[ORAL ARGUMENT NOT YET SCHEDULED]
Nos. 18-1292, 18-1293

IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT

THE NASDAQ STOCK MARKET LLC AND NYSE ARCA, INC.

Petitioners,

v.

SECURITIES AND EXCHANGE COMMISSION,

Respondent,

SECURITIES INDUSTRY AND FINANCIAL MARKETS ASSOCIATION,

Intervenor for Respondent.

On Petition for Review of an Order
of the Securities and Exchange Commission

Brief of Amicus Curiae Investors Exchange LLC in Support of Respondent and Intervenor for Respondent

Sophia Lee
Lucy Malcolm
IEX GROUP, INC.
3 World Trade Ctr.
58th Floor
New York, NY 10007

Hyland Hunt
Ruthanne M. Deutsch
DEUTSCH HUNT PLLC
300 New Jersey Ave. NW
Suite 900
Washington, DC 20001
(202) 868-6915
hhunt@deutschhunt.com

Counsel for Investors Exchange LLC

INITIAL BRIEF: May 13, 2019

CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

A. Parties and Amici

All parties and amici appearing before the Securities and Exchange Commission and this Court are listed in Petitioners' briefs apart from Investors Exchange LLC, appearing as amicus in this brief.

B. Ruling Under Review

Petitioners' briefs accurately reference the ruling at issue.

C. Related Cases

These consolidated cases have not previously been before this Court or any other court. All related cases are identified in Petitioners' briefs.

/s/Hyland Hunt
Hyland Hunt

CORPORATE DISCLOSURE STATEMENT

Under Rule 26.1 of the Federal Rules of Appellate Procedure and D.C. Circuit Rule 26.1, amicus curiae Investors Exchange LLC submits the following corporate disclosure statement:

Investors Exchange LLC is a registered national securities exchange. It is wholly owned by IEX Group, Inc., a privately-held company. No publicly-traded company holds 10% or more of IEX Group, Inc. stock.

TABLE OF CONTENTS

TABLE OF AUTHORITIES

CASES

STATUTES

REGULATIONS

OTHER AUTHORITIES

GLOSSARY

FINRA	Financial Industry Regulatory Authority
IEX	Investors Exchange LLC
NMS	National Market System
NYSE	New York Stock Exchange
SEC	Securities and Exchange Commission
SIFMA	Securities Industry and Financial Markets Association
SIP	Securities Information Processor

INTEREST OF AMICUS CURIAE[1]

Investors Exchange LLC ("IEX") is a registered national securities exchange, founded in 2012 on the belief that the current stock market ecosystem did not sufficiently prioritize the interests of long-term investors, like pension funds and mutual funds.[2] IEX has implemented several design and pricing changes to level the playing field for long-term investors, resulting in a model that differs significantly from incumbent exchanges like Petitioners. Like Petitioners, IEX aggregates and disseminates market data, including depth-of-book data of the type at issue here. Unlike Petitioners, however, IEX does not presently charge for that data and believes that exchanges should not be able to charge for market data and related products at prices that bear no relationship to the cost of producing them.

As an exchange with experience in the competitive dynamics of the market for data products and the costs to produce data feeds, IEX can provide a unique perspective on the central question at issue in the administrative proceedings under review here—whether Petitioners' prices for proprietary market data are substantially constrained by competitive market forces.

---

[1] No counsel for a party authored this brief in whole or in part, and no person other than amicus curiae, its members, or its counsel contributed money that was intended to fund this brief's preparation or submission. *See* Fed. R. App. P. 29(a)(4)(E). IEX filed its notice of its intent to participate as amicus curiae on May 8, 2019. All parties have consented to the filing of this brief.

[2] The story behind the founding of IEX Group was chronicled in Michael Lewis' 2014 book *Flash Boys: A Wall Street Revolt*.

Since its founding, IEX has rejected the pricing practices of other exchanges for market data and connectivity products—which are used in tandem with data-feed subscriptions to obtain market data as quickly as possible. IEX believes that such pricing practices conflict with all exchanges' obligations to offer products on terms that are fair, reasonable and non-discriminatory. IEX's business model, premised on principles of transparency and fairness, emphasizes superior execution paid for by flat transaction fees, rather than relying on excessive subscription revenue from market data and connectivity charges. In IEX's view, its model is more sustainable over the long run—in contrast to a business model that relies on the ability to charge supracompetitive prices—and it best serves the interests of investors and the market at large.

