

DRAFT

Recommendation of the Market Structure Subcommittee Decimalization and Tick Sizes

Background

There is an ongoing policy discussion on ways to enhance access to capital for smaller and emerging companies. Various proposals have been suggested to achieve this goal, including proposals to increase the tick size for small company stocks (from the current \$.01 to \$.05 or even \$.10) or to allow the issuer to set a tick size. Increasing the tick size generally has the effect of increasing the minimum spread between the bid and ask price.

Proponents of increasing tick sizes believe that wider spreads, by increasing profit for market making firms and underwriters, albeit while increasing transaction costs for investors, will help foster a financial “ecosystem” for smaller companies. Their view is that, by funding the market makers, the market makers will support these stocks, provide research, and encourage other investors to trade them more often so that the market makers can make more liquid markets. This greater support in turn is anticipated to attract more investors, particularly institutional investors, to small cap stocks. Greater institutional investor participation may make it easier and cheaper for these small companies to raise additional capital from the public markets, and for their large incumbent shareholders to be able to obtain greater liquidity when they wish to sell.

The Jumpstart Our Business Startups Act (the JOBS Act) of 2012 and subsequent Commission action¹ have begun to address the larger issue of access to capital for smaller companies with a variety of methods, including changes to private placement processes, reducing the burdens of traditional public issuances, and providing new crowd funding platforms, which may enable even the smallest companies to participate in capital fundraising activities. Various groups have weighed in with other proposals, including the Commission’s Advisory Committee on Small and Emerging Companies,² groups associated with private equity and venture capital industry, and various financial market participants.³

¹ See e.g., JOBS Act, Pub. L. 112-106, 126 Stat. 306 (2012); SEC “Eliminating the Prohibition Against General Solicitation and General Advertising in Rule 506 and Rule 144A offering” Release No.33-9415 17 CFR Parts 230, 239 and 242 (2013), SEC “Crowdfunding” No. 2013-227, 17 CFR Parts 200, 227, 232, 239, 240 and 249 (2013); See JOBS Act Frequently Asked Questions About Research Analysts and Underwriters (August 22, 2012); JOBS Act Frequently Asked Questions About Crowdfunding Intermediaries (May 7, 2012); JOBS Act, Frequently Asked Questions Confidential Submission Process for Emerging Growth Companies (April 10, 2012).

² SEC Advisory Committee on Small and Emerging Companies (March 21, 2013), available at: <http://www.sec.gov/info/smallbus/acsec/acsec-recommendation-032113-spread-tick-size.pdf>;

³ See, e.g., Grant Thornton, The JOBS ACT: next steps for success (May 2012), available at: <http://www.granthornton.com/staticfiles/GTCom/Public%20companies%20and%20capital%20markets/JOBS%20Act-next%20steps%20Perspective-May%202012%20FINAL.pdf>; Equity Capital Formation Task Force, From the On-Ramp to the Freeway (November 11, 2013) available at: <http://www.equitycapitalformationtaskforce.com/files/ECF%20From%20the%20On-Ramp%20to%20the%20Freeway%20vF.pdf>.

comment letter by TD Ameritrade (February 4, 2013), available at: <http://www.sec.gov/comments/4-657/4657-12.pdf>; comment letter by KOR Trading (February 4, 2013), available at: <http://www.sec.gov/comments/4-657/4657-16.pdf>; comment letter by Managed Funds Association (May 1, 2013), available at:

The Securities and Exchange Commission recognized in its 2010 Concept Release on Equity Market Structure, that spreads has been an important metric in measuring the performance of current market structure, particularly for all types of long-term investors.⁴ As the Subcommittee on Market Structure of the Investor advisory Committee, we met with proponents of increasing the spreads, we reviewed the reports and proposals of many varied advocacy groups,⁵ and we reviewed some of the Commission’s own studies and findings on this issue when it decided to institute lower minimum tick sizes and require stocks to be traded in decimals instead of fractions.⁶ We met over the course of more than half a year in numerous meetings and teleconferences. Throughout it all, we maintained our focus on the impact on investors.

