# Unfair Exchange: The State of America's Stock Markets

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**Sept. 19, 2018**

Thank you so much, J.W. [Verret] and Ty [Gellasch], for that incredibly kind introduction. It's a real honor to be here with you both today at George Mason, talking about the only issue you two have ever agreed on.[*] Literally. They say that politics makes for strange bedfellows,[1] and, for reasons that will soon become clear, nowhere is that more true than when it comes to reforming America's stock markets—so I'm grateful to both of you for your leadership on these issues.

Now, before I begin, let me just give the standard disclaimer: the views I express here are my own and do not reflect the views of the Commission, my fellow Commissioners, or the SEC's exceptional Staff. And let me add my own standard caveat: I absolutely expect that, in the fullness of time and wisdom, my colleagues will discover that, as usual, I was right.

As my colleagues can tell you, giving policy speeches like this one can be very stressful. Fortunately, before taking this job I had good practice speaking before skeptical audiences ready with hard questions. You see, this year my mother is celebrating her thirtieth year teaching the second grade, and for almost every one of those years I have visited her students, sat on the classroom carpet, and answered any questions her second graders might have about my life.[2] Trust me: once you've survived an hour on Mrs. Jackson's carpet, you're ready for anything.

One question my mom's students ask is: What kind of kid were you? And the best way to answer is to tell them a story. When I was growing up, my parents and I lived in a very small apartment in the Bronx. Space was tight, and my parents hated coming home every night to see my toys everywhere. So my father had an idea: my parents would pay me each time I cleaned up my toys. And, sure enough, the next night my father proudly came home to a clean apartment. But the next night my dad returned to an even bigger mess; it was, he said, almost as if I had intentionally spilled my toy box out all over our ever-shrinking living room. I responded that while I didn't know what he was talking about, I'd be glad to clean up again—for a fee. The same thing happened the next night, and the night after that, until my father finally drew the line. He's since said that he and my mom knew, right then and there, that I would someday become an excellent investment banker.

What's the point of this story, other than the obvious fact that ill-behaved children grow up to be SEC Commissioners? It's that regulators must remember that, as surely as I spilled my toy box all over that tiny apartment, market participants will follow the economic incentives we give them. Given power and a profit motive, even the most storied institutions will do what they must to maximize their wealth. And nowhere has this been more true than in our stock markets.

For over a century, exchanges were collectively owned not-for-profits, overseeing and organizing trading in America's best-known companies.[3] But about a decade ago, exchanges became private corporations, designed—perhaps even obligated—to maximize profits.[4] Yet we at the SEC have far too often continued to treat the exchanges with the same kid gloves we applied to their not-for-profit ancestors. The result is that, even while one our fundamental mandates is to encourage competition,[5] the SEC has stood on the sidelines while enormous market power has become concentrated in just a few players. That's a key reason why among our 13 public stock exchanges, 12 are owned by just three corporations.[6] And that's how the stock exchanges that are a symbol of American capitalism have developed puzzling practices that look nothing like the competitive marketplaces investors deserve.

That's not to say, of course, that today's stock markets don't deliver important benefits. Of course they do: the costs of buying and selling American stocks, and therefore participating in our Nation's growth, are often a fraction of what they once were.[7] But it's far from clear whether those developments are attributable to the exchanges' for-profit status. What is clear is that their profit motive gives exchanges every reason to structure stock markets in a way that maximizes their rents. And every time exchanges raise prices, that money comes out of investors' pockets, who pay more to buy and sell stocks than they otherwise might. The elaborate stock-market structure we have today isn't free; American investors are paying for it, one microsecond a time.

In the meantime, we at the SEC have struggled to keep up. Our oversight of the stock markets has drawn understandable criticism from market participants[8] and the federal courts.[9] They wonder why we allow conflicts of interest in this area to persist, and why basic principles of competitive economics don't govern our review of exchange demands. And so do I.

That's why I've come here today to say that it's time to put the "exchange" back in the Securities and Exchange Commission. I want to highlight four puzzling practices in today's markets—the two-tiered system for stock-price information, legal limits on exchange liability when they harm investors, the structure of stock exchanges themselves, and payments exchanges make to brokers who send orders their way—that don't look like the kind of competition that American investors deserve. And I want to highlight the way forward for us at the SEC.

This is not a partisan issue: Commissioners of all stripes,[10] Members of Congress[11] and our current Chairman[12] have all said it is time for us to take a hard look at the structure of our stock markets. We have a rare bipartisan opportunity to move this forward—and, for reasons I'll explain, we owe it to American investors to take it.

