March 30, 2022

Submitted electronically

Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549-1090

Dear Commissioners,

The U.S. equity market is not broken. In fact, two years into a global pandemic, the market has been shown to be both highly resilient and adaptable through a range of market conditions, including significant periods of heightened volatility. What's more, investors now enjoy unprecedented market access. Today, more than half of all U.S. households are invested in the stock market in some form. And, while many of these families are invested through a 401(k) or similar investment vehicle, a broader range of U.S. families have also begun participating directly in the market as they look to secure their financial futures. However, this does not mean that further improvements cannot or should not be made. As the U.S. equity market evolves, regulation must also keep pace, both to ensure that outdated regulations do not impede innovations or enhancements that would be beneficial to investors as well as to ensure that those investors continue to have appropriate information to assess how best to participate in this evolving market.

Given the importance of U.S. equity market structure to investors and the broader economy, we appreciate the Commission's interest in considering potential reforms. This letter discusses reforms that we believe would improve the quality of the market for all investors, whether they participate in it directly, or choose to participate indirectly by contributing to a 401(k), individual retirement account ("IRA"), pension plan, mutual fund, or other investment vehicle. Our recommended reforms are focused on two core principles that lie at the heart of any robust financial market: competition and transparency. Competition is fundamental to financial markets because it incentivizes innovation, reduces costs, and encourages financial intermediaries to continuously improve the quality of the services that they provide to the investing public. Transparency is vital because it enables investors to make informed decisions based on their own specific needs. Together, these principles promote a vibrant and diverse market where investors of all stripes are empowered to make decisions that improve their financial wellbeing.

MEMX was founded by a diverse group of market participants that includes global banks, market makers, retail brokers, and buy-side institutions. Our members each operate different businesses and contribute to the market in different ways. However, they share in a desire for a competitive and transparent marketplace. And while MEMX and our members each play different roles in the market, we do not believe that it is in the best interest of public investors, or the broader U.S. equity market, for the Commission's regulatory framework to preference any particular business model(s). After all, public investors are also themselves a diverse group that includes everyone from young investors just getting started in the market and looking to buy a fractional share of a popular stock to long-term investors saving for retirement through a diversified 401(k).

Even if one business model is better for a particular investor or group of investors, it may not be for another. Time has shown that a "one-size-fits-all" approach to market structure often leads to inefficiencies that need to be solved again later down the road. Indeed, some of the recommendations discussed in this letter reflect solutions to one-size-fits-all issues experienced under the current U.S. equity market structure. Ultimately, an appropriately informed investor is in a better position to determine which business model(s) suit their individual needs.

Therefore, rather than picking winners and losers, and potentially reshaping the competitive landscape in unexpected and potentially harmful ways, we believe the Commission should focus on answering the following basic questions: What information do public investors need to make informed decisions about which of competing financial intermediaries best satisfy their individual needs? And how can securities regulation be used to stimulate further competition between market participants that are involved in the handling and execution of their orders?

Consistent with this approach, which aligns with the two guiding principles that we discussed earlier – *i.e.*, competition and transparency – we respectfully request that the Commission consider the following recommendations for improving U.S. equity market structure:

1. ***Tick Size Reform***. Amend Rule 612 to establish a minimum increment of half of one cent ($0.005) in tick constrained NMS stocks that trade with an average quoted spread of 1.1 cents or less, and reduce the access fee cap pursuant to Rule 610(c) to $0.0015 for tick constrained NMS stocks trading with a $0.005 minimum increment.

2. ***Round Lot Reform***. Amend the implementation timeline for round lot reform pursuant to the infrastructure rule so that uncontroversial round lot changes can be made ahead of the implementation of content changes and introduction of competing consolidators.

3. ***Rule 605 Disclosure of Order Execution Information***. Amend Rule 605 to improve the quality of information provided in those reports and expand reporting obligations

to retail brokers in addition to market centers so that investors can compare execution quality across firms when choosing between competing brokers.[1]

4. ***Limit Order Display Rule***. Rescind the current exception from customer limit order display obligations provided for odd-lot orders pursuant to Rule 604(b)(3).

5. ***Daily ATS & Non-ATS Volume Information***. Require that aggregated information on ATS and non-ATS volumes traded in each NMS Stock be shared on a daily basis at the end of each trading day to allow buy-side institutions to better assess the composition of off-exchange trading activity.

Broadly, these reforms are designed to improve market quality, enhance the ability for trading venues of all types to compete for order flow, and provide information that investors can use to make informed decisions about how to best participate in the U.S. equity market. They also have significant industry support across many different classes of market participants and could therefore be implemented quickly without protracted challenges that can slow the implementation of even the best-meaning reforms. And, most importantly, they would represent a meaningful step forward in improving the quality of a market that is relied on by millions of public investors.