Background and Findings:

- Prior to 2000, securities in the U.S. equity markets were generally quoted in fractional ticks, ranging from \$1/32 or \$1/64 for low-priced securities to \$1/8 or \$1/4 for higher-priced securities on the primary exchanges. Although retail order flow was typically executed at the national best bid or ask and at the relevant tick, institutional investors had access to market centers where they were able to trade not only between the best bid and ask but also “in between the tick” in fine increments, such as \$1/128.
- Since 2000, securities have been priced in penny increments (also known as “decimalization”), or “penny ticks,” in U.S. equity markets.
- And, the “spread” – the difference between the published bid and ask -- has been set by competitive market forces, not by regulation or influenced by regulation. Decimalization has led to a decline in both quoted and effective spreads for most stocks.⁷ In particular, the move to decimal pricing decreased spreads on the most popular, liquid stocks to the penny minimum. In fact, bid-ask spreads for S&P 500 stocks, representing the largest companies, average less than 3 bps.⁸ These spreads are at their lowest historical levels. Decimalization has led to real and very significant savings for investors.

<http://www.sec.gov/comments/4-657/4657-20.pdf> ; comment letter by Citi (October 22, 2013), available at: <http://www.sec.gov/comments/4-657/4657-24.pdf>; Two Sigma (November 18, 2013), available at: <http://www.sec.gov/comments/4-657/4657-28.pdf> and <http://www.sec.gov/comments/4-657/4657-19.pdf>

⁴ See SEC Concept Release on Equity Market Structure, available at: <http://www.sec.gov/rules/concept/2010/34-61358.pdf>

⁵ See supra, footnote 4.

⁶ See e.g., SEC, Market 2000: An Examination Of Current Equity Market Developments (1994); SEC’s Implementation of Decimalization, available at: <http://www.sec.gov/hot/decimal.htm>; U.S. Securities and Exchange Commission, Report to Congress on Decimalization (July 2012), available at: <http://www.sec.gov/news/studies/2012/decimalization-072012.pdf>; SEC Decimalization Roundtable (February 5, 2013).

⁷ See U.S. Securities and Exchange Commission, Report to Congress on Decimalization (July 2012), quoting, e.g., Chakravarty, Harris, and Wood (2001); Bacidore, Battalio, and Jennings (2003); Bessembinder (2003).

⁸ See Credit Suisse, Inside the NBBO: Pushing for Wider – and Narrower! – Spreads (May 15, 2013) at 1.

- Penny tick pricing does not, of course, mandate that stocks have a spread at that minimum.⁹ Many stocks -- including illiquid stocks, most small cap stocks, and very high-priced stocks -- can, and do, trade at spreads greater than the minimum tick. Small cap stocks already naturally trade with wider spreads, averaging spreads eight times wider than large cap stocks.¹⁰ Furthermore, numerous academic studies have found that any decrease in spreads on the smallest cap stocks before and after decimalization was not statistically significant.¹¹
- Spreads are closely related to volatility. Market events, such as an increase in volatility, can also lead to an increase in spreads.
- There is some evidence that lower stock prices widen their spreads on a percentage basis of the stock price and that companies can widen their effective spreads themselves by lowering their stock prices through stock splits.¹²
- Because of its impact on the spread, tick size directly impacts both the prices paid by investors and the revenue received by trade execution centers, including market makers executing trades on and off the exchanges. In general, decreasing tick size creates more competitive pricing for the buying and selling of securities, particularly for retail investors. Because it facilitates competitive pricing, it has lowered the revenues earned by market makers and exchanges or trade execution centers.

That lower revenue potential may be a factor in market-maker firms' decision about how much capital to allocate to trade small cap and/or less liquid stocks. It is difficult to assess this impact however as discussions of relative liquidity become a kind of "chicken and egg" problem. Does less investor knowledge of and interest in small cap companies reduce their investment activity so market makers focus on other sectors? Or, does less market maker support reduce activity and liquidity making it difficult for investors to get research and to buy and sell these stocks with ease? More to the point, does the fact that these are small capitalization companies mean, simply, that there are fewer investors interested in investing in them. Additionally, and interestingly, the data shows that the valuation premium of small company stocks has increased in the last decade. Thus, there is no reason to believe that increasing bid-ask spreads will raise the valuations on small companies, since there is no evidence that a decline in the spreads has lowered their valuations.¹³

⁹ U.S. Securities and Exchange Commission, Report to Congress on Decimalization (July 2012); ("Though regulatory decimalization in the market lowered the minimum allowable tick size to \$0.01, it did not mandate that market participants quote narrower spreads. Rather, the quoting of narrower spreads appears to have been a result of continued market forces.")

¹⁰ See Credit Suisse, Inside the NBBO: Pushing for Wider – and Narrower! – Spreads (May 15, 2013) at 3.