## The State of America's Stock Exchanges

To the average American investor who relies on our stock markets to fund her retirement, our markets seem simple. She points, clicks, and buys shares. From the investor's perspective, buying a stock online is not that different from buying books online. But as all of you know too well, what happens next is unlike any other market in America.

The investor's order goes to a broker, who has to decide whether to keep it, send it to an exchange, or route it to some other platform. Rather than sent to a single, central location, in today's electronic markets the order is likely to be bounced around data centers across New Jersey at high speeds. None of this is transparent to the ordinary investors our markets are meant to protect, and it's the kind of complexity that allows a few powerful players to maximize profits. More on that later.

First, one might wonder how our stock markets got here. The answer is that stock exchanges have been better at extracting rents than regulators have been at stopping them. As you all know, in 1934, the Nation struck a bargain with our stock exchanges: the Commission was created to oversee the markets, and in turn the exchanges were given wide latitude in organizing their affairs. For generations, this system served investors well.[13] But then the world changed, and the SEC allowed exchanges to become for-profit corporations with both regulatory and profit-seeking mandates.[14]

At the time, the Commission didn't sufficiently contemplate the effects that decision might have; we simply said that we saw no reason to think that exchanges couldn't play the role of regulator and pursue profit at the same time.[15] Maybe we were wrong. Whatever one thinks about the benefits or drawbacks of those events, we should all agree that for-profit companies can be counted on to do one thing: pursue profit.[16] And in for-profit hands, SEC oversight designed for not-for-profit exchanges can be dangerous.

Take, for example, our rules requiring orders to be routed to the exchange that displays the best national best bid or offer.[17] Those rules, of course, help to serve the crucial purpose of ensuring that all investors get the benefit of a competitive national market system. When the SEC enacted these rules, we saw that there would be cases where brokers would be required to send the order to a specific exchange, leaving the broker—and, crucially, their customer—exposed to excessive trading fees on that exchange. So we capped the fees the exchanges can charge.[18] But facing a limit on one kind of fee, exchanges may have simply raised other fees, like the cost of connecting to the exchange. And because our rules require orders to be routed in this way, we risk that the law—rather than market forces—drives the price investors pay to connect.

As we have seen at other times in our nation's financial history, arming profit-making entities with government protection is a prescription for trouble.[19] And in four ways, doing so in this area has produced markets with a puzzling structure that may not serve investors.

## How Modern Stock Markets Tax Ordinary Investors

Let's start with who decides how ordinary American investors get information on stock prices. In a world where information is power—and where getting it is cheaper and easier than ever before—our system for telling investors what stocks are worth should be straightforward. Instead, we have created a two-tier system of stock-price information—a lower-quality public feed and generally higher-quality private ones.[20] And we allow the exchanges to run both.

In 1975, Congress mandated that a universal, public feed of stock exchange prices be available for purchase by all investors.[21] These prices are the lifeblood of our equity markets, because they tell investors what stocks are worth at any given moment. Investors demand, and the law requires, that they receive the benefit of these prices when they buy and sell stocks.

Importantly, however, the exchanges run the public feed.[22] And, at the same time, the exchanges sell private data feeds. The result has been a public feed that is slower and less robust than the private feeds the exchanges sell.[23] Unsurprisingly, exchanges have underinvested in the public feed—a product they compete with. It's like letting Barnes & Noble run our public libraries. Nobody should be surprised to find that our libraries don't have enough books.[24]

Another problem is that treating for-profit exchanges with not-for-profit kid gloves has allowed stock exchanges to operate, in many respects, above the law.[25] Ordinarily, for-profit businesses in America can be sued when they are found responsible for causing harm. Students of law and economics like to say that this helps make sure that firms don't cause more harm than they should. Holding firms responsible for their actions is one way to make sure that corporations are careful when they expose people to risk.

It's hard to imagine many businesses that we'd want to hold accountable more than our stock exchanges, where millions of Americans' retirement and education savings are invested each day. Yet when they are sued, stock exchanges assert that they are immune from liability on the theory that they are acting as regulators rather than profit-makers.[26]

Even where those arguments fail, exchanges can avoid paying for the harm they cause investors by requiring all traders to agree to low liability limits included in the exchange rulebook.[27] Many exchanges set those limits at $6 million or less for claims each year. We at the SEC have approved those rulebooks, leaving investors no recourse when they're harmed by the exchanges' decisions. Instead, the investing public is left holding the bag for stock exchanges' mistakes.

