



BETTER MARKETS

By Electronic Submission

March 31, 2023

Ms. Vanessa Countryman, Secretary
U.S. Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549-1090

Re: Regulation NMS: Minimum Pricing Increments, Access Fees, and Transparency of Better Priced Orders — Securities and Exchange Commission (“SEC” or “Commission”) File Number: S7-30-22

Dear Ms. Countryman:

Better Markets¹ appreciates the opportunity to comment on the Commission’s proposed revisions (“Proposal”) to Rules 610 and 612 of Regulation NMS,² as part of the SEC’s larger set of recently proposed market structure reforms.³

The Proposal would (1) “adopt variable minimum pricing increments, or ‘tick sizes,’ for the quoting and trading of [certain] stocks,” (2) “reduce access fee caps for protected quotations,” and (3) “accelerate the transparency of the best priced orders available in the market” by amending the round-lot and odd-lot definitions adopted as part of the SEC’s 2020 Market Data Infrastructure

¹ Better Markets is a non-profit, non-partisan, and independent organization founded in the wake of the 2008 financial crisis to promote the public interest in the financial markets, support the financial reform of Wall Street, and make our financial system work for all Americans again. Better Markets works with allies—including many in finance—to promote pro-market, pro-business, and pro-growth policies that help build a stronger, safer financial system that protects and promotes Americans’ jobs, savings, retirements, and more.

² SECURITIES & EXCHANGE COMMISSION, *Regulation NMS: Minimum Pricing Increments, Access Fees, and Transparency of Better Priced Orders* (“Proposal”), 88 Fed. Reg. 80266-80359 (Dec. 29, 2022), <https://www.federalregister.gov/documents/2022/12/29/2022-27616/regulation-nms-minimum-pricing-increments-access-fees-and-transparency-of-better-priced-orders>.

³ SEC, *SEC Proposals Related to Market Structure*, (Dec. 22, 2022), <https://www.sec.gov/newsroom/marketstructure-proposals-december-2022>; SEC, *Order Competition Rule*, 88 Fed. Reg. 128-245 (Jan. 3, 2023); SEC, *Regulation NMS: Minimum Pricing Increments, Access Fees, and Transparency of Better Priced Orders*, 88 Fed. Reg. 80266-80359 (Dec. 29, 2022); SEC, *Regulation Best Execution*, 88 Fed. Reg. 5440-5556, (Jan. 27, 2023); SEC, *Disclosure of Order Execution Information*, 88 Fed. Reg. 3786-3905 (Jan. 20, 2023).

rules.⁴ According to the SEC, these proposed amendments “are designed to enhance trading opportunities for all investors and to help ensure that orders placed in the national market system reflect the best prices available for all investors.”⁵

Better Markets applauds the Commission for developing these measures to modernize Regulation NMS. The markets have changed dramatically in the last 20 years yet the rules have failed to keep pace. As a result, our securities markets have become less fair—especially to retail investors—less competitive, and less transparent. The Proposal represents an important step forward in addressing and correcting these deficiencies.

Below, we provide relevant background, summarize the elements of the Proposal, and explain what we regard as the strengths of the Proposal, as well as areas where it could be improved to better serve investors and better achieve the objectives of the national market system.

BACKGROUND

Regulation NMS

The SEC has proposed a new rule to modernize Regulation NMS, which governs the National Market System. The National Market System (“NMS”) is a regulatory system designed to foster a more cohesive securities market. Among its goals were to promote economically efficient execution of securities transactions; fair competition among brokers and dealers, among exchange markets, and between exchange markets and markets other than exchange markets; and the ability of brokers to execute investors’ orders in the best market. The 2005 rules implementing the national market system generally focused on ensuring fair access to market data such as quotations, protection for the best bids and offers across markets, and the dissemination of market data.

Tick Sizes and the Pilot

Of particular relevance to the Proposal was the sub-penny rule in Regulation NMS, establishing minimum pricing increments or “tick sizes,” generally at the level of one cent for stocks priced over \$1.00. A “tick size” is the smallest increment in which a stock’s price can be quoted. In other words, it is the smallest increment of price that a stock can move up or down. Currently, the tick size for most stocks is \$0.01, which means that a stock’s price can only change by pennies at a time.

⁴ SEC, *SEC Proposes Rules to Amend Minimum Pricing Increments and Access Fee Caps and to Enhance the Transparency of Better Priced Orders* (Dec. 14, 2022), <https://www.sec.gov/news/press-release/2022-224>.

⁵ *Id.*

Research shows that the current one-size-fits-all approach to tick sizes is far from ideal.⁶ A considerable amount of regulatory and scholarly attention has been devoted to the challenge of determining the optimal tick size for securities trades, which can affect a wide variety of variables in the securities markets.⁷ Moreover, many of the major exchanges, such as the New York Stock Exchange, Nasdaq, and the Chicago Board Options Exchange (CBOE), have weighed in on tick sizes, each issuing their own research and proposals for how to best regulate minimum pricing increments.⁸

In 2016, the SEC implemented a Tick Size Pilot program to assess the impact of larger tick sizes on the liquidity and trading of certain small-cap stocks.⁹ The program was designed to run for two years, with the first year devoted to implementation and data collection and the second year to data analysis and evaluation. The program was expected to provide valuable data on the impact of tick size changes on liquidity, volatility, spreads, and trading costs, among other factors.

The primary goal of the pilot program was to improve liquidity in small-cap stocks, which are typically less liquid than large-cap stocks. By increasing the tick size, the program aimed to reduce market fragmentation, improve price discovery, and attract more institutional investors to these stocks. The program was also intended to increase competition among market makers, which could lead to lower trading costs for investors. The tick size pilot program, however, had some potential drawbacks. For example, larger tick sizes could increase trading costs for larger orders, as larger orders would require more trades to complete. Additionally, larger tick sizes could also result in more frequent price jumps, leading to greater price volatility, which could harm the overall stability of the market.

