APPENDIX

APPENDIX A

IN THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

No. 15-3057-cv

CITY OF PROVIDENCE, RHODE ISLAND, EMPLOYEES' RETIREMENT SYSTEM OF THE GOVERNMENT OF THE VIRGIN ISLANDS, PLUMBERS AND PIPEFITTERS NATIONAL PENSION FUND,

Lead Plaintiffs-Appellants,

STATE-BOSTON RETIREMENT SYSTEM,

Plaintiff-Appellant,

GREAT PACIFIC SECURITIES, ON BEHALF OF ITSELF AND ALL OTHERS SIMILARLY SITUATED,

Plaintiff,

AMERICAN EUROPEAN INSURANCE COMPANY, JAMES J. FLYNN, HAREL INSURANCE COMPANY LTD., DOMINIC A. MORELLI,

Consolidated-Plaintiffs,

v.

BATS GLOBAL MARKETS, INC., CHICAGO STOCK EXCHANGE INC., DIRECT EDGE ECN, LLC, NYSE ARCA, INC., NASDAQ OMX BX INC., NEW YORK STOCK EXCHANGE LLC, NASDAQ STOCK MARKET, LLC,

Defendants-Appellees,

BARCLAYS CAPITAL INC., BARCLAYS PLC, AND DOES, 1-5, INCLUSIVE,

Defendants.[1]

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[1] The Clerk of Court is respectfully directed to amend the caption as above.

(December 19, 2017)

August Term, 2016
Argued: August 24, 2016
Decided: December 19, 2017

Appeal from the United States District Court for the Southern District of New York. Nos. 14-md-2589, 14-cv-2811 – Jesse M. Furman, *Judge*.

Before: WALKER, CABRANES, AND LOHIER, *Circuit Judges*.

We consider in this class action whether plaintiffs have sufficiently pled that several national securities exchanges engaged in manipulative or deceptive conduct in violation of § 10(b) of the Securities Exchange Act of 1934, 15 U.S.C. § 78j(b), and Securities and Exchange Commission Rule 10b-5, 17 C.F.R. § 240.10b-5. The lead plaintiffs, institutional investors who traded on the defendant stock exchanges during the class period, allege that the exchanges misled them about certain products and services that the exchanges sold to high-frequency trading firms, which purportedly created a two-tiered system that favored those firms at the plaintiffs' expense. We conclude that we have subject matter jurisdiction over this case, the defendant exchanges are not entitled to absolute immunity, and the district court erred in dismissing the complaint under Federal Rule of Civil Procedure 12(b)(6). We therefore VACATE the district court's judgment entered in favor of the defendants-appellees and REMAND for proceedings consistent with this opinion.

Judge LOHIER concurs in the judgment and in the opinion of the Court and files a separate concurring opinion.

JOSEPH D. DALEY (Andrew J. Brown, David W. Mitchell, Samuel H. Rudman, Patrick J. Coughlin, Vincent M. Serra, *on the brief*), Robbins Geller Rudman & Dowd L.L.P., San Diego, CA and Melville, NY; Joseph F. Rice, William H. Narwold, Ann K. Ritter, David P. Abel, Donald A. Migliori, Rebecca Katz, Motley Rice LLC, Mount Pleasant, SC and New York, NY*;* Christopher J. Keller, Joel H. Bernstein, Michael W. Stocker, Labaton Sucharow L.L.P., New York, NY *for Lead Plaintiffs-Appellants*.

DOUGLAS R. COX (Scott P. Martin, Michael R. Huston, Alex Gesch, Rajiv Mohan, *on the brief*), Gibson, Dunn & Crutcher L.L.P., Washington, DC *for Defendants-Appellees NASDAQ OMX BX Inc. and Nasdaq Stock Market, LLC*; Douglas W. Henkin, J. Mark Little, Baker Botts L.L.P., New York, NY and Houston, TX *for Defendants-Appellees New York Stock Exchange LLC and NYSE Arca, Inc.*; Seth L. Levine, Christos G. Papapetrou, Levine Lee L.L.P., New York, NY *for Defendant-Appellee Chicago Stock Exchange Inc.*; James A. Murphy, Theodore R. Snyder, Joseph Lombard, Murphy & McGonigle, P.C., New York, NY and Washington, DC *for Defendants-Appellees BATS Global Markets, Inc. and Direct Edge ECN, LLC*.

Sanket J. Bulsara, Deputy General Counsel, Michael A. Conley, Solicitor, Dominick V. Freda, Assistant General Counsel, Jacob R. Loshin, Securities and Exchange Commission Washington, DC,

for amicus curiae Securities and Exchange Commission.

JOHN M. WALKER, JR., *Circuit Judge*:

We consider in this class action whether plaintiffs have sufficiently pled that several national securities exchanges engaged in manipulative or deceptive conduct in violation of § 10(b) of the Securities Exchange Act of 1934 ("Exchange Act"), 15 U.S.C. § 78j(b), and Securities and Exchange Commission ("SEC") Rule 10b-5, 17 C.F.R. § 240.10b-5. The lead plaintiffs, institutional investors who traded on the defendant stock exchanges during the class period, allege that the exchanges misled them about certain products and services that the exchanges sold to high-frequency trading ("HFT") firms, which purportedly created a two-tiered system that favored those firms at the plaintiffs' expense. We conclude that we have subject matter jurisdiction over this case, the defendant exchanges are not entitled to absolute immunity, and the district court erred in dismissing the complaint under Federal Rule of Civil Procedure 12(b)(6). We therefore VACATE the district court's judgment entered in favor of the defendants-appellees and REMAND for proceedings consistent with this opinion.

BACKGROUND

The lead plaintiffs filed this class action for securities fraud against seven national securities exchanges (collectively, "the exchanges"), including BATS Global Markets, Inc., the Chicago Stock Exchange Inc., the Nasdaq Stock Market, LLC, and the New York Stock Exchange LLC ("NYSE").[2] The exchanges are all registered with the

[2] Two alternative trading venue entities, Barclays PLC and its subsidiary, Barclays Capital Inc., were also defendants in this action, but they are not parties to this appeal.

SEC as self-regulatory organizations ("SROs")—non-governmental entities that function both as regulators and regulated entities. As regulated entities, they are subject to SEC oversight and must comply with the securities laws as well as the exchanges' own rules; and as regulators, they are delegated the authority by the SEC to oversee and discipline their member broker-dealers. *See* 15 U.S.C. § 78c(a)(26); *id.* § 78f(b)(1); *see also* S. Rep. No. 94-75 (1975), *reprinted in* 1975 U.S.C.C.A.N. 179, 1975 WL 12347, at *23.

The complaint alleges that the defendant exchanges manipulated market activity in their capacities as regulated entities, in violation of § 10(b) and Rule 10b-5. In particular, plaintiffs contend that the exchanges developed products and services that give HFT firms trading advantages over non-HFT firms and the investing public, sold those products and services at prices that ordinary investors could not afford, and failed to publicly disclose the full or cumulative effects that the products and services have on the market.

I. National Securities Exchanges

Prior to 1975, the national securities exchanges operated independently from one another such that stocks listed on one registered exchange might trade at a different price on a different exchange. To mitigate this problem, Congress amended the Exchange Act in 1975 to mandate the creation of a unified "national market system" ("NMS"). *See* 15 U.S.C. § 78k-1(a). Congress conferred on the SEC broad authority to oversee the SROs' "planning, developing, operating, or regulating" of the national market system. *Id.* § 78k-1(a)(3)(B).

The SEC then promulgated a series of regulations, culminating in 2005 with Regulation NMS, "to modernize and strengthen the national market system . . . for equity

securities." Regulation NMS, 70 Fed. Reg. 37,496, 37,496 (June 29, 2005) *(*codified at 17 C.F.R. § 242.600 *et seq.*) [hereinafter "Regulation NMS"]). The SEC emphasized that a national market system must "meet the needs of longer-term investors" because any other outcome would be "contrary to the Exchange Act and its objectives of promoting fair and efficient markets that serve the public interest." *Id.* at 37,500 (noting the Exchange Act's "core concern for the welfare of long-term investors who depend on equity investments to meet their financial goals"). The SEC distinguished such long-term investors from short-term speculators who hold stock "for a few seconds." *Id.* In furtherance of these objectives, the SEC required that the exchanges distribute core market data on "terms that are fair and reasonable" and "not unreasonably discriminatory." 17 C.F.R. § 242.603(a)(1), (2). The SEC also required that exchanges and brokers accept the most competitive "bid" or "offer" price posted at any trading venue, to ensure that investors would receive the best prices, and that the exchanges inform the investing public of the national best "bid" and "offer" price by displaying it on their consolidated data feeds. *See id.* §§ 242.601-603.

II. High Frequency Trading Firms

In the years following the SEC's promulgation of Regulation NMS, the use of high-frequency trading rose dramatically in the U.S. stock markets. According to the plaintiffs, HFT firm transactions now account for nearly three-quarters of the exchanges' equity trading volume. HFT firms, using sophisticated, computer-driven algorithms to move in and out of stock positions within fractions of a second, make money by arbitraging small differences in stock prices rather than by holding the stocks for long periods of time. The firms employ various trad-

ing strategies that rely on their ability to process and respond to market information more rapidly than other users on the exchanges. Relevant to this appeal, the plaintiffs allege that the firms engage in predatory practices, such as repeatedly "front-running" other market participants: anticipating when a large investment of a given security is about to be made, purchasing shares of the security in advance of the investment, and then selling those shares to the buying investors at slightly increased prices.

III. Proprietary Data Feeds, Co-Location Services, and Complex Order Types

The defendant exchanges in this case operate as for-profit enterprises that generate most of their revenue from the fees they charge for trades and the sale of market data and related services for those trades. The exchanges compete with one another to increase the trading volume on their particular exchanges. Plaintiffs contend in this case that the exchanges created three products and services for "favored" HFT firms—proprietary data feeds, co-location services, and complex order types—to provide these firms with more data at a faster rate than the investing public and thereby to attract HFT firms to trade on their exchanges.

a. Proprietary Data Feeds

Under Regulation NMS, each exchange must transmit certain information concerning trades on that exchange to a central network where the information is consolidated and then distributed. 17 C.F.R. § 242.603. This consolidated data feed provides basic real-time trading information, such as the national best bid and offer for a given stock. At issue in this case is the exchanges' provision to firms of additional, costly proprietary data feeds that include more detailed information regarding trading

activity. At the most detailed and expensive level, a proprietary data feed may provide data on every bid and order for a given stock on an exchange. Furthermore, although the exchanges are prohibited from *releasing* data on the proprietary feeds earlier than the data on the consolidated feed, *see* Regulation NMS, at 37,567, the proprietary data generally reach market participants faster because, unlike the consolidated data, they do not need to be aggregated. *See* Regulation NMS, 70 Fed. Reg. at 37,567.

The SEC has "authoriz[ed] the independent distribution of market data outside of what is required by the [NMS] Plans," so long as such distribution is "fair and reasonable" and "not unreasonably discriminatory." *Id.* at 37,566-67. Applying this standard, the SEC has approved various exchanges' proposals to offer proprietary feeds. *See, e.g.*, Self-Regulatory Organizations; New York Stock Exchange LLC; Order Approving Proposed Rule Change to Establish Fees for NYSE Trades, 74 Fed. Reg. 13,293 (Mar. 26, 2009). At the same time, it has instituted enforcement proceedings against exchanges for providing proprietary data feeds that are not in compliance with SEC rules. *See, e.g.*, *N.Y. Stock Exch. LLC*, Exchange Act Release No. 34-67857, 104 SEC Docket 2455, 2012 WL 4044880 (Sept. 14, 2012) (settled action).

According to plaintiffs, because these proprietary feeds are cost prohibitive for ordinary investors like plaintiffs, HFT firms receive more information at a faster rate and so are able trade on information earlier, which allows them to successfully "front-run" other market participants. Plaintiffs allege that, as a result, ordinary investors are greatly disadvantaged.

b. Co-Location Services

Some exchanges also rent space to investors to allow them to place their computer servers in close physical proximity to the exchanges' systems. This proximity helps to reduce the "latency" period—the amount of time that elapses between when a signal is sent to trade a stock and a trading venue's receipt of that signal. As with proprietary feeds, the SEC also regulates co-location services. Under the Exchange Act, the terms of co-location services must not be unfairly discriminatory and the fees must be equitably allocated and reasonable. *See* 15 U.S.C. § 78f(b)(4), (5). The SEC has approved the terms of particular co-location services as consistent with the Exchange Act, *see, e.g.*, *Self-Regulatory Organizations; the Nasdaq Stock Mkt. LLC; Order Approving a Proposed Rule Change to Codify Prices for Co-Location Servs.*, Exchange Act Release No. 34-62397, 98 SEC Docket 2621, 2010 WL 2589819 (June 28, 2010), while also taking enforcement actions against exchanges for providing such services in violation of the Exchange Act, *see, e.g., N.Y. Stock Exch. LLC*, Exchange Act Release No. 34-72065, 108 SEC Docket 3659, 2014 WL 1712113 (May 1, 2014).

Plaintiffs allege that co-location services are especially attractive to HFT firms, whose trading involves frequent buying and selling in short periods of time, and that such services are cost-prohibitive for most ordinary investors. According to plaintiffs, when co-location services are used in combination with proprietary data feeds or complex order types (or both), co-location services amount to a manipulative device because they allow HFT firms to access and trade on information before it becomes publicly available.

c. Complex Order Types

The third product at issue in this case is complex order types: pre-programmed, electronic commands that traders use to instruct the exchanges on how to handle their bids and offers under certain conditions. These commands govern the manner in which the exchanges process orders in their trading systems, route orders to other exchanges, and execute trades. Concept Release on Equity Market Structure, 75 Fed. Reg. 3,594, 3,598 (Jan. 21, 2010).

As with co-location services and proprietary data feeds, the SEC regulates complex order types, but it also has instituted enforcement proceedings against the exchanges for providing certain complex orders. The SEC, for example, brought an action against an exchange for providing order types that functioned differently from the descriptions that the exchange filed with the SEC and for selectively disclosing an order type's functionality only to certain HFT firms. *EDGA Exch., Inc.*, Exchange Act Release No. 34-74032, 110 SEC Docket 3510, 2015 WL 137640 (Jan. 12, 2015) (settled action).

Plaintiffs allege that the defendant exchanges developed several fraudulent and deceptive complex order types to benefit HFT firms at the expense of the plaintiffs. For instance, according to the plaintiffs, the exchanges have created "hide and light" orders that allow traders to place orders that remain hidden from the ordinary bid-and-offer listings on an individual exchange until a stock reaches a particular price, at which point the hidden orders emerge and jump the queue ahead of other investors' orders. Plaintiffs also argue, and the exchanges dispute, that certain exchanges have not adequately disclosed the full functionality of these order types to all market participants. According to plaintiffs, this selec-

tive disclosure has caused harm to ordinary investors including, among other things, increased opportunity costs from unexecuted fill orders, adverse selection and price movement bias on executed fill orders, and increased execution costs.

IV. Procedural History

On April 18, 2014, the City of Providence filed a putative class action against the exchanges under §§ 6(b) and 10(b) of the Exchange Act and SEC Rule 10b-5.[3] The district court consolidated the action with several related cases and appointed several institutional investors as lead plaintiffs. On January 12, 2015, the Judicial Panel on Multidistrict Litigation combined this consolidated action with other similar cases.

The exchanges then moved to dismiss the plaintiffs' complaint, arguing that (1) the district court lacked jurisdiction; (2) the exchanges were absolutely immune from suit; and (3) the plaintiffs had failed to state a claim under the Exchange Act. On August 26, 2015, the district court determined that it had subject matter jurisdiction over this case. It held that the exchanges were absolutely immune from plaintiffs' allegations concerning the proprietary data feeds and complex order types, but not co-location services. The district court further concluded that, even if the exchanges were not absolutely immune, the plaintiffs had failed to state a claim for a violation of § 10(b) and Rule 10b-5 based on a manipulative scheme. The district court therefore granted the exchanges' mo-

[3] The district court dismissed plaintiffs' claims under § 6(b) of the Exchange Act on the basis that § 6(b) does not provide for a private cause of action. Because plaintiffs do not challenge this determination, we do not address it on appeal.

tion and dismissed the complaint. Plaintiffs timely filed this appeal.

DISCUSSION

As we will explain, we conclude that we have subject matter jurisdiction over this action and that the defendants are not immune from suit. We further conclude that the district court erred in dismissing plaintiffs' complaint for failure to state a claim.

I. Subject Matter Jurisdiction

When a district court has determined that it has subject matter jurisdiction over an action, as is the case here, we review the district court's factual findings for clear error and its legal conclusions *de novo*. *Oscar Gruss & Son, Inc. v. Hollander*, 337 F.3d 186, 193 (2d Cir. 2003). A plaintiff must affirmatively demonstrate jurisdiction, and "that showing is not made by drawing from the pleadings inferences favorable to the party asserting it." *Morrison v. Nat'l Austl. Bank Ltd.*, 547 F.3d 167, 170 (2d Cir. 2009) (internal quotation marks and citation omitted).

The defendants argue that, because the subject matter at issue is within the SEC's regulatory purview, the district court lacked jurisdiction. A district court lacks subject matter jurisdiction to hear claims "where Congress creates a comprehensive regulatory scheme from which it is fairly discernible that Congress intended that agency expertise would be brought to bear prior to any court review." *Lanier v. Bats Exch., Inc.*, 838 F.3d 139, 146 (2d Cir. 2016). This involves a two-step analysis. First, we must determine whether it is "fairly discernible from the text, structure, and purpose of the securities laws that Congress intended the SEC's scheme of administrative and judicial review to preclude district court jurisdiction." *Tilton v. SEC*, 824 F.3d 276, 281 (2d Cir. 2016) (internal

quotation marks and citation omitted). Second, if we conclude that the SEC's scheme precludes district court jurisdiction, we must then decide if the appellants' claim is "of the type Congress intended to be reviewed within the statutory structure." *Id.* (citation and alteration omitted).

Plainly, Congress created a detailed scheme of administrative and judicial review for challenges to certain actions of SROs. For example, a party who objects to an SRO's disciplinary action or rule must raise its objection under the exclusive review scheme Congress devised for such challenges and not in an action in district court. *See* 15 U.S.C. §§ 78s(d)(2), 78y; *see also Tilton*, 824 F.3d at 281-82; *Feins v. Am. Stock Exch., Inc.*, 81 F.3d 1215, 1220 (2d Cir. 1996).

We do not think, however, that Congress intended for the SEC to adjudicate claims such as the ones at issue here—a private cause of action for fraud under § 10(b) and Rule 10b-5. *Cf. Lanier*, 838 F.3d at 148 ("[T]he Exchange Act demonstrates no intention to establish an administrative process for the SEC to adjudicate private contract disputes."). The defendants do not point to any language in the Exchange Act that evidences such an intention. Our interpretation of the Exchange Act in this case would not interfere with the administrative process because "meritorious private actions to enforce federal antifraud securities laws are an essential supplement to . . . civil enforcement actions" brought or adjudicated by the SEC. *See Tellabs, Inc. v. Makor Issues & Rights, Ltd.*, 551 U.S. 308, 313 (2007).

The defendant exchanges respond that, notwithstanding plaintiffs' characterization of their claims as for securities fraud under § 10(b) and Rule 10b-5, plaintiffs are actually challenging the SEC's determination that proprietary data feeds, co-location services, and complex or-

der types are consistent with the Exchange Act and Regulation NMS. According to the defendant exchanges, such a challenge must be resolved by the SEC in the first instance with review in a federal court of appeals. The defendant exchanges point to a specific review procedure, NMS Rule 608(d), 17 C.F.R. § 242.608(d), as depriving the district court of jurisdiction to hear the plaintiffs' claims.

This argument is unpersuasive for several reasons. As an initial matter, NMS Rule 608(d) allows the SEC to "entertain appeals in connection with the implementation or operation of any effective national market system plan." 17 C.F.R. § 242.608(d). Plaintiffs challenge particular actions taken by the defendants individually and not as part of a "national market system plan" that enables joint action by multiple exchanges. *See id.*

More fundamentally, the exchanges mischaracterize the plaintiffs' allegations. The plaintiffs do not challenge the SEC's authority or decision to generally approve these products or services as inconsistent with the Exchange Act or Regulation NMS. *See, e.g.*, Regulation NMS, 70 Fed. Reg. at 37,567 (authorizing "the independent distribution of market data outside of what is required by the [NMS] Plans," so long as such distribution is "fair and reasonable" and "not unreasonably discriminatory" (internal quotation marks omitted)). The plaintiffs instead claim that, with respect to specific proprietary data feeds, co-location services, and complex order types, the exchanges engaged in fraudulent, manipulative conduct. In particular, the plaintiffs allege that the exchanges created products and services to give HFT firms trading advantages, the exchanges sold these products and services at prices that were cost-prohibitive to ordinary investors, and the exchanges failed to disclose the

full capabilities of these products and services to the investing public.

Thus, according to plaintiffs, the exchanges purposefully gave HFT firms the ability to trade on more detailed information at a faster rate than the investing public, including the plaintiffs. The plaintiffs were kept "[i]n ignorance of the true facts and the illegal practices of [d]efendants," and the plaintiffs would not have traded to their disadvantage if they had "known of the truth concerning Defendants' illegal practices." App'x at 358. We agree with the district court that such claims are not a challenge to the SEC's general authority or an attack on the structure of the national securities market. Instead, they are properly characterized as allegations of securities fraud against the exchanges that belong to that ordinary set of "suits in equity and actions at law brought to enforce any liability or duty created by [the Exchange Act] or the rules and regulations thereunder" over which the district courts have jurisdiction. 15 U.S.C. § 78aa(a).

II. Absolute Immunity

Because we agree with the district court that it had subject matter jurisdiction over this action, we now consider whether the defendant exchanges are immune from plaintiffs' claims. The district court held that the exchanges were immune from suit with respect to their conduct pertaining to proprietary data feeds and complex order types, but not co-location services. We review *de novo* a district court's determination concerning whether absolute immunity applies. *See State Emps. Bargaining Agent Coal. v. Rowland*, 494 F.3d 71, 82 (2d Cir. 2007).

Absolute immunity affords government officials, and those delegated governmental power such as the defendant exchanges, the ability to exercise their official powers "without fear that their discretionary decisions may en-

gender endless litigation." *In re NYSE Specialists Sec. Litig.*, 503 F.3d 89, 97 (2d Cir. 2007). An SRO and its officers are entitled to absolute immunity when they are, in effect, "acting under the aegis" of their regulatory duties. *DL Capital Grp. v. Nasdaq Stock Mkt., Inc.*, 409 F.3d 93, 97 (2d Cir. 2005) (internal quotation marks omitted). In such cases, absolute immunity from liability "defeats a suit at the outset" and a plaintiff is barred from litigating an action for a purported injury. *Imbler v. Pachtman,* 424 U.S. 409, 419 n.13 (1976). Given the significance of this protection, we have noted that absolute immunity is of a "rare and exceptional character," *Barrett v. United States*, 798 F.2d 565, 571 (2d Cir. 1986) (internal quotation marks omitted), and we examine whether immunity applies "on a case-by-case basis," *NYSE Specialists*, 503 F.3d at 96. "[T]he party asserting immunity bears the burden of demonstrating its entitlement to it." *Id.*

We have previously concluded that an SRO is entitled to immunity when it "stands in the shoes of the SEC" and "engages in conduct consistent with the quasi-governmental powers delegated to it pursuant to the Exchange Act and the regulations and rules promulgated thereunder." *D'Alessio v. N.Y. Stock Exch., Inc.*, 258 F.3d 93, 105-06 (2d Cir. 2001); *see also Standard Inv. Chartered, Inc. v. Nat'l Ass'n of Sec. Dealers, Inc.*, 637 F.3d 112, 115 (2d Cir. 2011) ("There is no question that an SRO and its officers are entitled to absolute immunity from private damages suits in connection with the discharge of their regulatory responsibilities."); *NYSE Specialists*, 503 F.3d at 96 ("[S]o long as the 'alleged misconduct falls within the scope of the quasi-governmental powers delegated to the [SRO],' absolute immunity attaches." (quoting *D'Alessio*, 258 F.3d at 106)).

We have not explicitly defined the SROs' "quasi-governmental powers" for which they are afforded immunity and, instead, have examined the applicability of the immunity doctrine "on a case-by-case basis." *See NYSE Specialists,* 503 F.3d at 96. We have determined that SROs are entitled to absolutely immunity in at least six contexts: (1) disciplinary proceedings against exchange members; (2) the enforcement of security-related rules and regulations and general regulatory oversight over exchange members; (3) the interpretation of the securities laws and regulations as applied to the exchange or its members; (4) the referral of exchange members to the SEC and other government agencies for civil enforcement or criminal prosecution under the securities laws; (5) the public announcement of an SRO's cancellation of trades; and (6) an amendment of an SRO's bylaws where the amendments are "inextricabl[y]" intertwined with the SRO's role as a regulator. *See Standard Inv. Chartered*, 637 F.3d at 116. This list is not an exclusive one, but it is illustrative of circumstances in which the SRO is exercising its "quasi-governmental powers" that require immunity if the SRO is to be free of harassing litigation. In all of these situations, the SRO is fulfilling its regulatory role and is not acting as a regulated entity. Absolute immunity is available to an SRO therefore only when it carries out regulatory functions.

Here, the plaintiffs' claims do not involve any exchange conduct that we could properly characterize as regulatory. We agree with the exchanges and the district court that disseminating market data is a critical function for which exchanges have various responsibilities under Regulation NMS and, more generally, that the exchanges have numerous obligations to ensure fair and orderly securities markets. But the provision of co-location ser-

vices and proprietary data feeds does not relate to the exchanges' regulatory function and does not implicate the SROs' need for immunity. Similarly, as the exchanges concede, complex order types are "preprogrammed commands *traders* use to tell the *Exchanges* how to handle their bids and offers"—not regulatory commands by the exchanges compelling traders to behave in certain ways. Appellees' Br. at 13 (emphasis added).

The exchanges contend that dismissing their claim of absolute immunity is inconsistent with two of our previous cases in which we concluded that immunity attached to certain SRO functions that involved trading on the markets and operation of the markets, rather than direct regulation of the SROs' members:[4] *DL Capital Group*, 409 F.3d 93, and *In re NYSE Specialists Securities Litigation*, 503 F.3d at 97. We disagree. In *DL Capital Group*, an investor filed suit against the Nasdaq Stock Market based on the timing of Nasdaq's public announcement that it was going to cancel certain trades of a listed company. 409 F.3d at 96, 98. We concluded that Nasdaq was immune from suit because "[w]ithout the capacity to make announcements, [SROs] would be stripped of a critical and necessary part of their regulatory powers . . . namely, the power to inform the public of those actions it has undertaken in the interest of maintaining a fair and orderly market or protecting investors and the public interest." *Id.* at 98 (internal quotation marks and citations omitted) (first alteration in original). Plainly, in *D&L Capital Group*, Nasdaq was acting in its capacity as

[4] In its amicus brief, the SEC contends that immunity should apply only when an SRO is acting as a regulator of its members. Because we conclude that plaintiffs have adequately pled that the activity engaged in by the exchanges here was not regulatory under any sense, we need not directly address this contention.

a quasi-governmental regulator, irrespective of whether it was operating as a regulator of its members. It therefore was entitled to immunity.

Similarly, in *In re NYSE Specialists Securities Litigation*, investors filed class actions alleging that the NYSE had failed to adequately monitor and police several of its member floor-trading firms. 503 F.3d at 96-97. The NYSE had charged those firms with managing specific stocks and had promulgated internal rules governing the firms' conduct. *Id.* at 92. The plaintiffs alleged *inter alia* that the "NYSE deliberately failed to halt, expose or discipline the illegal trading practices of member firms to the extent necessary to deter, stop or prevent them." *Id.* at 99 (internal quotation marks and alterations omitted). The plaintiffs further alleged that the NYSE knowingly permitted or actively encouraged the firms to submit doctored regulatory reports and alerted the firms to impending internal investigations so that those firms could conceal evidence of wrongdoing. *Id.* at 100. We concluded that, just as an SRO is entitled to absolute immunity for initiating disciplinary action against a member firm, it is also immune from suit if it decides not to take such disciplinary actions. *Id.* at 96. We further determined that the NYSE was immune from the plaintiffs' claims concerning the regulatory reports and internal investigations because these allegations concerned the exchange's functions in its "supervisory" and oversight role. *Id.* at 100.

Here, the plaintiffs' claims do not involve such conduct—they do not allege that the exchanges inadequately responded to, monitored, or policed their members' actions. Instead, the plaintiffs challenge exchange actions that are wholly divorced from the exchanges' role as regulators. Plaintiffs allege that the exchanges violated

§ 10(b) and Rule 10b-5 when they intentionally created, promoted, and sold specific services that catered to HFT firms and disadvantaged investors who could not afford those services.

When an exchange engages in conduct to operate its own market that is distinct from its oversight role, it is acting as a *regulated* entity—not a *regulator*. Although the latter warrants immunity, the former does not. Accordingly, we conclude that the exchanges, in providing these challenged products and services, did not "effectively stand in the shoes of the SEC" and therefore are not entitled to the same protections of immunity that would otherwise be afforded to the SEC. *DL Capital Grp.*, 409 F.3d at 95 (internal quotation marks and alteration omitted).

III. Failure to State a Claim

Finally, we disagree with the district court's dismissal of this action under Rule 12(b)(6) for failure to state a claim. We review such a determination *de novo*, accepting as true all factual allegations in the complaint and drawing all reasonable inferences in favor of the nonmoving party. *Gorman v. Consol. Edison Corp.*, 488 F.3d 586, 591-92 (2d Cir. 2007).

Plaintiffs allege in this case that the exchanges violated § 10(b) and Rule 10b-5. Section 10(b) makes it unlawful "[t]o use or employ, in connection with the purchase or sale of any security[,] . . . any manipulative or deceptive device or contrivance in contravention of . . . [the SEC's] rules and regulations." 15 U.S.C. § 78j(b). Rule 10b-5, which was promulgated by the SEC, makes it unlawful for any person directly or indirectly in connection with the purchase or sale of any security to "employ any device, scheme, or artifice to defraud," "make any untrue statement of a material fact or to omit to state a material

fact necessary in order to make the statements made . . . not misleading," or "engage in any act, practice, or course of business which operates or would operate as a fraud or deceit upon any person." 17 C.F.R. § 240.10b-5(a)-(c).

Although the Exchange Act does not expressly provide for a private cause of action for § 10(b) violations, ever since our decision in *Fischman v. Raytheon Manufacturing Company*, we have held that § 10(b) provides such an implied right. 188 F.2d 783, 787 & n.4 (2d Cir. 1951); *see also Stoneridge Inv. Partners, LLC v. Sci.-Atlanta*, 552 U.S. 148, 157, 164-65 (2008).); *GE Inv'rs v. Gen. Elec. Co.*, 447 F. App'x 229, 231 (2d Cir. 2011). In an action under § 10(b), a private plaintiff must set forth, "to the extent possible, what manipulative acts were performed, which defendants performed them, when the manipulative acts were performed, and what effect the scheme had on the market for the securities at issue." *ATSI Commc'ns, Inc. v. Shaar Fund, Ltd.*, 493 F.3d 87, 102 (2d Cir. 2007) (internal quotation marks and citation omitted). Here, the district court determined that the plaintiffs failed to sufficiently allege that the exchanges (1) engaged in acts that manipulated market activity and (2) committed "primary" violations of § 10(b) for which they could be held liable. We address each of these determinations in turn.

a. Manipulative Acts

Plaintiffs first argue that they have sufficiently alleged that the exchanges engaged in manipulative conduct because the complaint specifies what manipulative acts were performed, when they took place, which defendants performed them, and their effect on the market. We agree. The complaint sufficiently alleges conduct that "can be fairly viewed as 'manipulative or deceptive' with-

in the meaning of the [Exchange Act]." *Santa Fe Indus. v. Green*, 430 U.S. 462, 474 (1977).

Although manipulative conduct under § 10(b) and Rule 10b-5 is "virtually a term of art when used in connection with securities markets," it "refers generally to practices . . . that are intended to mislead investors by artificially affecting market activity." *Id.* at 476 (citation omitted). The gravamen of such a claim is the "deception of investors into believing that prices at which they purchase and sell securities are determined by the natural interplay of supply and demand, not rigged by manipulators." *Gurary v. Winehouse*, 190 F.3d 37, 45 (2d Cir. 1999).

Here, plaintiffs allege that the defendant exchanges created products and services for HFT firms that illicitly "rigged the market" in the firms' favor in exchange for hundreds of millions of dollars in fees. App'x at 225. According to plaintiffs, these products and services provided HFT firms with the ability to access market data at a faster rate, obtain non-public information, and take priority over ordinary investors' trades. Plaintiffs further allege that the exchanges failed to disclose the full impact that such products and services would have on market activity and knowingly created a false appearance of market liquidity that, unbeknownst to plaintiffs, resulted in their bids and orders not being filled at the best available prices.

For example, as we have already noted, plaintiffs allege that the exchanges, without adequate disclosure, used a certain type of complex order that allowed HFT firms to place orders that remained hidden on an individual exchange until a stock reached a certain price, at which point the previously hidden orders jumped the queue ahead of the traditional orders of ordinary investors waiting to trade. According to plaintiffs, the use of

these orders resulted in a system where plaintiffs "purchased and/or sold shares at artificially distorted and manipulated prices," including by paying higher prices for stocks. App'x at 358. Plaintiffs further allege that, unbeknownst to them, the proprietary data feeds and colocation services provided HFT firms with virtually exclusive access to detailed trading data in time to "front-run" other market participants by anticipating large pending transactions, buying and driving up the prices for the stocks before those orders were placed, and forcing investors to pay more for those stocks than they otherwise would have.

We think that such allegations sufficiently plead that the exchanges misled investors by providing products and services that artificially affected market activity, *see Santa Fe Indus.*, 430 U.S. at 476, and that permitting such a case to proceed would be consistent with the "fundamental purpose of the [Exchange] Act . . . of [ensuring] full disclosure," *id.* at 477 (internal quotation marks and citation omitted), and the Exchange Act's "core concern for the welfare of long-term investors who depend on equity investments to meet their financial goals," Regulation NMS, 70 Fed. Reg. at 37,500; *see also SEC v. Zandford*, 535 U.S. 813, 819 (2002) (noting § 10(b) was enacted as part of an effort "to [e]nsure honest securities markets and thereby promote investor confidence" (internal quotation marks and citation omitted)).

The exchanges assert that the foregoing allegations are insufficient because the plaintiffs do not allege that the exchanges themselves engaged in any manipulative "trading activity." Appellees' Br. at 43-46. The exchanges do not cite, and we are not aware of, any authority explicitly stating that such a claim must concern a defendant's trading activity. Instead, § 10(b) and Rule 10b-5

prohibit "all fraudulent schemes in connection with the purchase or sale of securities," *A. T. Brod & Co. v. Perlow*, 375 F.2d 393, 397 (2d Cir. 1967), including schemes that consist of manipulative or deceptive "market activity," *see, e.g.*, *Santa Fe Indus.,* 430 U.S. at 476 (noting manipulative conduct "refers generally to practices . . . [that] artificially affect[] *market activity*" (emphasis added)); *Wilson v. Merrill Lynch & Co.*, 671 F.3d 120, 130 (2d Cir. 2011) (referring to "market activity"); *ATSI Commc'n*, 493 F.3d at 100 ("[C]ase law in this circuit and elsewhere has required a showing that an alleged manipulator engaged in *market activity* aimed at deceiving investors as to how other market participants have valued a security." (emphasis added)). Here, for the reasons described above, plaintiffs have sufficiently alleged that the exchanges engaged in conduct that manipulated market activity, including by deceiving investors into "believing that prices at which they purchase[d] and s[old] securities are determined by the natural interplay of supply and demand, not rigged by manipulators." *Gurary*, 190 F.3d at 45; *see also Santa Fe Indus.*, 430 U.S. at 476.

The exchanges also argue, and the district court found, that their alleged conduct was not manipulative or deceptive because it was disclosed to the public and approved by the SEC. In response, plaintiffs concede that the exchanges may have told ordinary investors about the *existence* of proprietary data feeds and co-location services, but assert that the exchanges did not publicly disclose the full range or cumulative effect that such services would have on the market, the trading public, or the prices of securities. Plaintiffs further contend that the exchanges did not disclose, or selectively disclosed, complex order types.

It is true that "the market is not misled when a transaction's terms are fully disclosed." *Wilson*, 671 F.3d at 130 (internal quotation marks, citation, and alteration omitted). But here there is a contested question of fact as to the extent and accuracy of the disclosure. We must, at this stage, accept as true the factual allegations in the complaint and draw all reasonable inferences in favor of plaintiffs, including that the exchanges failed to disclose or omitted material facts to the investing public concerning these products and services. *See Litwin v. Blackstone Grp., L.P.*, 634 F.3d 706, 711 n.5 (2d Cir. 2011).

We also note that although the SEC has approved proprietary data feeds, co-location services, and complex order types under certain circumstances, it has challenged them under other circumstances. It is not clear based on the pleadings whether or to what extent the SEC has sanctioned the defendants' conduct regarding the particular products and services in the instant case. We therefore are not persuaded that the action should be dismissed on this basis.[5]

Accordingly, we conclude that the plaintiffs have sufficiently pled that the exchanges misled investors by artificially affecting market activity and that the district court erred in dismissing this action on that basis. *See Santa Fe Indus.*, 430 U.S. at 476.

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[5] As the SEC notes in its amicus brief, however, when a plaintiff challenges actions of an SRO that are in accordance with rules approved by the SEC, the challenge may be precluded because it would conflict with "Congress's intent that the SEC, with its expertise in the operation of the securities markets, make the rules regulating those markets." *See Lanier*, 838 F.3d at 155. Because we cannot make this determination based on the pleadings and the parties have not briefed this issue before the district court or this Court, we do not address that question here.

b. Primary Violator

The district court also determined that the plaintiffs failed to allege that the exchanges committed "primary" violations of § 10(b) and Rule 10b-5. The district court reasoned that, although the exchanges may have enabled, and thus aided and abetted, HFT firms in manipulating the market, the law does not permit the exchanges to be held liable for simply aiding and abetting the firms' allegedly manipulative conduct. Plaintiffs challenge this determination on appeal.

The exchanges are correct that a plaintiff may not assert a private cause of action for aiding and abetting under § 10(b). *Cent. Bank of Denver, N.A. v. First Interstate Bank of Denver, N.A.*, 511 U.S. 164, 191 (1994); *see also Fezzani v. Bear, Stearns & Co.*, 716 F.3d 18, 24 (2d Cir. 2013) ("[T]here is no aiding and abetting liability in *private* actions under Section 10(b)." (emphasis in original)). Nevertheless, "[i]n any complex securities fraud . . . there are likely to be multiple violators," *Cent. Bank of Denver,* 511 U.S. at 191, and even an entity that plays a secondary role in a securities fraud case may be held liable as a primary violator, *Stoneridge*, 552 U.S. at 158, 166. A primary violator is an entity that has "committed a manipulative act and thereby [has] participated in a fraudulent scheme." *Fezzani,* 716 F.3d at 26 (internal quotation marks, citation, and alterations omitted).

The exchanges argue that we should adopt the district court's reasoning that the plaintiffs, at most, have pled that the exchanges aided and abetted the HFT firms by giving them the means to commit market manipulation. It is true that if the HFT firms had not used these products and services, the plaintiffs could not have suffered their alleged harm. But the plaintiffs do not assert that the exchanges simply facilitated manipulative conduct by

the HFT firms. Instead, the plaintiffs contend that the exchanges were co-participants with HFT firms in the manipulative scheme and profited by that scheme. The exchanges sold products and services during the class period that favored HFT firms and, in return, the exchanges received hundreds of millions of dollars in payments for those products and services and in fees generated by the HFT firms' substantially increased trading volume on their exchanges.

In doing so, according to plaintiffs, the exchanges "falsely reassured ordinary investors that their 'fair and orderly' trading platforms provided 'transparent trading' where all investors received market data in 'real time,'" when instead they had misrepresented and omitted critical information about products and services they were providing and had purposefully created a "two-tiered market" in which plaintiffs were "at an informational disadvantage." Appellants' Reply Br. at 23 (citing App'x at 259, 261, 285). More specifically, and as we have already described, the plaintiffs allege that the exchanges' co-location and proprietary feeds provided "HFT firms with an enhanced glimpse into what the market is doing before others who do not have similar access," App'x at 285, and that certain exchanges failed to "include important information about how their order types worked in their regulatory filings, or fail[ed] to make the filings altogether," which "deprived the investing public of adequate notice of order types," App'x at 293. According to plaintiffs, these actions "caused measureable harm to investors including, *inter alia*, increased opportunity costs from unexecuted fill orders, adverse selection and price movement bias on executed fill orders, and increased execution costs," App'x at 294, and caused "Plaintiffs and other Class members [to] purchase[] and/or s[ell] shares at ar-

tificially distorted and manipulated prices," App'x at 358, including by paying higher prices for stocks.

The plaintiffs therefore have sufficiently pled that the exchanges created a fraudulent scheme that benefited HFT firms and the exchanges, sold the products and services at rates that only the HFT firms could afford, and failed to fully disclose to the investing public how those products and services could be used on their trading platforms. They allege that, in doing so, the exchanges used the HFT firms to generate hundreds of millions of dollars in fees and established a system that, unbeknownst to the plaintiffs, catered to the HFT firms at the expense of individual and institutional traders. We think that such allegations sufficiently plead that the exchanges committed manipulative acts and participated in a fraudulent scheme in violation of the Exchange Act and Rule 10b-5. *See Fezzani*, 716 F.3d at 26.

c. Other Grounds for Dismissal

The district court did not reach the exchanges' other arguments for dismissal, such as that plaintiffs had failed to adequately allege statutory standing, loss causation, and scienter. On appeal, the parties cursorily address these issues, but without the benefit of the district court's consideration, we decline to address them. On remand, they should be determined by the district court in the first instance.

CONCLUSION

For the foregoing reasons, we **VACATE** the district court's entry of judgment for the defendants-appellees and **REMAND** for proceedings consistent with this opinion.

LOHIER, *Circuit Judge, concurring*:

I agree with our resolution of the issues involved in this case and concur fully in the majority opinion. I write separately to remind the reader that after oral argument our panel requested and received a helpful amicus curiae brief from the Securities and Exchange Commission (SEC) addressing the questions of subject matter jurisdiction and immunity that the majority opinion so ably resolves. To the litany of reasons in support of the result in this case, therefore, I would add one more: deference to the SEC's reasonable and persuasive position on the specific questions before us. In my view, that position is especially persuasive because the SEC has significant, specialized expertise in exchange matters and information relating to the defendant exchanges, delegates its regulatory authority to the exchanges, retains extensive oversight over the exchanges' exercise of that authority, and understands the boundaries of that authority. Having independently arrived at the disposition (if not every approach) urged by the SEC, the majority opinion understandably opted to say nothing about deferring to the agency's position. But it would have been perfectly appropriate to defer here, at least with respect to the narrow issues we resolve, based on "the thoroughness evident in" the SEC's consideration of these issues, "the validity of its reasoning," and the "consistency" of its position "with earlier and later pronouncements." *Skidmore v. Swift & Co.*, 323 U.S. 134, 140 (1944).

APPENDIX B

UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

DOCKET NO: 15-3057

CITY OF PROVIDENCE, RHODE ISLAND, EMPLOYEES RETIREMENT SYSTEM OF THE GOVERNMENT OF THE VIRGIN ISLANDS, PLUMBERS AND PIPEFITTERS NATIONAL PENSION FUND,

Lead Plaintiffs-Appellants,

STATEBOSTON RETIREMENT SYSTEM,

Plaintiff-Appellant,

GREAT PACIFIC SECURITIES, ON BEHALF OF ITSELF AND ALL OTHERS SIMILARLY SITUATED,

Plaintiff,

AMERICAN EUROPEAN INSURANCE COMPANY, JAMES J. FLYNN, HAREL INSURANCE COMPANY LTD., DOMINIC A. MORELLI,

Consolidated-Plaintiffs,

V.

BATS GLOBAL MARKETS, INC., CHICAGO STOCK EXCHANGE INC., DIRECT EDGE ECN, LLC, NYSE ARCA, INC., NASDAQ OMX BX INC., NEW YORK STOCK EXCHANGE LLC, NASDAQ STOCK MARKET, LLC,

Defendants-Appellees,

BARCLAYS CAPITAL INC., BARCLAYS PLC, AND DOES, 15, INCLUSIVE,

Defendants.

(March 13, 2018)

At a stated term of the United States Court of Appeals for the Second Circuit, held at the Thurgood Marshall United States Courthouse, 40 Foley Square, in the City of New York, on the 13th day of March, two thousand eighteen.

ORDER

Appellees, Bats Global Markets, Inc., Chicago Stock Exchange Inc., Direct Edge ECN, LLC, NYSE Arca, Inc., NASDAQ OMX BX Inc., New York Stock Exchange LLC, and NASDAQ Stock Market, LLC, filed a petition for panel rehearing, or, in the alternative, for rehearing *en banc*. The panel that determined the appeal has considered the request for panel rehearing, and the active members of the Court have considered the request for rehearing *en banc.*

IT IS HEREBY ORDERED that the petition is denied.

