group, CBOT Rulebook R.R. 534, 539A, *available at* http://www.cmegroup.com/rulebook/CBOT/I/5/5.pdf (last visited Dec. 14, 2014).

86. *See Rule Enforcement Reviews of Designated Contract Markets*, CFTC, http://www.cftc.gov/IndustryOversight/TradingOrganizations/DCMs/dcmruleenf (last visited Dec. 14, 2014).

87. Press Release, CFTC, CFTC Releases Rule Enforcement Review of NYSE Liffe U.S. (Apr. 25, 2012), *available at* http://www.cftc.gov/PressRoom/PressReleases/pr6241-12; *Rule Enforcement Review of NYSE Liffe U.S.*, CFTC 36 (Apr. 20, 2012), http://www.cftc.gov/ucm/ groups/public/@iodcms/documents/file/rernyseliffe042012.pdf (referencing the CFTC's findings and its statement that the DCM needed to take measures to ensure that market

Principles and CFTC Regulations is to ensure that the markets, through trading on DCMs, can serve their essential price discovery function for derivative contracts,[88] "whereby all market information known to both hedgers and speculators is reflected by the market price of any given contract."[89] Manipulative and disruptive trading practices harm the ability of a market to fulfill its price discovery function.[90]

"Self-regulation is the hallmark of the U.S. futures industry."[91] Indeed, the SROs—both NFA and the DCMs[92]—require members to diligently supervise their employees and agents in the conduct of their futures and derivatives business.[93] This includes supervision of

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participants who use ATSs do not engage in wash trading in contracts that are traded on the DCM).

88. Core Principle 9 states that an exchange "shall provide a competitive, open, and efficient market and mechanism for executing transactions that protects the price discovery process of trading in the centralized market of the board of trade." Commodity Exchange Act, Pub. L. No. 112-105, § 5(d)(9), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 7(d)(9) (2012)); *see also* Scott D. O'Malia, Comm'r, CFTC, Keynote Address at the State of the Industry 2014 Conference, Commodity Markets Council: We Can Do Better—It's Time to Review Our Rules and Make Necessary Changes (Jan. 27, 2014), *available at* http://www.cftc.gov/PressRoom/ SpeechesTestimony/opaomalia-32 (stating that "the Commission must protect the essential price discovery and hedging function of the futures and swaps markets"). Indeed, the idea that businesses, consumers, and even other futures markets participants can rely on the price discovery function of futures exchanges has long been touted as one of the benefits of futures markets. *See* William L. Stein, *The Exchange-Trading Requirement of the Commodity Exchange Act*, 41 VAND. L. REV. 473, 484 (1988) ("National and international businesses rely on prices discovered on exchanges to reflect an equilibrium between supply and demand, not other artificial factors. . . . Moreover, businesses rely on the prices discovered on the exchanges as being a reflection of the opinions and expectations of a broad base of knowledgeable market participants.").

89. Richard Carlucci, Note, *Harmonizing U.S. Securities and Futures Regulations*, 2 BROOK. J. CORP. FIN. & COM. L. 461, 476 (2008).

90. *See* Charles R.P. Pouncy, *The Scienter Requirement and Wash Trading in Commodity Futures: The Knowledge Lost in Knowing*, 16 CARDOZO L. REV. 1625, 1635–36 (1995).

91. Philip Shishkin, *Insight: MF Global Puts Harsh Light on Self-Regulation*, REUTERS (Dec. 14, 2011, 2:35 PM), http://www.reuters.com/article/2011/12/14/us-mfglobal-regulation-idUSTRE7BD1WE20111214. *See generally* Jake Keaveny, Note, *In Defense of Market Self-Regulation: An Analysis of the History of Futures Regulation and the Trend Toward Demutualization*, 70 BROOK. L. REV. 1419 (2005) (detailing the history of self-regulation in the futures industry and arguing that self-regulation is the most practical and efficient approach to regulating financial markets).

92. Swap execution facilities also are SROs, *see* 17 C.F.R. § 1.3(ee) (2013), but this Article primarily focuses on NFA and DCMs—the futures exchanges—as SROs.

93. *See, e.g.*, CME GROUP, CBOT RULEBOOK R. 432, *available at* http://www.cmegroup. com/rulebook/CBOT/I/4/4.pdf (last visited Dec. 14, 2014) (listing the "[g]eneral offenses," which include the failure to diligently supervise employees and agents in connection with business related to the exchange); CME GROUP, NYMEX RULEBOOK R. 501, *available at* http://www.cmegroup.com/rulebook/NYMEX/1/5.pdf (last visited Dec. 14, 2014) ("Members shall be responsible for ensuring that their employees comply with all Exchange rules . . . .").

employees who are responsible for computerized and automated systems.[94] DCMs also generally require every order entered for a trade to identify whether the order was entered by automated or manual means.[95] DCMs often enforce their regulations through the use of fines. For example, on November 25, 2011, both CME and NYMEX fined Infinium Capital Management (Infinium) for failing to diligently supervise its ATS.[96] NYMEX fined Infinium $350,000 for failing to sufficiently test, control, and supervise its ATS in a 2010 incident involving crude oil futures, whereas CME fined Infinium $500,000 for failure to diligently supervise its ATS in connection with trading malfunctions in E-mini Nasdaq 100 Index futures in 2009.[97] While

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NFA Compliance Rule 2-9 is the general supervisory rule for intermediaries in the non-forex markets, i.e., involving futures, options and swaps. *See* NAT'L FUTURES ASS'N, NFA MANUAL, COMPLIANCE RULES R. 2-9, *available at* http://www.nfa.futures.org/nfaManual/NFAManual.asp x?RuleID=RULE%202-9&Section=4 (last visited Dec. 14, 2014); *see also* 17 C.F.R. § 1.73 (a)(2)(i) (2013).

94. *See, e.g.*, Notice of Disciplinary Action, *In re* Kohl Trading, LLC, No. 12-8783-BC (CME Group Nov. 27, 2013), *available at* http://www.cmegroup.com/tools-information/ lookups/advisories/disciplinary/CME-12-8783-BC-KOHL-TRADING-LLC.html (citing and fining a member $25,000, pursuant to a settlement, for failure to diligently supervise its employees because the member did not use an alert system to notify the exchange that its pre-trade controls were inadvertently disabled); Notice of Disciplinary Action, *In re* Chopper Trading, LLC, No. 12-8969-BC (CME Group Nov. 27, 2013), *available at* http://www.cmegroup.com/tools-information/lookups/advisories/disciplinary/CBOT-12-8969-B C-CHOPPER-TRADING-LLC.html (citing and fining a member $20,000, pursuant to a settlement, for, among other things, failure to diligently supervise its employees because although the member had tested its ATS in liquid derivative products on the exchange it had failed to perform specific testing in the back months— less liquid time periods—of derivatives).

95. *See, e.g.*, Market Regulation Advisory Notice, CME Group, Advisory Number RA1210-5: Manual/Automated Trading Indicator (Fix Tag 1028) (Oct. 8, 2012), *available at* http://www.cmegroup.com/rulebook/files/cme-group-ra1210-5.pdf.

96. *Case Summary: Infinium Capital Management, CME 09-06562-BC*, NAT'L FUTURES ASS'N [hereinafter *Case Summary: Infinium Capital Management, CME 09-06562-BC*], http://www.nfa.futures.org/basicnet/Case.aspx?entityid=0338588&case=09-06562-BC&contrib =CME (last visited Dec. 14, 2014); *Case Summary: Infinium Capital Management, NYME 10-7565-BC*, NAT'L FUTURES ASS'N [hereinafter *Case Summary: Infinium Capital Management, NYME 10-7565-BC*], http://www.nfa.futures.org/basicnet/Case.aspx?entityid=0338588&case= 10-7565-C+INFINIUM+CAPITAL+MGMT&contrib=NYME (last visited Dec. 14, 2014).

97. *Case Summary: Infinium Capital Management, CME 09-06562-BC*, *supra* note 96; *Case Summary: Infinium Capital Management, NYME 10-7565-BC*, *supra* note 96; *see also High-Frequency Oil Trader Fined for Runaway Trades*, REUTERS (Dec. 23, 2011, 1:35 PM), http://www.reuters.com/article/2011/12/23/us-cme-infinium-trader-idUSTRE7BM1BF2011122 3 (referring to a 2010 "error in [a] computer file [that] caused [Infinium] to enter 6,767 one-lot orders for crude [oil] futures contracts in just three seconds" that "generated a million-dollar loss for Infinium, which earlier this year was fined a total of $850,000 for the 2010 error as well as two other computer-trading malfunctions in 2009"). On a side note, thirty-one former employees of Infinium have accused six of the HFT firm's executives "of tricking them into sinking their personal money into the Chicago automated trading company while hiding its struggles to say afloat." Arash Massoudi & Gregory Meyer, *Infinium Ex-Employees Sue over $4.1m Loss*, FIN.

CME Group's executive chairman and president has stated that its market surveillance capabilities are sufficient,[98] "others question whether CME and other regulators have tools sophisticated enough to police the high-speed electronic traders."[99] Indeed, "a former head of market regulation at CME" has stated: "I suspect that there are forms of violations—although clearly less frequent—that are occurring that are more difficult to detect because of the relative anonymity of electronic trading, that only really powerful analytic software is ever going to find."[100]

B. *Derivatives Markets Today: Algo Bots, Black Boxes, and HFT*

Comedian Stephen Colbert was (probably) joking when he said, "[o]ur financial system is much safer now because Wall Street has

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TIMES (Jan. 9, 2014, 4:47 PM), http://www.ft.com/intl/cms/s/0/a6f086da-7912-11e3-91ac-00144feabdc0.html (subscription required) ("31 employees said they collectively lost $4.1m—including the life savings of some—after being persuaded to convert loans they had made to Infinium into equity later rendered worthless."). In March of 2014, Infinium's president said that the HFT firm had ceased operating and that currency trading firm Forex Capital Markets (FXCM) "and a subsidiary [had] acquired five trading desks, physical assets, and 48 employees" from the HFT firm. Tom Polansek, *Exclusive: High-Speed Trader Infinium Capital Winds Down—President*, REUTERS (Mar. 6, 2014, 4:42 PM), http://www.reuters.com/article/2014/03/06/us-speed-trader-infinium-idUSBREA251Y520140306.

    98. *High Frequency and Automated Trading in Futures Markets: Hearing Before the S. Comm. on Agric., Nutrition, & Forestry*, 113th Cong. *2–3 (May 13, 2014), *available at* http://www.ag.senate.gov/hearings/high-frequency-and-automated-trading-in-futures-markets (providing the written testimony of Terrence A. Duffy, Executive Chairman and President of CME Group Inc.); *id.* ("CME promotes market stability through industry leading risk controls. . . . These include: . . . [p]re-execution risk controls[,] . . . price banding[,] . . . messaging controls[,] . . . stop-logic functionality[,] . . . [and] velocity-logic functionality. . . . This balance of regulation and market surveillance——along with deep pools of liquidity—gives market participants the confidence they have come to expect as they rely on [the] markets to effectively manage their risk.").

    99. *See* Marek, *supra* note 77 (quoting the former head of market regulation at CME as stating that, *inter alia*, because the financial industry has greater resources than regulators, "[t]he rocket scientists are developing trading algorithms" and "not developing surveillance software for regulators"). "But CME did not always spot the snafus itself. Rather, like Infinium, the firms reported the problems, sometimes in hopes of revising bad trades." *Id.* Then CFTC Commissioner Bart Chilton also stated: "I think we all are behind the curve in doing the types of surveillance, monitoring and enforcement that we need to do in the fast-paced 'cheetah' trading world." *Id.* "A look at the recent history of self-regulation shows the government repeatedly raised concerns about the resources the major exchanges dedicate to market oversight, while the federal agency also experienced staff cutbacks and retreated from hands-on policing." Shishkin, *supra* note 91 (noting that CME previously had opposed the concept of registration requirements for HFT firms and stating that "[i]n a common refrain, many market participants have accused CME Group of not doing enough to supervise large brokerages whose business and trading volume are key to the company's bottom line").

    100. Marek, *supra* note 77.

removed the weakest link—man."[101] Colbert's comment highlights one of the distinguishing characteristics of quant trading strategies, which is the automation of trading and, consequently, the removal of human biases and emotions from the actual process of deciding when and how to place trades.[102]

> The key determination that puts quants on one side of [the] spectrum and everyone else on the other is whether daily decisions about the selection and sizing of portfolio positions are made systematically (allowing for exceptions of "emergency" overrides . . .) or by discretion. If both the question of *what positions* to own and *how much* of each to own are usually answered systematically, that's a quant. If either one is answered by a human as standard operating procedure, that's not a quant.[103]

That is not to say that quant trading strategies do not involve humans, because humans are the ones who create, program, and oversee the ATSs.[104] As mentioned above, today ATSs direct a great deal of trading in many financial markets.[105] For purposes of this Article, an ATS is a computer or computer software program that automatically[106]

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101. Gay, *supra* note 28 (quoting Stephen Colbert).

102. "Besides conceiving and researching the core investment strategy, humans also design and build the software and systems used to automate the implementation of their ideas. But once the system 'goes live,' human judgment is generally limited in the day-to-day management of a portfolio." Narang, *supra* note 18, at xii.

> [B]y utilizing a computerized, systematic implementation, quants eliminate the arbitrariness that pervades so many discretionary trading strategies. In essence, decisions driven by emotion, indiscipline, passion, greed, and fear—what many consider the key pratfalls of "playing the market"—are eliminated from the quant's investment process. They are replaced by an analytical and systematic approach that borrows from the lessons learned in so many other fields: If something needs to be done repeatedly and with a great deal of discipline, computers will virtually always outshine humans.

Id. at xv.

103. *Id.* at 14. "In this context, *systematic* is defined as a disciplined, methodological, and automated approach." *Id.* at xi.

104. *Id.* at xi ("These people, the ones behind quant trading strategies, are commonly referred to as *quants* or *quant traders*.").

105. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. 56,542, 56,542 (Sept. 12, 2013).

106. Merriam-Webster's Collegiate Dictionary, *supra* note 21, at 78 (defining "automatic" as "a machine or apparatus that operates automatically," with a "self-acting or self-regulating mechanism"); *see also id.* (defining "automate" as "to operate by automation" and "to convert to largely automatic operation"); *id.* (defining "automation" as "automatically controlled operation of an apparatus, process, or system by mechanical or electronic devices").

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submits trades to an exchange or trading platform.[107] While there can be varying degrees of automation,[108] this Article focuses on ATSs that, although created, programmed, and supervised by humans,[109] operate independently in deciding when and how to place (or cancel) orders for trades.[110]

"Algorithmic trading uses computer [algorithms] to enter trading orders with the computer algorithm deciding aspects of the order, such as the timing, price, and quantity of the order, or in many cases, initiating the order without human intervention."[111] Nowadays, the most sophisticated ATSs are "digital robots with programs that evolve[] through time."[112] As mentioned, such ATSs, including those using HFT strategies, continuously analyze, evaluate, and adapt their trading algorithms, which means, as a practical matter, that "an HFT algorithm's half-life can often be measured in weeks."[113]

> Some algorithms' roots trace to the field of artificial intelligence. They may not be intelligent and self-aware . . . , but algorithms can evolve. They observe, experiment, and learn—all independently of their human creators. Using advanced computer science techniques such as machine learning and neural networking, algorithms can

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107. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,544 n.7 ("[T]he term is generally understood to mean a computer-driven system that automates the generation and routing of orders to one or more markets. Other elements of an ATS may also include systems for analyzing market data as a precursor to order generation, managing orders for conformance with establish[ed] risk tolerances, receiving confirmations of orders placed and trades executed, etc.").

108. *See, e.g.*, Neil Rosenthal, *Guide to Trading System Development*, FUTURES MAG. (Sept. 1, 2012), http://www.futuresmag.com/2012/09/01/guide-to-trading-system-development ("Some systems just generate the signals for the trader to follow, while others place the trades into the market on behalf of the trader.").

109. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,547 ("In automated trading, humans design and test ATSs, establish decision criteria, manage implementation, and intervene when technology systems fail. ATS designers must identify the range of market conditions that an ATS could reasonably face, and determine the range of permissible responses by the ATS to each condition.").

110. A working group of a CFTC committee has "described automated trading as cover[ing] systems employed in the decision-making, routing and/or execution of an investment or trading decision, which utilizes a range of technologies including software, hardware, and network components to facilitate efficient access to the financial markets via electronic trading platforms." *Id.* at 56,545 (internal quotation marks omitted).

111. Nathan D. Brown, *The Rise of High Frequency Trading: The Role Algorithms, and the Lack of Regulations, Play in Today's Stock Market*, 11 APPALACHIAN J.L. 209, 209 (2012).

112. PATTERSON, *supra* note 12, at 309.

113. Andrew J. Keller, *Robocops: Regulating High Frequency Trading After the Flash Crash of 2010*, 73 OHIO ST. L.J. 1457, 1464 (2012); *see also, e.g.*, PATTERSON, *supra* note 12, at 306 (discussing that ATSs generally run several algorithms simultaneously, identify the algorithms that make the most money, and discard the "algos" that are less successful).

even create new and improved algorithms based on observed results.[114]

"[T]he data analyzed by trading algorithms can include government economic reports, (GDP, unemployment, and inflation data for example) as well as economic reports from non-governmental organizations such as universities, trade groups, and other sources."[115] Thus far, much of the commentary and focus has been about ATSs and HFT firms operating in the securities markets,[116] but (as mentioned) ATSs and HFT firms also trade in the commodities and futures markets.[117]

Not all ATSs use HFT[118] strategies.[119] For example, since 2007,

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114. STEINER, *supra* note 21, at 7; *see also High-Frequency Trading: The Fast and the Furious*, ECONOMIST (Feb. 25, 2012), http://www.economist.com/node/21547988/ ("The next stage . . . will be self-learning systems, in which sentient algorithms mine the capital markets, spotting correlations that are too complex for humans to see and suggesting trading ideas as a result.").

115. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,560.

116. *See, e.g.*, Michael J. McGowan, iBrief, *The Rise of Computerized High Frequency Trading: Use and Controversy*, 2010 DUKE L. & TECH. REV., no. 16, at *1–2 ("Today, many trades on the stock markets are carried out via complex automated computer programs. These programs are constantly evolving, with faster computers and programs being developed every few weeks. . . . [T]he majority of trades are now dominated by traders utilizing powerful computer algorithms in a practice known as high frequency trading (HFT)." (footnotes omitted)).

117. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,545 ("An established body of data indicates the importance of electronic and algorithmic trading in U.S. futures markets."). For example, "[b]y the end of the first quarter of 2010, ATSs accounted for over 50% of trading volume in a number of significant product categories at CME Group, Inc.'s . . . DCMs." *Id.*; *see also* NARANG, *supra* note 18, at 5 ("The large presence of quants is not limited to equities. In futures and foreign exchange markets, the domain of commodity trading advisors (CTAs), there is a significant presence of quants. . . . [One estimate is that] 85 percent of the assets under management among all CTAs are managed by quantitative trading firms.").

118. There are many definitions of HFT. *See, e.g.*, Tara Bhupathi, Note, *Technology's Latest Market Manipulator? High Frequency Trading: The Strategies, Tools, Risks, and Responses*, 11 N.C. J.L. & TECH. 377, 386 (2010) ("High-frequency trading refers to 'professional traders acting in a proprietary capacity' to use 'low-latency system[s]' in running large numbers of liquidity providing non-marketable orders electronically, most of which are subsequently cancelled."); McGowan, *supra* note 116, at *2 ("At its essence, high frequency (HF), or algorithmic trading, is computer determined trading; the algorithm makes important decisions such as timing, price, or in many cases, executing the entire order without human interaction."); Gay, *supra* note 28 ("HFT—actually a generic term for a range of high-speed trading tactics—is the fine art of using powerful computers programmed with complex instructions to trade stocks at lightning speed, seeking profits in tiny price discrepancies that might exist for a fraction of a second.").

119. *See* Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,545 ("[HFT] strategies have also become an increasingly

New York City hedge fund Rebellion Research has left the job of picking stocks to "Star," "an artificial intelligence program."[120]

> Star picked stocks by scanning a dizzying array of statistics, from the price of commodities such as oil and corn to the performance of international currencies to the latest ticks of thousands of stocks around the world. More important, Star had *learned* its stock-picking strategies *on its own*. And as time went on, Start *kept learning*.[121]

"Rebellion beat the market by a wide margin in 2007 and 2008"[122] and, "[w]ell into 2011, Star had never once, in more than four years, fallen behind the S&P 500 in any rolling 365-day period."[123]

C. *The CFTC's Concept Release*

On September 9, 2013, the CFTC issued a Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, which solicited comments in response to 124 questions in the document.[124] The Concept Release noted that, "[i]n [CFTC]-regulated markets, orders generated by ATSs are ultimately transmitted to DCMs that have themselves become automated systems for the matching and execution of orders."[125] The "Concept Release reflects fundamental statutory objectives under the CEA . . . includ[ing] fostering a system of effective self-regulation, deterring and preventing disruptions to market integrity, protecting market participants and 'promot[ing] responsible innovation and fair competition among boards of trade, other markets and market participants.'"[126] In particular, the Concept Release stated

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important component of automated trading environments. . . . Effectively, HFT is a form of automated trading, but not all automated trading is HFT.").