IEX writes as amicus here with the goal of sharing its experience as a national securities exchange and the findings of its in-depth review of costs to produce market data products. Both confirm that competitive forces do not significantly constrain the pricing of market data products, and there is ample support for the Commission's finding that Petitioners failed to prove otherwise.

INTRODUCTION AND SUMMARY OF ARGUMENT

IEX agrees with the SEC that exchanges bear the burden to prove that their fees are fair and reasonable, and that the Commission reasonably concluded Petitioners had failed to meet that burden. IEX writes separately to explain, from its

viewpoint as an exchange that also offers proprietary market data, why the Commission's rejection of Petitioners' fees was not only a reasonable conclusion on the record, but also supported by available data pointing to the fundamentally non-competitive nature of the market.

As the operator of a stock exchange, IEX has an informed vantage point that offers unique insights into the workings of the U. S. stock market. IEX understands the regulatory and market forces that make proprietary data feeds so valuable to users. It also knows, first hand, the actual costs of producing and disseminating market data. One of many choices made by IEX in its efforts to level the playing field between long-term investors and market participants that leverage high speed data was not to charge for its own proprietary market data feeds. But these pricing choices were not driven by market constraints. Rather, IEX believes it is not only good for the market, but better for IEX's long-term success not to rely on excessive subscription fees—priced at levels wholly untethered to the reasonable cost of offering those products—as the centerpiece of its business model.

Proprietary market data is, by definition, subject to monopolistic control by the exchanges that create and distribute it. Market evolution resulting from technological developments and regulatory changes—which Petitioners have helped to shape—has dramatically increased the importance of faster and more detailed market data. Such data is available only through proprietary data feeds, and it is not

available through the consolidated data feeds, in part because exchanges control the management of those feeds under the existing governance structure. The most active market participants simply cannot trade competitively, manage the risk of their positions, or effectively satisfy their regulatory obligations to secure the best trades for their clients without purchasing proprietary data from all, or virtually all, of the exchanges. This allows exchanges to reap excessive profits from market data.

If there were any doubt, IEX's in-depth study of the costs necessary to produce proprietary data feeds confirms that Petitioners' fees are not constrained by significant competitive forces. Comparing the fees that IEX pays to receive Petitioners' data feeds to the costs necessary to produce IEX's analogous feeds reveals potential markups of up to 1,500%. Although it was not necessary for the Commission to consider the cost of producing various data products—because the record failed to support Petitioners' fees regardless—the Court has long recognized that costs are relevant to an evaluation of market power. In this case, the dramatic cost-price mismatch shows that market forces alone cannot stop Petitioners from charging supracompetitive prices.

ARGUMENT

I. IEX's Experience In Offering Its Own Market Data Supports The Commission's Conclusions That Petitioners Failed To Prove Significant Competitive Constraints On Pricing.

Exceptionally fast, all-encompassing market data has become essential to the market participants that account for the bulk of trading, allowing exchanges to charge supracompetitive prices for their proprietary market data. IEX could have done the same. But IEX has forgone an opportunity for easy short-term profit and opted for a sustainable pricing model that prioritizes transparency and superior service to investors and that does not rely on the exploitation of its regulatory status as an exchange to extract rents from market participants.

A. Market Data Background.

Under the national market system for securities ("NMS"), "stocks are traded simultaneously on one or more … national exchanges …, as well as at non-exchange trading sites." *NetCoalition v. SEC*, 615 F.3d 525, 528-29 (D.C. Cir. 2010) (*NetCoalition I*). To protect investors within this fragmented system, market participants are precluded from trading at a price worse than the best price quoted on any exchange (the "Order Protection Rule"). Regulation NMS, 70 Fed. Reg. 37,496, 37,501 (Jun. 29, 2005). And brokers are likewise required to achieve best execution for their customers' orders, which also requires them to have access to the best quotations from all trading venues. JA__(Op. 4). To make this possible, "one of

the important innovations of the NMS system is to make available to investors a stream of 'core' market data consolidated from all of the exchanges." *NetCoalition I*, 615 F.3d at 529.

Core data is "processed and distributed by securities information processors ('SIPs') that operate pursuant to joint industry plans run by exchanges" and the Financial Industry Regulatory Authority ("FINRA"). JA__(Op. 4-5). All stock exchanges and FINRA are required to provide the following core data to the SIPs: (1) last sale reports, which include the price, size, and exchange of the last sale of a security; (2) the current highest bid and lowest offer for the security, along with the number of shares available at those prices, at each exchange; and (3) the "national best bid and offer," which are the highest bid and lowest offer currently available in the country and the exchange(s) where those prices are available. *NetCoalition I*, 615 F.3d at 529.