Third, the structure of public markets—fragmented yet actually owned by a few powerful firms—raises questions about whether that design is best for investors.[28] As I mentioned earlier, rather than the centralized exchanges we had in New York for more than a century, we now have 13 stock exchanges—with 12 of the 13 owned by NYSE, NASDAQ, or CBOE. Why do we have so many exchanges, only to have nearly all of them owned by three corporate parents? I understand, of course, why a company would buy and absorb competitors with the same business model. It's harder to see why a company would acquire, and then continue to operate, virtually identical businesses.

One reason our exchanges do this is so they can charge investors to connect to each exchange.[29] And as I mentioned earlier, we at the SEC have not only failed to stop this practice; our rules *encourage* it. That, of course, raises the concern that exchanges will charge investors too much to connect, secure in the knowledge that our rules, not market dynamics or the quality of their product, help them keep prices high.[30]

Now, we at the SEC can disapprove proposed price increases for connecting to our stock exchanges. In a world where the costs of electronic connections are constantly falling,[31] exchanges have asked us to raise these prices over and over again during the past three years.[32] Unfortunately, we have stood on the sidelines. In fact, my staff reviewed all ninety-five times exchanges have recently changed their connectivity practices, and not once—before this week—have we taken action to stop them.[33]

Finally, SEC and FINRA rules for best execution have clearly left open opportunities for conflicts of interest that hurt investors.[34] The reason is that exchanges offer controversial payments—they call them rebates[35]—to brokers based on the volume of customer orders that broker sends to that exchange.[36]

When a broker places an order on behalf of a customer, we expect the broker to send the order to the exchange that is likely to get the best price for their customers. But to nobody's surprise, research shows that brokers very often send their orders to the exchange that gives the broker the biggest rebate.[37] In the years since this practice was first brought to light, little has been done to bring transparency to the effects of these payments.[38] It's time for that to change.

## The Path Ahead

So our stock markets—a symbol of American capitalism around the world—are taxing American investors with hidden fees and conflicts of interests. What does it say to mom-and-pop investors when our stock markets are full of abuses like these? The good news is that I'm not the only one concerned about these issues. I believe the Commission is finally ready to take off the kid gloves we've been using on our stock exchanges—and start to ask hard questions about our country's stock market structure.

First, this Spring the Commission unanimously proposed a pilot study that will test the effects of rebates on market conditions.[39] My office will work actively with Trading and Markets Director Brett Redfearn to move the pilot forward after a full review of all of the comments that we have received. For example, an especially important aspect of our proposal was to include a "no-rebate" bucket that will allow us—and, more importantly, investors—to observe how markets respond to the absence of rebates.[40] To no one's surprise, the exchanges have fought mightily against the proposal.[41] For my part, I think the time has come for the SEC and investors to know the facts about rebates and other incentives.

Second, our stock markets would benefit a great deal from greater transparency about how exchanges make their money. In particular, a clear and uniform approach to disclosing revenues across exchanges and over time would go a long way in giving investors a clearer view regarding the costs they pay to invest in America's public companies.

Third, my office will also work closely with Director Redfearn in connection with the recently announced roundtables regarding equity market structure. My office will be especially focused on the roundtable on market data. It is time for the Commission to have a market-wide conversation about how exchanges make their rules and prices. Exchanges filed more than 1,500 rule-related requests with the SEC in 2017, hundreds related to trading fees, data fees, and order types alone. Each one affects the exchanges' profits. It is our obligation to ensure that the exchanges' actions do not unduly burden competition and are fair and reasonable.[42] It's time for the SEC to get serious about that obligation.

Finally, we should take a hard look at whether it makes sense to allow for-profit exchanges to write the rules of the game for their customers and competitors while also enjoying immunity from civil liability. The exchanges cannot have it both ways—both claiming that business considerations limit the degree to which they can regulate public companies while making broad claims to regulatory immunity.[43] And rulebooks that impose low liability limits even when exchanges are found liable for investor harm also deserve closer scrutiny. We should make sure that our stock exchanges—like all American businesses—are held accountable when they cause harm to the investing public.[44]

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Stock market structure is confusing, complex and opaque, so it's worth taking a moment to remember why this work is so important. America's stock exchanges are a symbol of the Nation's greatness, home to the deepest and most liquid capital markets the world has ever known. We cannot allow the most free and transparent markets in the world to be characterized by abuses like these. Our markets are a symbol of who we are, and the Nation deserves better.

So do American investors. The ordinary, middle-class Americans who compete every day to create the hard-earned wealth they entrust to our public companies deserve to know that our stock markets are a product of that same kind of competition. Thank you to each one of you for all you have done to help make sure our markets reflect the very best of our Nation. And thank you for all you'll do over the coming months to make sure we get this right.