FOR THE COURT:

Catherine O'Hagan Wolfe, Clerk

/s/ Catherine O'Hagan Wolfe

APPENDIX C

IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

14-MD-2589 (JMF)

IN RE: BARCLAYS LIQUIDITY CROSS AND HIGH FREQUENCY TRADING LITIGATION

(August 26, 2015)

OPINION AND ORDER

This Document Relates To All Actions

JESSE M. FURMAN, United States District Judge:

In 2014, author Michael Lewis published a bestselling book titled *Flash Boys: A Wall Street Revolt,* in which he argued that "high-frequency traders" have been able to gain an unfair advantage in the stock market, in part because stock exchanges and "dark pools" — alternative venues for trading stocks — have enabled those traders to obtain and trade on market data faster than other investors. A litany of lawsuits followed in short succession, asserting various theories of liability. *See, e.g.*, *Lanier v. BATS Exchange, Inc.*, — F. Supp. 3d —, No. 14-CV-3745 (KBF), 2015 WL 1914446 (S.D.N.Y. Apr. 28, 2015) (state-law claims against various stock exchanges); *Strougo v. Barclays PLC*, — F. Supp. 3d —, No. 14-CV-5797 (SAS), 2015 WL 1883201 (S.D.N.Y. Apr. 24, 2015) (investor suit against the operator of a major dark pool); *People ex rel. Schneiderman v. Barclays Capital Inc.*, 1 N.Y.S.3d 910 (N.Y. Sup. Ct. 2015) (state-law claims against the operator

of a major dark pool). This multidistrict litigation ("MDL") proceeding involves a group of cases in that litany. In four cases, originally filed in this District, various investors (collectively, the "SDNY Plaintiffs") bring claims under the Securities Exchange Act of 1934 ("the Exchange Act"), 15 U.S.C. § 78a *et seq.*, against seven stock exchanges — BATS Global Markets, Inc., Chicago Stock Exchange, Inc., Direct Edge ECN, LLC, the NASDAQ Stock Market LLC, NASDAQ OMX BX, Inc., New York Stock Exchange, LLC, and NYSE Arca, Inc. (collectively, "the Exchanges") — as well as Barclays PLC and Barclays Capital Inc. (collectively, "Barclays"), a major financial institution and the subsidiary that operates its "dark pool." In a fifth action, Docket Number 15-CV-168, filed in the United States District Court for the Central District of California and later consolidated here by the Judicial Panel on Multidistrict Litigation (the "JPML"), Plaintiff Great Pacific Securities ("Great Pacific") sues Barclays alleging violations of California state law.

Now pending are three motions by Defendants, largely pursuant to Rule 12(b)(6) of the Federal Rules of Civil Procedure, to dismiss the claims of Plaintiffs in all five cases (collectively, "Plaintiffs"). Significantly, the motions do not call upon the Court to wade into the larger public debates regarding high-frequency trading or the fairness of the U.S. stock markets more generally. That is, Lewis's book may well highlight inequities in the structure of the Nation's financial system and the desirability for, or necessity of, reform. For the most part, however, those questions are not for the courts, but for commentators, private and semi-public entities (including the stock exchanges), and the political branches of government, which — as Plaintiffs themselves observe — have already taken

up the issue. (*See* Second Consol. Am. Compl. Violation Federal Securities Laws (14-CV-2811, Docket No. 252 ("SAC") ¶¶ 280-89 (describing investigations related to high-frequency trading by the United States Congress, the Federal Bureau of Investigation, the Department of Justice, the Commodity Futures Trading Commission, and the Securities and Exchange Commission); Am. Class Action Compl. (15-CV-168, Docket No. 30) ("Am. Compl.") ¶ 5 (describing actions taken by the New York Attorney General)). More to the point, the only question for this Court on these motions is whether the Complaints in these cases are legally sufficient to survive Defendants' motions. Applying well-established precedent from the United States Supreme Court, the United States Court of Appeals for the Second Circuit, and the California Supreme Court, the Court is compelled to conclude that they are not. Accordingly, and for the reasons stated below, Defendants' motions to dismiss are granted, although Great Pacific is granted leave to amend its complaint in 15-CV-168.

BACKGROUND

Generally, in considering a Rule 12(b)(6) motion, a court is limited to the facts alleged in the complaint and is required to accept those facts as true. *See, e.g.*, *LaFaro v. N.Y. Cardiothoracic Grp., PLLC*, 570 F.3d 471, 475 (2d Cir. 2009). A court may, however, consider documents attached to the complaint, statements or documents incorporated into the complaint by reference, matters of which judicial notice may be taken, public records, and documents that the plaintiff either possessed or knew about, and relied upon, in bringing suit. *See, e.g.*, *Kleinman v. Elan Corp.*, 706 F.3d 145, 152 (2d Cir. 2013); *Chambers v. Time Warner, Inc.*, 282 F.3d 147, 153 (2d Cir. 2002). Thus, the following facts are taken from the relevant

Complaints, exhibits attached thereto, and documents of which the Court may take judicial notice.

A. The Creation of the National Market System

Prior to 1975, the U.S. stock market was fragmented among several stock exchanges. (SAC ¶ 43-44). In general, investors seeking to purchase a stock on a particular exchange interacted only with investors also trading on that exchange, and stocks were often traded at different prices on different exchanges. (*See id.* ¶ 43). In 1975, Congress amended the Exchange Act to, among other things, give the Securities and Exchange Commission ("SEC") authority to issue rules that would stitch the disparate exchanges into a single national market. *See* Pub. L. No. 94-29, § 7, 89 Stat. 111, *codified at* 15 U.S.C. § 78k-1. (SAC ¶ 44). Since those amendments, the SEC has enacted a host of regulations to fulfill Congress's vision of a unified national stock market. In 2005, those measures were consolidated into a rule known as "Regulation NMS" ("NMS" being short for "national market system"), which, among other things, requires exchanges to produce national market system plans ("NMS Plans") to facilitate the development and operation of a national market for securities. *See* Exchange Act Release No. 34-51808, 70 Fed. Reg. 37,496 (June 29, 2005) ("Regulation NMS"); 17 C.F.R. § 242.603(b). (SAC ¶ 46; Mem. Law Supp. Exchanges' Mot. To Dismiss Second Consol. Am. Compl. Pursuant Fed. R. Civ. P. 12(b)(1) and 12(b)(6) (14-MD-2589, Docket No. 8) ("Exchanges' Mem.") 8-9). Pursuant to its NMS Plan, an exchange must transmit real-time information regarding transactions on that exchange to a centralized entity (the "Processor") that then consolidates the information into a single, unified data feed (or "consolidated feed"). *See* 17 C.F.R. §§ 242.601-602.

A consolidated feed includes information on (1) the price at which the latest sale of each stock traded on the exchanges occurred, the size of that sale, and the exchange on which it took place; (2) the current highest bid and lowest offer for each stock traded on the exchanges, along with the number of shares available at those prices; and (3) the "national best bid and offer," or "NBBO," which are the highest bid and lowest offer currently available across all the exchanges and the exchange or exchanges on which those prices are available. *See NetCoalition v. SEC*, 615 F.3d 525, 529 (D.C. Cir. 2010), *superseded by statute on other grounds*, Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010), *as recognized in NetCoaltion v. SEC*, 715 F.3d 342 (D.C. Cir. 2013); *see also* 17 C.F.R. § 242.600(b)(13). Regulation NMS also requires that exchanges and brokers immediately accept the most competitive offer for a particular stock when matching a buyer to a seller — meaning that, in theory, the NBBO for a particular stock is the price at which that stock should trade. *See* Regulation NMS, 70 Fed. Reg. at 37,501-02. (SAC ¶ 48). The consolidated feed effectively transforms the disparate exchanges into a single national market. After all, at any given point, an entity seeking to trade a stock should be able to identify the best available price on any of the registered exchanges and send its order to that exchange for execution. In theory, it no longer matters if that entity is located on Wall Street, while the best available offer is from a party in Chicago.

B. The Rise of High-Frequency Trading

In 1998, in response to the growth of trading over electronic platforms and other emerging technologies, the SEC authorized electronic platforms to register as national exchanges. *See* Regulation of Exchanges and

Alternative Trading Systems, SEC Release No. 34-40760, 63 Fed. Reg. 70844 (Dec. 22, 1998) ("Regulation ATS"). In the nearly two decades since then, and especially since the SEC enacted Regulation NMS, the stock markets have witnessed a dramatic rise in high-frequency trading ("HFT"). (SAC ¶¶ 66-69). Although there is no definitive definition of what constitutes HFT, the term generally refers to the practice of using computer-driven algorithms to rapidly move in and out of stock positions, making money by arbitraging small differences in stock prices — often across different exchanges — rather than by holding the stocks for an appreciable period of time. *See, e.g.*, *Strougo v. Barclays PLC*, — F. Supp. 3d —, No. 14-CV-5797 (SAS), 2015 WL 1883201, at *2 (S.D.N.Y. Apr. 24, 2015). (*Accord* SAC ¶¶ 66, 69). To enable them to engage in that arbitrage, high-frequency traders put a premium on the ability to react rapidly to information regarding the U.S. stock market. *See Strougo*, 2015 WL 1883201, at *2. They employ a number of strategies (the specifics of which are not relevant here), all of which depend on the ability to process and respond to market information more quickly than other users on the Exchanges. (*See, e.g.*, SAC ¶¶ 237-56). In the early 2000s, firms employing HFT strategies ("HFT firms") were responsible for only about 10% of the orders placed on the Exchanges. (*Id.* ¶ 68). Today, by contrast, they make up nearly three quarters of the Exchanges' trading volume. (*Id.* ¶ 66).

The effects of HFT on the stock market are the subject of some controversy. Some commentators and, at points, the SEC, have stated that HFT firms have a positive effect on the market by creating significant amounts of liquidity, thereby permitting the national stock market to operate more efficiently and benefitting ordinary investors (including Plaintiffs). *See, e.g.*, Regulation NMS, 70 Fed.

Reg. at 37,500 ("Short-term traders clearly provide valuable liquidity to the market."). Others have sharply criticized the HFT firms' trading practices. Chief among their criticisms — and one that Plaintiffs forcefully adopt in their filings before the Court — is that the HFT firms use the speed at which they are capable of trading to identify the trading strategies being pursued by ordinary investors and react in a manner that forces ordinary investors to trade at a less advantageous price, with the HFT firm taking as profit a portion of the "delta" — that is, the difference between the price at which the ordinary investor would have traded and the price at which it actually traded as a result of the HFT firm's actions. For that reason, opponents of HFT, including Plaintiffs, often describe them as "predatory" or "toxic" trading strategies. More specifically, and as discussed further below, Plaintiffs allege that Defendants have provided the ingredients necessary for HFT firms to execute their predatory trading strategies and thereby enabled the HFT firms to exploit ordinary — that is, non-HFT — investors. (SAC ¶¶ 71-72). It is to those Defendants that the Court now turns.

C. The Exchanges

The primary Defendants in this case — the Exchanges — are all self-regulatory organizations ("SROs") within the meaning of the Exchange Act. *See* 15 U.S.C. § 78c(a)(26) (defining SRO). (SAC ¶¶ 26-33). They are registered with the SEC pursuant to Section 6(a) of the Exchange Act, and they have developed and operate platforms on which an entity seeking to purchase a stock can be matched with an entity seeking to sell that same stock. *See* 15 U.S.C. § 78f; *id.* § 78c(a)(1). SROs are private entities that exercise regulatory authority delegated to them by the SEC, subject to "extensive" SEC regulation. *See Lanier*, 2015 WL 1914446, at *8; *see also DL Capital Grp.,*

LLC v. Nasdaq Stock Mkt., Inc., 409 F.3d 93, 95 (2d Cir. 2005) (explaining an SRO's regulatory authority). The Exchanges remain SROs even though they are now for-profit corporations, a status that the SEC authorized in 1998. *See* Regulation ATS, 63 Fed. Reg. at 70882-84; *Domestic Sec., Inc. v. SEC*, 333 F.3d 239, 243 (D.C. Cir. 2003) (discussing Regulation ATS). (SAC ¶ 290).

The Exchanges make commissions off the trades placed on their platforms, meaning that the number of orders that are executed on an Exchange has a significant bearing on that Exchange's revenue. (*See id.* ¶ 49). Accordingly, the SDNY Plaintiffs allege (and it is hard to dispute) that each Exchange has an incentive to attract as much trading activity as possible. (*See, e.g.*, *id.* ¶ 4, 139). The SDNY Plaintiffs argue that this incentive has led the Exchanges astray and that, in their zeal to attract trading activity, the Exchanges have rigged their markets in favor of the HFT firms, which, as noted, now make up the majority of trading in the U.S. stock market. (*Id.* ¶ 66). Three features of the Exchanges' operations are relevant here.[1]

The first feature involves the Exchanges' provision of "enhanced" or "proprietary" data feeds. These data feeds contain much of the same information that the Exchanges transmit to the Processor for inclusion in the consolidated

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[1] In their papers, the SDNY Plaintiffs discuss a fourth feature: the Exchanges' alleged use of the "maker/taker model" — through which an Exchange charges a fee to an entity that "takes" liquidity (*i.e.*, that buys a stock) and pays a rebate to an entity that "makes" liquidity (*i.e.*, that sells the stock). (SAC ¶¶ 49-51, 134-35). At oral argument, however, the SDNY Plaintiffs clarified that their claims are not based on the alleged use of the maker/taker model. (June 18, 2015 Tr. (Docket No. 46) 30). Accordingly, the Court deems the SDNY Plaintiffs to have abandoned any claims based on the maker/taker model and need not discuss the model further.

feed, although in some instances they also provide additional or more detailed information regarding trading activity on the exchanges. (*Id.* ¶ 126). In addition, the data in the proprietary feeds are transmitted directly from an Exchange to the proprietary feed's subscribers. (*Id.* ¶ 118). *See* Exchange Act Release No. 34-67857, 2012 WL 4044880, at *2 (Sept. 14, 2012). By regulation, the Exchanges are not permitted to transmit the information in the proprietary feed any earlier than they transmit the information to the Processor for integration into the consolidated feed. *See* Exchange Act Release No. 34-67857, 2012 WL 4044880, at *8 (requiring the Exchanges to take "reasonable steps to ensure . . . that . . . data relating to current best-priced quotations and trades through proprietary feeds [are released] no sooner than . . . data [sent] to the . . . Processor" for integration into the consolidated feed). But because the proprietary feed is transmitted directly from an exchange to a subscriber, and does not have to be integrated with information from other exchanges, it is typically delivered to subscribers before the same information is transmitted via the consolidated feed. (*Cf.* SAC ¶ 118). Applications to establish proprietary feeds are reviewed by the SEC, and the SEC has approved various such applications. *See, e.g.*, Exchange Act Release No. 34-59606, 74 Fed. Reg. 13,293 (Mar. 26, 2009). In fact, Plaintiffs do not appear to dispute that the proprietary feeds at issue in this case were approved by the SEC.

The second practice or feature at issue involves allowing high-frequency traders the option of installing their servers at, or extremely close to, the servers used to operate the Exchanges. (SAC ¶ 108). This practice, known as "co-location," has the effect of shaving fractions of a second off the time it takes for a trader's server to interact with the Exchange's servers. (*Id.* ¶ 108-10). As with the

proprietary feeds, applications are reviewed by the SEC, and the SEC has found such applications consistent with the Exchange Act. *See* Exchange Act Release No. 34-62961, 75 Fed. Reg. 59,299 (Sept. 27, 2010). Again, Plaintiffs do not appear to dispute that the co-locations at issue in this case were approved by the SEC.

The third and final feature at issue in this case is the Exchanges' creation of "hundreds" of complex order types. (SAC ¶ 142). An order type is a "preprogrammed command[]" that "traders use to tell exchanges how to handle their bids and their offers to sell" stocks. (*Id.* ¶ 136). An example of a simple order type might be a command that tells an exchange to buy a stock at the prevailing market price, whatever it may be. More complex order types require an exchange to do things to the order based on different scenarios. (*See id.* ¶¶ 152-206 (discussing examples of complex order types)). For example, the SDNY Plaintiffs describe "hide[-]and[-] light" orders, which allow traders to place orders that remain hidden — *i.e.*, they do not appear as bids or offers on the individual exchange — until a stock reaches a particular price, at which point the orders "light" and jump the queue of investors waiting to trade. (*Id.* ¶¶ 152-56). Unlike more traditional "limit" orders generally used by ordinary investors, which permit traders to buy or sell a stock below or above a particular price, but can lose their place in the order queue when the market shifts, the hide-and-light orders appear only when a stock reaches a particular price, thereby ensuring that the trader that places a hide-and-light order is always at the front of the order queue, enabling the trader to trade ahead of ordinary investors. Plaintiffs contend that the Exchanges designed these complex order types, including the hide-and-light order types, in "backroom" negotiations with their best HFT clients and that they did so, not to

promote the efficient operation of Exchanges, but rather to attract more orders. (*Id.* ¶¶ 140, 148).

D. Barclays and the Barclays's Dark Pool

Regulation NMS also contributed to the development of a series of alternative trading venues known as "dark pools." In contrast to the "lit" Exchanges — *i.e.*, those that are required by to SEC to publish the best bid and offer available via the consolidated feed — dark pools are not required to publish transaction information until after the transaction closes, hence the reason they are called "dark" pools. (*Id.* ¶¶ 55-56). In theory, dark pools make it easier for a trader to purchase or sell large quantities of stock without moving the market or otherwise alerting other traders to its plans. (*Id.* ¶¶ 57, 60; Am. Compl. ¶ 19). Regulation NMS permitted investors to bypass the Exchanges and execute trades in a dark pool when the dark pool offered a more favorable price. (*Id.* ¶ 20). The ability to compete with the Exchanges on price evidently created a significant opportunity for dark pools to increase trading volume and, as a result, revenue.

Barclays, like most major financial institutions, operates a dark pool, known as "Barclays LX." (*Id.* ¶¶ 257, 259). As with the Exchanges, Barclays's dark pool generates revenue based in large part on the volume of trading. (SDNY Pls.' Mem. 13). And as with the Exchanges, HFT firms provide a significant source of potential trading volume and, therefore, revenue for Barclays LX. (Lead Pls.' Omnibus Mem. Law Opp'n Defs.' Mots. To Dismiss (14-MD-2589, Docket No. 26) ("SDNY Pls.' Mem.") 13; SAC ¶ 59). Plaintiffs contend that, by providing proprietary feeds and co-location services at prices that only HFT firms could afford, Barclays set out to capture this trading volume by rigging its dark pool in favor of the HFT firms. (*See, e.g.*, *id.* ¶ 275; SDNY Pls.' Mem. 14). Apparently

recognizing that ordinary investors might refuse to trade in a dark pool rigged in favor of "predatory" HFT firms, however, Barclays also marketed its dark pool to ordinary investors as a "safe" place for them to trade, with very little aggressive HFT trading. (SAC ¶¶ 268-74; Am. Compl. ¶¶ 4, 32, 34-35). Additionally, Barclays introduced a service called Liquidity Profiling, through which Barclays categorized firms using the dark pool as either aggressive, neutral, or passive, and gave each user the option to prevent entities with certain ratings from trading against it. (SAC ¶ 270; Am. Compl., Ex. A at 8-10). Thus, in theory, Liquidity Profiling allowed investors to avoid interacting with the most aggressive HFT firms in the dark pool. (SAC ¶¶ 269-70; Am. Compl. ¶ 37). The combined effect of these actions, according to Plaintiffs, was that Barclays misrepresented its dark pool as a safe place to trade, even as it operated the dark pool in a manner that permitted HFT firms to exploit Plaintiffs.

LEGAL STANDARDS

In evaluating a motion to dismiss pursuant to Rule 12(b)(6), a court must accept all facts set forth in the complaint as true and draw all reasonable inferences in the plaintiff's favor. *See, e.g.*, *Burch v. Pioneer Credit Recovery, Inc.*, 551 F.3d 122, 124 (2d Cir. 2008) (per curiam). Significantly, however, the Supreme Court has made clear that a court should not accept *non*factual matter or "conclusory statements" set forth in a complaint as true. *See Ashcroft v. Iqbal*, 556 U.S. 662, 686 (2009). Instead, a court must follow a two-step approach in assessing the sufficiency of a complaint in the face of a Rule 12(b)(6) motion. *See id.* at 680-81. First, the court must distinguish between facts, on the one hand, and "mere conclusory statements" or legal conclusions on the other hand; whereas the former are entitled to the presumption of truth, the latter

are not and must be disregarded. *See id.* at 678-79. Second, the court must "consider the factual allegations in [the] complaint to determine if they plausibly suggest an entitlement to relief." *Id.* at 681. A claim is facially plausible "when the plaintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged." *Id.* at 678 (citing *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 556 (2007)). A plaintiff must show "more than a sheer possibility that a defendant acted unlawfully," *id.*, and cannot rely on mere "labels and conclusions" to support a claim, *Twombly*, 550 U.S. at 555. If the plaintiff's pleadings "have not nudged [his or her] claims across the line from conceivable to plausible, [the] complaint must be dismissed." *Id.* at 570.

THE SDNY PLAINTIFFS' CLAIMS AGAINST THE EXCHANGES

The SDNY Plaintiffs contend that the Exchanges violated the Exchange Act by engaging in a manipulative scheme in which they enabled HFT firms to exploit ordinary investors trading on the Exchanges in return for which the HFT firms directed their considerable trading activity to the Exchanges. (SDNY Pls.' Mem. 7-8). The essence of the alleged scheme is as follows. Motivated by the need to increase trading volume, and therefore revenue, and recognizing that the HFT firms represented a large — and growing — share of total trading volume, the Exchanges began "catering" their business operations to the needs of the HFT firms. (*Id.* at 6-7). Specifically, they began offering products, such as proprietary feeds and colocation, whose primary value was to shave minute fractions of a second off the time it takes to receive and respond to information from the Exchanges. (*Id.* at 8-10). Such services are valuable only to HFT firms, as only they

stand to profit from very small decreases in the time it takes to respond to information regarding activity on the Exchanges; in any case, the Exchanges priced the services at such "exorbitantly high" rates that they were worthwhile only for HFT firms and thus "*de facto*" limited to those firms. (*Id.* at 8-10, 34). In addition, Plaintiffs contend that the Exchanges worked with HFT firms to design order types that would allow the traders to further exploit their speed advantage over ordinary investors. (*Id.* at 10-11). Making matters worse, the Exchanges either did not disclose many of these order types to ordinary investors or marketed them exclusively to HFT firms, so that the ordinary investors were unaware of their existence. (*See id.* at 11-12).

Through these actions, the Exchanges enabled the HFT firms to amass a significant speed advantage over ordinary investors and to employ trading strategies that exploited that speed advantage to the detriment of ordinary investors. The SAC details the various strategies that HFT firms used to exploit Plaintiffs as a result of this scheme. The specifics of those strategies are not relevant here. Instead, it suffices to say that each of the strategies depended on the HFT firms' ability to recognize Plaintiffs' trading behavior and, in a fraction of a second, react to that behavior in a manner that permitted the HFT firms to trade ahead of Plaintiffs, thereby making a small profit and causing Plaintiffs to trade at less favorable prices than they would have otherwise. (SAC ¶¶ 237-251). In enabling the HFT firms to execute those strategies, the SDNY Plaintiffs allege, the Exchanges' actions "rigged the[] markets in favor of HFT firms." (SDNY Pls.' Mem. 7).

A. Subject-Matter Jurisdiction

As a threshold matter, the Court must briefly address the Exchanges' argument that the Court lacks subject-

matter jurisdiction over the SDNY Plaintiff's claims. *See Steel Co. v. Citizens for a Better Env't*, 523 U.S. 83, 93-102 (1998) (holding that the Court may not assume subject-matter jurisdiction and resolve a case on the merits). The Exchanges contend that the Court lacks subject-matter jurisdiction because the Exchange Act creates a comprehensive regulatory scheme pursuant to which claims based on actions by the Exchanges must be presented first to the SEC, with any appeal of the SEC's decision going directly to the Court of Appeals. (Exchanges' Mem. 17-24). That argument, however, is unpersuasive. The SDNY Plaintiffs allege that the Exchanges operated their business in a manner that ran afoul of the federal securities laws, violations of which are typically redressable in federal district court. Put simply, the question of whether Section 10(b) reaches the Exchanges' conduct goes to the merits of the SDNY Plaintiffs' claims and does not implicate the Court's authority to hear the case. *Cf. Morrison v. Nat'l Australia Bank Ltd.*, 561 U.S. 247, 254 (2010) (holding that the question of "what conduct § 10(b) reaches" is a "merits question," not one that goes to subject-matter jurisdiction).

The cases upon which the Exchanges rely do not call for a contrary conclusion. First, the Exchanges rely on cases involving questions of preemption. (Reply Mem. Law Supp. Exchanges' Mot. To Dismiss Second Consol. Am. Compl. Pursuant Fed. R. Civ. P. 12(b)(1) and 12(b)(6) (14-MD-2589, Docket No. 28) ("Exchanges' Reply Mem.") 3 (citing, *e.g.*, *Lanier*, 2015 WL 1914446, at *10)). The question of whether the "structure of the Exchange Act" displaces claims under Section 10(b), however, is an issue of *preclusion*, not preemption, as it involves the interaction of different provisions of federal law. *See POM Wonderful LLC v. Coca-Cola Co.*, 134 S. Ct. 2228, 2236 (2014).

Second, the Exchanges cite cases in which a party was appealing from a decision by the SEC. (*See* Exchanges' Mem. 21-23). In those cases, however, Congress expressly vested subject-matter jurisdiction in the federal courts of appeals, thereby depriving the district courts of authority to act. (*See id.* (citing, *e.g.*, *Altman v. SEC*, 687 F.3d 44, 45-46 (2d Cir. 2012) (per curiam))). Here, there is no comparable provision. Thus, in the final analysis, whether or not the Exchanges' arguments have merit, they are better understood as arguments about administrative exhaustion or primary jurisdiction insofar as they are premised on the theory that the executive branch is more competent to address the claims at issue. *See, e.g.*, *Fowlkes v. Ironworkers Local 40*, 790 F.3d 378, 384 (2d Cir. 2015) (explaining that the administrative exhaustion requirement "give[s] the administrative agency the opportunity to investigate, mediate, and take remedial action" (internal quotation marks omitted) before court intervention); *Ellis v. Tribune Television Co.*, 443 F.3d 71, 81 (2d Cir. 2006) (describing the doctrine of primary jurisdiction and its role in "promoting proper relationships between the courts and administrative agencies charged with particular regulatory duties" (quoting *United States v. W. Pac. R.R.*, 352 U.S. 59, 63 (1956)). In either case, they do not implicate the Court's subject-matter jurisdiction, *see, e.g.*, *Fowlkes*, 790 F.3d at 385 ("[W]hether [the plaintiff] properly exhausted his claims . . . has no bearing on the subject matter jurisdiction of the District Court."); *S. New England Tel. Co.*, 624 F.3d at 136 ("[P]rimary jurisdiction, despite its name, is not related to the *subject matter jurisdiction* of the district court over the underlying action . . . ."), so the Court

may proceed to consideration of the SDNY Plaintiffs' claims on the merits.[2]

B. Absolute Immunity

Next, the Exchanges argue that, even if the Court has jurisdiction, Plaintiffs' claims are barred by the doctrine of absolute immunity. (*See* Exchanges' Mem. 24-36). It is well established "that an SRO and its officers are entitled to absolute immunity from private damages suits in connection with the discharge of their regulatory responsibilities." *Standard Inv. Chartered, Inc. v. Nat'l Ass'n of Sec. Dealers, Inc.*, 637 F.3d 112, 115 (2d Cir. 2011) (quoting *DL Capital Grp.*, 409 F.3d at 96). That is because the Exchanges "perform[] a variety of regulatory functions that would, in other circumstances, be performed by the SEC — an agency [that] is accorded sovereign immunity from all suits for money damages." *DL Capital Grp.*, 409 F.3d at 97. Thus, "in light of [the Exchanges'] special status and connection to the SEC," they are, "out of fairness[,] . . . accorded full immunity from suits for money damages" when taking action pursuant to this special status. *Id.* (internal quotation marks omitted).

As in other contexts, absolute immunity provides an SRO with "protection not only from liability, but also from the burdens of litigation, including discovery, and should be 'resolved at the earliest possible stage in litigation.'" *In re Facebook, Inc., IPO Sec. & Derivative Litig.*, 986 F.

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[2] The Second Circuit's decision in *DL Capital Group* reinforces the Court's conclusion that the Exchanges' argument does not implicate the Court's subject-matter jurisdiction. In that case, the defendant exchange moved to dismiss the complaint on the ground that the plaintiff had not exhausted its remedies before the SEC. *See* 409 F.3d at 96. Both the district court and the Court of Appeals, however, decided the case on other grounds — which they would not have had the luxury to do if the question of exhaustion implicated subject-matter jurisdiction.

Supp. 2d 428, 448, 452 (S.D.N.Y. 2013) (quoting *Hunter v. Bryant*, 502 U.S. 224, 227 (1991), and citing other cases). The party seeking that protection bears the burden of establishing its entitlement to absolute immunity. *See, e.g.*, *D'Alessio v. N.Y. Stock Exch., Inc.*, 258 F.3d 93, 104 (2d Cir. 2001). Such immunity "is of a rare and exceptional character," *Standard Inv. Chartered*, 637 F.3d at 115 (internal quotation marks omitted), and must therefore be evaluated on a case-by-case basis, *see, e.g.*, *DL Capital Grp.*, 409 F.3d at 97, using a functional test that examines the "nature of the function performed," *Forrester v. White*, 484 U.S. 219, 229 (1988). Specifically, an SRO "'is entitled to immunity from suit when it engages in conduct consistent with the quasi-governmental powers delegated to it pursuant to the Exchange Act and the regulations and rules promulgated thereunder.'" *DL Capital Grp.*, 409 F.3d at 97 (quoting *D'Alessio*, 258 F.3d at 106). Or put another way, "so long as the 'alleged misconduct falls within the scope of the quasi-governmental powers delegated to the [exchange],' absolute immunity attaches." *In re NYSE Specialists Sec. Litig.*, 503 F.3d 89, 96 (2d Cir. 2007) (quoting *D'Alessio*, 258 F.3d at 106).

Significantly, the motive or reasonableness of the actions in question is irrelevant to the analysis. *See, e.g.*, *id.* at 95-96; *accord Bogan v. Scott-Harris*, 523 U.S. 44, 54 (1998) (holding that whether a government official is absolutely immune "turns on the nature of the act, rather than on the [official's] motive or intent"). Instead, "the decision to extend absolute immunity depends 'upon the nature of the governmental function being performed.'" *DL Capital Grp.*, 409 F.3d at 99 n.4 (quoting *D'Alessio*, 258 F.3d at 104-05). Thus, the fact that the Exchanges in this case are now for-profit corporations does not, by itself, deprive them of absolute immunity. *See, e.g.*, *id.*; *cf. NYSE*

Specialists, 503 F.3d at 91 & n.1 (holding that the defendant exchange was entitled to absolute immunity even though it was "no longer a nonprofit corporation, following a merger which commenced after the filing of [the] lawsuit"). For similar reasons, and as the SDNY Plaintiffs conceded at oral argument (Tr. 33-34), it does not matter if an Exchange, in performing a regulatory function, is *also* motivated by the desire for profit or some other business purpose. *Cf. Weissman v. Nat'l Ass'n of Sec. Dealers*, 500 F.3d 1293, 1298-99 (11th Cir. 2007) (holding that an SRO is not protected by absolute immunity for actions that have no regulatory dimension and relate solely to the SRO's business interests). Instead, the sole question is whether the alleged misconduct falls within the scope of the quasi-governmental powers delegated to the Exchanges — in which case absolute immunity applies — or outside the scope of those powers — in which case it does not. (*See* Exchanges' Reply Mem. 7 ("[A]bsolute immunity applies to SRO activities that are incident to their regulatory functions, but not to *exclusively* non-regulatory functions.")).

With those standards in mind, the Court turns to the three practices of the Exchanges that the SDNY Plaintiffs challenge in this case: co-location services, the proprietary data feeds, and complex order types. (*See* SDNY Pls.' Mem. 7-11). Whether absolute immunity applies to the provision of co-location services is easily answered. It does not. Notably, although the Exchanges frame absolute immunity as a dispositive defense with respect to all of the SDNY Plaintiffs' claims (*see* Exchanges' Mem. 29 (stating that "the Exchanges' immunity for proprietary feeds and co-location is dispositive"), their memorandum of law does not actually seek to justify the application of immunity to the provision of co-location services, let alone support such a result. (*See id.* at 26-29). The Exchanges

have thus abandoned any argument for absolute immunity based on their provision of co-location services. And, even if they had not, it is hard to see how the provision of co-location services serves a regulatory function or differs from the provision of commercial products and services that courts have held not to be protected by absolute immunity in other cases. *See, e.g.*, *Weissman*, 500 F.3d at 1298 (holding that an exchange was not absolutely immune for "tout[ing], market[ing], advertis[ing] and promot[ing]" a particular equity because doing so did not involve the "performance of regulatory, adjudicatory, or prosecutorial duties" for which the SRO stood "in the stead of the SEC"); *Facebook*, 986 F. Supp. 2d at 452 (denying absolute immunity with respect to an exchange's design of software and promotion of its ability to facilitate an initial public offering). The Exchanges, therefore, are not immune from suit based on the provision of co-location services.

By contrast, the Exchanges are absolutely immune for their creation of complex order types. As noted, the order types permitted by an Exchange define the ways in which traders can interact with that Exchange. *See* Exchange Act Release No. 34-74032, 2015 WL 137640, at *2 ("Order types are the primary means by which market participants communicate their instructions for the handling of their orders to the exchange."). By establishing a defined set of order types, the Exchanges police the ways in which users of an exchange are able to interact with each other. *See id.* In so doing, the order types establish a framework by which buyers of stocks are matched with sellers. The creation of new order types — including complex ones — thus plainly "relates to the proper functioning of the regulatory system," for which the Exchanges enjoy absolute immunity. *NYSE Specialists*, 503 F.3d at 96 (quoting *D'Alessio*, 258 F.3d at 106); *see also DL Capital Grp.*, 409

F.3d at 95 (stating that the "regulatory powers and responsibilities" that Congress delegated to stock exchanges include the duty "to develop, operate, and maintain" their markets, "to formulate regulatory policies and listing criteria" for the markets, "and to enforce those policies and rules, subject to the approval of . . . the SEC"). It is thus unsurprising that new or modified order types are among the Exchanges' rules that the SEC reviews under Exchange Act Section 6(b), 15 U.S.C. § 78f(b), to ensure that they, among other things, prevent "fraudulent and manipulative acts and practices." *See, e.g.*, Exchange Act Release No. 34-69419, 78 Fed. Reg. 24,449, 24,453 (Apr. 25, 2013); Exchange Act Release No. 34-63777, 76 Fed. Reg. 5630, 5634 (Feb. 1, 2011).

In arguing to the contrary, the SDNY Plaintiffs contend that the complex order types at issue are "outside of [the Exchanges'] capacity as SROs" because they were created for business purposes and at the request of the HFT firms. (SDNY Pls.' Mem. 37-38). Relatedly, they assert that the complex order types are "products" and that the Exchanges do not have immunity for the development of a product. (Tr. 32). These contentions, however, amount to little more than an argument that the Exchanges should be denied absolute immunity because they acted with an improper motive — whether it be to profit or to satisfy the HFT firms (and thereby, presumably, profit). But, as noted, motive is irrelevant to the absolute immunity question. *See DL Capital Grp.*, 409 F.3d at 98 ("[A]bsolute immunity spares the official any scrutiny of his [or her] motives . . . ." (internal quotation marks omitted)). Where — as is the case with the complex order types at issue here — the act of creating a product has a regulatory dimension, an exchange is immune from suit based on that product.

The final challenged feature of the Exchanges — their provision of proprietary data feeds — is a closer call, but also falls within the scope of the quasi-governmental powers delegated to the Exchanges.[3] Significantly, the SDNY Plaintiffs effectively concede that the dissemination of market data regarding transactions on the Exchanges through the *consolidated* feed is regulatory in nature. (SDNY Pls.' Mem. 33-34; *see also In re NYSE LLC*, Exchange Act Release No. 34-67857, at *1 (Sept. 14, 2012) (describing the consolidated data as "form[ing] the heart of the national market system" (internal quotation marks omitted))). After all, disseminating data in that manner was an integral part of Congress's and the SEC's efforts to create a national market system. Thus, the question is whether the "nature of the function performed" is materially different when the Exchanges disseminate data through a proprietary data feed rather than the consolidated feed. *Forrester*, 484 U.S. at 229. In the Court's view, the answer to that question is no. At bottom, Congress and the SEC have delegated to the Exchanges the task of disseminating market data as part of a national market system. In doing so through proprietary data

[3] At points in their memorandum of law, the SDNY Plaintiffs appear to assert that they were aggrieved by the Exchanges' marketing of the proprietary data feeds as opposed to the feeds themselves. (*See, e.g.*, SDNY Pls.' Mem. 33). Nevertheless, the substance of their memorandum makes clear that it is the proprietary feeds themselves, not the manner in which those feeds are marketed, that form the basis of Plaintiffs' claims. (*See, e.g.*, SAC ¶ 119 (contending that the proprietary "data feed products constitute manipulative devices under the Exchange Act because . . . they either (1) allow HFT firms to gain access to public information sooner than the investing public (and thereby trade on that information before it is publicly disseminated); or (2) permit HFT firms to front-run the non-HFT investing public by gaining access to pricing and other trading-related information based on what is in the queue versus what is displayed").

feeds, the Exchanges are performing that task no less than when they do so through the consolidated feed. That is, the dissemination of market data through the propriety data feeds is "consistent with" the quasi-governmental powers delegated to the Exchanges pursuant to the Exchange Act and SEC regulations. *DL Capital Grp.*, 409 F.3d at 97 (internal quotation marks omitted). It follows that the Exchanges are entitled to absolute immunity for the proprietary data feeds.

In arguing otherwise, the SDNY Plaintiffs rely again on the alleged profit motives of the Exchanges. (SDNY Pls.' Mem. 33). As discussed above, however, the immunity analysis turns solely on the nature of the conduct at issue; motive is irrelevant. *See NYSE Specialists*, 503 F.3d at 98 n.3; *DL Capital Grp.*, 409 F.3d at 98. The SDNY Plaintiffs also emphasize that the proprietary data feeds are not mandated by the SEC and that their information is determined by the market rather than the SEC. (SDNY Pls.' Mem. 33-34). But that does not render them entirely non-regulatory in nature. The SEC has concluded that, although it could regulate the content of proprietary data feeds, Congress wanted as much of the regulatory regime as possible dictated by the market rather than regulatory fiat. *See* Exchange Act Release No. 34-59039, 73 Fed. Reg. 74,770, 74,771 (Dec. 9, 2008); *see also* Regulation NMS, 70 Fed. Reg. at 37,566-68. There is no reason to conclude that the SEC's choice of regulatory paradigm — market-based regulation rather than rulemaking — renders the dissemination of data by propriety data feed exclusively non-regulatory. And it is not the case that an action must be *mandated* by the SEC in order for it to be regulatory; otherwise, the absolute-immunity inquiry would turn, first and foremost, on whether an action was pursuant to an SEC directive and not, as it does, simply on

the nature of the action in question. *See DL Capital Grp.*, 409 F.3d at 98; *Opulent Fund v. Nasdaq Stock Mkt., Inc.*, No. C-07-3683 (RMW), 2007 WL 3010573, at *5 (N.D. Cal. Oct. 12, 2007) ("SEC approval of a rule imposing a duty on an SRO is not the *sine qua non* of SRO immunity; engaging in regulatory conduct is.").[4] Finally, the fact that the high cost of the proprietary data feeds renders them *de facto* exclusive to HFT firms is irrelevant. That complaint goes to the manner in which the Exchanges' exercise their authority, not to the character of that authority itself, and the Second Circuit has made clear that the "manner" in which an SRO exercises its authority is not relevant to whether that exercise of authority is regulatory. *DL Capital Grp.*, 409 F.3d at 98; *see NYSE Specialists*, 503 F.3d at 98 (observing that the "propriety of [an SRO's] actions or inactions" has nothing to do whether those actions are protected from suit by absolute immunity).

The cases cited by the SDNY Plaintiffs do not require a contrary conclusion. In each of those cases, the Court concluded that the relevant exchange's conduct was entirely non-regulatory; that is, the action in question had *only* a business purposes and was not taken pursuant to any delegated or quasi-governmental authority. *See Weissman*, 500 F.3d at 1299 (concluding that there was "no

[4] The SDNY Plaintiffs also allege that the proprietary data feeds are different because they contain information that is not in the consolidated feed. (SDNY Pls.' Mem. 34). Conclusory assertions aside, however, the SDNY Plaintiffs' Complaints do not include any allegations with respect to how the data provided through the proprietary data feeds are enhanced relative to the consolidated feed data. (*See* SAC ¶¶ 118-31; SDNY Pls.' Mem. 33-35). And even if they did, that the market influences the content of an individual proprietary data feed does not change the fact that the feed constitutes the dissemination of market data and, like the consolidated feed, is therefore consistent with the quasi-governmental powers delegated to the Exchanges.

quasi-governmental function served by . . . advertisements" promoting a particular equity traded on an exchange); *Facebook*, 986 F. Supp. 2d at 452 (concluding that NASDAQ was not immune for a negligence claim based on the malfunction of its software because "[t]here are no immunized or statutorily delegated government powers to design, . . . to . . . test . . . or to fix computer software when it is malfunctioning"); *Opulent Fund*, 2007 WL 3010573, at *5 (holding that NASDAQ is not immune for creating an index of stocks and promoting the index in order facilitate the development of derivative trading on its exchange). By contrast, the dissemination of data regarding trades — whether through the proprietary data feeds or the consolidated feed — is not exclusively non-regulatory in nature.

In sum, the Court concludes that the Exchanges are absolutely immune from suit based on their creation of complex order types and provision of proprietary data feeds, both of which fall within the scope of the quasi-governmental powers delegated to the Exchanges. That conclusion is reinforced by the fact that the SEC has ample authority and ability to regulate those activities and address any improprieties by the Exchanges; the Second Circuit has instructed that a court evaluating a claim of absolute immunity should "consider 'whether there exist alternatives to damage suits against the [the potentially immune entity] as a means of redressing wrongful conduct' if absolute immunity applies." *NYSE Specialists*, 503 F.3d at 101 (quoting *Barrett v. United States*, 798 F.2d 565, 571 (2d Cir. 1986)). Here, as in *NYSE Specialists*, "[t]he alternatives [to a suit for damages] are manifold," with the principal alternative seeking to invoke the SEC's "formidable oversight power to supervise, investigate, and discipline the [Exchanges] for any possible wrongdoing or regulatory missteps.'" *Id.* The upshot — that the SDNY Plaintiffs

may not proceed with their claims with respect to the complex order types and proprietary data feeds — "'may be harsh,' but Congress nevertheless saw fit to delegate to SROs certain regulatory powers for which they 'enjoy freedom from civil liability when they act[] in their regulatory capacity,' even where the SROs 'act in a capricious, even tartuffian manner which causes enormous damage.'" *Facebook*, 986 F. Supp. 2d at 459 (quoting *Sparta Surgical Corp. v. Nat'l Ass'n of Sec. Dealers, Inc.*, 159 F.3d 1209, 1215 (9th Cir. 1998)) (internal alterations omitted).[5]

C. The Sufficiency of the SDNY Plaintiffs' Complaints

Even if the Exchanges were not absolutely immune from suit for much of the conduct at issue in these cases, the SDNY Plaintiffs' Complaints would be subject to dismissal for failure to state a claim. As noted, the Complaints plead two sets of claims: one set of claims under Section 10(b) of the Exchange Act and Rule 10b-5, which make it unlawful "[t]o use or employ, in connection with the purchase or sale of any security[,] . . . any manipulative or deceptive device or contrivance in contravention of . . . rules and regulations" promulgated by the SEC, 15 U.S.C.

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[5] In their memorandum, the SDNY Plaintiffs argue that the Court should authorize limited discovery before granting the Exchanges absolute immunity. (SDNY Pls.' Mem. 44-45). As noted, however, "SRO immunity provides protection not only from liability, but also from the burdens of litigation, *including discovery*, and should be 'resolved at the earliest possible stage in litigation.'" *Facebook*, 986 F. Supp. 2d at 448 (emphasis added) (quoting *Hunter*, 502 U.S. at 227 and citing cases); *see also, e.g.*, *Behrens v. Pelletier*, 516 U.S. 299, 308 (1996) (noting that absolute immunity "give[s] government officials a right, not merely to avoid standing trial, but also to avoid the burdens of such *pretrial* matters as discovery" (internal quotation marks omitted)). In any case, the SDNY Plaintiffs fail to identify any discovery that would be material to the question of whether the conduct at issue is regulatory in nature.

§ 78j(b); and a second set of claims under Section 6(b) of the Exchange Act, which requires the Exchanges to adopt rules and regulations that, among other things, "prevent fraudulent and manipulative acts and practices" and to abide by those rules and regulations, 15 U.S.C. § 78f(b). The Court will address each set of claims in turn.

1. Section 10(b) and Rule 10b-5

First, the SNDY Plaintiffs bring a manipulative-scheme claim under Section 10(b) and Rule 10b-5(a) and (c). (SDNY Pls.' Mem. 48-61). As noted, Section 10(b) makes it unlawful "[t]o use or employ, in connection with the purchase or sale of any security, any manipulative or deceptive device or contrivance in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of investors." *Employees' Ret. Sys. of Gov't of the Virgin Islands v. Blanford*, — F.3d —, No. 14-CV-199, 2015 WL 4491319, at *6 (2d Cir. July 24, 2015) (quoting 15 U.S.C. § 78j(b)). To state a manipulative-scheme claim, a plaintiff must allege "(1) manipulative acts; (2) damage (3) caused by reliance on an assumption of an efficient market free of manipulation; (4) scienter; (5) in connection with the purchase or sale of securities; (6) furthered by the defendant's use of the mails or any facility of a national securities exchange." *ATSI Commc'ns, Inc. v. Shaar Fund, Ltd.*, 493 F.3d 87, 101 (2d Cir. 2007); *see also Fezzani v. Bear, Stearns & Co. Inc.*, 716 F.3d 18, 22 (2d Cir. 2013) (same). Because they sound in fraud, manipulative-scheme claims are subject to the heightened pleading standards of Rule 9(b) of the Federal Rules of Civil Procedure, which require a complaint to "(1) detail the statements (or omissions) that the plaintiff contends are fraudulent, (2) identify the speaker, (3) state where and when the statements (or omissions) were made, and (4) explain

why the statements (or omissions) are fraudulent." *Loreley Fin. No. 3 Ltd. v. Wells Fargo Sec., LLC*, — F.3d —, No. 13-1476-CV, 2015 WL 4492258, at *8 (2d Cir. July 24, 2015). Additionally — and significantly for purposes of this case — manipulative-scheme claims can be based only on primary violations of the Exchange Act; there is no liability under the Exchange Act for aiding and abetting a manipulative scheme. *See Fezzani*, 716 F.3d at 25; *see also Cent. Bank of Denver N.A. v. First Interstate Bank of Denver N.A.*, 511 U.S. 164, 191 (1994).