All other market data is "non-core" data under the taxonomy of Regulation NMS, including the depth-of-book data at issue here. JA__(Op. 6). Exchanges like IEX and Petitioners sell (or provide) "non-core data directly to industry participants, including broker-dealers, traders, and redistributors." *Id*. These proprietary data feeds often include additional information that is not found within core data. For example, depth-of-book feeds show all displayed orders at a particular exchange at all price levels, not just the best bid and offer. *See NetCoalition I*, 615 F.3d at 529-

30. Other proprietary feeds, such as top-of-book and last sale feeds, provide the same type of information as core data, but much faster. JA__(Op. 7-8). To obtain this data from exchanges other than IEX, subscribers must usually pay a host of fees in addition to the subscription fee itself. *See* pp. 19-20, *infra* (describing different fees associated with data feeds).

For core data, the Commission has recognized that the processors are "monopolistic" providers and "there is little opportunity for market forces to determine the overall level of fees." JA__(Op. 5). Fees for core data feeds, also commonly called "the SIP" or "SIP data," thus "need to be tied to some type of cost-based standard," to avoid excessive profits. *Id.* But for non-core data, the Commission will deem fees "fair and reasonable" and "not unreasonably discriminatory," 15 U.S.C. § 78k-1(c)(1)(C)-(D), if "the exchange was subject to significant competitive forces" in setting the fees, and there is no "substantial countervailing basis" to find the fees invalid. JA__(Op. 22).

B. Changes in the Stock Market Have Freed Exchanges from Significant Competitive Constraints on Pricing for Market Data Feeds.

Technological and regulatory changes have made ever faster, more granular data essential to the traders that account for the vast majority of trading volume. At the same time, the business and regulatory environment for exchanges has evolved such that exchanges have incentives to raise more revenue from non-core data and

little incentive to improve core data. Over time, this constellation of changes has freed exchanges from significant competitive forces constraining their pricing for proprietary market data feeds, affording them the same "monopolistic" power for non-core data that has long been recognized as affecting core data.

1. Technical and regulatory changes have made fast and detailed information increasingly essential to brokers, and lucrative for exchanges.

Speed has become an overriding factor in twenty-first century stock trading for many reasons. Technological advances, such as increased computing power and network bandwidth and speed, have played a role. U.S. Dep't of Treasury, *A Financial System That Creates Economic Opportunities: Capital Markets*, 51 (Oct. 2017) ("Treasury Report").[3] So too have regulatory changes, such as regulations facilitating competition from alternative trading systems, or "dark pools." *See id.*; 17 C.F.R. §§ 242.300-242.303. Other changes have made more detailed information crucial, such as the requirement to price stocks in decimals (instead of wider minimum increments), which dramatically reduced the number of shares available at the national best bid and offer prices. *See NetCoalition I*, 615 F.3d at 530 n.7. The net effect of these changes has been to increase the need for depth-of-book data, in order to understand the full picture of trading interest outside the best bid and offer.

[3] https://www.treasury.gov/press-center/press-releases/documents/a-financial-system-capital-markets-final-final.pdf.

Id. And because the time to send and receive quotations and execute trades has been reduced to milliseconds and then microseconds, traders have been required to improve their ability to react to price changes in vanishingly small time increments. Treasury Report at 51 ("[T]rading activity [is] now measured in milliseconds and microseconds.").

Even as price shifts have gotten smaller and faster, market participants must live up to regulatory obligations to trade at the best prices. For example, under the Order Protection Rule, exchanges and brokers may not execute stock trades at a price that is worse than a quote on any exchange that is "immediately accessible through automatic execution," known as a "protected quotation." 70 Fed. Reg. at 37,501. Brokers are also subject to the best execution obligation, which requires them to seek the best execution of their customers' trades. *See* JA__(Op. 30 & n.164). The upshot is that active participants in equity markets now have a strong incentive, if not regulatory obligation, to connect to every exchange to be able to access protected quotations.

These regulatory and technological changes accompanied another significant transformation: the move by stock exchanges to become public companies. Today, there are 13 different stock exchanges operating in the United States. *Wall Street firms take aim at America's stock-exchange oligopoly*, The Economist (Jan. 10,

2019).[4] Twelve of them are owned by three public companies; IEX is the sole independent stock exchange, and is also the only privately held stock exchange. *Id.* Before 2000, stock exchanges operated as industry collectives—owned by broker members—rather than public companies. *See id.*; *NASD OKs Nasdaq sale*, CNNMoney (Apr. 14, 2000).[5] After going public, however, exchanges served not only their members and users, but also owed a new responsibility to their shareholders.