The Tick Size Pilot program, which widened tick size increments, is widely considered to have been a failure.¹⁰ “After the expiration of the 2-year pilot program, the Commission staff

⁶ See generally Phil MacKintosh, *The Tick Spreads That Help Stocks Trade Best*, NASDAQ (Mar. 2, 2023) (“One tick for all doesn’t work for many.”), <https://www.nasdaq.com/articles/the-tick-spreads-that-help-stocks-trade-best>; Thanos Verousis, Pietro Perotti, & Georgios Sermpinis, *One size fits all? High frequency trading, tick size changes and the implications for exchanges: market quality and market structure considerations*, 50 REV. QUANT. FINAN. ACC. 353 (2018), <https://doi.org/10.1007/s11156-017-0632-2>.

⁷ See Phil Mackintosh, *Getting Ticks Right Improves Valuations*, NASDAQ (Jul. 14, 2022), <https://www.nasdaq.com/articles/getting-ticks-right-improves-valuations>; Phil Mackintosh, *A Data-driven Summary of the SEC’s New Proposals*, NASDAQ (Feb. 13, 2023), <https://www.nasdaq.com/articles/a-data-driven-summary-of-the-secs-new-proposals>; *infra* note 6 and accompanying text.

⁸ NASDAQ, *Petition for Rulemaking to Amend Rule 612 of Regulation NMS to Adopt Intelligent Tick-Size Regime*, (Dec. 16, 2019), <https://www.sec.gov/rules/petitions/2019/petn4-756.pdf>; NYSE, *The Impact of Tick Constrained Securities on the U.S. Equity Market*, https://www.nyse.com/publicdocs/Tick_Constrained_Stocks.pdf; Cboe Proposes Tick-Reduction Framework to Ensure Market Structure Benefits All Investors (Sep. 22, 2022), <https://www.cboe.com/insights/posts/cboe-proposes-tick-reduction-framework-to-ensure-market-structure-benefits-all-investors/>

⁹ See Securities & Exchange Commission, *Tick Size Pilot Program*, <https://www.sec.gov/ticksizepilot>.

¹⁰ See, e.g., Pragma, *SEC’s Tick-Size Pilot Will Cost Investors More Than \$300 Million* (Sept. 7, 2018), <https://www.pragmatrading.com/2018/secs-tick-size-pilot-will-cost-investors-300-million/>; Traders Magazine, *SEC Tick-Size Pilot Cost Investors Over US\$300 Million: Report* (Sep. 11, 2018), <https://www.tradersmagazine.com/news/sec-tick-size-pilot-cost-investors-over-us300-million-report/>.

observed that, on average, increasing the tick size resulted in deteriorating market quality for stocks that became tick-constrained under the pilot.”¹¹ According to one study, the wider spreads imposed by the two-year experiment cost investors more than \$300 million, while other estimates have ranged as high as \$900 million.¹² Some found that wider spreads could also hurt stock-price performance.

Major Changes in the Markets.

Finally, understanding the importance of the Proposal and the SEC’s related market structure reforms requires an appreciation of the enormous changes that have swept over the markets over the last twenty years. Trading volume has increased dramatically. The markets have become widely fragmented, with 16 different equity exchanges, 33 alternative trading systems (“ATs”) registered as NMS Stock ATs, and a number of over-the-counter (“OTC”) market makers. Wholesalers have become a major market force, especially in the execution of retail trades. Incentives such as payment for order flow, fees, and rebates now heavily influence the routing of orders by broker-dealers, creating conflicts of interest that interfere with the duty of best execution. Whereas trading was once primarily manual, it is now automated with sophisticated computer systems, some of which confer huge advantages on some market participants.

And trading is increasingly occurring on dark markets as opposed to the lit exchanges. The proportion of trading that is dark has been widening.¹³ As of September 2022, on-exchange volume is approximately 58% while off-exchange/OTC volume is approximately 42%.¹⁴ With more and more stock trades now occurring off-exchange, there is increasing evidence that this shift is “obscuring the true prices of stocks,¹⁵ raising the cost of trading,¹⁶ and, by extension, damaging investor confidence.”¹⁷

¹¹ Proposal, at 30.

¹² Bill Alpert, *Congress’ Failed Stock Market Experiment Cost Investors \$900 Million*, ROSENBLATT SECURITIES (Sep. 14, 2018), <https://www.rblt.com/news/congress-failed-stock-market-experiment-cost-investors-900-million>.

¹³ See, e.g., Jonathan Brogaard & Jing Pan, *Dark Pool Trading and Information Acquisition*, 35 REV. FIN. STUDIES 2625 (2022); Greenwich Associates, *U.S. Capital Markets Performance During COVID (Q4 2020)*, at 11-12, <https://www.greenwich.com/equities/us-capital-markets-performance-during-covid#simple-table-of-contents-2>. See also CBOE, *U.S. Equities Market Volume Summary, Five-Day Average* (Mar. 15, 2021), https://www.cboe.com/us/equities/market_statistics/ (showing that the five-day average for on-exchange trading represented 53.15% of U.S. equities market volume, while off-exchange trading represented 46.75%).

¹⁴ Proposal, at 31.

¹⁵ Carole Comerton-Forde & Tālis J. Putniņš, *Dark Trading and Price Discovery*, 118 J. FIN. ECON. 70 (2015), <http://dx.doi.org/10.1016/j.jfineco.2015.06.013>.

¹⁶ Daniel G. Weaver, *The Trade-At Rule, Internalization, and Market Quality* (2014), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1846470.

¹⁷ *Trading in the Dark*, N.Y. TIMES (Apr. 6, 2013), <https://www.nytimes.com/2013/04/07/opinion/sunday/trading-in-the-dark.html>.

