August 7, 2014

**Via Electronic Mail (rule-comments@sec.gov)**

Ms. Elizabeth M. Murphy
Secretary
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549-1090

Re: Concept Release on Equity Market Structure (Release No. 34-61358; File No. S7-02-10)

Dear Ms. Murphy:

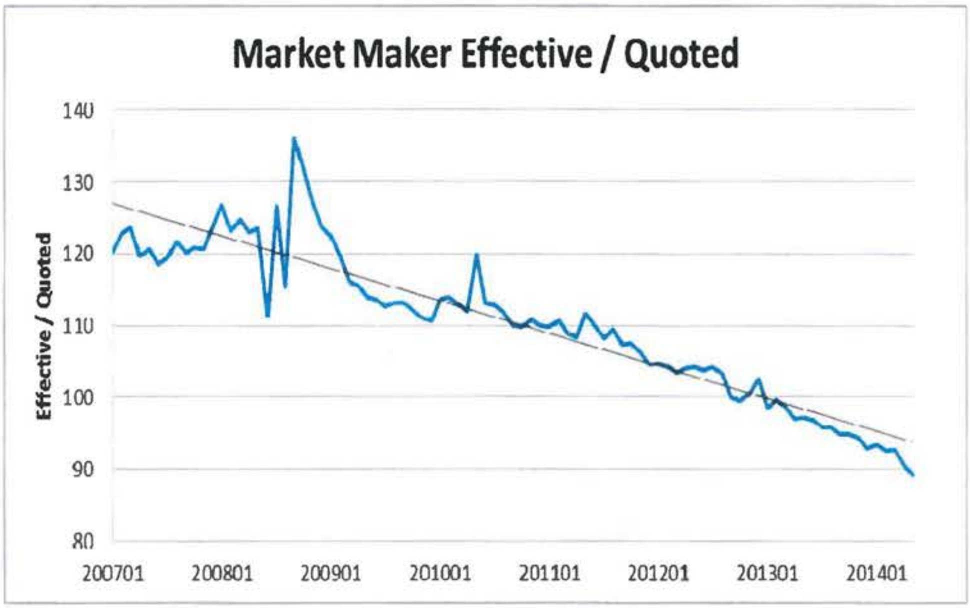
Citigroup Global Markets Inc. ("CGMI") and its affiliates, Automated Trading Desk Financial Services, LLC ("ATD"), LavaFlow, Inc. ("FLOW"), and Citigroup Derivatives Markets Inc. ("CDMI" and, together with CGMI, ATD and FLOW, "Citi")[1] appreciate the opportunity to comment on the above-referenced Concept Release on Equity Market Structure (the "SEC Concept Release") issued by the U.S. Securities and Exchange Commission (the "SEC" or "Commission") in 2010. This is the second comment letter that Citi has submitted on the SEC Concept Release.[2] Recent events have brought many equity market structure issues to the forefront of the public debate and Citi appreciates the opportunity to once again offer our comments and recommendations.

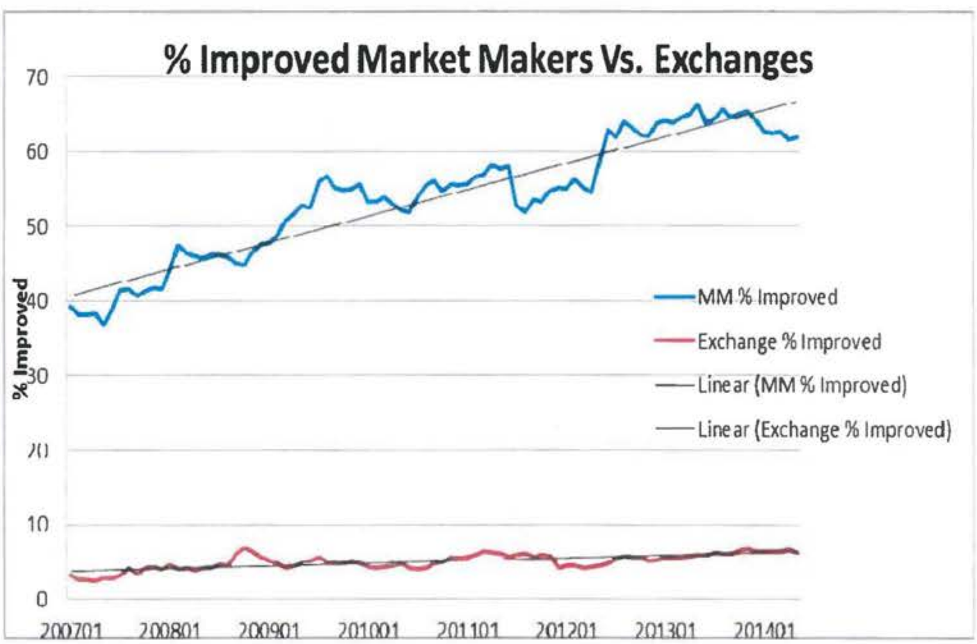
As stated in Citi's First Comment Letter on the SEC Concept Release, our view continues to be that the U.S. equity markets remain the most robust in the world. Trading in most equity securities – especially large cap names – is functioning extremely well, with ample liquidity, narrow spreads, low transaction costs (in large part because of the availability of off-exchange venues), quick and efficient executions, and plentiful