In light of those requirements, the SDNY Plaintiffs' Section 10(b) claims fail as a matter of law for at least two reasons.[6] First, at least to the extent that the SDNY Plaintiffs premise their claims on the provision of co-location services and proprietary data feeds, they fail to allege any manipulative acts on the part of the Exchanges. As the Supreme Court has explained, manipulation is "virtually a term of art when used in connection with securities markets." *Santa Fe Indus. v. Green*, 430 U.S. 462, 476 (1977) (internal quotation marks omitted). It "refers generally to practices, such as wash sales, matched orders, or rigged prices, that are intended to mislead investors by artificially affecting market activity." *Id.* Manipulation "connotes intentional or willful conduct designed to deceive or defraud investors by controlling or artificially affecting the price of securities." *ATSI*, 493 F.3d at 100 (quoting *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 199 (1976)); *see also, e.g.*, *Wilson v. Merrill Lynch & Co.*, 671 F.3d 120, 130 (2d Cir. 2011) ("In order for market activity to be

[6] The Exchanges advance several other colorable arguments for dismissal of the SDNY Plaintiffs' claims, including that they fail to adequately allege statutory standing, loss causation, and scienter. (Exchanges' Mem. 38-39, 47-49). The Court need not, and does not, reach those issues.

manipulative, that conduct must involve misrepresentation or nondisclosure."). A manipulative act is, therefore, any act — as opposed to a statement — that has such an "artificial" effect on the price of a security. *See ATSI*, 493 F.3d at 100. In determining what constitutes an "artificial[]" effect on the price of a security, courts generally ask whether the price is the result of the "natural interplay of supply and demand," or instead represents a "false pricing signal to the market." *Id.* (internal quotation marks omitted).

The provision of co-location services and proprietary data feeds does not qualify as manipulative under these definitions. In particular, the SDNY Plaintiffs fail to allege that the Exchanges misrepresented or failed to disclose material information regarding either the proprietary data feeds or co-location services. To the contrary, as another Court within this District recently observed, the Exchanges did not conceal the availability of proprietary data feeds and co-location services, and both were publicly approved by the SEC. *See Lanier*, 2015 WL 1914446, at *9 ("The SEC has also approved the SROs' use of proprietary feeds . . . ." (citing Exchange Act Release No. 34-59606, 74 Fed. Reg. 13,293, 13,294 (Mar. 26, 2009)); *id.* ("[T]he SEC regulates co-location services, which it views as a 'material aspect of the operation of the facilities of an exchange.'" (quoting Exchange Act Release No. 34-61358, 75 Fed. Reg. 3594, 3610 & n. 76 (Jan. 21, 2010))); *see also* Exchange Act Release No. 34-62961, 75 Fed. Reg. 59,299, 59,299-300 (finding an exchange's provision of co-location services "consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange"). (Exchanges' Mem. 11 (collecting instances in which the SEC has approved co-location services)). At bottom, the SDNY Plaintiffs' theory of

manipulation is that the proprietary data fees and co-location services gave traders who paid a premium the ability to access (and act on) data more quickly than other traders. The SDNY Plaintiffs, however, fail to explain how merely enabling a party to react more quickly to information can constitute a manipulative act, at least where the services at issue are publicly known and available to any customer willing to pay. *See Santa Fe Indus.*, 430 U.S. at 477 ("[N]ondisclosure is usually essential to the success of a manipulative scheme.").

Second, and more broadly, the SDNY Plaintiffs fail to allege primary violations by the Exchanges themselves. Instead, the most that the Complaints can be said to allege is that the Exchanges aided and abetted the HFT firms' manipulation of the market price. It is well established, however, that Section 10(b)'s "proscription does not include giving aid to a person who commits a manipulative or deceptive act." *Cent. Bank of Denver*, 511 U.S. at 177. The SDNY Plaintiffs do point to an extensive list of actions by the Exchanges that they contend constitute manipulative acts on which primary liability may be premised. (SDNY Pls.' Mem. 52-54). In each instance, however, the Exchange's actions merely enabled an HFT firm to execute a transaction, and it was the transaction itself that caused the allegedly artificial effect on the market. That is, to the extent that the SDNY Plaintiffs allege an artificial effect on the market, that effect was caused by the HFT firms' trades themselves, not by the Exchanges' provision of co-location services, proprietary data feeds, and complex order types to the HFT firms. Put simply, without the trades, there would be no effect on the market at all. It follows that the SDNY Plaintiffs' manipulative-scheme claim against the Exchanges fails as a matter of law and must be dismissed. *See, e.g.*, *Stoneridge Inv.*

Partners, LLC v. Scientific-Atlanta, 552 U.S. 148, 161 (2008) (finding that Plaintiff had alleged only that the defendant aided and abetted a securities violation where it was a third party that effected the fraudulent transactions and "nothing [the defendant] did made it necessary or inevitable for [the third party] to record the transactions as it did"); *Fezzani*, 716 F.3d at 25 ("[K]nowing and substantial assistance in . . . facilitating the [securities] fraud . . . do[es] not meet the standards for private damage actions under Section 10(b).").

2. Section 6(b)

The SDNY Plaintiffs' claims under Section 6(b) of the Exchange Act fail as a matter of law for a different reason: In 1975, Congress comprehensively amended Section 6(b). *See* 15 U.S.C. § 78k-1; Pub. L. No. 94-29, § 7, 89 Stat. 111 (1975). Since then, every Court to have applied the amended provision has concluded that it does not provide a private right of action. *See, e.g.*, *Spicer v. Chi. Bd. of Options Exch., Inc.*, 977 F.2d 255, 258-66 & n.2 (7th Cir. 1992) (citing cases); *see also Mkt. St. Ltd. Partners v. Englander Capital Corp.*, No. 92-CV-7434 (LMM), 1993 WL 212817, at *12 (S.D.N.Y. June 14, 1993); *Kakar v. Chicago Bd. Options Exch., Inc.*, 681 F. Supp. 1039, 1043 (S.D.N.Y. 1988); *Brawer v. Options Clearing Corp.*, 633 F. Supp. 1254, 1258-62 (S.D.N.Y. 1986). *But see Rich v. N.Y. Stock Exch., Inc.*, 509 F. Supp. 87, 89 (S.D.N.Y. 1981) (holding that there was a private right of action under the pre-1975 version of the statute and stating, in dictum, that Congress's silence in enacting the amendments "must be viewed as at least an approving expectation" that the implied right recognized in earlier cases persists). It is true, as the SDNY Plaintiffs note (SDNY Pls.' Mem. 62-64), that in *Baird v. Franklin*, 141 F.2d 238 (2d Cir. 1944), the Second Circuit held that there is a private right of action

under Section 6(b) of the Exchange Act. Substantially for the reasons stated in Judge Stanton's thorough and well-reasoned analysis of the issue in *Brawer*, however, the Court agrees with the post-1975 consensus and concludes that *Baird* does not apply to the current version of the statute. Put simply, the 1975 Amendments changed Section 6(b) and other provisions of the Exchange Act beyond recognition, establishing a comprehensive scheme of "remedial measures with enforcement vested in the SEC." *Brawer*, 633 F. Supp. at 1260; *see also Feins v. Am. Stock Exch., Inc.*, 81 F.3d 1215, 1222 (2d Cir. 1996) (observing that the 1975 Amendments, "and the reasoning behind them, do not suggest Congressional intent to use private parties to enforce the statute through private causes of action. Rather, to effectuate its purpose, Congress sought to rely on the expanded oversight and enforcement powers of administrative agencies such as the SEC."). Accordingly, the SDNY Plaintiffs' claims under Section 6(b) must be dismissed.

PLAINTFFS' CLAIMS AGAINST BARCLAYS

The Court turns then to Plaintiffs' claims against Barclays. The SDNY Plaintiffs bring claims against Barclays, as they did against the Exchanges, under Section 10(b) of the Exchange Act and SEC Rule 10b-5; Great Pacific brings claims under California State law. Although the statutory regimes are distinct, and for that reason must be considered separately, the claims are based largely on the same actions by Barclays and, ultimately, fail for much the same reason: Plaintiffs fail to identify any manipulative acts on which they reasonably relied.

A. The SDNY Plaintiffs' Claims Against Barclays

The SDNY Plaintiffs contend that Barclays perpetrated a manipulative or fraudulent scheme to exploit ordinary investors trading in its dark pool. (SDNY Pls.'

Mem. 68-69). The alleged scheme consisted of two broad components. First, Barclays allegedly disclosed to HFT firms important, otherwise non-public information regarding transactions in the dark pool. For example, it provided at least some HFT firms with the "logic" of the servers operating the dark pool, which enabled those firms to refine their aggressive trading strategies. (SAC ¶ 278; *see also* Am. Compl. ¶ 62). Second, Barclays either failed to establish or actively undermined various protections for ordinary investors using its dark pool. For example, Barclays allegedly overrode its Liquidity Profiling product — so that certain HFT firms would appear less aggressive and, therefore, would not be blocked by investors that sought to block aggressive firms from trading against them in the dark pool. (SDNY Pls.' Mem. 14; SAC ¶ 277). Similarly, the SDNY Plaintiffs allege that Barclays provided services — including co-location[7] — that could be used effectively only by HFT firms. (SDNY Pls.' Mem. 71; SAC ¶ 278). Despite taking those actions to benefit the HFT firms — thereby enabling them to exploit ordinary investors — Barclays nevertheless represented that its dark pool was safe and that the SDNY Plaintiffs were not at risk of being exploited by HFT firms. (*Id.* ¶¶ 269-74). As a result of these actions, the SDNY Plaintiffs allegedly traded on worse terms in the dark pool than they would have in a "fair and unmanipulated market." (SDNY Pls.' Mem. 14; SAC ¶ 279).

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[7] In the SAC and their memorandum, the SDNY Plaintiffs refer to this service as "cross-connection" rather than co-location (*see* SAC ¶ 113), apparently prompted by the New York Attorney General's use of that term. *See People ex rel. Schneiderman v. Barclays Capital, Inc.*, Index No. 451391/2014, Compl. ¶ 13 (N.Y. Sup. Ct. June 25, 2014). For consistency, the Court will use the term co-location, as that is the term used above in reference to the Exchanges.

These allegations fail to state a claim for at least two independent reasons. First, as they did with respect to the Exchanges, the SNDY Plaintiffs fail to adequately plead that Barclays committed any manipulative acts. As noted, a manipulative act is one that sends "a false pricing signal to the market" and therefore does not reflect the "natural interplay of supply and demand." *ATSI*, 493 F.3d at 100; *see Ernst & Ernst*, 425 U.S. at 199 (observing that the term "'manipulative' . . . connotes intentional or willful conduct designed to deceive or defraud investors by controlling or artificially affecting the price of securities"). The SDNY Plaintiffs' do not allege any actions by Barclays that meet that definition. For example, one of the SDNY Plaintiffs' principal allegations is that Barclays overrode the Liquidity Profiling assessments of certain HFT firms. (SDNY Pls.' Mem. 14; SAC ¶ 277). But the SDNY Plaintiffs do not explain how such overrides *themselves* could have affected the price at which securities traded in the dark pool. The same goes for the allegations regarding colocation and information regarding the logic of the servers operating the dark pools. Although these actions may have made it easier for HFT firms to trade ahead of ordinary investors, the SDNY Plaintiffs do not explain how the actions themselves could have affected, much less *artificially* affected, the prices at which securities traded in the dark pool. *See Stoneridge*, 552 U.S. at 161.

Once again, at most, the SDNY Plaintiffs' allegations amount to the contention that Barclays aided and abetted the HFT firms by creating the conditions through which the HFT firms affected the prices of securities in the dark pool. (*See, e.g.*, SDNY Pls.' Mem. 14 ("Barclays provided HFT firms with certain benefits and information . . . thereby *allowing* the HFT firms to effectively engage in predatory trading." (emphasis added)). But, as noted in

the Court's discussion of the SDNY Plaintiffs' claims against the Exchanges, Section 10(b) and Rule 10b-5 create liability only for primary violations of those provisions; there is no liability for aiding and abetting another's violation. *See Fezzani*, 716 F.3d at 24-25. Simply creating the background market conditions is therefore insufficient to state a claim under Section 10(b) or Rule 10b-5. *See Stoneridge*, 552 U.S. at 160-62; *Fezzani*, 716 F.3d at 23-24.

Second, and in any event, the SDNY Plaintiffs' claims against Barclays fail because they do not allege reasonable reliance. As an initial matter, the SDNY Plaintiffs cannot invoke either of the presumptions of reliance that have been recognized by the Supreme Court.[8] The first presumption, the fraud-on-the-market presumption, allows courts to presume reliance on public statements because, it is assumed, the information in those statements is reflected in the price at which a stock affected by those statements trades, and investors are presumed to rely on the integrity of that price when deciding to trade. *See Halliburton Co. v. Erica P. John Fund, Inc.*, 134 S. Ct. 2398, 2408 (2014); *Stoneridge*, 552 U.S. at 159. The SDNY Plaintiffs, however, do not point to any statements by Barclays that could have affected the price at which they *decided* to trade. After all, as discussed, they allege that the prices in the dark pools were affected by the HFT firms' acts between the time the SDNY Plaintiffs decided to place trades and when those trades were completed. (SAC ¶¶ 248-56). As they do not allege that any misinformation was reflected in the price at which they decided to trade,

[8] Indeed, the SDNY Plaintiffs all but conceded as much at oral argument. (*See* Tr. 61 ("I think this presumption is something different [than the presumptions recognized by the Supreme Court] . . . . [I]t is more a presumption of reliance on the integrity of markets operated fairly.")).

much less that such misinformation came from Barclays, the SDNY Plaintiffs cannot rely on the fraud-on-the-market presumption.

Nor can the SDNY Plaintiffs rely on *Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128 (1972), which held that "if there is an omission of a material fact by one with a duty to disclose, the investor to whom the duty was owed need not provide specific proof of reliance," *Stoneridge*, 552 U.S. at 159 (citing *Affiliated Ute*, 406 U.S. at 153-54). For one thing, it is not even clear that the *Affiliated Ute* presumption applies in a manipulation case. *See Levitt v. J.P. Morgan Sec. Inc.*, 710 F.3d 454, 468 n.9 (2d Cir. 2013). Assuming it does, however, the presumption is not available where a plaintiff's theory is based entirely, or even primarily, on misrepresentations as opposed to omissions. *See, e.g.*, *Starr ex rel. Estate of Sampson v. Georgeson Shareholder, Inc.*, 412 F.3d 103, 109 n.5 (2d Cir. 2005); *see also, e.g.*, *Joseph v. Wiles*, 223 F.3d 1155, 1162 (10th Cir. 2000) ("*Affiliated Ute*'s holding is limited to omissions as opposed to affirmative misrepresentations."); *Burke v. Jacoby*, 981 F.2d 1372, 1378-79 (2d Cir. 1992) (noting the distinction between a misrepresentation theory, which requires that the plaintiff "demonstrate that he or she relied on the misrepresentation" and an omission theory, for which "[a]ll that is necessary is that the facts withheld be material in the sense that a reasonable investor might have considered them important in the making of th[e] decision" (internal quotation marks omitted)). Thus, to rely on the *Affiliated Ute* presumption, the SDNY Plaintiffs must, at a minimum, show that their claims are based primarily on Barclays's omissions of material information rather than misrepresentations.

They fail to do so, as their theory of liability is based primarily, if not entirely, on Barclays's alleged

misrepresentations, with any omissions playing only a minor role in exacerbating the misrepresentations' effect. After all, the gravamen of the SDNY Plaintiffs' claims is that Barclays promoted its dark pool as a safe place to trade when, in fact, it was not. To that end, the SAC contains many allegations about how Barclays misrepresented this fact through false or inaccurate statements made to assuage investors regarding the threat of predatory HFT trading. (*See, e.g.*, SAC ¶¶ 269-71, 276-78). Notably, even the SDNY Plaintiffs' memorandum of law asserts that the *Affiliated Ute* presumption is available because "Barclays did nothing to dispel the known public perception (which it falsely *promoted*) that its dark pool was fair and even." (SDNY Pls.' Mem. 72 n.58 (emphasis added); *see also* SDNY Pls.' Mem. 73 (stating that the SAC's "allegations . . . are premised on [Barclays's] fraudulent scheme as well as fraudulent misrepresentations. The misrepresentations demonstrate that there was no disclosure of Barclays' scheme"); *id.* at 76 (describing how Barclays's "conduct was contrary to the natural and justified expectations of the public — expectations that Barclays itself fostered")). If a misrepresentation claim could be reframed as an omission claim merely by alleging that a defendant "did nothing to dispel" its own misrepresentation, then the limitation of the *Affiliated Ute* presumption to omissions alone would be meaningless indeed.

Perhaps recognizing the weakness of their claims about the applicability of the fraud-on-the-market and *Affiliated Ute* presumptions, the SDNY Plaintiffs indicated at oral argument that they were really inviting the Court to apply a novel presumption of reliance based on the fairness and integrity of the market. (Tr. 57-58, 61). In support of doing so, the SDNY Plaintiffs point to a footnote in the Second Circuit's decision in *Fezzani*, which observes — in

plain *dictum* — that "[t]here may . . . be some merit to a modified presumption of reliance in market manipulation cases" where the plaintiff alleges that it relied on the price as "being set by an active, arms-length market." *Fezzani*, 716 F.3d at 21 n.2. The Court declines the SDNY Plaintiffs' invitation. For one thing, it was not until oral argument that the SDNY Plaintiffs clarified that they were invoking this novel presumption of reliance, rather than the two presumptions discussed in their papers. *See United States v. Barnes*, 158 F.3d 662, 672 (2d Cir. 1998) ("Normally, we will not consider arguments raised for the first time in a reply brief, let alone at or after oral argument." (internal quotation marks omitted)). In addition, an integrity-of-the-market presumption, as the SDNY Plaintiffs appear to conceive of it, would effectively excuse a plaintiff from pleading or proving reliance for *any* market-manipulation claim simply by asserting that the actions at issue somehow affected the fairness of the market or the extent to which the transaction price was the product of an "arms-length market." In doing so, it would all but eliminate the reliance requirement for a market manipulation claim against any entity involved in the operation of a market for securities, a result that would be inconsistent with the Second Circuit's repeated reiteration of the reliance requirement in market-manipulation cases. *See, e.g.*, *Wilson*, 671 F.3d at 129; *ATSI*, 493 F.3d at 101; *see also In re UBS Auction Rate Sec. Litig.*, No. 08-CV-2967 (LMM), 2010 WL 2541166, at *28 n.19 (S.D.N.Y. June 10, 2010) (declining to recognize a "novel 'integrity of the market' presumption" and noting that that plaintiffs had "not pointed to any support in existing case law or statute which suggests it is a valid theory upon which Plaintiffs can obtain a presumption of reliance"). In short, the SDNY Plaintiffs are not entitled to any presumption of reliance. Given that, and given that they do not allege actual

reliance, their claims against Barclays must be dismissed for failure to state a claim.

B. Great Pacific's Claims Against Barclays

That leaves Great Pacific's claims under California state law for (1) the common law tort of concealment, (2) violation of California's False Advertising Law, Cal. Bus. & Prof. Code § 17500 ("FAL"), and (3) violation of California's Unfair Competition Law, Cal. Bus. & Prof. Code § 17200 ("UCL"). (Pl.'s Mem. Law Opp'n Barclays' Mot. To Dismiss Am. Compl. (14-MD-2589, Docket No. 27) ("Great Pacific Mem.") 8-25)). Great Pacific alleges that Barclays committed the tort of concealment and violated the FAL and UCL by failing to disclose: (1) the amount of aggressive trading in its dark pool; (2) that it was actively recruiting HFT firms to trade in its dark pool; and (3) the significant limitations of Liquidity Profiling. (*Id.* at 10-15). The Court will address those allegations in connection with Great Pacific's concealment claim and then turn to its claims under the FAL and UCL.

1. The Tort of Concealment

A concealment claim under California law requires that

> (1) the defendant must have concealed or suppressed a material fact, (2) the defendant must have been under a duty to disclose the fact to the plaintiff, (3) the defendant must have intentionally concealed or suppressed the fact with the intent to defraud the plaintiff, (4) the plaintiff must have been unaware of the fact and would not have acted as he did if he had known of the concealed or suppressed fact, and (5) as a result of the concealment or suppression of the fact, the plaintiff must have sustained damage.

Lovejoy v. AT&T Corp., 92 Cal. App. 4th 85, 96 (2001); *accord In re Easysaver Rewards Litig.*, 737 F. Supp. 2d 1159, 1177 (S.D. Cal. 2010). Even where the parties do not otherwise have a fiduciary relationship, a commercial transaction between them can create a duty to disclose material facts related to representations made in conjunction with that transaction. *See Warner Constr. Corp. v. City of L.A.*, 466 P.2d 996, 1001 (Cal. 1970); *Hoffman v. 162 N. Wolfe LLC*, 175 Cal. Rptr. 3d 820, 828 n.11 (Cal. Ct. App. 6th Dist. 2014) (similar). Thus, "where a party [to a transaction] volunteers information, . . . the telling of a half-truth calculated to deceive is fraud," even if the statement is not literally false. *See Barnes & Noble, Inc. v. LSI Corp.*, 849 F. Supp. 2d 925, 936 (N.D. Cal. 2012) (internal quotation marks omitted); *Hoffman*, 175 Cal. Rptr. 3d at 831.

Significantly, the requirement that a plaintiff prove that he "would not have acted as he did if he had known of the concealed or suppressed fact," *Lovejoy v. AT&T Corp.*, 92 Cal. App. 4th at 96, requires a plaintiff to plead and prove reliance. *See, e.g.*, *Murphy v. BDO Seidman, LLP*, 6 Cal. Rptr. 3d 770, 781 (Cal. Ct. App. 2d Dist. 2003) (dismissing common law fraud claims as to the plaintiffs who had failed to allege reliance); *see also Rozay's Transfer v. Local Freight Drivers, Local 208*, 850 F.2d 1321, 1328-1331 (9th Cir. 1988) (discussing reasonable reliance as an element of a claim for fraudulent concealment); *In re Lehman Bros. Sec. & ERISA Litig.*, 903 F. Supp. 2d 152, 190 (S.D.N.Y. 2012) ("[U]nder California law, a plaintiff must plead that he or she actually relied on the alleged misrepresentation." (internal quotation marks and alteration omitted)).[9] Additionally, because concealment claims

[9] Great Pacific cites one case from more than fifty years ago for the proposition that reliance is not an element of a concealment claim.

sound in fraud, they are subject to the heightened pleading requirements of Rule 9(b). *See, e.g.*, *Grant v. Aurora Loan Servs., Inc.*, 736 F. Supp. 2d 1257, 1273 (C.D. Cal. 2010); *cf., e.g.*, *Ellington Credit Fund, Ltd. v. Select Portfolio Servicing, Inc.*, 837 F. Supp. 2d 162, 201 (S.D.N.Y. 2011) (applying Rule 9(b) to a claim of fraudulent concealment under New York law). Where "a claim rests on allegations of fraudulent omission, however, the Rule 9(b) standard is somewhat relaxed because a plaintiff cannot plead either the specific time of [an] omission or the place, as he is not alleging an act, but a failure to act." *Asghari v. Volkswagen Grp. of Am., Inc.*, 42 F. Supp. 3d 1306, 1325 (C.D. Cal. 2013) (internal quotation marks omitted).

As noted, Great Pacific's concealment claim is premised the alleged failure of Barclays to disclose: (1) the amount of aggressive trading in its dark pool; (2) that it was actively recruiting HFT firms to trade in its dark pool; and (3) the significant limitations of Liquidity Profiling. (Great Pacific Mem. 10-15). The Court will address each allegation in turn.

a. The Amount of Aggressive Trading in the Dark Pool

Great Pacific points to two ways in which Barclays allegedly concealed the amount of aggressive trading in its dark pool. First, it contends that Barclays distributed misleading promotional materials, including a chart that depicted the largest traders in the dark pool and, according to Great Pacific, insinuated that aggressive trading represented only a small percentage of total activity in the dark pool; Great Pacific also asserts that a similar chart

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(Great Pacific Mem. 17 (citing *Sanfran Co. v. Rees Blow Pipe Mfg. Co.*, 335 P.2d 995, 1002 (Cal Dist. Ct. App. 1st Dist. 1959)). That case, however, appears to be an outlier and, as noted, reliance is always listed as an element of a claim for concealment. *See, e.g.*, *Lovejoy*, 92 Cal. App. 4th at 96.

was provided to members of the putative class and that some versions of the chart omitted "Tradebot" — "a particularly 'toxic' HFT" firm. (Great Pacific Mem. 10; Am. Compl. ¶¶ 44-49). Great Pacific's theory of concealment with respect to these charts, however, is not entirely clear. To the extent it argues that the omission of Tradebot constituted concealment, the claim must fail because Great Pacific fails to allege that it ever received — much less relied upon — that version of the chart. (*See* Great Pacific Mem. 11 ("[A]ll the references to the misleading chart from which Barclays concealed the presence of Tradebot are to the chart included in the 'Liquidity Profiling – Protecting You in the Dark' pitchbook that, according to the NYAG, was disseminated by Barclays during the Class Period to *other* members of the Class." (emphasis added))). Great Pacific alleges that even the chart including Tradebot "le[ft] the clear message that very little trading in the pool was 'aggressive.'" (Am. Compl. ¶ 40). But while Great Pacific describes the chart in some detail — *e.g.*, explaining how it used colors and shapes to illustrate the difference between passive and aggressive trading — it does not provide *any* explanation of how the chart was misleading or why it did not accurately illustrate the actual nature of trading in Barclays's dark pool. (*Id.*; *see* Great Pacific Mem. 9-12 (failing to explain why the chart containing Tradebot was misleading or contain a material omission)). Absent any explanation of why the chart was misleading, it plainly cannot serve as the basis for a concealment claim.

Second, Great Pacific argues that Barclays failed to disclose the true level of aggressive trading in the dark pool, stating — in the same promotional materials (Am. Compl. ¶ 50) — that "aggressive" trading was only 14% of total trading in 2012. (*Id.*; Great Pacific Mem. 10-12). Great

Pacific also contends that Barclays stated elsewhere — although it does say when or where or in what context — that only 9% and 6% of trading in its dark pool was aggressive in 2013 and 2014, respectively. (Am. Compl. ¶ 50; Great Pacific Mem. 10-11). Great Pacific contends that these numbers were inaccurate, relying in part on a metric of aggressive trading called "Execution Aggressiveness," which was used by the New York Attorney General in a complaint against Barclays and allegedly showed that roughly 25 to 30% of trading in the dark pool was aggressive. (Am. Compl. ¶ 51). The problem with that argument, however, is that the term "aggressive" is, to a large degree, subjective; that is, Great Pacific makes no claim that there is a commonly accepted, let alone inherent or definitive, definition of the term. Thus, the mere fact that the New York Attorney General uses, and Great Pacific favors, a different metric of aggressive trading does not in itself render Barclays's statements about the composition of its dark pool false or misleading. Nor did Barclays, when it represented how much trading in its dark pool was aggressive, have an obligation to disclose that others might have a different opinion of what the term aggressive means. *See, e.g.*, *In re Salomon Analyst Level 3 Litig.*, 373 F. Supp. 2d 248, 252 (S.D.N.Y. 2005) (holding that a defendant "who sets out his own opinion . . . does not omit a material fact by failing to note that others may have different opinions").

Additionally, Great Pacific contends that Barclays's representations were false by alleging that Barclays itself disclosed to an HFT firm that aggressive trading constituted 25% of trading in its dark pool. (Am. Compl. ¶ 52). That argument, however, relies on a comparison of apples to oranges. The 14% figure provided by Barclays and supposedly relied upon by Great Pacific encompassed all

trading in the dark pool. (*Id.* ¶¶ 41, 50). The 25% figure, by contrast, corresponded only to the orders *taking* liquidity. (*Id.* ¶ 52). That is, the 25% figure described only a subset of the orders in the dark pool. Great Pacific does not point to any information suggesting that the subset is representative of all trades in the dark pool or that the subset is *more* aggressive than the other trades in the dark pool. It follows that the difference between these numbers does not support the conclusion that Barclays concealed material information. *See Okla. Firefighters Pension & Ret. Sys. v. Student Loan Corp.*, 951 F. Supp. 2d 479, 496-97 (S.D.N.Y. 2013) (rejecting a claim under Section 10(b) in part because the plaintiffs "compare[d] apples to oranges" in comparing "two determinations requir[ing] wholly different accounting judgments and calculations"); *see also Fait v. Regions Fin. Corp.*, 655 F.3d 105, 113 (2d Cir. 2011) (holding where an alleged fraudulent or material misstatement could not be judged against an "objective standard," to state a viable claim, the "plaintiff must allege that [the] defendant's opinions were both false and not honestly believed when they were made"). Finally, and in any event, Great Pacific's claims regarding the 2013 and 2014 measures of aggressive trading fail both for the foregoing reasons and because Great Pacific does not provide any details regarding where or in what context Barclays made those statements. *Vess v. Ciba-Geigy Corp. USA*, 317 F.3d 1097, 1106 (9th Cir. 2003) ("Averments of fraud must be accompanied by the who, what, when, where, and how of the misconduct charged." (internal quotation marks omitted)). Accordingly, Great Pacific fails to plead a claim for concealment based on Barclays's representations regarding the amount of trading in the dark pool.

b. Barclays Recruitment of HFTs

Next, Great Pacific contends that Barclays's efforts to court HFT firms, especially aggressive HFT firms, constituted concealment because Barclays knew that ordinary investors were using the dark pool for the purpose of avoiding such firms. (Great Pacific Mem. 12-14). Great Pacific thus appears to contend that Barclays's suggestion that its dark pool was safe and that it was taking steps to limit aggressive trading obligated it to disclose to Great Pacific that it was also taking steps to court HFT firms and provide those firms with information that could be used to further their exploitative trading strategies. (*Id.* at 13). In other words, Barclays's statements regarding the safety of the dark pool were, Great Pacific alleges, the sort of "half-truth calculated to deceive" from which a duty to disclose material information can arise. *Hoffman*, 175 Cal. Rptr. 3d at 831. Great Pacific identifies three principal actions that were allegedly inconsistent with Barclays's statements regarding the safety of its dark pool and that it was therefore obligated to disclose. (Great Pacific Mem. 13). These are (1) "disclos[ing] information to the HFTs to encourage them to increase their activity" in the dark pool, including the "logic" of the servers operating the dark pool; (2) working with the HFT firm Tradebot to change its rating so as to appear less aggressive; and (3) providing HFT firms with transaction information, including volume by participant type and toxicity level. (*Id.* at 12-13 (internal quotation marks omitted); *see* Am. Compl. ¶ 62).

Whether or not Barclays's failure to disclose this information in promoting its dark pool constituted a material omission, Great Pacific nevertheless fails to state a concealment claim on these allegations because it fails to adequately plead reasonable reliance. In discussing reliance,

Great Pacific asserts that it "would have acted differently" had it known about Barclays's recruitment of HFT firms and that Barclays's omissions were material to its decision-making. (Am. Compl. ¶¶ 7, 68, 85; Great Pacific Mem. 17). But Great Pacific fails to provide any non-conclusory allegations explaining the connection between the alleged omissions and its decision to trade (or not to trade) in Barclays's dark pool. That is, Great Pacific has not provided any plausible basis for the conclusion that it would have acted differently had it known about Barclays's alleged interaction with HFT firms. *See, e.g.*, *Herskowitz v. Apple Inc.*, 940 F. Supp. 2d 1131, 1148 (N.D. Cal. 2013) (holding that simply alleging that a plaintiff reasonably relied on the defendant's statement is insufficient to adequately plead reliance under Rule 9(b)); *In re Lehman Bros. Sec. & ERISA Litig.*, 903 F. Supp. 2d 152, 190 (S.D.N.Y. 2012) (applying *Mirkin v. Wasserman*, 5 Cal. 4th 1082, 1093 (1993), to conclude that the plaintiffs had not sufficiently pleaded reliance where they alleged only that "it is probable, if not certain, that it would not have purchased the subject . . . [s]ecurities absent the misrepresentations and concealment of information" contained in certain documents when they never alleged that they had actually read the documents); *Dotson v. Metrociti Mortgage*, No. S-10-CV-3484 (KJM) (DAD), 2011 WL 3875997, at *4 (E.D. Cal. Aug. 31, 2011) (holding that a plaintiff does not adequately plead reliance by suggesting that it continued performing an action without "mak[ing] clear the connection, if any, between the fraud and the[] continued [action]").

The closest Great Pacific comes to alleging such a connection is its statement that it wanted to "avoid venues" in which HFT firms traded. (Am. Compl. 68). But the Amended Complaint does not include any non-conclusory allegations from which the Court could conclude that it is

plausible that Great Pacific would have acted differently had it known the truth about Barclays's relationship with these HFT firms. For example, Great Pacific does not provide any detail suggesting that it avoided venues in which HFT firms were known to exist or that it ever decided to trade on a venue *because* that venue did not have HFT firms. Similarly, it does not point to any internal memoranda or discussions with clients suggesting that the presence or absence of HFT firms was an important consideration in deciding where to place its trades. Indeed, Great Pacific does not even allege that it stopped trading in Barclays's dark pool after discovering Barclays's relationship with HFT firms.[10] To be clear, the Court is not suggesting that any of these examples would be necessary to adequately plead reliance. But Plaintiff must provide something more than the bare-bones allegations of reliance in the Amended Complaint.

Moreover, to the extent that Great Pacific suggests that it avoided venues in which any HFT firms traded and that, based on Barclays omissions, it mistakenly believed that the Barclays's dark pool did not contain HFTs (Am.

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[10] In fact, Barclays contends — and Great Pacific does not appear to dispute — that Great Pacific continues trading in the dark pool, casting great doubt on Great Pacific's assertion that it would have acted differently had it known about Barclays's contact with the HFT Firms. (*See* Barclays' Mem. Law Supp. Mot. To Dismiss Am. Compl. (14-MD-2589, Docket No. 24) ("Barclays Mem.") 3; *see* Great Pacific Mem. 19 n.18; Barclays Reply Mem. Further Supp. Its Mot. To Dismiss Am. Compl. (14-MD-2589, Docket No. 33) ("Barclays's Reply Mem.") 7). Although that fact alone might seem sufficient to negate reliance, it does not appear to be in the Amended Complaint or any other document that the Court may consider on a motion to dismiss. *See Thomas v. Calero*, 824 F. Supp. 2d 488, 497 (S.D.N.Y. 2011) ("When addressing a 12(b)(6) motion, the court may not consider evidence proffered by the moving party . . . ."). Accordingly, the Court does not rely on it here.

Compl. ¶¶ 60, 68), any such reliance was plainly unreasonable. After all, in the same presentation discussed above — that is, the presentation on which Great Pacific alleges it relied as the basis for claims in this lawsuit — Barclays stated that 30% of its dark pool was composed of electronic liquidity providers, "Barclays' term for high[-]frequency traders." (Am. Compl. ¶ 39; *id.*, Ex. A, at 8; *id.*, Ex. A, at 9). As such, no juror could conclude that it was reasonable for Great Pacific to have believed that Barclays's dark pool did not contain a significant number, much less any, HFT firms. *See, e.g.*, *Manderville v. PCG & S Grp.*, 55 Cal. Rptr. 3d 59, 69 (Cal. Ct. App. 4th Dist. 2007) ("[W]hether a party's reliance was justified may be decided as a matter of law if reasonable minds can come to only one conclusion based on the facts." (internal quotation marks omitted). Accordingly, Great Pacific fails to plead a claim for concealment based on Barclays's recruitment of HFT firms.

c. Limitations of Liquidity Profiling

Great Pacific's final theory of concealment is that Barclays represented that its Liquidity Profiling service could monitor and protect against "aggressive" HFT firms when, in reality, it "offered little or no benefit to [Great Pacific] and Barclays' other clients." (Great Pacific Mem. 14 (internal quotation marks omitted); Am. Compl. ¶¶ 54, 56). As noted, Liquidity Profiling involved two steps. First, Barclays categorized firms trading in the dark pool as either aggressive, neutral, or passive. (*Id.*, Ex. A at 8-9). Second, it gave traders using the dark pool the option to block entities with certain ratings from trading against it. (Am. Compl., Ex. A at 8-9). Great Pacific identifies several alleged shortcomings with Liquidity Profiling and contends that Barclays was obligated to reveal those shortcomings when promoting the service. The principal shortcomings included the fact that Barclays did not

update the profiles of individual traders, that Barclays altered the profiles of certain traders to suit Barclays's interests, and that Barclays overrode certain profiles to make aggressive traders appear safer and avoid being blocked as potential counterparties. (Great Pacific Mem. 14; Am. Compl. 56).

Once again, Great Pacific's claim founders on the reliance requirement. Notably, Great Pacific concedes that it never used, or sought to use, the counterparty blocking service of Liquidity Profiling. (Great Pacific Mem. 15). Instead, Great Pacific claims that it relied on the effectiveness of Liquidity Profiling when deciding to trade in the dark pool because it "wanted to avoid trading in venues where proprietary or predatory traders existed." (Am. Compl. ¶ 68; Great Pacific Mem. 15 n. 13). As the Barclays presentation attached to the Amended Complaint makes clear, however, Liquidity Profiling was never intended, or advertised, as a way to remove predatory or toxic HFT firms from the dark pool. (*See* Am. Compl., Ex. A). To the contrary, the counterparty blocking feature (the one that Great Pacific alleges was ineffective) was premised on the fact that HFT firms *were* trading in the dark pool. Put simply, to the extent that Great Pacific alleges it relied on the Liquidity Profiling service, that reliance was unreasonable as a matter of law. *See, e.g.*, *Manderville v. PCG & S Grp.*, 55 Cal. Rptr. 3d 59, 69 (Cal. Ct. App. 4th Dist. 2007) ("[W]hether a party's reliance was justified may be decided as a matter of law if reasonable minds can come to only one conclusion based on the facts." (internal quotation marks omitted)); *see also, e.g.*, *Davis v. HSBC Bank Nevada, N.A.*, 691 F.3d 1152, 1163 (9th Cir. 2012) (dismissing the plaintiffs' fraudulent concealment claim under California law after concluding that the plaintiff "cannot demonstrate justifiable reliance on the purported failure

to disclose"); *Hoffman*, 175 Cal. Rptr. 820 at 833 ("After establishing actual reliance, the plaintiff must show that the reliance was reasonable by showing that (1) the matter was material in the sense that a reasonable person would find it important in determining how he or she would act; and (2) it was reasonable for the plaintiff to have relied on the misrepresentation." (internal citations omitted)).

2. The FAL and UCL

Finally, the Court turns to Great Pacific's claims under the FAL and UCL. Claims under the FAL and UCL involve similar elements and, for that reason, courts frequently analyze them together. *See, e.g.*, *In re Sony Gaming Networks & Customer Data Sec. Breach Litig.*, 903 F. Supp. 2d 942, 969 (S.D. Cal. 2012) (treating the reliance requirement under the UCL and FAL as identical); *Kwikset Corp. v. Superior Court*, 246 P.3d 877, 883-84 (Cal. 2011). The scope of the UCL is comprehensive: It "prohibits, and provides civil remedies for, unfair competition, which it defines as any unlawful, unfair or fraudulent business act or practice." *Id.* at 883 (internal quotation marks omitted). "Unlawful" practices under the UCL include "anything that can properly be called a business practice and that at the same time is forbidden by law be it civil, criminal, federal, state, or municipal, statutory, regulatory, or court-made." *Sybersound Records, Inc. v. UAV Corp.*, 517 F.3d 1137, 1151-52 (9th Cir. 2008) (internal quotation marks and alterations omitted). Fraudulent practices include anything that is likely to deceive members of the general public. *See Kasky v. Nike, Inc.*, 45 P.3d 243, 250 (Cal. 2002).[11] The FAL is "equally comprehensive within the narrower field of false and misleading

[11] As Great Pacific does not allege any "unfair" practices within the meaning in the UCL, that definition is not relevant here.

advertising." *Kwikset*, 246 P.3d at 884. The FAL makes it unlawful "to induce the public to enter into any obligation" by means of a statement "which is known, or which by the exercise of reasonable care should be known, to be untrue or misleading." Cal. Bus. Prof. Code § 17500. Like the UCL, the FAL requires only "that members of the public are likely to be deceived" by a particular statement; the statement need not be actually false. *Kasky*, 45 P.3d at 250 (internal quotation marks omitted).

To possess standing under the UCL or FAL, "a plaintiff's economic injury [must] come 'as a result of' the unfair competition or a violation of the false advertising law." *Kwikset*, 246 P.3d 877 at 887. The California Supreme Court has determined that the phrase "'as a result of' requires a showing of a causal connection or reliance on the alleged misrepresentation." *Id.* (internal quotation marks omitted). Where a plaintiff's claims sound in fraud, as Great Pacific's claims do here, the plaintiff "must demonstrate actual reliance on the allegedly deceptive or misleading statements, in accordance with well-settled principles regarding the element of reliance in ordinary fraud actions." *Id.* at 888 (quoting *In re Tobacco II Cases*, 207 P.3d 20, 26 (Cal. 2009)). Further, in a putative class action, the UCL and the FAL require that the named class representative establish reliance; the other members of the class are not required to do so. *See*, *In re Sony Gaming Networks*, 903 F. Supp. 2d at 969 & n.24; *Kwikset*, 51 Cal. 4th at 326-27 & n.9. Finally, fraud-based claims under the UCL or FAL must meet Rule 9(b)'s heightened pleading standards. *See In re HSBC BANK, USA, N.A., Debit Card Overdraft Fee Litig.*, 1 F. Supp. 3d 34, 54 (E.D.N.Y. 2014); *In re Ferrero Litig.*, 794 F. Supp. 2d 1107, 1114 (S.D. Cal. 2011) (citing *Vess v. Ciba-Geigy Corp. USA*, 317 F.3d 1097, 1103-06 (9th Cir. 2003)).

Applying those standards here, Great Pacific's UCL and FAL claims fail as a matter of law. First, Great Pacific's claims premised on Barclays's alleged failure to adequately disclose the level of aggressive trading in its dark pool are deficient for the same reason its related concealment claim was: The Amended Complaint does not identify any materially false or misleading statement by Barclays. *See Hughes v. Ester C Co.*, 930 F. Supp. 2d 439, 467 (E.D.N.Y. 2013) (observing that a claim under the FAL requires "statements in the advertising [that] are untrue or misleading" (internal quotation marks omitted)); *VP Racing Fuels, Inc. v. Gen. Petroleum Corp.*, 673 F.Supp.2d 1073, 1088 (E.D. Cal. 2009) (same). Second, Great Pacific's UCL and FAL claims premised on Barclays's courtship of HFT firms and its Liquidity Profiling service fail because, as with its concealment claims, Great Pacific fails to allege reasonable reliance on any of Barclays's statements or omissions. As noted, fraud-based claims under the UCL and FAL require that "the named Class members . . . allege actual reliance to have standing." *In re Sony Gaming Networks & Customer Data Sec. Breach Litig.*, 903 F. Supp. at 970; *Kwikset Corp. v. Superior Court*, 246 P.3d at 888 (describing actual reliance as an element of statutory standing under the FAL); *In re Tobacco II Cases*, 207 P.3d at 26 (stating that a plaintiff "proceeding on a claim of misrepresentation as the basis of his or her UCL action must demonstrate actual reliance on the allegedly deceptive or misleading statements, in accordance with well-stated principles regarding the element of reliance in ordinary fraud actions"). But, as discussed above in reference to Great Pacific's concealment claims, Great Pacific fails to allege reasonable actual reliance on any statements or omissions by Barclays.

Perhaps recognizing its failure to adequately allege actual reliance, Great Pacific urges the Court to adopt a presumption of reliance based on the California Supreme Court's decision in *In re Tobacco II Cases*, which involved a UCL claim against various tobacco companies. (Great Pacific Mem. 21). With respect to the reliance requirement of the UCL, the Court adopted the holdings of two lower courts that a showing of actual reliance on a particular statement was unnecessary because the defendant tobacco companies had engaged in a "decades-long campaign . . . to conceal the health risks of [their] product while minimizing the growing consensus regarding the link between cigarette smoking and lung cancer and, simultaneously, engaging in saturation advertising targeting adolescents, the age group from which new smokers must come." *Tobacco II Cases*, 207 P.3d at 40 (internal quotation marks omitted)). The Court reasoned that, in light of that campaign, it would be impossible to demonstrate actual reliance on any particular statement, and thus held that the plaintiffs could instead presume reliance on the defendants' ubiquitous, "saturation" advertising campaign. *Id.* The Court, however, limited the presumption to cases "where . . . a plaintiff alleges exposure to a long-term advertising campaign," *id.*, and courts have declined to apply it to UCL and FAL claims in the absence of such a substantial campaign, *see*, *e.g.*, *Mazza v. Am. Honda Motor Co.*, 666 F.3d 581, 596 (9th Cir. 2012) ("Honda's product brochures and TV commercials fall short of the "extensive and long-term [fraudulent] advertising campaign" at issue in the *Tobacco II Cases* (alteration in original)); *Marchante v. Sony Corp. of Am.*, 801 F. Supp. 2d 1013, 1019 (S.D. Cal. 2011) (finding the parallel with the *Tobacco II Cases* "unconvincing" where the plaintiff alleged only a "minute fraction of what was alleged in the tobacco cases" and therefore declining to presume reliance); *Pfizer Inc. v.*

Superior Court, 105 Cal.Rptr.3d 795, 805 (Cal. Ct. App. 2d Dist. 2010) (declining to apply the *Tobacco II Cases* presumption to Listerine's "effective as floss campaign," which was limited in scope and lasted for only about six months).

In light of that limitation, there is no basis to apply the *Tobacco II Cases* presumption here. The Amended Complaint identifies only one purported advertisement to which Great Pacific was exposed during the class period — a presentation containing a discussion of Liquidity Profiling. (Am. Compl. ¶¶ 39-42).[12] And while Great Pacific makes a passing reference to other marketing materials, it does not allege any facts regarding those additional materials. (*Id.* at ¶ 42; Great Pacific Mem. 20 n.19). For that reason, Great Pacific has not come anywhere near pleading that it was exposed to the sort of sustained, "saturation advertising" campaign that persuaded the Court to presume reliance in the *Tobacco II Cases*. 207 P.3d at 40. To the contrary, applying the *Tobacco II Cases* presumption here would all but eliminate the actual reliance requirement for UCL and FAL claims — a requirement that the California Supreme Court explicitly reaffirmed in the *Tobacco II Cases* themselves, *see* 207 P.3d at 26; *see also Kwikset*, 51 Cal. 4th at 326 (examining the discussion of the reliance requirement in the *Tobacco II Cases* in analyzing claims under the UCL and FAL) — by allowing a plaintiff to simply assert in conclusory fashion that it was exposed to advertising. Accordingly, Great Pacific's UCL and FAL claims must also be dismissed.[13]

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[12] The Court assumes, without deciding, that this presentation constituted advertising within the meaning of the FAL. (*Compare* Barclays Mem. 21-22, *with* Great Pacific Mem. 20 n.19).