OVERVIEW OF THE PROPOSAL

On December 14, 2022, the SEC proposed a new rule that would amend Regulation NMS in several key ways.¹⁸ The SEC’s proposal includes the following key changes, among others:

- Amend the minimum pricing increments or tick sizes under Rule 612 of Regulation NMS to establish a variable minimum pricing increment model that would apply to both the quoting and trading of NMS stocks, which are stocks listed on a national securities exchange;
- Reduce the access fee caps under Rule 610 of Regulation NMS in conjunction with the reduction of the minimum pricing increments and require national securities exchanges to make the amounts of all fees and rebates determinable at the time of execution;
- Accelerate the implementation of the round lot and odd-lot information definitions adopted in 2020 under the Market Data Infrastructure Rules (“MDI Rules”); and
- Amend the odd-lot information definition adopted under the MDI Rules to require the identification of the best odd-lot order. An odd-lot order is an order for the purchase or sale of an NMS stock in an amount less than a round lot (typically 100 shares).¹⁹

A central goal of the SEC’s tick size proposal is not only to improve the quality of execution prices but also to reduce the proportion of trading that is occurring on dark markets and bring more trading onto exchanges, the lit markets.²⁰ The SEC is specifically concerned about the ability of traders in dark markets to take advantage of sub-penny increments, something that is generally unavailable in the lit markets. To that end, the SEC has proposed to harmonize the tick sizes, or minimum pricing increments, at which investors are able to trade in the various market venues, whether lit or dark.

Tick-Constrained Stocks

The SEC has determined that a significant number of tick constrained stocks “could be priced more aggressively within the spread than is possible with the current minimum pricing increment of \$0.01.”²¹ In other words, because of the minimum tick sizes established by Rule 612, some stocks are not able to be priced according to what investors are willing to pay, which would otherwise be in increments smaller than a penny. The SEC has proposed to define “tick constrained” stocks as those “that have a time weighted average quoted spread of 1.1 cents or

¹⁸ SEC, *SEC Proposes Rules to Amend Minimum Pricing Increments and Access Fee Caps and to Enhance the Transparency of Better Priced Orders*, *supra* note 4.

¹⁹ *Fact Sheet: Tick Sizes, Access Fees, and Transparency of Better Priced Orders*, SECURITIES AND EXCHANGE COMMISSION, <https://www.sec.gov/files/34-96494-fact-sheet.pdf>.

²⁰ SEC, *SEC Proposes Rules to Amend Minimum Pricing Increments and Access Fee Caps and to Enhance the Transparency of Better Priced Orders*, *supra* note 4.

²¹ Proposal, at 11.

less.”²² Under this definition, 1,337 NMS stocks would be considered tick-constrained, which accounts for 56.1% of estimated share volume and 23.2% of estimated dollar volume.²³

The SEC has proposed four categories of tick sizes, depending on the size of the stock’s average spread.²⁴ The following table lists the SEC’s four categories of pricing increments:

Minimum Pricing Increment	If the Time Weighted Average Quoted Spread for the NMS stock during the Evaluation Period was:
\$0.001	Equal to or less than \$0.008
\$0.002	Greater than \$0.008 but less than or equal to \$0.016
\$0.005	Greater than \$0.016 but less than or equal to \$0.04
\$0.01	Greater than \$0.04

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Depending on the stock’s “time-weighted average quoted spread,” the stock would receive one of four variable minimum tick sizes: \$0.001; \$0.002; \$0.005; or \$0.01. The larger a stock’s spread, the larger the category of tick size it will be assigned.

Quotation and Trading Parity

The proposal would apply the new minimum pricing increments to both the quoting and trading of NMS stocks “in order to promote fair competition and equal regulation between trading in the OTC market and trading on exchanges and ATSS.”²⁶ More specifically, the SEC is proposing to: “(1) introduce a variable minimum pricing increment structure for quotes and orders in NMS stocks priced at, or greater than, \$1.00 per share; and (2) require executions to occur in the minimum pricing increment, both on-exchange and OTC, subject to certain exceptions.”²⁷

The SEC believes the proposed changes to Rule 612 would promote: “(1) fair and orderly markets and economically efficient executions, particularly for tick-constrained NMS stocks and retail order flow; and (2) fair competition and equal regulation between OTC market makers, exchanges, and ATSS that compete for retail liquidity by requiring that NMS stocks trade with the same minimum pricing increment regardless of venue (i.e., on- or off-exchange).”²⁸

According to the SEC, the proposed amendments to Rule 612 would help ensure “the equal regulation of all markets,” as well as “facilitate fair competition and equal regulation that would help market forces to determine the prices of NMS stocks.”²⁹ The SEC also believes the proposed

²² Proposal, at 11.

²³ Proposal, at 34.

²⁴ In determining the average spread, the rule uses the concept of “time-weighted average quoted spread,” which the SEC defines as “the average dollar value difference between the NBB and NBO during regular trading hours where each instance of a unique NBB and NBO is weighted by the length of time that the quote prevailed as the NBB or NBO.” Proposal, at 58.

²⁵ *Fact Sheet*, *supra* note 19.

²⁶ Proposal, at 14.

²⁷ Proposal, at 56.

²⁸ Proposal, at 56-57.

²⁹ Proposal, at 52-53.

rule changes would help promote price discovery and price competition for tick constrained stocks and retail order flow. It would do so by permitting both the quoting and trading of tick-constrained stocks in smaller ticks that must be uniform across trading venues in both dark and lit markets. The SEC believes this would result in pricing that is more reflective of the market principles of supply and demand.