Public exchange companies now face the same pressures for quarterly and annual results that all public companies face, resulting in an increased focus on monetizing products that had previously been offered for free or for very little. *See, e.g.*, JA__(Op. 38) (noting New York Stock Exchange ("NYSE") ArcaBook was free before 2009). In particular, exchanges prioritized the development of "subscription" market data products that would result in steadily increasing revenue over time, as compared to transaction fees, which are variable based on changes in overall market volume and also face strong competitive constraints, as exchanges fight for order flow. *See* Statement of Simon Emrich, Norges Bank Inv. Mgmt., SEC Roundtable on Market Data Products Tr. 123:12-14, Oct. 25, 2018 ("SEC Roundtable Tr.")

[4] https://www.economist.com/finance-and-economics/2019/01/10/ wall-street-firms-take-aim-at-americas-stock-exchange-oligopoly.
[5] https://money.cnn.com/2000/04/14/markets/nasdaq_spinoff/.

(noting "the evolving revenue mix for exchanges, with its greater emphasis on subscription-like fixed fees, as opposed to variable per-trade fees").[6] The share of overall exchange revenue from market data has thus steadily increased. *Cf.* Securities Industry and Financial Markets Ass'n ("SIFMA"), Comment Letter for SEC Roundtable on Market Data Products, 3 ("SIFMA Comment Letter") (survey finding members' costs for NYSE proprietary data increased 1,100% since 2010).[7]

Crucially, this new ownership structure for stock exchanges did not alter the exchanges' largely self-governing control of the distribution of core data through the SIP data feeds.[8] Exchanges have thus been able to ensure that the SIP feeds would

---

[6] https://www.sec.gov/spotlight/equity-market-structure-roundtables/roundtable-market-data-market-access-102518-transcript.pdf.

[7] *See* https://www.sec.gov/comments/4-729/4729-4559181-176197.pdf. Indeed, to compete for order flow many exchanges pay rebates to brokers to incentivize trades. Supporters of rebate programs argue that they create liquidity, and thus better prices for consumers, in the stock market. *See* Transaction Fee Pilot for NMS Stocks, 84 Fed. Reg. 5,202, 5,205 (Feb. 20, 2019). However, rebate programs can raise conflict-of-interest issues for brokers. *Id.* at 5,204. The SEC has adopted a pilot program to "analyze the impact [of] exchange transaction fee-and-rebate pricing models" which is the subject of petitions for review in this Court. *See id.* at 5,203; *New York Stock Exchange LLC, et al. v. SEC*, No. 19-1042 (D.C. Cir.).

[8] As self-regulatory organizations, exchanges manage certain aspects of overall market architecture pursuant to "national market system plans" authorized under Rule 608 of Regulation NMS. *See* 17 C.F.R. § 242.608. Among these national market system plans are two covering the distribution of "core data." *See* FINRA, National Market System Plans, https://www.finra.org/industry/national-market-system-plans. On the 14-member committee that manages these plans, IEX has one vote while Nasdaq- and NYSE-affiliated exchanges have eight votes.

not be a viable substitute for their lucrative proprietary data products. Although SIP data can never be as fast as a direct proprietary feed—due to the simple fact that multiple exchanges' data must be aggregated—it need not be as slow as it is now. However, improvements in the speed and content of the SIP feeds have not kept pace with the ever-faster proprietary data feeds offered for ever-increasing fees. *See* Robert Jackson, SEC Commissioner, *Unfair Exchange: The State of America's Stock Markets* (Sept. 19, 2018) ("The result [of exchange control over core data] has been a public feed that is slower and less robust than the private feeds the exchanges sell. Unsurprisingly, exchanges have underinvested in the public feed—a product they compete with.").[9] Moreover, efforts to expand SIP data feeds to include aggregated depth-of-book data have thus far been rebuffed. *See, e.g.*, SIFMA Comment Letter at 55 (noting that including "Depth of Book" in the consolidated feeds was "[w]orthy of consideration"). This regulatory stranglehold on the design and dissemination of core data, along with innate structural constraints, ensures that data from the SIPs cannot compete with or serve as a substitute to exchange-specific data feeds.

[9] https://www.sec.gov/news/speech/jackson-unfair-exchange-state-americas-stock-markets.

2. To respond to these changes, brokers accounting for the majority of trading volume must purchase data feeds from all, or virtually all, exchanges.