¹¹ See U.S. Securities and Exchange Commission, Report to Congress on Decimalization (July 2012) ("These results are contrary to the argument...that the spreads of small stocks declined significantly.").

¹² See Credit Suisse, Inside the NBBO: Pushing for Wider – and Narrower! – Spreads (May 15, 2013) at 4; U.S. Securities and Exchange Commission, Report to Congress on Decimalization (July 2012), quoting Angel, James J., 1997, Tick size, share prices, and stock splits, *Journal of Finance* 52(2), 655681.

¹³ For 1980-2012, in almost all years the price-earnings ratio for small company stocks with positive earnings has been higher than that for big company stocks with positive earnings, and that there is no change in the pattern as bid-

- The SEC’s Report to Congress on Decimalization studied the empirical academic research and found that market making increased after decimalization across all market capitalization categories, and decimalization does not appear to have reduced profitability as market makers moved to other profit producing activities.¹⁴
- In addition, there is no evidence that, if a larger minimum tick size were adopted, any resulting increase in revenues for market makers would be used to support research or provide enhanced liquidity which would benefit capital formation. Most of the largest market makers do not provide market research, and the continued presence of “payment for retail order flow” suggests that these market makers have a different business model than existed in decades past.
- Indeed, under current SEC rules, which the Subcommittee strongly agrees with, brokers are required to seek best execution when executing trades for their clients. Consequently, brokers would, and should, seek to find execution venues that provide the best overall prices. Because the business models of the largest, most automated, efficient market makers make trades with no relation to ancillary activities such as research reports or touting particular securities all that would occur would be for retail investors to end up paying these market makers more for their executions with no benefit for capital formation or more general investor interest. Put differently, there is no reason to expect that order flow will be directed to more expensive market makers offering inferior pricing with ancillary businesses to subsidize as opposed to the order flow being directed to the most efficient and best priced market makers – however, in this instance, regulation would have made that price more expensive for all retail investors.
- The number of IPOs and companies listed on national exchanges in the U.S. actually started dropping in 1996, approximately five years prior to the adoption of decimalization (but note that tick sizes went from eighths to sixteenths in 1997 so that could have played a role).¹⁵ There is a debate as to the cause of the decline in small company IPOs, but there is strong reason to believe that macro market-related events over the last 20-plus years led to decline in small company IPOs, not the move to decimalization:
- In the period spanning 1996 to the present, a variety of political and market-related events – the dot-com bubble of the late 1990s, the analyst and accounting scandals in 2002, the cost of resulting compliance under Sarbanes-Oxley, the September 11th terrorist attacks and the subsequent recession, the recent financial crisis, and the general increase

ask spreads declined over time. Indeed, if anything, the valuation premium of small company stocks has increased in the last decade. There is no evidence that the decline in bid-ask spreads that has occurred has resulted in a decline in the valuations of small companies relative to large companies with positive earnings. Thus, there is no reason to believe that increasing bid-ask spreads will raise the valuations on small companies, since there is no evidence that a decline in the spreads has lowered their valuations. Liquidity in itself should be desired mainly because it should cause a higher valuation. This is the implicit assumption behind the desire for more analyst coverage and market making activity, and the evidence shows that it is not there. Data cited from “Reenergizing the IPO Market,” Figure 5-3, Jay R. Ritter, to be published in *RESTRUCTURING TO SPEED ECONOMIC RECOVERY*, edited by Martin Bailey and Richard Herring, forthcoming Brookings Press, 2013

¹⁴ See U.S. Securities and Exchange Commission, Report to Congress on Decimalization (July 2012).

¹⁵ See Equity Capital Formation Task Force at page 8.

in the cost of regulatory compliance – have resulted in a period of extreme market stress and markets that are inhospitable to IPOs.