Reduced Access Fee Caps

In conjunction with its proposal to reduce minimum tick sizes, the SEC has also proposed to reduce access fees caps. According to the SEC, given its proposed reductions to the tick sizes, “absent an adjustment to the current fee caps, access fees would make up a larger proportion of the per share quotation price than they do today . . . which could lead to unintended market distortions and undermine price transparency.”³⁰ Thus, the SEC has proposed to reduce access fee caps from their current levels at \$0.003, or 30 mils, to \$0.001, or 10 mils. However, for the category of stocks that receive a tick size of \$0.001, these stocks would receive an even lower access fee at half the price of the others, at \$0.0005.³¹

The SEC also proposes to require all national securities exchanges to make the amounts of all fees and rebates determinable at the time of execution.³² Under the current rules today, “many of the fees and rebates of the exchanges are calculated at the end of the month, which impedes the ability of market participants to understand at the time of execution the full cost of their transaction.”³³ The new rule would seek to resolve this lack of transparency by prohibiting exchanges from imposing any fees or rebates “unless such fee, rebate or other remuneration can be determined at the time of execution.”³⁴

Round-Lot and Odd-Lots

Lastly, the proposal would accelerate implementation of the revisions to the round lot definition that was adopted as part of the Market Data Infrastructure Rules in 2020. In other words, the proposed rules “would accelerate the date by which market participants must comply with the odd-lot information and round lot definitions adopted under the MDI Rules.”³⁵

In securities trading, a “round lot” refers to a standard trading unit of 100 shares of a particular security. This is the minimum amount of shares that can be traded in a single transaction on most exchanges. An “odd lot,” on the other hand, refers to a quantity of shares that is less than a round lot. This can range from just a few shares to up to 99 shares. Odd lots are generally less desirable for traders and investors, as they may be subject to higher fees and less liquidity. Round lots and odd lots are also important in securities trading, as they determine the minimum trading

³⁰ Proposal, at 95-96.

³¹ Proposal, at 17-18, 94.

³² Proposal, at 106.

³³ *Id.*

³⁴ Proposal, at 107.

³⁵ *Fact Sheet*, *supra* note 19.

unit for a particular security. This can affect trading costs, transparency, and the ability to participate in market movements.

COMMENTS

I. Reducing the minimum tick size is appropriate but the optimal increment is half a cent, not a tenth of a cent.

The SEC's decision to lower the minimum tick size is clearly appropriate. The current one-cent increment is too high, causing a number of adverse effects on the markets. Stocks are increasingly tick constrained. That inefficient environment frustrates investors, who seek to trade stocks at finer price increments relative to the spread but face the minimum tick size limitation. That in turn inhibits the ability of investors to attain optimal execution prices and price discovery. It is fundamentally a matter of enabling market participants to determine the prices at which they would bid or offer without being unreasonably impeded by a fixed minimum tick size.

Another concern arising from these conditions is the diversion of order flow to OTC market makers, who can trade more readily in finer increments (i.e., offering sub-penny price improvement over the displayed quote) compared to the trading on exchanges. This has contributed to the increased percentage of executions that occur off-exchange, representing another consequence of a poorly calibrated tick size. Lowering the minimum tick size by an appropriate amount, along with the harmonization of quotes and trade prices across trading venues, can mitigate this impact. Moreover, objections to reducing the minimum tick size based on feasibility carry little weight, as the technology available in today's markets will enable trading and order routing systems to handle the increased message traffic anticipated from smaller minimum pricing increments for NMS stocks.

It is equally true that setting the tick size too low can have adverse effects on the market. If the increment is too small, the price improvement potential becomes economically insignificant. An overly small increment raises the risk that at each price point, there will be less liquidity and less stability in the quotes. That environment favors the high-frequency traders who can adjust to, and capitalize on, those pricing conditions. That in turn threatens to deter institutional investors from trading via the exchanges, which undermines one of the SEC's core objectives: increase participation on the lit exchanges. Along these lines, the Commission acknowledges that "the smaller tick size may increase the cost of executing large orders by fragmenting liquidity across multiple price levels and increasing the complexity of locating shares for the orders."³⁶

In our view, the Commission has rightly determined to reduce the minimum tick size, but it has not struck the optimal balance and should lower the minimum tick size to a half cent, rather than a tenth of a cent. Below, we highlight some of the benefits of lowering the tick size and harmonizing the permissible quoting and trading increment. We also consider the wisdom of establishing a half cent increment.

³⁶ Proposal, at 150.

A. Narrowing tick sizes below one penny would benefit investors and the markets.

Reducing the minimum tick sizes of NMS stocks would bring a host of benefits to U.S. equities markets, including directing increased order flow away from dark markets onto regulated exchanges; evening the playing field between average investors and High-Frequency Traders; improving liquidity; reducing bid-ask spreads; increasing competition; and more.

Reducing the Number of Tick-Constrained Stocks

Many low-priced stocks are tick-constrained, as they are subject to a widespread desire among investors to trade at a smaller tick increment. Although the market appears willing and able to trade the stock with a narrower spread, saving investors money, traders are unable to do so due to the artificial constraints of the minimum tick size required by Rule 612. As Nasdaq put it in their report “Intelligent Ticks,” this creates a host of inefficiencies:

Tick constraints create long quotation queues, slowing fulfillment. The resulting inefficiency drives trader- and investor-focus on time priority and speed while diminishing price priority and, therefore, price discovery. This distortion pushes market participants to inverted taker-maker markets where participants achieve faster executions by improving their place in the market-wide queue. The data shows that larger, lower priced, more liquid stocks are most likely to be tick-constrained, and to trade heavily in inverted markets.³⁷

Lowering the minimum tick size would help alleviate the problems posed by tick-constrained stocks.

Improving Liquidity

In a related vein, reducing tick sizes would improve market liquidity among tick-constrained stocks. By allowing trades to be executed at smaller price increments, reducing tick sizes can make it easier and more efficient for retail investors to buy and sell securities, thus increasing market liquidity.³⁸ This can help prevent sudden price swings and ensure that investors are able to execute trades at fair prices. The rule would have a positive effect on liquidity because tick constraints prevent traders from quoting the prices that actually reflect true supply and demand.

³⁷ NASDAQ, *Intelligent Ticks: A Blueprint for a Better Tomorrow* at 6-7 (2019), <https://www.nasdaq.com/docs/2019/12/16/Intelligent-Ticks.pdf>.

³⁸ See generally *infra* note 46 and accompanying text.

Directing Order Flow Away from Dark Markets onto Regulated Exchanges

Reducing tick sizes below one penny would reduce off-exchange trading by inducing order flow onto exchanges. When the tick size for a stock is reduced, it becomes easier for traders to enter and exit positions, even with small orders. This can lead to an increase in trading volume and liquidity on the exchange, which can attract order flow away from dark markets. Traders may prefer to trade on the exchange because they can see the order book data as they seek the best possible price.