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* Commissioner, United States Securities and Exchange Commission. I am deeply grateful to my colleagues Caroline Crenshaw, Marc Francis, Satyam Khanna, Prashant Yerramalli, and Jon Zytnick, whose hard work made these remarks possible. We are also grateful to J.W. Verret, Associate Professor of Law (with tenure) at the George Mason University Antonin Scalia Law School, Tyler Gellasch of Healthy Markets, Professor Hal Scott and John Gulliver of the Committee on Capital Markets Regulation, and Eric Budish of the University of Chicago Booth School of Business for helping us better understand matters they have carefully studied for years. Any errors are solely my own.

[1] William Shakespeare, The Tempest Act II Sc. 2 ("Misery acquaints a man with strange bedfellows."); *see also* Charles Dudley Warner, Fifteenth Week (1873).

[2] *See* Charles Earle Funk, 2107 Curious Word Origins, Sayings and Expressions from White Elephants to a Song and Dance (1993) (describing the origins of the phrase, "called on the carpet"). The two most frequent questions I've received on the carpet over the years are: (1) "are you married?", and (2) "why not?", giving me the strong impression that my mom might have something to do with these questions. This year, I can finally give a different answer. *See* Commissioner Robert J. Jackson, Jr., U.S. Securities and Exchange Commission, *Perpetual Dual-Class Stock: The Case Against Corporate Royalty* (Feb. 15, 2018) (noting, with some astonishment, that my girlfriend recently agreed to marry me).

[3] *See, e.g.*, Joel Seligman, The Transformation of Wall Street 128 (3d ed. 2003) (describing the early interactions between the major exchanges and the SEC).

[4] *Compare* Milton Friedman, *The Social Responsibility of Business is to Increase its Profits*, N.Y. Times Mag. (Sept. 13, 1970) (a seminal piece advancing this claim) *with* Oliver Hart & Luigi Zingales, *Companies Should Maximize Shareholder Welfare Not Market Value*, 2 J. L. Fin. & Acct. 247 (2017) (while following Friedman "in supposing that, for many public companies, shareholder welfare is an appropriate objective," "argu[ing] that it is too narrow to identify shareholder welfare with market value.").

[5] *See, e.g.*, Securities and Exchange Commission, Regulation NMS: Final Rules and Amendments to Joint Industry

Plans, Release No. 34-51808, 17 C.F.R. Pt. 200 *et seq.* ("The NMS is premised on promoting fair competition among individual markets"); *see also* Statement of Chairman William H. Donaldson, Securities and Exchange Commission, Regulation NMS ("The Commission is acting pursuant to the mandate Congress gave us in 1975 to use our rulemaking authority to further the goals of the national market system—among them, to enhance competition among our markets.") (April 6, 2005).

[6] We refer here to the 13 equity exchanges, five of which are owned by InterContinental Exchange (NYSE, NYSE Arca, NYSE American LLC, NYSE National, Inc., and the Chicago Stock Exchange), three of which are owned by NASDAQ (NASDAQ PHLX LLC, Nasdaq BX, and the Nasdaq Stock Market), and four of which are owned by CBOE Global Markets (CBOE BYX Exchange, BZX Exchange, CBOE EDGA Exchange, and CBOE EDGX Exchange).

[7] *See, e.g.*, James J. Angel, Lawrence E. Harris & Chester S. Spatt, Equity Trading in the 21st Century: An Update 11-12 (2013), *available at* https://perma.cc/H2Q7-CV3X (documenting improvements in execution speed, decreases in spreads, and increases in quote frequency); *see also* Merritt B. Fox, Lawrence R. Glosten, and Gabriel V. Rauterberg, *The New Stock Market: Sense and Nonsense*, 65 Duke L.J. 192, 200 (2015) ("Data . . . suggest that the new stock market is a substantial improvement over what came before it.").

[8] *See, e.g.*, Letter of Healthy Markets Association to Sec. & Exch. Comm'n, *Petition to Address Conflicts of Interest, Complexity, and Costs Related to Market Data* (Jan. 17, 2018) ("[F]or-profit exchanges have been able to exploit their essential role in the market infrastructure to add complexity and costs to a broad swath of market participants."); *U.S. Equity Market Structure Part I: A Review of the Evolution of Today's Equity Market Structure and How We Got Here* (June 27, 2017) (testimony of Jeff Brown of Charles Schwab, on Behalf of the Securities Industry and Financial Markets Association (SIFMA)), at 2 ("[T]he evolution [in market structure] we have seen has created odd incentives and antiquated systems and everything should be on the table for review.").