I. Tick Size Reform

The national best bid and offer ("NBBO") is the backbone of the national market system. It facilitates price discovery and forms an important reference price for trading on both exchanges and off-exchange venues, many of which price trades either at the NBBO, or at prices that are

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[1] Detailed recommendations related to Rule 605 are included in the body of this letter.

derived from the NBBO (*e.g.*, orders executed with price improvement). As a result, a robust NBBO is crucial for the U.S. equity market. However, as discussed in a recent request for exemptive relief filed by MEMX and an accompanying white paper, the public quotes that form the NBBO could be meaningfully improved in "tick constrained" NMS stocks.[2] These stocks consistently trade with an average quoted spread of 1.1 cents or less, indicating that the security's quoted spread is primarily a function of the one cent minimum increment pursuant to Rule 612 of Regulation NMS (the "Sub-Penny" Rule) rather than competitive prices set by market participants.

For the reasons stated in our pending request for exemptive relief, we recommend that the Commission take action to reduce the minimum increment to half a penny in tick constrained NMS stocks. Reducing the tick size in tick constrained NMS stocks would improve market quality, facilitate price discovery, and allow for greater competition among trading venues. In addition, we believe that such a change should be coupled with a commensurate 50% reduction in the access fee cap pursuant to Rule 610(c) for any tick constrained NMS stocks quoted in this smaller increment. As explained in our request for exemptive relief, the tick size requirements adopted under the Sub-Penny Rule and the access fee cap are tightly linked. A 50% reduction in the tick size would make the current access fee cap of $0.0030 represent more than half of the quoted spread in an NMS stock trading at the minimum increment. Reducing the access fee cap to $0.0015

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2 See Letter from Adrian Griffiths, Head of Market Structure, MEMX to Vanessa Countryman, Secretary, Commission dated August 30, 2021 *available at* https://memx.com/wp-content/uploads/Request-for-Exemptive-Relief.pdf; Why GE's basis point spread was four times higher before its reverse split—and what we should do about it, Adrian Griffiths, Head of Market Structure, MEMX (August 2021) *available at* https://memx.com/wp-content/uploads/MEMX-Market-Structure-Report-Tick-Constrained-Securities.pdf. See also The Tick Size Debate, Revisited, Adrian Griffiths, Head of Market Structure, MEMX, *available at* https://memx.com/wp-content/uploads/MEMX_MSR_Tick-Constrained-Securities-2_03b.pdf.

in those securities would ensure that taking fees and/or rebates into account does not impact the best quoted prices in the market when trading in half penny increments.

> ***Recommendation****: Amend Rule 612 to establish a minimum increment of half of one cent ($0.005) in tick constrained NMS stocks that trade with an average quoted spread of 1.1 cents or less, and reduce the access fee cap pursuant to Rule 610(c) to $0.0015 for tick constrained NMS stocks trading with a $0.005 minimum increment.*

Tick size reform is important first and foremost because narrowing public quotes in tick constrained NMS stocks would improve market quality in securities that account for half of all U.S. equity trading volume. Perhaps more so than any other change to equity market structure that the Commission could implement, reducing tick sizes in these securities could result in materially improved trading outcomes for retail and other investors.[3] Tick reform may also improve the ability for public exchanges to compete for order flow without upending off-exchange business models that have also proven to offer significant value to retail investors and the broader market. As discussed, we believe that a robust U.S. equity market requires similarly robust competition between different market participants with diverse business models. Tick size reform is consistent with the goal of improving competition, including competition for retail order flow, while also addressing gaps in the current regulatory structure that reduce the quality of public quotations.

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[3] For example, data from GE's reverse stock split at the end of July 2021, shows that eliminating tick constraints in that security allowed for a spread reduction of almost 75%, with similar results observed earlier this year after reverse splits involving various tick constraints ProShares ETPs. Id.