Moreover, tick size constraints create competitive disadvantages for exchanges because they “create long queues for limit order execution and increase the incentives to internalize, leading to more off-exchange trading.”³⁹ With tick-constrained stocks, queues are typically longer, fill rates are lower, and the relative cost of crossing the spread is higher. By alleviating these concerns, reduced tick sizes stand to incentivize order flow to shift towards the exchanges.

Reducing the tick sizes can also make the spreads tighter, making it easier for traders to trade with a smaller price impact. This may incentivize traders to execute their orders on the exchange, instead of using dark markets that offer lower spreads but may have less liquidity.

Finally, reducing tick sizes may also increase the visibility and transparency of the market, as traders can see more granular price movements and can make more informed trading decisions. This increased transparency can be particularly attractive to investors who may have been wary of trading on dark markets due to their lack of transparency.

Evening the Playing Field Between Average Investors and High-Frequency Traders

One of the key reasons for the Proposal is the rise of high-frequency trading (HFT), where computers are used to execute trades in fractions of a second.⁴⁰ HFT has become increasingly prevalent in recent years and has led to a situation where stocks can be traded many times in just a single second. This rapid pace of trading can make it difficult for individual investors to keep up and can result in prices that are not reflective of actual market conditions.

By decreasing tick sizes, the SEC rightly aims to reduce the advantage that high-frequency traders have over individual investors. This is because, as the SEC pointed out in its proposal, “an environment where stocks are tick-constrained with artificially wider spreads and longer order queues tends to favor traders who are better able to establish positions more quickly so they can

³⁹ Proposal, at 257; see also Kwan, *et al*, *Trading rules, competition for order flow and market fragmentation*, *supra* note 54; MEMX, *Tick Constrained Securities* (Aug. 2021), <https://memx.com/wp-content/uploads/MEMX-Market-Structure-Report-Tick-Constrained-Securities.pdf>.

⁴⁰ For a detailed discussion of HFTs, see generally SEC, *SEC Concept Release on Equity Market Structure: Securities and Exchange Commission* (Jan. 14, 2010), <https://www.sec.gov/rules/concept/2010/34-61358.pdf>.

be at the front of the queue.” Moreover, “[a] narrower tick de-emphasizes time priority on a stock exchange by making it easier to compete on price.”

The resulting increased competition is expected to result in better prices for investors and will help to reduce the risk of manipulation and unfair pricing practices.

Reducing Bid-Ask Spreads

Moreover, reducing the minimum pricing increments would also likely produce narrower spreads and improve market quality.⁴¹ Bid-ask spreads refer to the difference between the highest price a buyer is willing to pay for a security (the bid) and the lowest price a seller is willing to accept (the ask). As stocks see more liquidity, they are typically able to achieve tighter spreads. Thus, it follows that if ticks could be smaller for tick-constrained stocks, spreads should also fall. Tick-constrained stocks have artificially wide spreads that typically produce longer queues and more market fragmentation.⁴²

It was the desire for tighter spreads that drove the initial push to introduce decimalization in the first place.⁴³ Indeed, in the Proposing Release of Regulation NMS, the Commission noted that the conversion to decimal pricing had “reduced spreads, thus resulting in reduced trading costs for investors entering orders—particularly for smaller orders—that are executed at or within the quotations.”⁴⁴

Data from the SEC’s 2016 Tick Size Pilot also supports the notion that narrowing tick sizes for tick-constrained stocks would reduce bid-ask spreads. Both the 2016 Tick Size Pilot⁴⁵ and the academic literature generally suggest that higher tick sizes that are too wide for tick-constrained stocks increase the quoted spreads and therefore increase the cost of transacting.⁴⁶ As one

⁴¹ Proposal, at 65 (“Overall, the Commission expects that the impact on liquidity and trade execution would be positive because tick constraints prevent market participants from quoting the prices that reflect supply and demand, and the reduction in the minimum pricing increments would lead to narrower spreads and better market quality.”).

⁴² See Phil Mackintosh, *The Tick-Constrained Stock Problem*, NASDAQ (Jan. 20, 2022), <https://www.nasdaq.com/articles/the-tick-constrained-stock-problem>.

⁴³ See Tarun Chordia & Avanidhar Subrahmanyam, *Market Making, the Tick Size, and Payment-for-Order Flow: Theory and Evidence*, 68 J. OF BUSINESS 543, 545 (1995) (empirically finding that the move to decimal trading [would] make the competition for order flow more transparent and orders will flow to the least cost provider of market marking services, thereby positively influencing trading activity”).

⁴⁴ Securities Exchange Act Release No. 50870 (Dec. 16, 2004), 69 FR 77424, at 77458 (Dec. 27, 2004) (Regulation NMS proposing release).

⁴⁵ See Yashar Barardehi, Peter Dixon, Qiyu Liu, & Ariel Lohr, *Tick Sizes and Market Quality: Revisiting the Tick Size Pilot* (working paper, Dec. 14, 2022), https://www.sec.gov/files/dera_wp_ticksize-pilot-revisit.pdf.

⁴⁶ See Edwin Hu, *et al.*, *Tick Size Pilot Plan and Market Quality* (DERA White Paper, Jan. 31, 2018), https://www.sec.gov/files/dera_wp_tick_size-market_quality.pdf; Kee H. Chung, *et al.*, *Tick Size Liquidity for Small and Large Orders, and Price Informativeness: Evidence From the Tick Size Pilot Program*, 136 J. FIN. ECON. 879 (2020); Barbara Rindi & Ingrid M. Werner, *U.S. Tick Size Pilot* (working paper Mar. 4,

researcher found, “[d]ata collected from sixteen sessions showed that widening the tick size decreases the price efficiency in the market, and this was largely contributed by the uninformed traders in the lit market.”⁴⁷ Given these findings with respect to widening tick sizes, the SEC’s proposal to reduce tick sizes would therefore likely narrow bid-ask spreads for tick-constrained stocks, allowing for more efficient trading in accordance with market principles.