[9] *See, e.g.*, *Susquehanna Int'l Group LLP* v. *Securities and Exchange Commission*, No. 16-1061 (D.C. Cir. 2017) (opinion of Garland, C.J.) (concluding that the Commission had "abdicated [our] responsibility" to "mak[e] the findings and determinations" required in connection with certain rule changes); *NetCoalition* v. *Securities and Exchange Commission*, 615 F.3d 525 (D.C. Cir. 2010) (similarly finding that we failed to demonstrate that an exchange's proposed market-data pricing is, as the law requires, "equitable, fair, reasonable, and not unreasonably discriminatory").

[10] Some of my most thoughtful colleagues have written and spoken eloquently on this subject for years, and my remarks today build on those insights. *See, e.g.*, Commissioner Luis A. Aguilar, *U.S. Equity Market Structure: Making Our Markets Work Better for Investors* (May 11, 2015) ("It is well-known that the Commission needs to undertake a holistic review of our current equity market structure."); Commissioner Daniel M. Gallagher, *Remarks at SIFMA's 15th Annual Market Structure Conference, Market 2012: Time for a Fresh Look at Equity Market Structure and Self-Regulation* (Oct. 4, 2012) (providing an especially prescient, and important, series of insights—some six years ago—regarding the issues we still face today regarding equity-market structure); Commissioner Kara M. Stein, *Remarks Before Trader Forum 2014 Equity Trading Summit* (Feb. 6, 2014) ("the exchange-based SRO model warrants significant reconsideration").

[11] *See, e.g.*, Letter of Sen. Charles Schumer to Hon. Mary Schapiro, Chairman, SEC (May 10, 2012) (arguing that exchange rebate structures "create a conflict of interest, as brokers may be incentivized to execute trades on a particular venue even if that venue is offering the best price"); *see also* Letter of Sens. Mike Crapo and Mark Warner to Hon. Mary Jo White, Chair, SEC (April 22, 2016) (noting, over two years ago, concerns about the "pace of reform efforts" in market structure); Letter of Sen. Carl Levin to Hon. Mary Jo White, Chair, SEC (July 9, 2014) ("Conflicts of interest erode public confidence in the markets and have the potential to harm investors and I believe the SEC should take prompt action to eliminate these conflicts of interest."); Letter of Sen. Edward E. Kaufman to Hon. Mary L. Schapiro, Chair, SEC (Aug. 5, 2010) ("[S]everal areas of current market structure lead me to be concerned about the performance of the markets for investors and companies seeking to raise capital.").

[12] Chairman Jay Clayton, *Remarks at the Equity Market Structure Symposium Sponsored by the University of Chicago and the STA Foundation* (April 10, 2018) ("One of our key responsibilities as regulators is to strive to ensure that, as technology changes, our regulations continue to drive efficiency, integrity and resilience.").

[13] That is not to say, of course, that the exchanges of that time were perfect; to be sure, the prior system had well-known limits that were costly for investors. For the seminal description of that system from a leading expert in the field, see Lawrence E. Harris, Trading and Exchanges: Market Microstructure for Practitioners 100-111 (2003).

[14] The Securities Exchange Act of 1934 classifies each of the national securities exchanges as self-regulatory organizations. Exchange Act §3(a)(26), 15 U.S.C. §78c(a)(26). Under the Exchange Act, no exchange shall be registered as a national securities exchange unless it is "organized and has the capacity . . . to enforce compliance by its members and persons associated with its members." *Id.* §78f(b).

[15] *See* Securities and Exchange Commission, Regulation of Exchanges and Alternative Trading Systems, Release No. 34-40760, 17 C.F.R. Pt. 202 *et seq.* ("The Commission does not believe that there is any overriding regulatory reason to require exchanges to be not-for-profit membership organizations . . . . The Exchange Act does not require national securities exchanges to be not-for-profit organizations. . . . The Commission believes that it is possible for a for-profit exchange to meet the standards set forth in Section 6(b) of the Exchange Act.").

[16] *See* Statement of Commissioner Robert J. Jackson, Jr. on Proposed Amendments to the Volcker Rule (June 5, 2018) ("There is a simple way to prevent people from doing something: don't pay them to do it.").

[17] NMS Rule 600 defines a "protected bid" or "protected offer" as an automated quotation that is the national best bid or offer of one of the exchanges, and defines a trade-through as the purchase or sale of a security at a worse price than a protected bid or offer. NMS Rule 611, also known as the Order Protection Rule, establishes that the exchanges should establish policies designed to protect against trade-throughs. These rules, along with FINRA's Best Execution Rule, are intended to ensure that orders are executed at no worse than the national best bid or offer.