II. Round Lot Reform

Round lot reform would similarly improve the quality of the NBBO in high-priced NMS stocks. Although round lot reform has already been adopted in the Commission's market data infrastructure rule, it is still many years away from implementation. Given the ongoing legal challenges to other aspects of the rule and related sources of potential delay, it is likely the industry may not benefit from round lot reform for even longer than originally anticipated. While the primary listing exchanges have the ability to remedy this situation on their own accord, they have shown no particular interest in doing so. As a result, we believe the Commission should itself amend the implementation timeline for the infrastructure rule so that the round lot changes can be implemented ahead of the data content and dissemination changes mandated by the rule. This would allow investors to trade off of narrower quotes in high-priced NMS stocks now, which would result in transaction cost savings estimated to be in the billions of dollars.[4]

Recommendation*: Amend the implementation timeline for round lot reform pursuant to the infrastructure rule so that uncontroversial round lot changes can be made ahead of the implementation of content changes and introduction of competing consolidators.*

III. Rule 605 Disclosure of Order Execution Information

As discussed, we believe that market structure works best when investors are given appropriate information to guide their investment and trading decisions, and can use that

4 See Why we should change round lots now, Adrian Griffiths, Head of Market Structure, MEMX (June 2021) *available* at https://memx.com/wp-content/uploads/MEMX_Round-Lots_white-paper.pdf.

information to choose what's best for them based on their individual needs. In fact, the securities laws start with the basic premise that investors should be free to make decisions about how to invest their own money, while ensuring that issuers provide sufficiently detailed information for those investors to make informed choices about investing in their securities. The same principles should be applied to U.S. equity market structure. Rather than the Commission determining which business model(s) it believes are, or are not, beneficial for retail investors, it should ensure that they are armed with the information that they need to choose how to participate in the market.

A core part of the current transparency regime is found in Rule 605 of Regulation NMS, Disclosure of Order Execution Information. Generally, Rule 605 requires that "market centers," *i.e.*, exchanges, ATSs, wholesale market makers, and other execution venues, that transact in NMS stocks provide certain uniform information about their execution quality in those securities. This rule was designed to allow investors to compare market quality across different execution venues. However, due to various shortcomings, these reports are currently of limited use, and do not serve the important purpose for which the rule was originally designed. As part of our commitment to improved transparency, which we believe would allow retail and other investors to make informed decisions about how to participate in the market, we recommend a number of changes to Rule 605.

First, we recommend that Rule 605 reporting be expanded to brokers transacting in NMS stocks primarily on a held basis.[5] Currently Rule 605 reports must be compiled by market centers, a term that is defined to include the various execution venues transacting in NMS stocks. While

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[5] Similar to Rule 606, which also distinguishes between held and not held orders, limiting disclosures to brokers transacting in NMS stocks primarily on a held basis is meant to apply this obligation to retail as opposed to institutional brokers as institutional customers typically have other ways to measure and assess execution quality provided to them.

this information was originally meant to be used in conjunction with Rule 606 reports, which provide information about brokers' order routing, the current reporting structure does not account for the possibility that execution quality may also vary across competing brokers. In an effort to ensure that retail investors have access to the most accurate information possible about execution quality provided by their brokers, we recommend that brokers that serve these investors prepare their own Rule 605 reports in addition to reports currently prepared by each of the execution venues. This information could then be used by retail investors, academics, and others to compare execution quality across competing brokers, thereby facilitating public investors' ability to determine the broker that best satisfies their needs, which may be the broker with the lowest costs, best execution quality, highest level of service, or some combination of these and other factors.

> ***Recommendation***: *Expand Rule 605 reporting to brokers transacting in NMS stocks primarily on a held basis so that retail investors can assess execution quality provided by competing brokers.*

Second, we recommend that information about size improvement offered be included in Rule 605 reports. Currently, the reports focus on the impact of price improvement when investors' orders are executed at prices better than the published quotation in the security. While price improvement is important to retail investors, whose orders are typically executed at improved prices, such investors also benefit from size improvement, *i.e.*, the execution of orders that outsize the number of shares displayed at or better than the NBBO. Although the average retail order may be small in size and therefore not eligible for size improvement, retail order flow is not monolithic, and many retail investors do in fact enter orders that exceed the size displayed in the market. Including size improvement statistics in Rule 605 would therefore better represent the benefits received by retail and other investors when a broker provides an execution for these larger orders. For purposes of this recommendation, size improvement could be calculated as the number of shares executed minus the number of shares displayed at the NBBO at the time of the execution,[6] provided that any size available from displayed odd lot quotations could also be included in the calculation when odd lot quotation information becomes available in consolidated market data.[7]

> ***Recommendation****: Amend Rule 605 to include statistics on size improvement. Size improvement could initially be calculated as the number of shares executed minus the number of shares displayed at the NBBO at the time of the execution. When odd lot quotation information becomes available in consolidated market data, any size available from displayed odd lot quotations could also be included in the calculation.*

Third, price improvement statistics would similarly benefit from the inclusion of odd lot quotation information. One criticism sometimes levelled at the price improvement statistics currently compiled pursuant to Rule 605 is that these statistics may overstate the amount of any price improvement when there is displayed odd lot liquidity priced better than the NBBO. While we generally believe that including these quotations would not materially change the overall level of price improvement offered to retail investors, including this information could be helpful when evaluating the price improvement achieved in certain NMS stocks, such as high-priced or illiquid securities where odd lot trading within the spread may be more common. As such, we recommend

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6 These size improvement statistics would only be calculated when the number of shares executed is greater than the number of shares displayed at the NBBO.