120. *See* PATTERSON, *supra* note 12, at 322–29. "Star was akin to a digital Warren Buffett, a buy-and-hold computer program able to comb through nearly all tradable stocks in the world and determine which were the best and which the worst." *Id.* at 323.

121. *Id.* at 322–23.

122. *Id.* at 323.

123. *Id.* at 332.

124. Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,542. Then CFTC Chairman Gary Gensler stated that:

> "[t]his Concept Release [was] intended to stir public discussion and debate on how best to protect the functioning of markets for the benefit of farmers, ranchers, merchants and other end users who rely on markets to hedge risk— particularly in light of the reality that the majority of the market is using automated trading systems."

Id. at 56,573 app. 2 (providing Statement of Support of Chairman Gary Gensler).

125. *Id.* at 56,544.

126. *Id.* (citing Commodity Exchange Act, Pub. L. No. 112-105, § 3(b), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 5(b) (2012)).

that the CFTC desired to ascertain the risk controls and safeguards that would best help prevent market disruptions like the May 6, 2010 "Flash Crash."[127] The CFTC described the Concept Release as "a high-level enunciation of potential measures intended to reduce the likelihood of market disrupting events and mitigate their impact when they occur."[128] Then CFTC Chairman Gary Gensler stated:

> We have witnessed a fundamental shift in markets from human-based trading to highly automated electronic trading. Automated trading systems, including high frequency traders, enter the market and execute trades in a matter of milliseconds without human involvement. Electronic trading makes up over 91 percent of the futures market. The swaps market also is moving toward electronic trading.[129]

Through the Concept Release, the CFTC sought comments concerning four general topics: (1) pre-trade controls;[130] (2) post-trade reports and other post-trade measures;[131] (3) system safeguards;[132] and (4) additional protections.[133] The Concept Release also solicited comments concerning the stage at which risk controls would be most useful for firms, intermediaries,[134] or exchanges[135] (or all three).[136]

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127. *See id.* at 56,547. The *Concept Release* explained the events that precipitated the "Flash Crash" as follows:

> On that day, major equity indices in both the futures and securities markets fell over 5% in minutes before recovering almost as quickly. After investigation by both the [CFTC] and the SEC, it was found that a fundamental seller utilized an automated execution algorithm to sell 75,000 E-mini contracts (valued at approximately $4.1 billion) over an abbreviated time interval. The algorithm placed orders based on recent trading volume but was not programmed to take price or time into account; because of this lapse, a feedback loop triggered continued orders from the algorithm even as prices moved far beyond traditional daily ranges. Like the hypothetical example provided above, these declines in the derivatives market quickly filtered over to different, but closely related, products on many other exchanges.

Id.

128. *Id.* at 56,551.

129. *Id.* at 56,573 app. 2.

130. *Id.* at 56,551–55. For example, "[s]ome regulated exchanges have tools specifically designed to . . . limit self-trading," i.e., wash sales. *Id.* at 56,553.

131. *Id.* at 56,555–56.

132. *Id.* at 56,556–60.

133. *Id.* at 56,560–63.

134. Intermediaries include FCMs, CPOs and CTAs. Each of these intermediaries was defined in Section I.A. of this Article. *Supra* notes 69, 71–72 and accompanying text.

135. Examples of exchanges include DCMs and swap execution facilities (SEFs). Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed.

Potential pretrade controls include, *inter alia*, volatility awareness alerts, price collars, maximum order sizes, trading pauses, and credit risk limits.[137] Possible post-trade controls include, *inter alia*, order reports, position reports, and standardized reporting windows for error trades.[138] System safeguards referenced in the Concept Release include kill switches;[139] policies and procedures concerning the design, testing, and supervision of ATSs; and ATS or algorithm identification.[140] Other protections include possibly requiring the registration of persons who use ATSs as floor traders if they are not otherwise registered with the CFTC.[141] Section 1a(23)(A) of the CEA defines the term, "floor trader," as, *inter alia*, "any person . . . who, in or surrounding any pit, ring, post, or other place provided by a contract market for the meeting of persons similarly engaged, purchases, or sells solely for such person's own account . . . any [futures contract, security futures product, swap or commodity option] or . . . who is registered with the [CFTC] as a floor trader."[142] The Concept Release's comment period ended on December

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Reg. at 56,552. For a definition of DCM, see *supra* note 76 and accompanying text. Generally, "[t]he term 'swap execution facility' means a trading system or platform in which multiple participants have the ability to execute or trade swaps by accepting bids and offers made by multiple participants in the facility or system." Commodity Exchange Act, Pub. L. No. 112-105, § 1 a(50), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 1a(50) (2012)).

136. *See* Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. at 56,552.

137. *Id.* at 56,552–55.

138. *See id.* at 56,555–56.

139.

> For example, an order "kill switch" enables a market participant to immediately cancel all working orders generated by one or more of its ATSs, and prevents the submission of additional orders until the appropriate natural persons allow order placement to resume. Such a kill switch could be operated by the market participant generating orders, the clearing firm guaranteeing its trades, or the trading platform on which its orders would be executed. As another example, ATS monitoring and supervision standards, as well as pre-established crisis management protocols, could help ensure that human supervisors intervene quickly when ATSs experience degraded performance, and that supervision staff have . . . both the authority and knowledge to intervene as required.

Id. at 56,549.

140. *Id.* at 56,556–63.

141. *Id.* at 56,560. The Concept Release also asked, "Should software firms providing algorithms be required to register . . . ?" *Id.* at 56,567.

142. Commodity Exchange Act, Pub. L. No. 112-105, § 1a(23)(A), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 1a(23)(A) (2012)). Section 1a(23)(B) further states that the CFTC

> by rule or regulation, may include within, or exclude from, the term "floor trader" any person in or surrounding any pit, ring, post, or other place provided by a contract market for the meeting of persons similarly engaged who trades

11, 2013, but the CFTC re-opened the comment period for additional comments from January 21, 2014 until February 14, 2014.[143] The CFTC is reportedly working on a notice of proposed rulemaking concerning ATSs, and the proposal might include a registration requirement for ATSs or HFT firms.[144]

> solely for such person's own account if the [CFTC] determines that the rule or regulation will effectuate the purposes of this chapter.

Id. § 1a(23)(B) (codified at 7 U.S.C. § 1a(23)(B)). A floor broker, by comparison, is

> any person . . . who, in or surrounding any pit, ring, post, or other place provided by a contract market for the meeting of persons similarly engaged, shall purchase or sell for any other person [any futures contract, security futures product, swap, or commodity option] or . . . who is registered with the [CFTC] as a floor broker.

Id. § 1a(22)(A) (codified at 7 U.S.C. § 1a(22)(A)). CEA § 1a(22)(B) contains language similar to CEA § 1a(23)(B), allowing the CFTC by rule or regulation to similarly expand or restrict the categories of persons who fall within the ambit of the term, "floor broker." *Compare id.* § 1a(22)(B) (codified at 7 U.S.C. § 1a(22)(B)), *with id.* § 1a(23)(B).

143. Press Release, CFTC, CFTC Reopens Comment Period for Concept Release on Risk Controls and System Safeguards for Automated Trading Environments (Jan. 17, 2014), *available at* http://www.cftc.gov/PressRoom/PressReleases/pr6835-14.

144. Silla Brush, *CFTC Weighs High-Speed Trader Registration for Oversight*, BLOOMBERG (May 13, 2014, 2:07 PM), http://www.bloomberg.com/news/2014-05-13/cftc-weighs-high-speed-trader-registration-for-oversight.html; Robert Schroeder, *'Financial Markets Are Not Rigged': CME Group President*, BLOOMBERG (May 13, 2014, 11:42 AM), http://blogs.marketwatch.com/capitolreport/2014/05/13/financial-markets-are-not-rigged-cme-group-presid ent/ ("The [CFTC's] former chief economist told senators that high-speed traders should register with regulators. Andrei Kirilenko, now a professor at the Massachusetts Institute of Technology, said there should be a registration category for automated brokers and traders. The definition would be similar to what used to be called 'floor brokers and traders,' Kirilenko said."). SEC Chair Mary Jo White stated that her agency also is considering, among other things, requiring "[p]roprietary traders who use automated strategies . . . to register with the SEC." Silla Brush & Cheyenne Hopkins, *High-Speed Traders Face Scrutiny by Levin's Senate Investigators*, BLOOMBERG (June 5, 2014), http://www.bloomberg.com/news/print/2014-06-05/high-speed-traders-face-scrutiny-by-levin-s-senate-investigators.html; *see* Douwe Miedema, *U.S. CFTC Preparing Rule for High-Frequency Traders-Regulator*, REUTERS (May 6, 2014, 12:49 AM), http://in.reuters.com/article/2014/05/06/cftc-trading-idINL2N0NS1LA20140506 (noting the CFTC's preparation of a proposed rule for automated trading); High Frequency and Automated Trading in Futures Markets: Hearing of the S. Comm. of Agric., Nutrition, & Forestry, 113th Cong. (2014), *available at* http://www.ag.senate.gov/hearings/high-frequency-and-automated-trading-in-futures-markets (providing testimony of Vince McGonagle, director of the CFTC's Division of Market Oversight); *Hearing of the Senate Agriculture, Nutrition and Forestry Committee Subject: "High Frequency and Automated Trading in Futures Markets,"* FED. NEWS SERV. (May 13, 2014), *available at* advance.lexis.com (paid subscription required) ("One proposal or suggestion that we have in the concept release is whether we should . . . use the floor trader definition for high-frequency traders. And that's something that we're considering at the staff level with respect to recommendation . . . back to the [CFTC]."). White stated that the proposals would "includ[e] an 'anti-disruptive trading' rule to rein in aggressive short-term trading by high-frequency traders during vulnerable market conditions, and a plan to force more

II. The Law of Mental States

This Part examines the CFTC's difficulty in proving the scienter requirement in a cause of action under the CEA. To better understand the different causes of action under the CEA, this Part explains the varying mental states the CFTC must prove for each cause of action.

A. *Scienter for Business Entities*

Under the CEA, scienter—or a culpable mental state—is a required element of the majority of civil claims involving manipulation, abusive market practices, or financial fraud.[145] Only humans and business entities are considered "persons" for purposes of the law.[146] Noticeably, that leaves out computers and software programs, including ATSs.[147]

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proprietary trading shops to register with regulators and open their books for inspection." Sarah N. Lynch et al., *U.S. SEC Chair Plots Major Rules for High-Speed Traders, Dark Pools*, Reuters (June 5, 2014, 5:45 PM), http://www.reuters.com/article/2014/06/05/sec-markets-idUSL1N0OM1OB20140605. "The proposals will be developed by the SEC's staff in the coming months and will require a vote by the full commission, meaning it could be months—if not years—before they're fully implemented." Scott Patterson, *SEC's White Unveils Sweeping Market Proposals*, MarketWatch (June 5, 2014, 1:04 PM), http://www.marketwatch.com/story/secs-white-unveils-sweeping-markets-proposals-2014-06-05.

145. For example, one of the primary antifraud provisions in CEA § 4b, requires proof of scienter. Commodity Exchange Act § 4b (codified at 7 U.S.C. § 6b); CFTC v. R.J. Fitzgerald & Co., 310 F.3d 1321, 1328 (11th Cir. 2002). An exception is CEA § 4*o*(1)(B), which prohibits fraud by CTAs and CPOs (and their APs) and has been interpreted as not requiring proof of scienter. Commodity Exchange Act § 4*o*(1)(B) (codified at 7 U.S.C. § 6*o*(1)(B)); *e.g.*, CFTC v. Commodity Trend Serv., Inc. v. CFTC, 233 F.3d 981, 993 (7th Cir. 2000) (stating that the language of 7 U.S.C. § 6*o*(1)(B) "focuses upon the effect a [commodity trading advisor's (CTA's)] conduct has on its investing customers rather than the CTA's culpability, and so does not require a showing of scienter"); Messer v. E.F. Hutton & Co., 847 F.2d 673, 677, 679 (11th Cir.1988) (stating that CEA § 4*o*(1)(B) "does not require proof of scienter" (emphasis omitted). Scienter also is an essential element of a securities fraud claim under SEC Rule 10b-5, which is the primary antifraud provision of the securities laws. *See* Randall W. Bodner et al., *Corporate Scienter After* Janus, 44 Sec. Reg. & L. Rep. (BNA) 1639, at 1639 (Sept. 3, 2013) ("Scienter— or a culpable mental state—is an essential element of any Rule 10b-5 securities fraud claim, including when the claim is against a corporation.").

146. Business entities are "persons" for purposes of the law. *See* 21st Century Language Act of 2012, 1 U.S.C. § 1 ("In determining the meaning of any Act of Congress, unless the context indicates otherwise . . . the words 'person' and 'whoever' include corporations, companies, associations, firms, partnerships, societies, and joint stock companies, as well as individuals . . . ."); 7 U.S.C. § 1a(38) ("The term 'person' imports the plural or singular, and includes individuals, associations, partnerships, corporations, and trusts.").

147. While some scholars have analyzed the issue of whether computerized or robotic artificial intelligences should be accorded personhood and legal rights, the issue of whether automated trading systems should be granted such treatment is beyond the scope of this Article. *See generally* F. Patrick Hubbard, *"Do Androids Dream?": Personhood and Intelligent Artifacts*, 83 Temp. L. Rev. 405 (2011) (arguing that human artifacts should be afforded legal rights if the artifacts meet certain criteria); F. Patrick Hubbard, *"Sophisticated Robots": Balancing Liability, Regulation, and Innovation*, 66 Fla. L. Rev. 1803 (2014) (concluding that

But because corporations and other business entities act through their employees and agents,[148] lawsuits against business entities must prove scienter in the employee or employees involved in the culpable act or acts.[149] That is, to determine corporate scienter, a court will look to the mental state of the corporate official or officials who made the allegedly improper actions—uttering false statements or making misrepresentations for instance—with the idea that a corporation can only know what is known by the persons acting on its behalf.[150] Therefore, the mental state requirement of any given cause of action ultimately must either be met—or not—in the mind of some specific human or humans.

Most causes of action used to police improper trading practices in CFTC-regulated markets require at least proof of recklessness.[151] Lawmakers have described recklessness as highly unreasonable conduct

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the current legal system's method of addressing human injury from robotic machines provides an appropriate balance of innovation and liability); Lawrence B. Solum, *Legal Personhood for Artificial Intelligences*, 70 N.C. L. REV. 1231 (1992) (exploring the legal and cognitive science landscape surrounding the question of whether artificial intelligence objects should be granted legal rights). The difficulty of establishing scienter to address harmful behavior that would otherwise, with sufficient proof of scienter, be illegal can arise in other contexts as well, such as in connection with self-driving robot cars. *See* Claire Cain Miller, *When Driverless Cars Break the Law*, N.Y. TIMES (May 13, 2014), http://www.nytimes.com/2014/05/14/upshot/when-driverless-cars-break-the-law.html (stating that "[c]riminal penalties are a different story, for the simple reason that robots cannot be charged with a crime" and quoting Ryan Calo, a student studying robotics law at the University of Washington School of Law, as saying: "'Criminal law is going to be looking for a guilty mind, a particular mental state—should this person have known better?'").

148. *See* 7 U.S.C. § 2(a)(1)(B) (providing that "[t]he act, omission, or failure of any . . . agent, or other person acting for any . . . corporation, or trust within the scope of his employment or office shall be deemed the act, omission, or failure of such . . . corporation, . . . as well as of such official, agent, or other person"). Accordingly, a corporation or other business entity is liable for the acts, omissions, and failures of its officers, employees, and agents. *See also* Bodner, *supra* note 145, at 1639.

149. *See* Bodner, *supra* note 145, at 1639. Some federal circuit courts hold that the required culpable state of mind must be found in the specific natural person engaging in the improper activity, whereas other circuit courts have held that the mental state of a business entity—referred to as "collective scienter" or "corporate scienter"—can be aggregated across multiple employees or agents. *See id.* For the purpose of this Article, the applicable scienter legal theory is not important, as both require a natural person or natural persons to have the required mental state.

150. *See* Teamsters Local 445 Freight Div. Pension Fund v. Dynex Capital, Inc., 531 F.3d 190, 195 (2d Cir. 2008); Makor Issues & Rights, Ltd. v. Tellabs Inc., 513 F.3d 702, 708 (7th Cir. 2008) (citing Southland Sec. Corp. v. INSpire Ins. Solutions, Inc., 365 F.3d 353, 366 (5th Cir. 2004)).

151. For example, as mentioned, fraud-based manipulation claims require proof of recklessness at a minimum, and price manipulation claims require proof of specific intent to cause an artificial price, and spoofing requires proof of scienter greater than recklessness. *Supra* notes 53–55.

that departs so greatly from the standard of care that it is "very difficult to believe the actor was not aware of what he or she was doing."[152] As a result, in circumstances where an ATS—without the direction of any human—made all of the specific actions that are alleged to have manipulated the price of a derivative or disrupted a market, the mental state requirements of many causes of actions could pose an insurmountable obstacle for plaintiffs in private lawsuits and the CFTC in civil enforcement actions.[153] Causes of action that require scienter—reckless or intentional conduct—will not apply to circumstances where an ATS engaged in improper trading practices despite the fact that the human ATS programmers and operators did not intend for the ATS to do so and did not recklessly disregard the risk that the ATS would do so.

B. *Mental States and Conduct: From Accidental to Intentional*

"The existence of criminal, quasi-criminal, or tortious conduct requires the convergence of a number of factors, generally characterized as the elements of the offense, violation, or cause of action. Included among such elements is the actor's state of mind."[154] Different causes of action require different mental states, which can be placed on an imaginary continuum based on their difficulty to prove, ranging from strict liability claims that do not require proof of any mental state to

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152. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. 41,398, 41,404 (July 14, 2011) (citing Drexel Burnham Lambert Inc. v. CFTC, 850 F.2d 742, 748 (D.C. Cir. 1988)).

153. *See*, for example, Lauer et al., *supra* note 38 stating:

> Algorithms make pleading and proving scienter far more difficult, magnifying its importance in high-frequency trading cases. . . . An algorithm may not obviously be designed to execute a manipulative trading practice, and the layers of complexity and quasi-randomness that can be introduced when an algorithm reacts to market stimuli will make pleading and proving scienter in the high-frequency trading context far more difficult.

> On any judicial test to assess scienter, a high-frequency trading firm might easily defend itself by saying that the result of its algorithm was a truly unanticipated consequence of the algorithm's response to market stimuli—including other algorithms whose behavior could not possibly be predicted—thus countering any intent to manipulate or inject inaccurate information into the market.

See also Scott Patterson & Michael Rothfeld, *FBI Investigates High-Speed Trading*, WALL ST. J. (Mar. 31, 2014, 9:59 PM), http://online.wsj.com/news/articles/SB1000142405270230488690450 79473874181722310 (subscription required) ("Because high-speed trades are executed by computer programs, it is often more difficult to detect nefarious activity and to prove that it was executed intentionally.").

154. Pouncy, *supra* note 90, at 1685.

specific intent claims that require proof that the defendant intended to achieve a specific result by a particular act.[155] An understanding of these different mental states is essential to understanding the causes of action discussed in this Article, which generally require proof of a particular mental state.

1. Strict Liability

The lowest mental state standard for a claim is, not surprisingly, to have no mental state requirement at all. Strict liability causes of action impose liability without requiring any proof as to the mental state of the actor, a circumstance that makes one liable even for accidental or inadvertent violations of the law.[156] Many "technical" violations of CFTC regulations are strict liability offenses. For example, persons who are required to register with the CFTC but fail to do so are liable regardless of intent—the CFTC does not have to prove that a person intentionally or recklessly failed to register as a commodity trading advisor or other intermediary.[157]

2. Reasonableness (Negligence)

Negligence is the "failure to exercise the care that a [reasonably] prudent person usu[ally] exercises" in like circumstances.[158] "Under a negligence standard, a defendant is liable for failure to act as a reasonable person would have under the circumstances, even if [the

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155. *Id.* at 1644 n.100 (1995) ("Violations of criminal or civil provisions can be predicated on showings of scienter ranging from the highest level of knowledge or intent, i.e., specific intent, to no knowledge or intent, i.e., strict liability.").