Increasing Competition and Price Discovery

Reducing tick sizes would increase market competition, yielding healthier equities markets.⁴⁸ By reducing the cost of trading, smaller tick sizes can encourage more investors to participate in the market, increasing competition and potentially leading to lower trading costs. Moreover, reducing tick sizes would facilitate more competition between dark and lit market venues, thereby bringing more trading volume onto exchanges. The SEC’s proposal to reduce tick sizes puts exchanges in a better position to compete with off-exchange markets that do not have those limitations. Today, off-exchange venues are often trading within a penny. This disadvantages retail investors and advantages highly resourced, institutional players. With the new rules, everyone will be on a more even playing field and operating under the same rules in terms of the increments at which they can trade.

Reducing tick sizes will also lead to more granular price movements and would therefore likely improve price discovery⁴⁹ for certain securities. As the European Commission once put it, “[a]n increased use of dark pools . . . raise[s] regulatory concerns as it may ultimately affect the quality of the price discovery mechanism on the ‘lit’ markets.”⁵⁰ By bringing more trading out of the dark and into lit markets, reducing tick sizes could aid the price discovery function of our public securities markets.⁵¹ This could benefit average investors who rely on accurate price information when making trading decisions.

2019), <https://ssrn.com/abstract=3041644>; Todd G. Griffith & Brian S. Roseman, *Making Cents of Tick Sizes: The Effect of the 2016 U.S. SEC Tick Size Pilot on Limit Order Book Liquidity*, 101 J. BANKING FIN. 104 (2019); Barardehi, *et al.* (2022), *supra* note 45; Proposal, at 165.

⁴⁷ See Sharma, U., Teng, R. R. Q. & Turakhia, D. (2021). *Dark pool trading with varying tick size, lot size and pricing rule: an experiment*. Final Year Project (FYP), Nanyang Technological University, Singapore. <https://hdl.handle.net/10356/153257>.

⁴⁸ Foley, *et al*, *Tick Size Wars: The Market Quality Effects of Pricing Grid Competition* (Dec. 2021) (“We find that tick size competition improves market quality, reducing trading costs and increasing aggregate depth and volume. These market quality improvements are strongest in stocks where the bid-ask spread was constrained to one tick, where liquidity providers use the finer pricing grid to engage in price competition.”).

⁴⁹ See generally Linlin Ye, *Understanding the Impact of Dark Pools on Price Discovery* (2016); Mao Ye, *A Glimpse into the Dark: Price Formation, Transaction Cost and Market Share of the Crossing Network* (2011) (finding that the addition of a dark pool harms price discovery on an exchange).

⁵⁰ The International Organization of Securities Commissions (2011) (“[T]he development of dark pools and use of dark orders could inhibit price discovery if orders that otherwise might have been publicly displayed become dark.”); CFA Institute Survey (2009) (finding that 71% of respondents believed that the operation of dark pools are “somewhat” or “very” problematic for price discovery).

⁵¹ See Thanos Verousis, *et al.*, *One size fits all? High frequency trading, tick size changes and the implications for exchanges: market quality and market structure considerations*, *supra* note 6, at 387 (“[W]e are interested in the implications of changes in the minimum tick size on market structure. To this end, we show that the decrease in tick sizes has enhanced the price discovery process . . .”).

B. Harmonizing quoting and trading increments among all trading venues would benefit investors and markets.

Worth special emphasis is the SEC's appropriate concern about the unfair advantages enjoyed by high-frequency and institutional traders in dark markets, which increasingly make up a large portion of today's trading volume. The status quo enables proliferation of dark pools, which disadvantages retail traders and advantages highly resourced, institutional players.

In lit markets, ordinary investors see securities prices in one-penny increments. However, traders in dark markets are able to fill orders at sub-penny prices, without open competition, meaning they can obtain securities at better prices than most investors. Trading on exchanges and lit markets largely occurs in penny increments because these exchanges generally execute trades at the prices that orders and quotes must be displayed under rule 612.⁵² Meanwhile, Rule 612 does not prohibit trading in increments of less than a penny by OTC market makers.

This also puts exchanges at a significant competitive disadvantage relative to their OTC market-making competitors and encourages more trading to shift towards off-exchange venues. As the proposal notes, "the ability of OTC market makers to trade more readily in finer increments (i.e., offering sub-penny price improvement over the displayed quote) compared to the trading on exchanges and ATS has contributed to the increased percentage of executions that occur off-exchange."⁵³

The SEC's proposed rule would therefore help level the playing field between these various market centers by allowing all venues to have an equal opportunity to execute trades at sub-penny increments.⁵⁴ As the Release explains:

The proposed amendments to rule 612 would level the competitive playing field in this regard by requiring market participants, regardless of trading venue, to offer price improvement to investor orders in the same minimum pricing increments, unlike today where OTC market makers are able to offer investor orders price improvement in smaller pricing increments compared to their exchange and ATS counterparts.⁵⁵

This could have significant implications for retail, off-exchange execution prices and price improvement. For example, the New York Stock Exchange found in its report on tick harmonization found that "further competition from trade increment harmonization could produce

⁵² Proposal, at 12 ("Trading on national securities exchanges and ATSs . . . largely occurs in penny increments because national securities exchanges and ATSs generally execute trades at the prices that orders and quotes must be displayed, accepted or ranked under rule 612.").

⁵³ Proposal, at 12-13, 33.

⁵⁴ See Amy Kwan, Ronald Masulis, & Thomas H. McInish, *Trading rules, competition for order flow and market fragmentation*, 115 J. OF FIN. ECON. 330 (2015); NYSE, *Price improvement, tick harmonization & investor benefit*, *infra* note 56.

⁵⁵ Proposal, at 34.

greater price benefit to marketable orders across stocks.”⁵⁶ In fact, the NYSE found that “[h]armonizing pricing rules across the market could yield \$6.3MM per day (\$1.8B per year) in investor cost savings, based on projected incremental savings if exchanges could offer sub-penny price improvement in a competitive manner.”⁵⁷ The SEC’s proposal to harmonize tick sizes across trading venues is therefore a welcomed reform to further modernize U.S. market structure.