[1] Citigroup Inc. is a diversified global financial services holding company whose businesses provide a broad range of financial services to consumer and corporate clients as well as governments and other institutions. Citi has some 200 million client accounts and does business in more than 100 countries. Citi's primary U.S. broker-dealer subsidiary, Citigroup Global Markets Inc., is registered as a broker-dealer in all 50 states, the District of Columbia, Puerto Rico, Taiwan and Guam, and is also a primary dealer in U.S. Treasury securities and a member of the principal United States futures exchanges. Other Citi affiliates actively engaged in U.S. equity market trading include Automated Trading Desk Financial Services, LLC (ATD) and LavaFlow, Inc. Citigroup Derivatives Markets Inc. is actively engaged in U.S. options market making. Additional information may be found at www.citigroup.com or www.citi.com.

[2] *See also* Letter from Daniel Keegan, Managing Director, Citigroup Global Markets Inc. (May 5, 2010), available at http://www.sec.gov/comments/s7-02-10/s70210-174.pdf ("Citi's First Comment Letter on the SEC Concept Release").

opportunities for price/size improvement (especially for retail investors). Data show that execution quality continues to improve across investor classes, especially in less than block size trading (see charts below). As market participants strive to improve equity market structure, they should be ever mindful not to repeal these many positive attributes that have evolved over time to the benefit of all investors.



In the first chart ("Market Maker Effective / Quoted"), Effective Spread / Quoted Spread (known in the industry as "E/Q") is a commonly-used metric of execution quality, measuring how effectively a market maker (such as ATD) prices a customer's order relative to the prevailing National Best Bid or Offer ("NBBO") at the time it receives that order. A lower E/Q ratio indicates a better execution price. An E/Q ratio below 100 indicates that a particular order received a better price than the best public quote at the time of the order's receipt. The second chart ("% Improved Market Makers Vs. Exchanges") displays what percentage of customer orders receive some form of price improvement from market makers (such as ATD) in comparison to the exchanges. Both of these charts demonstrate that the execution quality provided by market makers has improved considerably over the past several years, especially for retail order flow.[3]

Even with such robust markets, markets are ever evolving, and there is always room for improvement. Citi has previously submitted a comment letter in support of the adoption of a pilot program to widen tick sizes in certain illiquid and high-priced securities, with a goal of improving liquidity in such names.[4] We stated in the Citi Tick Size Comment Letter that "we feel this is a more targeted and nuanced approach to improving current market structure (the so-called 'scalpel' approach), as opposed to some more draconian measures like a 'Trade-At' Rule (the so-called 'sledgehammer' approach)." The SEC recently issued an Order to the self-regulatory organizations ("SROs") to adopt an SRO Plan for a pilot program in wider tick sizes for certain securities.[5]

As recent events have brought many market structure issues to the forefront of the public debate, it seems appropriate to now make additional recommendations to improve market structure. Citi's Equities platform is among the most diverse in the industry, including robust high-touch (human) and low-touch (electronic) businesses, a limit-order display facility known as an Electronic Communication Network or ECN that functions very much like an exchange (FLOW), and one of the five largest wholesale retail market-makers in the country (ATD). Given this diversity of businesses, it is highly likely that

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[3] Charts are sourced from Thompson Reuters; data includes public trade information for SEC Rule 605 reportable trades and includes the largest wholesale retail market-makers (including ATD) and exchanges.