156. State v. Clay, 900 N.E.2d 1000, 1003 (Ohio 2008) (stating that, with strict liability criminal statutes, the accused's mental state is irrelevant); 22 C.J.S. *Criminal Law* § 39 (2006) ("If a statute expressly dispenses with a culpable mental state, the offense, generally classified as 'malum prohibitum' rather than 'malum in se,' is a strict liability offense." (footnotes omitted)). Black's Law Dictionary defines strict liability, which has been called "liability without fault," as "[l]iability that does not depend on actual negligence or intent to harm, but that is based on the breach of an absolute duty to make something safe." BLACK'S LAW DICTIONARY 926 (7th ed. 1999).

157. *See* CFTC v. British Am. Commodity Options Corp., 560 F.2d 135, 142 (2d Cir. 1977). Strict liability offenses arise in various areas of the law. For example, patent infringement is a strict liability tort. Jurgens v. CBK, Ltd., 80 F.3d 1566, 1570 n.2 (Fed. Cir. 1996) (citing Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1527 (Fed. Cir. 1995) (en banc), *rev'd on other grounds*, 520 U.S. 17 (1997)).

158. MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY, *supra* note 21, at 777; *accord* BLACK'S LAW DICTIONARY 930 (5th ed. 1979) ("Negligence is the failure to use such care as a reasonably prudent and careful person would use under similar circumstances . . . ."); W. KEETON ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 32, at 175 (5th ed. 1984) (concluding that "negligence is a failure to do what the reasonable person would do" under like circumstances); *see also* 57A AM. JUR. 2D *Negligence* § 133 (2004) ("[T]he objective test for negligence is normally stated simply in terms of the reasonably prudent person.").

defendant] did not intend or appreciate the risks of [the] activities."[159] Although negligence frequently is "discussed as a level of mens rea, . . . [it] is actually not a state of mind. Rather, it is a standard of conduct the defendant is expected to maintain regardless of his state of mind."[160] Further, "[t]he essence of negligence is unreasonableness; due care is simply reasonable conduct."[161] Therefore, a negligence standard involves determining, based on the given facts, whether the individual in question acted reasonably under the circumstances.

Federal courts have interpreted § 4*o*(1)(B) of the CEA, which prohibits fraud by commodity trading advisors and commodity pool operators (and their associated persons),[162] as *not* requiring scienter,[163] but only proof of negligence.[164] A claim under § 4*o*(1)(B) "requires only that the violator have acted intentionally," in that "he must have intended to employ the 'device, scheme, or artifice' but it is not necessary that he know that its result will be to defraud the client or prospective client."[165] Put another way, "[i]f the trading advisor or commodity pool operator intended to do what was done and its consequence is to defraud the client or prospective client that is enough to constitute a violation of § 4*o*(1)[(B)]."[166]

3. Recklessness

The CFTC has stated that "recklessness [is] an act or omission that 'departs so far from the standards of ordinary care that it is very difficult

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159. Laurie L. Levenson, *Good Faith Defenses: Reshaping Strict Liability Crimes*, 78 CORNELL L. REV. 401, 420 (1993).

160. *Id.* at 402 n.98.

161. Henry T. Terry, *Negligence*, 29 HARV. L. REV. 40, 42 (1915); *see also* BLACK'S LAW DICTIONARY, *supra* note 156, at 1056 (defining negligence as "[t]he failure to exercise the standard of care that a reasonably prudent person would have exercised in a similar situation" and stating that "[t]he term denotes culpable carelessness").

162. Commodity Exchange Act § 4*o*(1)(B), Pub. L. No. 112-105, 42 Stat. 998 (1922) (codified at 7 U.S.C. § 6*o*(1)(B) (2012)) ("It shall be unlawful for a commodity trading advisor, associated person of a commodity trading advisor, commodity pool operator, or associated person of a commodity pool operator, by use of the mails or any means or instrumentality of interstate commerce, directly or indirectly . . . to engage in any transaction, practice, or course of business which operates as a fraud or deceit upon any client or participant or prospective client or participant.").

163. *See* Commodity Trend Serv., Inc. v. CFTC, 233 F.3d 981, 993 (7th Cir. 2000) (stating that 7 U.S.C. § 6*o*(1)(B) "does not require a showing of scienter"); Messer v. E.F. Hutton & Co., 847 F.2d 673, 677 (11th Cir.1988) (stating that CEA § 4*o*(1)(B) "does not require proof of scienter" (emphasis omitted)); Loginovskaya v. Batratchenko, 936 F. Supp. 2d 357, 364 (S.D.N.Y. 2013), *aff'd*, No. 13-1624, 2014 WL 4358439 (2d. Cir. 2014) (noting that the CFTC "has interpreted § 4*o*(1)(B) so as not to require scienter").

164. *Commodity Trend Serv.*, 233 F.3d at 994.

165. CFTC v. Savage, 611 F.2d 270, 285 (9th Cir. 1979).

166. *Id.* at 285.

to believe the actor was not aware of what he or she was doing.'"[167] The Eleventh Circuit has described reckless conduct as "'highly unreasonable omissions or misrepresentations that involve not merely simple or even inexcusable negligence, but an extreme departure from the standards of ordinary care, and that present a danger of misleading [customers] which is either known to the defendant or is so obvious that defendant must have been aware of it.'"[168] Similarly, the Sixth Circuit has stated that "[r]ecklessness is defined as highly unreasonable conduct which is an extreme departure from the standards of ordinary care. While the danger need not be known, it must at least be so obvious that any reasonable [person] would have known of it."[169]

Because "[p]roof of knowledge . . . is not required,"[170] one law review article has stated that "recklessness is fundamentally a standard of conduct that requires judgments about what information an actor should have had and what results she should have anticipated, regardless of whether she in fact acquired that information or intended any particular result."[171] Parties can prove recklessness, as with other mental states, with circumstantial evidence.[172]

4. Intent

"Intent" as a mental state does not appear to receive much in-depth analysis in CEA decisional law, as most decisions refer to "scienter," which is "usually defined as an intent to defraud, deceive, or

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167. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. 41,398, 41,404 (July 14, 2011) (quoting Drexel Burnham Lambert Inc. v. CFTC, 850 F.2d 742, 748 (D.C. Cir. 1988)); *see also* Sundstrand Corp. v. Sun Chem. Corp., 553 F.2d 1033, 1045 (7th Cir. 1977) (discussing that recklessness under SEC Rule 10b-5 means "an extreme departure from the standards of ordinary care, and which presents a danger of misleading buyers or sellers that is either known to the defendant or is so obvious that the actor must have been aware of it" (internal quotation marks omitted)); SEC v. Platforms Wireless Int'l Corp., 617 F.3d 1072, 1093 (9th Cir. 2010) ("[S]cienter [under SEC Rule 10b-5] requires either 'deliberate recklessness' or 'conscious recklessness,' and . . . includes 'a subjective inquiry' turning on 'the defendant's actual state of mind.'").

168. McDonald v. Alan Bush Brokerage Co., 863 F.2d 809, 814 (11th Cir. 1989) (quoting Broad v. Rockwell Int'l Corp., 642 F.2d 929, 961–62 (5th Cir. 1981)).

169. Ashland, Inc. v. Oppenheimer & Co., 648 F.3d 461, 469 n.3 (6th Cir. 2011) (citation omitted). The Second Circuit has described recklessness as "[a]n egregious refusal to see the obvious, or to investigate the doubtful." Chill v. Gen. Elec. Co., 101 F.3d 263, 269 (2d Cir. 1996).

170. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. at 41,404 (citing Hollinger, v. Titan Capital Corp., 914 F.2d 1564, 1568–96 (9th Cir. 1990) (en banc)).

171. Rosa M. Abrantes-Metz et al., *Revolution in Manipulation Law: The New CFTC Rules and the Urgent Need for Economic and Empirical Analyses*, 15 U. Pa. J. Bus. L. 357, 395 (2013).

172. *See Sundstrand Corp.*, 533 F.2d at 1045.

manipulate,"[173] although courts have held that recklessness also is sufficient.[174] Judicial decisions concerning claims under the CEA often speak broadly in terms of "scienter" and then refer, without analysis, to brief definitions of intentional conduct and recklessness, without separately analyzing or explaining the two mental states in detail.[175] As a result, discerning the exact definition that courts are using for "intentional" conduct in claims pursuant to the CEA or CFTC Rules can be challenging.[176]

Generally speaking, however, to do something intentionally is to do the act in question on purpose, i.e., deliberately.[177] For example, to intentionally defraud a customer, a person accused of fraud "must have known that he was cheating,"[178] which means that the person must have

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173. *See* Dennis P. Orr, Note, *New Light on an Old Debate: Negligence v. Scienter in an SEC Fraud Injunctive Suit*, 51 St. John's L. Rev. 759, 760 (1977).

> According to Prosser, the intent required for a common law action of deceit may be established by demonstrating the existence of any one of three states of mind. The first and most familiar is where "the speaker believes his statement to be false." The second exists when the statement "is made without any belief as to its truth, or with reckless disregard whether it be true or false." The third is where the individual does not know if the fact asserted is true, but his representation dictates that he possesses such knowledge. In the third situation, Prosser argued, the defendant has the necessary intent to deceive because he has misrepresented the actual extent of his knowledge.

Id. at n.5 (citations omitted).

174. *See* Drexel Burnham Lambert Inc. v. CFTC, 850 F.2d 742, 748 (D.C. Cir. 1988) ("[R]ecklessness is sufficient to satisfy [the CEA's] scienter requirement.").

175. *See, e.g.*, CFTC v. Cloud, Comm. Fut. L. Rep. (CCH) ¶ 31,922 (S.D. Tex. 2011) (stating that "[s]cienter requires proof that a defendant committed the alleged wrongful acts 'intentionally or with reckless disregard for his duties under the [CEA]'" (quoting *Drexel Burnham Lambert Inc.*, 850 F.2d at 748)); *In re* Forex Global Solutions Inc., No. 13-20, Comm. Fut. L. Rep. (CCH) ¶ 32,593, 2013 WL 1496931, at *4 (C.F.T.C. Apr. 9, 2013) ("[S]cienter exists where a person knew his representations were false or made them with a reckless disregard for their truth or falsity.").

176. In many CFTC enforcement cases involving fraud, the fraudulent conduct in question was obviously intentional, so courts frequently do not need to engage in extended analysis over whether the misconduct was done "with intent." *See, e.g.*, CFTC v. Wright, No. 5:13–cv–00092, 2013 WL 6576882, at *3 (W.D.N.C. Oct. 28, 2013) (involving a defendant who misappropriated customer funds and told customers that their funds would be used for futures trading); CFTC v. Parrilla, No. 11–10621, 2013 WL 6979587 (D. Mass. Sept. 30, 2013) ("Defendant has misrepresented that [his company] would invest customer funds in forex, had high investment returns, had substantial trading experience, managed many millions of dollars, and so forth.").

177. Arguably, the meaning of "intent," as it has been used in the law, is contradictory and problematic. *See generally* David Crump, *What Does Intent Mean?*, 38 Hofstra L. Rev. 1059 (2010) (discussing the multiple ways courts have interpreted the word intent). However, an in-depth examination of what is meant by "intent" is beyond the scope of this Article.

178. CFTC v. Savage, 611 F.2d 270, 283 (9th Cir. 1979).

known that the communications in question were false.[179] Likewise, scienter generally exists when an individual's acts are performed "with knowledge of their nature and character,"[180] although "[p]roof of an evil motive is unnecessary."[181] Put another way, people may be presumed to intend the natural or probable consequences of their actions.[182] Further, some courts have determined that "[t]he [CFTC] must demonstrate only that a defendant's actions were 'intentional as opposed to accidental,'"[183] which would seem to set a relatively low bar for intent. Taken together, it appears that defendants act "intentionally" under the CEA if the evidence demonstrates they are consciously aware of what they are doing and of the nature of their actions.

5. Specific Intent

Specific intent is a mental state that exists when people desire to accomplish a specific result with their actions, as opposed to simply intending to do the underlying actions.[184] For example, under the CEA, price manipulation claims[185] require proof of specific intent. This means that, in an enforcement action, the CFTC must show that the persons accused of manipulation engaged in acts "with the purpose or conscious object of causing or effecting a price or price trend in the market that did not reflect the legitimate forces of supply and demand."[186] Specific intent is generally considered a difficult mental state to prove,[187] as it involves ratcheting up the degree of specificity required in connection

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179. *Id.*

180. *See* Wasnick v. Refco, Inc., 911 F.2d 345, 348 (9th Cir. 1990) (internal quotation marks omitted).

181. Lawrence v. CFTC, 759 F.2d 767, 773 (9th Cir. 1985).

182. Giles v. California, 554 U.S. 353, 385–86 (2008) (Breyer, J., dissenting) (citing, *inter alia*, RESTATEMENT (SECOND) OF TORTS § 8A (1977)).

183. CFTC v. Cloud, Comm. Fut. L. Rep. (CCH) ¶ 31,922 (S.D. Tex. Mar. 26, 2011) (quoting *Lawrence*, 759 F.2d at 773).

184. BLACK'S LAW DICTIONARY 882 (9th ed. 2009) ("The intent to accomplish the precise criminal act that one is later charged with."); *Specific Intent*, NOLO'S PLAIN-ENGLISH LAW DICTIONARY, http://www.nolo.com/dictionary/specific-intent-term.html (last visited Dec. 14, 2014) (defining specific intent as "[a] person's intent to produce the precise consequences of that person's act, including the intent to do the physical act itself. For example, larceny is taking the personal property of another with the intent to permanently deprive the other person of it. A person is not guilty of larceny just because he took someone else's property; the prosecutor must prove that the defendant intended to take the property, and that he took it in order to keep it permanently").

185. Price manipulation, also referred to as "market-power manipulation," is discussed in more detail in Section III.A. of this Article.

186. CFTC v. Parnon Energy, Inc., 875 F. Supp. 2d 233, 249 (S.D.N.Y. 2012).

187. Indeed, some commentators have referred to price manipulation as "an unprosecutable crime," in part because of the specific intent requirement. *See* Jerry W. Markham, *The Unprosecutable Crime*, 8 YALE J. ON REG. 281, 356 (1991).

with proving what the defendant allegedly intended to do. As discussed in greater detail below, the CFTC has had difficulty in prosecuting price manipulation claims, and CFTC officials and members of Congress have stated that they believe the specific intent requirement for such claims is one of the reasons for that fact.[188]

III. CAUSES OF ACTION THAT PROHIBIT IMPROPER TRADING PRACTICES

Understandably, the CFTC traditionally has policed manipulative and disruptive trading practices by filing lawsuits grounded in causes of action that explicitly prohibit those activities, as opposed to using failure-to-supervise claims. For example, the CFTC has used prohibitions from § 9(a)(2) of the CEA against price manipulation and false reports[189] to combat a variety of improper schemes, from the more typical "corners"[190] to instances of spoofing[191] and banging the close.[192] Likewise, the Dodd–Frank Act amended the CEA to allow for new causes of action against fraud-based manipulative and deceptive devices[193] and three enumerated disruptive trading practices—spoofing, banging the close, and violating bids and offers.[194]

With one exception, the pre- and post-Dodd–Frank Act causes of action require proof of a mental state characterized by recklessness or some level of intentional conduct.[195] The one exception—violating bids and offers—applies to the limited kind of conduct in which a party buys a contract at a price higher than the lowest available price offered or sells a contract at a price lower than the highest available price bid.[196] This one exception is further restricted by its inapplicability to trading

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188. *See, e.g.*, 156 CONG. REC. S3348 (daily ed. May 6, 2010) (statement of Sen. Cantwell) (stating that "[c]urrent law makes it very difficult for the [CFTC] to prove market manipulation" because "[t]he CFTC has to prove that someone had specific intent to manipulate, and that is a very difficult standard to prove"); *see also* CFTC, Transcript of Open Meeting on Five Final Rule Proposals Under the Dodd–Frank Act 40–41 (July 7, 2011) (comments of then CFTC Chairman Gensler), *available at* http://www.cftc.gov/ucm/groups/public/@swaps/documents/dfsubmission/dfsubmissionmult_070711-trans.pdf.

189. *Infra* note 212.

190. JERRY W. MARKHAM, 13 COMMODITIES REG. § 15:8 ("The more classic market manipulation cases involve the use of market power to achieve the manipulation, e.g., a corner or squeeze.").

191. *See supra* notes 37–40 and accompanying text.

192. *See supra* notes 41–42 and accompanying text.

193. For a discussion on the CFTC's new authority to combat fraud-based manipulation, see *infra* Section III.D.

194. For a discussion of the CFTC's new authority regarding disruptive trading practices, see *infra* Section III.C.

195. For a discussion of the mental state requirements of each cause of action, see *supra* Part II.

196. Antidisruptive Practices Authority, 78 Fed. Reg. 31,890, 31,893–94 (May 29, 2013).

on exchanges or platforms that automatically match bids and offers,[197] as is now generally the norm.[198] As a result, these more typical means of combatting manipulative and disruptive trading practices are useless in circumstances where none of the persons accused of wrongdoing have the requisite scienter, such as when an ATS independently engages in manipulative and disruptive conduct.[199] It is still important, however, to understand the primary civil enforcement causes of action that the CFTC has used to prosecute these kinds of trading abuses, if only to provide background for how the CFTC generally combats human-directed disruptive trading activities.

A. *Market-Power Manipulation—Attack of the 800-Pound Gorilla*

From the beginning of futures trading in the United States in Chicago shortly before the Civil War, rampant market manipulation and other abusive trading practices have threatened commodity futures trading.[200] Accordingly, since the passage of the Grain Futures Act of 1922 (GFA), the precursor to the CEA of 1936 and the first federal effort to oversee U.S. derivative markets, the "central focus" and "essential goal" of the federal regulation of futures and derivatives has been "the punishment and prevention of . . . manipulation,"[201] which is more specifically referred to as "price manipulation"[202] or "market-

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197. *Id.* at 31,893.

198. *See* Concept Release on Risk Controls and System Safeguards for Automated Trading Environments, 78 Fed. Reg. 56,542, 56,544 (Sept. 12, 2013) ("In Commission-regulated markets, orders generated by ATSs are ultimately transmitted to DCMs that have themselves become automated systems for the matching and execution of orders.").

199. It is possible that a human ATS operator could engage in reckless conduct in the course of controlling and supervising an ATS, in which case some of these causes of action would be viable. As mentioned above, however, this Article primarily addresses circumstances in which a human ATS operator would not have a culpable mental state beyond negligence, which would make many of the causes of action discussed below inapplicable.

200. *See, e.g.*, Markham, *supra* note 187, at 288–92; Comment, *The Delivery Requirement: An Illusory Bar to Regulation of Manipulation in Commodity Exchanges*, 73 YALE L.J. 171, 171 n.2 (1963).

201. Thomas A. Hieronymus, *Manipulation in Commodity Futures Trading: Toward a Definition*, 6 HOFSTRA L. REV. 41, 41 (1977); *see also* Commodity Exchange Act, Pub. L. 112-105, § 3(b), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 5(b) (2012)) (stating that the purpose of the CEA is, *inter alia*, "to deter and prevent price manipulation or any other disruptions to market integrity"); George A. Davidson, *Squeezes and Corners: A Structural Approach*, 40 BUS. LAW. 1283, 1283 (1985) (citing, *inter alia*, legislative history from the 1920s and stating that "[f]rom the outset of federal regulation of commodities trading, Congress . . . believed that one of the principal problems requiring regulation is traders seeking to corner the market or squeeze other market participants").

202. *See* United States v. Radley, 632 F.3d 177, 180 (5th Cir. 2011) (using the phrase "price manipulation"); Prohibition on the Employment, or Attempted Employment, of

power manipulation."[203] For the purposes of this Article, the two terms will be used interchangeably. Perhaps more colorfully, a former CFTC chairman has compared market-power manipulation to situations "where the 800-pound gorilla simply invades the chicken coop."[204] From the beginning, federal law and regulators largely have been viewed as ineffective at preventing and punishing manipulation.[205] Starting with the GFA and continuing to this day, federal law has outlawed manipulation without defining it.[206] Indeed, Congress has periodically updated and modified the CEA, frequently with the objective of better preventing manipulation,[207] most recently with the Dodd–Frank Act,[208] but without ever adding a definition of the term.[209] Commentators have described market-power manipulation of futures[210]

Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. 41,398, 41,407 (July 14, 2011) (same).

203. *See generally* Craig Pirrong, *Energy Market Manipulation: Definition, Diagnosis, and Deterrence*, 31 ENERGY L.J. 1 (2010) (discussing types of "market power manipulations" and distinguishing them from "fraud-based manipulations").

204. Philip McBride Johnson, *CFTC's New Manipulation Rules*, FUTURES MAG. (July 25, 2011), http://www.futuresmag.com/2011/07/25/cftcs-new-manipulation-rules.

205. *See generally* Markham, *supra* note 187, at 288–358 (tracing the history of changes to federal law in an attempt to combat manipulation and explaining how those attempts failed). For example, Congress created the CFTC in 1974 in the hopes that the new agency would better address manipulations and market disruptions than its predecessor, the CEA. *Id.* at 331–34.