C. A half-cent tick size would strike a better balance.

Certainly, the predominant view among established market participants is to caution against a \$.001 minimum tick size, with a decided preference for \$.005. Although details of their proposals differ, notable market participants supporting some form of half-penny tick include the New York Stock Exchange,⁵⁸ Nasdaq,⁵⁹ CBOE,⁶⁰ and more.⁶¹ While these sources reflect entrenched industry interests, other more public interest oriented voices have expressed similar concerns.⁶² In fact, the potential drawbacks to reducing tick sizes further to \$.002 or \$.001 include increased complexity; the potential for market instability; higher trading costs; and more.

Increased Complexity

Reducing tick sizes further under the proposed four-tier system will make the market more complex and harder to understand for average investors. This can lead to confusion and potentially harm market efficiency. After Reg NMS went into effect in 2007, many high-frequency traders took advantage of the complexity of the novel rule.⁶³ When major regulatory changes are effected, relatively few market participants fully grasp the intricacies and implications, at least initially. But a select number of players, like the Citadels of the world, with huge resources and an intense focus, set about fathoming the profit opportunities. High-frequency traders have a long history of

⁵⁶ NYSE, *Price improvement, tick harmonization & investor benefit*, at 2 (Aug. 2022) (“Harmonizing pricing rules across the market could yield \$6.3MM per day (\$1.8B per year) in investor cost savings, based on projected incremental savings if exchanges could offer sub-penny price improvement in a competitive manner.”), https://www.nyse.com/publicdocs/nyse/NYSE_Price_Improvement_202208.pdf.

⁵⁷ NYSE, *Price improvement, tick harmonization & investor benefit*, *supra* note 56, at 2.

⁵⁸ NYSE, *The Impact of Tick Constrained Securities on the U.S. Equity Market*, *supra* note 8.

⁵⁹ NASDAQ, *Intelligent Ticks*, *supra* note 37.

⁶⁰ CBOE, *Choe Proposes Tick-Reduction Framework to Ensure Market Structure Benefits All Investors*, *supra* note 8 (“[A] more conservative initial tick-reduction to 0.5 cents should be considered, instead of a more drastic reduction to 0.1 cents.”).

⁶¹ See, e.g., COMMITTEE ON CAPITAL MARKETS REGULATION, *Enhancing U.S. Equity Market Structure for Retail Investors*, at 10 (Sep. 2021) (noting that it did “not recommend a smaller tick size of 0.1 cents,” because “a tick size that is too narrow can harm market quality” in several ways), <https://capmktreg.org/wp-content/uploads/2022/11/CCMR-Enhancing-Retail-Equity-Market-Structure-09.01.2021-2.pdf>.

⁶² IEX Exchange, *IEX Exchange’s Position on the SEC’s Proposed Changes to Regulation NMS* (Mar. 21, 2023), <https://www.iexexchange.io/blog/iex-exchanges-position-on-the-secs-proposed-changes-to-regulation-nms>; Joe Saluzzi, *Sub-Penny Ticks Are a Bad Idea*, THEMIS TRADING (Jan. 19, 2023), <https://blog.themistrading.com/2023/01/sub-penny-ticks-are-a-bad-idea/>.

⁶³ See Jacob Bunge, *A Suspect Emerges in Stock-Trade Hiccups: Regulation NMS*, THE WALL STREET JOURNAL (Jan. 27, 2014), <https://www.wsj.com/articles/SB10001424052702303281504579219962494432336>.

leveraging such complexity to their advantage to the detriment of ordinary investors.⁶⁴ On the whole, High-Frequency Trading has limited economic value⁶⁵ and is generally bad for ordinary investors.⁶⁶ Allowing sub-penny trades and quotes below \$0.005 stands to potentially open new doors for HFTs to leverage their expertise to do so again.

Potential for Market Instability

Reducing tick sizes too much can also potentially lead to market instability, particularly during times of high volatility. This is because smaller price increments can lead to more frequent changes in the market, potentially causing sudden price swings and exacerbating market volatility. Such increased volatility could harm investor confidence and discourage trading. Moreover, having ticks set too low could lead to more frontrunning and abuses by market intermediaries.⁶⁷

Higher Trading Costs

While reducing tick sizes can reduce bid-ask spreads, it can also increase the cost of trading for investors who need to execute larger trades. This is because smaller tick sizes require more trades to be executed to complete a large order, which can result in higher prices, fees, and commissions.

II. The SEC's Proposal to Reduce Access Fees Would Make Our Markets Fairer and More Transparent.

The SEC is generally proposing to reduce access fees from the current level of \$0.003 per share, or 30 mils, to \$0.001 per share, or 10 mils. However, for symbols for which the Commission has proposed a minimum tick increment of \$0.001, the SEC has proposed a separate, reduced access fee in the amount of \$0.0005, or 5 mils.

⁶⁴ See Jacon Adrian, *Informational Inequality: How High Frequency Traders Use Premier Access To Information To Prey On Institutional Investors*, 14 DUKE L. & TECH. REV. 256 (2015); Martin Hilbert & David Darmon, *How Complexity and Uncertainty Grew with Algorithmic Trading*, 22 ENTROPY 499 (Apr. 2020).

⁶⁵ Research suggests that the most profitable HFT firms are liquidity takers, and that only a small minority of HFT firms are genuine liquidity providers in the traditional market making sense. See Baron, M., Brogaard, J., & Kirilenko, A., *The Trading Profits of High Frequency Traders*, (Nov. 2012), http://faculty.chicagobooth.edu/john.cochrane/teaching/35150_advanced_investments/Baron_Brogaard_Kirilenko.pdf.

⁶⁶ See generally Steven R. McNamara, *The Law and Ethics of High-Frequency Trading*, 17 MINN. J.L. SCI. & TECH. 71 (2016).