[4] Letter from Daniel Keegan, Managing Director, Citigroup Global Markets Inc. (October 22, 2013), available at http://www.sec.gov/comments/4-657/4657-24.pdf (the "Citi Tick Size Comment Letter"). *See also* Citi's First Comment Letter on the SEC Concept Release, pages 5-6: "[F]or stocks that trade over a sufficiently high threshold (e.g., $20.00 per share), CGMI suggests that the Commission should consider a minimum increment in excess of a penny (e.g., $0.02, or perhaps $0.05 in higher-priced securities). CGMI believes that an increased minimum increment for high dollar value stocks would improve market quality by reducing the 'penny jumping' effect that allows stepping ahead of lit orders by economically insignificant amounts. CGMI believes such an initiative would encourage participants to display more public quotations."

[5] http://www.sec.gov/rules/other/2014/34-72460.pdf

any potential regulation or legislation in this area will impact Citi in disparate ways. As such and as much as possible, we have endeavored to shape recommendations that benefit the overall market and not any particular business model.

It is important to note that Citi has actively participated in various industry working groups that may be making separate recommendations, including the Securities Industry and Financial Markets Association ("SIFMA")[6], the Investment Company Institute ("ICI"), the Security Traders Association ("STA") and the Financial Information Forum ("FIF"). While these associations and working groups continue to refine their specific recommendations, we believe that our views are largely in line with theirs, and so we voice our support for their efforts and recommendations. That said, we also feel it is important to lend our own perspectives on some of the most important issues. Our specific recommendations are as follows:

1. *Any market structure changes need to be tailored to specific segments of the market, whether varied by capitalization (large/mid/small cap) or by share price. A "one size fits all approach" is not appropriate in today's market.*

2. *The SEC should explore the impacts on the overall markets of complex market structure issues such as access fees and maker-taker pricing. At a minimum, the cap on access fees should be reduced to less than 10 mils.*

3. *Transparency for investors – both retail and institutional – around order routing and execution practices should be required on a uniform basis across the industry.*

4. *New rules should be adopted requiring that market data be provided to investors – regardless of whether through the direct or consolidated feeds – at the same time, or as near in time as is possible given current technology.*

5. *For-profit exchanges should no longer be afforded status as self-regulatory organizations ("SROs"), nor be entitled to regulatory immunity for their commercial activities.*

## ONE SIZE DOES NOT FIT ALL

There is an increasing call for simplifying what many perceive to be an overly complex market structure. Measures to simplify the markets should be taken, where feasible and prudent. However, blunt measures that apply to all segments of the market

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[6] *See* SIFMA Board Committee on Equity Market Structure, Recommendations as of July 10, 2014, available at http://www.sifma.org/issues/item.aspx?id=8589949840 (the "SIFMA Board Committee Recommendations").

equally can often do more harm than good, and will often have disparate impacts on different types of securities.

It is this same belief that led us to submit the Citi Tick Size Comment Letter. By focusing efforts on that segment of the market in which liquidity is most difficult to access (namely the small cap space), we hope to avoid unintended impacts on that segment of the market that is functioning historically better than ever (the large cap space). Therefore, any future market structure changes ideally should be tailored to specific segments of the market, whether varied by capitalization (large/mid/small cap) or by share price (see next section on access fees).

Critics of this approach will likely point out the added complexity that it may bring to bear on the markets. Further, additional systems and technology work is required to program for recommendations that do not apply uniformly across all types of securities. Nonetheless, today's market structure demands slightly different approaches for securities that functionally trade in different ways. To adopt a "one size fits all" approach for all securities ignores the realities of today's market structure and could potentially lead to unintended consequences. We provide an example in the next section below.

## REDUCE ACCESS FEES AND ALLOW LOCKED MARKETS

The SEC should explore the impacts on the overall markets of complex market structure issues such as maker/taker pricing and access fees. At a minimum, the cap on access fees should be reduced to below 10 mils. The appropriate cap may need to vary depending on the security, its share price, volume and/or market capitalization.