206. JERRY W. MARKHAM & THOMAS LEE HAZEN, 23A BROKER-DEALER OPERATIONS SEC. & COMM. LAW § 9:17:50. The lack of a definition for the term, "manipulation," is somewhat less surprising when viewed in connection with other omissions and ambiguities in the federal statutory framework governing derivatives. For example, neither the GFA nor the CEA (which was largely based on the GFA and superseded it) defined the term, "futures contract," despite the fact that the regulation of futures trading was then—and is now—the overarching purpose of those respective statutes. *See* Glenn Willett Clark, *Genealogy and Genetics of "Contract of Sale of a Commodity for Future Delivery" in the Commodity Exchange Act*, 27 EMORY L.J. 1175, 1175 & n.1 (1978).

207. *See* Markham, *supra* note 187, at 288–358 (detailing the repeated, unsuccessful congressional attempts, throughout history, to improve federal law so that authorities could better prevent and punish manipulation).

208. As will be discussed in greater detail below, Congress added § 753 of the Dodd–Frank Act to provide the CFTC with additional means to fight manipulative devices and contrivances. *See infra* notes 274–84.

209. *See supra* note 206; *see also* Abelardo Lopez Valdez, *Modernizing the Regulation of the Commodity Futures Markets*, 13 HARV. J. ON LEGIS. 35, 47 n.69 (1975) (noting the lack of a definition of manipulation in the GFA and the CEA). Notwithstanding the lack of a formal definition, the CEA's anti-manipulation prohibitions are not unconstitutionally vague and do not violate the fair notice doctrine. *See* Bartlett Frazier Co. v. Hyde, 65 F.2d 350, 351, 354 (7th Cir. 1933); United States v. Reliant Energy Servs., Inc., 420 F. Supp. 2d 1043, 1055–61 (N.D. Cal. 2006), *aff'd in part*, 188 F. App'x 629 (9th Cir. 2006); CFTC v. Atha, 420 F. Supp. 2d 1373, 1382–83 (N.D. Ga. 2006); Markham, *supra* note 187, at 302.

210. Market-power manipulation causes of action are similar to antitrust causes of action. *See* Benjamin E. Kozinn, Note, *The Great Copper Caper: Is Market Manipulation Really a Problem in the Wake of Sumitomo Debacle?*, 69 FORDHAM L. REV. 243, 256 (2000) ("Generally,

as follows:

> In the realm of commodities trading, market power manipulation arises when a long controls enough of a particular futures contract, a substantial portion of the underlying cash commodity, or both, during or near the end of the delivery month. Because the long controls a significant portion of the underlying commodity, she leaves no avenue for the shorts to either offset their position or make delivery. Inevitably, the shorts are forced to deal solely with the long manipulator and must pay an "artificial" price to fulfill their obligation, in order to avoid defaulting on their contract and having to pay draconian sanctions.[211]

Under current law, § 9(a)(2) of the CEA prohibits any person from manipulating the price of a commodity in interstate commerce, a futures contract, or a swap.[212] Sections 6(c) and 6(d) authorize the CFTC to file a complaint and impose, *inter alia*, civil monetary penalties and cease and desist orders if the CFTC believes that a person has manipulated or attempted to manipulate the market price of any commodity, futures contract, or swap (or has violated any of the provisions of the CEA).[213]

To state a claim for price manipulation, the CFTC must allege that: (1) the defendant had the ability to influence market prices; (2) an artificial price existed; (3) the defendant caused the artificial price; and (4) the defendant specifically intended to cause the artificial price.[214] "An artificial price is a price that does not reflect basic forces of supply and demand."[215] To satisfy the specific intent element, the CFTC must

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'market power' is the exercise of 'monopoly power,' a concept derived from antitrust laws." (footnote omitted)).

211. *Id.* at 256. *See generally* Davidson, *supra* note 201 (describing the mechanics of "squeezes"). For a definition of "price manipulation," see 3 JOHNSON & HAZEN, *supra* note 8, § 5.02[3], at 1240.

212. Commodity Exchange Act, Pub. L. No 112-105, § 9(a)(2), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 13(a)(2) (2012)). Section 9(a)(2) of the CEA also states that it is illegal to cause false, misleading, or knowingly inaccurate reports to be delivered that affect or tend to affect the price of a commodity. *Id.*; *accord In re* Bunge Global Markets, Inc., No. 11-10, 2011 WL 1099346, at *4 (C.F.T.C. 2011).

213. Commodity Exchange Act § 6(c)(4)(A) (codified at 7 U.S.C. § 9(4)(A)); *id.* § 9(10)(C) (codified at 7 U.S.C. § 9(10)(C)); *id.* § 6(d) (codified at 7 U.S.C. § 13b).

214. CFTC v. Parnon Energy, Inc., 875 F. Supp. 2d 233, 244 (S.D.N.Y. 2012). To prove attempted manipulation under CEA § 9(a)(2), the CFTC must prove: (1) a specific intent to affect the market price, and (2) overt acts in furtherance of that specific intent. Intent may be inferred from the totality of circumstances. *In re* Hohenberg Bros. Co., Comm. Fut. L. Rep. (CCH) ¶ 20,271, 1977 WL 383513 (C.F.T.C. Feb. 18, 1997).

215. *Parnon*, 875 F. Supp. 2d at 246 (internal quotation marks omitted). In 2011, the CFTC promulgated 17 C.F.R. § 180.2 (2011), which mirrors traditional price manipulation and attempted price manipulation claims. *See* Prohibition on the Employment, or Attempted

prove that the defendant "acted (or failed to act) with the purpose or conscious object of causing or effecting a price or price trend in the market that did not reflect the legitimate forces of supply and demand."[216] To be clear, "the necessary intent must attach to the creation of artificial prices, rather than simply to intentional trading that thereafter brought about unintended artificial prices," i.e., "the manipulator must have a specific intent to create artificial prices."[217]

Some authors have called intent the "essence"[218] and "determinative element"[219] of a price manipulation claim. Indeed, the CFTC has stated that "[i]t is the intent of the parties which separates otherwise lawful business conduct from unlawful manipulative activity."[220] "Thus, a legitimate transaction combined with an improper motive is commodities manipulation."[221] While the CFTC can base proof of intent on circumstantial (as opposed to direct) evidence,[222] the commission has traditionally had great difficulty proving the specific intent requirement of a price manipulation claim.[223] This is the case because few would-be manipulators openly provide evidence of their improper motives.[224] As

Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. 41,398, 41,407 (July 14, 2011) ("[I]n applying final Rule 180.2, [the CFTC] will be guided by the traditional four-part test for manipulation that has developed in case law arising under [CEA §§] 6(c) and 9(a)(2) . . . .").

216. *Parnon*, 875 F. Supp. 2d at 249 (internal quotation marks omitted).

217. 3 JOHNSON & HAZEN, *supra* note 8, § 5.05[3], at 1269; *see, e.g.*, Hershey v. Energy Transfer Partners, L.P., 610 F.3d 239, 249 (5th Cir. 2010).

218. MARKHAM & HAZEN, *supra* note 206 (stating that the element of intent is "the essence of a manipulation claim").

219. 3 JOHNSON & HAZEN, *supra* note 8, § 5.05[1], at 1266 (quoting and citing Great W. Food Distribs. v. Brannan, 201 F.2d 476, 479 (7th Cir. 1953)); *see* Davidson, *supra* note 201, at 1289 ("In practice, the only important issue is intent.").

220. *In re* Indiana Farm Bureau Coop. Ass'n, Inc., No. 75-14, 1982 WL 30249, at *6 (C.F.T.C. Dec. 17, 1982); *see also* Davidson, *supra* note 201, at 1289 ("[A] squeezer cannot be held liable without proof of intent, and evidence of intent will exist only in cases in which the respondents have acted in a clumsy and obvious manner.").

221. *In re* Amaranth Natural Gas Commodities Litig., 587 F. Supp. 2d 513, 534 (S.D.N.Y. 2008), *aff'd*, 730 F.3d 170 (2d Cir. 2013).

222. *E.g.*, G.H. Miller & Co. v. United States, 260 F.2d 286, 290 (7th Cir. 1958); *accord* 3 JOHNSON & HAZEN, *supra* note 8, § 5.05[2], at 1267.

223. Establishing the existence of an artificial price also is complicated and difficult. Davidson, *supra* note 201, at 1288 ("Defining when a price is 'artificial' is more difficult yet."); Markham, *supra* note 187, at 284 ("But here lies the rub: it is virtually impossible to determine what constitutes an artificial price.").

224. *See* Geoffrey F. Aronow, *What Constitutes "Manipulation" or "Disruptive Practices" After Dodd-Frank? A Difficult Set of Standards for Traders to Live by Gets More Difficult*, 30 FUTURE & DERIVATIVES L. REP. (West) No. 8, at 1, *4 (Sept. 2010) (stating that proving a person entered trades specifically to create artificial prices—as opposed to doing so out of "legitimate commercial needs," is "the rock on which most CFTC prosecutions have floundered" because "in almost every trading situation, in examining conduct after the fact, there is a reasonable commercial explanation for the trading"); Davidson, *supra* note 201, at

mentioned above, because of the inherent difficulties associated with proving the specific intent element required of price manipulation claims, "in recent years the CFTC has brought cases, with few exceptions, only when it felt it has a 'smoking gun' that demonstrates intent to manipulate," such as "faxes, telephone recordings, memos, emails, and instant messages."[225] "But absent such evidence of intent, the CFTC has been extremely reluctant to pull the trigger on prosecutions."[226]

B. *Noncompetitive, Prearranged Trading*

Section 4c(a) of the CEA and CFTC Rule 1.38 provide that it is unlawful for anyone to enter into certain kinds of transactions that are considered noncompetitive or believed to facilitate noncompetitive

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1287 ("The problem is that it is very hard to distinguish the unlawful conduct of the squeezer from conduct undertaken for the entirely lawful purpose for which traders enter the futures market: to make money."); Markham, *supra* note 187, at 356–57 ("Even where a gross manipulation occurs, the government is still faced with the imposing burden of proving that the price was artificial and that the trader was attempting to create an artificial price rather than exploiting a market situation based upon natural forces."); Pirrong, *supra* note 203, at 10 ("The [CFTC] has similarly muddled the intent standard so as to provide a manipulator with considerable leeway."); *see also* Robert C. Lower, *Disruptions of the Futures Market: A Comment on Dealing with Market Manipulation*, 8 YALE J. ON REG. 391, 391 (1991) ("[T]he seventy-year effort by the federal government to eliminate . . . market manipulations has been more or less unsuccessful."); *see also, e.g.*, CFTC v. Delay, No. 7:05CV5026, 2006 WL 3359076, at *1 (D. Neb. Nov. 17, 2006) (stating that "[f]iguring out whether another person harbored a wrongful intent is a very hard thing to do" and finding, after a non-jury trial, that the CFTC had failed to prove that defendant manipulated or attempted to manipulate the feeder cattle futures market).

225. Aronow, *supra* note 224, at *4; *see also* Davidson, *supra* note 201, at 1288 ("Since unlawful motives are seldom admitted, proof of motive is ordinarily an arduous undertaking that involves considerable use of circumstantial evidence. In the squeeze context, the task is especially difficult."). *Compare Hearing on High Frequency and Automated Trading in Futures Markets Before the S. Comm. of Agric., Nutrition, & Forestry*, 113th Cong. *7 (2014), *available at* http://www.ag.senate.gov/hearings/high-frequency-and-automated-trading-in-futures-markets (providing the written testimony of Andrei Kirilenko, professor of the practice of finance, Sloan School of Management, Massachusetts Institute of Technology, and former chief economist for the CFTC), *and id.* ("The age when a regulator could rely on an overheard conversation to begin an investigation is over. Algorithms don't brag on the phone that they just 'hammered the market' or send text messages to their girlfriends about how 'fabulous' they are. To catch the manipulative or disruptive behavior of an algorithm, regulators need to have the technological tools to sift through communication and trading patterns among the new inhabitants of the market place—the machines."), *with* Pirrong, *supra* note 203, at 17 (arguing that "[l]awyers, in my experience, tend to believe that intent can only be proven through statements made in emails, correspondence, documents, or recorded conversations," whereas economists believe that one can "make highly accurate evaluations of intent by comparing the conduct of an alleged manipulator" with the conduct of "a profit-maximizing, commercially rational, but competitive . . . trader").

226. Aronow, *supra* note 224, at *4.

trading.[227] "A noncompetitive trade is generally transacted in accordance with an express or implied agreement between the participants."[228] That is, in passing § 4c(a) of the CEA, Congress wanted "to outlaw insofar as possible all schemes of trading that are artificial and are not the result of arms-length trading on the basis of supply and demand factors."[229] Specifically, §§ 4c(a)(1) and (2) of the CEA, taken together, provide that it is

> unlawful for any person to offer to enter into, enter into, or confirm the execution of a transaction . . . involving the purchase or sale of any commodity for future delivery (or any option on such a transaction or option on a commodity) or swap . . . that (A)(i) is, of the character of, or is commonly known to the trade as, a "wash sale" or "accommodation trade"; or (ii) is a fictitious sale; or (B) is used to cause any price to be reported, registered, or recorded that is not a true and bona fide price.[230]

The CFTC has stated that "the common denominator of the specific abuses prohibited in § 4c(a) . . . is the use of trading techniques that give the appearance of submitting trades to the open market while negating the risk or price competition incident to such a market."[231] Similarly, Rule 1.38(a)[232] also prohibits prearranged trading that is not in accordance with the normal, competitive process of exchange trading.[233]

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227. Pouncy, *supra* note 90, at 1635; *see also* 17 C.F.R. § 1.38(a) (2013).

228. *In re* Blackrock Inst. Trust Co., No. 12-13, Comm. Fut. L. Rep. (CCH) ¶ 32,143, 2012 WL 1377970, at *3 (C.F.T.C. Mar. 8, 2012) (citing *In re* Gilchrist, [1990–1992 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 24,993, ¶ 37,652 (Jan. 25, 1991)).

229. *In re* Goldwurm, 7 Agric. Dec. 265, 276 (1948).

230. 7 U.S.C. § 6c(a)(1)–(2) (2012) (codifying Commodity Exchange Act § 4c(a)(1)–(2)). As a general matter, commentators consider wash sales and other such trading practices to be illegal forms of market manipulation under the securities laws. *See* 3 JOHNSON & HAZEN, *supra* note 8, § 5.08[1], at 1311. Indeed, even under the anti-manipulation provisions of the CEA, courts view wash sales as part of a price manipulation scheme. *See, e.g.*, *In re* Nat. Gas Commodity Litig., 337 F. Supp. 2d 498, 502–04 (S.D.N.Y. 2004) (discussing plaintiffs' presentation of evidence that wash trades in the spot market affected the futures and thereby caused price manipulation (in addition to violations of the prohibition on wash trading)).

231. *In re* Collins, No. 77-15, Comm. Fut. L. Rep. (CCH) ¶ 22,982, 1986 WL 1194295, at *7 (C.F.T.C. Apr. 4, 1986), *rev'd on other grounds sub nom.* Stoller v. CFTC, 834 F.2d 262 (2d. Cir. 1987).

232. 17 C.F.R. 1.38(a) (2013) (codifying CFTC Rule 1.38(a) and stating that "[a]ll purchases and sales of [futures contracts and commodity options] . . . shall be executed openly and competitively by open outcry or posting of bids and offers or by other equally open and competitive methods, in the trading pit or ring or similar place provided by the contract market").

233. *In re* Blackrock, 2012 WL 1377970, at *3 (citing *In re* Gimbel, [1987–1990 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 24,213, ¶ 35,003 (C.F.T.C. Apr. 14, 1988)); *In re* J.P. Morgan Sec. LLC, No 12-14, 2012 WL 1377972, at *3 (C.F.T.C. Mar. 8, 2012).

Accordingly, the law and regulations provide for separate civil enforcement causes of action for: (1) wash sales;[234] (2) accommodation sales;[235] (3) fictitious sales;[236] (4) causing a non-bona fide price to be reported,[237] and (5) violations of Rule 1.38(a).[238] Because the elements—and mental state requirements—appear to be more or less the same for those causes of actions, this Article will analyze one cause of action—wash sales—as illustrative of all five of these kinds of violations.

Wash sales in futures contracts involve the following two-step scheme:

> Wash trading . . . consists of the simultaneous purchase and sale of the same number of futures contracts at the same or very similar price. Ordinarily, the purchase of a futures contract obligates the buyer to take delivery of the commodity represented by the contract on a date certain. Conversely, the sale of a commodity futures contract obligates the seller to deliver the commodity represented by the contract on a date certain. The simultaneous purchase and sale of the same commodity futures contract at the same price results in a nullity, as the two sets of contractual obligations offset each other.[239]

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234. "Wash trading . . . is the archetypical form of fictious trading." *See* Pouncy, *supra* note 90, at 1637.

235. *See id.* at 1636 n.54 (defining accommodation sale); Sundheimer v. CFTC, 688 F.2d 150, 152 (2d Cir. 1982) ("It is this intent, the absence of good-faith, arms-length trading, and the undisclosed prearrangement for losses and gains, that demonstrates the 'accommodation' nature of the transactions in the instant case."); *see also* 80 CONG. REC. 6162 (Apr. 27, 1936) (statement of Senator Pope) ("An accommodation trade is a transaction between two commission houses whereby, one being long with the clearing house and the other being short, the one that is long sells to the one that is short enough of a given future to give each house an even or nearly even position, thus reducing the amount of the margin to be put up with the clearing house. At some later date another transaction is made, unwinding and undoing the first transaction.").

236. *In re* Morgan Stanley & Co., No. 12-22, Comm. Fut. L. Rep. (CCH) ¶ 32,218, 2012 WL 3262462, at *4 (C.F.T.C. June 5, 2012) (citing *In re* Collins, [1996–1998 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 27,194, ¶ 45,742 (C.F.T.C. Dec. 10, 1997)).

237. *See In re* Casas Sendas Comercio E Industria S.A., No. 03-23, Comm. Fut. L. Rep. (CCH) ¶ 29,566, 2003 WL 22006283, at *2 (C.F.T.C. Aug. 18, 2003).

238. *In re Blackrock*, 2012 WL 1377970, at *3; *In re J.P. Morgan*, 2012 WL 1377972, at *3 .

239. Pouncy, *supra* note 90, at 1625–26 (footnotes omitted). "Wash sales are fictitious transaction[s] usually made so it will appear that there are or have been trades, but without actually taking a position in the market." *Id.* at 1635 n.52 (alteration in original) (internal quotation marks omitted).

> In a wash sale, for example, a trader gives the appearance of making independent decisions to buy and then sell (or sell and then buy) one or more

Congress made wash sales illegal in 1936 with the passage of the CEA,[240] viewing such trading activity as "pure, unadulterated fraud."[241] One scholar has called wash sales "a powerful multipurpose tool that can be used . . . for significant frauds and market manipulations."[242] Wash sales "are considered harmful because they create illusory price movements in the markets."[243] In particular, "[o]ne way wash trades can affect other market players is that a burst in volume can lure more traders, creating the impression of more action than is actually taking place. That can distort prices in ways that benefit some market participants."[244] "[M]any prosecutions for wash trading involve the trading of nominally different accounts controlled by a single individual."[245] Persons engage in wash sales "for a number of reasons" including "to increase trading volume in a particular contract, . . . to defer trading losses or gains for tax purposes, to transfer funds between accounts, to defraud customers, and to manipulate prices of futures contracts."[246] While wash sales previously occurred on the floor of

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futures contracts. His actual intention at the time he initiates the transaction, however, is to both buy and sell the contract at the same or a similar price—in other words, to create a financial and position nullity extraneous to the price discovery and risk-shifting functions of the futures markets.

In re Bear Stearns & Co., No. 80-31, Comm. Fut. L. Rep. (CCH) ¶ 24,994, 1991 WL 11711622, at *11 (C.F.T.C. Jan. 25, 1991). "Section 4c of the CEA prohibits wash trades, which are fictitious, prearranged sales in which the same parties agree to a pair of offsetting trades for the same commodity, at no economic risk or net change in beneficial ownership." STEVEN WOLOWITZ, 6 BUS. & COM. LITIG. FED. CTS. § 71:13 (3d ed. 2013).

240. Pouncy, *supra* note 90, at 1644–45; *see also* 78 CONG. REC. 10,449 (1934) (statement of Representative Pierce) ("Wash sales and fictitious transactions are prohibited, as they should be, and severest penalties are provided for such practices.").

241. 80 CONG. REC. 7905 (1936) (remarks of Senator Smith); *see also* 80 CONG. REC. 7858 (1936) (remarks of Senator Murray) ("The bill seeks to minimize cheating or fraudulent practices by outlawing . . . wash sales, cross trades, accommodation trades, and other fictitious transactions. There hardly is need for any comments on these provisions."); 80 CONG. REC. 6162 (1936) (statement of Senator Pope) ("Wash sales are pretended sales made openly in the pit or trading place for the purpose of deceiving other traders. They are employed to give a false appearance of trading and to cause prices to be registered which are not true prices. They may be entered and recorded as real trades, but by agreement between the parties privately are either canceled or washed out by other trades."); 78 CONG. REC. 10,449 (1934) (remarks of Representative Gilchrist) (stating that the CEA was "directed . . . against all of those dishonest schemes to which dishonest traders sometimes resort in order to trick a gullible public and prevent the producer from getting an honest price," such as wash sales).