- In perhaps the most recent review of the dearth of smaller IPOs, researchers noted that the growth of the private markets is a more likely explanation:
 - “During 1980-2000, an average of 310 companies per year went public in the U.S. Since 2000, the average has been only 99 initial public offerings (IPOs) per year, with the drop especially precipitous among small firms. Many have blamed the Sarbanes-Oxley Act of 2002 and the 2003 Global Settlement’s effects on analyst coverage for the decline in IPO activity. We find very little support for the conventional wisdom, and offer an alternative explanation... the advantages of selling out to a larger organization, which can speed a product to market and realize economies of scope, have increased relative to the benefits of operating as an independent firm.”¹⁶
- The SEC’s Report to Congress on Decimalization likewise found that it is a mistake to blame decimalization on a decrease in small cap IPOs, since these various economic and political events “make it difficult to distinguish the specific impact decimalization may have had on the number of companies going public.”¹⁷
- The Subcommittee’s review of the various reports and proposals has not presented any evidence that this proposal would benefit investors, especially since alternative methods for facilitating IPOs and improving capital markets exist. Indeed the lack of focus on the impact on investors from the proponents of higher spreads is noticeable and gravely concerning. Compounding these concerns are the incentives faced by various market participants who stand to profit from larger tick sizes; the harm of moving away from decimalization is borne primarily by retail investors diffusely, while the benefits to market makers are very highly concentrated, making their voices more dominant in this debate.
- Studies of markets with wider spreads, such as Asian markets, show that wider spreads can lead to undesirable consequences, such as increasing the time to execute trades and exposing market participants to increased market and signaling risks. These risks lead to an increase in trading on dark pools, which, in turn, decreases intraday liquidity overall.¹⁸ Furthermore, the SEC’s Report to Congress on Decimalization found that market decimalization actually decreased intra-day volatility in the long run across all market capitalizations, which benefits market participants.¹⁹
- Finally, and perhaps most importantly, there is ample evidence that increasing tick size would harm retail investors. Institutional investors are likely to be minimally affected by

¹⁶ “Where Have All the IPOs Gone?”; Xiaohui Gaoa, Jay R. Ritterb, Zhongyan Zhuc; October 9, 2013, forthcoming, *Journal of Financial and Quantitative Analysis*

¹⁷ See U.S. Securities and Exchange Commission, Report to Congress on Decimalization (July 2012).

¹⁸ Credit Suisse, Inside the NBBO: Pushing for Wider – and Narrower! – Spreads (May 15, 2013) at 5.

¹⁹ U.S. Securities and Exchange Commission, Report to Congress on Decimalization (July 2012).

an increase in tick size, because they are able to trade between the stated spread and tick size or at negotiated prices. In contrast, retail investors would end up paying the full retail price. Thus, any increased profits generated by increasing tick size would be expected to come primarily from retail order flow. In essence, a government-mandated increase in tick size would subsidize profits for the most sophisticated financial participants at the expense of retail investors. The Committee believes that alternative means should be found to promote capital formation and small stock liquidity that do not come at the expense of retail investors. Indeed, engaging in pilot programs, when we know what occurs from prior experience (and it is not good for investors) seems unjustifiable.

Recommendations

As a general matter, the Committee strongly believes that other exogenous factors, rather than decimalization, are the primary causes of the decline in small company IPOs over the past couple of decades. Moreover, we are concerned that any increase in minimum tick size would disproportionately harm retail investors, who would see their trading costs artificially inflated above the rate set in competitive markets. Finally, we believe there is no persuasive evidence that an increase in tick size would result in beneficial activities to support capital formation – and current market structure would suggest compellingly to the contrary. We therefore believe the Commission should move cautiously before adopting a policy change in this area that could significantly increase costs for retail investors without offering concomitant benefits in the form of increased capital formation. Instead, we encourage the Commission to focus on more effective measures to promote capital formation and liquidity without increasing tick size²⁰.

Recommendation 1

The Committee recommends that the Commission *not* reverse its decimal pricing policy. That includes not engaging in “tests” or “pilot” programs.

Supporting Rationale:

Decimal pricing promotes a market-based approach to determining tick sizes for trading equities, with spread sizes varying due to competitive forces. In general, where there is a higher cost or risk to trading particular stocks, market forces will set the spreads at levels that compensate market making for those increased costs or risks. Spreads are typically higher than a penny for small cap stocks, for example. Very high-priced securities also tend to trade at higher spreads than very low-priced securities, while the most liquid, frequently-traded stocks tend to have lower spreads, at or near a penny. In addition, spreads vary over time depending on market volatility, current interest in a security or sector, and other factors. The Committee believes that allowing the spread to reach a varying but natural equilibrium in response to market forces is inherently more efficient and better for investors than forcing the spread to conform to artificial increments.

²⁰ See e.g., listed items under “Supporting Rationale” for Recommendation 2 below.