[13] In light of the Court's conclusion that Plaintiffs fail to state a claim against Barclays, the Court need not, and does not, address Barclays's

CONCLUSION

For the reasons stated above, Defendants' motions to dismiss the Complaints in these cases are GRANTED, and the Complaints are dismissed in their entirety. That leaves only the question of whether Great Pacific and the SDNY Plaintiffs should be granted leave to amend their complaints for a second and third time, respectively. The SDNY Plaintiffs do not ask for leave to amend, and the Court will not grant them leave *sua sponte*, both because amendment would likely be futile and because, in granting leave to file a second amended complaint, the Court expressly warned the SDNY Plaintiffs that they would not be given another opportunity to address the issues raised in Defendants' motions to dismiss. *See, e.g.*, *Clark v. Kitt*, No. 12-CV-8061 (CS), 2014 WL 4054284, at *15 (S.D.N.Y. Aug. 15, 2014) (holding that the plaintiff's failure to remedy the complaint's deficiencies identified by an earlier motion to dismiss "is alone sufficient ground to deny leave to amend"); *see also, e.g.*, *Ruotolo v. City of N.Y.*, 514 F.3d 184, 191 (2d Cir. 2008) (affirming the district court's denial of leave to amend in part because of the previous opportunities that the plaintiff had received to amend the complaint). (*See* 14-CV-2811, Docket No. 246).

Great Pacific, however, does seek leave to amend (Great Pacific Mem. 25), and its request is on firm ground given "the liberal standard set forth in Rule 15" of the Federal Rules of Civil Procedure." *Loreley Fin. No. 3 Ltd.*, 2015 WL 4492258, at *24. As discussed, many of the deficiencies in the Amended Complaint turn on Great

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argument that the Court should strike allegations allegedly lifted from a complaint filed by the New York Attorney General. (*See* Barclays' Mem. Law Supp. Mot. To Dismiss Second Consol. Am. Compl. (14-MD-2589, Docket No. 16) 11-12; Barclays Mem. 10-12). Nor does the Court address Barclays's other arguments for dismissal.

Pacific's failure to plead sufficient facts to establish a plausible claim rather than an inherently flawed legal theory. And while Great Pacific was also granted leave to amend its complaint after Barclays's initial motion to dismiss and warned that it would not be given another opportunity to address the deficiencies alleged by Barclays (*see* Barclays's Reply Mem. 10), the initial motion and the present motion are not identical and the earlier amendment was made "in the critical absence of a definitive ruling." *Loreley Fin. No. 3 Ltd.*, 2015 WL 4492258, at *25. Put simply, the Court cannot say that Great Pacific is unable to plead facts sufficient to survive a motion to dismiss and, therefore, that amendment would necessarily be futile. *See Lucente v. Int'l Bus. Machines Corp.*, 310 F.3d 243, 258 (2d Cir. 2002). ("[A]mendment . . . is futile if the proposed claim could not withstand a motion to dismiss pursuant to Federal Rule of Civil Procedure 12(b)(6)."). Accordingly, Great Pacific is granted leave to file a second amended complaint no later than **four weeks** from the date of this Opinion and Order. That said, because Great Pacific's case (15-CV-168) will be the only matter still pending in the MDL, the parties are ordered to show cause in writing no later than **two weeks** from the date of this Opinion and Order why the Court should not suggest to the JPML that 15-CV-168 be remanded to the Central District of California and the MDL closed.

As discussed at the outset of this Opinion and Order, the Court's task in deciding the present motions was not to wade into the larger public debate about HFT that was sparked by Michael Lewis's book *Flash Boys*. Lewis and the critics of HFT may be right in arguing that it serves no productive purpose and merely allows certain traders to exploit technological inefficiencies in the markets at the expense of other traders. They may also be right that

there is a need for regulatory or other action from the SEC or entities such as the Exchanges and Barclays. Those, however, are debates and tasks for others. The Court's narrow task was, instead, to decide whether the Complaints in these cases were legally sufficient to survive Defendants' motions to dismiss. Having concluded that they are not, the Complaints must be and are dismissed. The Clerk of Court is directed to terminate 14-MD-2589, Docket Nos. 7, 15, and 23, and to close all member cases except for 15-CV-168.

SO ORDERED.

Date: August 26, 2015
New York, New York

/s/ Jesse M. Furman
JESSE M. FURMAN
United States District Judge

APPENDIX D

IN THE UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF NEW YORK

CIVIL ACTION NO. 1:14-CV-02811-JMF (CONSOLIDATED/CLASS ACTION)

CITY OF PROVIDENCE, RHODE ISLAND, PLUMBERS AND PIPEFITTERS NATIONAL PENSION FUND, EMPLOYEES' RETIREMENT SYSTEM OF THE GOVERNMENT OF THE VIRGIN ISLANDS, STATE-BOSTON RETIREMENT SYSTEM, AND FÖRSTA AP-FONDEN Individually and on Behalf of All Others Similarly Situated,

Plaintiffs,

vs.

BATS GLOBAL MARKETS, INC., CHICAGO STOCK EXCHANGE, INC., DIRECT EDGE ECN, LLC, THE NASDAQ STOCK MARKET LLC, NASDAQ OMX BX, INC., NEW YORK STOCK EXCHANGE, LLC, NYSE ARCA, INC., BARCLAYS PLC, BARCLAYS CAPITAL, INC.,

Defendants.

SECOND CONSOLIDATED AMENDED COMPLAINT FOR VIOLATION OF THE FEDERAL SECURITIES LAWS

(November 24, 2014)

SUMMARY OF ALLEGATIONS

1. This securities class action is brought on behalf of public investors who purchased and/or sold shares of stock in the United States between April 18, 2009 and the present (the "Class Period") on a registered public stock exchange generated by defendants (collectively, the "Exchanges")[1] or on the alternative trading venue operated by Barclays PLC through its subsidiary Barclays Capital, Inc. (collectively, "Barclays") identified herein (the Exchanges and Barclays, collectively, the "Defendants"), and were injured as a result of the misconduct detailed herein (the "Class").

2. This case arises out of a scheme and wrongful course of business whereby the Exchanges and Barclays employed devices, contrivances, manipulations and artifices to defraud in a manner that was designed to and did manipulate the U.S. securities markets and the trading of equities on those markets, diverting billions of dollars annually from buyers and sellers of securities and generating billions more in ill-gotten kickback payments for Defendants.[2]

3. Contrary to the duties imposed upon them by law, U.S. Securities and Exchange Commission ("SEC") rules, the Financial Industry Regulatory Authority ("FINRA") and their own rules and regulations, Defend-

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[1] Defendants are nationally registered securities exchanges on which U.S. equity stocks were traded during the Class Period, and include BATS Global Markets, Inc., Chicago Stock Exchange, Inc., Direct Edge ECN, LLC, The NASDAQ Stock Market LLC, NASDAQ OMX BX, Inc., New York Stock Exchange, LLC and NYSE Arca, Inc.

[2] In addition to operating its own dark pool, Barclays also ran its own proprietary HFT desk, itself engaging in many of the same predatory practices of HFT as more fully described herein.

ants participated in the scheme and wrongful course of business complained of herein whereby the Exchanges and Barclays provided certain market participants – *i.e.,* firms engaged in high-frequency trading ("HFT firms"), which generated enormous trading volume on and hence enormous revenues for the Exchanges – with material, non-public information and trading advantages so that those market participants could use the advantage obtained to manipulate the U.S. securities markets to the detriment of Plaintiffs and the Class. The Exchanges, having evolved from member-owned not-for-profit entities that focused solely on trade-matching to for-profit enterprises with the financial incentive to increase order flow from HFT firms, engaged in a manipulative and deceptive course of conduct by providing those firms with complex order types, proprietary data feeds and co-location services, allowing them to, *inter alia*, access enhanced trading information at faster speeds and position their trades to the detriment of Plaintiffs and the Class.

4. Notwithstanding their legal obligations and duties to provide for orderly and honest trading and to match the bids and orders placed on behalf of investors at the best available price, and in direct conflict with their own public statements to their own customers and investors – each of which only reinforced the understanding that Plaintiffs and all Class members had as to the integrity of the markets on which they traded – the Exchanges and Barclays demanded and received substantial kickback payments in exchange for providing HFT firms access to material trading data via preferred access to exchange floors, and enriched data feeds. To satisfy the demands of HFT firms and attract order flow (and thus more fees), the Exchanges also designed and implemented hundreds of new complex "order types" – prepro-

grammed commands traders use to tell the Exchanges how to handle their bids and offers – with the knowledge that those same HFT firms would use these order types to detect investors' trading patterns and trade in front of them to their detriment.

5. Selling and creating products designed to cater almost exclusively to the profit motives of the Exchanges and HFT firms falls outside of the traditional, quasi-governmental role of a stock exchange. These products and services are not offered to regulate the markets and benefit the public interest. Instead, these products and services represent a new era of business activities for the Exchanges as they increasingly search for ways – ***in furtherance of their own self-interest and irrespective of the public's interest, and outside the ambit of their delegated governmental function*** – to increase order flow. Such conduct, by any measure, serves no regulatory function.

6. Also in an effort to increase their own trading volumes – and therefore revenues – the Exchanges and Barclays encourage HFT firms to exploit their other customers by providing kickback payments to HFT firms for directing their trades to their own trading venues that they and the HFT firms knew were subject to informational asymmetries as a result of Defendants' scheme and wrongful course of business. Additionally, the Exchanges purchased retail and institutional order flow from various retail brokerages in order to provide victims to HFT firms' predatory practices.

7. Plaintiffs and the Class – justifiably relying on the fairness and integrity of the U.S. securities markets – traded on Defendants' Exchanges, misled by Defendants' scheme to present their Exchanges as fair and impartial securities markets while in fact rigging the markets in favor of a type of trader whose presence and activities on

the Exchanges furthered Defendants' business interests at the expense of the interests of investors like Plaintiffs and the Class.

8. Defendants utilized devices, contrivances, manipulations and artifices to defraud, which operated as a fraud and deceit on Plaintiffs and the Class in violation of Section 10(b) of the Securities Exchange Act of 1934 (the "Exchange Act") and Rule 10b-5 promulgated thereunder. Defendants' misconduct rigged the market and manipulated the prices at which shares were traded during the Class Period, in blithe disregard of the fundamental assumption that all U.S. investors have that they will be treated fairly, as well as the statutory and regulatory requirements designed to achieve that end,[3] causing substantial damage to Plaintiffs and the Class as a result thereof.[4]

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[3] Those rules include SEC Regulation National Market System ("Reg NMS"), implemented in 2007, which requires that investors receive the best price executions for their bids and orders.

[4] As set forth more fully herein, numerous government and regulatory agencies are now investigating this misconduct. The SEC has been investigating the Exchanges' practices of selling co-location and direct data feeds, and providing complex order types to HFT firms, and on multiple occasions has issued fines for misconduct relating to such practices. Since late March, the U.S. Federal Bureau of Investigation ("FBI") and the U.S. Department of Justice ("DOJ") have both announced they are investigating HFT. Likewise, New York Attorney General Eric Schneiderman (the "NY AG"), the Commodity Futures Trading Commission ("CFTC") and the SEC are also probing the unlawfulness of HFT. On June 6, 2014, SEC Chairman Mary Jo White ("White") unveiled a sweeping set of initiatives to address concerns about HFT, including the possible conflicts of interest created by the mass of complex order types. *See* ¶¶ 280-89 *infr*a for further detail on past and pending regulatory actions.

Defendants' Scheme and Wrongful Course of Business

9. Throughout the Class Period, the Exchanges engaged in manipulative and deceptive conduct, and participated in such conduct by others by: (i) charging kickback payments to HFT firms in exchange for situating HFT firms' servers in close proximity to the Exchanges' own order matching servers ("co-location") to create informational asymmetries and otherwise rig the market so that HFT firms could profit from access to, and utilization of, material non-public information;[5] (ii) charging kickback payments to HFT firms in exchange for providing enhanced proprietary data feeds that allow HFT firms to receive enriched trading information at faster delivery speeds than the widely available securities information processor ("SIP") feeds; and (iii) designing and implementing new and exceedingly complex order types to attract order flow and fees from HFT firms and make it possible for those firms to pick off of and manipulate investors' trades, to the detriment of Plaintiffs and the Class.

10. Through these practices, the Exchanges formed a symbiotic relationship with HFT firms whereby both seek to increase their bottom lines at the expense of Plaintiffs and the Class. To survive in this new competitive market and to satisfy the demands of their own stakeholders, the Exchanges have created and employed exploitative devices and practices that favor their most-valued HFT customers, while Plaintiffs and the Class have unknowingly maintained their confidence in the in-

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[5] By one account, as of 2010, Exchanges collected $1.8 billion on an annual basis from HFT firms in co-location fees alone. Peter Cohan, *Rigged Market: How Latency Arbitrage Picks $3 Billion From Your Pockets* (updated June 6, 2010), *available at* http://www.dailyfinance.com/2010/06/05/rigged-market-latency-arbitrage-3-billion/.

tegrity of the U.S. equities market. As two of the foremost experts on the predation of the new stock market have aptly explained:

> ***The primary purpose of the stock exchanges has devolved to catering to a class of highly profitable market participants called high frequency traders, or HFTs, who are interested only in hyper-short term trading, investors be damned.*** The stock exchanges give these HFTs perks and advantages to help them be as profitable as possible, even if doing so adversely affects you, the investors, because HFT firms are the exchanges' biggest customers.[6]

11. Barclays likewise engaged in similar misconduct in operating its own alternative trading venue for the benefit of HFT and to the detriment of other market participants. In an effort to grow its dark pool, Barclays also failed to dispel the investing public's justifiable presumption that Barclays ran its dark pool as fair market, instead actively misrepresenting the way it operated its dark pool in order to lure institutional investors and thereby knowingly subject them to HFT abuses described herein and including those engaged in by Barclays itself. As detailed herein, Barclays has been sued by the NY AG for this and related misconduct.

12. Defendants' wrongful acts and unlawful practices constitute the manipulative use of devices and contrivances in violation of the Exchange Act and the SEC rules promulgated thereunder and constitute a scheme and

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[6] Sal Arnuk & Joseph Saluzzi, *Broken Markets: How High Frequency Trading and Predatory Practices on Wall Street are Destroying Investor Confidence and Your Portfolio* 1 (2012) (emphasis in original).

wrongful course of business that has operated as a fraud or deceit on investors on U.S.-based exchanges for at least the past five years.

13. Defendants' manipulative scheme involved various acts designed to favor HFT firms and disfavor ordinary investors. Indeed, the essence of Defendants' manipulative scheme was to rig the markets so as to serve ordinary investors up to the HFT firms as prey. Defendants' unlawful practices were designed to and did position HFT firms to identify investors' desire to transact in securities and then enable those firms to front-run those same investors in transactions that generated almost riskless profits for HFT firms and a constant stream of revenue for Defendants in the form of kickback payments for providing HFT firms faster access to material data before it was disclosed to other market participants. During the Class Period, some HFT firms had average holding periods of just seconds and some did not report a single losing day of trading over periods ranging from several months to half a decade.

14. For example, leading HFT firm Virtu Financial, Inc. disclosed in March that it had just one day of trading losses in five years. At one point, Tradebot, an HFT firm headed by the founder of defendant BATS Global Markets, Inc., had not had a losing day of trading in four years and typically held stocks for only 11 seconds. Likewise, the proprietary HFT trading desks of JP Morgan, Bank of America, Citigroup and Goldman Sachs combined posted 244 winning trading days against zero losses in the first quarter of 2010.

15. Moreover, in order to attract HFT firms and the tremendous trading volume (and hence fees) they generated, the Exchanges rigged their markets in a way that transferred the obligation to pay fees to the Exchanges

on most transactions from the HFT firms to investors such as Plaintiffs and the Class. Thus, the Exchanges not only gave the HFT firms unfair trading advantages over investors like Plaintiffs and the Class, but made such investors pay for the privilege of being fleeced. As the Exchanges and Barclays intended in taking these steps, their markets were now structured such that the HFT firms were free to engage in the predatory misconduct detailed herein – such as electronic front-running, rebate arbitrage, latency arbitrage, spoofing, layering, and contemporaneous trading – while Plaintiffs' and Class members' bids and orders were not being given time priority nor fulfilled at the best available prices, all for the benefit of Defendants and HFT firms. In return for the Exchanges and Barclays diverting billions of dollars from Plaintiffs and the Class to HFT firms, including by means of providing those firms with access to material non-public data, those firms paid the Exchanges and Barclays massive sums of money.

16. Public investors are entitled to be treated fairly and honestly when they trade equities on registered national securities exchanges. Defendants' manipulation of the U.S. securities markets for pure corporate benefit, however – and not for any governmental or regulatory purpose – threatens to erode the investor confidence that is so vital to well-functioning capital markets. In addition to risking the end of trust in the U.S. capital markets, the misconduct alleged herein has siphoned off billions of dollars from private and public pension funds and individual retirement accounts that millions of Americans depend upon. Defendants' misconduct has deprived these investors of the very "market integrity" the Supreme Court acknowledges all "'buyer[s] [and] seller[s] . . . rely on.'" *Basic Inc. v. Levinson*, 485 U.S. 224, 247 (1988) (citation

omitted). Instead, Plaintiffs and the Class have been victimized in what can fairly be characterized as "'a crooked crap game.'" *Id.* (citation omitted). As such, Plaintiffs request the damages, disgorgement and injunctive relief sought herein.

JURISDICTION AND VENUE

17. The claims asserted herein arise under and pursuant to §§ 6(b) and 10(b) of the Exchange Act, 15 U.S.C. §§ 78f(b) and 78j(b), and Rule 10b-5 promulgated thereunder by the SEC (17 C.F.R. § 240.10b-5).

18. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. § 1331 and § 27 of the Exchange Act (15 U.S.C. § 78aa).

19. Venue is proper in this District pursuant to § 27 of the Exchange Act and 28 U.S.C. § 1391(b). Many of the Defendants maintain their principal places of business in this District and many of the acts and practices complained of herein occurred in substantial part in this District.

20. In connection with the acts alleged in this Complaint, Defendants, directly or indirectly, used the means and instrumentalities of interstate commerce, including, but not limited to, the mails, interstate telephone communications and facilities of the national securities markets.

PARTIES

Plaintiffs

21. Plaintiff City of Providence, Rhode Island ("City of Providence") is a municipal corporation with a principal address of 444 Westminster Street, Suite 220, Providence, Rhode Island. As of December 12, 2013, plaintiff City of Providence managed hundreds of millions of dollars in assets on behalf of thousands of beneficiaries as-

sociated with the City of Providence, including active and retired public employees and their dependents. As detailed in its Certification previously filed with the Court, plaintiff City of Providence purchased and sold tens of millions of shares of U.S.-based stock exchange listed stock for investment purposes in trades executed by various brokers during the Class Period, including on exchanges and the dark pool operated by Defendants herein. City of Providence suffered substantial damages as a result of Defendants' unlawful conduct.

22. Plaintiff Plumbers and Pipefitters National Pension Fund ("Plumbers and Pipefitters"), is a national pension fund with a principal address of 103 Oronoco Street, Alexandria, Virginia 22314. As of June 30, 2013, Plumbers and Pipefitters had over $4.9 billion in assets on behalf of more than 136,000 participants and their families. Plumbers and Pipefitters provides retirement benefits to plumbers and pipefitters working in the building and maritime construction industries. As detailed in its Certification previously filed with the Court, Plumbers and Pipefitters purchased and sold tens of millions of shares of U.S.-based stock exchange listed stock for investment purposes in trades executed by various brokers during the Class Period, including on exchanges operated by Defendants herein. Plumbers and Pipefitters suffered substantial damages as a result of Defendants' unlawful conduct.

23. Plaintiff Employees' Retirement System of the Government of the Virgin Islands ("Virgin Islands") is a defined-benefit pension plan for officials and employees of the Government of the Virgin Islands. With over $1.3 billion in assets, Virgin Islands is the principal investment organization of the U.S. Virgin Islands' retirement plans. Virgin Islands provides retirement, health, and

other pension benefits to over 8,200 retirees and pensioners and a little more than 11,000 active members. It is estimated that Virgin Islands has served approximately 22,000 members since operations began in 1959. As set forth in its Certification previously filed with the Court, plaintiff Virgin Islands purchased and sold millions of shares of U.S.-based stock exchange listed stock for investment purposes in trades executed by various brokers during the Class Period, including on exchanges operated by Defendants herein. Virgin Islands suffered substantial damages as a result of Defendants' unlawful conduct.

24. Plaintiff State-Boston Retirement System ("State-Boston") is an institutional investor and a governmental defined benefit plan that provides retirement benefits for the employees of the City of Boston, Boston Redevelopment Authority, Boston Housing Authority, Boston Public Health Commission and Boston Water & Sewer Commission. State-Boston has approximately 34,000 active and retired participants, representing approximately $5.4 billion in assets. As detailed in its Certification previously filed with the Court, plaintiff State-Boston purchased and sold tens of millions of shares of U.S.-based stock exchange listed stock for investment purposes in trades executed by various brokers during the Class Period, including on exchanges and the dark pool operated by Defendants herein. State-Boston suffered substantial damages as a result of Defendants' unlawful conduct.

25. Plaintiff Första AP-fonden ("AP1") is a national pension fund based in Stockholm, Sweden, whose management contributes to ensuring a high and predictable retirement pension for every person employed in Sweden. AP1 is one of five buffer funds in the Swedish national income pension system. The capital reserves in the

AP1 funds are used to cover the deficit when disbursements from the pension system exceed contributions to the system. With net assets of approximately $40 billion, AP1 is one of Sweden's largest pension funds. As set forth in its Certification previously filed with the Court, plaintiff AP1 purchased and sold millions of shares on U.S.-based stock exchange listed stock for investment purposes in trades executed by various brokers during the Class Period, including on exchanges operated by Defendants herein. AP1 suffered substantial damages as a result of Defendants' unlawful conduct.

The Exchange Defendants

26. During the Class Period, the following "national securities exchanges" were registered with the SEC under § 6 of the Exchange Act and trade equities.

27. Defendant BATS Global Markets, Inc. ("BATS"), along with its operating subsidiaries BATS BZX Exchange, Inc. and BATS BYX Exchange, Inc., is an electronic stock exchange based in Lenexa, Kansas. BATS was founded in June 2005 as an Electronic Communication Network ("ECN") and its name stands for Better Alternative Trading System. BATS operates two stock exchanges in the United States, the BZX Exchange and the BYX Exchange. As of the filing of the initial complaint in this case, BATS averaged daily trading volumes of approximately 630 million and 200 million shares, respectively, which accounted for approximately 8.5% and 2.7%, respectively, of U.S. equity daily trading volume. In 2014 BATS merged with defendant Direct Edge (defined below).

28. Defendant Chicago Stock Exchange, Inc. ("CHX") is a stock exchange headquartered in Chicago, Illinois. The CHX is a national securities exchange and self-regulated organization, which operates under the

oversight of the SEC. Originally founded as a non-profit, non-stock corporation owned by its members, the CHX demutualized in 2004, thereafter becoming a wholly owned subsidiary of a holding company, CHX Holdings, Inc. ("CHX Holdings"). CHX Holdings is a for-profit, stock corporation headquartered in Delaware. Prior to the merger of BATS and Direct Edge, CHX was the third most active stock exchange by volume, and the largest exchange outside New York City.

29. Defendant Direct Edge ECN, LLC ("Direct Edge") is a Jersey City, New Jersey-based electronic stock exchange operating through two separate trading exchanges, EDGX Exchange and EDGA Exchange. As of the filing of the initial complaint in this action, Direct Edge averaged daily trading volumes of approximately more than 500 million and more than 200 million shares, respectively, and accounted for approximately 7% and 3%, respectively, of all U.S. daily equity trading volume. EDGX utilizes a so-called maker/taker pricing model offering high rebates for those who place bids and offers and charging those who merely fill orders. EDGA is a low cost exchange with a taker/maker pricing model. According to its website, Direct Edge now is "a BATS Global Markets company," following a merger between the companies in January 2014. Accordingly, the companies are working to combine operations under the BATS technology platform and brand.

30. Defendant The NASDAQ Stock Market LLC ("NASDAQ"), is a New York City-based electronic stock exchange. In 1971, NASDAQ stood for National Association of Securities Dealers Automated Quotations. NASDAQ was founded in 1971 by the National Association of Securities Dealers ("NASD"), who divested themselves of it in a series of sales in 2000 and 2001.

NASDAQ is now owned and operated by the New York City-based NASDAQ OMX Group, which also owns the OMX stock market network. It is regulated by FINRA, the successor to the NASD. The NASDAQ is the second largest stock exchange in the world by market capitalization of the companies listed thereon, after the New York Stock Exchange. The NASDAQ typically trades in excess of 1.3 billion shares daily, and accounts for just less than 20% of all U.S. equity trading on a daily basis.

31. Defendant NASDAQ OMX BX, Inc. ("BX") (formerly the Boston Stock Exchange) is one of the many stock exchanges owned and operated by the NASDAQ OMX Group. It focuses on nationally listed securities. BX typically trades an average of 220 million shares on an average daily basis, and accounts for approximately 3% of all daily U.S. equity trading volume.

32. Defendant New York Stock Exchange, LLC ("NYSE") is a stock exchange headquartered in New York City. The NYSE is operated by NYSE Euronext, which was formed by the NYSE's 2007 merger with the fully electronic stock exchange Euronext. In December 2012, it was announced that the NYSE was being sold to Intercontinental Exchange ("ICE"), a futures exchange headquartered in Atlanta, Georgia, for $8 billion. NYSE and Euronext then became subsidiary divisions of ICE, and in 2014 Euronext became an independent public company through an initial public offering ("IPO"). The NYSE is by far the world's largest stock exchange, with its listed companies accounting for more than $16 trillion as of May 2013. Average daily trading value was approximately $169 billion in 2013. The NYSE has been fined twice by the SEC in a little over two years for violations of exchange rules, the Exchange Act and Reg NMS, regarding the manner in which it sent data through its pro-

prietary feeds vis-à-vis the SIP feeds and the method in which it offered co-location services.

33. Defendant NYSE Arca, Inc. ("ARCA") is headquartered in Chicago, Illinois. Previously known as ArcaEx, an abbreviation of Archipelago Exchange, it is a securities exchange on which both stocks and options are traded. It was owned by NYSE Euronext, which merged (as NYSE Group) with Archipelago Holdings in a reverse merger on February 27, 2006.

The Dark Pool Defendants

34. Defendant Barclays PLC is a financial services company headquartered in the United Kingdom with offices in New York City. Barclays's brokerage division placed bids or offers and/or transacted on behalf of the Class on stock exchanges and alternate trading venues during the Class Period. Barclays PLC, through its subsidiary Barclays Capital Inc., which provides securities brokerage services and is headquartered in New York City, operates the alternate trading venue or "dark pool" called Barclays Liquidity Cross or Barclays LX. In late 2013, Barclays LX became the leading alternate trading venue according to published trading volumes. During the Class Period, Barclays PLC also maintained its own proprietary trading divisions or trading desks that engaged in HFT.

35. Defendant Barclays Capital Inc., which is a subsidiary of Barclays PLC, is a registered broker dealer and investment advisor headquartered in New York City. Barclays Capital Inc. operates the alternate trading venue or "dark pool" called Barclays Liquidity Cross or Barclays LX. In late 2013, Barclays LX became the leading alternate trading venue according to published trading volumes. During the Class Period, Defendant Barclays

Capital, Inc. also maintained its own proprietary trading divisions or trading desks that engaged in HFT.

CLASS ACTION ALLEGATIONS

36. Plaintiffs bring this class action pursuant to Federal Rule of Civil Procedure 23 on behalf of all public investors who purchased and/or sold shares of stock listed on a U.S.-based equity exchange operated by the Exchanges or the dark pool operated by Barclays during the Class Period and were injured thereby. Excluded from the Class are Defendants, any officer, director, partner or owner of any of the Defendants, members of their immediate families and their legal representatives, heirs, successors or assigns and any entity in which Defendants have or had a controlling interest.

37. The members of the Class are so numerous that joinder of all members is impracticable. While the exact number of Class members is unknown to Plaintiffs and can only be ascertained through proper discovery, Plaintiffs believe there are millions of members in the proposed Class.

38. Plaintiffs' claims are typical of the claims of the members of the Class as all members of the Class are similarly affected by Defendants' wrongful conduct that is complained of herein.

39. Plaintiffs will fairly and adequately protect the interests of the members of the Class and have retained counsel competent and experienced in class actions and securities litigation.

40. In addition, Defendants have acted and refused to act, as alleged herein, on grounds generally applicable to all members of the Class, thereby making final injunctive relief concerning the Class as a whole appropriate.

41. Common questions of law and fact exist as to all members of the Class and predominate over any questions solely affecting individual members of the Class. Among the common questions of law and fact are:

a. whether Defendants implemented the manipulative acts, devices or contrivances or engaged in the alleged fraudulent scheme and course of business alleged herein; whether the Exchange Act and SEC rules were violated by Defendants' conduct alleged herein;

b. whether Defendants acted knowingly or recklessly in connection with the misconduct alleged herein;

c. whether the trading prices of shares purchased and sold during the Class Period were distorted by Defendants' conduct;

d. whether and what equitable relief should be granted to Plaintiffs and the Class; and

e. the extent of damages sustained by members of the Class, and whether the Class is entitled to disgorgement and injunctive relief, and the appropriate measure of such damages and disgorgement.

42. A class action is superior to other available methods for the fair and efficient adjudication of this controversy since joinder of all members of the Class is impracticable. Further, as the damages suffered by most individual members of the Class may be relatively small, the expense and burden of individual litigation makes it virtually impossible for most members of the Class to redress the wrongs done to them individually. The Class is readily definable, and prosecution of this action as a class action will reduce the possibility of repetitious litigation and different treatment of different defendants for the

same misconduct and damages. There will be no significant difficulties in managing this action as a class action.

FACTUAL ALLEGATIONS

The Recent Evolution of U.S.-Based Public Stock Markets

43. In 1972, the U.S. market for securities was quite fragmented. The same stock often traded at different prices at different trading venues, and the NYSE ticker tape did not report transactions of NYSE-listed stocks that took place on regional exchanges or on other over-the-counter securities markets. This fragmentation made it difficult for traders to comparison shop.

44. In 1975, Congress authorized the SEC to facilitate a national market system ("NMS") to ensure that stock listed on registered exchanges traded at the same or similar prices across all public exchanges. One of the objectives of creating an NMS was the linking of all markets for qualified securities through communication and data processing facilities, facilitating simultaneous quoting from all exchanges and allowing investors to obtain the best price. Section 11A of the Exchange Act, enacted in 1975, provides for the establishment of the NMS for securities.

45. An NMS plan is a structured method of transmitting securities transactions in real-time. In the United States, NMS's are governed by § 11A of the Exchange Act and SEC Rule 11(a)(1). In addition to processing the transactions themselves, these plans also emit the price and volume data for these transactions. Information on each securities trade is sent to a central network at the Securities Industry Automation Corporation ("SIAC") where it is consolidated with other trades on the same "tape" and then distributed. There are three major tapes

in the United States. Tape A is for trades in securities listed on NYSE; Tape B is for trades in securities listed on NYSEMKT (formerly AMEX), NYSEARCA and BATS (together, the "consolidated tape," which contains all NYSE and regional exchange trades); and Tape C which contains all trades in securities listed on NASDAQ. When Congress mandated an NMS for trading securities in 1975, it emphasized that consolidated data "would form the heart of the national market system."[7]

46. During the early 2000's, U.S. stock regulators became worried that the U.S. markets were falling behind financial centers such as London, Frankfurt and Hong Kong, which were embracing electronic trading systems. SEC officials worried that control of U.S. capital markets could begin to shift offshore if the U.S. system did not evolve. In 2005, the rules promulgating the national market system were consolidated into Reg NMS, which went into effect in 2007. The purpose of Reg NMS was to ensure that – as required by § 11A of the Exchange Act – orders were always carried out at the best price available. Some of the more notable Reg NMS rules included:

- ***Order Protection (or Trade-Through) Rule*** – providing intermarket price priority for quotations that are immediately and automatically accessible (Rule 611);
- ***Access Rule*** – addressing access to market data such as quotations (Rule 610);
- ***Sub-Penny Rule*** – establishing minimum pricing increments (Rule 612); and
- ***Market Data Rules:***

[7] H.R. Rep. No. 94-229, 94th Cong., 1st Sess. 93 (1975).

a) Allocation amendment – instituting a new Market Data Revenue Allocation Formula;

b) Governance amendment – creating advisory committees; and

c) Distribution and Display Rules – governing market data (Rules 600, 601 and 603).

47. In explaining the purpose of Reg NMS, the SEC reiterated that "the NMS [was] designed to achieve the objectives of efficient, competitive, ***fair***, and orderly ***markets that are in the public interest and protect investors***."[8] The SEC also stated that in connection with enacting the Order Protection Rule, its primary purpose was to provide "strengthened assurance that ***orders will be filled at the best prices***," and to provide investors "***greater confidence that they will be treated fairly when they participate in the equity markets***."[9] The SEC went on to emphasize that "***[m]aintaining investor confidence is an essential element of well-functioning equity markets***."[10] Noting that the public comment portion of the rulemaking process highlighted the divergent interests of short-term traders and long-term investors, the SEC emphatically stated that Reg NMS was being structured to favor the interests of long-term investors over short-term traders, stating, in pertinent part, as follows:

> Noting that any protection against trade-throughs could interfere to some extent with such short-term trading strategies, the release framed the

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[8] Regulation NMS, 17 C.F.R. Parts 200, 201, 230, 240, 242, 249 and 270, Release No. 34-51808, File No. S7-10-04, RIN 3235-AJ18 ("Reg NMS") at 6, *available at* http://www.sec.gov/rules/final/34-51808.pdf. All emphasis is added unless otherwise noted.

[9] *Id.* at 11.

[10] *Id.*

> Commission's policy choice as follows: "Should the overall efficiency of the NMS defer to the needs of professional traders, many of whom rarely intend to hold a position overnight? Or should the NMS serve the needs of longer-term investors, both large and small, that will benefit substantially from intermarket price protection?" ***The Reproposing Release emphasized that the NMS must meet the needs of longer-term investors, noting that any other outcome would be contrary to the Exchange Act and its objectives of promoting fair and efficient markets that serve the public interest.***[11]

The SEC also emphasized how protecting long-term investors over short-term traders satisfied its regulatory mandate to protect "investors," emphasizing that "it makes little sense to refer to someone as 'investing' in a company for a few seconds, minutes, or hours," so "when the interests of long-term investors and short-term traders conflict . . . , the Commission believes that" it is the SEC's "clear responsibility . . . to uphold the interests of long-term investors."[12]

48. As enacted, Reg NMS required that exchanges and brokers accept the most competitive bid or offer prices posted at any U.S. trading venue that displayed price quotes, so as to speed up the stock market and ensure that investors got the best prices. For stock exchanges, Reg NMS at its core required them to display the national best bid and offer ("NBBO") prices. Though Reg NMS required exchanges to display the NBBO, the rule was intended to provide greater information to the

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[11] *Id.* at 16 (citation omitted).

[12] *Id.* at 18-19.

investing public – not to increase order flow, a goal, unrelated to any governmental or regulatory function, that the Exchanges have aggressively pursued with the rise of HFT trading. To generate new and robust order flow from trading firms, including, specifically HFT firms, the Exchanges began to offer financial incentives to lure this new business. These incentives took the form of rebates paid to traders (including brokers) to offer to sell or buy securities on those exchanges.

49. Exchanges had begun charging fees to investors who sought to merely accept the prices the market makers quoted, *i.e.*, charging such fees to so-called "takers" of liquidity, while not charging so-called "makers." This new fee system is called "maker-taker." It was initiated by newer private exchanges in the early 1990s, and by the late 2000s had spread so that it was used by exchanges including NYSE-Arca, NASDAQ and BATS.[13] Under the maker-taker system, exchanges offer a transaction rebate, (for example $0.002 per share), to parties who are "makers" or providers of liquidity, *i.e.*, traders submitting non-marketable limit orders, while charging a fee (for example $0.003 per share) to parties who accept the makers' bids or offers, *i.e.*, "takers" of liquidity (such as traders submitting market orders or marketable limit orders). In this example the exchanges pocket the $0.001 difference, which given the volume of trading in the U.S. adds up to enormous amounts of money annually.

50. An example of "maker-taker" pricing model is as follows:

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[13] There is also the reverse of this rebate/fee system, "taker-maker," which has been adopted by at least one exchange. *See, e.g.*, ¶ 29 *supra* (EDGA exchange imposes a "taker-maker" model. Unless otherwise noted, the Exchanges herein generally impose the "maker-taker" pricing structure.).

> Imagine a grocery store in which you can haggle over prices. The grocer is willing to sell you an apple for $1. You, however, are offering to pay 95 cents for the apple. If the grocer agrees and takes your lower offer, ***he pays the take fee*** while ***you get the make fee***. If, however, you decide to give in and pay $1 for the apple, ***you*** pay the take fee and the grocer gets the make fee. Whoever gives in and crosses the spread between the bid and the offer pays.[14]

51. The "maker-taker" model runs counter to the traditional "customer priority" design, under which customer accounts are given order priority without having to pay exchange transaction fees. Under the "customer priority" model, exchanges did not charge transaction fees to investors; rather, they charged transaction fees to market-makers (specialists in particular stocks who held relatively large amounts of shares in those stocks in order to facilitate trading) and paid broker-dealers for order flow. Because the "maker-taker" model charges fees to those entities who come to the market when they need to, and pays fees to "makers" whose constant trading creates liquidity, the "maker-taker" pricing model disfavors investors who purchase stocks to hold and sell them when they have an independent reason to, and favors traders who engage in flipping stocks for short-term profits, such as HFTs. While the Exchanges continue to pay broker-dealers for order flow, over the last decade, they have instituted the maker-taker pricing structure to incentivize HFT firms to trade on their exchanges and create a market focused on increasing revenues for themselves.

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[14] Scott Patterson, *Dark Pools: The Rise of the Machine Traders and the Rigging of the U.S. Stock Market* 42 (2012) ("*Dark Pools*").

52. In setting user access fees, the Exchanges do not act as regulators, but rather are entities that are themselves regulated. Recognizing the exchanges' need to generate revenues, Reg NMS (which became effective in August 2005) imposed a high cap (of 30 cents per 100 shares) on the access fees exchanges could charge, but did not otherwise regulate the type or nature of the fees that exchanges could charge and had been charging. Rather, Reg NMS left it to the business judgment of the exchanges to determine the range of fees that could be charged to their respective users. Notably, the Exchanges themselves stated that Reg NMS "recognized that market-based solutions, not regulatory mandates, would best serve investors."[15] Reg NMS neither mandated nor permitted exchanges to charge discriminatory fees, and the manner in which the Exchanges did so was outside the ambit of the securities regulatory structure, did not serve any regulatory purpose, and was promulgated solely to serve the private business interests of Defendants.

53. For the market-making firms, as they constantly placed bids and offers for securities, the stock exchanges' frequently shifting schemes of rebates and discounts created an arbitrage opportunity. With more than a dozen U.S. stock exchanges and more than 40 private stock-trading venues, the ability of exchanges to charge different types of fees at different levels (subject only to the high cap imposed by Reg NMS) added additional complexity to the financial markets – leading to rebate arbi-

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[15] Exchange Market Data Coalition, *Comments on NetCoalition Petition for Review*, Exchange Act Release No. 34-55011 at 6 (Jan. 26, 2007), *available at* https://www.sec.gov/comments/34-55011/3455011-9.pdf.

trage (where traders decide which exchange to trade on based on the rebate paid to them for doing so).

54. Following the adoption of Reg NMS, it became more valuable for a trading platform to qualify as a full-fledged stock exchange because if an exchange displayed the best price for a stock, then that was where an order for the stock had to be filled (providing market flow and the related financial incentives). The same was not true of other types of trading platforms, some of which do not publicly display price quotes. For instance, in 2008 defendant BATS converted its electronic trading platform to a full-fledged public exchange registered with the SEC in order to capture new trading business precipitated by the new Reg NMS rules. Defendant Direct Edge followed suit in 2010. In addition, established exchanges such as NASDAQ purchased fading exchanges that once represented regional markets in Philadelphia, Boston and Cincinnati, reestablishing them as electronic platforms geared toward specific niches. From 2007 to 2011, seven new stock exchanges opened for business.

The Proliferation of Dark Pools

55. Reg NMS also spurred the proliferation of alternate trading venues that do not publicly display bid and offer prices and allowed for anonymous trading (commonly referred to as "dark pools"). The fees public stock exchanges charge investors incentivize them to direct stock orders toward these and other private trading platforms, where trading is often cheaper.

56. Dark pools are alternative trading systems ("ATS"), that evolved from the "upstairs trading" provided for decades by exchanges, in which the size and price of electronic orders are hidden from other market participants. Historically, stock exchanges with "upstairs trading" would match large buy and sell orders after the close

of trading, at the closing price. Trades matched in this way were only disclosed after the event and, thus, did not change the exchange-quoted price. To avoid influencing exchange prices with clues about outstanding demand, unfilled order data was not disclosed. The role of these original dark pools was to provide institutional investors with a venue to make trades they would not otherwise make.

57. Without "upstairs trading," frequently large institutional orders would be split into smaller orders in an attempt to hide within regular trading activity. In the 1980s, however, algorithmic trading facilitated by complex computer programs was created specifically to identify these "order splitting" strategies.

58. In 2007, Reg NMS made it possible for anyone to start a dark pool, in part, by eliminating the protections afforded manual quotations by exchanges and allowing investors to bypass exchanges for a better price. Large investment banks recognized the growing importance of dark pool trading and quickly created or expanded their own dark pools, matching both buyer and seller from their own client pool to avoid paying transaction fees twice.

59. Unlike Exchanges' "upstairs trading" which were designed as an added service for institutional investors, broker-dealer dark pools were designed as independent revenue streams requiring significant order flow and execution rates. This revenue-focused model eliminated daily matching orders and ushered in the advent of continuous crossing in which orders are either immediately matched, re-routed or returned. Broker-dealer dark pools also allowed "resting" orders and "limit" orders, and most eliminated the minimum order size which defined exchange dark pools.

60. Broker-dealer dark pools market themselves as alternative trading venues that provide anonymity and information barriers. When an institutional investor submits a large order to a dark pool, the investor is revealing valuable information. Protection against short-selling, front-running and other HFT schemes based on that information by the broker-dealer, or those to whom that information could be passed, is the foundation upon which the broker-dealer markets its dark pool to institutional investors.

61. In 2008, dark pools accounted for 16% of all stock trading. By 2013, that figure had risen to over 40% with average daily trading volume of 920 million in January of that year compared with just 900 million on NYSE. All dark pools are registered with the SEC and FINRA as broker-dealers.

The Rise of High Frequency Trading

62. The new structure Reg NMS attempted to address also ramped up cat-and-mouse games played by sophisticated electronic traders operating in the stock market. Computerized HFT firms tried to obtain clues about what Class members, in particular big institutional investors, were planning to trade through techniques such as repeatedly placing and instantly canceling thousands of stock orders to detect demand (referred to colloquially as "pinging"). If such an HFT firm's algorithms detected that a Class member was planning to purchase or sell a certain stock, the HFT firm's computers would rush to buy (or sell) it first and then sell it back to that Class member at a higher or lower price, pocketing the difference. That process made purchases or sales costlier for Class members.

63. Institutional investors making large stock purchases have long been accustomed to breaking up their

orders to avoid tipping off the market. But because buy and sell orders were being bounced around so widely following the enactment of Reg NMS, it became easier for HFT firms' algorithms to detect what and how much Class members were planning to trade – including their price sensitivity and margin requirements – based on knowing each investor's historical practices. For instance, as an Illinois appellate court found in February 2010 in a decision involving HFT firm Citadel's claim to intellectual property rights over its proprietary HFT information gathering systems:

> High frequency trading . . . requires the development of a vast collection of historical market data. Citadel has been gathering market data since it began the high frequency business, which was built on the foundation of Citadel's prior quantitative investment work. ***The data system contains the rough equivalent of approximately 100 times the amount of data included in the Library of Congress.*** In order to use the historical market data, codes and programs must be written to ***translate, organize and replay it.*** This process involves writing code to review and organize the data into a coherent and usable format. ***Market data replayers allow a particular signal or "alpha" to be tested over historical market data.*** Citadel developed these tools in building its high frequency business. A combination of signals or "alphas" may be used in a trading strategy.
>
> ***Moreover, Citadel built trading engines that read incoming real-time market data and, when the opportunity arises, execute its trading strategies and alphas to buy and sell securities.*** This is a critical

piece of the infrastructure and of the entire interrelated network.[16]

64. With the dramatic change in the stock exchange model following the introduction of Reg NMS, exchanges no longer generated most of their revenue from listing fees. In addition to listing fees, stock exchanges now make fees in several ways including:

- Exchanges make approximately three-hundredths of a penny for every 100-stock order;
- HFT firms pay exchanges for the right to install their computer servers in the limited space as close as possible to the actual exchange, so that their electronic trade requests will arrive milli- and microseconds earlier than their competitors' requests;
- HFT firms pay exchanges for faster access to direct proprietary data feeds containing enhanced material trading data;
- Financial researchers, news companies and HFT firms pay exchanges for access to trade data – who sold what, when and for how much; and
- Traders purchase special trading software from exchanges.

Rather than relying on listing fees, exchanges "now receive most of their revenue from transactions and the sale of market data and related services based on those transactions."[17]

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[16] *Citadel Inv. Grp., LLC v. Teza Techs. LLC*, 924 N.E. 2d 95, 97-98 & n.1 (Ill. 2010) ("Signals or 'alphas' are mathematical price prediction algorithms or models developed and tested by Citadel.").

[17] Comment Letter from Sal Arnuk and Joseph Saluzzi, Themis Trading, to Elizabeth Murphy, SEC at 2 (Apr. 21, 2010), *available at*

65. In exchange for kickbacks, fees and the potential for increased trading volume, the Exchanges provided favored HFT firms with co-location, enhanced data feed and complex order type products, devices that when combined together and implemented by the HFT firms, were ultimately designed to drive HFT order flow back to the Exchanges. The Exchanges acted to further this goal in furtherance of their own business interests, not for any delegated governmental or regulatory purpose.