242. Pouncy, *supra* note 90, at 1626.

243. Wilson v. CFTC, 322 F.3d 555, 559 (8th Cir. 2003).

244. Scott Patterson et al., *Futures Trades Scrutinized*, WALL ST. J. (Mar. 18, 2013, 12:01 AM), http://online.wsj.com/news/articles/SB20001424127887323639604578366491497070204 (subscription required).

245. Pouncy, *supra* note 90, at 1638.

246. *Id.*

trading pits, today traders can use computer programs to facilitate wash sales electronically.[247]

To establish a violation of the CEA's prohibition against wash sales (or accommodation sales), the CFTC must show (1) the simultaneous purchase and sale, (2) of the same delivery month of the same futures contract (or option or swap), (3) at the same or similar price,[248] plus (4) the requisite mental state (intent).[249] To prove the required mental state for a violation of § 4c(a) of the CEA, one must show that the individuals traded with the intent to negate risk or price competition at the time the transaction was initiated, and knew at the time that the transaction was designed to achieve a wash result that negated risk.[250] Indeed, "[t]he central characteristic of a wash sale is the intent not to make a genuine bona fide transaction."[251] The CFTC can prove intent, however, from circumstantial evidence, such as unusual trading activity and motives for trading unrelated to the economics of the specific futures transactions in question.[252]

The exact mental state required for a wash sales claim is unclear,[253] but, based on the language above, it appears that the CFTC must, at a minimum, prove that a defendant acted knowingly and with some intent.[254] The intent required under § 4c(a) is the intent to negate risk at

247. *E.g.*, Press Release, CFTC, CFTC Sanctions Gelber Group, LLC $750,000 for Trading Abuses on Two Exchanges (Feb. 8, 2013), *available at* http://www.cftc.gov/PressRoom/Press Releases/pr6512-13 ("Moreover, rather than rely solely on manual wash sales . . . [the defendant] directed a . . . programmer to create a computer program that would automatically enter matching orders from each trader's computer. The two traders used the computer program each month during the relevant period and executed wash sales repeatedly in the Russell 1000 [index futures] contracts . . . .").

248. *In re* Piasio, [1998–1999 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 28,276, 2000 WL 36107969, at *7 (C.F.T.C. Sept. 29, 2000) (citing *In re* Gilchrist, [1990–1992 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 24,993, ¶ 37,653 (1991)).

249. *See* Reddy v. CFTC, 191 F.3d 109, 115 (2d Cir. 1999); *see also In re* Citadel Trading Co. of Chi., Ltd., Nos. 77-8, 80-11, Comm. Fut. L. Rep. (CCH) ¶ 23,082,1986 WL 1194393, at *9 (C.F.T.C. May 12, 1986) ("The central characteristic of a wash sale is the intent not to make a genuine bona fide trading transaction.").

250. *See* Wilson v. CFTC, 322 F.3d 555, 560 (8th Cir. 2003); *Reddy*, 191 F.3d at 118–19.

251. *In re Citadel Trading Co.*, 1986 WL 1194393, at *9.

252. *E.g.*, *Reddy*, 191 F.3d at 119; *In re* Rousso, No. 91-3, 1997 WL 422859, at *10 (C.F.T.C. July 29, 1997); *In re* Buckwalter, No. 80-28, Comm. Fut. L. Rep. (CCH) ¶ 24,995, 1991 WL 83522, at *25 (C.F.T.C. Jan. 25, 1991).

253. *See* Pouncy, *supra* note 90, at 1648–61 (analyzing CFTC decisions and federal court decisions interpreting the level of intent required for wash sales violations under the CEA); *Id.* (noting that "[t]he Commission's interpretations of the scienter requirement necessary to establish a violation of the Act's wash trading prohibition have created a region of *uncertainty* . . . ." (emphasis added)).

254. *In re* Morgan Stanley & Co., No. 12-22, Comm. Fut. L. Rep. (CCH) ¶ 32,218, 2012 WL 3262462, at *4 n.4 (C.F.T.C. June 5, 2012) ("[T]o establish a violation of Section 4c(a) of the [CEA] . . . the [CFTC] also must demonstrate that a person knowingly participated in transactions initiated with intent to avoid a bona fide market position.").

the time the transaction was initiated and the knowledge at the time of participation in the transaction that it was designed to have a wash result. This is similar to the intent required in a market-power manipulation claim under CEA §§ 6(c), 6(d), and 9(a)(2)—the intent to create an artificial price. Accordingly, wash sale violations may even require proof of specific intent.[255]

One commentator, Professor Charles R.P. Pouncy, has warned that requiring too high of a mental state can make it difficult to enforce prohibitions against market abuses such as wash trades. He notes that "the scienter requirement can serve not merely as a shield for the ingenuous, but also a sword for the malefactor."[256] Pouncy argued that it is often is challenging to establish a defendant's mental state with specificity because "[t]o the extent that the actor is able to control information concerning her motivation, the trier of fact's ability to assess the state of mind of the actor will be less certain, and the necessary degree of scienter will be more difficult to establish, if it can, in fact, be established at all."[257] Pouncy contended that, in requiring proof of scienter, "the [CFTC] may have for all practical purposes, placed these wash transactions beyond the reach of its enforcement activities."[258]

C. *The Dodd–Frank Act's Disruptive Trading Practices Ban*

Section 747 of the Dodd–Frank Act added new provisions that prohibit disruptive trading practices to § 4c(a) of the CEA.[259] Specifically, the new § 4c(a)(5) reads as follows:

> (5) Disruptive practices. It shall be unlawful for any person to engage in any trading, practice, or conduct on or subject to the rules of a registered entity that—
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> (A) violates bids or offers;
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> (B) demonstrates intentional or reckless disregard for the orderly execution of transactions during the closing period; or
>
> (C) is, is of the character of, or is commonly known to the trade as, "spoofing" (bidding or offering with the intent to cancel the bid or offer before execution).[260]

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255. *See, e.g.*, Trasnor (Bermuda) Ltd. v. BP N. Am. Petroleum, 738 F. Supp. 1472, 1495–96 (S.D.N.Y. 1990).

256. Pouncy, *supra* note 90, at 1689–90.

257. *Id.* at 1651–52.

258. *See id.* at 1685.

259. Antidisruptive Practices Authority, 76 Fed. Reg. 14,943 (proposed Mar. 18, 2011).

260. 7 U.S.C. § 6c(a)(5) (2012).

Although § 4c(a)(5) is self-executing, and therefore does not require CFTC Regulations or interpretive guidance to take effect,[261] the CFTC originally considered adopting regulations to implement and further define the contours of its new authority under § 4c(a)(5) of the CEA.[262] Accordingly, the CFTC issued an advance notice of proposed rulemaking (ANPR) seeking public comment on the statutory provisions in question.[263] But the commission ultimately "determined that it was appropriate to address the statutory disruptive [trading] practices through a proposed interpretive order."[264] On May 16, 2013, the CFTC unanimously approved the Antidisruptive Practices Authority "Interpretive Guidance and Policy Statement."[265]

The provisions of § 4c(a)(5) apply to trading, practices, or conduct "on or subject to the rules of a registered entity,"[266] such as a futures exchange or swap execution facility. The section makes no reference to the kind of financial product at issue, which means that the subsections of § 4c(a)(5) apply to futures, swaps, commodity options, and other derivative products covered by the CEA.[267] Additionally, subsections (B) (banging the close) and (C) (spoofing) of § 4c(a)(5) both explicitly include an intent requirement.[268] A banging the close violation requires proof of scienter, i.e., intentional or reckless conduct,[269] whereas a

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261. Antidisruptive Practices Authority, 78 Fed. Reg. 31,890, 31,890 n.4 (May 28, 2013). For additional materials, see generally Transcript of Open Meeting on the 29th Series of Rulemakings Under the Dodd–Frank Act, CFTC (May 16, 2013) [hereinafter Transcript, Rulemaking Under the Dodd–Frank Act], *available at* http://www.cftc.gov/ucm/groups/public/ @swaps/documents/dfsubmission/dfsubmission_051613-trans.pdf.

262. Antidisruptive Practices Authority, 76 Fed. Reg. at 14,944; *see also Interpretive Guidance and Policy Statement on Disruptive Practices*, CFTC, http://www.cftc.gov/ucm/ groups/public/@newsroom/documents/file/dtp_factsheet.pdf (last visited Dec. 14, 2014) [hereinafter CFTC, *Interpretive Guidance and Policy Statement*] (stating that the CFTC "is issuing this Interpretive Guidance and Policy Statement to provide market participants and the public with guidance on the scope and application of the statutory prohibitions set forth in CEA section 4c(a)(5)"). The Dodd–Frank Act also added CEA § 4c(a)(6) (codified at 7 U.S.C. § 6c(a)(6)), which grants the CFTC broad authority to adopt rules that are "reasonably necessary to prohibit the [enumerated practices] and any other trading practice that is disruptive of fair and equitable trading." Antidisruptive Practices Authority, 76 Fed. Reg. at 14,944 (internal quotation marks omitted).

263. Antidisruptive Practices Authority Contained in the Dodd–Frank Wall Street Reform and Consumer Protection Act, 75 Fed. Reg. 67,301 (Nov. 2, 2010).

264. Antidisruptive Practices Authority, 76 Fed. Reg. at 14,944.

265. *See* Transcript, Rulemaking Under the Dodd–Frank Act, *supra* note 261.

266. CFTC, *Interpretive Guidance and Policy Statement*, *supra* note 262.

267. Aronow, *supra* note 224, at *1.

268. Commodity Exchange Act, Pub. L. No 112-105, § 4c(a)(5)(B)–(C), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 6c(a)(5) (2012)) (covering "intentional or reckless" behavior in subsection (B), whereas subsection (C) prohibits "bidding or offering *with the intent* to cancel the bid or offer before execution" (emphasis added)).

269. Antidisruptive Practices Authority, 78 Fed. Reg. 31,890, 31,895 (May 28, 2013).

spoofing claim requires proof of intent beyond recklessness.[270] Section 4c(a)(5)(A) of the CEA—violating bids and offers—is a strict liability offense, but it only applies to a limited type of conduct.[271] This conduct cannot occur on automated exchanges and market platforms that automatically match bids and offers,[272] which significantly limits its applicability to trading by ATSs.[273]

D. *Prohibition of Reckless, Fraud-Based Manipulative Devices*

Section 753 of the Dodd–Frank Act amended subsection 6(c)(1) of the CEA[274] in a manner that greatly enhanced the CFTC's enforcement authority to police market manipulation and fraud. It accomplished this by inserting language into the CEA that mirrored the SEC's catch-all prohibition against fraudulent and manipulative devices—section 10(b) of the Securities Exchange Act of 1934 (Exchange Act).[275] Section 10(b) of the Exchange Act provided the SEC with its basis for promulgating SEC Rule 10b-5[276]—its signature tool for combatting

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270. *Id.* at 31,896 ("[A] CEA section 4c(a)(5)(C) violation . . . requir[es] a market participant to act with some degree of intent, or *scienter*, beyond recklessness to engage in the 'spoofing' trading practices prohibited by CEA section 4c(a)(5)(C).").

271. *Id.* at 31,893–94. CEA § 4c(a)(5)(A) only applies to the following limited type of conduct: "buying a contract on a registered entity at a price that is higher than the lowest available price offered for such contract or selling a contract on a registered entity at a price that is lower than the highest available price bid for such contract." *Id.* "By adopting a policy that market participants cannot execute trades at prices that do not accurately reflect the best price for such contracts, this interpretive statement furthers the CEA's purpose of ensuring the integrity of the price discovery process by helping ensure that the prices disseminated to market users and the public reflect bona fide prices that accurately reflect the normal forces of supply and demand." *Id.* at 31,894.

272. *Id.* at 31,893 (providing that CEA § 4c(a)(5)(A) does not apply in any trading environment where trading algorithms automatically match the best price for bids and offers).

273. For example, Globex—the electronic trading platform for CME Group (which includes, *inter alia*, CBOT and NYMEX)—uses trade matching algorithms, thereby making § 4c(5)(A) inapplicable to trading activities on Globex. *See* CME GROUP, CBOT RULEBOOK R. 580, *available at* http://www.cmegroup.com/rulebook/CBOT/I/5/5.pdf (last visited Dec. 14, 2014) ("The CME Globex platform employs multiple predefined sets of matching algorithms used to match trades on the platform.").

274. Dodd–Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 753, 124 Stat. 1376, 1750–54 (2010) (codified at 7 U.S.C. § 9 (2012)).

275. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. 41,398, 41,399 (July 14, 2011) (to be codified at 17 C.F.R. pt. 180) ("The language of CEA section 6(c)(1), particularly the operative phrase 'manipulative or deceptive device or contrivance,' is virtually identical to the terms used in section 10(b) of the Securities Exchange Act of 1934 ('Exchange Act')."). "Given the similarities between CEA section 6(c)(1) and Exchange Act section 10(b), the [CFTC] deems it appropriate and in the public interest to model final Rule 180.1 on SEC Rule 10b-5." *Id.* The CFTC further stated that "by modeling final Rule 180.1 on SEC Rule 10b-5, the [CFTC] takes an important step toward harmonization of regulation of the commodities, commodities futures, swaps and securities markets." *Id.* n.11.

276. 17 C.F.R. § 240.10b-5 (2013).

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fraud and manipulation.[277] On July 7, 2011, the CFTC took advantage of that and added Dodd–Frank Act statutory authority by unanimously voting to adopt final Rule 180.1.[278] The Rule implements "the statutory prohibition under CEA § 6(c)(1) against using or employing 'any manipulative or deceptive device or contrivance' in connection with any swap, or a contract of sale of any commodity in interstate commerce, or for future delivery on or subject to the rules of any registered entity."[279] The CFTC adopted the final rules almost entirely as they were proposed,[280] but it declined to modify the rules based on the recommendations by some commentators for heightened supervision of algorithmic trading and ATSs.[281] The CFTC modeled Rule 180.1 on SEC Rule 10b-5.[282] In its final rule release, the commission stated:

> Final Rule 180.1 prohibits fraud and fraud-based manipulations, and attempts: (1) By any person (2) acting intentionally or recklessly (3) in connection with (4) any swap, or contract of sale of any commodity in interstate commerce, or contract for future delivery on or subject to

277. *See* Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. at 41,399 & n.9.

278. 17 C.F.R. § 180.1; Transcript of Open Meeting on Five Final Rule Proposals under the Dodd–Frank Act 35, 62 (July 7, 2010), *available at* http://www.cftc.gov/ucm/groups/public/ @swaps/documents/dfsubmission/dfsubmissionmult_070711-trans.pdf (providing the record of the unanimous vote adopting final Rule 180.1); *see also* Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. at 41,398. The new anti-fraud and anti-manipulation provisions became effective on August 15, 2011. *Id.*

279. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. at 41,399. For an in-depth analysis of Rule 180.1, see Abrantes-Metz et al., *supra* note 171, at 393–98.

280. Except for the addition of the word "inaccurate" in the last sentence of Rule 180.1(a)(4), the text of the final rule is identical to the proposed rule. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. at 41,399.

281. David J. Gilberg et al., *CFTC Anti-Fraud and Manipulation Enforcement Authority*, SULLIVAN & CROMWELL LLP 5 (July 14, 2011), http://www.sullcrom.com/files/upload/CFTC-Anti-Fraud-Manipulation-Enforcement-Authority.pdf.

282. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. at 41,399 ("Given the similarities between CEA section 6(c)(1) and Exchange Act section 10(b), the [CFTC] deems it appropriate and in the public interest to model final Rule 180.1 on SEC Rule 10b-5."). The CFTC further stated that "by modeling final Rule 180.1 on SEC Rule 10b-5, the [CFTC] takes an important step toward harmonization of regulation of the commodities, commodities futures, swaps and securities markets." *Id.* at 41,399 n.11; *Anti-Manipulation and Anti-Fraud Final Rules*, CFTC http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/amaf_ factsheet_final.pdf (last visited Dec. 14, 2014) ("Final Rule 180.1, which is modeled on Securities and Exchange Commission Rule 10b-5, broadly prohibits manipulative and deceptive devices and contrivances, employed intentionally or recklessly, regardless of whether the conduct in question was intended to create or did create an artificial price.").

the rules of any registered entity (as defined in the CEA).[283]

Arguably, the most significant characteristic of Rule 180.1 is that it prohibits fraud-based manipulation under the lower scienter standard of recklessness—as opposed to the specific intent standard for price manipulation from § 9(a)(2).[284]

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283. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. at 41,400. A violation of Rule 180.1 does not "require[] proof of a market or price effect." *Id.* at 41,401. In relevant part, Rule 180.1(a) states the following:

> It shall be unlawful for any person, directly or indirectly, in connection with any swap, or contract of sale of any commodity in interstate commerce, or contract for future delivery on or subject to the rules of any registered entity, to intentionally or recklessly:
>
> (1) Use or employ, or attempt to use or employ, any manipulative device, scheme, or artifice to defraud;
>
> (2) Make, or attempt to make, any untrue or misleading statement of a material fact or to omit to state a material fact necessary in order to make the statements made not untrue or misleading;
>
> (3) Engage, or attempt to engage, in any act, practice, or course of business, which operates or would operate as a fraud or deceit upon any person; or,
>
> (4) Deliver or cause to be delivered, or attempt to deliver or cause to be delivered, for transmission through the mails or interstate commerce, by any means of communication whatsoever, a false or misleading or inaccurate report concerning crop or market information or conditions that affect or tend to affect the price of any commodity in interstate commerce, knowing, or acting in reckless disregard of the fact that such report is false, misleading or inaccurate. Notwithstanding the foregoing, no violation of this subsection shall exist where the person mistakenly transmits, in good faith, false or misleading or inaccurate information to a price reporting service.

17 C.F.R. § 180.1(a) (2013).

284. Prohibition on the Employment, or Attempted Employment, of Manipulative and Deceptive Devices and Prohibition on Price Manipulation, 76 Fed. Reg. at 41,404 ("Upon consideration of all the comments in this rulemaking record, the [CFTC] clarifies that a showing of recklessness is, at a minimum, necessary to prove the scienter element of final Rule 180.1."). The CFTC stated "that final Rule 180.1 does not reach inadvertent mistakes or negligence." *Id.* at 41,405; *see also id.* at 41,405 & n.90 ("Consistent with the Supreme Court's interpretation of Exchange Act section 10(b) in *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 206 (1976), the [CFTC] finds no indication in CEA section 6(c)(1) that Congress intended anyone to be made liable for a violation of final Rule 180.1 unless he or she acted other than in good faith."). "Under final Rule 180.1, the plaintiff bears the burden of proving the violation by a preponderance of the evidence." *Id.* at 41,405. Although recklessness is a lower mental state requirement than many causes of action, it may be difficult even to prove recklessness in situations involving ATS-initiated trading. *See* Matt Prewitt, Note, *High-Frequency Trading: Should Regulators Do More?*, 19 MICH. TELECOMM. & TECH. L. REV. 131, 156 (2012) (stating that "scienter requirements complicate matters" because, like SEC Rule 10b-5, CFTC Rule

IV. FAILURE-TO-SUPERVISE CLAIMS UNDER REGULATION 166.3

Federal regulations broadly require CFTC registrants to diligently supervise their officers, employees, and agents. Specifically, CFTC Regulation 166.3 states the following:

> Each [CFTC] registrant, except an associated person who has no supervisory duties, must diligently supervise the handling by its partners, officers, employees and agents (or persons occupying a similar status or performing a similar function) of all commodity interest accounts carried, operated, advised or introduced by the registrant and all other activities of its partners, officers, employees and agents (or persons occupying a similar status or performing a similar function) relating to its business as a [CFTC] registrant.[285]

The purpose of the CFTC's supervisory requirement is to protect customers from fraudulent or manipulative activities by CFTC registrants.[286] In adopting Regulation 166.3 in 1978,[287] the CFTC explicitly rejected the concept of a rule with a list of specific supervisory requirements, as had been included in the original proposed

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180.1 requires at least a showing of recklessness, and "[t]he recklessness standard will probably render it challenging, but not impossible, for regulators to prove HFT market abuse if they have detailed and well-analyzed market data"). "[HFT] tactics such as stuffing, smoking, and spoofing fall within the commonplace understanding of market manipulation. Because these techniques aim to induce misinformed trading by counterparties, they most likely count as 'deceptive devices' under Rule 10b-5 of the Exchange Act" and the CFTC's analogous rule, CFTC Rule 180.1. *Id.* at 155–56.