⁶⁷ See COMMITTEE ON CAPITAL MARKETS REGULATION, *Enhancing U.S. Equity Market Structure for Retail Investors*, *supra* note 61, at 10 (“Excessively narrow tick sizes can also enable ‘stepping ahead’ whereby a trader uses an economically insignificant quote to ‘step ahead’ of an existing order, reducing the likelihood that orders posted by fundamental investors will be executed thereby disincentivizing the public display of orders.”).

Better Markets supports the SEC’s proposed reduction of access fees from \$0.003 per share, or 30 mils, to \$0.001, or 10 mils. There are multiple reasons to lower access fees, in addition to the basic proportionality that should come with a reduction in the minimum tick size.

A reduction in access fees will impose lower costs on investors, removing a disincentive for trading on exchanges. This is especially true as to institutional investors that pay a significant proportion of the access fees, as they must continually adjust portfolios to achieve their investment objectives. As the SEC spells out in the proposed rule, “[r]educed access fees could increase the amount of volume routed to exchanges compared to off exchange by making exchanges less expensive venues to transact and potentially causing some order flow that was previously directed off exchange to avoid high fees to revert to exchanges.”⁶⁸

There is certainly no economic justification in terms of defraying the exchanges’ costs of processing and matching trades, as those costs have dropped with the advent of advances in technology. Finally, fees and correlated rebates create conflicts of interest that distort order routing decisions and compromise compliance with the duty of best execution. Indeed, there is evidence that exchanges that pay the highest rebates often provide worse execution quality.

However, largely in the interest of reducing complexity, we urge the Commission to adopt one standard, uniform access fee cap for all stocks, rather than the current proposal to distinguish stocks with a \$0.001 tick size and subject them to the smaller fee cap of \$0.0005. As the SEC itself noted, “[a] uniform 10 mil access fee cap would help to preserve the structure of the current transaction-based business model for exchanges while still mitigating many of the distorting effects of rebates for stocks with tighter spreads.”⁶⁹ Moreover, “[a]n additional benefit from having a uniform access fee cap would be to avoid any additional market complexity associated with a variable access fee cap.”⁷⁰

However, the SEC dispensed with this alternative proposal because, as it claims, “[i]mplementing a uniform 10 mil access fee cap would necessitate an alternative tick size schedule as the access fee cap should not be greater than 1/2 of the tick size in order to preserve coherence between net and nominal price rankings of trading venues.”⁷¹ But rather than dispense with the 10-mil fee cap for stocks with the proposed \$0.001 tick size, the Commission should just dispense with the \$0.001 tick size altogether. If the Commission were to do so, the need for a separate access fee cap would also be eliminated.

III. The SEC’s proposed revision to odd-lots and round-lots will provide important information to markets and investors.

The SEC proposes to accelerate compliance with the definitions of odd-lots and round-lots that were adopted under the 2020 Market Data Infrastructure Rules. These revisions will help

⁶⁸ Proposal, at 150-151.

⁶⁹ Proposal, at 302.

⁷⁰ *Id.*

⁷¹ Proposal, at 302.

investors make better informed trading decisions because they will have access to more information and data at the time of trading. In general, information about better priced orders available in the market is important for investors to be able to understand the current prices and liquidity in the market as they place their orders. This information is also important for market participants who have best execution obligations.

The SEC’s Market Data Infrastructure Rules require exchanges to provide odd-lot data to the public, including the price, volume, and time of each odd-lot trade. This information is important because odd-lot trades can be used to analyze trading patterns, liquidity, and investor sentiment. In addition, odd-lot trades can be used to identify trading strategies of institutional investors who often trade in large blocks of shares.

Round-lot definitions refer to the standard trading unit for a particular security on a particular exchange. Round lots can vary depending on the security and exchange, and exchanges are required to provide information on the round-lot size for each security they list. This information is important because it helps investors determine the cost of trading a particular security.⁷² For example, if the round-lot size for a particular security is 100 shares, then an investor who wants to trade that security would need to buy or sell shares in multiples of 100. If an investor only wants to buy 50 shares of that security, they would need to execute an odd-lot trade and may incur additional costs, such as a higher commission.

The SEC’s proposed revisions to the odd-lot information and round-lot definitions in the MDI Rules are important components of the Commission’s latest proposed amendments to Regulation NMS.⁷³

CONCLUSION

We hope these comments are helpful as the Commission finalizes the Proposed Rule.

⁷² See generally, MEMX, *Round Lot Reform & Potential Savings for Investors* at 6 (June 2021) (outlining an “estimate of potential transaction cost savings for investors that can be gained by expediting round lot reform”), https://memx.com/wp-content/uploads/MEMX_Round-Lots_white-paper.pdf.

⁷³ With respect to the Commission’s approach to economic analysis, Better Markets has long taken the view that the Commission is not obligated to conduct cost-benefit analysis, that its duty is only to “consider” the impact of its proposals on efficiency, competition, and capital formation (the ECCF factors), and that it retains considerable discretion and leeway in doing so. These principles are set forth in a number of our reports, *see, e.g.*, Better Markets, REPORT: THE ONGOING USE AND ABUSE OF COST-BENEFIT ANALYSIS IN FINANCIAL REGULATION (Mar. 23, 2023), <https://bettermarkets.org/newsroom/report-the-ongoing-use-and-abuse-of-cost-benefit-analysis-in-financial-regulation/>, and we have offered them in our comment letters, including the one submitted today on the SEC’s order competition proposal that accompanies the Proposal on tick sizes. See Better Markets, Comment Letter to the SEC on Order Competition Rule (filed Mar. 31, 2023). That comment letter also expresses our view that the Commission must be wary of industry opposition to all of the pending market structure reforms and must discount their exaggerated predictions of harm to the markets or investors they say will follow from the proposals. We incorporate by reference herein both the report and the comment letter cited above, and we contend that with respect to the instant Proposal on minimum pricing increments, the Commission has more than met its duty to evaluate the three “ECCF” factors.

Sincerely,



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