66. HFT is a type of algorithmic trading, specifically the use of sophisticated technological tools and computer algorithms to rapidly trade securities. HFT uses proprietary trading strategies carried out by computers to move in and out of positions in fractions of a second. As of 2009, studies suggested HFT trading accounted for 60%-73% of all U.S. equity trading volume. By value, actual HFT was estimated in 2010 by consultancy Tabb Group to make up just ***56%*** of equity ***trades*** in the U.S. Financial services firms that engage in proprietary HFT on their own firms' accounts sometimes also engage in trading for their customers' accounts. Indeed, many of the nation's largest financial institutions have in-house HFT divisions under their umbrellas. HFT is proprietary trading done on the firm's own account though, not trading done on behalf of that firm's customers. Financial services firms earn profits ***off the market*** when they engage in proprietary, HFT against other market participants, whereas they earn commissions ***for trading*** on the accounts of their customers ***on the market***.

67. HFT has grown exponentially since its inception in 1999 following the SEC's authorization of electronic

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http://www.themistrading.com/article_files/0000/0543/4-21-10_THEMIS_--_SEC_Comment_Letter.pdf.

exchanges in 1998. At the turn of the 21st century, HFT trades had an execution time of several seconds, whereas by 2010 this had decreased to milli- and even microseconds.[18]

68. In the early 2000s, HFT accounted for fewer than 10% of equity orders, but according to data provided by the NYSE, overall trading volume grew by about 164% between 2005 and 2009, a material portion of which can be attributed to HFT. Proponents of permitting HFT claim HFT firms are market-makers and provide liquidity to the market which lowers volatility and helps narrow bid-offer spreads, making trading and investing cheaper for other market participants. In the U.S., dedicated HFT firms represent 2% of the approximately 20,000 firms operating today, ***yet account for 73% of all equity bids and orders volume***.

69. High frequency traders move in and out of positions very quickly, aiming to capture sometimes just a fraction of a cent in profit on every trade – providing very low margins. But HFT firms do not employ significant leverage, accumulate positions or hold their portfolios for minutes – much less overnight. As a result, HFT has a potential Sharpe ratio (a measure of risk and reward) thousands of times higher than traditional buy-and-hold strategies. HFT firms make up for their low margins with incredibly high volumes of trading, frequently numbering in the millions.

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[18] A millisecond is one thousandth of a second; a microsecond is one millionth of a second. By way of comparison, one millisecond is to one second as one second is to 16.67 minutes and one microsecond is to one second as one second is to 11.574 days. Estimates of the time it takes to blink your eye range from 100 millisecond (100,000 microsecond) to 400 millisecond (400,000 microsecond) – just a mere fraction of a second.

70. However, HFT firms execute on very few of the bids and orders they place on stock exchanges and alternate trading venues, often placing those bids and orders for only seconds and only for the purpose of discovering the intentions of investors. In 1999, there were 1,000 quotes per second, streaming from U.S. stock exchanges and approximately two billion shares traded each day. Today, there are two million quotes per second, but the market trades just over five billion shares per day, which is just over twice the volume of stock traded, but 2,000 times more quotes. These quotes are essentially HFT firms at war with each other, to the detriment of the investing public. "In other words, the HFTs generate a crushing, expensive amount of information (data) that don't need to be sent to millions of computers around the world," and "[t]hey spend a vast majority of their time spoofing, or trying to fake out algorithms of other HFTs."[19]

71. As set forth more fully herein, some examples of typical trading methods utilized by HFT firms include:

a. ***Trading Ahead***. Most retirement savings, such as public and private pension funds or 401(k) and individual retirement accounts in the U.S., are invested in mutual funds, the most popular of which are index funds which periodically "rebalance" or adjust their portfolio to account for current prices and market capitalization of the underlying securities in the stock or other index that they track. This allows trading algorithms to anticipate and trade ahead of stock price movements caused by mutual fund rebalancing, making a profit on advance knowledge of the large institutional block orders. This

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[19] *See generally* Jon Najarian, *How to 'Unrig' Markets* (Apr. 11, 2014), *available at* http://www.cnbc.com/id/101575733.

results in profits being transferred from investors to algorithmic traders, estimated to be at least 21 to 28 basis points annually for S&P 500 index funds, and at least 38 to 77 basis points per year for Russell 2000 funds.

b. ***Electronic Front-Running***. Electronic front-running is a practice whereby a market participant seeks to exploit large orders being placed out in the market. For example, a large order from a pension fund to buy will be broken into small parts and trading takes place over several hours or even days, and will cause a rise in price due to increased demand. An HFT firm can utilize preferred access to material trade data to try to identify this happening and then trade in front of the fund, buying the relevant security elsewhere and then profiting from selling back to the pension fund at increased prices.

c. ***Latency Arbitrage***. This practice relies on outdated market access technology employed by customers unable or unwilling to spend tens of thousands of dollars per month for special services from the Exchanges. Utilizing HFT strategies, HFT traders use speed to gain minuscule advantages in arbitraging price discrepancies in some particular security trading simultaneously on disparate markets. This practice alone can and has generated virtually riskless profits for Defendants. "Riskless profits" is not a speculative statement but is an industry norm for HFT firms. For example, Rishi Narang, co-founder of HFT firm Tradeworx Inc., explained the process in a documentary film about HFT as follows: "So let's say I can buy the S&P here for 10% down on the day, but I can sort of sell it here at the exact same moment for 8% down on the day, I've made 2% with zero risk. If you have the exact same instrument priced dif-

ferently in two different places, that's ***free money***."[20] By one account, latency trading advantages have been estimated to account for $21 billion in profit per year.[21]

72. High frequency traders have claimed their practices substantially improve market liquidity, narrow bid-offer spreads, lower volatility and make trading and investing cheaper for other market participants. However, in September 2011, Nanex, LLC (an HFT software company) published a report stating the contrary, revealing that the amount of quote traffic compared to the value of actual trade transactions over four and half years demonstrated a tenfold ***decrease*** in efficiency. Moreover, the liquidity that high frequency traders provide is illusory as it can disappear in an instant, worsening an unstable situation when liquidity matters most, as occurred during the "Flash Crash" of May 6, 2010 when several leading HFT firms such as Tradeworx Inc. stopped trading during severe market turmoil.

73. With the influx of high frequency traders in the market, more fully automated markets such as NASDAQ, Direct Edge and BATS have gained market share from less automated markets such as the NYSE. The speeds of computer connections, measured in milliseconds or microseconds, have become important. For example, in 2009, the London Stock Exchange bought a technology firm called MillenniumIT and announced plans to implement its Millennium Exchange platform, which they claim has an average latency of 126 microsec-

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[20] Marije Meerman, *Money & Speed: Inside the Black Box* at 26:43-27:00 (Jan. 31, 2011), *available at* https://www.youtube.com/watch?v=aq1Ln1UCoEU.

[21] Elaine Wah & Michael Wellman, *Latency Arbitrage, Market Fragmentation, and Efficiency: A Two-Market Model* (June 16-20, 2013), *available at* http://web.eecs.umich.edu/srg/wp-content/uploads/2013/02/ec38-wah.pdf.

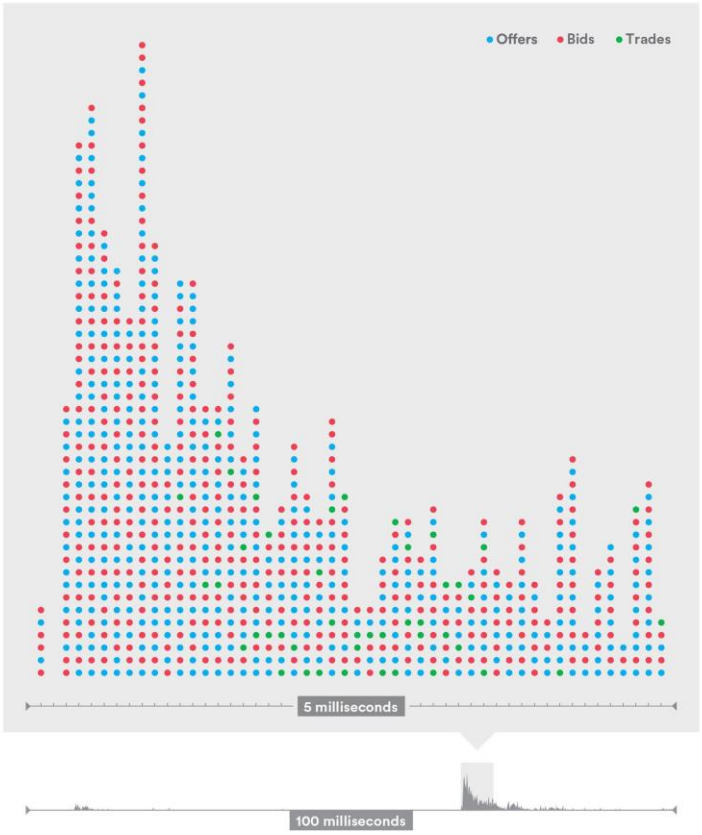
onds. Since then, exchanges have continued to evolve to reduce latency, competing to attract high frequency traders, and today, with turnaround times of three milliseconds available, these very fast exchanges allow high frequency traders to pinpoint the consistent and probable performance ranges of stock prices.

74. Especially since 2011, there has been a trend to use microwaves to transmit data across key connections, such as the one between New York and Chicago. This is so because microwaves travelling in air suffer a less than 1% speed reduction compared to light travelling in a vacuum, whereas with conventional fiber optics light travels over 30% slower. In the microseconds it takes a high frequency trader – depicted below in blue – to reach the various stock exchange servers housed in these New Jersey towns, the conventional trader's order, theoretically, makes it only as far as the red line. The time differences can be financially advantageous in a number of ways.

Michael Lewis, *The Wolf Hunters of Wall Street: An Adaptation From "Flash Boys: A Wall Street Revolt*," (Mar. 31, 2014), *available at* http://www.nytimes.com/2014/04/06/magazine/flash-boys-michael-lewis.html.

75. HFT was initially introduced to allow participants like market-makers the opportunity to meet or improve on the NBBO to ensure incoming orders were matched at the most advantageous prices according to Reg NMS. However, in practice, these programs have been manipulated by HFT firms to inspect major orders as they come in and use that information to profit to the detriment of ordinary investors.

76. The fact that HFT firms are electronically front-running the trades of ordinary investors is demonstrated by the fact that HFT activity is not constant; it occurs in microbursts – showing that it is only triggered by the placing of a bid or order by an ordinary investor, revealing that investor's intention. The example below is illustrative. The line at the bottom of this graphic is the stock market activity involving General Electric shares over 100 milliseconds (one-tenth of a second) at 12:44 p.m. on December 19, 2013. The gray box magnifies a five-millisecond window, during which General Electric experienced very heavy bid and offer activity, but only a total of 44 trades:



Lewis, *The Wolf Hunters of Wall Street, supra*.

77. The SEC does not regulate HFT. The brief but dramatic stock market crash in 2010 known as the Flash Crash, when the Dow Jones Industrial Average plunged to its largest intraday point losses, only to recover much of those losses within minutes, is believed to have been caused by HFT. After almost five months of investigations, the SEC and the CFTC issued a joint report identifying the cause that set off the sequence of events leading to the Flash Crash and concluding that the actions of HFT firms contributed to volatility during the crash. To

date the SEC has enacted no rules or regulations regarding HFT.

Plaintiffs and the Class Justifiably Relied on the Fairness and Integrity of the Exchanges as Markets

78. Plaintiffs and the Class relied on the traditional role and function of exchanges as protectors of the investing public, justifiably believing that the Exchanges provided level playing fields on which no class of trader is favored over other investors. The Exchanges, however, acted in their own profit-driven self-interests in complete disregard of, and wholly outside the ambit of, the regulatory duties set forth below. Instead, the Exchanges devoted their actions to the non-regulatory activity of attracting profitable HFT trading – often directly sacrificing the interests of investors like Plaintiffs and the Class to do so. The Plaintiffs and the Class relied upon the purpose and adequacy of the regulatory structure to ensure an honest and fair market, and did not anticipate that the Exchanges' self-interested acts outside that structure would fundamentally subvert those goals.

79. As registered national stock exchanges under the Exchange Act, the Exchanges are required to ensure that they operate in conformity with the Exchange Act and SEC rules and their own rules, and that its members comply with the Exchange Act, as well as the SEC's and the Exchanges' own rules. In fact, many of the Defendants hold or have held themselves out as protectors of investors and have stated that they treat all investors equally and fairly. For example, defendant NASDAQ's own equity rules reference the "protection of investors" 17 times. ICE, in its most recent annual report, acknowledged that defendants NYSE and ARCA, as self-regulatory organizations ("SROs") registered with the SEC, are charged with "providing fair and orderly mar-

kets and protecting investors."[22] Moreover, NYSE's Code of Business Conduct and Ethics states that its employees, officers and directors should not "take unfair advantage of anyone through manipulation, concealment, abuse of privileged information, misrepresentation of material facts, or any other unfair-dealing practice."[23]

80. Under § 6(a)-(b) of the Exchange Act, 15 U.S.C. § 78f(a)-(b), entitled "National securities exchanges":

> (a) . . . An exchange may be registered as a national securities exchange under the terms and conditions hereinafter provided in this section . . . by filing with the Commission an application for registration in such form as the Commission, by rule, may prescribe containing the rules of the exchange and such other information and documents as the Commission, by rule, may prescribe as necessary or appropriate in the public interest or for the protection of investors.
>
> (b) . . . An exchange shall not be registered as a national securities exchange unless the Commission determines that –

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[22] ICE 2013 Annual Report (Form 10-K) at 25 (Feb. 14, 2014), *available at* http://ir.theice.com/files/doc_financials/10-K/10K2013.pdf. The NYSE has more explicitly laid out this duty in earlier annual reports. *See* Nan S. Ellis et al., *The NYSE Response to Specialist Misconduct: An Example of the Failure of Self-Regulation* at 104 (June 2010) ("The NYSE acknowledges that '***[b]efore committing their trust and savings to the market, investors must be guaranteed a fair and level playing field along with equal access to information and guidance they can trust***.'") (quoting 2002 NYSE Annual Report), *available at* http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1070&context=bblj.

[23] NYSE Manual, Section 3 Corporate Responsibility, *available at* http://nysemanual.nyse.com/lcm/sections/lcm-sections/chp_1_4/default.asp.

(1) Such exchange is so organized and has the capacity to be able to carry out the purposes of this title . . . and to comply, and . . . to enforce compliance by its members and persons associated with its members, with the provisions of this title . . . , the rules and regulations thereunder, and the rules of the exchange.

* * *

(4) *The rules of the exchange provide for the equitable allocation of reasonable dues, fees, and other charges among its members and issuers and other persons using its facilities.*

(5) *The rules of the exchange are designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade . . . to remove impediments to and perfect the mechanism of a free and open market and a national market system, and, in general, to protect investors and the public interest; and are not designed to permit unfair discrimination between customers, issuers, brokers, or dealers . . .*

(6) The rules of the exchange provide that . . . its members and persons associated with its members shall be appropriately disciplined for violation of the provisions of this title . . . , the rules or regulations thereunder, or the rules of the exchange, by expulsion, suspension, limitation of activities, functions, and operations, fine, censure, being suspended or barred from being associated with a member, or any other fitting sanction.

81. The dissemination of market information is a field in which the Exchanges are regulated, not regulators. Rule 601 of Reg NMS allows SROs, which by defi-

nition include registered national securities exchanges such as Defendants, to distribute their own market data independently for a fee. By virtue of distributing such data on an exclusive basis, an exchange is deemed an "exclusive processor." Rule 603(a) establishes uniform standards for distribution of both quotations and trades. Specifically, "Rule 603(a)(1) requires that any market information distributed by an exclusive processor . . . that is the exclusive source of the information, be made available to securities information processors [also known as "SIPs"] on terms that are fair and reasonable. Rule 603(a)(2) requires that any SRO . . . that distributes market information must do so on terms that are not unreasonably discriminatory."[24]

82. More specifically, the Exchanges are "prohibited from providing their data directly to customers any sooner than they provide their data to the plan processors."[25]

83. The standards set forth in Rule 603(a) were designed "to ensure that the independently distributed market data would be made available to all investors and data users,"[26] and to "promote efficiency and competition among market centers by helping to assure that independently reported trade and quotation information is distributed on terms that are fair and reasonable and not unreasonably discriminatory."[27] Moreover, the SEC has stated that "'[r]obust technology governance is just as important to preventing investor harm as any other com-

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[24] Reg NMS at 279.

[25] *See Concept Release on Equity Market Structure*, 17 CFR Part 242 [Release No. 34-61358; File No. 57-02-10] RIN 32 35-AK47 (January 21, 2010).

[26] Reg NMS at 270.

[27] *Id.* at 385.

pliance or supervisory function.'"[28] Significantly, the Exchanges view the dissemination of market information as "a significant product of their core business" that funds both regulatory activities and strategic initiatives.[29] Indeed, as exchanges explained it to the SEC in 2007:

> Market data is critical to competition between the Exchanges, for while Exchanges are in the business of helping business, they are also businesses themselves . . . Like all businesses, Exchanges fight for survival and primacy by offering more desirable products and attracting more buyers than their competitors.[30]

As set forth herein, the Exchanges have allowed their business interests to overshadow any duties to the public.

The Exchanges' Manipulative Scheme to Defraud

The Exchanges Mislead Investors to Induce Them to Trade Against HFT

84. Aware of their public image as trusted self-regulatory entities – an image upon which Plaintiffs and the Class relied to their detriment -- the Exchanges further sought to enhance that image and to disguise their actual self-interested conduct that subverted the integrity of their markets. They did so by continuing to assure investors that their markets are "fair and orderly," and for the benefit of traditional individual and institutional investors. In this way they further induced individual and institutional investors to trade on their exchanges

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[28] Press Release, *SEC Charges New York Stock Exchange for Improper Distribution of Market Data* (Sept. 14, 2012), *available at* http://www.sec.gov/News/PressRelease/Detail/PressRelease/1365171484740#.VG-NAZ0o6uE.

[29] *Comments on NetCoalition Petition for Review*, at 5.

[30] *Id.* at 3.

while simultaneously selling and profiting from services provided to HFT in order to take advantage of those same individuals and institutions.

NASDAQ

85. The NASDAQ OMX Group made public statements throughout the Class Period assuring the investing public that it operated fair and orderly exchanges, all the while knowing that through the provision of co-location services, proprietary data feeds, order types and payment for order flow, it had stacked the deck in favor of certain market participants, especially HFT firms. Such statements trumpeted the NASDAQ OMX Group's "[c]ommitment to regulatory integrity," and its desire "to ensure transparent trading and a fair and orderly market for the benefit of investors."[31] Moreover, the NASDAQ OMX Group acknowledged that its exchanges as "SROs . . . are an essential component of the regulatory scheme of the Securities Exchange Act of 1934 . . . for providing fair and orderly markets and protecting investors."[32] As the NASDAQ OMX Group admitted, transparency was an important part of its efforts to maintain fair and orderly markets.

86. But this was a subterfuge, as the NASDAQ OMX Group was providing preferred market participants with trading advantages to the substantial detriment of all other investors, and the NASDAQ OMX Group benefitted greatly from these dealings. Throughout much of the Class Period, NASDAQ's Access Services business, which included co-location services, and Market Data

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[31] NASDAQ OMX Group 2011 Annual Report (Form 10-K) at 4 (Feb. 24, 2012), *available at* http://ir.nasdaqomx.com/secfiling.cfm?filingID=1193125-12-77518&CIK=1120193.

[32] *Id.* at 18.

business, which included proprietary data products, provided large, ever-increasing sources of revenue for the exchange. For example, in the year ending December 31, 2012, Access Services revenues increased $16 million when compared with the same period in 2011, totaling $238 million in 2012, and Market Data revenues increased $15 million to a total of $344 million in 2012, "primarily from U.S. market data products," which include proprietary data feeds. Even when overall revenues for the Access Services and Market Data businesses decreased from one year to the next, co-location services and proprietary data products continued to thrive.

87. While the NASDAQ OMX Group benefitted directly from the payments it received for co-location services and proprietary data products, it also catered to preferred market participants, such as HFT firms, because of the high volume of trading they brought to the exchanges. As NASDAQ stated in regulatory filings throughout the Class Period, volume, and especially volume provided by HFT firms, was a key revenue driver for its exchanges:

> Current initiatives being considered by regulators and governments, such as restrictions on algorithmic (high-frequency) trading, could have a material adverse effect on overall trading and clearing volumes. ***Because a significant percentage of our revenues is tied directly to the volume of securities traded and cleared on our markets, it is likely that a general decline in trading and clearing volumes would lower revenues and may adversely affect our operating results if we are unable to offset falling volumes through our pricing***.[33]

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[33] *Id.* at 24.

88. The potential for conflict between its business-related desire to increase revenues and its obligations to investors was not lost on NASDAQ. As it noted, "[w]e have self-regulatory obligations and also operate for-profit businesses, ***and these two roles may create conflicts of interest***."[34] In providing certain preferred market participants with co-location services, proprietary data feeds, special order types and payment for order flow, NASDAQ acted in its own interest to increase company profit, with indifference to its statutory duties, which neither required nor supported, and nor were in any way implicated in, its courting the business of HFT firms.

NYSE

89. NYSE Euronext similarly represented to investors that it provided fair trading venues which treated customers equitably. NYSE consistently stated that market participants could trade "anonymously"[35] and that its customers received market data in "real-time."[36]

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[34] *Id.* at 31.

[35] "NYSE and NYSE MKT . . . build on our core attributes of liquidity, pricing efficiency, low trading costs and tight spreads by broadening customers' ability to trade quickly and anonymously." ICE 2013 Annual Report (Form 10-K) at 6 (Feb. 14, 2014). The same language was used in the NYSE's Forms 10-K for fiscal years 2009 through 2012. *See* NYSE 2009-2012 Annual Reports (Forms 10-K) (Mar. 1, 2010; Feb. 28, 2011; Feb. 29, 2012; Feb. 26, 2013).

"NYSE Arca's trading platform provides customers with fast electronic execution and open, direct and anonymous market access." ICE 2013 Annual Report (Form 10-K) at 6 (Feb. 14, 2014). The same language was used in the NYSE's Forms 10-K for fiscal years 2009 through 2012. *See* NYSE 2009-2012 Annual Reports (Forms 10-K) (Mar. 1, 2010; Feb. 28, 2011; Feb. 29, 2012; Feb. 26, 2013).

[36] "Orders can be matched either on a price/time or pro rata basis, configurable by contract, with transacted prices and volumes and the aggregate size of all bids and offers at each price level updated on a real-time basis. Users are continually notified of all active orders in

However, NYSE profited by betraying the interests of traditional investors such as Plaintiffs, in favor of HFT customers who were willing to pay tens of thousands of dollars a month for an edge on the market.

90. Despite its proclamations about "anonymous market access," NYSE profited by providing faster speeds and expensive enhanced data feeds which NYSE's favored customers could use to overcome the purported anonymity. The revenues NYSE generated by selling these technological advantages grew rapidly during the Class Period. The Information Services and Technology Solutions segment's annual revenues increased by roughly $50 million each year. NYSE publicly highlighted this segment and set a target of $1 billion in revenues by 2015. As set forth more fully below, NYSE knew that its statements regarding anonymity were false and misleading because NYSE empowered its favored customers in a way that allowed HFT firms to defeat the purported anonymity. And NYSE profited by doing so.

91. Contrary to NYSE's representations to shareholders about distributing data in "real-time," NYSE offered co-location for a fee, and provided market data to

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the central order book, making market depth easy to monitor." ICE 2013 Annual Report (Form 10-K) at 16 (Feb. 14, 2014). The same language was used in the NYSE's Forms 10-K for fiscal years 2009 through 2012. *See* NYSE 2009-2012 Annual Reports (Forms 10-K) (Mar. 1, 2010; Feb. 28, 2011; Feb. 29, 2012; Feb. 26, 2013).

"Our primary market data services include the provision of real-time information relating to price, transaction and order data on all of the instruments traded on the cash and derivatives markets of our exchanges." ICE 2013 Annual Report (Form 10-K) at 7 (Feb. 14, 2014). "NYSE Technologies' Market Data Platform provides real-time market data distribution . . . ." NYSE 2009-2012 Annual Reports (Forms 10-K) (Mar. 1, 2010; Feb. 28, 2011; Feb. 29, 2012; Feb. 26, 2013).

its customers at two different speeds. In truth, NYSE had two classes of customers, only one of whom received data in "real-time." With this systemic advantage, created and maintained by the NYSE, favored NYSE customers such as HFT firms could skim profits off of average Americans and institutional investors by imposing unknown transaction fees.

92. In September 2012, NYSE settled an enforcement action by the SEC regarding this speed differential between its proprietary feed and the public quotation system. NYSE was charged with violating Reg NMS by providing trade data to its direct data feeds faster than it was provided to its SIP. NYSE and NYSE Euronext paid a $5 million penalty.

BATS

93. Like the other exchanges, defendant BATS represented that its trading platform facilitated fair and orderly markets, yet offered a competitive advantage in the form of co-location services, proprietary data feeds and complex order types to a favored group of predatory HFT customers. For example, in connection with its attempted IPO, BATS stated in an amended Form S-1 filing on March 12, 2012: "Our trading platform is designed to facilitate fair and orderly markets, and we deploy cutting-edge regulatory surveillance technology in the United States and Europe to monitor our customers' trading."[37] Similarly, in an open letter to BATS customers and the trading community in general, BATS CEO Joe Ratterman ("Ratterman") stated, also in connection with

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[37] BATS Amendment No. 4 to Form S-1 Registration Statement at 121 (Mar. 12, 2012) ("BATS Amended Form S-1"), *available at* http://www.sec.gov/Archives/edgar/data/1519917/000119312512107970/d179347ds1a.htm, at 121.

its failed IPO: "Our listing Exchange has an obligation to operate and maintain fair and orderly markets . . . . [W]e will work even harder to earn your trust and confidence in the months and years ahead."[38] In practice, however, BATS operates anything but fair and orderly markets.

94. The founder of BATS, David Cummings ("Cummings"), also founded the pioneering HFT firm Tradebots Systems Inc. ("Tradebots"). In 2007, Cummings stepped down as CEO of BATS to remove "any apparent conflict of interest" based on his ownership of Tradebots, but continued to serve on the BATS board of directors while running Tradebots. In its March 12, 2012 filing, BATS disclosed that affiliates of its "strategic investors," including Tradebots (run by Cummings) and another powerhouse HFT firm, Getco LLC (now KCG Holdings, Inc.), accounted for "a significant percentage of [BATS's] revenue," including approximately 30% of revenue from 2009 to 2011 (and up to 10% by any one such affiliate for each year).[39] BATS also provides rebates to favored HFT firms as part of its maker-taker model, and from 2009 to 2011, between 31% and 53% of such rebates (as part of its "total cost of revenues") were generated by these "strategic investors." Perhaps most astonishingly, in 2009 ***51% of BATS rebates were paid to a single affiliate***.

95. Just weeks after BATS's March 2012 disclosures, it was reported that the SEC was examining the trading activities of BATS investors Getco LLC and

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[38] Steve Schaefer, *BATS Moves Into Damage Control After Scrapped IPO* (Mar. 26, 2012), *available at* http://www.forbes.com/sites/steveschaefer/2012/03/26/bats-moves-into-damage-control-after-scrapped-ipo/.

[39] As of 2012, Tradebot and Getco accounted for roughly 25% of the daily trading on many large U.S. stocks.

Tradebots and whether those firms "used their close links to computerized stock exchanges [with a focus on BATS] to gain an unfair advantage over other investors."[40] Not surprisingly, BATS noted in its filing that it has "***self-regulatory obligations that may create conflicts of interests***."[41] But the investigation and conflicts of interest did not preclude BATS from continuing to offer rebates, co-location services, direct and enhanced data feeds and complex order types (discussed in further detail herein) that allow HFT firms to profit off the backs of Plaintiffs and the Class. As BATS CEO Ratterman acknowledged before the U.S. Senate Permanent Subcommittee on Investigations on June 17, 2014:

> Certain practices surrounding broker agency relationships, such as payment for order flow and soft dollar arrangements, as well as exchange fee structures create the potential for conflicts of interest . . . .
>
> * * *
>
> Nonetheless, there remain perceptions that differences in content and speed of dissemination confer unwarranted advantages on select market participants. . . . While Rule 603 of Regulation NMS dictates that exchanges do not release market data to private recipients before disseminating that data to the public securities information processor ("SIP"), differences in content and downstream technologies can still create a perception of unfairness.

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[40] Scott Patterson & Jean Eaglesham, *SEC Probes Rapid Trading* (Mar. 23, 2012), *available at* http://online.wsj.com/news/articles/SB10001424052702304636404577297840134760650.

[41] BATS Amended Form S-1 at 25.

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> Perceptions of unfairness are also present with respect to the market data exchanges use in their matching engines and routing infrastructure to calculate the national best bid and offer ("NBBO"). Some have suggested that exchanges that use the SIP data to calculate the NBBO provide unfair opportunities to sophisticated traders to engage in risk-free latency arbitrage.[42]

96. In early August 2014 it was reported that BATS was in advanced talks with the SEC to settle allegations that it gave unfair advantages to high-speed traders, including creating and providing order types that gave HFT firms an edge over investors on its exchanges.

Direct Edge

97. Like BATS and the other exchanges, Direct Edge, which completed a merger with BATS on January 31, 2014, represented during the Class Period that it "maintain[s] a fair and orderly market"[43] for the benefit of all investors. For instance, in 2012, Direct Edge released a "statement of principles" designed to "help restore investor confidence and provide a better environment for the trading of small and large-company stocks

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[42] Testimony of Joe Ratterman at 4, 6, *available at* http://www.google.com/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=2&ved=0CCQQFjAB&url=http%3A%2F%2Fcdn.batstrading.com%2Fresources%2Fpress_releases%2FJoe-Ratterman-Testimony-06-171-14.pdf&ei=t58CVOHgMYe6iwKqkoH4Aw&usg=AFQjCNEESwkNVXuL3Za_Unv6DP3r7A8gsA.

[43] DirectEdge, Clearly Erroneous Review Requests, *available at* http://www.directedge.com/Regulation/ClearlyErroneousPolicy.aspx.

alike."[44] As part of these principles, former Direct Edge CEO William O'Brien ("O'Brien") proclaimed:

> To start with the premise that there is an "unlevel playing field" is unfairly accusatory and alarmist, and does nothing to restore investor confidence. . . . [T]he focus should be on ensuring that exchanges can consistently provide great results for a broad spectrum of investors.
>
> * * *
>
> Stock exchanges function best when diverse participants all believe they are getting a near-optimal outcome. This gives them the confidence to submit their order into a trading venue with maximum transparency, price discovery and liquidity.
>
> * * *
>
> Thus the increasing automation of the stock market should be viewed as something that works to greatly improve investor confidence.[45]

98. But during the Class Period, Direct Edge at times only disclosed its unfair order types to a select group of predatory HFT firms. Additionally, Direct

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[44] Press Release, *Direct Edge Statement of Market Structure Principles*, Prepared remarks of Direct Edge CEO William O'Brien to be delivered June 20, 2012 before The Committee on Financial Services Subcommittee on Capital Markets and Government Sponsored Enterprises, United States House of Representatives at a hearing titled "Market Structure: Ensuring Orderly, Efficient, Innovative and Competitive Markets for Issuers and Investors" (June 19, 2012), *available at* http://www.directedge.com/About/PressReleases/tabid/363/articleType/ArticleView/articleId/79/Direct-Edge-Statement-of-Market-Structure-Principles.aspx.

[45] *Id.*

Edge often only marketed its enhanced data feeds and co-location services to those who could afford them. And even assuming all market participants had access to all of Direct Edge's services, Direct Edge's CEO himself admitted that "[t]he process for acquiring and using this [market] data is currently cumbersome and expensive," and "entails significant fixed costs even before any explicit exchange market data fees are paid, with total costs for retail firms of upwards of $1 million or more per month. This leads to such information being restricted to investors, creating the perception of 'haves' and 'have nots.'"[46]

99. As a result of its conduct, Direct Edge has come under the microscope of regulators. In March 2012, it was reported that the SEC was "examining the communications between some rapid-fire trading firms and Direct Edge Holdings LLC."[47] In early August 2014 it was reported that BATS was in advanced talks with the SEC to settle allegations that it, and Direct Edge, gave unfair advantages to high-speed traders, including creating and providing order types that gave HFT firms an edge over investors in their markets. Former Direct Edge CEO O'Brien was reportedly ousted from BATS in large part because of the SEC investigation, forthcoming settlement and related public misstatements surrounding the data feeds BATS utilizes to price stock trades on its exchanges.

CHX

100. Launched in 2007, the CHX's Matching System claims to offer "access to a fair, open, and neutral market

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[46] *Id.*

[47] Scott Patterson & Jean Eaglesham, *SEC Probes Rapid Trading* (Mar. 23, 2012), *available at* http://online.wsj.com/news/articles/SB10001424052702304636404577297840134760650.

place with diverse order flow" from retail brokers, CHX Institutional Brokers, NASD market makers and CHX market makers.[48] But having fallen from one of the premier exchanges following the implementation of Reg NMS, CHX actively courted HFT, encouraging co-location in its Chicago Data Center and constantly seeking to upgrade functionality to reduce turnaround time and enhance processing of market data.[49] CHX also provides a "maker-taker" fee structure, paying traders for ostensibly providing liquidity.

101. CHX's desire to decrease latency was discussed in a November 21, 2011, Markets Media article *Chasing Speed*:

> "Speed remains important, it's become the norm," David Herron, chief executive officer of the Chicago Stock Exchange, told Markets Media. "Unfortunately, a couple of thousand miles is an issue."
>
> Because of that, the CHX is looking to open a new data center on the east coast in an effort to lower execution times for its clients that have data centers in the New York and New Jersey area. The new data center will handle its Tape A matching engine, while it[s] Tape B matching engine will remain in Chicago.
>
> "We need to be closer to the bulk of the firms in New York and New Jersey data centers to limit data transmission lag," said Herron. "It will help

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[48] Chicago Stock Exchange Matching System (2008), *available at* http://www.chx.com/trading-information/matching-system/; *see also* The Handbook of World Stock, Derivative & Commodity Exchanges.

[49] http://www.wallstreetandtech.com/dir/?id=462.

> as far as reducing execution time, turnaround time, and will help with cross connecting."

102. In the May 2013 issue of *Traders Magazine*, CHX's CEO David Herron ("Herron") discussed the need to cater to HFTs and other purported "liquidity providers" in an article entitled *Fund Fight; Nasdaq, NYSE and BATS are slugging it out with incentives, new order types and a new exchange to resuscitate trading in ETFs*:

> "It's a natural evolution born from the end of the specialist market-making system, where people via rule had an affirmative obligation to lay a tight market and maintain a fair and orderly market and basically provide liquidity when no natural liquidity was available," said Dave Herron, chief executive of the Chicago Stock Exchange.

According to *Traders Magazine*, in Herron's estimation, you need to pay fees to "market makers" that meet specified liquidity and market quality goals to kick-start trading in less-liquid securities.

103. Then on August 15, 2013, the SEC issued a Cease-and-Desist Order and imposed sanctions – including a penalty of $300,000 – on CHX for:

> fail[ing] to implement policies and procedures reasonably designed to detect and prevent improper trade-throughs, and failed to regularly surveil to ascertain the effectiveness of such policies and procedures and take prompt action to remedy any deficiencies, in violation of Rule 611 [of Reg NMS]. In addition, CHX failed to monitor and enforce compliance by its members with the Ex-

change's own rules in violation of Section 19(g)(1) of the Exchange Act.[50]

104. According to the SEC, CHX had been notified of abuses of the validated cross system as early as March 2008 from a broker-dealer customer of the exchange who reported that its traders "repeatedly manipulated the validated cross system to execute trades that advantaged accounts held by hedge funds (which generally paid higher commissions) at the expense of accounts belonging to various employee[s'] stock purchase plans, employees['] stock option plans, and similar plans."[51] Notwithstanding these "red flags," CHX did nothing to "implement effective surveillance procedures reasonably designed to prevent abuses of the validated cross system."[52]

The Exchanges Reap Massive Profits by Providing Co-Location and Low-Latency Enhanced Data Feed Services to HFT Firms

105. In the wake of the implementation of Reg NMS, the national stock exchanges faced increasing competition from new exchanges and alternate trading venues, and consequently competition for order flow, which is essential in generating revenue for the Exchanges. At the same time, ultra-fast electronic proprietary trading outfits (*i.e.*, HFT firms) were seeking new ways to capitalize on arbitrage opportunities, including exploiting information latencies.

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[50] *In the Matter of Chicago Stock Exchange, Inc.*, SEC Release No. 70214, Order Instituting Administrative and Cease-and-Desist Proceedings, Market Findings, and Imposing Remedial Sanctions and a Cease-and-Desist Order Pursuant to Sections 19(h)(1) and 21C of the Securities Exchange Act of 1934 at 2 (Aug. 15, 2013), *available at* http://www.sec.gov/litigation/admin/2013/34-70 214.pdf.

[51] *Id.* at 5.

[52] *Id.*

106. "Latency" is the time between the moment a signal to buy or sell a share is sent from a broker or HFT firm and when it is received by a trading venue. Several factors determine the latency of a trading system, including the boxes, the logic and the lines the broker uses to transmit the order, and whether the order is first sent to a public stock exchange or to an alternate trading venue. The boxes are the machinery through which the signals pass on their way from Point A to Point B, *i.e.*, the computer servers and signal amplifiers and switches. The logic is the software, the code instructions that operate the boxes. The lines used to be just the glass fiber-optic cables that carry the information from one box to another. The single biggest determinant of speed used to be the length of the fiber, or the distance the signal needs to travel. To expedite transmission, some firms now transmit data between Chicago and New Jersey via microwave signals sent from tower to tower as well.

107. Against this backdrop, the Exchanges capitalized on HFT firms' demands for products and services that increase speed and provide exclusive access to information, most notably the ability to obtain trading data at faster speeds through co-location and low-latency[53] enhanced data feeds, and demands for exceedingly complex order type products that only a select few, namely the Exchanges and HFT firms, can take advantage of or even understand. One well-respected *New York Times* financial reporter aptly explained the dynamics between the Exchanges and HFT firms in this context as follows: "[The] exchanges don't just passively allow certain investors to connect to their systems. They have created systems and pricing tiers specifically for high-speed trading.

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[53] In this context, low-latency activity can be defined as strategies that respond to market events in the milliseconds environment.

They are charging higher rates for faster speeds and more data for select clients. The more you pay, the faster you trade."[54]

Co-Location

108. One of the pillars of the Exchanges' new world of generating increased order flow from HFT firms is selling server space in close proximity to the Exchanges' servers so that the HFT firms can trade at lightning-fast speeds. This practice is commonly referred to as selling "co-location" services. When combined with either (or both) of the enriched data feeds or complex order types (as discussed herein), co-location results in a manipulative device under the Exchange Act because it either (1) allows HFT firms to gain access to public information sooner than the investing public (and thereby trade on that information before it is publicly disseminated); or (2) permits HFT firms to front-run the non-HFT investing public by gaining access to pricing and other trading-related information based on what is in the queue versus what is displayed. In either event, by such conduct, the Exchanges have diverted billions of dollars annually away from non-HFT market participants such as Plaintiffs and the Class and into the hands of the Exchanges and their preferred HFT customers. The Exchanges knew that HFT firms seeking an edge over those investors who were not marketed or could not afford such services would pay a premium for the increased speed these services provide.

109. The SEC has defined co-location as a service whereby a stock exchange "rents . . . space to market

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[54] Andrew Ross Sorkin, *Fault Runs Deep in Ultrafast Trading* (Mar. 31, 2014), *available at* http://dealbook.nytimes.com/2014/03/31/fault-runs-deep-in-ultrafast-trading/?_php=true&_-type=blogs&_r=0.

participants that enables them to place their servers in close physical proximity to a trading center's matching engine. Co-location helps minimize . . . [latency times] between the matching engine of trading centers and the servers of market participants." When trading at the speed of light, close proximity to an exchange matters. A one millisecond advantage can be worth $100 million a year to a single HFT firm.[55] Faster access to trading data through co-location allows HFT firms to engage in predatory trading strategies as detailed below. As a result of such strategies, individual and institutional investors such as Plaintiffs and the Class pay higher prices for stocks.

110. The Exchanges boast about their ability to offer faster-speed co-location and other connectivity services to those willing to pay the premium, and seek to differentiate their services from those offered by competing trading venues. For example, NASDAQ OMX Group, the parent of defendants NASDAQ and BX, claims that its new "1G Ultra Client Connectivity" option "is expected to be an average of ***8 to 9 microseconds faster*** [roundtrip] compared to the existing 1G connectivity!"[56] It also touts co-location services designed to "reduce latency," offers connectivity between NASDAQ OMX Group's data center and New York metro hubs on "ultra-low latency millimeter wave networks" at speeds "40%-50% faster than

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[55] Ted Oberhaus, *High-Frequency Trading: The Co-Location Advantage* (May 23, 2014), *available at* http://tabbforum.com/opinions/high-frequency-trading-the-co-location-advantage. There are 1,000 milliseconds in one second.

[56] NASDAQ OMX Connectivity Options – 1G Ultra, Frequently Asked Question (emphasis in original). There are one million microseconds in one second.

the fastest fiber networks."[57] These co-location arrangements are cost prohibitive for most investors. For example, in 2013 defendants NYSE and ARCA charged up to $5,000 upfront and a minimum of $4,800 in monthly co-location rental fees, with fees easily reaching ten times that or more depending on how much space and how many kilowatts customers want.[58] NASDAQ BX charges $13,000 per month for co-location in its "Super High Density Cabinet,' with an installation fee of $7,000.[59] These fees generate huge profits for the Exchanges. By one estimate, exchanges take in $1.8 billion annually as of 2010 for co-location services alone. As these services are not necessary to the operation of a stock exchange, their purpose is purely to generate revenues for the Exchanges. NASDAQ acknowledged as much in a "Notice of Filing" with the SEC in September 2014:

> [NASDAQ] believes that fees for co-location services . . . . are constrained by the robust competition for order flow among exchanges and non-exchange markets, because co-location exists to advance that competition. Further, excessive fees for co-location services, including for wireless technology, would serve to impair an exchange's

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[57] NASDAQ OMX | Co-Location (CoLo), *available at* http://www.nasdaqtrader.com/Trader-.aspx?id=colo (emphasis in original). There are one million microseconds in one second.

[58] Aaron Elstein, *NY AG looks into 'Insider Trading 2.0'* (Mar. 18, 2014), *available at* http://www.crainsnewyork.com/article/20140318/BLOGS02/140319867/ny-ag-looks-into-insider-trading-2-0# document; Exhibit 5, Schedule of Fees and Charges for Exchange Services by NYSE Arca Equities, Inc., *available at* http://www.sec.gov/rules/sro/nysearca/2013/34-71130-ex5.pdf.

[59] Co-location fees at CHX currently run up to $500 per month ($6,000 per year).

ability to compete for order flow rather than burdening competition.[60]

111. By any measure, "advanc[ing] competition" for "order flow among the exchanges" is an activity that does not fall within any regulatory function that has been delegated to the Exchanges

112. If there was ever any doubt as to whom the Exchanges marketed their co-location services, defendant NYSE's promotional materials make it unequivocally clear that "[h]igh frequency and proprietary trading firms, hedge funds and others who need high-speed market access for a competitive edge" were the intended targets.[61] The materials also tout "extremely low latency access to NYSE Euronext's markets, including NYSE . . . and NYSE Arca," and admit that "[c]onnecting to today's electronic markets is complex and expensive, but is critical for firms seeking to remain competitive and satisfy clients' performance demands."[62] The image below is an excerpt from these materials.

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[60] The NASDAQ Stock Market LLC, *Notice of Filling and Immediate Effectiveness of Proposed Rule Change to Amend Fees for Optional Wireless Connectivity for Co-located Clients*, Exchange Act Release No. 34-73132 at 8 (September 17, 2014), *available at* http://www.sec.gov/rules/sro/nasdaq/2014/34-73132.pdf.

[61] Service Description, Colocation: NYSE Euronext's U.S. Liquidity Center at 1 ("NYSE Promo"), *available at* http://www.nyxdata.com/doc/35072; *see also* Pam Martens, *High Frequency Trading Is Not Like a First Class Airline Ticket – Unless You Have Also Hijacked the Plane and Robbed the Passengers in Coach* (Apr. 29, 2014), *available at* http://wallstreetonparade.com/2014/04/high-frequency-trading-is-not-like-a-first-class-airline-ticket-%E2%80%93-unless-you-have-also-hijacked-the-plane-and-robbed-the-passengers-in-coach/.

[62] NYSE Promo at 1.

Lowest Latency Access to NYSE Euronext's Markets in North America

FAST FACTS

What is it?

Fully managed colocation space next to NYSE Euronext's U.S. trading engines in the new state-of-the-art data center.

Who is it for?

High frequency and proprietary trading firms, hedge funds and others who need high-speed market access for a competitive edge.

What does it provide?

Access to NYSE Euronext's U.S. trading engines at extremely low latency and connectivity to NYSE Euronext's market data through NYSE Euronext's SFTI network.

113. Although defendants Direct Edge and BATS do not maintain their own co-location data centers themselves, they provide the service through unregulated third parties, which NYSE itself has recognized takes co-location "out of the realm of regulation simply by virtue of the structuring of the offering," which "could result in an extremely tilted playing field based on real estate proximity."[63] Consequently, Direct Edge and BATS charge fees to clients to "cross connect" to the Direct Edge and BATS servers located within the third party

[63] Letter from NYSE Euronext to CFTC Chairman Gary Gensler and SEC Chairman Mary Schapiro, Sept. 21, 2009 ("NYSE letter") at 2, *available at* https://www.sec.gov/comments/4-588/4588-42.pdf.

facilities, providing HFT firms with the same (or better) latency edge over Plaintiffs and the Class that NYSE, NASDAQ and CHX provide through operating the data centers themselves. 10G "physical" connection port charges alone run up to $5,000 per month per port on the BATS BZX exchange and up to $2,000 per month on Direct Edge's EDGX exchange. In third party facilities, well-funded HFT firms can pay a premium to sit next to the matching engine, leaving less financially adept firms on the other side of the data center and at a latency disadvantage. Of course, those traders unable to connect directly to one of these data centers in the first place is at an even greater disadvantage than the HFT firm at the far end of the room.