285. 17 C.F.R. § 166.3.

286. Sanchez v. Crown, No. 02-R050, Comm. Fut. L. Rep. (CCH) ¶ 30,183, 2006 WL 156743, at *8 (C.F.T.C. Jan. 18, 2006); *In re* Sogemin Metals Inc., No. 00-04, Comm. Fut. L. Rep. (CCH) ¶ 28,008, 2000 WL 36107708, at *5 (C.F.T.C. Feb. 7, 2000) (involving a respondent who did not have adequate controls in place to deter or detect a kickback scheme, which included having no affirmative compliance program or compliance manual, and whose only compliance responsibilities were handled by compliance officers in London); *see* Adoption of Customer Protection Rules, 43 Fed. Reg. 31,886, 31,889 (July 24, 1978) (stating, in the *Federal Register* adopting release for Regulation 166.3, that "[t]he basic purpose of the rule is to protect customers by ensuring that their dealings with the employees of [CFTC] registrants will be reviewed by other officials in the firm").

287. Regulation 166.3, as adopted in 1978, read as follows:

> Each [CFTC] registrant, except an associated person who has no supervisory duties, must diligently supervise the handling of all commodity interest accounts carried, operated, or advised by the registrant and all other activities of its partners, officers, employees and agents (or persons occupying a similar status or performing a similar function) relating to its business as a [CFTC] registrant.

Adoption of Customer Protection Rules, 43 Fed. Reg. at 31,890–91.

rule,[288] and instead opted for a rule with a broad, open-ended supervisory duty.[289] In practice, the open-ended nature of Regulation 166.3 has provided the CFTC with flexibility to bring enforcement actions for supervisory failures that are not limited to specific, enumerated statutory provisions or regulatory requirements.[290] Accordingly, "[a] violation under Regulation 166.3 is an independent violation for which no underlying violation is necessary."[291] A Regulation 166.3 violation "is demonstrated by showing either that: (1) the registrant's supervisory system was generally inadequate; or (2) the registrant failed to perform its supervisory duties diligently."[292] "Regulation 166.3 imposes on registrants an affirmative duty to supervise their partners, employees and agents diligently by establishing, implementing and executing adequate supervisory structures and compliance programs."[293] In Regulation 166.3 violation cases, the CFTC has referenced the failure to supervise employees diligently to ensure, *inter alia*, the following: (1) compliance with a registrant's own internal compliance policies and procedures;[294]

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288. *See id.* at 31,886, 31,889 (referring to the specific supervisory proposals in Protection of Commodity Customers, 42 Fed. Reg. 44,742 (Sept. 6, 1977)).

289. *Id.* at 31,889 (stating that Regulation 166.3 "establishes a general supervision requirement for all CFTC registrants except associated persons who have no supervisory duties").

290. *See, e.g.*, *In re* FCStone LLC, No. 13-24, 2013 WL 2368539, at *1–2, *5–6 (C.F.T.C. May 29, 2013) (finding a violation of Regulation 166.3 in connection with an FCM's insufficient policies and procedures associated with credit and concentration risks and the FCM's failure to diligently supervise firm employees who were responsible for managing the risks associated with customer accounts where the FCM had to absorb a $127 million loss incurred by two customers who had been trading natural gas futures, options, and swaps).

291. *In re* The Linn Group, Inc., No. 13-21, Comm. Fut. L. Rep. (CCH) ¶ 32,598, 2013 WL 1703082, at *5 (C.F.T.C. Apr. 18, 2013) (citing *In re* Thomas Collins [1996–1998 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 27,194, ¶ 45,744 (C.F.T.C. Dec. 10, 1997)); *see also In re* First Nat'l Trading Corp., Nos. 90-28, 92-17, Comm. Fut. L. Rep. (CCH) ¶ 26,142, 1994 WL 16796569, at *10 (C.F.T.C. July 20, 1994); *In re* Paragon Futures Ass'n, No. 88-18, Comm. Fut. L. Rep. (CCH) ¶ 25,266, 1992 WL 74261, at *13 (C.F.T.C. Apr. 1, 1992); *In re* GNP Commodities Inc., No. 89-1, Comm. Fut. L. Rep. (CCH) ¶ 25,360, 1992 WL 201158, at *17 n.11 (C.F.T.C. Aug. 11, 1992), *aff'd in part and modified in part sub nom.* Monieson v. CFTC, 996 F.2d 852 (7th Cir. 1993).

292. *In re* Interactive Brokers LLC, No. 13-19, Comm. Fut. L. Rep. (CCH) ¶ 32,592, 2013 WL 1496929, at *3 (C.F.T.C. Apr. 9, 2013).

293. *In re* Morgan Stanley & Co., No. 12-22, Comm. Fut. L. Rep. (CCH) ¶ 32,218, 2012 WL 3262462, at *6 (June 5, 2012); *see also In re* LFG, L.L.C., No. 01-19, 2001 WL 940235, at *3 (C.F.T.C. Aug. 20, 2001) (finding a violation of Regulation 166.3 where a firm "had no written procedures relating to the monitoring of foreign omnibus accounts, no one was responsible for monitoring the trading in foreign omnibus accounts and, indeed, it appears to have been the policy of the firm not to monitor the trading in foreign omnibus accounts").

294. For cases detailing the failure to supervise employees for compliance with one's own internal policies and procedures, see *In re* Cadent Fin. Servs. LLC, No. 11-13, Comm. Fut. L. Rep. (CCH) ¶ 31,972, 2011 WL 2100633, at *1 (C.F.T.C. May, 25 2011) (stating, *inter alia*,

(2) diligence in handling customer accounts and monitoring them for, among other things, wrongdoing;[295] and (3) diligence in monitoring customer accounts for risks that could result in financial harm to the registrant itself.[296]

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that the FCM "failed to follow procedures it had in place concerning the placement of bunched orders by account managers"); *In re* MF Global Inc., No. 10-03, Comm. Fut. L. Rep. (CCH) ¶ 31,500, 2009 WL 5125367, at *6 (C.F.T.C. Dec. 17, 2009) (stating that the FCM "failed in particular to enforce compliance with its own policies regarding futures trading in the AP's personal account"); *In re* Rosenthal Collins Grp., L.L.C., No. 08-12, Comm. Fut. L. Rep. (CCH) ¶ 30,899, 2008 WL 4051020, at *3 (C.F.T.C. Aug. 26, 2008) (stating that the FCM "failed to diligently supervise" its employees in their handling of certain "payments in cash and by check" by failing to follow its own internal compliance procedures); *In re* MF Global, Inc., No. 08-02, Comm. Fut. L. Rep. (CCH) ¶ 30,730, 2007 WL 8044726, at *3 (C.F.T.C. Dec. 26, 2007) (stating that the FCM and one of its APs failed to diligently supervise the handling of certain offshore fund accounts by its employees, "failed to follow its policies and procedures with respect to transfers of trades and opening of new accounts," and "failed to respond to and investigate accumulating indications of questionable activity").

295. For cases detailing the failure to supervise employees for diligence in monitoring customer accounts for, among other things, wrongdoing, see CFTC v. Matrix Trading Grp., Inc., No. 00-8880-Civ., 2002 WL 31936799, at *11 (S.D. Fla. Oct. 3, 2002) (stating that two defendants "failed to maintain meaningful procedures for detecting fraud by their employees—[the two defendants] actually trained the APs to make these misrepresentations during their telephone solicitations" and that "[b]y failing to implement meaningful procedures for detecting fraud and failing to follow [the registrant's] purported internal control procedures with regard to telephone solicitations, [the two defendants] violated [Regulation] 166.3"); *see also In re* Morgan Stanley Smith Barney LLC, No. 13-02, Comm. Fut. L. Rep. (CCH) ¶ 32,422, 2012 WL 5217738, at *2 (C.F.T.C. Oct. 22, 2012) (finding that an FCM had failed to diligently supervise its employees' handling of a customer account where the employees allowed an unregistered FCM to trade a third party's funds through a proprietary futures trading account carried by the FCM); *In re* Rosenthal Collins Grp., LLC, No. 12-18, Comm. Fut. L. Rep. (CCH) ¶ 32,166, 2012 WL 1242406, at *2–3 (C.F.T.C. Apr. 12, 2012); *In re* Cadent Fin. Servs. LLC, No. 11-13, Comm. Fut. L. Rep. (CCH) ¶ 31,972, 2011 WL 2100633, at *4 (C.F.T.C. May 25, 2011) ("[D]ue to deficiencies in [the FCM's] supervisory system and its' [sic] failure to properly implement and monitor supervisory procedures, [the FCM] failed to diligently supervise the handling by its partners, employees and agents of all of its commodity interest accounts and activities relating to its business as a registrant and therefore violated Regulation 166.3."); *In re* Excellent USA, Inc., No. 01-20, Comm. Fut. L. Rep. (CCH) ¶ 28,914, 2002 WL 34936446, at *2 (C.F.T.C. Feb. 4, 2002) (stating that the FCM "failed to supervise the handling of the foreign customer omnibus accounts"); Press Release, CFTC, CFTC Orders Rosenthal Collins Group, LCC, a Registered [FCM] to Pay More than $2.5 Million for Supervision and Record-Production Violations (Apr. 12, 2012), *available at* http://www.cftc.gov/PressRoom/PressReleases/pr6230-12 ("'This case reflects the CFTC's resolve to hold FCMs liable for failing to adhere to their supervisory obligations,' said David Meister, the Director of the CFTC's Division of Enforcement. 'Even if an FCM does not knowingly assist in a Ponzi scheme conducted by an account holder, an FCM cannot ignore questionable transactions that stand out as red flags of fraudulent conduct, particularly when those flags should have been obvious under the FCM's own policies and procedures.'").

296. For failure to supervise employees for diligence in monitoring the risks associated with customer accounts, see generally *In re* FCStone LLC, No. 13-24, 2013 WL 2368539 (C.F.T.C. May 29, 2013).

"[A registrant] may violate Regulation 166.3 even if it does not violate any specific supervisory requirement imposed by either statutory provision or regulatory rulemaking."[297] Further, "[e]vidence of violations that 'should be detected by a diligent system of supervision, either because of the nature of the violations or because the violations have occurred repeatedly' is . . . probative of a failure to supervise."[298] Indeed, "[i]f 'customer orders reasonably raise concerns about their lawfulness under the [CEA], the futures professionals who accept or monitor the orders have a duty of further inquiry.'"[299] The CFTC stated in its proposing release for the supervisory rule, however, that "the performance of a wrongful act by an employee . . . does not necessarily mean that the employee was improperly supervised, although it is often a strong indication of a lack of proper supervision."[300]

As mentioned above, "[f]or a registrant to fulfill its duties under Regulation 166.3, it must both design an adequate program of supervision and ensure that the program is followed."[301] To prove a failure-to-supervise claim, the CFTC must determine whether the registrant in question had established an adequate system of supervision, what roles different employees and agents played in that system, and the specific supervisory duties that employees and agents failed to perform diligently.[302] Put another way, one must assess the nature of the system of supervision, the specific employees' roles in that system, and whether those employees had performed those assigned roles in a diligent manner.[303] Under Regulation 166.3, a registrant has a

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297. *Id.* at *5 ("This concept was conceived at the time the [CFTC] initially adopted Regulation 166.3 and declined to mandate specific supervisory requirements for all FCMs." (citing *In re* GNP Commodities Inc., No. 89-1, Comm. Fut. L. Rep. (CCH) ¶ 25,360, 1992 WL 201158, at *17 n.11 (C.F.T.C. Aug. 11, 1992), *aff'd in part and modified in part sub nom.* Monieson v. CFTC, 996 F.2d 852 (7th Cir. 1993))).

298. *In re* Open E Cry LLC, No. 12-24, 2012 WL 10259805, at *7 (C.F.T.C. June 7, 2012) (quoting *In re* Paragon Futures Ass'n, No. 88-18, Comm. Fut. L. Rep. (CCH) ¶ 25,266, 1992 WL 74261, at *14 (C.F.T.C. Apr. 1, 1992)).

299. *In re* Morgan Stanley Smith Barney LLC, No. 13-02, Comm. Fut. L. Rep. (CCH) ¶ 32,422, 2012 WL 5217738, at *4 (C.F.T.C. Oct. 22, 2012) (quoting *In re* U.S. Sec. & Futures Corp., No. 01-01, Comm. Fut. L. Rep. (CCH) ¶ 31,494, 2009 WL 3244152, at *11 (C.F.T.C. Oct. 7, 2009)).

300. Protection of Commodity Customers, 42 Fed. Reg. 44,742, 44,747 (Sept. 6, 1977).

301. *In re Open E Cry*, 2012 WL 10259805, at *6 (citing *In re GNP Commodities Inc.*, 1992 WL 201158 and CFTC v. Carnegie Trading Grp., Ltd., 450 F. Supp. 2d 788, 805 (N.D. Ohio 2006)).

302. *See In re* Murlas Commodities, Inc., No. 85-29, [1994–1996 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 26,485, 1995 WL 18009905, at *8 n.42 (C.F.T.C Sept. 1, 1995).

303. *In re* Rosenthal Collins Grp., LLC, No. 12-19, Comm. Fut. L. Rep. (CCH) ¶ 32,166, 2012 WL 1242406, at *6 (C.F.T.C. Apr. 12, 2012) ("Moreover, during the relevant period, [defendant] failed to perform its supervisory duties diligently by not following its compliance procedures that were in place, also in violation of Regulation 166.3 . . . ."). The Consent Order stated that defendant "failed to diligently supervise its officers', employees', and agents'

"duty to develop procedures for the detection and deterrence of possible wrongdoing by its agents."[304] "The lack of an adequate supervisory system can be established by showing that the registrant failed to develop proper procedures for the detection of wrongdoing."[305] Further, the CFTC has stated that a registrant has failed to implement an adequate supervisory system where, *inter alia*, the registrant fails to adequately train employees regarding their obligations to comply with specific CFTC regulations.[306] Likewise, a registrant's failure to follow its own internal compliance procedures and policies, i.e., a failure to ensure that its supervisory program is diligently administered and implemented, can constitute a violation of Regulation 166.3.[307]

The CFTC's supervision requirement is not a strict liability provision.[308] Instead, administrative and judicial failure-to-supervise decisions appear to apply a reasonableness standard, holding registrants

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handling of an account held at [the registrant]" that was "used in [a] multimillion dollar Ponzi scheme." *Id.* at *1; *see* Bunch v. First Commodity Corp., No. 86-R201, Comm. Fut. L. Rep. (CCH) ¶ 25,352, 1992 WL 12616854, at *3 (C.F.T.C. Aug. 5, 1992).

304. Samson Refining Co. v. Drexel Burnham Lambert, Inc., [1986–1987 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 24,596, 1990 WL 10570561, at *10 (C.F.T.C. Feb. 16, 1990) (citations omitted) (internal quotation marks omitted).

305. *In re Open E Cry*, 2012 WL 10259805, at *6 (citing CFTC v. Trinity Fin. Group, Inc. [1996–1998 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 27,179 at 45,635 (S.D. Fla. Sept. 29, 1997), *aff'd in part, vacated in part, and remanded sub nom.* Sidoti v. CFTC, 178 F.3d 1132 (11th Cir. 1999)).

306. *In re* Mizuho, No. 13-11, Comm. Fut. L. Rep. (CCH) ¶ 32,509, 2013 WL 55702, at *3 (C.F.T.C. Jan. 3, 2013); Press Release, CFTC, CFTC Orders Mizuho Securities USA Inc. to Pay $175,000 to Settle CFTC Charges of Secured Fund Deficiencies and Supervision Failures (Jan. 3, 2013), *available at* http://www.cftc.gov/PressRoom/PressReleases/pr6491-13; *see also, e.g.*, *In re* The Linn Grp., Inc., No. 13-21, Comm. Fut. L. Rep. (CCH) ¶ 32,598, 2013 WL 1703082, at *5 (Apr. 18, 2013) (stating that the registrant "failed to adequately train its employees, officers, and agents to ensure compliance with the [CEA] and [CFTC] Regulations, including with respect to the handling, monitoring, recording, and reporting of customer funds"); *In re* Morgan Stanley & Co., LLC, No. 12-22, Comm. Fut. L. Rep. (CCH) ¶ 32,218, 2012 WL 3262462, at *7 (June 5, 2012) (finding that "Morgan Stanley failed to ensure that its employees who participated in the execution or processing of [specific kinds of transactions] had received adequate training"); *In re* Tenco, Inc., No. 11-20, 2011 WL 3813126, at *4 (C.F.T.C. Aug. 25, 2011) (stating that an FCM violated Regulation 166.3 because, *inter alia*, it "did not have a system in place to train employees in [CFTC Rules], exchange rules or corporate policies").

307. *In re Rosenthal Collins Grp.*, 2012 WL 1242406, at *6.

308. *See, e.g.*, *In re* First Nat'l Trading Corp., Nos. 90-28, 92-17, [1994–1996 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 26,413, 1995 WL 18009834, *1 (C.F.T.C. May 31, 1995) (finding that the president and chief executive officer had recklessly abrogated his supervisory responsibilities where, *inter alia*, he testified that he did not care if subordinates monitored the sales practices of account executives); Quinn v. Dunhill Invs. Corp., No. 90-R130, Comm. Fut. L. Rep. (CCH) ¶ 25,002, 1991 WL 11711628, at *7 (C.F.T.C. Feb. 14, 1991) (reasoning that supervisory requirements do not impose strict liability and denying supervisory liability where supervisor was not aware of misrepresentation); *In re* Apache Trading Corp., No. 87-14, Comm. Fut. L. Rep. (CCH) ¶ 24,413, 1989 WL 1664804, at *11 (C.F.T.C. Mar. 20, 1989).

liable if their supervisory systems or actions in implementing those systems were not reasonable under the circumstances. This analysis sometimes references whether registrants reasonably should have—or would have, if their supervisory systems had been sufficient—detected the specific underlying instances of wrongdoing at issue.[309] For example, some of the decisions mention "red flags"—prior indicators that provided the registrants with notice that its officers, employees, and agents were acting improperly or that the existing supervisory system was insufficient—that registrants either failed to adequately address or disregarded.[310]

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309. *See, e.g.*, Modlin v. Cane, No. 97-R083, [1996–1998 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 27,392, 1998 WL 35479096, at *16 (July 30, 1998), *aff'd*, No. 97-R083, 2000 WL 36108104 (Mar. 15, 2000) (concluding that the fraudulent activity in the account was so egregious that it should have been detected by diligent supervision); *In re* Murlas Commodities, Inc., No. 85-29, [1994–1996 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 26,485, 1995 WL 18009905, at *2–3 (C.F.T.C. Sept. 1, 1995) (determining that the firm's supervisory system failed to prevent a substantial number of violations, but those violations were spread out over a two-year period and represented a small proportion of the firm's overall business so it could not be inferred that the violations resulted from supervisory failures); Zizzo v. Vision Ltd. P'ship, No. 94-R022, Comm. Fut. L. Rep. (CCH) ¶ 26,089, 1994 WL 16796519, at *4 (May 23, 1994) (dismissing failure-to-supervise claim where the plaintiff failed to allege that (a) the supervisor knew of the misconduct and failed to take reasonable steps to stop it, (b) the supervisor failed to discharge specific supervisory duties, or (c) a supervisory failure was a proximate cause of the complainant's harm); *In re* Paragon Futures Ass'n, No. 88-18, Comm. Fut. L. Rep. (CCH) ¶ 25,266, 1992 WL 74261, at *11 (Apr. 1, 1992) (reasoning that a violation of the CEA by personnel under supervision could form the basis for a failure-to-supervise claim if the violations were of the type that would have been detected by a diligent supervisory system); Kalkstein v. Delphi Commodities Inc., No. R 80-1167-81-110, Comm. Fut. L. Rep. (CCH) ¶ 22,555, 1985 WL 1106309, at *4 (Apr. 18, 1985) (finding failure to supervise where person who had primary responsibility for sales claimed to be unaware of misrepresentations in firm's promotional materials and stated that he could "only hope and assume" that salespersons he supervised would conduct themselves properly); Rule v. Heneghan, No. R81-454-81-656, Comm. Fut. L. Rep. (CCH) ¶ 22,535, 1985 WL 1106291, at *7 (C.F.T.C. Mar. 14, 1985) (reasoning that the duty to investigate possible wrongdoing does not arise before a registrant can reasonably be expected to know that there is a problem), *aff'd in part and remanded as to damages*, No. R81-454-81-656, Comm. Fut. L. Rep. (CCH) ¶ 23,287, 1986 WL 1194594 (C.F.T.C. Sept. 30, 1986); Shashaani v. Merrill Lynch, Pierce & Smith, Inc., No. R 81-247-81-571, Comm. Fut. L. Rep. (CCH) ¶ 22,271, 1984 WL 932759, at *5 (C.F.T.C. July 10, 1984) (finding that a manager was liable for supervisory failure in connection with wrongdoing that occurred after the point when he was put on notice of unauthorized trading), *remanded on other grounds*, No. R81-247-81-571, Comm. Fut. L. Rep. (CCH) ¶ 22,629, 1985 WL 1106378 (C.F.T.C. June 19, 1985).