[18] Securities and Exchange Commission, Final Rules and Amendments to Joint Industry Plans, Release No. 34-51808, File No. S7-10-04 (2005) ("In the absence of a fee limitation, some 'outlier' trading centers might take advantage of the requirement to protect displayed quotations by charging exorbitant fees to those required to access the outlier's quotations."). The fee limitation is established in NMS Rule 610.

[19] *See e,g.*, Viral Acharya, Matthew Richardson, and Stijn Van Nieuwerburgh, Guaranteed to Fail: Fannie Mae, Freddie Mac, and the Debacle of Mortgage Finance (2011).

[20] For ease of exposition, I refer generally to the CTA/CQ plan and the UTP/OTC NMS plans, sometimes referred to as the "two centralized Securities Information Processors ("SIPs") to which all exchanges are required to report," as the "public feed" for purposes of these remarks. Robert P. Bartlett, III & Justin McCrary, *How Rigged Are Stock Markets? Evidence from Microsecond Timestamps* (working paper) (July 28, 2017); *see also* Shenwei Ding, John Hanna & Terrence Hendershott, *How Slow is the NBBO? A Comparison with Direct Exchange Feeds*, 49 Fin. Rev. 313 (2014).

[21] 15 U.S.C. §75k-1(a)(1)(C) (2015).

[22] The exchanges, along with FINRA, govern the public feed. *See* CTA/CQ Plan, *available at* https://www.ctaplan.com/index; *see also* UTP/OTC Plan, *available at* http://www.utpplan.com/participants.

[23] *See, e.g.*, Order Instituting Administrative and Cease-and-Desist Proceedings, *In the Matter of New York Stock Exchange LLC and NYSE Euronext* (2012) ("From the launch of OBU [proprietary feed] in June 2008, NYSE consistently released OBU data to subscribers before releasing data to the [public feed]."); *see also* Shengwei Ding, John Hannah, and Terrence Hendershott, *How Slow is the NBBO? A Comparison with Direct Exchange Feeds*, 49 Fin. Rev. 313-32 (2014) (finding substantial latency between the public and private feeds). For more recent evidence, however, *see* Bartlett & McCrary, *supra* note 20, at 2-3.

[24] One solution to this problem might be to ensure that the public feed be governed by entities other than those that compete with it. More generally, one might argue that a robust public feed is not an unalloyed good, and that there are good reasons to allow private feeds to compete with the public one. (I would hope one would not make the same claim about public libraries. *See, e.g.*, Joseph E. Stiglitz, *Knowledge as a Global Public Good*, *in* Global Public Goods: International Cooperation in the 21st Century (1999).) One problem with that argument, though, is that we at the SEC have given the public feed special legal status. *See* NMS Rule 600(b)(57) (protecting bids and offers disseminated pursuant to a national market system plan).

[25] *See, e.g.*, Merritt Fox & Gabriel Rauterberg, *Stock Market Futurism*, 42 J. Corp. L. 793, 802 (2017) ("These liability limits are most questionable when exchanges are providing functionalities identical to those of broker-dealers. Here, as many market participants have objected, the exchanges seem to be subsidized by law with their liability limits granting them an anti-competitive advantage when providing an identical service to a broker-dealer.").

[26] The courts have rightly begun to reject this claim, concluding that stock exchanges should not be above the law. *See City of Providence* v. *BATS Global Markets, Inc.*, No. 15-3057 (2d Cir. 2017) ("[T]he plaintiffs' claims do not involve any exchange conduct that we could properly characterize as regulatory."); *see also* Brief of the Securities and Exchange Commission as *Amicus Curiae* in *City of Providence* v. *BATS Global Markets, Inc.*, No. 15-3057, at 32 ("[E]ven if the Commission 'has approved all of the challenged practices,' as the defendants assert, this does not necessarily entitle the exchange to absolute immunity.").

[27] *See* Fox & Rauterberg, *supra* note 25, at 802; *see also, e.g.*, New York Stock Exchange Rulebook, Rule 18(c)(i) ("The Exchange shall allot $500,000 each calendar month . . . for any claim arising out of the use or enjoyment of the facilities afforded by the Exchange or its third-party vendor systems provided by the Exchange *for the aggregate of all claims made by all member organizations* during a single calendar month.") (emphasis added).