114. The ability to cross connect was actually developed as part of larger suites of technology-based services designed to compete with similar services already offered by defendants NYSE and NASDAQ. For example, in 2013 NASDAQ OMX Group charged $13,000 per month to co-locate in its high-end "Super Cab" co-location cabinet, but customers must also pay for fiber cross-connects, bandwidth, electricity and copper wiring, among other services, to fully realize the benefits of co-location. Further, the Exchanges sometimes offer discounts on their services, including co-location fees. In late 2013, for example, NYSE changed its pricing for some co-location services, and offered:

> a one-time Cabinet Upgrade fee of $9,200 when a User requests additional power allocation for its dedicated cabinet such that the Exchange must upgrade the dedicated cabinet's capacity. A Cabinet Upgrade would be required when power allocation demands exceed 11 kWs. However, ***in order to incentivize Users to upgrade their dedicat-***

> ***ed cabinets***, the Exchange proposes that the Cabinet Upgrade fee would be $4,600 for a User that submits a written order for a Cabinet Upgrade by January 31, 2014 . . .[64]

It is hard to imagine how charging such exorbitant fees to a limited number of HFT firms with bottomless purses complies with the duty of the national securities exchanges to provide equal access to all investors.

115. Catering to HFT firms' predatory trading strategies and jockeying for HFT firm business at the expense of Plaintiff and the Class through private business operations designed to increase revenues has, since at least the beginning of the Class Period, been the Exchanges' modus operandi. For example, Direct Edge hired NASDAQ OMX's former head of NASDAQ Access Service (including the co-location business) to spearhead the company's connectivity services, including Connect Edge, which he described as: "Direct Edge's move into other areas into which we can provide value. ***We see it as obtaining additional revenue***."[65] Direct Edge rolled out Connect Edge during a "soft launch" in the summer of 2010 to "specific handpicked customers," including "sell side firms looking to control their infrastructure. . ."[66] Likewise, the chief technology officer at NYSE Technol-

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[64] Self-Regulatory Organizations; New York Stock Exchange LLC; Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Offer Partial Cabinets and Cabinet Upgrades As Part of Its Co-location Services and to Amend its Price List to Reflect the New Services, *available at* http://www.sec.gov/rules/sro/nyse/2013/34-71122.pdf (emphasis added).

[65] Ivy Schmerken, *Direct Edge Launches Connectivity To Other Equity Markets* (Nov. 15, 2010), *available at* http://v5.wallstreetandtech.com/infrastructure/direct-edge-launches-connectivity-to-oth/228200952.

[66] *Id.*

ogies, the technology division of NYSE Euronext (operator of the exchanges run by defendants NYSE and ARCA), admitted in 2012 that "***[p]eople who trade utilizing co-location tend to use arbitrage strategies***." Not surprisingly, it is widely acknowledged that exchanges like BATS and Direct Edge, among others, "built trading platforms that cater to high-speed traders,"[67] with the specific goal of attracting trading volume and increasing revenues.

116. Significantly, NYSE offered co-location services from 2006 until September 2010 – seventeen months into the Class Period – without an exchange rule in place, presumably because it did not view co-location as part of its regulatory functions. This practice of charging co-location fees to favored HFT firms well into the Class Period drew a $4.5 million fine from the SEC in 2014. In its order issuing the penalty, the SEC found that:

> The fees that were charged for co-location . . . were not transparent or made publicly available. In addition, the fees that NYSE charged for co-location services . . . were not uniform for all customers, and were the product of discrete negotiations with each customer, such that each customer negotiated its own fees. As a result, not all . . . customers paid the same fees for the same types of services.[68]

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[67] Ivy Schmerken, *Will the BATS-Direct Edge Merger Raise Stakes for Rival Exchanges?* (Aug. 26, 2013), *available at* http://www.wallstreetandtech.com/exchanges/will-the-bats-direct-edge-merger-raise-stakes-for-rival-exchanges/d/d-id/1268366?.

[68] SEC Release No. 72065, Order Instituting Administrative And Cease-And-Desist Proceedings Pursuant To Sections 19(H)(1) And 21c Of The Securities Exchange Act Of 1934, Making Findings, And

Even after NYSE began standardizing its fees for new co-location customers in mid-2009, it allowed pre-existing customers to continue paying the fees for which they previously had contracted.[69] Defendants CHX and NASDAQ also charged fees for co-location services without SEC orders approving such fees until March 10, 2010 and June 28, 2010, respectively.

117. At the same time, NYSE Eurnonext actually misled regulators about the nature of co-location in a letter to the SEC and CFTC Chairmen in 2009, claiming "[i]t is important to note that retail investors are not disadvantaged by co-location."[70] The NYSE Letter continued: "Co-location provides operational, not informational advantages . . . With co-location, the information is made available at the same time to all market participants and the difference with respect to receipt of the information lies in the operational capacity of the trading firm's systems."[71] Although NYSE was correct that co-location is an operational function of exchanges, it failed to explain the fact that NYSE, like the other Exchanges, offers co-location services to attract HFT order flow because HFT firms utilize co-location in conjunction with direct and enhanced data feeds to create their own "synthetic" or "constructive" NBBOs and greater depth of order book information substantially earlier than what is publicly available from the SIP, allowing them to achieve virtually risk free arbitrage opportunities, as explained in greater detail below.

Imposing Remedial Sanctions And A Cease-And desist Order, *available at* http://www.sec.gov/litigation/admin/2014/34-72065.pdf.

[69] *Id.*

[70] NYSE Letter at 1.

[71] *Id.* at 2.

Direct and Enhanced Feeds

118. The Exchanges also provide HFT firms the ability to receive enhanced trading information at faster speeds through the Exchanges' low-latency direct data feeds. These feeds are in contrast to the SIP feeds which include trade and best-price order information reported by the Exchanges and which are widely available to the public (also referred to as the consolidated feed or consolidated tape). As a leading market data provider has explained, "[t]here are over 2.5 million subscribers paying exchanges approximately $500 million a year for SIP data . . . with the expectation of receiving comprehensive, accurate, real-time prices for stocks: unfortunately . . . they aren't getting any of that."[72] This is because HFT firms receive these direct market data feeds from the Exchanges at speeds faster than the SIP. Moreover, the sensitive direct feed trading data allows HFT firms "to track when an investor changes price on his order, how much stock the investor is buying or selling in accumulation, as well as the ascertaining of hidden order flow."[73] Consequently, "[t]his information assists HFTs in predicting short-term price movements with near certainty."[74]

119. When combined with either the co-location services referenced above or the complex order types discussed herein, direct and enhanced data feed products

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[72] *HFT Front Running, All The Time* (Sept. 30, 2013), *available at* http://www.1nanex.net/aqck2/4442.html.

[73] Sal Arnuk & Joseph Saluzzi, *Exchanges and Data Feeds: Data Theft on Wall Street* at 1 (May 11, 2010), *available at* http://www.themistrading.com/article_files/0000/0554/THEMIS_TRADING-_White_Paper_--_Data_Theft_On_Wall_Street_--_05-11-10.pdf.

[74] *Id.*

constitute manipulative devices under the Exchange Act because, contrary to the fundamental understanding of Plaintiffs and the Class, reinforced by Defendants, that the Exchanges treat all investors fairly, they either (1) allow HFT firms to gain access to public information sooner than the investing public (and thereby trade on that information before it is publicly disseminated); or (2) permit HFT firms to front-run the non-HFT investing public by gaining access to pricing and other trading-related information based on what is in the queue versus what is displayed.

120. The SEC has continued to emphasize the importance of the consolidated data feeds on many occasions, including in its January 2010 Market Structure Concept Release where it stated that, "[a]s a result [of consolidated market data], the public has ready access to a comprehensive, accurate, and reliable source of information for the prices and volume of any NMS stock at any time during the trading day. This information serves an essential linkage function by helping assure that the public is aware of the best displayed prices for a stock, no matter where they may arise in the national market system."

121. Reg NMS requires that trades be executed on the exchange offering the best price at the time of the order. In order to make compliance with that requirement possible, Reg NMS established an NBBO, which would be the best price at which any trade would have to be executed. The NBBO is determined from bid and order data centralized by SIP, which gathers groups of bids and offers on a computer and disseminates them to market participants through their computers. The SIPs are now maintained by the two primary exchanges, NYSE and NASDAQ, each exchange's SIP collecting all bids

and offers on any exchange for all stocks listed on that exchange.

122. NBBO is the heart of the NMS envisioned and purportedly implemented by Reg NMS. It assures that, even with a multiplicity of exchanges, each trade will be executed on the best terms available.

123. Reg NMS did not establish a minimum (or maximum) speed at which data regarding bids and offers must be collected and then transmitted by the SIPs to market participants. Reg NMS does require, however, that the SIPs transmit such data so as to be received by all market participants at the same time. In direct contravention of that rule during the Class Period, and therefore outside the ambit of their regulatory function, the Exchanges sold and continue to sell alternative data feeds to market participants, for extremely high fees, that provide either or both of (a) faster transmission of data regarding bids and offers than provided by the SIPs (*i.e.*, so-called "direct feeds") and (b) a greater depth of data regarding bids and offers than provided by the SIPs (*i.e.*, so-called "enhanced feeds"). These alternative data feeds gives market participants who are able and willing to pay extremely high fees to the exchanges an enormous competitive advantage over other market participants. Given that only two exchanges are paid to maintain SIPs, and these alternative data feeds yield even those exchanges substantially higher fees than their SIP yields them, the exchanges have a clear incentive to put their resources into these alternative feeds at the expense of the SIPs.[75]

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[75] In January 2014, NASDAQ gave notice to the Unlisted Trading Privileges Committee of the exchanges, the body responsible for overseeing the administration of the SIPs, that it does not intend to renew its contract to maintain its SIP after it expires in 2016, owing

124. A hypothetical example of the advantage provided to market participants by a direct feed follows. An exchange 50 miles away from the NYSE receives a bid for an NYSE-listed stock at 10:00:00.0000 AM. A market participant co-locating with that exchange, or maintaining a computer adjacent to that exchange, who purchases a direct feed from that exchange will receive data regarding that bid almost immediately. However, it might take the data regarding this bid .0002 seconds to reach the computer on which the NYSE aggregates and then transmits bid and order data for its SIP. When such a bid comes into the NYSE's computer, the computer wipes the time-stamp showing the time at which the initial exchange transmitted it, and transmits data via its SIP, at a much slower speed than a direct feed, bearing a time-stamp showing the time of the NYSE's transmission. Accordingly, market participants receiving the data by means of the SIP – the vast majority of investors – do not know that the data was already .0002 seconds stale when first transmitted to them. They do not know that other market participants, willing to pay high fees to the initial exchange, had received the trade data more than .0002 seconds earlier.

125. While the Exchanges understand Reg NMS permits market participants to construct their own "synthetic" and "constructive" NBBOs and to trade according to them, they also know and intend that the subscribers to direct and enhanced data feeds from several exchanges are given an unfair advantage in creating and trading on their own NBBOs based on data that are much timelier and more accurate than the NBBO established by the SIP.

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to NASDAQ's dissatisfaction with the Committee's failure to cooperate with NASDAQ's attempts to upgrade its SIP.

126. Further advantages are provided by "enhanced feeds." Enhanced feeds provide greater depth of information than the SIPs. The SIPs provide "the top of the book": the single best bid and the single best offer for a given stock on any of the exchanges. At ascending price levels, enhanced feeds provide greater depths of order book information for the particular exchange providing the feed, starting from a feed providing the single best bid and the single best order on ***that*** exchange (rather than, as with SIP, the single best bid and the single best offer from ***any*** of the exchanges), to a feed providing each and every bid and each and every order on the exchange. This greater depth of market information is important, because the greater depth of market information an investor has, the more informed a decision the investor can make concerning market trends: the state of the market for a given stock or industry, the direction of market movement of that stock or industry, the total market demand for a stock or industry, etc. This greater depth of data is especially useful to HFTs, who feed it into computers with algorithms that analyze and respond to it immediately, enabling them to engage in latency arbitrage and other manipulative conduct described herein.

127. This information, however, comes at a high price, excluding the vast majority of market participants who are unable or unwilling to pay such high fees. Indeed, such high fees are not feasible for traditional buy-and-hold investors, but only make sense for entities making mostly speculative short-term investments that they rarely hold for as long as even a day. Moreover, not only are the monthly fees charged by each exchange enormously high, but in order to get maximum benefit from direct and enhanced data feeds, a market participant must purchase the feeds from many or all exchanges – an

expense that few market participants can bear. The only reason HFT firms are willing to pay such exorbitant fees is that the informational and technological advantages sold by the Exchanges give them an unfair advantage over Plaintiffs and the Class.

128. In fact, one leading HFT firm, Virtu Financial, Inc., has itself confirmed that subscribers to direct feeds (primarily HFT firms) regularly receive quote and trade data faster than recipients of consolidated market data. The consolidated data, according to Congress, "serves as the heart of the national market system,"[76] and according to the SEC should provide the public with a "comprehensive, accurate, and reliable source of information for the prices and volume of any NMS stock at any time during the trading day." The Exchanges can charge over $10,000 a month for direct feed fees alone and there are several equity-trading exchanges for which a customer would need a direct feed from each – and that is not including the approximately $10,000 per month in necessary telecommunications fees. Although supporters of the Exchanges' proprietary feeds argue that this information is equally available to all investors, the reality is that not many individual or institutional investors have the resources to pay for this information or invest in the computer and telecommunications systems needed to access this information, assuming they are aware it exists at all.

129. For example, Direct Edge charged enterprises from $50,000 for its most basic feed to $100,000 per month for its most in-depth enhanced feed. Moreover, Direct Edge has described its market data product, BATS One Feed, as "60% less expensive per professional

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[76] H.R. Rep. No. 94-229, 94th Cong., 1st Sess. 93 (1975).

user and more than 85% less expensive for an enterprise license for professional users (50% less for non-professional users) when compared to a similar competitor exchange product."[77] If Direct Edge derived the savings rates based on its cheapest option, BATS One Summary, then, according to Direct Edge, competitive exchanges are charging professional users as much as $333,333 per month for an enterprise license for a budget direct data feed. NASDAQ charges similar rates to enterprises. An enterprise license for a direct NASDAQ data feed costs between $25,000 per month plus additional subscriber fees up to $500,000 per month.

130. In 2012, the SEC issued its first-ever financial penalty against an exchange – the NYSE – for giving market data to its own direct feeds faster than to the SIP. The SEC wrote of its $5 million fine that:

> *"[I]mproper early access to market data, even measured in milliseconds, can in today's markets be a real and substantial advantage that disproportionately disadvantages retail and long-term investors,"* said Robert Khuzami, Director of the SEC's Division of Enforcement. "That is why SEC rules mandate that exchanges give the public fair access to basic market data. *Compliance with these rules is especially important given exchanges' for-profit business interests.*"[78]

131. In summary, by selling co-location and direct and enhanced information feed services, and in exchange

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[77] Direct Edge, BATS One Feed, *available at* http://www.directedge.com/MarketData/BATSOneFeed.aspx.

[78] Press Release, *SEC Charges New York Stock Exchange for Improper Distribution of Market Data* (Sept. 14, 2012), *available at* http://www.sec.gov/News/PressRelease/Detail/PressRelease/1365171484740#.VATf_6Pn93w.

for a premium, the Exchanges provide HFT firms with an enhanced glimpse into what the market is doing before others who do not have similar access. As a result, the Exchanges create a two-tiered market where individual and institutional investors trade with an informational disadvantage to technology-enhanced insiders such as HFT firms. These services offered by Defendants are not sanctioned by the regulatory framework provided under the securities laws, serve no governmental or regulatory purpose, have no beneficial effect on market quality, and are designed to benefit to the Exchanges and their most profitable customers, who leverage this non-public information to profit at the expense of Plaintiffs and the Class through predatory trading tactics such as electronic front-running, latency arbitrage, spoofing, layering and contemporaneous trading.

The Exchanges' Discriminatory Fee Structure

132. Rule 610 of Reg NMS, also known as the "Access Rule," sought to curb certain abuses but failed to go far enough. Indeed, both Exchanges and HFT firms took advantage of the revised regulatory structure and engaged in predatory and manipulative conduct beyond the limits of what the new rule covered, including the offering by the Exchanges of new and complex order types that HFT firms could leverage to the Exchanges' and HFT firms' benefit and to the detriment of Plaintiffs and the Class.

133. Under Rule 610(d), an exchange must adopt, maintain and enforce rules that "prohibit its members from engaging in a pattern or practice of displaying quotations that lock or cross any protected quotation in an

NMS stock."[79] In other words, Rule 610 banned "locked markets" – where the best price buy order at one exchange is marketable against and priced equally to the best priced sell order at another exchange, but the order itself is designated "non-routable" by the broker and therefore cannot be matched with the order on the other exchange.[80] The concern of regulators was that "displaying quotations that lock or cross previously displayed quotations is inconsistent with fair and orderly markets and detracts from market efficiency."[81]

134. In implementing Rule 610, the SEC was also concerned about the economic incentives created by the "maker-taker" model, where the Exchanges paid HFT firms a rebate to "make" liquidity and charged investors a fee to "take" liquidity. The model "made it economically sensible for parties to lock markets to attempt to execute for rebate, when such parties would otherwise incur a taker fee if they were routed to the venue displaying the best price."[82] As the SEC acknowledged in Reg NMS: "Often, the locking market participant is not truly willing to trade at the displayed locking price, but instead chooses to lock rather than execute against the already-

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[79] Reg NMS at 206. NMS stock effectively includes stocks listed on a national securities exchange.

[80] Non-routable orders are orders sent to an exchange that do not authorize that exchange to route the order to another market for execution when the exchange is not displaying the NBBO. These orders are only executable on the exchange to which they are sent, so as to avoid paying the exchange a routing fee. By contrast, exchanges typically make routable orders the default order type because of their desire to collect routing fees.

[81] *Id.* at 194.

[82] Haim Bodek, *The Order Type Controversy, Part I: Price to Comply* (Mar. 10, 2014), *available at* http://tabbforum.com/opinions/the-order-type-controversy-part-i-price-to-comply.

displayed quotation to receive a liquidity rebate."[83] Despite these concerns, the rule both failed to take into account the full extent that HFT "is actually inspired by race conditions to get exchange and dark-pool proffered rebates,"[84] and failed to effectively address HFT rebate-subsidized scalping strategies. In reality, the rebates were crucial to HFT firms' existence, and the drive to capture them drove the Exchanges to develop new mechanisms for HFT firms to collect them. The extent to which this revised regulatory structure changed the incentives of HFT firms, and the manner in which the Exchanges took advantage of those incentives to engage in self-interested conduct not designed to serve any governmental or regulatory purpose or design, is described in part by the following account:

> The implementation of REG NMS in 2007 changed the mechanisms for achieving queue position in a price-time priority market. This fundamentally changed trading strategies and exchange matching practices. By banning locked markets, REG NMS constrained the mechanisms through which a price movement occurred in the U.S. market. Thus, Rule 610 defines precisely the conditions in which an HFT can achieve a superior place in the queue (*i.e.*, when an order would not lock an away market).
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> The ban resulted in HFTs being forced to engage in "spam and cancel" strategies that repeatedly

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[83] Reg NMS at 197.

[84] *Let's Talk Locked and Crossed – Lock Stock and Two Smoking Barrels* (Dec. 9, 2013), *available at* http://blog.themistrading.com/lets-talk-locked-and-crossed-lock-stock-and-two-smoking-barrels/.

> attempted to get to the top of the order queue on a price move. Such strategies would attempt to "step in the middle" to set a new aggressive price. This invariably locked away markets. Rule 610 demanded that such orders not be accepted at the entered price.
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> This activity caused immense load on exchanges, but in no way did exchanges want to discourage high-volume HFT order flow. To court HFTs, exchanges provided a number of specialized features to assist "spam and cancel" strategies, many of which are still operational today.[85]

135. The Exchanges cultivated the HFT firms' rebate strategy, while simultaneously attracting HFT order flow and volume on their trading venues, through offering "specialized features" such as new and complex orders types and order type combinations, including "hide and light" and Post-Only Day ISO orders, that allow HFT firms to "jump" to the top of an exchange's limit order queue to ensure that the firm captures a rebate and not pay a "taker" fee. While the ban on locked markets interfered with the economic incentives of the Exchanges and sophisticated HFT firms, the mechanisms developed by the Exchanges in response to Reg NMS, along with other manipulative practices designed to benefit the Exchanges and HFT firms described herein, allowed both the Exchanges and favored HFT firms to reap financial benefits at the expense of Plaintiffs and the Class. While Reg NMS did not expressly prohibit the acts and practices the Exchanges engaged in, it neither mandated nor permitted the Exchanges to further their own business

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[85] Haim Bodek, *The Problem Of HFT: Collected Writings On High Frequency Trading & Stock Market Structure Reform* 30-31 (2013) ("*The Problem of HFT*").

interests by favoring one group of traders (who generated tremendous amounts of volume and revenues for the Exchanges) against the investing public as a whole – acts and practices that are outside any governmental or regulatory function delegated to the Exchanges.

The Exchanges Create Complex Order Types Designed for HFT Firms to Prey on Investor Orders

136. To maximize the benefits of high speed trading, and, in turn, to increase order flow, the Exchanges have designed hundreds of new "order types" – preprogrammed commands traders use to tell exchanges how to handle their bids and their offers to sell. In their simplest form, order types give an exchange's customer different ways to interact with the market. But, as part of the fraudulent and deceptive scheme alleged herein, the Exchanges have developed new and exceedingly complex order types that only benefit the Exchanges and HFT firms at the expense of Plaintiffs and the Class.

137. As an initial matter, the Exchanges' attempted disclosure (or complete lack thereof) of complex order type functionality and order handling practices to the SEC and the public are wholly insufficient for even the most sophisticated investor to understand and/or utilize. The same can be said for the way these complex order types are used by HFT firms in combination with co-location services and/or enhanced data feeds.

138. To attract more HFT customers, the Exchanges offer HFT firms the ability to gain access to the top of their "order book," or the queue of buy and sell orders that are typically ranked by price and when they were received, which is crucial for HFT firms to execute their predatory strategies and in many instances collect "maker" rebates (and avoid paying the "taker" fee) from the

Exchanges. The complex order types created and provided by the Exchanges, in combination with the Exchanges' selective disclosure of order type functionality, are key to providing HFT firms with superior queue positioning, including the ability to jump ahead of other investors in an exchange's order book, enabling HFT firms to regularly and repeatedly profit to the detriment of unsuspecting investors. The complex order types created by the Exchanges that serve to preference HFT firms over ordinary investors include at least the following fraudulent and deceptive practices:

- order handling practices that permit HFT firms to step ahead of investor orders in violation of established rules of priority and precedence;
- rebooking and repositioning of investor orders that permit HFT firms to escape disadvantageous trades;
- conversion of investor orders eligible for maker rebates into unfavorable executions incurring taker fees (under the maker-taker pricing model);
- insertion of HFT intermediaries in between legitimate customer-to-customer matching; and
- discriminatory order handling of investor orders during sudden price movements.[86]

139. With the addition of dozens of alternate trading venues that offered traders the ability to execute bids and offers, exchanges faced increasing competition for order flow, and developing new order types for their most lucrative customers – HFT firms – helped the Exchanges attract and retain their business. This dynamic was explained last year by the Executive Vice President

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[86] *Id.* at 11-12.

of Global Sales for NYSE Euronext (operator of markets run by defendants NYSE and ARCA), who stated that "'*[w]e're always competing for market share, so we try to create products that will attract more volume*.'"[87] This growth in order types, she said, was designed "'*to ensure a customer achieves certain economics*.'"[88] As explained by the founder of leading market data firm Nanex, Eric Hunsader, "'[e]xchanges are losing out to dark pools, so when HFTs ask for a new order type, they get a new order type.'"[89]

140. In general, the new order types were created by the Exchanges for and at the behest of their preferred HFT customers (through exclusive, backroom communications), were marketed solely or at least largely to HFT firms and other favored traders, and were not adequately disclosed to all market participants. For example, a well-known trader who approached the SEC about the order type controversy, Haim Bodek ("Bodek"), explained:

> My direct experience was that exchange marketing departments tended to segment their customer base . . . . If you were an HFT, you were most likely provided entirely different marketing materials than if you were an agency broker responsible for routing institutional orders. In other words, *you were either marketed unfair advantages like queue-jumping or you weren't*. It was that simple."[90]

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[87] Laurie Carver, *Exchange Order Types Prompt Fears of HFT Conspiracy* (Apr. 23, 2013), http://www.risk.net/risk-magazine/feature/2261626/exchange-order-types-prompt-fears-of-hft-conspiracy.

[88] *Id.*

[89] *Id.*

[90] *The Problem of HFT* at 9.

Another high frequency trader hinted at the selective disclosure of order types that allow queue jumping as follows: "'We talk a lot to the exchanges, to optimize the order type for a given trade. Sometimes you'll want to pay the rebate and sometimes want to take it – but ***what's really essential is to jump to the head of the queue. You pay for it, but you jump to the head***.'"[91]

141. Significantly, these sentiments have been substantiated by employees of the stock exchanges themselves, including one who worked for Archipelago (which after a merger with NYSE Group became defendant ARCA) who said of the early creations of the new order types:

> "We created all these different order types to accommodate how [some market participants] wanted to trade . . . . We tweaked how the order would interact with our book according to what they wanted. ***A lot of the unique orders were created at the request of a customer, typically a high frequency customer***. You had to be a sophisticated customer to learn how to use it."[92]

Similarly, a technologist who worked at several exchanges clarified that "'[i]t became about meeting the needs of that specific HFT community . . . . We spent a tremendous amount of money trying to meet their needs. . . . It's all about what functionality can I offer the HFT that they can take advantage of. We're going after ***guaranteed economics***.'"[93] In other words, the Exchanges

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[91] Laurie Carver, *Exchange Order Types Prompt Fears of HFT Conspiracy* (Apr. 23, 2013), available at http://www.risk.net/risk-magazine/feature/2261626/exchange-order-types-prompt-fears-of-hft-conspiracy.

[92] *Dark Pools* at 205.

[93] *Id.* at 204 (emphasis in the original).

worked with HFT firms to create ways for those firms to make guaranteed profits at the expense of investors and institutions who had no reason to suspect that new order types were being developed and leveraged to their detriment. According to one NYSE executive, some order types "***are to guarantee economic results***."[94]

142. The Exchanges offer hundreds of new order-type options, which translate to thousands of variations because they behave differently depending on how an HFT firm's trading programs are coded. Moreover, defendant BATS has claimed that it has 2,000 different combinations of instructions for placing orders on its exchanges. Bodek summarized the complexity of this system as follows:

> [N]ot even the most sophisticated user would have been able to determine how top HFT firms employed special order types by scrutinizing exchange [application programming interface] manuals and regulatory filings. The most important details (*e.g.*: intended usage cases, intended order interaction sequences, order precedence rules, etc.) are not documented in any adequate manner.[95]

143. Further, Bodek stated that often "'the rule descriptions [of the complex order types] did not match what was going on at the exchanges.'"[96] By failing to in-

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[94] *Computerized Trading: What Should the Rule of the Road Be? – Part II: Hearing Before the Subcomm. on Sec., Ins., & Inv. of the S. Comm. on Banking, Hous., & Urban Affairs*, 112th Cong. 22 (2013) (remarks of Joseph Mecane, Executive Vice President and Head of U.S. Equities, NYSE Euronext).

[95] *The Problem of HFT* at 48.

[96] Laurie Carver, *Exchange Order Types Prompt Fears of HFT Conspiracy* (Apr. 23, 2013), *available at* http://www.risk.net/risk-

clude important information about how their order types worked in their regulatory filings, or failing to make the filings altogether, the Exchanges thwarted the SEC rule-making process. In doing so, they deprived the investing public of adequate notice of order types; they deprived the public of an opportunity to comment; and they deprived the SEC of information essential to performing its statutory regulatory function. In fact, defendant ARCA was fined by the SEC as recently as May for allowing certain order types to have undocumented features, such as the subpenny functionality.

144. For example, in the wake of Reg NMS's Rule 610, the exchanges used a common order matching engine feature known as the "price slide" order. The practice modifies the price of an order that locked the markets, thereby sliding that order back to a lower queue placement where it would sit. But HFT firms, acting on information about handling mechanisms at the Exchanges not known by the investing public, would "first know that there was an order ahead in a better queue position, and second, cancel the order and retry."[97] As a result:

> While HFTs canceled their slid orders, traditional investor orders would typically just slide without being canceled. This causes the institutional orders to move to the back of the queue and away from the trading action. In this strategy, the HFTs would monopolize the top of the book, interacting with marketable orders, while the institutional-side orders would be at the bottom of the

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magazine/feature/2261626/exchange-order-types-prompt-fears-of-hft-conspiracy.

[97] *The Problem of HFT* at 31.

> queue only to be executed when a large buyer or seller cleared the book.
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> To execute these spam-and-cancel strategies even more quickly, HFTs utilized specialized order confirmation information to detect being slid so they could quickly cancel the price-slid order. Exchanges also provided alternative cancel-back or "opt out" options that literally rejected orders that might have otherwise been placed in a disadvantaged queue position.[98]

By and large, the Exchanges did not adequately inform many of their institutional clients and their brokers such that these investors had no idea that their orders were sliding away from the top of the order book.

145. As the Exchanges realized that they could generate vast profits from attracting HFT firm orders and fees, they began aligning their interests with those of the HFT firms, including enabling predatory HFT strategies by creating new order types and selectively disclosing the existence, function and regulatory pitfalls of these new order types.

146. The disclosures of order type functionality and order handling practices provided by the Exchanges to the SEC and the public are insufficient for even the most sophisticated investor to understand and/or utilize these complex order types without additional information, which the Exchanges make available to HFT firms and not to the investing public.

147. The selective disclosure of complex order type functionality and order handling practices to HFTs by

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[98] *Id.* at 31-32.

the Exchanges has caused measurable harm to investors including, *inter alia*, increased opportunity costs from unexecuted fill orders, adverse selection and price movement bias on executed fill orders, and increased execution costs.

148. The Exchanges have cooperated with the HFT firms in creating these complex order types, and have selectively disclosed their operation and nature only to favored customers, in furtherance of their business interests, and not as part of any governmental or regulatory function that has been delegated to them. The order types favor a certain class of traders over the general investing public because those favored traders generate enormous volume and revenues for the Exchanges.

149. One HFT insider and staunch defender of HFT practices estimated that inferior queue positioning can cost investors 1.7 cents per share, resulting "in ***tens of millions of dollars (conservatively) of extra trading costs for investors (and profits for HFTs)***."[99]

150. The selectively disclosed features of these order types include the following:

a. precedence rules that advantage HFT order types over others (including conditions where price-time priority corruption occurs, and conditions where certain order type priority is firm, though other order types are "re-posted" with new booking times);

b. rules for "hiding" and "lighting" (including conditions for maintaining a hidden state and triggers for

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[99] Attached chart to April 21, 2010 letter from Manoj Narang, Tradeworx, Inc. CEO, to Elizabeth Murphy, SEC Secretary, at 17, *available at* http://www.sec.gov/comments/s7-02-10/s70210-129.pdf (noting the profitability difference between being first in line versus last in line).

lighting, and conditions where incoming orders have preference over "hidden" states or are subordinate to such "hidden" states, including but not limited to, the impact of DAY ISOs as "lighting" events);

c. conditions for adherence to the SIP including the cases where an exchange will use direct feeds in conjunction with the SIP to determine "locking" and "lighting" conditions;

d. conditions and mechanisms where information about an exchange's protected quotation state management, which normally would be expected to remain local to the exchange order matching engine, is communicated to HFTs in an advantageous manner (i.e., mechanisms in which price sliding reject messages provide "re-posting" guidance for HFTs);

e. conditions of eligibility for maker/taker fees and rebates and conditions where fee transference occurs (including the conditions where non-marketable orders are re-posted to execute against special orders to incur taker fees); and

f. scenarios where the various price-sliding conditions are applied (with detail provided for both HFT order types and the common public customer order types), as well as full detail on conditions where "Post Only" orders in a hidden state may internally lock a market or otherwise gain precedence over other orders (including such properties as would apply to "Post Only" mid-point orders).[100]

151. Set forth in detail below are a few of the most manipulative order types put in place by the Exchanges

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[100] http://tabbforum.com/opinions/reigniting-the-order-type-debate-haim-bodek-explains-the-real-issues-with-%27undocumented%27-order-type-features

that harm those individual and institutional traders not provided the information necessary to utilize their functionality, such as Plaintiffs and the Class.

"Hide and Light" Orders

152. One of the most abusive, selectively disclosed order types developed by the Exchanges for the benefit of favored HFT firms are those that allow HFT firms to post orders that remain hidden at a specific price point at the front of an exchange's trading book when the market is moving, while at the same time pushing other traders to the back of the order book queue. By contrast, limit orders, which simply specify a price limit at which to buy or sell and are regularly used by individual and institutional investors, lose their priority in the queue when the market shifts. These predatory order types, colloquially referred to as "hide and light" orders, were created by the Exchanges under the guise of complying with Reg NMS's ban on locked markets to assist HFT firms in getting to and preserving their spot at the top of the Exchanges' order queues without relying on their spam and cancel strategies.[101]

153. The ability to dominate the top of the order book allows HFT firms to rapidly and repeatedly collect "maker" rebates from the Exchanges and cause others who thought they might collect a "maker" rebate to pay the "taker" fee. A hide and light order generally is a non-routable order that would ordinarily lock a market, but does not do so because it is initially "hidden" and does not

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[101] BATS explained that such order types "eliminate[] the need for traders to retry orders multiple times in rapid succession trying to be high in priority at the next NBBO price." BATS Display-Price Sliding: Slide orders that lock or cross the NBBO (2011), *available at* http://www.batstrading.com/resources/features/bats_exchange_price sliding.pdf

appear in the order book. When the market unlocks, the hidden order "lights" and is booked at the front of the queue.[102] Thus, the Exchanges rebook HFT firms' "hide and light" orders such that traditional investors affected by such orders are "queue jumped," frequently paying higher prices for their trades than they otherwise would have and being subjected to a taker fee.

154. The "hide and light" order type is a key weapon in the HFT arsenal that allows HFT firms to generate "guaranteed profits" from interacting with less sophisticated market participants – even when their profit from a trade would otherwise be zero from buying and then selling a stock at the same price. These order types were specifically marketed by the Exchanges to sophisticated traders employing abusive HFT strategies and ***not*** to institutional investors seeking longer terms investment strategies. Each of the Exchanges' offers or offered order types that "hide and light" or performed analogous behaviors to the detriment of Class members during the Class Period.

155. The following is an example of how an HFT firm employing a "hide and light" order can queue jump a non-routable limit order placed on behalf of a traditional or institutional investor: Suppose the market for General Electric is $30.01 (bid), $30.02 (ask) with 1,000 shares available on exchange X. An institution sends a non-routable limit order to buy 5,000 shares of General Electric for $30.02, which locks an away market because another exchange's best offer is also $30.02. The institution is able to purchase the 1,000 shares on exchange X at $30.02, and is willing to pay up to $30.02 for another 4,000

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[102] In contrast, a traditional non-routable "lit" limit order at the same price, would because it created a locked market, either be immediately cancelled or "price slid" so as not to lock the market.

shares. Upon locking the away market, the institution is price slid to $30.01. But suppose an HFT firm sees the 1,000 shares trade at $30.02 and sees the new $30.01 bid for the remaining 4,000 shares. However, there is no longer a matching offer at $30.02 on that exchange. The HFT firm then steps ahead of the institution by posting a "hide and light" buy order, locking the market at $30.02 ahead of the institutional order. Then, the away market unlocks as the offers clear at $30.02 and the $30.02 hide and light bid is rebooked and lights up. The institution's order is then rebooked and displayed at $30.02, but placed after the HFT order.

156. The effect of these order types, as *Dark Pools* explains, is that "[e]veryday investors . . . were buying stocks for a slightly higher price than they should, and selling for a slightly lower price and paying billions in 'take' fees along the way."[103] In other words:

> By staying at the front of the queue and hidden as the market shifted, the [HFT] firm could place orders that, time and again, were paid the fee. Other traders ***had no way of knowing*** that the orders were there. Over and over again, their orders stepped on the hidden trades, which acted effectively as an invisible trap that made other firms pay the "take" fee.[104]

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[103] *Dark Pools* at 49.

[104] *Id.* at 50 (emphasis in original); *see also* Haim Bodek, *HFT Checkmate – The Alpha in Order Types* (Dec. 31, 2013), *available* at http://tabbforum.com/opinions/hft-checkmate-the-alpha-in-an-order-type?page=2 ("For five long years, the greater investment community was subjected to unnecessary transaction costs as they transferred 'guaranteed economics' to HFT firms and exchanges through mechanisms unbeknownst to them.").

But as explained above, these order types were not adequately documented and/or disclosed to anyone other than Defendants' favored HFT customers and as a result, the majority of investors, even sophisticated investors handling the portfolios of multi-billion dollar pension funds, did not use them. If they did, limit orders, which most investors rely on to invest in stock, would become obsolete, and limit orders are "the food the new order types fed on."[105]

157. Each of the Exchanges' "hide and light" orders described below were designed to and did assist HFT firms in employing predatory trading strategies to the detriment of Plaintiffs and Class members during the Class Period.

Direct Edge: Hide Not Slide (+ ALO)

158. In May 2009, Direct Edge added its own hide and light order type called "Hide Not Slide," specifically to benefit a limited number of powerful HFT firms in efforts to attract order flow and increase revenue. Hide Not Slide works as follows:

> Say an order to buy Microsoft Corp. for up to $30.01 a share is sent to electronic stock exchange Direct Edge Holdings LLC, with instructions to be filled only there and not routed elsewhere.
>
> Meanwhile, though there is no matching sell order on Direct Edge, another market, such as Nasdaq, has an order to sell Microsoft at $30.01. It is also an order to be filled only on that exchange.
>
> The SEC considers this a "locked market" and doesn't allow it. The fear is it could encourage manipulation such as buying and selling a stock

[105] *Dark Pools* at 51.

> merely to generate fees. The ban means an order to buy for $30.01 can't be displayed on Direct Edge. The order will "slide" to a lower price, $30.
>
> Here's where Hide Not Slide orders can take advantage. They are hidden from other investors – not displayed on the exchange's order book.
>
> The locked-markets ban applies only to displayed orders. So if a $30.01 Hide Not Slide order is placed now, it won't slide to a lower price.
>
> When the market "unlocks" – such as if the sell order on Nasdaq is filled or canceled – the Hide Not Slide order is converted back to a displayed order at $30.01 and is eligible to trade against Microsoft shares posted for sale on Direct Edge at that price.
>
> As for the first investor's order – the one that slid to $30 – it converts back to the original $30.01 price, but is placed in line behind the Hide Not Slide order. If a $30.01 sell order for Microsoft enters Direct Edge, the Hide Not Slide order will get it first.
>
> If not many Microsoft shares are offered for sale on Direct Edge at $30.01, the first investor may not get any.[106]

159. Direct Edge also provides HFT firms the option to combine the Hide Not Slide order with an Adding Liquidity Only ("ALO") order, which executes only when the order makes liquidity, thus allowing it to execute only

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[106] Scott Patterson & Jenny Strasburg, *How "Hide Not Slide" Orders Work* (Sept. 19, 2012), *available at* http://online.wsj.com/news/articles/SB10000872396390444812704577605840263150860.

when it will capture the exchange's rebate and protecting it from ever having to pay the "taker" fee.[107]

160. In efforts to keep the Hide Not Slide order exclusive and conceal its actual functionality from anyone other than a select group of HFT firms, Direct Edge did not adequately and/or publically disclose the existence of the order type and the full extent of how it operated to either the SEC or the investing public. For example, over five months after the order type was released, Direct Edge's portal application programming interface ("API") specifications failed to refer to the order handling priority function of the order type. As Direct Edge did not formally convert from an ECN to a national securities exchange until March 2010, it was not ***required*** to file a public order type description with the SEC describing the functioning of the order type.[108] However, even after Direct Edge's two trading platforms (EDGX and EDGA) converted to national exchanges, Direct Edge's regulatory disclosures and technical documentation as to the "Hide Not Slide" functionality continued to remain inadequate and failed to mention queue priority and oth-

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[107] Direct Edge and some other exchanges at times refer to ALO-type orders and other functions as order "modifiers." Semantics aside, an order designated or functioning as an ALO order or modifier clearly functions as an order type, *i.e.*, a set of instructions that traders use to communicate to exchanges how to handle their order, rather than an order "modifier."

[108] Under Regulation ATS, however, as an ECN Direct Edge was required to file an amendment prior to implementing a "material change" to its operation. 17 C.F.R. § 242.301(b)(2)(ii). As such filings are not public, it is unknown whether Direct Edge actually made such a filing. Moreover, Direct Edge had filed its application to register both the EDGX and EDGA exchanges as national securities exchanges by the time Hide Not Slide was implemented.

er abuses.[109] Additionally, Direct Edge never fully disclosed how the "Hide Not Slide" order combined with ALO functionality could adversely affect buy-side investors and convert orders otherwise eligible to receive a rebate into orders subject to paying the "taker" fee.

161. The disclosures that Direct Edge made to its customers concerning the new order type were similarly wholly inadequate and often non-existent. Direct Edge initially marketed the Hide Not Slide order type specifically to an exclusive group of ultra-high frequency traders at the expense of traditional long-term investors, and slowly revealed the functionality of the order to others when it was either pressured to do so or when it thought it was necessary to attract order flow or generate revenues from certain trading firms. For example, at a December 2009 holiday party, the Director of Sales for Direct Edge told one investor whose firm had been bleeding profits for several months using standard limit orders that he is "totally screwed" unless he takes advantage of complex order types available at Direct Edge such as Hide Not Slide. This investor, who operated a sophisticated trading operation, had been "complaining . . . for months about the bad executions he'd been getting, and had been told nothing about the hidden properties of the order types until he'd punished the exchange by cutting it off."[110] The Direct Edge representative, Eugene Davidovich, even admitted that the Hide Not Slide order

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[109] On July 16, 2014, Direct Edge disclosed for the first time in a regulatory filing that its Hide Not Slide order type permits queue jumping. In the same month, Direct Edge made explicit that EDGX and EDGA have different version of the Hide Not Slide.

[110] *Dark Pools* at 50-51; Scott Patterson & Jenny Strasburg, *For Superfast Stock Traders, a Way to Jump Ahead in Line* (Sept. 19, 2012), *available at* http://online.wsj.com/news/articles/SB10000872396398920457755992436935616 70.

"'probably should be illegal, but if we changed things, the high-frequency traders wouldn't send us their orders.'"[111]

162. As evident from the above exchange, there was no announcement or marketing materials widely available describing the release of Hide Not Slide and its functionality. Tellingly, there was no way that even many sophisticated Direct Edge customers could independently decipher the order interaction between Hide Not Slide and the exchange's default price sliding mode. Direct Edge implemented these marketing strategies with the specific knowledge of the adverse impact on the majority of investors whom Direct Edge deliberately kept in the dark as to the existence and full functionality of the Hide Not Slide order.

NASDAQ: Price to Comply and Post Only + "Automatic Re-Entry"

163. NASDAQ is believed to have developed one of the first "hide and light" orders known as Price to Comply. The stated purpose of the Price to Comply order type is to re-price an order to comply with Reg NMS's ban on locked markets. In reality, the Price to Comply order was designed primarily to, like other "hide and light" orders, assist in effectively locking markets. It did this by exploiting a regulatory loophole that distinguished between protected quotations and hidden orders when complying with Rule 610(d). Under the rule, hidden orders are not considered protected quotations and thus can freely lock markets. In essence, NASDAQ allowed customers using the Price to Comply order to

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[111] *Dark Pools* at 51; Scott Patterson & Jenny Strasburg, *For Superfast Stock Traders, a Way to Jump Ahead in Line* (Sept. 19, 2012), *available at* http://online.wsj.com/news/articles/SB10000872396398920457755992436935616 70.

"lock[] a market with an exempt hidden order in the cases where [the user's] displayed order would violate the ban on locked markets."[112] The order type operated as follows:

> When NASDAQ received a Price to Comply order, it would check if the order price locked an away market. If the order was in fact impermissible according to Rule 610(d) and the ban on locked markets, NASDAQ would book the Price to Comply order as a hidden order at the locking price. Price to Comply was the "have your cake and eat it too" order, conveniently booked as displayed or hidden – whichever was more preferable when considered in the context of a permissible display price according to Rule 610(d).[113]

164. NASDAQ also provided HFT firms the ability to repeatedly capture NASDAQ's rebate, and only pay the "taker" fee when obtaining price improvement, by utilizing its Post-Only order. In short, for HFT firms using this order type it became a guaranteed profit. NASDAQ's Post-Only order, similar to Direct Edge's ALO order, was designed to allow HFT firms to submit orders at potentially marketable prices and not execute against booked or outstanding orders (so as to protect the user from being charged a "taker" fee). When a Post-Only order would match the best sell order on the NASDAQ OMX market's book and pay the taker fee, the order is price slid and displayed one tick away from the best sell price to avoid the fee. If a Post-Only order would lock or cross a protected quote at another ex-

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[112] Haim Bodek, *The Order Type Controversy, Part I: Price to Comply* (Mar. 10, 2014), *available at* http://tabbforum.com/opinions/the-order-type-controversy-part-i-price-to-comply.

[113] *Id.*

change but not lock the NASDAQ OMX order book, the order will be handled as though it were a Price to Comply order such that it will be booked at the national locking price and displayed one tick away. On NASDAQ and BX, a Post-Only order that crosses the book will only execute if the amount of price improvement that would be received by trading against that order exceeds the cost to remove liquidity.

165. Prior to 2012, NASDAQ knowingly implemented a two-tiered system in which HFT firms communicated with NASDAQ through a superior interface filled with advantageous order types while other market participants, including Plaintiffs and the Class, communicated through an inferior interface, without disclosing the elevated risk of abuse associated with that interface.

166. The first-tier, high-speed interface, called OUCH, was developed for HFT firms and offered order types such as Post-Only orders for those market participants informed, presumably through undisclosed channels such as direct marketing campaigns and personal relationships, regarding the advantageous features utilized by these order types.