310. *E.g.*, *In re Rosenthal Collins Grp.*, 2012 WL 1242406, at *1, *3 (stating, in a consent order settling the case, that the registrant FCM had "failed to diligently supervise its officers', employees', and agents' handling of an account held at" the registrant where the registrant missed "[n]umerous [r]ed [f]lags [c]oncerning [s]uspicious [a]ctivity" related to a customer who used his account with the registrant to orchestrate a Ponzi scheme); *In re* Alaron Trading Corp., No. 08-10, Comm. Fut. L. Rep. (CCH) ¶ 30,835, 2008 WL 1829519, at *1 (C.F.T.C. Apr. 18, 2008) (noting, in a consent order, that the CFTC found that an FCM had failed to supervise

Unlike the traditional negligence standard, which asks what a reasonably prudent person would have done in similar circumstances, Regulation 166.3 decisions appear to apply a reasonably prudent *registrant* standard because the analysis typically focuses on how the defendant's behavior departed from what other (reasonably prudent) registrants would, or should, have done.[311] For example, a reasonably prudent registrant would be aware of, and have read, CFTC interpretive guidance, staff advisories, *Federal Register* rule releases explaining CFTC Regulations, and the like.

A. *Duty to Supervise Employees Who Establish, Monitor, and Maintain Electronic Trading Platforms*

In several recent enforcement cases, the CFTC has stated that registrants have a duty to supervise their officers, employees, and agents who are responsible for creating, monitoring, maintaining, and controlling electronic trading platforms and systems. For example, in 2012, the CFTC simultaneously filed and settled a case in which an FCM's "customized trading software" contained a flaw that caused the software to "incorrectly calculate[] customer profits and losses resulting from trades in the Russian ruble [futures] contract" for seven months; the software glitch enabled an observant (but unethical) trader to engage in a fraudulent prearranged trading scheme.[312] The CFTC stated that the FCM "failed to adequately monitor suspicious trading activity in

employees' handling and oversight of customer accounts); *In re* MF Global Inc., No. 08-02, [2007–2009 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 30,730, 2007 WL 8044726, at *9 (C.F.T.C. Dec. 26, 2007); *In re* Excellent, USA, Inc., No. 01-20, [2002–2003 Transfer Binder] Comm. Fut. L. Rep. (CCH) 28,914, 2002 WL 34936446, at *5 (C.F.T.C. Feb. 4, 2002).

311. *See, e.g.*, *In re* Forex Capital Mkts. LLC, No. 12-01, Comm. Fut. L. Rep. (CCH) ¶ 32,658, 2011 WL 4689390, at *2 (C.F.T.C. Oct. 3, 2011) ("Had [the registrant] diligently supervised its officers, employees, and agents regarding these aspects of its business, [the registrant] would have discovered these problems with its trade integrity and had the opportunity to correct them . . . .").

312. *In re* Open E Cry LLC, No. 12-24, 2012 WL 10259805, at 2 (C.FT.C. June 7, 2012) (involving an FCM, which settled allegations that it had failed to supervise its employees' handling and oversight of customer accounts, where one customer was able to take advantage of a flaw in the FCM's customized trading software by engaging in wash sales that took advantage of a systematic price miscalculation associated with the Russian rubles futures contract); Press Release, CFTC, CFTC Orders Futures Commission Merchant Open E Cry, LLC to Pay $250,000 to Settle Failure to Supervise Charges (June 7, 2012), *available at* http://www.cftc.gov/PressRoom/PressReleases/pr6276-12 ("[FCM] failed to detect and correct a flaw in software it offered its customers for trading futures contracts that miscalculated the customers' intraday profits and losses from trading the Russian ruble futures contract. . . . [A] Russian national . . . exploited the ruble calculation error and [the FCM's] supervision failures. [The Russian national] engaged in a fraudulent prearranged trading scheme . . . . [The FCM] failed to implement adequate alert systems to detect suspicious trading activity, such as the trading of extremely large quantities of futures contracts, and thus failed to detect and stop [the Russian national's] trading . . . .").

customer accounts" in violation of Regulation 166.3 because FCMs must "diligently supervise the handling of their customer accounts, as well as all other activities of their personnel related to their business as an FCM."[313] The CFTC noted that the FCM used computer software to monitor risk in customer accounts that was "technologically capable of creating automated 'alerts' that generate emails to risk management personnel upon occurrence of various types of suspicious trading activity," but that the FCM "did not, however, have its system configured to generate any systemwide automated alerts."[314] The "night desk personnel" who were working when the trader exploited the software flaw that miscalculated values in the Russian rubles futures contract did not have any individualized automated alerts activated on their computers.[315] Although they were "charged with visually monitoring the flow of customer trades during the . . . overnight session," they did not notice the suspicious trading activity.[316]

The CFTC also has used Regulation 166.3 to combat supervisory failures connected with electronic trading platforms in the off-exchange foreign currency (forex) market, where fraud has been a recurring problem.[317] In 2011, the CFTC simultaneously filed and settled a case alleging that retail foreign exchange dealer (RFED),[318] Forex Capital Markets (FXCM) had violated Regulation 166.3. In 2013, the CFTC filed and settled a similar case against another RFED, FXDirect Dealer

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313. *In re Open E Cry*, 2012 WL 10259805, at *2, *4–5 ("[FCM] was aware that [the customized software trading program] could potentially miscalculate customer profits and losses . . . . [But the FCM] failed to implement any risk management procedure directed at detecting miscalculation of customer profits . . . , despite this understanding of its previous issues in this area, and despite its access to a tool that, among other things, listed cash balance discrepancies . . . . Despite the fact that [the FCM's] personnel routinely reviewed the deviation reports for other purposes, [the FCM] failed to adequately review the reports to monitor account balance discrepancies . . . ."); *see also In re* Morgan Stanley & Co., LLC, No. 12-22, Comm. Fut. L. Rep. (CCH) ¶ 32,218, 2012 WL 3262462, at *5 (C.F.T.C. June 5, 2012).

314. *In re Open E Cry*, 2012 WL 10259805, at *5.

315. *Id.*

316. *Id.*

317. *See CFTC Fraud Advisories: Foreign Currency Trading (Forex) Fraud*, CFTC, http://www.cftc.gov/ConsumerProtection/FraudAwarenessPrevention/CFTCFraudAdvisories/fraudadv_forex (last visited Dec. 14, 2014); *Foreign Exchange Currency Fraud: CFTC/North American Securities Administrators Association Investor Alert*, CFTC, http://www.cftc.gov/ConsumerProtection/FraudAwarenessPrevention/ForeignCurrencyTrading/cftcnasaaforexalert (last visted Dec. 14, 2014); CFTC, FOREIGN CURRENCY TRADING FRAUD, *available at* http://www.cftc.gov/ucm/groups/public/@cpfraudawarenessandprotection/documents/file/cpforeigncurrencytradingfraud.pdf (last visited Dec. 14, 2014); *see also Commission Advisory: Beware of Foreign Currency Trading Frauds*, CFTC, http://www.cftc.gov/opa/enf98/opaforexa15.htm (last visited Dec. 14, 2014).

318. RFED "means any person that is, or that offers to be, the counterparty to a retail forex transaction," other than persons that fall within enumerated exceptions. 17 C.F.R. § 5.1(h)(1) (2013).

(FXDD). Their violation was in failing to supervise how their officers, employees, and agents handled, controlled, and monitored their electronic trading platforms.[319] In the consent orders (i.e., the settlements) for both cases, the CFTC stated that Regulation 166.3 had been violated because the RFEDs had failed to supervise their "officers', employees', and agents' handling of customer accounts" on electronic trading platforms "with respect to slippage (*i.e.,* the change in price between order placement and execution) on market orders and margin liquidation orders."[320] More specifically, the CFTC determined that the two RFEDs had failed to supervise their officers, employees, and agents to prevent them from establishing and maintaining asymmetrical slippage parameters on electronic trading platforms. The effect was that trade orders in which the prices moved—"slipped"—in favor of customers would be rejected, whereas orders in which the prices moved in favor of the registrant would be accepted.[321] With these

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319. *In re* FXDirectDealer, LLC, No. 13-34, Comm. Fut. L. Rep. (CCH) ¶ 32,813, 2013 WL 5295802, at *3 (C.F.T.C. Sept. 18, 2013); *In re* Forex Capital Mkts. LLC, No. 12-01, Comm. Fut. L. Rep. ¶ 32,658, 2011 WL 4689390, at *3–4 (C.F.T.C. Oct. 3, 2011).

320. *In re Forex Capital Mkts.*, 2011 WL 4689390, at *1; *accord In re FXDirectDealer*, 2013 WL 5295802, at *1; *see also* Joshua Gallu, *FXCM Agrees to Pay $14 Million to Resolve CFTC 'Slippage' Claims*, BLOOMBERG (Oct. 3, 2011, 1:39 PM), http://www.bloomberg.com/news/2011-10-03/fxcm-agrees-to-pay-14-million-to-resolve-cftc-slippage-claims.html ("FXCM, between 2008 and 2010, deprived customers of $8.26 million in 'positive price slippage,' advantageous price changes that occurred after the clients placed orders and before the transaction was executed . . . . While customers didn't receive the benefit of positive price slippage, they did absorb losses from negative movements . . . ."); Press Release, CFTC, CFTC Orders FXDirectDealer, LLC to Pay $2.74 Million for Supervision Failures Relating to Trading Platform (Sept. 18, 2013), http://www.cftc.gov/PressRoom/PressReleases/pr6697-13; Press Release, CFTC, Forex Capital Markets LLC Ordered to Pay More Than $14.2 Million to Settle CFTC Charges Relating to Its Failure to Supervise Customer Accounts (Oct. 3, 2011), http://www.cftc.gov/PressRoom/PressReleases/pr6119-11; News Release, NFA, NFA Fines New York Forex Firm FXDirectDealer LLC $1.1 Million and Orders the Firm to Pay $1.8 Million in Restitution to Customers (Sept. 18, 2013), *available at* http://www.nfa.futures.org/news/newsRel.asp?ArticleID=4299; News Release, NFA, NFA Levies $2,000,000 Monetary Sanction Against FXCM and Orders Refunds to Customers, (Aug. 12, 2011), *available at* http://www.nfa.futures.org/news/newsRel.asp?ArticleID=3851.

321. *In re FXDirectDealer*, 2013 WL 5295802, at *1; *accord In re Forex Capital Mkts.*, 2011 WL 4689390, at *1.

> [D]uring the relevant period, [the registrant's] officers, employees, and agents responsible for establishing, maintaining, and monitoring its electronic trading platforms (specifically, the slippage parameters on the MT4 platform) failed to establish a system that prevented asymmetrical slippage on orders executed through the MT4 platform. In addition, [the registrant] failed to supervise diligently these officers', employees', and agents' handling of the MT4 platform . . . .

In re FXDirectDealer, 2013 WL 5295802, at *3.

two cases, the CFTC emphasized that registrants must diligently supervise their employees who are "tasked with establishing, monitoring, and maintaining" computerized trading platforms.[322]

One of the RFED consent orders cites NFA Interpretive Notice 9060 for NFA Compliance Rule 2-36(e) concerning the supervision of the use of electronic trading systems.[323] Interpretive Notice 9060 states in pertinent part:

> The forex markets are highly automated, with virtually all trading done on electronic platforms. Most orders are also placed electronically, usually entered directly with the platform via the Internet. Therefore, in order to fulfill their supervisory responsibilities, Members must adopt and enforce written procedures to address the security, capacity, credit and risk-management controls, and records provided by the firm's electronic trading systems. . . . For an electronic trading platform, the procedures must also address the integrity of the trades placed on it.[324]

The Notice also explicitly mentions slippage, stating "[a]n electronic trading platform should be designed to ensure that any slippage is based on real market conditions" and that "slippage . . . should move in customers' favor as often as they move against it."[325] Interpretive Notice 9060 states that RFEDs "must adopt and enforce written procedures reasonably designed to ensure the integrity of trades placed on their trading platforms."[326]

> The price quotes offered by FXDD . . . often change, or "slip," between the time the customer clicks on a price showing on the computer and the time FXDD fills the customer's order. If the price slips, FXDD's system employs slippage parameters that determine whether FXDD fills or rejects a customer order at the original price clicked by the customer . . . FXDD used asymmetrical slippage parameters on its principal trading platform, meaning that the system favored FXDD over its customers in slippage situations.

Ginger Szala, *The Blotter: FXDD Fined $2.74 Million by CFTC*, FUTURES MAG. (Sept. 20, 2013), http://www.futuresmag.com/2013/09/20/the-blotter-fxdd-fined-274-million-by-cftc.

322. *In re Forex Capital Mkts.*, 2011 WL 4689390, at *2 ("[The registrant] had officers, employees, and agents that were tasked with establishing, monitoring, and maintaining its trading platforms. [The registrant's] officers, employees, and agents, however, failed to establish a system that prevented asymmetrical slippage on market orders and market liquidation orders. In addition, [the registrant's] officers, employees, and agents failed to detect the unequal treatment of price slippage that occurred thousands of times a day across thousands of customer accounts for more than two years.").

323. *Id.* at *4 n.4.

324. Interpretive Notice, NFA, 9060—Compliance Rule 2-36(e): Supervision of the Use of Electronic Trading Systems (Nov. 15, 2011), *available at* http://www.nfa.futures.org/nfamanual/NFAManual.aspx?RuleID=9060&Section=9 (footnotes omitted).

325. *Id.*

326. *Id.*

Interestingly, the CFTC did not accuse the FXCM and FXDD of fraud, perhaps because it would have been difficult to establish scienter based on the circumstances. Former CFTC Commissioner Scott D. O'Malia issued a concurring statement in the consent order settling the case with FXCM.[327] In it, he said that "[the registrant's] apparent reliance on its trade platforms' programming in lieu of robust supervision and monitoring highlights the need for the [CFTC] to adopt heightened standards for the supervision of electronic trading platforms and other systems."[328] Former Commissioner O'Malia further stated:

> The [CFTC] needs to take a harder look at the role that technology is playing in all of the markets under its authority. The [CFTC] needs to develop further expertise to look past the black box at those who design, operate, maintain, monitor and supervise the technology that has largely taken the place of traditional trading venues and trade execution functions to identify and prosecute misconduct. We can no longer assume that there can be no violations absent a person holding the smoking gun; that time has passed.[329]

Former Commissioner O'Malia also noted that, "[w]hile the charges do not sound in fraud or misappropriation," the supervisory failures exhibited in the case were "repugnant."[330]

B. *Regulation 166.3 as Applied to ATS-Directed Trading Practices*

The *FXCM* and *FXDD* consent orders show how the CFTC could use Regulation 166.3 to combat manipulative and disruptive trading practices that result from the actions of ATSs that are not diligently supervised by registrants' employees, officers, or agents.[331] Unlike other

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327. *In re Forex Capital Mkts.*, 2011 WL 4689390, at *10 (O'Malia, Comm'r, concurring).

328. *Id.* ("This matter ought to serve as warning to those who seek to circumvent their obligations under the CEA and regulations as well as their duties to their customers in reliance on the fiction that technology is infallible and provides a defense for conduct which would clearly attract higher scrutiny when directly engaged in by a person.").

329. *Id.* ("The platforms and their protocols should not be immune [from] the imputation of scienter.").

330. *Id.* (noting that under the settlement, the penalties on FXCM included, *inter alia*, a $6 million civil monetary penalty from the CFTC, a $2 million monetary sanction by NFA, and payment of $8,261,937 in restitution to victims).

331. Indeed, securities-market SROs have used supervisory requirements to punish brokerage firms that do not diligently supervise the accounts of customers whose trading is controlled by ATSs. *See, e.g.*, Scott Patterson & Jacob Bunge, *Newedge Fined for Lax Oversight of Manipulative Trades*, WALL ST. J. (July 10, 2013, 7:51 PM), http://online.wsj.com/article/SB10001424127887324425204578597962040067332.html (subscription required) ("Wall Street's stock-market cops slapped a New York brokerage firm with a record fine for failing to stop computer-driven trading clients who sought to manipulate U.S. markets for nearly four

enforcement causes of action that require the wrongdoer to act either intentionally or recklessly, Regulation 166.3 appears to apply a reasonableness standard, as detailed above. As such, the CFTC could use Regulation 166.3 in circumstances where the humans serving as the officers, employees, or agents of a registrant failed to construct, program, manage, and oversee an ATS so as to ensure that the ATS does not engage in trading practices that disrupt derivative markets or distort and manipulate the prices of derivatives and commodities.

Similarly, the CFTC could invoke Regulation 166.3 in situations where an FCM failed to diligently supervise its officers, employees, or agents in connection with the oversight of customer accounts for improper activities performed by ATSs. Put another way, if a registrant's ATS engages in practices that mimic banging the close, wash trading, or spoofing, then the CFTC arguably could bring a Regulation 166.3 claim against the registrant if the registrant failed to diligently supervise its employees who were responsible for managing and operating the ATS.

Indeed, as discussed above, the CFTC already has brought cases asserting Regulation 166.3 violations in which registrants' employees failed to diligently supervise employees who were responsible for programming, overseeing, or controlling their electronic trading platforms.[332] Regulation 166.3 does not require an underlying violation of a CEA provision or CFTC Regulation, so the CFTC could bring a supervisory failure claim in connection with ATS-initiated trading

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years."). "Newedge allowed the questionable behavior—some of which was executed by day-trading firms—to persist despite numerous red flags, including concerns raised by employees, an independent consultant, exchanges and regulators . . . ." *Id.*

> Brokerages are required to monitor clients' trading activity . . . to curb manipulative activity, among other things. . . . The brokerage [firm] allowed potentially manipulative trading such as "spoofing," in which firms place orders designed to trick other firms into buying or selling stocks, and "marking the close," in which firms push around stock prices at the close of trading in order to benefit from the final price . . . .

> [C]lients also engaged in multiple "wash trades . . . ."

Id.; *see also* Suzanne Barlyn, *Wall St. Watchdog Probing 170 Instances of Possible Algorithmic Abuses*, REUTERS (May 19, 2014, 5:51 PM), http://www.reuters.com/article/2014/05/19/us-finra-algorithms-idUSBREA4I0RJ20140519 (stating that the Financial Industry Regulatory Authority (FINRA), the securities industry SRO, "is looking at instances in which brokerage firms may have used algorithms to engage in abusive trades, or failed to supervise the use of algorithms by their advisers," and that "FINRA is concerned about algorithms designed to trigger illegal, manipulative market behaviors such as 'spoofing,' when orders are rapidly placed and canceled to create the illusion of market demand").

332. *E.g.*, *In re* FXDirectDealer, LLC, No. 13-34, Comm. Fut. L. Rep. (CCH) ¶ 32,658, 2013 WL 5296802, at *1 (C.F.T.C. Sept. 18, 2013); *In re Forex Capital Mkts.*, 2011 WL 4689390, at *1.

activities without having to prove all of the elements of a cause of action for, say, price manipulation or wash trading. Instead, the CFTC would have to show that, in connection with ATS-initiated manipulative or disruptive trading activities, the registrant either failed to diligently supervise its employees or failed to have an adequate supervisory system in place. As mentioned previously, the CFTC is willing to bring a Regulation 166.3 claim against an FCM for failure to supervise its employees who are responsible for monitoring customer accounts for suspicious activity and wrongdoing, even if the activity in question ultimately turns out not to be illegal under the CEA or CFTC Regulations.[333]

A failure-to-supervise case that the CFTC simultaneously filed and settled against FCStone, an FCM, in 2013 further illustrates the flexibility of Regulation 166.3 for broadly combating weak supervisory systems without invoking specific, underlying causes of action or violations. The CFTC stated that "FCStone failed to implement adequate customer credit and concentration risk policies and controls in 2008 and part of 2009, allowing one account . . . to acquire a massive options position that [the customer] could not afford to maintain."[334] As a result, "[u]ltimately, FCStone was forced to take over the [a]ccount, and lost approximately $127 million."[335] Former Director of Enforcement David Meister summed up the case as follows:

> The [CFTC's] supervision regulation helps ensure the financial integrity of the markets and safeguard customer funds. When an FCM's financial risk controls are so lacking that they do virtually nothing to prevent an unchecked customer from taking grossly excessive trading risks as happened here, a harmful domino effect of financially dangerous consequences can follow, affecting not only the FCM but also potentially other customers and

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333. *See In re* LFG, L.L.C., No. 01-19, 2001 WL 940235, at *1, *3 (C.F.T.C. Aug. 20, 2001). In this consent order, the CFTC stated that an FCM failed to diligently supervise its employees' handling of the foreign omnibus accounts of two Japanese firms who submitted orders that, as with wash sales, "when totaled, resulted in each omnibus account being both long and short approximately the same number of futures contracts in each contract month. Despite the suspicious nature of this trading, [the FCM] never inquired as to the customers' intent or made any inquiry into the trading at issue." *Id.* at *1. The CFTC determined that, under the circumstances, the trades in question were not wash sales, but that the unusual trading patterns should have prompted greater scrutiny by the FCM. *Id.* at *4. Ultimately, Japanese criminal authorities convicted the principals of one of the Japanese firms in question for defrauding customers. *Id.* at *2.