Due to the changes described above, many market participants—and especially those responsible for the vast majority of trading volume—need more detailed data, and need it much faster, than the SIP data feeds now provide. And they can compile that data only by purchasing feeds from all or most of the exchanges. This demand for near-instantaneous exchange-specific data enables all exchanges to set supracompetitive prices for their market data feeds—although IEX has chosen not to do so.

The record indicates, for example, that about 100 firms control up to 90% of trading on Nasdaq's platform and require depth-of-book data from every exchange to execute their trading strategies. JA__(Op. 29) (describing Nasdaq's argument to that effect); Nasdaq Br. 23; SEC Br. 22. And, although the SEC does not expressly require brokers to receive any market data beyond core data to fulfill their duties, JA__(Op. 33 n.174), most larger brokers consider detailed market data feeds from multiple exchanges necessary to be competitive (and in many cases to meet the best execution obligation), especially since core data does not contain any depth-of-book data, and subscribing to a single exchange's feed does not give a full picture of the range of limit orders for any given stock. *See* JA__(Op. 42-43) (citing data indicating 75% of traders purchased two or more products and 80% of Nasdaq's depth-of-book

customers also purchase ArcaBook); Virtu Financial, Comment Letter for SEC Roundtable on Market Data Products, 2 (Oct. 23, 2018) ("In order for market participants … to have an aggregated view of the market (to meet their regulatory obligations, and to remain commercially competitive) they must purchase the proprietary data from each of the Exchanges and cannot rely solely on the data provided by the SIPs.").[10]

Some institutional clients have stated they feel compelled to limit the brokers they employ to subscribers of multiple fast proprietary data feeds. *See, e.g.*, Statement of Mehmet Kinak, T. Rowe Price, SEC Roundtable Tr. 66:7-10 ("If our brokers are not aligned … to use the most direct, the fastest, the most robust feeds they can get their hands on, then we will trade with someone else."). Smaller operations face a starker choice. Many cannot afford to purchase market data and have closed their doors. *See* Clearpool, Comment Letter for SEC Roundtable on Market Data Products, 3 (Oct. 23, 2018) (stating fixed costs, including proprietary data feeds, "result[] in a concentration of more flow into fewer entities, thereby increasing the overall risk for the markets, and presents a potential barrier to entry … for many smaller firms").[11] And those that have stayed open often choose to purchase all feeds except those from smaller venues like NYSE American or NYSE

[10] https://www.sec.gov/comments/4-729/4729-4558490-176196.pdf.
[11] https://www.sec.gov/comments/4-729/4729-4555206-176185.pdf.

Chicago, for which they might rely on core data, or they might subscribe through a distributor. In sum, different depth-of-book products are not substitutes for one another. *See* SEC Br. 52-59.

C. IEX's Experience Is Consistent with the Commission's Finding that Evidence of Significant Price-Constraining Market Forces Is Lacking.

As explained above, IEX was founded with the intention of establishing a different kind of stock exchange, and it based its business model on transparent transaction fees and quality of execution. In the long-term, that is the only business model that IEX believes is consistent with its regulatory obligations as an exchange. And while IEX does not contest that fair, reasonable and non-discriminatory market data fees are possible, from its vantage point, the fees charged by the other exchanges in the market today do not meet that standard.

IEX's experience as an exchange confirms the non-competitiveness of the market. Typically, in a competitive market, the entrance of a competitor charging lower fees (or indeed no fees at all) should drive down prices in that market. Yet that has not occurred following IEX's approval as a stock exchange in 2016. Take, for example, the fees charged by NYSE American, a stock exchange that, over the past five years, has handled only half a percent or less of all equity trading in the United States. Between 2010 and 2018, despite the entry of a zero-cost competitor during

this period that handled a larger market share,[12] the cost for a market participant to receive NYSE American market data increased—expensive new fees were added (a non-display fee of $5,000 and a redistribution fee of $1,500). SIFMA Comment Letter at 16. And even when subscription prices themselves have nominally remained stable, prices for essential, adjunct services like connectivity have markedly increased. *See* JA__(Op. 48) (describing the interaction between pricing for collateral fees and subscription fees). Without direct connectivity, a subscription to a data feed would be much less useful because receiving the data indirectly through a third party is much slower.

The only plausible explanation for exchanges being able to increase the overall fees for market data feeds, even as another exchange is offering such data for free, is that exchange data feeds are not competing with one another as substitutes. If even an exchange like NYSE American, with a small fraction of overall order flow, can raise its data prices so steeply, it is a good indication that competition between exchanges for order flow—which is "fierce," *NetCoalition I*, 615 F.3d at 539—does not translate to data-feed competition.