Current proposals to increase the minimum tick size are premised primarily on capital formation grounds and secondarily on enhancing trading liquidity for smaller cap stocks. The Committee remains unpersuaded that decimalization was a material factor in the decline of smaller cap IPOs (as opposed to the revenues of some market makers) or, conversely, that increasing tick size would meaningfully reverse that decline (although it would increase the revenue of some market centers). As noted above, the Committee believes that historical real-world and market factors that began well before decimal pricing was adopted are primarily responsible for a decrease in small company IPOs. With the stock market rebounding in 2013, IPOs started to recover and are currently on target for new records.²¹

The Committee sees little evidence that an increase in tick size would necessarily result in increased research and market making activities to support capital formation. Most retail order flow today is forwarded to the market center with the best overall execution in that stock or class of securities. These trading centers do not currently have research or investment banking operations. If tick sizes increase, it seems highly likely that any additional profits will simply be retained by these trading centers or shared with firms that send them order flow, rather than being directed into increased research or other activities to benefit capital formation.

Similarly, while “displayed” liquidity in smaller cap stocks would be expected to increase if tick size is increased, it does not follow that real liquidity would increase. To the extent that increased profits for market makers could contribute to increased liquidity, increased costs to investors would be expected to detract from real liquidity. Thus, the justification for increasing tick size based on the hope that it will lead to increased liquidity seems tenuous at best.

As noted above, the ample evidence that increasing tick size would harm retail investors in particular argues against the pilot

Finally, spreads due to penny ticks are one area that is currently set well by competition. There were times in the past, including in the mid-1990’s, where collusion among market participants to price fix the tick to increase the spread occurred²², and that led to the initial

²¹ See *Financial Times*, US companies on target to raise record IPO sums (November 10, 2013) available at: <http://www.ft.com/cms/s/0/e74c91a0-48d5-11e3-a3ef-00144feabdc0.html#axzz2mdLJG00> (“Resurgent interest in US stocks has paved the way for 192 companies to raise \$51.8bn from new stock offerings, putting the market on track to rival sums raised by US companies at the height of the dotcom bubble in 2000.”); Wilmer Hale, *The Road to IPO: Legal and Regulatory Insights into Going Public* (December 2013), available at: <http://www.wilmerhale.com/pages/publicationsandnewsdetail.aspx?NewsPubId=10737419336> (“The first eleven months of 2013 have produced 167 IPOs, 64% more than the 102 IPOs in full-year 2012... The IPO market remains dominated by emerging growth companies (EGCs), which produced 83% of all IPOs in the first eleven months of 2013—slightly higher than the 76% market share for EGC IPOs in 2012 following the enactment of the JOBS Act in April 2012.”); other data suggests that the IPO market has rebounded very significantly, but that it is still materially below the high points in the late ‘90s (see, *Initial Public Offerings: Updated Statistics*, Jay R. Ritter, bear.warrington.ufl.edu/ritter, December 20, 2013).

²² See *In re Nasdaq Market-Makers Antitrust Litigation*, 894 F. Supp. 703 (S.D.N.Y. 1995); 164 F.R.D. 346 (S.D.N.Y. 1995); No. 94 Civ. 3996, 1996 WL 187409 (S.D.N.Y. Apr. 18, 1996); 929 F. Supp. 723 (S.D.N.Y. 1996); 929 F. Supp. 174 (S.D.N.Y. 1996); 938 F. Supp. 232 (S.D.N.Y. 1996).); see also, *Deal Reached in Civil Suit over Collusion on NASDAQ*, *New York Times* (July 18, 1996), available at <http://www.nytimes.com/1996/07/18/business/deal-reached-in-civil-suit-over-collusion-on-nasdaq.html?pagewanted=2>; *A Crackdown on NASDAQ*, *New York Times* (August 10, 1996) available at <http://www.nytimes.com/1996/08/10/opinion/a-crackdown-on-nasdaq.html>.

rationale for moving to decimalization. To have the government now step in and mandate price fixing among private sector competitors seems like a very strange place for the SEC to tread.

Recommendation 2

To the extent that the Commission believes additional steps are needed to promote capital formation and/or enhanced liquidity for smaller capitalization company securities, the Commission should consider alternative approaches (as discussed below). In evaluating its various options, the Commission should consider which approach would best ensure that retail investor protections are not sacrificed while also considering which approach would best enhance capital formation and small cap stock liquidity.