167. The second-tier interface, called FIX, did not offer the HFT-friendly order types and was utilized by large institutional investors unfamiliar and uninformed about the advantageous features of the OUCH order types. The investors using the FIX interface did not and could not know the disadvantages intrinsic to the order types they were being offered because NASDAQ did not properly disclose the functionality of the OUCH order types, the interplay between combinations of various order types and order modifiers offered on the OUCH interface or the interplay with order types delivered via the inferior FIX interface.

168. In October 2011, NASDAQ normalized the asymmetry between the OUCH and FIX interfaces by providing Post-Only and other superior order types on FIX. Therefore, from the start of the Class Period through the time at which NASDAQ ended the two-tiered interface system described herein, Plaintiffs and the Class were systematically disadvantaged and injured as a direct result of the informational asymmetries and undocumented order types offered to HFT firms by NASDAQ.

BATS: BATS Only Post Only

169. "Hide and light" functionality on the BATS exchanges operated through "Display-Price Sliding" and the BATS Only and Post Only order types (or combination thereof – *e.g.*, "BATS Only Post Only" or "BOPO"). According to BATS, as of 2011, "Display-Price Sliding allows orders that would normally be cancelled automatically because of locking or crossing the NBBO to temporarily 'slide' (adjust) to the NBBO and reside in the BATS matching engine."[114] The BATS Post Only order allows "users to make a market and specify not to remove liquidity unless adequate price improvement is accessible. Any incoming post only orders that cross with a resting displayed order that does not offer adequate price improvement will be rejected."[115] In other words, the Post Only order on the BATS exchanges ***guarantees*** that the trader employing it will not "take liquidity" as the order will either generate a rebate for the trader,

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[114] BATS Display-Price Sliding: Slide orders that lock or cross the NBBO (2011), *available at* http://www.batstrading.com/resources/features/bats_exchange_pricesliding.pdf.

[115] BATS Definitions & Order Types: Order and Routing Instruction Descriptions (2013*)*, *available at* http://www.batstrading.com/resources/features/bats_exchange_definitions.pdf.

create a profitable trade or be rejected. BATS Only orders are only executable on the applicable BATS exchange and neither BATS Only nor BATS Post Only orders are routed to other markets.

170. The BOPO order and lighting functionality has been available on the BATS exchanges since at least 2009. BATS admittedly developed its Display-Price Sliding functionality to "eliminate[] the need for traders to retry orders multiple times in rapid succession trying to be high in priority at the next NBBO price."[116] In other words, Display-Price Sliding was developed to cater to HFT techniques of capturing rebates and achieving top of the queue status without having to send new orders at the time quotes move. In fact, a regulatory filing related to BATS's IPO revealed that in 2009 BATS "paid 51% of such rebates to a single firm, which it described as 'an affiliate of one of [BATS's] strategic investors.'"[117] The firm is widely suspected to be Tradebots, the Chairman and CEO of which is also the founder of BATS.

171. In 2012, BATS was forced to admit its regulatory filings disclosing the price-sliding features of its order types directly contradicted BATS' actual order handling practices.[118]

172. Although in 2012 and 2013 BATS amended how price sliding and Post Only interactions were handled on its exchanges, the complexity with which these functions

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[116] BATS Display-Price Sliding: Slide orders that lock or cross the NBBO (2011), *available at* http://www.batstrading.com/resources/features/bats_exchange_pricesliding.pdf.

[117] Jean Eaglesham, et al., *Scrutiny of High-Speed Trade – Links to Exchanges Scrutinized, New Types of Trades, Too* (Apr. 5, 2012), *available at* http://online.wsj.com/news/articles/SB10001424052702303816504577321864050711038

[118] http://www.sec.gov/rules/sro/bats/2012/34-67657.pdf

operated at BATS prior to and continuing to the present assisted its efforts in catering to favored HFT customers at the expense of traditional investors. BATS did not adequately disclose the functionality of these order types to the overwhelming majority of investors, and at a minimum early in the Class Period traders would be required to call the BATS trading desk in order to receive an explanation of the BOPO functionality, assuming the trader even knew to ask about it in the first instance.

ARCA: Post No Preference ALO Blind ("ALO PNP B")

173. ARCA released the Post No Preference Blind ("PNP B") order type in December 2007. This "hide and light" order is an undisplayed limit order priced at or through the NBBO, with a tradable price set at the contra side of the Protected Best Bid and Offer ("PBBO") which is the same as the NBBO). Where the PBBO moves away from the price of the PNP B, but the prices continue to overlap, the limit price of the PNP B will remain undisplayed and its tradable price will be adjusted to the contra side of the best protected offer or best protected bid. Where the PBBO moves away from the price of the PNP B and the prices no longer overlap, the PNP B will convert to a displayed PNP limit order.

174. In other words, PNP ALO B is booked hidden when it locks an away market and ARCA will permit it to track, through continuous rebooking, at the locking price when the NBBO is fluid. For example, if an order locks the away market by trying to buy at 10.05 when the away market is offered at 10.00, that order will be hidden at 10.00. Then, when the away market changes to 10.03, the order will be booked hidden at 10.03. This will continue indefinitely until the order can be properly displayed or "lit" on ARCA.

175. In 2008, ARCA released its version of an ALO order, which is a limit order that is posted to the ARCA order book only when the order adds liquidity, and once posted, does not route to other exchanges, in order to allow firms using it to collect rebates and only pay "taker" fees in a small number of scenario relative to other order types. When these functions are combined, ARCA's ALO PNP B order type provides HFT firms privy to selectively disclosed order type functionality with the ability to jump to and remain at the top of ARCA's order queue and collect rebates from the exchange over and over again while subjecting Class members' orders to lower queue priority and/or increasing the frequency of incurring taker fees for investor orders.[119] ARCA never properly disclosed the full extent of the combined order type, and failed to market the PNP B and ALO orders to all market participants on a fair and equal basis in violation of its duties as a national stock exchange.

CHX

176. According to the CHX website, CHX Article 1, Rule 2 purports to provide "a complete list of order types, modifiers, and related terms and complete definitions" for market participants.

177. According to the information and documentation provided in CHX Article 1, Rule 2, combined with the "Order Types and Modifiers" page on its website, CHX non-routable orders function, in part, as follows:

> **CHX Only**: a limit order modifier that requires an order to be ranked and executed on the Exchange without routing away to another trading center

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[119] According to ARCA's own order type usage statistics, the ALO PNP B combination order is used on average two to three times as much as the PNP B order alone.

> and is eligible for the CHX Only Price Sliding Processes. A CHX Only order that is price slid will be assigned a Regulation NMS and Regulation SHO compliant executable price and a Regulation NMS and Regulation SHO compliant display price by the Matching System upon receipt. Thereafter, the Matching System will continue to price slide the order to the extent that it could be executable or displayable at a more aggressive price, but shall under no circumstances price slide the order through its original limit price. CHX Only orders must be fully displayed limit orders. Orders marked Do Not Display or Reserve Size cannot be designated as CHX Only orders.
>
> * * *
>
> **Do Not Route**: a limit or market order modifier that requires an order to only be executed or displayed within the Exchange's Matching System and not be routed to another market.[120]

178. The information provided by CHX to market participants fails to disclose or document the circumstances in which post only non-routable orders on CHX can achieve queue priority over other order types. The lack of disclosure to market participants regarding these features and conditions results in predatory trading strategies employed by HFT firms to the detriment of Plaintiffs and Class.

179. The concept of queue priority describes the ability of certain orders to be rebooked at the top-of-queue in ways that traditional order types cannot as top-of-book price changes. CHX non-routable orders that achieve

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[120] Chicago Stock Exchange, CHX Order Types and Modifiers, *available at* http://www.chx.com/trading-information/order-types/.

queue priority could be an order type which manages maker-taker fees and rebates, while also serving as a powerful tool for "lighting" at top-of-queue at an aggressive price in a manner that is algorithmically managed by CHX.

180. CHX's non-routable order provides queue-priority features that advantage these orders over traditional orders. In order to comport with its obligation to "remove impediments to and perfect the mechanism of a free and open market" and prevent "unfair discrimination between customers, issuers, brokers, or dealers" (15 U.S.C. § 78f(b)(5)), CHX has a duty to fully and publically disclose material order interactions between particular orders which may reserve top-of-queue positions over other orders.

181. In addition, the information publically provided by CHX to market participants fails to disclose or document the circumstances and conditions in which CHX Only orders will be financially harmed by paying taker fees in trades with Post Only orders during price-sliding events. The selective disclosure by CHX regarding its valued relationship with predatory HFT firms and the resulting interaction of competing orders, including, but not limited to, those described above, damaged Plaintiffs and the Class.

Intermarket Sweep Order Types

182. Reg NMS Rule 611 was originally designed to bind multiple markets into a single, unified NBBO system by prohibiting exchanges from executing trades when a better price was available on another exchange. Such trades are commonly referred to as "trade-through" violations and (prior to the implementation of Reg NMS Rule 611) were enforced by requiring exchanges to either reject marketable orders or route them

to the trading center (*i.e.*, exchange) displaying the best price.

183. In an attempt to serve institutional investors seeking to execute unusually large trades without signaling to the market their intention to buy or sell a large block of shares (and potentially influencing the market price), and to otherwise avoid the potential for trade-through violations, in 2005 the SEC introduced the Intermarket Sweep Order ("ISO") order type as an exception to Reg NMS Rule 611. This exception allowed investors to use an ISO order type to "sweep" the various exchanges and execute large trades even where it might otherwise result in a trade-through.

184. Although the ISO as originally contemplated, as set forth above, by Reg NMS was intended as an accommodation to (primarily) institutional investors, it has since been hijacked by the Exchanges and subverted (without the requisite SRO rule making) into a device that facilitates rather than prevents fraudulent and manipulative acts and practices. The most egregious examples of these, the Day ISO and Post-Only ISO, are explained below.

The Day ISO Order Type

185. The Day ISO order type was designed to sweep through the best price on all market centers at the NBBO to capture as many shares as possible without being limited by the delayed executions that might otherwise be caused by compliance with Rule 611 as trading centers updated their protected quotations. For example, if a trader wishes to buy 1000 shares of ABC, and there are 100 shares of ABC being offered at $5.00 at "Exchange A" and 1,000 shares at $5.10 being offered at "Exchange B," Rule 611 would limit a non-ISO order to buying only the 100 shares at Exchange A at $5.00, after

which the trader would need to send additional orders to ascertain the desired 900 shares after waiting for Exchange A to reflect that its offer price of $5.00 had been eliminated. In contrast, however, the Day ISO order would allow the trader to buy the 100 shares at Exchange A for $5.00 while simultaneously routing a buy order for the remaining 900 shares to Exchange B for $5.10. In this scenario, there are only 100 shares at $5.00 so by sweeping the market at $5.00 the trader is allowed to simultaneously post a buy order for 900 shares at the more aggressive price of $5.10 on Exchange B because the market on Exchange A has been swept. Such a use is conceivably legitimate under Rule 611.

186. This seemingly legitimate use of the Day ISO order type to "sweep" to fill large orders is not in fact the primary reason that Day ISOs are used by HFT firms. Rather, the Exchanges have permitted HFT firms to ostensibly use these order types to "jump" to the top-of-queue in a manner inconsistent with the original Reg NMS. Day ISOs can queue-jump price-slid orders and hide-and-light orders when booked at their limit price. HFTs will typically send Day ISOs the nanosecond after a market change because this change presents a new opportunity to be at the top of the queue. Unlike traditional market participants, such as Plaintiffs and the Class, the HFT uses fast price feeds to determine that the price of $5.00 on Exchange A (in the example above) has already traded and is no longer available so the HFT firm can now post a Day ISO order to buy on Exchange B at $5.05 which would normally be rejected as a violation of Rule 611. As previously discussed, the HFT firm knows the $5.00 price is stale based on the faster feed provided by the exchange while other market participants do not have access to that information as a result of the exchange us-

ing slower feeds to inform the SIP. The ISO-specific abuse is that the HFT firm does not have to sweep away any markets in this case because the exchange's fast price feeds communicates that there are no eligible prices to sweep. Thus, the HFT order is booked on Exchange B at $5.05 and queue-jumps hide-and-light orders as well as every other order type that was not permitted to post at $5.05 on Exchange B.

187. When combined with the Exchanges' efforts to sell access to unusually fast data feeds to HFT firms while selling access to slow data feeds to other market participants, the exchange corrupted the Day ISO into a device primarily used by HFT firms to queue-jump less advantaged trades to post at normally impermissible prices and to queue-jump less advantaged order types that only a select group of market participants, namely their HFT customers, can use to gain an unfair advantage. Indeed, such an advantage is virtually inevitable where HFT firms combine the use of a Day ISO order type with high speed data feeds because it allows them to trade at prices that are inaccessible to non-HFT firms and that would otherwise be rejected as impermissible transactions under Rule 611 as trade-through violations.

188. Exchanges and dark pools often choose to use the slow consolidated data feeds (the SIP) to restrict access to prices, a practice which harms investors by denying them access to liquidity in fast moving markets and which serves to further advantage HFTs that employ Day ISOs for rebate posting and queue priority purposes to get ahead of aggressive customer orders. Thus, the speed advantages created by co-location and fast data feeds, along with complex order types like the Day ISO and the Post-Only ISO (discussed below), resulted in a

two-tiered system – created by the Exchanges solely for their own profit – whereby HFT users were the hunter while non-HFT users were the hunted.

189. HFT firms using Day ISO order types strategies are able to post ahead of those relying on the slow SIP data feeds and execute trades at prices that are systematically denied to other traders. Indeed, the ISO has been transformed by the Exchanges from an order type primarily intended to sweep markets to fill large order into an order type that is intended (by HFT firms, at least) to ***avoid*** sweeps and to post ahead of the slow SIP. In fact, the Post-Only ISO order type, a particularly advanced version of the Day ISO, serves as a primary example of how the Day ISOs were created by the Exchanges to be exploited by the HFT firms at the expense of the investing public.

The Post-Only ISO Order Type

190. Unlike the Day ISO and hide and light, prior to July 2014, the Post-Only ISO order type had never appeared as a proposed rule change in the Exchanges' SEC filings with the exception of CHX from 2009 to 2013.[121]

191. Notably, the Post-Only ISO eliminates the inconvenience of the Day ISO, which, while able to avoid sweeps, must execute orders. Instead, ***the Post-Only ISO is not accepted at its aggressive price unless it can post passively to capture a rebate***, a constraint exactly the opposite of the intended use of ISOs.

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[121] CHX was the first exchange to admit that it approved and permitted the use of the Post-Only ISO. However, in May 2013, the exchange submitted to the SEC a proposal to remove this order type as redundant, maintaining that it could be replicated by a limit order with certain modifiers. *See* http://www.sec.gov/rules/sro/chx/2013/34-69538.pdf.

192. The Post-Only ISO also has the ability to discover pricing and order flow information because HFT firms receive confirmation when it would otherwise take liquidity (and do so without ever executing a trade). This pricing information is even provided in the case of hidden orders (*e.g.*, orders which investors are told by the Exchanges are undetectable unless executed). A Post-Only ISO can also queue-jump less advantaged orders ranked at the same price even though the Post-Only ISO arrived later in time.

193. In other words, the Post-Only ISO provides HFT firms with a near risk-free "jump" to the top-of-queue ahead of all other orders in the direction that they know – given the attributes of the Post-Only ISO – the market is likely headed, along with more time to act given the high speed data feeds and protection against paying taker fees instead of capturing rebates. Moreover, all of this occurs without counter parties ever knowing what has transpired.

194. A Post-Only order is an order type designed to encourage displayed liquidity by allowing users to submit orders at potentially marketable prices without having to execute those orders against booked orders *(i.e.*, limited risk). By its terms, a Post-Only order is posted on the exchange and does not route away to another exchange and will be immediately cancelled if it would lock or cross a manual or protected quotation.

195. BATS provides the following explanation of Post-Only orders:

> Post only orders allow users to make a market and specify not to remove liquidity unless adequate price improvement is accessible. Any incoming post only orders that cross with a resting dis-

> played order that does not offer adequate price improvement will be rejected.[122]

196. Further building on the "Post-Only" prong of the Post-Only ISO, a Post-Only ISO order type will ***either*** be: (1) immediately cancelled without execution if it is marketable against a contra-side order; or (2) posted on the exchange at the entered limit price.

197. For example, if sell orders exist on Exchange A for ABC at $10.01 and Exchange A receives a directed Post-Only ISO to buy ABC stock at $10.01, it will cancel back the order unfilled because the order would have incurred the taker fee. If there are no such sell orders, Exchange A will display the $10.01 buy Post-Only ISO, with the understanding that if a sell order for ABC at $10.00 exists on Exchange B, the originator of the Post-Only ISO order will assume Reg NMS responsibility for taking out those offers independently.[123] Thus, Exchange A will allow the Post-Only ISO to lock away markets because it is relying on the trader who sent the Post-Only ISO to simultaneously sweep away markets at the locking price with additional ISOs pursuant to Reg NMS Rule 611(c). The inescapable regulatory violation inherent on any exchange allowing a Post-Only order to be combined with an ISO order is that if a trader uses a

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[122] BATS Definitions & Order Types: Order and Routing Instruction Descriptions (2013), *available at* http://www.batstrading.com/resources/features/bats_exchange_definitions.pdf.

[123] Reg NMS Rule 611:

> (c) Intermarket sweep orders. The trading center, broker, or dealer responsible for the routing of an intermarket sweep order shall take reasonable steps to establish that such order meets the requirements set forth in § 242.600(b)(30).

Reg NMS at 520.

Post-Only ISO for every market, as Reg NMS requires for all ISOs, nothing will get swept because the Post-Only forbids the taking of liquidity.

198. Notably, for HFT firms the cancellation or rejection of a Post-Only ISO order *is* the objective in the case where a Post-Only ISO would otherwise have resulted in a sweep or execution consistent with Rule 611. This aversion to fulfilling the ISO sweep obligation and execution is due to the fact that HFT firms using Post-Only ISO order types are not (primarily) concerned with acquiring stocks at better values (as in the example above, the stock was posted at $10.01 per share but could be purchased at $10.00 per share). To the contrary, HFT firms seek to avoid interaction with passive liquidity while at the same time positioning themselves for rebates by advancing to the top-of-queue.

199. Regarding the "ISO" prong of the Post-Only ISO, traditional ISO attributes are virtually nonexistent in the Post-Only ISO. Indeed, as discussed above the ISO is an order type that was created by Rule 611 to allow large orders to sweep the exchanges to simultaneously access liquidity across multiple venues.

200. Contrary to a traditional ISO, the Post-Only ISO, however, cannot sweep and cannot take liquidity. This is because HFT firms employing a Post-Only ISO only seek to be a market maker so that they can receive a rebate from the Exchanges. Thus, the purpose of the Post-Only ISO is fundamentally inconsistent with Rule 611 and this is perhaps the reason why Post-Only ISO order types, though clearly authorized by the Exchanges (and not the SEC), as set forth herein, never experienced full and transparent SRO rule changes by any exchange.

201. On June 5, 2014, SEC Chairwoman White announced a sweeping package of recommendations aimed

at the "aggressive, destabilizing trading strategies in vulnerable market conditions."[124] As part of that announcement, White instructed the Exchanges to conduct a thorough review of the types of trading orders being facilitated and to "consider appropriate rule changes to help clarify the nature of their order types and how they interact with each other."[125]

202. Each of the Exchanges that provides facilities for trading equity securities released a document ("Clarification Document") pursuant to White's instructions and a subsequent request from the SEC's Division of Trading and Markets that memorializes the inner workings of each exchange.

203. The Clarification Documents supposedly seek to "clarify" various data feeds-related issues, including the implications for order handling and were issued by the Exchanges, offering varied levels of disclosure. Some of these appear to confirm, however, that certain order types, including the Post-Only ISOs, were previously authorized by the Exchanges for use by HFT firms but never fully disclosed to the investing public or the SEC.

204. On July 7, 2014, the SEC released NYSE's Notice of Filing of Proposed Rule Change Amending Rule 13 – "Equities To Make the Add Liquidity Only Modifier Available for Additional Limit Orders and Make the Day Time-In-Force Condition Available for Intermarket Sweep Orders." In this SRO filing, NYSE requested from the SEC changes that would allow the use of a Post-Only ISO.

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[124] SEC Speech, Enhancing Our Equity Market Structure (June 5, 2014), *available at* http://www.sec.gov/News/Speech/Detail/Speech/1370542004312#.VAT3Z6Pn93w.

[125] *Id.*

205. The depth and detail of Post-Only ISO functionality disclosed by NYSE serves to illustrate the insufficiency of any comparable disclosures by the other Exchanges. In fact, NYSE's own filing alerted the SEC that Day ISOs are not adequately disclosed on other exchanges. NYSE's proposed rule changes stated as follows:

> The rules of Nasdaq, BATS, BATS-Y, EDGA, and EDGX do not expressly provide that their versions of ISOs can be day, however, nor do their rules prohibit this functionality. In practice, Nasdaq, BATS, BATS-Y, EDGA, and EDGX all accept ISOs with a day time in-force condition. In addition, NYSE Arca Equities expressly permits an ISO with a day time-in-force condition, which is entered as a Post No Preference ("PNP") Order. See, e.g., NYSE Arca Equities Rule 7.31(w) (PNP Order designated ISO does not route and may lock and cross and trade through protected quotations). See also Securities Exchange Act Release No. 3454549 (Sept. 29, 2006), 71 FR 59179 (Oct. 6, 2006) (SRNYSEArca-2006-59) (Order approving NYSE Arca Equities' proposal to adopt ISO PNP Orders, which post to NYSE's Arca book and may lock or cross protected quotations). See also CHX Article 20, Rules 4(b)(1) and (23).[126]

206. The SEC's order approving NYSE's proposed rule change provides no indication whatsoever that its approval of the NYSE order type was in any way a tacit approval of undisclosed, under-disclosed or selectively disclosed order types on competing exchanges. The language used by the SEC ("After carefully considering the

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[126] http://www.sec.gov/rules/sro/nyse/2014/34-72548.pdf

proposals, the comments submitted, and the Exchanges' responses to the comments, the Commission finds that the proposed rule changes are consistent with the requirements of the Act and the rules and regulations thereunder applicable to a national securities exchange.") gives every indication that all Exchanges must engage in a similar process of disclosure and public comment before being deemed compliant with the relevant rules and regulations.

207. The following Exchanges have engaged in selective disclosure of their ISO order type functionality and order handling practices that caused measurable harm to investors:

BATS (BYX/BZX)

1. Day ISO

208. BATS July 28, 2014 Clarification Document is conspicuous in its subtlety. Stuck onto the end of a paragraph about trade-through compliance, in what reads as afterthought, is the following sentence: "The ME [matching engine] will then display and execute non-ISO orders at the same price as the Day ISO."

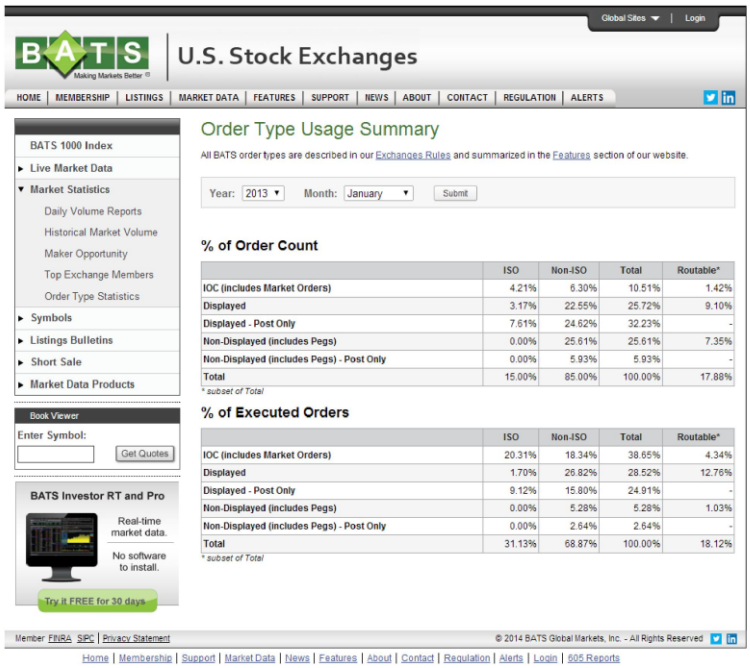
209. By way of the above statement, BATS has confirmed for the first time that as a matter of practice its Day ISO can queue-jump regular orders. BATS also uses the term "execute" in the Clarification Document, indicating that orders might be handled in a way that pays taker fees to the Day ISO.

2. Post-Only ISO

210. BATS has not submitted regulatory filings with the SEC acknowledging its authorization of Post-Only ISO order types. Likewise, there is no explanation concerning these special order types on BATS' website and

the exchange has never issued public statements regarding the use of the Post-Only ISO order type.

211. Nonetheless, the Post-Only ISO order is referenced in the order type statistics section of BATS' website, confirming Post-Only ISO order types are permitted:[127]



Direct Edge (EDGX/EDGA)

1. Day ISO

212. Direct Edge is now owned by BATS. Both BATS and Direct Edge released Clarification Documents on the same day that essentially mirror each other with respect to the language and positions discussed above.

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[127] BATS Order Type Usage Summary, *available at* http://batstrading.com/market_data/order_types/.

2. Post-Only ISO

213. Direct Edge has taken the position that it does not have an obligation to report its use of the Post-Only ISO order type to regulators, because the Post-Only ISO is the result of two "order modifiers" which are disclosed. However, BATS own order type statistics data indicates that the Post-Only ISO is an ***order type*** (not a "modifier") and identifies it as such on its website.

214. Direct Edge has never submitted regulatory filings with the SEC acknowledging the use of Post-Only ISO order types, though its most recent Clarification Document states that the Day ISO "is similar to the Post ISO order on [NSX]."[128] Likewise, there is no explanation concerning these special order types on Direct Edge's website and the exchange has never issued public statements regarding the use of the Post-Only ISO order type.

215. Despite the lack of any disclosure, regulatory or otherwise, related to the utilization of Post-Only ISO order types on any Direct Edge exchanges, according to its API specifications, Direct Edge authorizes the use of these undocumented complex order types and has done so since at least February 2011.

CHX

1. Day ISO

216. According to the CHX website, CHX Article 1, Rule 2 purports to provide "a complete list of order

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[128] *See* Self-Regulatory Organizations; EDGX Exchange, Inc.; Notice of Filing of Proposed Rule Change Relating to Include Additional Specificity Within Rule 1.5 and Chapter XI Regarding Current System Functionality Including the Operation of Order Types and Order Instructions at 70 n.64 (July 25, 2014), *available at* http://www.sec.gov/rules/sro/edgx/2014/34-72676.pdf.

types, modifiers, and related terms and complete definitions" for market participants. Among other order types and modifiers, CHX Article 1, Rule 2 defines "BBO Intermarket Sweep ('BBO ISO')," "Intermarket Sweep ('ISO')" and "Price-Penetrating ISO."

217. According to the information and documentation provided in CHX Article 1, Rule 2, combined with the "Order Types and Modifiers" page on the its website, CHX ISOs function as follows:

> **BBO Intermarket Sweep ("BBO ISO")**: a limit order modifier that marks an order as required by SEC Rule 600(b)(30) that is to be executed against any orders at the Exchange's Best Bid and Offer (including any Reserve Size or undisplayed orders at or better than that price) as soon as the order is received by the Matching System, with any unexecuted balance of the order to be immediately cancelled, if marked IOC, or placed in the Matching System.
>
> * * *
>
> **Intermarket Sweep ("ISO")**: a limit or cross order modifier that marks an order as required by SEC Rule 600(b)(30) that is to be executed against any orders at the Exchange's BBO (including any Reserve Size or undisplayed orders at that price) as soon as the order is received by the Matching System, with any unexecuted balance of the order to be immediately cancelled.
>
> * * *
>
> **Price-Penetrating ISO**: a limit order modifier that marks an order as required by SEC Rule 600(b)(30) that is to be executed at or better than its limit price as soon as the order is received by

> the Matching System, with any unexecuted balance of the order to be immediately cancelled. Orders marked as Price-Penetrating ISO shall be executed against any eligible orders in the Matching System (including any Reserve Size or undisplayed orders) through multiple price points.[129]

218. The information provided by CHX to market participants fails to disclose or document the "lighting" or related queue-jumping features in CHX Day ISOs. The information provided by CHX to market participants also fails to disclose or document CHX's Day ISOs interactions and functionality in combination with other order types and order modifiers on CHX, including, but not limited to, the order type formerly identified by CHX as Post-Only ISO.

2. Post-Only ISO

219. On July 6, 2009, CHX became the first and only exchange to disclose the availability of the Post-Only ISO order type. CHX submitted a proposed rule change to the SEC announcing its intention to add the Post-Only ISO order type ("CHX Proposed Rule Change").[130]

220. The CHX Proposed Rule Change explained the features and functionality of the Post-Only ISO, in part, as follows:

> The Exchange proposes to amend CHX Article 20, Rule 4 to add the Post Only and Post Only ISO order types.

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[129] Chicago Stock Exchange, CHX Order Types and Modifiers, *available at* http://www.chx.com/trading-information/order-types/.

[130] Self-Regulatory Organizations; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change by the Chicago Stock Exchange, Inc. Adding the Post Only and Post Only ISO Order Types, *available at* http://www.sec.gov/rules/sro/chx/2009/34-60243.pdf.

> A Post Only Order is an order designed to encourage displayed liquidity on the Exchange. By its terms, a Post Only Order is posted on the Exchange and does not route away to another trading center. A Post Only Order will be immediately cancelled if it is marketable against a contra-side order in the Matching System when entered, or if it is at a price that would lock or cross a manual or protected quotation.
>
> A Post Only ISO Order is a type of ISO order that will be immediately cancelled without execution if it is marketable against a contra-side order in the Matching System when entered. If a Post Only ISO is not immediately cancelled, it will be posted on the Exchange at the entered limit price. By entering a Post Only ISO, a Participant represents that such Participant has simultaneously routed one or more additional limit orders marked "ISO," as necessary, to away markets to execute against the full displayed size of any protected quotation for the security with a price that is superior or equal to the limit price of the Post Only ISO entered in the Matching System. Consequently, a Post Only ISO order will be displayed by the Exchange regardless of whether it will lock or cross another market center's quote.[131]

221. The CHX Proposed Rule Change explained that the statutory basis and regulatory compliance of the Post-Only ISO as follows:

> The Exchange believes that the proposed rule change is consistent with Section 6(b) of the Act in general, and furthers the objectives of Sec-

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[131] *Id.* at 2.

> tion 6(b)(5) in particular, in that it is designed to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in facilitating transaction in securities, to remove impediments and perfect the mechanisms of a free and open market, and, in general, to protect investors and the public interest by allowing CHX to amend its rules to add the Post Only and Post Only ISO order types based on similar rules already in effect at other exchanges. The addition of these order types will benefit Exchange customers and promote competition among market centers.[132]

222. The CHX Proposed Rule Change identified the Post-Only ISO as an "order" or "order type" at least 13 times. The terms "modify," "modifier" or "order modifier" were never used and there were no similar terms or parallel language used.

223. On May 8, 2013, nearly four years after disclosing the Post-Only ISO as an available order type, CHX unilaterally decided it no longer needed to disclose the Post-Only ISO and would "delete the [Post Only ISO] defined order term[] from the CHX rules."

224. CHX told the SEC:

> [T]he Exchange proposes to delete "Post Only ISO" from the CHX rules, because a Post Only ISO is simply a limit order marked Post Only and BBO ISO and not a distinct order modifier. As such, the Exchange submits that maintaining a

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[132] *Id.* at 3.

separate defined order term for "Post Only ISO" is redundant and unnecessary.[133]

225. CHX did not inform the SEC that it would stop offering HFT firms all the abusive features and functionality of the order type it previously defined as "Post Only ISO" in its rules. CHX simply deleted any and all information regarding the Post-Only ISO from all publically available resources. CHX's semantic change from calling the Post-Only ISO an "order type" to "a limit order marked Post Only" left market participants, such as Plaintiffs and the Class, without any means or ability to obtain information regarding the availability, features or function of the order type previously defined by CHX as a Post-Only ISO.

226. Thus, the order type formerly defined by CHX as Post-Only ISO is now a completely undisclosed and undocumented trading strategy which CHX makes available to only those market participants who learn about it independently or directly from CHX through non-public communications.

227. Market participants trading on CHX not privy to the availability of this trading mechanism have been and will continue to be disadvantaged and abused in ways consistent with the victims of Post-Only ISOs on other exchanges discussed herein.

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[133] Self-Regulatory Organizations; Chicago Stock Exchange, Inc.; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Consolidate All CHX Order Types, Modifiers, and Related Terms Under One Rule and to Clarify the Basic Requirements of All Orders Sent to the Matching System, *available at* http://www.sec.gov/rules/sro/chx/2013/34-69538.pdf.

NYSE ARCA ORDER TYPE USAGE

ORDERTYPE	Mar-14	Apr-14	May-14	Jun-14	Jul-14
ISO PNP IOC	23.68%	24.60%	25.38%	25.24%	24.90%
Limit	15.29%	15.27%	15.58%	15.00%	15.12%
ALO PNPB	8.05%	8.35%	8.07%	8.46%	8.47%
Limit Reserve	8.41%	8.57%	8.24%	7.72%	7.74%
PNP IOC	7.19%	6.41%	5.39%	5.26%	5.89%
Limit IOC	4.02%	4.63%	5.13%	5.35%	4.98%
PNP	4.20%	4.44%	4.64%	4.84%	4.72%
ISO ALO PNP	5.00%	4.38%	4.41%	5.04%	4.69%
MOC	3.24%	2.95%	3.33%	3.13%	3.07%
InsideLimit	2.36%	2.53%	2.68%	2.76%	2.69%
PNPB	2.91%	2.84%	2.56%	2.31%	2.36%
PL	1.90%	2.13%	2.05%	2.08%	2.10%
ALO MPL	1.54%	1.53%	1.69%	1.84%	1.86%
MPL	1.07%	1.19%	1.21%	1.24%	1.30%
Limit NOW	1.11%	1.10%	1.02%	1.09%	1.22%
ISO PNP	1.64%	1.45%	1.03%	1.03%	1.19%
ALO PNP	1.75%	1.63%	1.56%	1.38%	1.17%
LOC	0.53%	0.44%	0.45%	0.77%	0.78%
PNP Reserve	0.28%	0.15%	0.14%	0.12%	0.72%
MPL IOC	0.53%	0.50%	0.58%	0.67%	0.67%
Other	4.75%	4.32%	4.30%	4.08%	4.37%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Source: NYSE Arca Trading Data and Analytics

NASDAQ/NASDAQ BX

1. Day ISO

228. The NASDAQ Clarification Document makes no reference to Day ISO ability to queue-jump regular orders. However, evidence exists that the NASDAQ Day ISO is capable of queue-jumping in a manner consistent with the BATS Clarification Document.

2. Post-Only ISO

229. NASDAQ has not submitted regulatory filings with the SEC acknowledging its authorization of the

Post-Only ISO order type. However, on July 28, 2014, NASDAQ included the following reference in an SRO filing regarding data feeds:

> In general, any order that is sent to NASDAQ with an ISO flag is not re-priced and will be processed at its original price. *There are a limited number of circumstances in which an order marked as an ISO will be determined not to be executable at its original price and will be re-priced.* These include re-pricing under the Plan to Address Extraordinary Market Volatility, re-pricing to comply with Regulation SHO, *and the re-pricing of an order with a post-only condition* if NASDAQ has an order at that price at the time the order is accepted.[134]

230. Despite the lack of regulatory and technical disclosure related to the utilization of Post-Only ISO order types on any NASDAQ exchanges, according to the excerpt above and order type statistics below (statistics which NASDAQ no longer makes public), NASDAQ clearly authorizes the use of Post-Only ISO order types:

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[134] Self-Regulatory Organizations; The NASDAQ Stock Market LLC; Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Disclose Publicly the Sources of Data Used for Exchange Functions at 6 n.9, *available at* http://www.sec.gov/rules/sro/nasdaq/2014/34-72684.pdf.

NASDAQ OMX EQUITY ORDER TYPE USAGE AUGUST 2013

	% OF ORDER COUNT			% OF EXECUTED ORDERS		
	ISO	NON-ISO	TOTAL	ISO	NON-ISO	TOTAL
IMMEDIATE OR CANCEL	1.8%	11.6%	13.40%	19.7%	19.3%	39.00%
DISPLAYED LIMIT - PRICE TO COMPLY	2.5%	17.4%	19.90%	6.7%	20.5%	27.20%
DISPLAYED LIMIT - POST ONLY	4.9%	32.2%	37.10%	4.2%	16.6%	20.80%
NON-DISPLAYED LIMIT (INCL MIDPOINT)	0.2%	24%	24.20%	0.3%	6.1%	6.40%
DISPLAYED LIMIT - ATTRIBUTABLE (FOR MKT MAKER COMPLIANCE)	0%	3.1%	3.10%	0.1%	0.4%	0.50%
OTHER (INCL MIDPOINT POST ONLY & SUPPLEMENTAL)	0.1%	2.1%	2.20%	0.3%	5.7%	6.00%
TOTAL	9.50%	90.40%	99.90%	31.30%	68.60%	99.90%

231. This wide array of complex order types marketed to HFT firms is in stark contrast to the order types known and available to typical retail and institutional investors – namely market orders that are executed immediately at the current available price, and limit orders that specify a price limit at which to buy or sale. Investors relying on brokers not privy to the Exchanges selective disclosure of order type functionality have no practical way of taking advantage of the complex order types employed by HFT firms. The Exchanges know this, and specifically designed the complex order types for HFT firms to jump ahead of the basic sitting duck market and limit orders utilized by Plaintiffs and the Class.

Flash Orders

232. The Exchanges developed flash orders to give favored HFT firms an advanced look at orders that come in when the NBBO is unavailable on an exchange's market, giving those firms the ability to act on unfilled trades before being routed to another exchange quoting a better price. As explained by former SEC chairman Mary Schapiro, "[f]lash orders are orders that flash in milliseconds to only a select group of market participants, which

can disadvantage other investors."[135] Direct Edge was one of the first to start "flashing" orders to favored customers prior to routing those orders to all market participants, giving HFT firms an advanced look at order flow. The practice at Direct Edge, called the Enhanced Liquidity Provider ("ELP"), accounted at times for 10% of Direct Edge's overall volume but brought in the lion's share of its revenues, helping spark the company's rapid growth, including tripling its market share from 2008 to 2009. One analyst commented that "[i]t's far and away the most profitable component of their trading volume . . . and if that were to be eliminated it would have a serious negative financial impact on the firm."[136]

233. NASDAQ and BATS quickly imitated Direct Edge, offering flash orders in June 2009 before promptly stopping the practice three months later after the SEC and Congress launched investigations into the practice and one senator contended that "flash orders are not being shown to all investors at the same time, creating a two-tier market."[137] The BATS and NASDAQ services exposed flashes to a far larger group of market participants than the Direct Edge service. For example, BATS introduced the BATS Optional Liquidity Technology ("BOLT") order type in 2009 which allowed customers up to 500 milliseconds of additional order exposure on BATS proprietary data feeds and the ability to collect a $.0015

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[135] Alexandra Zendrian, *Gone In A Flash* (Aug. 28, 2009), *available at* http://www.forbes.com/2009/08/27/flash-trading-bats-intelligent-investing-nasdaq.html.

[136] Jonathan Spicer, *Direct Edge in crosshairs of "flash" orders debate* (July 27, 2009), *available at* http://www.reuters.com/article/2009/07/27/us-exchanges-flashes-analysis-idUSTRE56Q4B320090727.

[137] Michael Mackenzie, *SEC to review 'flash' orders* (July 28, 2009), *available at* http://www.ft.com/cms/s/0/039fc8f6-7a11-11de-b86f-00144feabdc0.html#axzz3JkRvfz8S.

per share rebate on a routable order rather than pay the standard routing fee. BATS typically executed 85 million to 100 million shares a day, or up to 10% of its daily execution volume, via the BOLT order type. Even flash volume representing just 5% of all trades can yield over 10% of profits for an exchange.

234. Flash orders harm investors because investor orders are traded ahead of after they are flashed, and because investors' displayed limit orders at the NBBO are not executed because HFT firms at other exchanges step up to match the best price. Apparently recognizing this, the SEC proposed a rule amendment prohibiting flash orders in September 2009, explaining that:

> the flashing of order information outside of the consolidated quotation data stream could lead to a two-tiered market in which the public does not have fair access to information about the best available prices for a security that is available to some market participants. Flash orders also may detract from the incentives for market participants to display their trading interest publicly.[138]

235. NASDAQ actually supported the ban, agreeing with the SEC that flash orders created a two-tiered market, and effectively admitting that NASDAQ had to offer flash orders because it was losing market share. One comment letter to the SEC's proposed rule amendment characterized investor harm at the hand of flash orders as follows:

> We believe flash mechanisms impose costs on customers because a customer can "miss the market" when its marketable order is converted to a flash order, rather than being routed to the displayed

[138] http://www.sec.gov/news/press/2009/2009-201-factsheet.htm.

> best price. In addition, a customer is harmed when its displayed order at the national best bid or offer is not executed because market makers on another exchange step up to match that best price through a flash mechanism. The supposed cost savings to customers that has been noted by other commenters does not take into account the customers on other exchanges who did not trade because of market maker step ups in flash mechanisms.[139]

236. Despite the backlash to flash orders from the SEC, Congress, several exchanges and other market participants, in November 2010 Direct Edge revamped its flash strategy by adding an auction feature in a bid to make its use more attractive to customers. Several months later, the SEC told Direct Edge that it would institute proceedings on whether or not to disapprove the change, and Direct Edge thereafter finally announced it would stop offering flash orders. In the end, Direct Edge defiantly refused to stop "flashing" orders until February 28, 2011, almost two years into the Class Period.

The Exchanges' Manipulative Scheme Damaged Plaintiffs and the Class

237. By employing the aforementioned devices, contrivances, artifices and manipulations, the Exchanges pursued a fraudulent scheme and wrongful course of business that operated as a fraud or deceit on public investors trading stocks on the U.S. stock exchanges.

238. During the Class Period, the Exchanges engaged in wrongful and discriminatory practices, including

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[139] Letter from John McCarthy to SEC Secretary Elizabeth Murphy (Sept. 29, 2010), *available at* http://www.sec.gov/comments/s7-21-09/s72109.shtml.

providing co-location and enhanced low-latency direct data feed services, and creating and implementing hundreds of complex order types for HFT firms, for the purpose of, and knowing that such acts would result in further fraudulent activity such as electronic front-running, latency arbitrage, spoofing, and layering by HFT firms. The Exchanges knew that engaging in such conduct would induce HFT firms to execute trades on the Exchanges to the detriment of Plaintiffs and the Class. The Exchanges also implemented a fee structure that they knew incentivized HFT firms to employ trading strategies, including rebate arbitrage, that caused Plaintiffs and the Class to transact on the Exchanges' venues at worse prices. Defendants' fraudulent scheme and wrongful course of business played a central and essential role in at least the following activities, which operated as a fraud or deceit on Plaintiffs and the Class.

Electronic Front-Running

239. NYSE former Rule 92, FINRA Rule 5320 Information Memo No. 80-38 ("Memo"), expressly prohibits electronic front-running or "trading ahead." The Memo provides, in part, that members and member organizations "should not trade in options or in underlying securities by taking advantage of their possession of material, non-public information concerning block transactions in these securities." This type of conduct is inconsistent with "just and equitable principles of trade" and a member who violates this rule may face disciplinary proceedings under NYSE Rule 476.[140] However, the conduct by the Exchanges alleged herein resulted in the manipula-

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[140] *See* NYSE Exchange Rule 105(h), "Prohibition Against Front-Running of Blocks."

tion of the market by means of these wrongful practices and violated the prohibition against trading ahead.

240. The Exchanges sold HFT firms access to information concerning the proprietary non-public intent of Plaintiffs and members of the Class, including their intention to purchase or sell securities, their price sensitivity, margin requirements and/or the amount of shares they intended to transact in. The Exchanges did this, first, by collecting payments from HFT firms in exchange for permitting them to install their own computers directly within or in close proximity to the Exchanges' own order matching boxes. Defendants knew these co-location arrangements were intended to and would in fact provide HFT firms with nearly instantaneous access to investor orders and bids placed on the Exchanges by brokerage firms, and did so knowing HFT firms could and would use the data to trade in front of Class members. The Exchanges also provided a low-latency edge to HFT firms by offering direct data feeds that were faster than the widely used SIP, and by allowing HFT firms to utilize complex new order types that allowed them to jump the queue and trade in front of Class members. These feeds also provide enhanced trading information to HFT firms that allows them to at a minimum track when an investor changes price on his order and how much stock the investor is buying or selling in accumulation, as well as ascertain hidden order flow.

241. The market data revenue earned by the Exchanges is used to further develop their business products and increase their market share. NASDAQ has said that while historically exchanges used market data revenue to support their regulatory function, today, "some of the revenue is instead used simply to buy market share

and gain additional market data revenue."[141] Similarly, NYSE has stated that "market data revenues [are] not . . . considered regulatory fees."[142]

242. The Exchanges collected billions of dollars from HFT firms for co-location rights and data feed services so that the firms could reduce their own latency *vis-a-vis* other traders. For example, when a broker placed an order to purchase 100 shares of Proctor & Gamble on the NYSE or an alternate trading venue, HFT firms got access to it within milli- or even microseconds and were able to actively look at all the other exchanges and alternate trading venues – using their high speed cable and/or radio wave signal technology – and discover where the shares to be purchased could be purchased most cheaply, or where the shares to be sold could be sold for the highest price. They then raced the investor's order to that exchange, transacted and then fulfilled the investor's order.

243. To do so however, HFT firms put out "pings" (or small orders or bids) on all of the other exchanges to locate the best price. In so doing, HFT firms necessarily increased the perceived demand for the relevant stock, often resulting in artificial price increases/decreases. HFT firms, however (through the operation of complex orders the Exchanges agreed to create just for these purposes), just as instantaneously cancel all unwanted

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[141] Nasdaq Stock Market, Inc., *Comments on Proposed Reg NMS*, File No. S7-10-04 at 30 (July 2, 2004), *available at* http://www.sec.gov/rules/proposed/s71004/knight070504.pdf.