334. Press Release, CFTC, CFTC Orders FCStone LLC to Pay a $1.5 Million Civil Monetary Penalty for Failing to Have Risk Controls, in Violation of Supervision Obligations (May 29, 2013), *available at* http://www.cftc.gov/PressRoom/PressReleases/pr6594-13.

335. *Id.*

the market at large.[336]

Regarding the Regulation 166.3 violation in the *FCStone* case, the CFTC started from the basic proposition that FCMs, such as FCStone, are required to diligently supervise all of the activities of their officers, employees, and agents in connection with their business as FCMs.[337] From there, the CFTC noted that the employee activities in question included managing the risks associated with customer accounts, such as credit risk, concentration risk, and any other risk that could "either substantially contribute[] to, or could reasonably . . . threaten, material[] losses of firm assets."[338] "Moreover, when supervisory failures exposed customers to potential risk of loss the [CFTC] has found that such conduct violates Regulation 166.3."[339] The CFTC then determined that a registrant's failure to supervise its officers', employees', and agents' activities related to monitoring customers' credit risk and concentration risk constituted a violation of Regulation 166.3. The CFTC stated that FCStone's "supervisory failures violated Regulation 166.3 because they either contributed substantially to, or could reasonably have been expected to result in material losses of FCStone LLC's assets."[340]

As support for the proposition that FCStone's actions (or lack thereof) in managing its business as a registrant in connection with credit and concentration risks constituted supervisory failures that violated Regulation 166.3, the CFTC cited, in addition to judicial and CFTC decisions (many of them consent orders), a hodgepodge of sources. These sources included three previous *Federal Register* rulemaking releases (two of which were from the 1980s) referring, *inter alia*, to the importance of FCM capital requirements.[341] They also included a 2001 report by CFTC staff that mentioned the dangers to FCMs of "carr[ying] positions in thinly traded markets, or positions that represent a large portion of a particular product,"[342] and several CFTC rules concerning financial controls and safeguards for FCMs.[343]

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336. *Id.*

337. *In re* FCStone LLC, No. 13-24, 2013 WL 2368539, at *5 (C.F.T.C. May 29, 2013).

338. *Id.* at *7.

339. *Id.* at *6 (citing *In re* Goldman Sachs Execution & Clearing, LP, No. 12-20, Comm. Fut. L. Rep. (CCH) ¶ 32,141, 2012 WL 1377971, at *6 (C.F.T.C. Mar. 13, 2012) (instituting and imposing sanctions "in an administrative proceeding finding an FCM in violation of Regulation 166.3 because it failed to investigate after receiving information suggesting that a Broker-Dealer might be providing its customers with an inaccurate description of the account held at the FCM")).

340. *Id.* at *7.

341. *Id.* at *6–7 & nn.14–16.

342. *Id.* at *4.

343. *Id.* at *1, *6–7. The Consent Order did not allege any independent substantive violations of the CEA or CFTC Regulations, other than Regulation 166.3, although the facts indicated that the problematic account had violated position limits and, at times, did not meet

Notably, FCStone settled with the CFTC rather than litigating, so it is unclear if a federal court would grant the CFTC such flexibility to pull from disparate sources in creating a Regulation 166.3 duty to diligently supervise employees for, among other things, adequately monitoring customers' concentration risk.[344] The CFTC was correct in stating that "[m]anaging the risk associated with customer accounts is an elemental activity that relates to any FCM carrying customer accounts."[345] However, a defendant litigating a Regulation 166.3 case could contend that the particular facts at issue did not translate into a failure-to-supervise violation, but merely a series of unfortunate occurrences that happened despite the registrant's reasonable supervisory diligence.

The *FCStone* consent order suggests that when something goes badly for a registrant, such as an incident involving a rogue trader or a near bankruptcy due to severe losses in carried accounts, the CFTC likely will be able to find sufficient rope with which to hang the registrant on a Regulation 166.3 violation.[346] This noose could come from internal compliance policies that were not followed, exchange rules that were violated, or even prior CFTC staff reports warning of the very same risk(s) that caused the instant troubles.[347] Of course, if one views a Regulation 166.3 violation as applying a reasonably prudent registrant standard, the CFTC's position in the *FCStone* case is hardly unusual: A reasonably prudent CFTC registrant—an FCM—would have been aware of, *inter alia*, the 2001 CFTC staff report and would have known that it needed to have systems in place to monitor customer accounts for credit and concentration risk.[348]

Given this flexible approach, the CFTC probably could use Regulation 166.3—and its reasonably prudent registrant standard—in a similar fashion to combat circumstances where a registrant failed to supervise its employees tasked with overseeing an ATS that engaged in manipulative or disruptive trading practices. Indeed, because today's trading environments are highly-automated and computerized, a

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exchange margin calls. *Id.* at *3–4. Additionally, FCStone's adjusted net capital fell below the costs charged to it resulting from the account for thirty-four days in 2009. *Id.* at *5.

344. *Id.* at *7–8 ("With regard to concentration risk, FCStone LLC completely failed to create and implement any meaningful risk control policy or tool that would identify and control customers' concentration risk.").

345. *Id.* at *6.

346. For example, in almost any case involving an FCM that suffers severe losses that threaten the stability of the FCM—and, consequently, the funds in customer accounts— something probably went wrong internally sufficient for the CFTC to file a supervisory failure claim by invoking the maxim that "when supervisory failures expose[] customers to potential risk of loss the [CFTC] has found that such conduct violates Regulation 166.3." *Id.*

347. *Id.*

348. *See id.* at *7.

reasonably prudent registrant constructing a supervisory system to monitor its own ATS-initiated trading or customer accounts using ATSs likely would make sure that its supervisory system had automated alerts for suspicious trading patterns. Other automated internal controls to enable the registrant to rapidly respond to potentially improper activities would also be appropriate.

To bring a Regulation 166.3 action in circumstances involving a registrant's failure to diligently supervise employee oversight of ATS-controlled trading, the CFTC could pull from various sources: CFTC Regulations, staff advisories, interpretive guidance, *Federal Register* rule releases, and the like. The CFTC could emphasize the need for registrants to diligently supervise those employees charged with monitoring trading accounts and other aspects of the registrant's business and operations, automated or otherwise. The CFTC could also note the importance of the price discovery function of markets and, correspondingly, the need to keep markets free from manipulative and disruptive trading practices. Diligent supervision of employees who oversee and operate ATSs is needed to keep the markets as free from manipulative and disruptive trading practices as possible.

A claim of failure to diligently supervise would derive its basis from the fact that registrants must diligently supervise their employees to prevent them: (1) from engaging in trading practices that distort the prices of futures and other derivatives and, importantly, (2) from failing to monitor customer accounts, electronic trading platforms or systems, and, likewise, ATSs, for such behavior. Notably, trading practices that distort prices of derivatives impair the price discovery function of markets, regardless of whether humans or ATSs perform those disruptive or manipulative trading practices. A Regulation 166.3 supervisory failure is a separate, primary violation that does not require proof of any other underlying misconduct that violates the CEA or CFTC Regulations.[349] Therefore, if an FCM failed to monitor a customer account that engaged in suspicious ATS-controlled trading activity that resembled wash trading or banging the close, the CFTC could allege (if the facts permitted) that the FCM failed to diligently supervise its employees who were responsible for monitoring customer accounts for such behavior. The commission could do this regardless of whether the CFTC could prove an underlying wash trading or banging

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349. *In re* The Linn Group, Inc., No. 13-21, Comm. Fut. L. Rep. (CCH) ¶ 32,598, 2013 WL 1703082, at *5 (C.F.T.C. Apr. 18, 2013); *In re* GNP Commodities Inc., No. 89-1, Comm. Fut. L. Rep. (CCH) ¶ 25,360, 1992 WL 201158, at *17 n.11 (C.F.T.C. Aug. 11, 1992); *In re* Paragon Futures Ass'n, No. 88-18, Comm. Fut. L. Rep. (CCH) ¶ 25,266, 1992 WL 74261, at *13 (C.F.T.C. Apr. 1, 1992); *see also In re* First Nat'l Trading Corp., Nos. 90-28, 92-17, [1994–1996 Transfer Binder] Comm. Fut. L. Rep. (CCH) ¶ 26,413, 1995 WL 18009834, at *5 (C.F.T.C. May 31, 1995).

the close claim against the actual perpetrator.[350]

In cases alleging Regulation 166.3 supervisory violations, the CFTC has not had to prove the mental state for the cause of action related to the underlying improper conduct—price manipulation or wash sales—that the registrant's employees or customers allegedly were able to commit due to the supervisory failures. Instead, for a Regulation 166.3 claim, the CFTC must prove that the registrant either (1) did not have an adequate supervisory system or (2) failed to diligently supervise its officers, employees, or agents in connection with its business as a registrant. Depending on the facts, an FCM that allowed its customers to use their accounts with the FCM as vehicles for trading activities that "had the appearance of" wash trades, banging the close or other disruptive trading practices could very well fail one or both of the prongs of the Regulation 166.3 test.[351] Of course, if the registrant had been reasonably diligent, they might avoid this result. Diligence could be evidenced by, *inter alia*, the fact that the registrant had noticed the suspicious trading, diligently investigated its circumstances and determined that the trading in question had not distorted or manipulated prices or otherwise disrupted the market.

That said, the majority of Regulation 166.3 decisions involve circumstances where there have been underlying violations of the CEA or CFTC Regulations. It may, therefore, be challenging for the CFTC to litigate a Regulation 166.3 cause of action where the underlying behavior did not violate the CEA or CFTC Regulations, either because the defendant did not have the requisite scienter or for some other reason. The CFTC arguably could invoke Regulation 166.3 in situations where a registrant failed to diligently supervise its employees who were responsible for programming and operating its ATS. But where the ATS engaged in trading practices that distorted futures contract prices, disrupted the markets, or otherwise mimicked improper activities (such as banging the close), more explicit authority for such enforcement actions could be beneficial to remove any uncertainty as to the CFTC's ability to require registrants that use ATSs to diligently supervise the employees in charge of the ATSs' activities.

Accordingly, the CFTC could supplement the existing broad-based supervisory provision in Regulation 166.3 by promulgating a rule (or

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350. *In re* LFG, L.L.C., No. 01-19, 2001 WL 940235, at *3 (C.F.T.C. Aug. 20, 2001) (stating, in a consent order, that an FCM had violated Regulation 166.3 where it had no written procedures relating to monitoring omnibus accounts and where a customer had entered offsetting spread orders that "had the appearance of wash sales"). The CFTC further stated that "[i]n this case, the trades do not appear to be wash sales, but the orders were sufficiently unusual that LFG should have sought clarification from the non-clearing FCM or its customers . . . regarding the intent or rationale behind the trades." *Id.* at *4.

351. *See id.* at *3.

rules) explicitly stating that every registrant that uses an ATS must have certain policies and procedures in place. Those policies would ensure that employees charged with programming and operating ATSs did not engage in trading practices that, absent any mental state requirement, would violate the CEA or CFTC Regulations if engaged in by a human—trading practices that mimic wash trading or banging the close, for instance. The rule would make clear that registrants would risk liability for failure-to-supervise violations if ineffective oversight enabled ATS-directed trading to manipulate or distort the prices of derivative contracts, to disrupt the market, or to mimic illegal trading practices, such as banging the close, wash trading, and spoofing.[352]

But given that the CFTC, in drafting Regulation 166.3, intentionally opted for a flexible and open-ended supervisory rule that did not list specific requirements, the CFTC might not want to change that approach by promulgating a rule listing specific ATS-related supervisory requirements. Therefore, alternatively, the CFTC could direct NFA to craft compliance rules and interpretive notices explaining with greater specificity how the supervisory requirements apply to circumstances in which a registrant's trading is directed by an ATS. The CFTC supervises NFA, which, as the industry's SRO, regularly promulgates interpretive notices that further explain its compliance rules. As discussed earlier, NFA previously has issued interpretive notices concerning the supervision of forex electronic trading platforms[353] so implementing compliance rules and accompanying guidance concerning computer-directed trading in the futures and derivative markets would be a natural role for NFA to fulfill. New NFA compliance rules and guidance concerning ATS-directed trading could establish baseline industry standards related to monitoring ATS-directed trading for activities that resemble price manipulation, wash trading, banging the close, spoofing, or other improper trading practices.

In any event, as mentioned, existing Regulation 166.3 arguably implicitly requires registrants that use ATSs to have written policies and procedures designed to prevent their employees from failing to monitor and control ATSs. This monitoring and control is intended to prevent, *inter alia*, behavior that resembles wash trading, banging the close, and other manipulative devices as those terms are understood in the CEA and CFTC Regulations, but without regard to the mental state requirements of those causes of action because Regulation 166.3 appears to apply a reasonableness standard. Similarly, Regulation 166.3 arguably implicitly requires FCMs to have written policies and procedures outlining how they will supervise employees tasked with

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352. Of course, Congress also could amend the CEA to make this requirement a part of federal law.

353. *E.g.*, 9060—Compliance Rule 2-36(e), *supra* note 324.

monitoring customer accounts involving ATS-directed trading. This monitoring is also for spoofing, banging the close, wash trading, and other manipulative and disruptive practices, and the duty to monitor customer accounts for suspicious trading is likewise a duty that exists without regard to the mental state of the customers or the customers' ATS programmers and operators.

One limitation of Regulation 166.3, however, is that its broad and open-ended nature may make it too amorphous to serve as the source of specific, uniform reasonable standards for the use of ATSs by CFTC registrants. Therefore, to the extent that the CFTC desires to provide market participants with a concrete list of required practices in connection with the use of ATSs by registrants,[354] Regulation 166.3, by itself, is unhelpful.

Another limitation of Regulation 166.3 is that it only applies to registrants—persons required to register—meaning that Regulation 166.3 would not be able to combat ATS-controlled disruptive or harmful trading activities by non-registrants, except indirectly through the non-registrants' FCMs or IBs. Additionally, although the focus of this Article has been on CFTC enforcement provisions and not private rights of action, courts have held that there is no private right of action for violations of Regulation 166.3.[355] As a result, Regulation 166.3

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354. *See* Peter Marrin, *Industry Should Shape Algorithm Rules, Panel Tells CFTC*, SNL ENERGY GAS UTIL. WK. (Mar. 7, 2011) (subscription required), stating:

> Faced with the "virtually impossible" task of enforcing rules on how traders use algorithms before they complete transactions, the [CFTC] . . . should instead require trading firms to implement standard but internal checks on algorithmic and high-frequency trading, including quantity limits, intraday position limits, price collars and a "kill button."

> "By raising the standards and establishing best practices, we can ensure that all participants are treated equally and ensure that the markets are protected from untested algorithms that could undermine well functioning markets," said CFTC Commissioner Scott O'Malia, who leads the agency's Technology Advisory Committee.

Id. The argument in support of a broadly-worded and open-ended supervisory requirement similar to the existing Regulation 166.3 is that it is more flexible and adaptable to changing times, circumstances, and technologies than a prescriptive list of explicit requirements or prohibitions. Additionally, many areas of the law have a general prohibition against negligent behavior that, with time, through the development of decisional law, has served to establish standards of reasonable (and unreasonable) conduct. Alternatively, one could establish a regime that combined the two: an open-ended requirement coupled with a non-exhaustive list of specific requirements or prohibitions.

355. *See* Khalid Bin Alwaleed Found v. E.F. Hutton & Co., 709 F. Supp. 815, 818 (N.D. Ill. 1989); Fustok v. ContiCommodity Servs., Inc, 618 F. Supp. 1069, 1072–73 (S.D.N.Y. 1985); *see also* Khalid Bin Talal Bin Abdul Azaiz Al Seoud v. E.F. Hutton & Co., Inc., 720 F. Supp. 671, 676 (N.D. Ill. 1989).

would provide no recourse for persons harmed by ATS-initiated manipulative or disruptive trading practices caused by inadequately supervised employees of registrants who were responsible for monitoring ATSs for such behavior.[356] Further, some might find it unsatisfying to charge a person who engaged in manipulative and disruptive market conduct with a supervisory violation, as opposed to a more "serious" civil enforcement cause of action, such as price manipulation or wash sales.

If a failure-to-supervise claim is viewed in such a manner, then the CFTC could consider promulgating rules that would enable it to pursue other causes of action without having to prove the mental state of the defendant. The commission could establish claims grounded in price manipulation or noncompetitive trading for example, perhaps using a negligence/reasonableness standard, in circumstances where an ATS controlled and directed the trading activities in question.[357] In particular, such an approach might be warranted if the CFTC determines that a specific trading practice disrupts markets or distorts prices even if done unintentionally. If the CFTC requires persons who use ATSs to register in a manner that identifies themselves as registrants who use ATSs—for example, by creating sub-categories of existing registrant types, such as "ATS floor traders" or "ATS CTAs"[358]—the CFTC could promulgate a regulation imposing negligence liability for specific improper trading practices by "ATS registrants." Such a move would not be entirely

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356. Congress could, of course, amend the CEA to allow for private causes of action against registrants that failed to diligently supervise employees who were tasked with monitoring ATSs for manipulative or disruptive trading practices where improper trading practices by ATSs harmed other market participants.

357. Again, aside from a CFTC-promulgated rule, Congress could certainly amend the CEA to state that, in circumstances involving ATS-directed trading, the CFTC could sufficiently state a claim alleging improper trading practices without having to prove that the registrant (or the registrant's employees who programmed or operated the ATS) acted with a culpable mental state beyond negligence—i.e., reasonableness.

358. The CFTC delegates administration of the registration of swap dealers and market intermediaries to NFA. *See, e.g.*, Registration of Swap Dealers and Major Swap Participants, 77 Fed. Reg. 2613, 2619 (Jan. 19, 2012) (to be codified at 17 C.F.R. pts. 1, 3, 23 & 170); Performance of Registration Functions by National Futures Association with Respect to Swap Dealers and Major Swap Participants, 77 Fed. Reg. 2708, 2709 (Jan. 19, 2012). Therefore, alternatively, the CFTC could direct NFA to implement a registration system using sub-categories for registrants that use ATSs. Such an approach would not be entirely without NFA precedent or analog. For example, as a result of the Dodd–Frank Act's granting the CFTC authority to regulate swaps, NFA, as the derivatives industry SRO, subsequently created sub-categories for *swap* registrants like swap FCMs and APs—membership status "as an NFA Member swaps designated firm." *See Registration Information for Swap FCMs, IBs, CPOs and CTAs*, NAT'L FUTURES ASS'N, http://www.nfa.futures.org/NFA-swaps-information/regulatory-info-swap-intermediaries/registration-info.HTML (last visited Dec. 14, 2014). Finally, in the event that a CFTC-promulgated rule or NFA-administered registration program were viewed as insufficient, Congress could amend the CEA to explicitly include ATS-registrant sub-categories.

without analog in futures and derivatives regulation, given that, as was mentioned earlier, § 4*o*(1)(B) of the CEA imposes liability for fraud, under a negligence standard, without requiring scienter, but only applies to CTAs, CPOs, and their APs.[359] In the event that a CFTC rule is viewed as insufficient, Congress could amend the CEA to impose liability under a negligence standard for disruptive or manipulative trading practices perpetrated by ATS-directed trading.

CONCLUSION

While bounty hunter Deckard was searching for six escaped androids on a planet full of humans, the CFTC is searching for improper trading practices in a vast ocean of superfast electronic bids and offers. Deckard's enemies were androids that were almost indistinguishable from humans except for their lack of empathy. For the purposes of this Article, the CFTC's opponents are self-learning ATSs that act independently from their human masters and, in some cases, place thousands of trades per second. For both Deckard and the CFTC, having the proper tools for the job is essential to meeting the challenge presented by technological advances in their respective fields. Many enforcement causes of action require proof of at least recklessness, a fact that could complicate efforts by the CFTC to prohibit manipulative and disruptive trading practices by ATSs. Fortunately, Regulation 166.3 and its reasonably prudent registrant standard has the potential to be an effective tool in combatting improper trading practices by ATSs. At the very least, Regulation 166.3 could be used to ensure that registrants develop and implement adequate supervisory systems to monitor ATS-directed trading for potentially disruptive and manipulative trading practices.

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359. *See* Commodity Exchange Act, Pub. L. No. 112-105, § 4*o*(1)(B), 42 Stat. 998 (1922) (codified at 7 U.S.C. § 6*o*(1)(B) (2012)); Commodity Trend Serv., Inc. v. CFTC, 233 F.3d 981, 993–94 (7th Cir. 2000).