[28] Despite a series of policy decisions that led to this result, academics continue to debate whether a more centralized system would have been better for investors. *See, e.g.*, Jean-Edouard Colliard & Thierry Foucalt, *Trading Fees and Efficiency in Limit Order Markets*, 125 Rev. Fin. Stud. 3389 (2012); *cf. also* Kevin Haeberle, Stock-Market Law and the Accuracy of Public Companies' Stock Prices, 2015 Colum. Bus. L. Rev. 121, 168 (arguing that requiring public-company stocks to trade on exchanges, rather than permitting trading in dark venues, would enhance stock-price accuracy); *see also* Yesha Yadav, *Oversight Failure in Securities Markets*, Cornell L. Rev. (forthcoming 2018) (arguing that a "goal of exchange oversight is rendered unachievable in fragmented markets."). Nevertheless, "as a matter of political economy, any attempt to reverse the decision [to favor] multiple venues [as a regulatory matter] would meet stiff resistance from those who have built businesses based on an assumption that the multivenue structure will continue," so the "challenge [may be] to design reforms within the current multivenue system." Fox, Glosten, and Rauterberg, *supra* note 7, at 201.

[29] Another frequently-debated subject is the profits that exchanges derive from charging investors for access to private data feeds from multiple exchanges, an important issue that I do not address here. *See, e.g.*, Charles M. Jones, *Understanding the Market for U.S. Equity Market Data* (Aug. 31, 2018) (arguing, on the basis of "newly public" data "analyzed for the first time in this paper," that the market for stock-price data is "characterized by robust competition").

[30] I am less sanguine than my predecessors that the exchanges' status as subsidiaries of public companies can "provide[] a much-needed layer of public transparency into [their] incredibly complicated . . . business model." Commissioner Daniel M. Gallagher, *Remarks to the Georgetown University Center for Financial Markets and Policy Conference on Financial Markets Quality* (Sept. 16, 2014). The reason is that I have the benefit of hindsight: I've tried and failed to use public disclosures to meaningfully examine exchanges' businesses. For example, my staff and I attempted to look into the revenues that exchanges generate from selling market data and connectivity services. We expected that such numbers would be available, given that exchanges are publicly traded entities, but found that the public disclosures contain a web of evolving categorizations that render it nearly impossible to assess the actual sources of exchange revenues, let alone year-over-year or cross-exchange comparison.

Take, for instance, the NASDAQ family of exchanges, which discloses its annual global "Data Product Revenues." Up to 2012, NASDAQ's 10-K included revenues from U.S. market data products, excluding public feed revenues but including revenues from index products. *See* Annual Report of The NASDAQ OMX Group, Inc., on Form 10-K (Feb. 21, 2013). Then, in 2013, NASDAQ switched to reporting its U.S. market data products, including public feed revenues but excluding index product revenue. *See* Annual Report of The NASDAQ OMX Group, Inc., on Form 10-K (Feb. 24, 2014). After 2013, NASDAQ ceased reporting any breakout of U.S. market data product revenues. *See* Annual Report of The NASDAQ OMX Group, Inc., on Form 10-K (Feb. 17, 2015). That is not to say, of course, that NASDAQ's disclosures do not provide investors with important information. It does mean, however, that meaningful analysis of NASDAQ's revenues in this area is not currently possible on the basis of publicly available disclosures.

[31] *See, e.g.*, Letter from Healthy Markets Association to Brent J. Fields, Sec'y, Securities and Exchange Commission (Aug. 23, 2018) ("Outside of the exchange connectivity context, pricing for data transmission is generally competitive and one finds little variation from one vendor to the next. Further, rather than double and triple digit fee hikes, actual costs in the sector have been falling for data delivery.").

[32] For example, one exchange, EDGX, has raised the price on its standard 10GB connection five times since 2010—in total, leaving the price of the connection seven times higher than it was in that year. *See* EDGX Notices of Filing and Immediate Effectiveness SR-CboeEDGX-2018-016, SR-BatsEDGX-2017-47, SR-BatsEDGX-2017-02, SR-EDGX-2015-29, SR-EDGX-2013-14, and SR-EDGX2010-21.

[33] My staff reviewed all 95 equity exchange filings related to connectivity by the equities exchanges since 2016—comprising 1,300 pages—and found that not a single one was rejected by the SEC. Two such filings were withdrawn following SEC proceedings to review, and four more were modified. In a new development on Monday, three connectivity filings by options exchanges were suspended pending proceedings to determine whether to approve or disapprove. *See, e.g.*, Suspension of and Order Instituting Proceedings to Determine Whether to Approve or Disapprove a Proposed Rule Change to Amend the Fee Schedule on the BOX Market LLC Options Facility to Establish BOX Connectivity Fees for Participants and Non-Participants Who Connect to the BOX Network, SR-BOX-2018-24 (Sept. 17, 2018).