[142] New York Stock Exchange, Inc., *Comments on SEC Release No.34-50699*, File No. S7-39-04 Proposed Rules on Fair Administration and Governance of SROs, Appendix B at 4 (Mar. 8,2005), *available at* http://www.sec.gov/rules/proposed/s73904/myeager030805a.pdf.

orders and bids. Through this "pinging," HFT firms appear to increase demand for the stock (at a certain price point) and thus manipulate its price. As a result though, while the HFT firm may transact at the best quote available on a particular exchange when it eventually transacts, it has to often run up/down those prices before trading due to its own efforts to electronically front-run the investors' orders – and so it transacts for the investor at a price that damages the investor. The Exchanges take steps to rig their markets such that this manipulative conduct occurs on their trading platforms, in order to increase trading volume and ultimately, their bottom line. The steps taken by the Exchanges create the structure by which the harm caused to Plaintiffs and the Class is certain and inevitable.

Rebate Arbitrage

244. Purportedly to increase and improve liquidity on their exchanges – which draws more business into their exchanges and allows the exchanges to collect greater fees from the increased trading – the Exchanges historically began paying brokers and HFT firms to transact on their exchange to the extent they were placing a new bid or offer there. Such activity is characterized in the industry as "making" liquidity. Conversely, those who merely pay the bid or offer price quoted on an exchange are characterized in the industry as merely "taking" liquidity.

245. Early on, many of the Exchanges adopted maker/taker pricing plans.[143] Makers were paid rebates to

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[143] The maker/taker model is in contrast to the "customer priority" model, whereby any account identified as a "customer" goes to the head of the queue for priority of fill, without paying a transaction fee to the exchange. The exchange charges market-makers fees for

place their orders and bids on the exchange whereas takers had to pay to fulfill their orders on the same exchange. Investors pay their brokers a commission to conduct their trades, but these maker/taker fees paid to – or not charged by – the exchanges were separate and apart from that. As such, they often incentivized brokers to be market-makers rather than takers.

246. However, with the advent of so many new stock exchanges, competition grew and strategies varied, and soon certain exchanges became incentivized to pay takers and charge makers. BATS did this on its BYX trading system to entice brokers to send their orders to BATS – where BATS knew high frequency traders were waiting – even though it did not increase liquidity in the process.

247. The different pricing models being employed across the various public exchanges and alternate trading venues soon created a new arbitrage opportunity for high frequency traders. In addition to the need for speed that electronic front-running required, high frequency traders were incentivized by the Exchanges to trade on more electronic trading venues and to trade where they were paid to do so. ***This incentivized high frequency traders to hold off on fulfilling an order at the best price available on a particular exchange if the exchange offering the best price demanded payment from them to complete the order***. Instead, the HFT firms, which were way out ahead of the rest of the market by micro- if not milliseconds, were incentivized to create more interest in the stock by pinging more exchanges – even if doing so increased the market price for the stock suddenly – in order to close the trade on an exchange that would pay them the largest

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transactions. Payment for order flow is also paid to brokerage firms as an inducement to send their orders to a given exchange.

rebate rather than charging them a fee to transact. Again, the price increase such delays precipitated were ultimately borne by Plaintiffs and members of the Class.

Latency Arbitrage

248. Latency arbitrage occurs when different people and firms receive market data at different times. These time differences, known as latencies, may be as small as a billionth of a nanosecond, but in the world of HFT, such differences can be crucial. So crucial, in fact, that HFT firms pay the Exchanges substantial sums to be located closer to the Exchanges' servers – each foot closer saving one nanosecond – and to access material trading data via enhanced low-latency data feeds. Latency arbitrage occurs when HFT algorithms make trades a split second before a competing trader, and then resell the stock seconds later for a small profit.

249. As an example, an institutional investor seeks to buy a substantial position, for example 100,000 shares of a given stock. Often brokers will try to execute the trade intermittently in small 100 share block orders, trying to get the then best price available, say $4.50 per share. This is where the "latency arbitrage" takes place. HFT firms use their internal compilations of knowledge of historical trading practices to divine who the investor is, how much it wants, what it is willing to pay and/or what its margin requirements are, and essentially buys up all the available shares at $4.50 per share an instant before the institutional investor gets them. Now the institutional investor's algorithm moves on, and looks for shares at $4.51 per share. The HFT firm then sells all the stock it just bought at $4.50 per share, earning – in a period of a second or less – a completely risk free penny a share, or $5,000. Practices like this add up to many millions of dol-

lars each trading day, transferring annual sums of more than $1 billion to the coffers of HFT firms.

Spoofing and Layering

250. So-called "spoofing" and "layering" (collectively, "layering") are HFT strategies that use non-bona fide orders, or orders that a trader does not intend to have executed, that are designed to induce others to buy or sell the security at a price not representative of actual supply and demand. Such practices are designed to and do manipulate the market, and the Exchanges cause and profit from such manipulations.

251. More specifically, HFT firms place bona fide buy (or sell) orders on the Exchanges' trading venues they intend to have executed, and then immediately enter numerous non-bona fide sell (or buy) orders for the sole purpose of attracting interest to their bona fide orders. The placement of these non-bona fide orders is to induce, or trick, other market participants to execute against their initial bona fide orders. Immediately after the execution against the bona fide orders, the HFT firms cancel the open non-bona fide orders. They typically then repeat this strategy on the opposite side of the market to close out the position. Using this strategy, the HFT firms induce other market participants to trade in a particular security by placing and then cancelling layers of orders in that security, creating fluctuations in the NBBO of those securities, increasing order book depth and using the non-bona fide orders to send false signals regarding the actual demand for such securities, which the other market participants misinterpret as reflecting true demand and in this way manipulate the market. The Exchanges consciously design their markets knowing they will lead to the specific HFT firms' orders that deceive other market participants into buying (or selling)

stocks from (or to) the HFT firms at prices that have been artificially raised (or lowered) by HFT firms.

Like the Exchanges, Barclays Also Engaged in a Manipulative Scheme to Defraud Through Its Dark Pool

252. The fragmentation of financial trading venues and electronic trading that Reg NMS sought to remedy allowed for the creation of alternate trading venues (also known as "dark pools"), which are normally accessed through crossing networks or directly between market participants. A dark pool is a trading venue that is not openly available to the public. Historically, dark pools were created so that financial institutions could execute large block trades anonymously and away from public exchanges. In theory, such anonymity prevented adverse price movement that might otherwise occur if the broader market knew that a large investor was seeking to execute a large trade. Most of the nation's largest financial services firms now all have divisions within them that operate alternate trading venues.

253. Given the supposed "dark" nature of alternative venue trading, theoretically neither the size of the trade nor the identity of the market participant is revealed until the trade is filled. This allows, for example, institutional investors wishing to buy or sell large blocks of securities to do so without showing their hand and thus avoid any negative price impact. It also means, however, that institutional investors making large trades in these alternative venues must place an even greater reliance upon the honesty and integrity of their brokers who operate these venues to act in the institutional investors' best interest.

254. Alternative trading venues are of various types and can execute trades in multiple ways, including throughout the day or at scheduled times. Traders affili-

ated with the financial institution operating a particular dark pool can also trade in that venue and many of these dark pool operators permit outsiders to gain entry into their venue by selling access or charging commissions to HFT firms.

255. The rise of dark pools has added pressure on the Exchanges to come up with ways to try to minimize lost market share and incentivized them to create products and services for HFT firms that attract order flow and fees. These include (as discussed at length herein) products and services such as co-location, enhanced data feeds and the use of complex order types.

256. Significantly, the use of these products and services by HFT firms is not limited to trading activity on the Exchanges. Indeed, as dark pools increasingly gained market share – there are now as many as 45 different dark pools, and as much as 40% of all equity trades now take place in dark pools[144] – HFT activity has proliferated in these venues.[145]

Barclays's Dark Pool (Barclays LX)

257. Most all of the major Wall Street banks either run their own dark pool or do so jointly with other market participants. Barclays is no exception.

258. Barclays is a broker/dealer as defined by FINRA and operates a dark pool. It also owns and oper-

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[144] *See, e.g.*, Sam Mamudi, *Dark Pools Take Larger Share of Trades Amid SEC Scrutiny* (June 12, 2014), *available at* http://www.bloomberg.com/news/2014-06-12/off-exchange-stock-trading-reaches-two-year-high-in-u-s-.html.

[145] Bradley Hope & Scott Patterson, *Dark Pools Shed Light on Their Operations* (June 4, 2014), *available at* http://online.wsj.com/articles/big-banks-top-share-data-in-new-finra-dark-pool-data-disclosures-1401715882 (noting that "[s]ome have also questioned the role played by high-frequency firms . . . in dark pools").

ates its own algorithmic or HFT desk, which effectively operates like the HFT firms, thereby providing it with the knowledge, motive and opportunity to engage in the manipulative acts and practices as described herein, in both lit markets and dark pools, including its own dark pool. Barclays also permitted HFT firms to gain information and dark pool access to "anonymous" orders placed in its dark pool – but it did so knowing that the HFT firms would engage in many of the same manipulative practices described herein, including "front running," "latency arbitrage" and "trading ahead" among others.

259. Barclays operates its own dark pool called Barclays Liquidity Cross, or "Barclays LX." Barclays planned and intended to establish its Barclays LX dark pool as the largest private trading venue in the world. In order to do so, it exploited investors' belief in Barclays LX as a safe haven to investors – particularly institutional investors such as State-Boston and the other Plaintiffs – while enticing predatory traders with monetary and informational incentives and the presence of investors for them to prey on.

260. Eric Schneiderman, NY AG, has conducted an investigation of Barclays and its dark pool, and as a result of his investigation has initiated an action against Barclays in the Supreme Court of the State of New York in the County of New York, *The People of the State of New York v. Barclays Capital, Inc.*, Index No. 451391/2014. This investigation was conducted by means of subpoena powers and other investigative tools unavailable to private litigants, pre-suit.

261. As recounted in his complaint against Barclays, among the matters uncovered by Attorney General Schneiderman's investigation was evidence of Barclays's

intention to expand its dark pool into the largest in the world. The evidence uncovered by Attorney General Schneiderman can be summarized as follows:

a. In the years following the creation of Barclays LX, Barclays's own marketing materials reflect that, as of late 2011, Barclays LX was essentially in the middle of the pack of the several dark pools operating in the U.S., measured by average daily volume of share traded.

b. Growing its dark pool to become the largest one in the United States was a principal goal of Barclays's Equities Electronic Trading division (the division that houses the dark pool), and was central to driving profits for the division. Speaking in 2013, the Head of Barclays's Equities Electronic Trading division recalled that "[w]e laid out a plan two years ago to overhaul our offering end to end, gain market share and provide clients with the best electronic trading tools in the market."

c. In an internal document found by Attorney General Schneiderman, Barclays instructed its employees that "[a]ggregating [order] flow into Barclays LX has strategic and economic value for the entire Equities business," including the savings Barclays would realize by not having to pay commissions to execute trades on other venues; fees gained from firms paying to trade in the dark pool; and the "internal trading P&L [profit and loss] opportunities" available to internal Barclays trading desks that trade in the dark pool against brokerage client order flow. According to Attorney General Schneiderman, Barclays also referred in that document to the "market share value of attracting more [order] flow" into its dark pool. Internal Barclays documents valued this growth opportunity at between $37 and $50 million per year.

d. A former senior Director in Barclays's Equities Electronic Trading recalled to Attorney General Schneiderman's investigators that, "[a]t every sales meeting or product meeting, the main goal they were talking about was to grow the size of [Barclays's dark pool] to become the largest pool. All the product team's goals, which would also include their compensation[,] were tied to making the pool bigger. [Barclays had] great incentive at all costs to make the pool bigger."

262. In order for Barclays's dark pool to expand in accordance with Barclays's plan, Barclays would have to increase the number of trades it executed in the dark pool acting as a broker. This would require Barclays to direct a larger number of its brokerage customers' orders into the dark pool. In order to create liquidity in the dark pool sufficient to insure that these orders could be filled, Barclays also sought to attract HFT firms into its dark pool.

Investors Justifiably Relied on the Fairness and Integrity of Barclays's Dark Pool as a Market

The Regulatory Framework Governing Dark Pools Requires Fairness

263. Investors justifiably relied on Barclays's compliance with the regul;atory framework that governs dark pools, which requires fairness and integrity. Introduced in 1998, Regulation ATS ("Reg ATS") was established to allow ATS, including dark pools,[146] ECNs and broker-

[146] FINRA has defined a dark pool as "an ATS that does not display quotations or subscribers' orders to any person or entity, either internally within an ATS dark pool or externally beyond an ATS dark pool (other than to employees of the ATS)." Order Approving Proposed Rule Change Relating to Publication of Certain Aggregate Daily Trading Volume Data (Mar. 5, 2010), SEC Release No. 34-61658 (Fed. Reg. Vol. 75, No. 48).

dealers, to register as either national securities exchanges, or as broker-dealers and comply with certain additional requirements under Reg ATS. Because trading venues subject to Reg ATS are not required to meet the specifications of an exchange, they are not bound by the market surveillance and other self-regulatory responsibilities of securities exchanges. However, under Reg ATS alternative trading venues such as dark pools must register with the SEC as broker-dealers and must adhere to the business conduct rules applicable to broker-dealers established by FINRA. These obligations are in addition to the requirement that all dark pools "must comply with the antifraud, antimanipulation, and other applicable provisions of the federal securities laws."[147]

264. Most notably, Rule 301(b)(10) of Reg ATS requires ATS operators to implement safeguards and procedures for protecting their users' confidential trading information, including "limiting access to the confidential trading information of subscribers" to certain employees of the ATS. Reg ATS also requires, under Rule 301(b)(2), trading venues such as dark pools to disclose certain information about the nature of their operations on Form ATS, and to amend its Form ATS before implementing material changes to its operation or when the Form ATS becomes inaccurate. Two recent SEC enforcement actions under Rule 301(b)(10) and (2) highlight the importance of the requirement that dark pool operators maintain the confidentiality of their customers' trading information.

265. In *In the Matter of Pipeline Trading Systems*, the SEC fined Pipeline Trading Systems ("Pipeline") $1 million and two of its top executives $100,000 each in

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[147] Reg ATS, Preliminary Notes.

October 2011 for willful violations of § 17(a)(2) of the Securities Act of 1933 and Rules 301(b)(2) and 301(b)(10) of Reg ATS for describing its dark pool to investors as a crossing network that protected institutional investors from predatory trading when in reality the majority of the orders placed on Pipeline's dark pool were filled by Pipeline's parent company. In doing so, ***the SEC stressed that regardless of where a trade takes place, "'one principle remains fundamental – investors are entitled to accurate information as to how their trades are executed.'"***[148] It also emphasized "'***the importance of full disclosure by those who operate alternative trading systems about their operations and the execution services they provide.'"***[149]

266. A year later, in *In the Matter of eBX*, the SEC fined eBX, LLC (a joint venture formed by Credit Suisse, Citi, Merrill Lynch, Lehman Brothers and Fidelity), which operates the alternative trading venue LeveL ATS, $800,000 to resolve findings that it willfully violated Reg ATS Rules 301(b)(10) and (2) by failing to protect customers' confidential trading information and failing to disclose that it allowed an outside entity that built the LeveL ATS dark pool – Lava Trading (a unit of Citigroup) – to make use of that confidential trading information.

267. Dark pools must also comply with the rules applicable to broker-dealers established by FINRA, including Rule 5270, which prohibits front running of block transactions. Subsections (a) and (b) of Rule 5270 of FINRA provide:

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[148] Press Release, *Alternative Trading System Agrees to Settle Chargers That It Failed to Disclose Trading by an Affiliate* (Oct. 24, 2011), *available at* http://www.sec.gov/news/press/2011/2011-220.htm.

[149] *Id.*

> (a) No member or person associated with a member shall cause to be executed an order to buy or sell a security or a related financial instrument when such member or person associated with a member causing such order to be executed has material, non-public market information concerning an imminent block transaction in that security, a related financial instrument or a security underlying the related financial instrument prior to the time information concerning the block transaction has been made publicly available or has otherwise become stale or obsolete.
>
> (b) This Rule applies to orders caused to be executed for any account in which such member or person associated with the member has an interest, any account with respect to which such member or person associated with a member exercises investment discretion, or for accounts of customers or affiliates of the member when the customer or affiliate has been provided such material, non-public market information by the member or any person associated with the member.

Similarly, Rule 5320 of FINRA, adopted September 12, 2011, consolidated previous customer order protection rules and replaced the then-existing FINRA customer limit and market order protection rules, NYSE Rule 92, and other similar exchange rules. Rule 5320 generally prohibits a member firm that accepts and holds a customer order from trading a security on the same side of the market for its own account at a price that would satisfy the customer order, unless it immediately executes the customer order up to the size of and at an equal or better price than it traded for its own account.

268. Based in part on the regulatory structure described above, Plaintiffs and the Class presumed, as they did with respect to the Exchanges, the integrity of the trading platforms operated by the dark pools, and that they would be treated fairly. The institutions that operate dark pools such as Barclays did nothing to dispel that presumption on behalf of Plaintiffs, the Class, and the investing public. Rather they built on that presumption and buttressed it by marketing the the dark pools to investors as trading venues where investors can trade securities safe from the predations of HFT firms and other predatory investors. Similar to the Exchanges, however, in order to receive the benefit of the enormous trading volume HFT firms generate, Barclays invited HFT firms to trade in its dark pool and gave them incentives to do so – one of those incentives being the presence of investors who would serve as the victims of the HFT firms' predatory trading activities. In other words, while assuring investors that its dark pool had special safeguards to protect them from predatory trading practices, Barclays in fact offered the investors up to the predators as prey, for the operators' own financial benefit.

Barclays's Public Statements Failed to Dispel – and in Fact Encouraged – Investors' Belief in the Fairness and Integrity of Barclays's Dark Pool

269. Far from dispelling investors' belief in the fairness and integrity of its dark pool, Barclays made public statements that encouraged such belief. Investors had no reason to believe other than that they were being treated fairly and not subjected to predatory practices. But even if investors investigated the matter, they would have found public statements by Barclays encouraging them to believe in the fairness and integrity of Barclays's

dark pool. In particular, Barclays encouraged investors to believe that the dark pool was a safe place for them to trade, insulated from aggressive or predatory HFT practices.

270. Barclays's efforts to encourage clients, potential clients and other market participants to belive in the safety of trading in its dark pool relied, in large part, on a service Barclays calls "Liquidity Profiling." This Liquidity Profiling service purportedly allowed Barclays to monitor the "toxicity" of the trading behavior taking place in its dark pool and, as Barclays claimed, "hold [traders] accountable" if their trading was "aggressive," "predatory" or "toxic." First marketed in 2011, Liquidity Profiling has been represented by Barclays to work by grouping the traders in its dark pool into six categories based on their trading behavior, ranked 0 to 5. In the "0" and "1" categories are those traders conducting the most aggressive, predatory trading activity; in the "4" and "5" categories are those traders conducting the safest, most passive, long-term investor-like trading activity. Participants in Barclays's dark pool were told that they could disable their orders from interacting with traders falling into any of the various categories – in particular, clients could opt-out of trading with traders that were identified by the Liquidity Profiling service as engaging in potentially harmful HFT strategies. According to Attorney General Schneiderman, "Barclays represented Liquidity Profiling as a 'sophisticated surveillance framework, helping to protect you from predatory trading . . . our team proactively monitors the behavior of individual participants and quickly responds with corrective action when adverse behavior is detected.' Liquidity Profiling, according to Barclays, 'improve[s] the overall quality of [Barclays's dark pool because] High-alpha takers [*i.e.*,

high frequency traders] can be held accountable . . . transparency means that aggressive flows will be quickly identified by the Barclays ATS team.'"

271. According to Attorney General Schneiderman, Barclays has represented in various industry publications, including, among others, *Traders Magazine*, *Markets Media*, and *Hedge Week*, that "'Liquidity Profiling analyzes each interaction in the dark pool, allowing us to monitor the behavior of individual participants . . . providing clients with transparency about the nature of counterparties in the dark pool and how the control framework works.

272. Attorney General Schneiderman's investigation disclosed that, as one part of its marketing effort, Barclays created and disseminated analyses of the landscape of trading in its dark pool, purporting to show how clients were protected from aggressive HFT activity and underscoring Barclays's commitment to transparency. One such analysis was contained in a widely-disseminated document intended for institutional clients titled *Liquidity Profiling – Protecting You in the Dark*. That document included an analysis purporting to represent the "liquidity landscape" of Barclays's dark pool. The analysis showed that very little of the trading in Barclays's dark pool is "aggressive." As represented by the analysis, most of the trading in the dark pool is "passive" – even most of the trading activity of HFT firms (denominated "electronic liquidity providers" in Barclays's analysis). In its entirety, the analysis represented that Barclays's dark pool is a safe venue with few aggressive traders.

273. As part of its effort to convince clients that it protected them from aggressive HFT, Barclays issued marketing material that included representations purporting to show the amount of aggressive trading activity

in its dark pool. Attorney General Schneiderman's investigation disclosed that, in marketing materials released in early 2013, Barclays claimed that the trading in its dark pool was "48% passive," "43% neutral" and "9% aggressive." Attorney General Schneiderman's investigation further disclosed that, in March 2014, Barclays issued revised marketing materials that were even more favorable for Barclays, asserting that its dark pool was comprised of 36% passive activity, 58% neutral activity and 6% aggressive activity. According to Attorney General Schneiderman, this marketing material was in use until at least April 2014.

274. In February 2014, Barclays's dark pool was named the "Best Dark Pool" by *Markets Media*, an industry publication. Attorney General Schneiderman's investigation disclosed that, in commenting on the award in marketing material labeled 'for institutional investors only,' Barclays's Head of Equities Electronic Trading attributed Barclays LX's growth to Barclays's commitment to being transparent with its institutional investor clients regarding how Barclays operates, how Barclays routes client orders, and the kinds of counterparties traders can expect to deal with when trading in the dark pool. Transparency was "the one issue that we really took a stance on . . . . We always come back to transparency as the key driver – letting [clients] know how we're interacting with their flow and what type of flow they're interacting with." He further stated that "[t]ransparency on multiple levels is a selling point for our entire equities franchise.'"

In Furtherence of Its Manipulative Scheme, Barclays Operated Its Dark Pool for Its Own Benefit and that of HFT Firms at the Expense of Investors

275. Having failed to dispel, but rather encouraged investors in their reasonable belief in the fairness and integrity of its dark pool with special safeguards in place to protect investors against predatory trading practices rife on public exchanges, Barclays in fact operated its dark pool for the benefit of HFT firms, in order to enjoy the benefits of the enormous volume of trading their participation in the dark pool would generate.

276. Whereas Barclays, as described above, induced investors to trade in its dark pool by telling them there was very little (about 6%) "aggressive" trading activity there, Attorney General Schneiderman's investigation disclosed that in March 2014, Barclays was engaged in discussions with a prominent HFT firm wherein Barclays itself categorized approximately 25% percent of the orders taking liquidity in its dark pool as aggressive. In an internal document collecting the information received from Barclays, that firm summarized the data provided to it by Barclays, and concluded that the trading activity in Barclays's dark pool was "50% good, 50% aggressive."

Barclays's "Liquidity Profiling" Does Not Protect Investors from Predatory HFT Trading Tactics

277. Attorney General Schneiderman's investigation disclosed that Barclays does not perform its highly touted "Liquidity Profiling," described above, in a manner that protects investors from predatory trading tactics employed by HFT:

a. Despite Barclays's assertion that it uses Liquidity Profiling to police its dark pool, and will "refuse a

client access" if that trader's activity becomes toxic, Barclays has in fact never prohibited a single firm from participating in its dark pool, no matter how toxic or predatory its activity was determined to be. Indeed, Barclays has known about the high levels of toxic activity occurring in its dark pool – including latency arbitrage – and has been aware of which firms are responsible, yet Barclays has refused to stop it.

b. Barclays has not regularly updated the ratings of traders monitored by the Liquidity Profiling service, so that traders have often been categorized in ways that did not reflect their aggressive trading activity in Barclays's dark pool. Failing to properly rate traders gives Barclays's clients a false understanding of their exposure to predatory HFT activity.

c. Barclays has applied "overrides" to a number of traders in the dark pool, assigning safe Liquidity Profiling ratings to certain traders that should have been rated as toxic. Even worse, these overrides are often provided to Barclays's own internal trading desks (including HFT-like high-speed high-order desks) and to HFT firms for whom Barclays acts as broker.

d. Although not disclosed in Barclays's marketing materials, Barclays's Liquidity Profiling service is not applied to a significant portion of the trading activity in Barclays's dark pool. It is not applied to client orders that are routed to the dark pool via Barclays's proprietary algorithms (*see* below). Worse, Liquidity Profiling only protects traders when they ***provide*** liquidity (*i.e.*, post an order to the dark pool), but not when they ***take*** liquidity (*i.e.*, accept a posted order). As described in detail above, HFT tactics tend to put HFT firms on the "make" rather than the "take" side of transactions – such that "Liquidity Profiling" was frequently not applied for

the benefit of the side of the transaction it was purporting to protect.

Rather than Protecting Investors from HFT Firms in Its Dark Pool, Barclays Actively Courted HFT Firms

278. While, as described above, Barclays told investors it excluded predatory "aggressive" traders such as HFT firms from its dark pool, Attorney General Schneiderman's investigation disclosed that Barclays in actuality actively courted HFT firms for the dark pool, in order to increase trading activity therein:

(a) On numerous occasions since 2011, Barclays disclosed detailed, sensitive information to major HFT firms in order to encourage those firms to increase their activity in Barclays's dark pool. That information, which was not generally supplied to other clients, included data that helped those firms maximize the effectiveness of their aggressive trading strategies in the dark pool, such as:

(i) The routing logic of Barclays's order router, including the percentage of Barclays's internal order flow that was first directed into its own dark pool;

(ii) A breakdown of trades executed in the dark pool by participant type (*e.g.*, percentage of orders from institutional investors, high frequency traders, etc.); and

(iii) A breakdown of trades executed in the dark pool by "toxicity" level.

(b) Barclays has taken a number of additional actions to invite high frequency traders to trade, and trade aggressively, in its dark pool:

(i) Barclays charges HFT firms little or nothing to trade in its dark pool. For example, since at

least 2011, the two largest participants in Barclays's dark pool – both of which are HFT firms – were charged nothing per share when posting orders, and between $0.0002 and $0.0005 per share when taking available orders;

(ii) Barclays allows high frequency traders to "cross-connect" to its servers. Several dozen of the most well-known and sophisticated high HFT firms in the world are or recently have been cross-connected with Barclays, allowing them to take advantage of Barclays's non-HFT clients, by getting a speed advantage over those slower-moving counterparties; and

(iii) While Barclays has represented that it used ultra-fast "direct data feeds" to process market price and trade data in order to deter latency arbitrage by high frequency traders in its dark pool, Barclays in fact processed that market data so slowly as to ***allow*** latency arbitrage. Internal analyses conducted by Barclays confirmed that Barclays's slow processing of market data allowed high frequency traders to engage in such predatory activity.

279. Just as the Exchanges, Barclays caused damage to investors who traded on its dark pool by rigging the market to favor HFT firms at their expense, such that investors received less favorable prices on their trades on the dark pool than they would have if the market operated fairly.

Defendants' Scheme and Fraudulent Course of Business Have Led to Governmental Investigations and Penalties

280. On March 31, 2014 the *Wall Street Journal* reported that the FBI is investigating HFT-related practices, including whether HFT firms are using non-public information to front run orders placed by other investors or are placing groups of orders and then cancelling them

to create the false appearance of market activity. A few days later, on April 4, 2014, U.S. Attorney General Eric Holder confirmed that the DOJ was investigating whether HFT practices violate insider trading laws. SEC Enforcement Director Andrew Ceresney further stated that "'the Enforcement Division [of the SEC] has a number of ongoing investigations into HFT and automated trading to ferret out possible abuses such as market manipulation, spoofing and related issues.'"[150] The acting chairman of the CFTC similarly indicated that the agency is reviewing HFT practices to see if they constitute "spoofing" or other manipulative conduct that could violate the Commodities Exchange Act or CFTC rules.

281. Prior to the regulators' recent focus on HFT practices, they had been investigating the Exchanges' related practices of providing co-location, data feeds and complex order types to HFT firms for years. In many instances, regulators instituted enforcement actions and/or issued significant fines and penalties in connection with their investigations.

282. For example, following an investigation by the SEC Enforcement Division's Market Abuse Unit, in September 2012, the SEC found that defendant NYSE and its parent NYSE Euronext violated Reg NMS over an extended period of time beginning in 2008 by sending data through two of its proprietary feeds before sending data to the consolidated feeds. NYSE and NYSE Euronext agreed to a $5 million penalty and significant undertakings to settle the charges. This marked the first-ever financial penalty by the SEC against an exchange.

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[150] Joseph De Simone, et al., *Expect Increasing Scrutiny Of High-Frequency Trading* (June 4, 2014), *available at* http://www.law360.com/securities/articles/544458/expect-increasing-scrutiny-of-high-frequency-trading.

283. Less than two years later, there would be a total of six. One such subsequent penalty came on May 1, 2014, when the SEC imposed penalties on NYSE for numerous violations, including the manner in which it offered co-location services. Specifically, according to the SEC, NYSE provided co-location services "'without an exchange rule in effect that permitted and governed the provision of such services on a fair and equitable basis.'"[151] Defendant ARCA, NYSE MKT and defendant NYSE's affiliated routing broker Archipelago Securities agreed to pay a $4.5 million penalty.

284. In August 2013, defendant CHX agreed to pay $300,000 to settle regulatory claims that it failed to comply with rules designed to ensure that brokers secure the best possible prices when trading securities on its exchange on behalf of investors. The commonwealth of Massachusetts also sent a survey to over 1,000 investment specialists about HFT practices, including the use of co-location and direct data feed services provided by exchanges.

285. Additionally, revelations regarding the Exchanges' complex order types have spawned a "sweeping SEC inquiry into the activities of the sophisticated trading firms and stock-exchange operators – including Nasdaq OMX Group Inc. [the parent company of defendants NASDAQ and BX], NYSE Euronext [which operates defendant NYSE], Direct Edge Holdings LLC and BATS Global Markets."[152] The SEC announced in 2013

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[151] Sam Mamudi, *SEC Fires First Shots Since 'Flash Boys' With NYSE Fine* (May 2, 2014), *available at* http://www.bloomberg.com/news/2014-05-01/sec-says-nyse-rules-were-shoddy-as-exchange-fined-4-5-million.html.

[152] Scott Patterson & Jenny Strasburg, *For Superfast Stock Traders, a Way To Jump Ahead in Line* (Sept. 19, 2012), *available at*

that it is investigating "how order types are proposed, implemented, and monitored post-implementation."[153] Most recently, in conjunction with its proposal to address certain aspects of HFT, the SEC revealed that it was working with the exchanges to revamp their complex order types. In related comments, Chair of the SEC White stated:

> Another source of broker conflicts is the large number of complex order types offered by the exchanges, which have been a recent focus of the SEC's examination program. The majority of these order types are designed to deal with the maker-taker fee model and the SEC's rule against locking quotations.
>
> I am asking the exchanges to conduct a comprehensive review of their order types and how they operate in practice. As part of this review, I expect that the exchanges will consider appropriate rule changes to help clarify the nature of their order types and how they interact with each other, and how they support fair, orderly, and efficient markets.[154]

286. Chair White's comments were made in connection with the SEC's announcement of a set of initiatives to address HFT, exchange practices and dark pools. As part of the initiatives, the agency "will look into concerns

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http://online.wsj.com/news/articles/SB10000872396390443989204577599243693561670.

[153] National Exam Program, SEC, Examination Priorities for 2013 at 9 (Feb. 21, 2013), *available at* http://www.sec.gov/about/offices/ocie/national-examination-program-priorities-2013.pdf.

[154] SEC Speech, Enhancing Our Equity Market Structure (June 5, 2014), *available at* http://www.sec.gov/News/Speech/Detail/Speech/1370542004312#.VAXwmaPn93w.

about the resiliency and fairness of market data feeds . . . will work with stock exchanges to minimize speed differences between the public data feed and high-speed direct feeds typically used by high-frequency firms . . . [and] will examine whether exchanges can de-emphasize speed as a key to successful trading."[155]

287. Also in early August 2014, it was reported that BATS was in advanced talks with the SEC to settle allegations that it and Direct Edge gave unfair advantages to high-speed traders, including offering order types that gave HFT firms an edge over investors in their markets. The expected settlement is reportedly the major reason BATS recently forced out its former president O'Brien, who joined BATS from Direct Edge as part of the companies' merger earlier this year.

288. On June 17, 2014, the Senate's Permanent Subcommittee on Investigations held a hearing to investigate HFT, including the possible conflicts between rebates paid by exchanges to brokers and brokers' obligations to honor their clients' trades. At the hearing, representatives of defendants NYSE and BATS admitted that "rebate fees and payments to brokers for orders should face greater regulatory scrutiny."[156] Thomas Farley, president of NYSE Group, stated that "'[w]e are seeking support for the elimination of maker-taker pricing and the use of rebates . . . . Broad adoption of this policy would

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[155] Scott Patterson, *SEC Chairman Targets Dark Pools, High-Speed Trading* (June 6, 2014), *available at* http://online.wsj.com/articles/sec-chairman-unveils-sweeping-proposals-to-improve-markets-1401986097.

[156] Silla Brush & Cheyenne Hopkins, *High-Frequency Trading Rebates Under Scrutiny in Senate* (June 17, 2014), *available at* http://www.bloomberg.com/news/2014-06-17/high-speed-trading-fees-under-scrutiny-by-u-s-senators.html.

reduce the conflicts inherent in such pricing.'"[157] Similarly, ICE CEO Jeffrey Sprecher agreed that the maker-taker model creates conflicts of interests for brokers seeking rebates instead of putting their clients' needs first.

289. Dark pools have also come under regulatory scrutiny recently. On May 2, 2014 it was reported that the NY AG was expected to issue subpoenas to exchanges and alternative trading platforms to gather data on the manner in which high frequency proprietary trading firms obtain information. And on June 9, 2014, the SEC announced that it is investigating a number of large dark pools, for, among other things, whether the trading systems are properly disclosing to clients how they operate, treating all investors fairly and protecting confidential client information. Then on June 25, 2014, as alleged above, NY AG Eric Schneiderman announced a lawsuit against the international bank Barclays, arising from the operation of Barclays's dark pool, Barclays LX, and other aspects of its electronic trading division.

The Exchanges' Conduct Is Not Shielded by SRO Immunity

290. Historically, national securities exchanges operated as not-for-profit entities. Defendants have more recently converted to or, in the case of the newer exchanges, have always been for-profit entities. The incentives and functions of the member-owned cooperative exchange of 1934 bear little resemblance to those of the for-profit exchanges of today. With the shift in status to for-profit companies that answer to shareholder desires for profits, the Exchanges developed a business model to capitalize on their control over market data and trading

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[157] *Id.*

information. This shift in focus has resulted in quarterly earnings targets and revenues earned from co-location and direct data feed services, and from increased trading volume generated by catering to the needs of HFT and brokerage firms, including offering hundreds of new complex order types and rebates for order flow. These activities do not function to protect investors. They cater to a select group of traders who utilize sensitive trading information at faster speeds to prey on investors. As such, they create asymmetrics and operate for Defendants' corporate benefit.

291. The Exchanges traditionally marketed and sold access to their markets to customers on a non-discriminatory basis. With the rise of co-location and direct data feeds, the Exchanges have sold access to their data to sophisticated HFT firms who pay significant sums of money for an advanced look at trading data. The Exchanges' sale of advanced access to market data has nothing to do with their former roles as market regulators and everything to do with their private business interests, such as efforts to increase trading volume and profits. These "access services" have been described as "core" products in the Exchanges' business models.[158] Moreover, the Exchanges' offering of complex order types to HFT firms amounts to selective disclosure of information that creates trading advantages for a select group. As the Securities Industry and Financial Markets Association recently acknowledged, exchanges have focused their efforts on the "part of their business that earns profits to maximize the returns for their share-

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[158] Direct Edge Holdings, LLC, *Comments on Concept Release on Equity Market Structure*, Exchange Act Release No. 34-61358 at 19 (April 28, 2010), *available at* http://www.sec.gov/comments/s7-02-10/s70210-159.pdf.

holders, and, in some cases, minimized their actual performance of regulatory functions."[159]

292. The SEC has distinguished between exchanges' regulatory functions, which are shielded by immunity, and their market operations businesses, which are not. As described by the SEC, an SRO's regulatory functions include promulgating and enforcing rules governing their members and markets, investigating and, where necessary, disciplining their members and users of their markets, and examining their members. *See* Exchange Act Release No. 34-50700, 69 Fed. Reg. 71,256, 71,259 (Dec. 8, 2004). An exchanges market operations business does not fall into any of those categories. The SEC has recognized that the exchanges roles as SROs is functionally separate from their business of operating markets. The SEC has stressed that this dichotomy "can create a strong conflict of interest" when SRO regulatory responsibilities give way to business "pressure to attract order flow. *Id.* at 71,261-62.

293. The manipulative devices referenced herein are not, individually or collectively, within the ambit of the Exchanges' delegated governmental or regulatory functions. Rather, they relate to the Exchanges' private business operations. . Several of the Defendants' own statements confirm as much:

> Because the law does not mandate a particular funding stream for exchanges, how exchanges are funded is a matter of business strategy for each exchange to determine and a basis on which ex-

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[159] Comment Letter from the Securities Industry and Financial Markets Association to SEC Chair Mary Jo White at 4 (July 31, 2013), *available at* http://www.sifma.org/comment-letters/2013/sifma-submits-comments-to-the-sec-requesting-a-review-of-the-self-regulatory-structure-of-securities-markets/.

> changes can and should compete. This includes, therefore, determining how to best promote and utilize market data within the applicable legal and regulatory framework. It is in each Exchange's best interest to provide proprietary information to investors to further their business objectives, and each Exchange chooses how best to do that.[160]

294. As recognized by United States District Judge Robert W. Sweet in a recent opinion in *In re Facebook, Inc., IPO & Sec. & Derivative Litig.*, 986 F. Supp. 2d 428, 453 (S.D.N.Y. 2013), "[a]s exchanges have evolved into for-profit enterprises, an irreconcilable conflict has arisen, rendering independence unattainable in the context of an exchange regulating its own, for-profit business conduct."[161] Allowing Defendants to be immune from activities designed to increase order flow and trading volume from HFT firms would allow unrestrained motives for profit to go unchecked.

COUNT I
Violation of § 10(b) of the Exchange Act and Rule 10b-5 Against All Defendants

295. Plaintiffs repeat and reallege each and every allegation contained in the above paragraphs as if fully set forth herein.

296. During the Class Period, Defendants engaged in illegal acts and practices, including contrivances and manipulations, and participated in a fraudulent scheme and wrongful course of business, which was intended to and did operate as a fraud or deceit on the investing public, including Plaintiffs and other members of the Class. De-

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[160] *Comments on NetCoalition Petition for Review*, at 4.

[161] And NASDAQ has admitted as much in its own public filings. *See* ¶ 87 *supra*.

fendants' unlawful conduct caused Plaintiffs and Class members to purchase and sell shares at distorted and manipulated prices, and in doing so damaged Plaintiffs and the Class.

297. Defendants: (i) employed devices, schemes and artifices to defraud; and (ii) engaged in acts, practices and a course of business which operated as a fraud and deceit upon the purchasers and sellers of shares on the Exchanges and in Barclays's dark pool, including Plaintiffs and Class members. In an effort to enrich themselves through these manipulative tactics and illicit kickback payments, Defendants wrongfully engaged in various fraudulent conduct and/or participated in such conduct by others as detailed herein, including electronic front running, latency arbitrage, rebate arbitrage, spoofing, and layering; and otherwise distorted and manipulated the pricing of Plaintiffs' and the Class's securities in violation of § 10(b) of the Exchange Act and Rule 10b-5. All Defendants are sued as primary participants in the wrongful and illegal conduct and scheme charged herein, as each engaged in the manipulative acts and deceptive practices detailed herein.

298. Defendants had actual knowledge of the illegal practices set forth herein. Defendants' scheme was designed to and did defraud Plaintiffs and the Class by distorting the prices they paid for shares of stock in the markets.

299. As a result of Defendants' misconduct, the trading prices of the securities purchased or sold on the Exchanges and in Barclays's dark pool by public investors were artificially manipulated and distorted during the Class Period. In ignorance of the true facts and the illegal practices of Defendants during the Class Period, Plaintiffs and other Class members purchased and/or

sold shares at artificially distorted and manipulated prices and were damaged thereby.

300. Plaintiffs and the Class justifiably relied on the fairness and integrity of the Exchanges and Barclays's dark pool in trading on those markets. Defendants know of the investing public's belief in the fairness and integrity of the markets they maintained, and did nothing to dispel it. To contrary, Defendants by their public statements actively encouraged this belief on the part investors such as Plaintiffs and the Class.

301. Had Plaintiffs and other Class members known of the truth concerning Defendants' illegal practices, they would not have purchased or sold stock on these exchanges and in Barclays's dark pool at the artificially distorted and manipulated prices which they paid. Plaintiffs and members of the Class that traded during the Class Period relied on the integrity of the market in the securities listed and traded on the public exchanges.

302. By virtue of the foregoing, Defendants have violated § 10(b) of the Exchange Act and Rule 10b-5. As a direct and proximate result of the wrongful conduct by Defendants, Plaintiffs and members of the Class suffered damages in connection with their purchases and/or sales of stock during the Class Period.

COUNT II
Violation of § 6(b) of the Exchange Act Against the Exchanges

303. Plaintiffs repeat and reallege each and every allegation contained in the above paragraphs as if fully set forth herein.

304. Section 6(a) and (b) of the Exchange Act, 15 U.S.C. § 78f(a)-(b), entitled "National securities exchanges," states:

(a) . . . An exchange may be registered as a national securities exchange under the terms and conditions hereinafter provided in this section . . . by filing with the Commission an application for registration in such form as the Commission, by rule, may prescribe containing the rules of the exchange and such other information and documents as the Commission, by rule, may prescribe as necessary or appropriate in the public interest or for the protection of investors.

(b) . . . An exchange shall not be registered as a national securities exchange unless the Commission determines that –

(1) Such exchange is so organized and has the capacity to be able to carry out the purposes of this title . . . and to comply, and . . . to enforce compliance by its members and persons associated with its members, with the provisions of this title . . . , the rules and regulations thereunder, and the rules of the exchange.

* * *

(4) The rules of the exchange provide for the equitable allocation of reasonable dues, fees, and other charges among its members and issuers and other persons using its facilities.

(5) The rules of the exchange are designed to prevent fraudulent and manipulative acts and practices, to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitating transactions in securities, to remove impediments to and perfect the mechanism of a

> free and open market and a national market system, and, in general, to protect investors and the public interest . . . .
>
> (6) The rules of the exchange provide that . . . its members and persons associated with its members shall be appropriately disciplined for violation of the provisions of this title . . . , the rules or regulations thereunder, or the rules of the exchange, by expulsion, suspension, limitation of activities, functions, and operations, fine, censure, being suspended or barred from being associated with a member, or any other fitting sanction.

305. The Exchanges are national securities exchanges registered with the SEC under Section 6 of the Exchange Act. The Exchanges are obligated to operate their securities exchanges in the public interest and for the protection of investors, assuring that the exchange is operated in a fair and equitable manner. Acting deliberately, fraudulently and in bad faith, the Exchanges, both before and during the Class Period, failed to discharge these obligations (and violated them) as set forth in this Complaint.

306. The conduct of the Exchanges complained of results not from ordinary or even gross negligence but rather from their knowing and active furtherance and participation in the scheme and wrongful course of business alleged herein, which conduct was undertaken for the Exchanges' own economic gain.

307. Section 6 of the Exchange Act was specifically enacted to protect public investors who trade on these public exchanges. Such individuals and institutions – the members of the Class – are the direct intended beneficiaries of the prohibitory and protective rules embodied in § 6 of the Exchange Act and the rules and regulations

promulgated thereunder by the SEC and various stock exchanges. The volume of trading on these public exchanges reflects the collective reliance of the members of the Class on the existence of the Exchange Act, its prohibitory and protective provisions and the rules and regulations of the Exchanges pursuant thereto. The trading volume on these exchanges reflects the misplaced reliance of public investors on the integrity of trading in the markets maintained by the Exchanges and their false assurances that their markets were fair and unmanipulated by HFT firms.

308. As a direct and proximate result of the Exchanges' deliberate and bad faith violations of § 6 of the Exchange Act, the members of the Class have been damaged, while the Defendants have improperly profited and been enriched.

PRAYER FOR RELIEF

WHEREFORE, plaintiffs pray for relief and judgment, as follows:

A. Determining that this action is a proper class action, appointing Lead Plaintiffs as Class Representatives and approving Plaintiffs' selection of Robbins Geller Rudman & Dowd LLP, Motley Rice LLC and Labaton Sucharow LLP as class counsel, under Rule 23 of the Federal Rules of Civil Procedure;

B. Awarding compensatory damages, including interest, in favor of Plaintiffs and the other members of the Class against Defendants, jointly and severally, for all damages sustained as a result of Defendants' wrongdoing, in an amount to be proven at trial, including interest thereon;

C. Awarding equitable restitution of investors' monies of which they were defrauded and disgorgement

and/or the imposition of a constructive trust on Defendants' ill-gotten gains;

D. Awarding forfeiture in favor of the Class against Defendants for all illicit fees, commissions and any other compensation paid by Plaintiffs and Class members;

E. Awarding equitable and/or injunctive relief in favor of the Class against Defendants and their counsel, agents and all persons acting under, in concert with, or for them, including: (i) an accounting of and the imposition of a constructive trust and/or an asset freeze on Defendants' illicit profits from the conduct detailed herein; (ii) prohibiting Defendants from structuring their venues to encourage, and permitting high frequency traders to engage in electronic front-running, rebate arbitrage, latency arbitrage, spamming, spoofing, quote spamming and/or contemporaneous trading; (iii) directing Defendants to ensure that customer bid and offer prices are provided to all investors and trading entities at the same time; (iv) prohibiting Defendants from providing a financial incentive in the form of rebates or otherwise to HFT and brokerage firms for placing orders and bids on those exchanges; and/or (v) prohibiting Defendants from providing an informational advantage to any HFT firm via paid-for reduced latency services.

F. Awarding Plaintiffs and the Class their reasonable costs and expenses incurred in this action, including counsel fees and expert fees; and

G. Such other and further relief as the Court may deem just and proper.

JURY DEMAND

Plaintiffs hereby demand a trial by jury.

DATED: November 24, 2014

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