Although Petitioners posit that order-flow competition constrains their data-feed pricing—particularly for the core group of traders who require data feeds from all exchanges, *see* Nasdaq Br. 45—the marketplace reality does not match their

[12] *See* IEX, Stats, https://iextrading.com/stats/.

theory. Petitioners did not establish either that traders can and do shift order flow in order to retaliate for data-price increases as Nasdaq argues (Br. 45-50), or that traders direct order flow based on the overall "platform price," as NYSE Arca contends (Br. 35-40). As the Commission found, brokers are simply not free to shift order flow at will; they are substantially constrained by the best execution obligation and Order Protection Rule, among other constraints. JA__(Op. 30); *see* SEC Br. 47-51. Nor does IEX make its data products free out of an effort to lower its overall "platform" cost to gain market share. In fact, rebates (which IEX does not pay) are a primary driver of order flow; IEX believes that execution quality and transparent transaction fees should drive order flow, but in any event market data pricing does not. The Commission's conclusion regarding Petitioners' failure to prove significant competition in the market for depth-of-book feeds is thus fully consistent with IEX's experience as an exchange operator.

II. Cost Data Supports The Finding That Pricing Is Not Significantly Constrained By Market Forces.

The Commission found Petitioners had not proved their fees were fair and reasonable without considering Petitioners' costs to produce market data feeds. It was unnecessary to consider costs, in the Commission's view, because Petitioners had not asked the Commission to sustain their fees on that basis, and even without cost data, "the exchanges failed to demonstrate that significant competitive forces

constrain their fees." JA__(Op. 51-52). Although icing on the non-competitive cake, any consideration of cost data underscores how non-competitive the market is.

Under the SEC's market-based approach to evaluating the reasonableness of fees for non-core market data, "cost analysis" is still relevant. *NetCoalition I*, 615 F.3d at 537. In "a competitive market, the price of a product is supposed to approach its marginal cost," and "the costs of collecting and distributing market data can indicate whether an exchange is taking 'excessive profits.'" *Id.* A cost study undertaken by IEX indicates that Petitioners' fees for market data far exceed marginal costs.

IEX undertook that study, which was published in January 2019, partly in response to the desire expressed by various participants at the SEC Roundtable on Market Data Products for more transparency about the costs of producing market data and related exchange technology products. *See, e.g.*, Statement of Doug Cifu, Virtu Financial, SEC Roundtable Tr. 29:4-6 ("We ask that the Commission examine and require the exchanges to publish their costs of providing these services."). IEX published the study with hopes that a better understanding of the costs of producing market data will advance the public debate and help to align exchange practices with IEX's understanding of the responsibilities of exchanges under the Exchange Act.

The cost study indicates that fees for NYSE Arca and Nasdaq's main depth-of-book feeds were up to 15 times the cost for IEX to produce an equivalent data set

(a 1,494% and 1,541% markup, respectively). IEX, *The Cost of Exchange Services: Disclosing the Cost of Offering Market Data and Connectivity as a National Securities Exchange*, 19 (Jan. 2019) ("IEX Cost Study") (comparing cost of NYSE ArcaBook Order-by-Order feed and Nasdaq TotalView (ITCH) Order-by-Order feed).[13]

A. A Primer on Current Fee Structures for Market Data Feeds.

Market data feeds represent reformatted versions of information contributed by an exchange's members (in the form of quote and trade messages) that is rebroadcast to subscribers. The baseline subscription fee (using NYSE ArcaBook as an example, $10 per month per non-professional user) is just the starting point for the overall monthly cost of a proprietary data feed. IEX Cost Study at 6. Professional users generally pay more ($60 per person). *Id.* On top of the per-person fees, simple "display" access (where the feed is displayed on a screen) requires $2,000 per month. *Id.* "Non-display" usage of a feed—i.e., usage directly by computers in algorithms or other computer programs responsible for market analysis and trading—generally costs more ($6,000); and redistributing a feed is also an additional charge ($2,000). *Id.* For a higher-speed version of the exact same data ("NYSE Arca Integrated"), these fees are 50%-87% more expensive. *Id.*

[13] https://iextrading.com/docs/The%20Cost%20of%20Exchange%20Services.pdf.