Supporting Rationale:

The Committee recognizes that capital formation and improving liquidity for securities are important functions of the Commission. A range of options exists to achieve these goals by promoting quality small cap IPOs and liquidity for small cap companies, while minimizing the negative impact on retail investors. Among the possible alternatives are:

- Broad display of the depth of standing orders or of trailing order types off a BBO to show true liquidity;
- Rules to preclude certain jumping ahead strategies that take, as opposed to provide, liquidity; and
- Requirements for displayed bids and asks to be real, as opposed to ephemeral, with strict enforcement of penalties for posting fake bids and asks, e.g. spoofing.

Furthermore, the JOBS Act which was signed into law in April 2012 incorporated a number of innovative measures aimed at reducing the costs and burdens that startups face when trying to access the public markets. Early indicators suggest that the JOBS Act has already been effective at making it easier for emerging growth companies to access public markets. Since the law's enactment, more than 200 companies have registered with the SEC as emerging growth companies, which represents 79% of all companies who have filed to go public at this time.²³ Other, non-market structure alternatives are also available. These include: further reducing regulatory burdens for extremely small companies; recent regulatory proposals to facilitate crowd funding as a source of capital; changes to the diversification requirements of mutual funds to enable holdings of micro- and even nano-cap companies by these key institutional investors; development of a seal of approval for consortiums of micro-cap companies that meet certain standards; or even issuer-commissioned research reports and analysis. None of these alternatives would require retail investors to overpay for equity trading, as increasing tick size would.

²³ See Equity Capital Formation Task Force at page 9-10 (As of October 25, 2013, there were 63 companies in registration for an IPO –including 48 registered as EGCs. As of the same date, 154 companies had gone public, versus 121 in all of 2012. As of October 25, 2013, there have been 53 micro-cap IPOs comprising 34% of all IPOs versus 32 for all of 2012, representing just 26% of all IPOs for that entire year.)

Recommendation 3

Should the Commission nevertheless choose to pursue a pilot program of increasing tick sizes, it should be designed to limit the potential harm to investors and maximize any benefits. Toward that end, any such pilot:

- Should be designed with a tight timeframe and a guaranteed sunset unless benefits are proven to outweigh the costs;
- Should be designed to measure the costs and benefits to investors, with a particular focus on retail investors; and
- Should not focus exclusively on increasing tick size, but should include piloting other changes to encourage appropriate trading, enhance liquidity, or facilitate capital formation, including in particular competition-based responses.

Supporting Rationale:

The Commission studied the minimum tick size extensively prior to making changes in 2000. The Committee believes there are considerable risks associated with pursuing a pilot program to test a policy that has, in the past, been shown to result in practices that are harmful to retail investors. Should the Commission decide to pursue such a pilot, we therefore believe it is essential to design any such pilot program to minimize the potential harm to investors.

The pilot should not allow issuers to opt into or out of the pilot as that would add inherent bias. A small, controlled experiment with appropriately selected groups of securities tested at different minimum tick sizes and with the determination of measures to be judged at the outset is the only responsible way to test the impact of higher minimum tick sizes, if a pilot is pursued at all. If the sample sets are biased and the measures of success selected after the fact, there will be little or no validity to the results of any pilot.

In assessing the pilot, it will be particularly important to weigh the costs and benefits to investors, so it will be important to define clear and quantifiable metrics from the outset. Benefits to investors should be the first consideration, both because this is the central mission of the Commission and because the most direct way to further the goal of capital formation is by attracting investors to buy more small and micro-cap stocks. Possible measures could include changes in trading volume, impact on depth of book, and the impact on spreads and trading costs overall. The percent ownership by institutional investors might also be of interest, since professional investors may be better judges of whether these stocks are more attractive to trade and own.

The Committee recognizes that it won't be easy to measure the direct impact on capital formation from a temporary pilot, since there will be many other economic factors at work. At the same time, the Commission should be on the lookout for any increase in harmful practices of the type that helped inflate the tech stock bubble of the late 1990s in ways that were not

beneficial for the long-term health of the economy (e.g., issuance of biased research reports to boost trading in companies being underwritten by the market making firm). Finally, given the clear potential disadvantages to retail investors of increasing tick size, the pilot program should be designed to enable analysis of a broader set of possible solutions, with an eye toward identifying policy solutions that provide real benefits to capital formation and enhanced liquidity without artificially inflating costs to investors.

Finally, we believe that it is essential that any pilot program to increase tick sizes include a guaranteed sunset. Experience shows that pilots tend to take on a life of their own once established. This experiment in setting non-market-based spreads should not be allowed to continue beyond a tight timeframe unless it is shown that the benefits to investors outweigh their higher costs.