By way of background, Regulation NMS (National Market System) somewhat arbitrarily established a cap on access fees that can be charged to access liquidity on exchanges at 30 cents per 100 shares, a.k.a. 30 mils. At the time this cap was chosen by the SEC (circa 2004), average spreads were much wider than they are today, and average commission rates were much higher. Because of several positive developments in equity market structure – both commercial and regulatory – spreads have significantly narrowed and commission rates have dramatically declined, to the benefit of investors. As a result, today's 30-mil cap on access fees that the exchanges can charge to access liquidity on their venues represents a more significant percentage of the economics of each trade. This cap should be revisited in light of today's market economics.

The system of access fees and rebates through which exchanges operate serves as an incentive to some market participants to provide liquidity, which is generally positive for the markets. That said, it is unlikely that the amount of trading in high-volume securities is driven by access fees and rebates. Conversely, certain lower-volume securities benefit from this incentive for market participants to provide liquidity. Thus, the appropriate cap on access fees may need to vary depending on the security, its share price, volume and/or market capitalization.

Data shows that share price and market capitalization appear to be the most relevant factors to consider. As shown in the below chart, there is generally greater off-exchange trading for securities that trade below $5 per share and $5-$10 per share. There is also a similar correlation when the data is analyzed in terms of market capitalization. Specific to lower priced stocks, the primary impetus is likely that exchange fees are higher on a relative basis, i.e. a 30-mil cap is a greater percentage of a $3 stock than a $30 stock. Hence lowering the access fee could potentially help promote greater on-exchange activity for securities that trade less than $10 per share.

**Percentage of Average Daily Volume Traded Off Exchange (April/May 2014)**

| Stock Price | Average Daily Volume | | | | | |
|---|---|---|---|---|---|---|
| | 0-100K | 100-200K | 200-250K | 250K-2M | 2M - 5M | 5M< |
| < $5 | 46.17% | 47.81% | 48.22% | 47.45% | 44.00% | 44.83% |
| $5-$10 | 39.78% | 41.65% | 41.21% | 41.03% | 36.33% | 37.92% |
| $10-$20 | 37.96% | 40.86% | 39.67% | 37.16% | 36.17% | 33.45% |
| $20-$30 | 36.12% | 42.18% | 40.47% | 36.45% | 34.37% | 32.69% |
| $30-$40 | 33.80% | 35.70% | 38.33% | 35.18% | 33.12% | 35.20% |
| $40-$50 | 31.82% | 37.95% | 38.45% | 33.25% | 34.65% | 32.89% |
| $50-$100 | 32.36% | 35.60% | 33.56% | 32.85% | 30.93% | |
| $100< | 32.54% | 41.01% | 44.43% | 31.65% | | |

For illiquid securities, a primary consideration is to manage the trade-off between market impact and information leakage about one's order flow and trading strategies. To that end, seeking an off-exchange print in dark pools can help minimize information leakage and result in reduced market impact, which is a primary driver of the popularity of off-exchange venues. If there is a desire on the part of the Commission to encourage more order flow to gravitate to the exchanges, then lowering the cap on access fees is one potential way to accomplish that goal.

Several exchanges have expressed varying degrees of support for a reduced cap on access fees, but only if combined with the imposition of a Trade-At Rule. A Trade-At Rule, simply stated, would require that a venue that is receiving an incoming order must publicly display the NBBO at the time it receives such incoming order, or otherwise do one of two things with that order: (a) price improve that order by a significant amount, in most cases more than the margin it would stand to gain upon the execution of such order; or (b) route that order away to a venue that is displaying the NBBO at the time. The net result would be that more order flow would gravitate towards the exchanges because of this potential regulation.

But a Trade-At Rule would also virtually eliminate the many benefits that have evolved in today's market structure, particularly lower execution costs. Feedback from similar dark liquidity rules in Canada and Australia shows little or no discernible improvements to market quality, yet increased exchange costs on retail and institutional investors while rewarding high frequency traders with increased passive rebate opportunities.[7] The Commission should be commended for thus far having been very reluctant to impose any form of Trade-At Rule in the U.S. for fear of similar unintended consequences.