7 We recommend using this information when it becomes available in consolidated market data so that these reports can continue to be compiled without proprietary data feeds.

that odd lot quotations also be represented in these statistics when that information becomes available in consolidated market data pursuant to the market data infrastructure rule.

Recommendation: *Amend Rule 605 calculation of price improvement so that any odd lot quotations priced better than the NBBO are included in the calculation once odd lot quotation information is incorporated into consolidated market data.*

Fourth, we recommend that Rule 605 be amended to include additional information about midpoint executions. Currently, Rule 605(a)(1)(ii) requires that the monthly reports required by the rule include specified information about the execution of market and marketable limit orders, including information about orders executed with price improvement, orders executed at the quote, and orders executed outside the quote. For example, Rule 605(a)(1)(ii)(B)-(D) requires the disclosure of the cumulative number of shares of covered orders executed with price improvement, and, for shares executed with price improvement, the share-weighted average amount per share that prices were improved and the share-weighted average period from the time of order receipt to the time of order execution. We recommend that the Commission supplement this information with similar information about covered orders that are executed at the midpoint of the NBBO.

Recommendation: *Amend Rule 605(a)(1)(ii) to include information about covered orders executed at the midpoint of the NBBO, similar to the information currently disclosed about covered orders executed with price improvement pursuant to Rule 605(a)(1)(ii)(B)-(D).*

Midpoint executions offer significant price improvement and various wholesale market makers, exchanges, and other trading venues provide a meaningful opportunity for retail investors' orders to be executed at the midpoint today. While orders executed at the midpoint are aggregated with other orders executed with price improvement for the calculations required by Rule 605(a)(1)(ii)(B)-(D), this aggregation may obscure the availability of midpoint executions. Indeed, there has been some debate about whether retail investors' orders miss out on potentially greater price improvement opportunities that may be available at competing venues, including midpoint executions. Including information about orders executed at the midpoint price would highlight the opportunity that these venues currently provide for orders to be executed with significant price improvement and allow investors, market participants, and the Commission to evaluate how competing market centers compare with respect to the availability of midpoint executions.

Fifth, we recommend that Rule 605 be updated to include information about the execution of additional orders that are not currently captured by these reports. This would include information about the execution of odd lot orders, which represent a significant portion of retail order flow, large orders of more than 10,000 shares, and other order types excluded from current Rule 605 statistics, such as short sale, stop, and pre-market orders. Including additional information on orders that are currently excluded from Rule 605 would help to ensure that these reports accurately portray the execution quality received by retail and other investors.

> ***Recommendation****: Amend Rule 605 to include data on additional orders, including: (1) odd lot orders; (2) large orders of more than 10,000 shares; and (3) other order types excluded from current Rule 605 statistics, such as short sale, stop, and pre-market orders.*

Sixth, we recommend that the Commission make various quality of life changes that would make these reports more accessible and easier to use. Specifically, we recommend that Rule 605 be amended so that certain additional summary statistics would be made available in a more user-friendly format that can be used efficiently by investors that are interested in comparing execution quality across brokers and venues. For example, in addition to information currently provided in these reports on a security-by-security basis, summary information could include the data elements required under the rule reported independently for S&P500 Stocks and Non-S&P500 Stocks. In addition, all Rule 605 reports should made available in a single consolidated location, such as the Commission's website, with the more granular security-level information provided in a machine-readable electronic format to facilitate analysis by professionals and academics.

Recommendation*: Amend Rule 605 such that reports would be made available in machine-readable electronic format in a single consolidated location, such as on the Commission's website, along with additional summary statistics that would be made available in a more user-friendly format suitable for retail and other investors.*

Finally, the Commission should make further changes to Rule 605 to account for the evolution of trading over the last decade and a half since Regulation NMS was adopted. For example, we recommend amending Rule 605 such that time buckets are measured in milliseconds instead of seconds, consistent with today's speed of trading. In addition, order size buckets should be amended so that orders are categorized based on notional value, which may be a more helpful method of classification given the wide range of stock prices in today's U.S. equity market as a result of stock appreciation and a reduction in the number of stock splits, among other factors.