In addition, exchanges also charge a separate fee for physical connectivity to the exchange's servers. *Id.* at 20. The cheapest option offered by NYSE is $2,500/month. *Id.* at 21. NYSE and other exchanges also charge for logical connectivity, which involves the separate "ports" and "sessions" by which participants submit orders to trade and receive market data through these same physical connections. *Id.* at 5. In sum, the subscription fee for a given data feed does not encompass the full price of subscribing to and receiving market data. A single professional trading firm needing the fastest version of NYSE Arca depth-of-book data for a single type of non-display use would be paying something on the order of $13,500 per month, not $60, without even accounting for physical connectivity or port fees that may be required to obtain the data. *Id.* at 6. Prices could be much higher, of course, for trading firms with many individual users of the data.

Further, as other exchanges have come under increasing pressure and criticism for raising market data subscription fees in recent years, they have accelerated fee increases for connectivity. Because market data and connectivity represent two components of essentially the same service, what matters is the total price increase. *See, e.g.*, JA__(Op. 48) (suggesting that any price stability for market data feeds could be a function of price increases for these adjunct services).

B. Overview of the IEX Cost Study Methodology.

IEX's cost study analyzes all these component costs, separately considering the costs of offering products related to (i) market data, (ii) physical connectivity, and (iii) logical connectivity.

The study first describes the basic processes involved in providing these three categories of subscription products, which are common to all electronic exchanges, including Petitioners. IEX Cost Study at 2-4. IEX's own costs to produce products in each category are then analyzed in detail. *Id.* at 15-17, 23-24, 28-30. In each case, IEX arrives at an annual per user cost. Fees charged by other exchanges in each of these categories are detailed, and IEX's own costs are then compared, as a frame of reference, to the fees that IEX pays to other exchanges in each category for comparable products and services.[14]

Presently, IEX offers (but does not charge for) two market data feeds—TOPS, which shows the "top of book" best bids and offers on IEX, and DEEP, which provides depth-of-book information. In analyzing market data costs, IEX considered the annual costs of servers and switches, hardware and software used for testing, the cost of space, power, and security in its primary and back-up (disaster recovery) data

[14] Because IEX must route orders to other exchanges to meet both regulatory responsibilities and its members' needs, it must use and pay for access to other exchanges in the same way and at the same levels required by many other market participants.

centers, command and control infrastructure for operations, and other assets used for monitoring performance of its market data products. IEX Cost Study at 15-17. The cost study depreciated physical assets over three years to arrive at annualized costs for these assets. *Id.* at 17. In terms of personnel, IEX considered employee time devoted to the design, build, test, deployment and operation of a product offering, including personnel responsible for legal, regulatory, compliance, information security, and other technical functions. *Id.* at 16. It applied a blended rate for compensation purposes, which included salary, benefits, payroll taxes, and 401(k) matching contributions. *Id.* at 17.

C. IEX Estimates that Market Data Feeds Are Priced at up to 15 Times the Cost to Produce Them.

Accounting for all of these elements, IEX estimated an annual cost of approximately $1.8 million to offer both of its market data feeds. IEX Cost Study at 18. To calculate the cost per recipient, IEX divided this number by 150 recipient firms of TOPS or DEEP data feeds to arrive at a figure of approximately $12,000 per user. *Id.* The study compared that cost to the price IEX pays for market data feeds from other exchanges, given that IEX needs the same data as many other market participants and pays the same fees. This comparison yielded dramatic results: IEX pays $190,320 in annual fees for the NYSE ArcaBook feed, representing a difference of 1,494% over IEX's cost to produce both its data feeds. *Id.* at 19. Similarly, IEX pays $195,972 in annual fees for the Nasdaq TotalView (ITCH) feed, which

represents a difference of 1,541% over IEX's cost for producing its feeds—or fees that are about 15 times IEX's cost to produce analogous products. *Id.*

For various reasons, the cost study methodology likely resulted in cost estimates that are fairly conservative, i.e., they may overstate actual per-user costs incurred by other exchanges compared to revenues. In particular:

- Exchange operators that own multiple exchanges, including Petitioners, can spread both fixed and personnel costs across multiple exchanges and therefore can leverage these common resources when selling data feeds for all of their affiliated companies. IEX Cost Study at 2. IEX as the operator of a single exchange is not able to take advantage of these scale benefits.
- Because of economies of scale, exchanges can offer new market data products with relatively little additional investment, further increasing the differential between potential revenue and the cost of production. *Id.* at 33. Indeed, exchanges routinely have been able to offer, for substantially higher fees, new versions of existing data feeds that are identical except for very small differences in how quickly the data can be received. *See, e.g.*, *id.* at 15 (noting that NYSE Arca Integrated is a newer feed that provides the exact same data as NYSE ArcaBook, but is 75% more expensive because it is faster).
- In calculating per user cost, IEX did not consider the relative size of subscribing firms, reflected in the amount of data consumed, the number of

servers consuming it, or the number of personnel viewing it, all of which affect the total amount of fees that a given firm may pay. *Id.* at 17. These factors do not heavily influence the cost to produce market data, though they do heavily influence the amount of revenues that exchanges can command from selling it as a result of higher fees tied to the type of use or number of users within a single firm.