[34] *See, e.g.*, Matt Levine, BloombergView, *Does Your Broker Love You More Than Himself?* (July 11, 2014) ("It seems sort of cruel to ask brokers to resist temptation. Wouldn't it be easier to take away the temptation?"); *see also* FINRA Rule 5310; FINRA Notice to Members 15-46.

[35] *But see* Jonathan Macey & David Swensen, *Wall Street Profits by Putting Investors in the Slow Lane*, N.Y. Times (July 18, 2017) (critiquing these payments as "kickbacks, euphemistically referred to as 'rebates'").

[36] For a detailed description, and expert analysis, of the controversy surrounding these payments, see Fox, Glosten and Rauterberg, *supra* note 7, at 254-65, 275-77 (modeling the rebate-fee structure and concluding that, "if customers were perfect monitors of their brokers, th[e] incentive [created by rebates] might not matter, but they are not perfect monitors, especially with respect to limit orders," so "rebates should be passed directly through to customers and fees charged to them, each independent of whatever commission the broker chooses to charge").

[37] *See* Robert Battalio, Shane Corwin & Robert Jennings, *Can Brokers Have it All? On the Relation Between Make-Take Fees & Limit Order Execution Quality* 10 (Dec. 13, 2013), *available at* https://www3.nd.edu/~scorwin/documents/BattalioCorwinJennings_20131213_SSRN.pdf; *see also Conflicts of Interest, Investor Loss of Confidence, and High Speed Trading in U.S. Stock Markets: Hearing Before the Permanent Subcomm. On Investigations of the S. Comm. On Homeland Sec. & Governmental Affairs*, 113th Cong. 2 (June 17, 2014) (testimony of Professor Battalio).

[38] Adding to my concern, rebate payments have historically been structured in a way that only exacerbates the conflict of interest issues I've described. Different market participants receive different rebates depending on how much business they do with the exchange. *See, e.g.*, NASDAQ Price List—Trading Connectivity, *available at*

https://www.nasdaqtrader.com/Trader.aspx?id=PriceListTrading2; *see also* New York Stock Exchange Fees, *available at* https://www.nyse.com/markets/nyse/trading-info/fees; Laura Cardella, Jia Hao, and Ivalina Kalcheva, *Liquidity-Based Trading Fees and Exchange Volume* (working paper) (Aug. 1, 2017).

Exchanges divide brokers into tiers based on their trading volume at the exchange, and the broker's prices for the past month are determined by the tier the broker falls into. If a broker trades more at a particular exchange, then, it might enter a higher "tier" and pay lower prices for all of its trades during the relevant period. Thus, a broker near the threshold for entering a better tier on a certain exchange is incentivized to route all of its orders to that exchange to get a significant rebate windfall. That said, there is little transparency in this area, and what *is* public is inscrutable—which is, of course, part of the problem.

[39] *See* Securities and Exchange Commission, *SEC Proposes Transaction Fee Pilot for NMS Stocks* (March 14, 2018) ("The proposed pilot includes a test group that would prohibit rebates and linked pricing, as well as test groups that would impose caps of $0.0015 and $0.0005 for removing or providing displayed liquidity.").

[40] *See* Commissioner Robert J. Jackson, Jr., *Statement on the Proposed Transaction Fee Pilot for NMS Stocks* (March 14, 2018) ("[T]he proposal's Test Group 3, or the 'no-rebate' bucket, will provide a crucial economic baseline for testing the effects of a prohibition on transaction-based rebates.").

[41] *See, e.g.*, Liz Moyer, CNBC, *NYSE Comes Out Swinging in SEC Pricing Test, Pitting Itself Against Major Pensions and Fund Managers* (June 7, 2018).

[42] *See, e.g.*, NetCoalition, 615 F.3d at 531.

[43] *See, e.g.*, Commissioner Robert J. Jackson, Jr., *Perpetual Dual-Class Stock: The Case Against Corporate Royalty* (Feb. 15, 2018) (noting that exchange-based oversight of certain corporate governance matters has been limited in light of the contention that "companies will flee abroad to list").

[44] For these purposes, I put to one side the interesting questions raised by predecessors and professors who have wondered whether our approach to SRO status more generally deserves a closer look. *See* Gallagher, *supra* note 10 (noting, among the questions considered in those remarks, "a big one: should exchanges still be SROs?"); Saule T. Omarova, *Rethinking the Future of Self-Regulation in the Financial Industry,* 35 Brooklyn J. Intl. L. 665 (2010).