Recommendation*: Amend time buckets in Rule 605(a)(1)(i) such that time is measured in milliseconds, consistent with today's speed of trading, and amend the definition of* *"categorized by order size" in Rule 600(b)(13) to require classification of orders based on notional value as opposed to the number of shares associated with the order.*

IV. Display of Customer Limit Orders

Generally, Rule 604 of Regulation NMS (the "Limit Order Display Rule") requires that specialists and OTC market makers ("market makers") reflect in their published bid or offer quotations, customer limit orders that improve the price and/or add to the size of such quotations. However, Rule 604(b) includes several exceptions to this general rule, including where the customer limit order is for an odd-lot quantity. We recommend that the Commission rescind this exception, which is currently codified in Rule 604(b)(3), and instead require that odd-lot orders be reflected in the market maker's displayed bid or offer quotation pursuant to the Limit Order Display Rule. Today, odd-lot orders account for a significant portion of overall equities trading activity, and retail orders, which are generally smaller in size, are frequently entered for an odd-lot quantity. Consistent with our other recommendations, which would include relevant odd-lot orders in statistics compiled pursuant to Rule 605, we believe that odd-lot orders should also be subject to the limit order display requirements of Rule 604. Reflecting customer odd-lot orders in a market maker's displayed quotations would ensure that any improved prices and/or size available from such customer limit orders is displayed to and accessible by other market participants.

Recommendation*: Rescind the current exception from customer limit order display obligations provided for odd-lot orders pursuant to Rule 604(b)(3).*

V. Daily ATS & Non-ATS Volume Information

The consolidated tapes disseminate important information not only about the quoted price of NMS stocks but also transactions in those securities. With respect to the portion of those transactions that are executed on public exchanges, these transaction reports indicate the exchange that executed the trade. However, no similar information is included for off-exchange trade prints that are reported through the various trade reporting facilities ("TRFs"). This has caused many in the industry, particularly buy-side investors, to question what liquidity may actually be accessible for them to trade with. In turn, the Financial Industry Regulatory Authority ("FINRA") provides aggregate weekly ATS and non-ATS volume information, subject to a two-week lag for Tier 1 NMS Stocks or a four-week lag for all other NMS Stocks.[8] Although buy-side institutions are often trading different securities than retail investors, we believe that it would be beneficial to provide more timely information about ATS and non-ATS volumes. To balance the need for this information with information leakage concerns, ATS and non-ATS volumes could be shared on a delayed basis with a significantly shortened delay – *e.g.*, daily aggregated ATS and non-ATS volumes in an NMS Stock could be shared at the end of each trading day, allowing buy-side institutions to better understand the composition of off-exchange trading activity, without resulting in information leakage that could increase transaction costs for investors.[9]

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8 Tier 1 NMS Stocks include all NMS Stocks included in the S&P500 Index and the Russell 1000 Index as well as a selection of exchange-traded products ("ETPs") that trade a consolidated average daily volume ("CADV") of over $2,000,000.

9 While the Commission previously considered requiring that the SIPs include the identity of the ATS reporting a trade to the consolidated tape on transaction reports, including real-time information on the identity of the venues executing a trade could raise transaction costs associated with information leakage for institutional trades.

***Recommendation**: Require that aggregated information on ATS and non-ATS volumes traded in each NMS Stock be shared on a daily basis at the end of each trading day to allow buy-side institutions to better assess the composition of off-exchange trading activity.*

For example, although the non-ATS portion of the market is itself comprised of many different types of venues, *e.g.*, wholesalers, single-dealer platforms, central risk books, etc. a significant portion of overall volumes taking place in this segment may indicate that there is sizeable retail interest in the security. Armed with this knowledge, buy-side institutions and their brokers could tune their trading strategies more effectively, such as by adjusting their trading algorithms to seek to trade a smaller percentage of overall trading activity in a security that has seen a spike in retail participation. Alternatively, they could enter liquidity providing orders in various exchange programs where they may be able to interact with this retail order flow.

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The U.S. equity market has proven strong and resilient in the face of stresses that have impacted both our capital markets and the broader economy. What's more, the benefits that investors derive from the current market structure – whether in terms of how accessible the U.S. equity market has become, the elimination of commissions, or the quality of executions received – are testament to fact that competition and market forces are effective tools for ensuring fair, orderly, and efficient markets. At the same time, as our capital markets continue to evolve, improvements can and should be made to the regulations that govern these markets. Our recommendations for U.S. equity market structure are designed to enhance the quality of our capital markets through changes that would increase competition and transparency. These recommendations have strong industry support, and we hope that you consider them seriously as you evaluate how we can work together to improve the quality of our markets.

Sincerely,

/s/ Adrian Griffiths

Adrian Griffiths
Head of Market Structure, MEMX