These estimates also do not reflect the costs and potential markups related to physical or logical connectivity products and fees. The IEX Cost Study provides parallel analyses for each of these other segments, and again finds evidence of supracompetitive pricing. For example, NYSE and Nasdaq charge $264,000 and $240,000, respectively, in annual fees (exclusive of installation fees) for their fastest connections. *Id.* at 21. Comparing a more moderate-speed connection, the cost study estimates potential markups of up to 4,200% of what it costs IEX to provide the same connectivity. *Id.* at 25.

D. The IEX Cost Study Strongly Indicates that Competition Does Not Restrain Market Data Fees.

As explained in the SEC's order and its brief before the Court, Petitioners have not produced verifiable data to prove that significant competitive forces constrain the price for depth-of-book data, notwithstanding ample opportunity to do so. And they have not even attempted to supply cost data, even though information about the cost of producing market data, relative to the fees charged for it, is highly

relevant to the question of whether competition restricts price increases. *NetCoalition I*, 615 F.3d at 537. The IEX Cost Study provides compelling evidence that Petitioners' fees are materially higher than their costs. If competitive forces were significantly constraining fees, then fees would be closer to costs.

Absent cost evidence from Petitioners or other exchanges, the IEX Cost Study represents the only public analysis of costs to produce market data, and it is based on the experience of an operating exchange. To be sure, IEX does not claim to have independent knowledge of Petitioners' actual costs. But the processes involved in producing proprietary data are very similar for all exchanges, such that the enormous differential between IEX's costs and other exchanges' fees is inexplicable on the basis of differences in cost structure between IEX and the other exchanges alone. Indeed, because of the economies of scale detailed in the study, differences among exchanges in terms of size or relative market share do not correlate with higher costs to produce market data and connectivity products.

Therefore, the IEX Cost Study provides compelling evidence that competition is not substantially constraining. Even given reasonable variation in how costs may differ across exchanges, the IEX Cost Study indicates that any reasonable estimate of Petitioners' profits far exceeds what could exist in a competitive market.

* * * * *

The SEC's finding that Petitioners failed to meet their burden of proof here is amply supported by the administrative record. Based on its experience as an operating exchange, IEX respectfully submits that the Commission's findings are not only reasonable; they are the only conclusions consistent with market reality. There is no possibility of mounting a record that could demonstrate that proprietary market data fees are significantly constrained by market competition, given the exchanges' proprietary control over the information, their privileged regulatory position, and the nature of market demand. IEX's cost study, showing the extreme differential between the costs and pricing of proprietary market data and connectivity services confirms that the market for non-core data feeds is not competitive.

CONCLUSION

The Commission's order should be affirmed.

Respectfully submitted,

/s/Hyland Hunt

Sophia Lee
Lucy Malcolm
IEX GROUP, INC.
3 World Trade Ctr.
58th Floor
New York, NY 10007

Hyland Hunt
Ruthanne M. Deutsch
DEUTSCH HUNT PLLC
300 New Jersey Ave. NW, Ste. 900
Washington, DC 20001
(202) 868-6915
hhunt@deutschhunt.com

Counsel for Amicus Curiae Investors Exchange LLC

May 13, 2019

CERTIFICATE OF COMPLIANCE

This amicus curiae brief is in 14-point Times New Roman proportional font and contains 5,948 words as counted by Microsoft Word, excluding the items that may be excluded. The brief thus complies with the type-face, style, and volume limitations set forth in Rule 29(a)(5) and 32(a)(5)–(7)(B) of the Federal Rules of Appellate Procedure.

/s/Hyland Hunt
Hyland Hunt

May 13, 2019

CERTIFICATE OF SERVICE

I hereby certify that, on May 13, 2019, I served the foregoing amicus curiae brief upon all counsel of record by filing a copy of the document with the Clerk through the Court's electronic docketing system:

/s/ Hyland Hunt
Hyland Hunt