If the cap on access fees is reduced, there would not be a need for a "sledgehammer" approach in the form of a Trade-At Rule to force more order flow to gravitate back to exchanges. A reduction in the cap, especially in lower-priced and smaller market cap securities, would naturally move more executions back to exchanges. A reduction in the access fee cap is a relatively simple measure that could be taken, with corresponding data analysis to determine whether it is having the anticipated and desired result.

The concept of eliminating the ban on locked markets in NMS securities (i.e., where the bid price equals the ask price) also has merit, as long as the lifting of the ban is tied to a significant reduction in the access fee cap. However, in eliminating the ban, significant consideration must be given to the technological and business changes that must be implemented as a result. For example, certain matching systems prohibit matching during a locked or crossed market. If the ban is eliminated, such systems will likely need to be updated to allow executions during locked markets. Further, execution quality reports for SEC Rule 605 covered securities exclude executions during locked markets (basically as a result of the calculation at that point requiring division by zero where markets are locked, or by a negative number where markets are crossed). If locked markets become more common, there may be a need to revise the analysis of market quality in such circumstances. Overall, the elimination of the locked market ban in conjunction with a significant reduction in the access fee cap should result in more efficient markets. Nonetheless, it is important to consider the non-trivial market impacts that such a change would introduce.

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[7] http://www.itg.com/marketing/ITG_Blotter_Clark_HeartOfDarkness_20130529.pdf

## TRANSPARENCY CONSIDERATIONS

Transparency continues to be an area of focus, particularly around brokers' routing and execution practices. Citi generally agrees. In fact, Citi has been working with several industry groups – most notably, SIFMA, ICI and FIF – to prepare detailed recommendations around disclosures to both institutional and retail investors on a uniform basis across the industry.

On the institutional side, many broker-dealers already provide a significant level of transparency into order routing and execution practices per client requests. That said, there may be benefits in making such disclosure uniform and standardized across the industry. As several industry groups – most notably, SIFMA and ICI – are preparing detailed recommendations around institutional disclosures, we defer to their specific recommendations.

On the retail side, we would like to refer back to the comments we made in Citi's First Comment Letter on the SEC Concept Release, and update them now more than four years later. In Citi's First Comment Letter on the SEC Concept Release, we asked whether the goal of the Commission was for execution quality statistics to be used by the broker-dealer community to the benefit of retail orders, or to make the markets more transparent to the retail investor. If the former, then we noted that Rule 605 (execution quality) and Rule 606 (order routing practices) seem to be working as is, and we reiterate that belief now; however, if the latter, then we did not believe this is occurring.[8]

We argued that "the average retail investor might benefit much more from a simplified version of the report which shows how often their trades are executed at the NBBO or better, how fast the trade is done, and whether the customer received enhanced liquidity." Specifically, we suggested that "a simple chart or graph showing the percentage of marketable covered orders executed at or better than the NBBO, along with a chart showing the percentage of covered orders executed in second increments (e.g., 0 to 1 second, 1 to 3 seconds, 3 to 5 seconds, and 10 seconds and above) would be a reasonable requirement."[9] Today, we also believe that this should apply not only to marketable covered orders but to limit orders as well (e.g., limit order placement, percentage sent to each destination, etc.).

## ELIMINATE OR REDUCE THE LATENCY DELTA BETWEEN DIRECT AND CONSOLIDATED MARKET DATA FEEDS

Much public dialogue has recently been focused on market data feeds available to market participants: the direct, or proprietary, feeds made available and sold for a fee by

[8] *See* Citi's First Comment Letter on the SEC Concept Release, page 7.

[9] *See* Citi's First Comment Letter on the SEC Concept Release, pages 7-9.

the exchanges; and the indirect, or consolidated, feeds operated by the Securities Information Processors (SIPs), which are also made available by the exchanges.

A potential approach would be for market data to be sent to investors – regardless of whether through the direct or consolidated feeds – at the same time, or as near in time as is possible given current technology. This means bolstering the consolidated feed such that the delta in latency between the direct and consolidated feeds be reduced to virtually nil. Further, the consolidated feed, which currently displays only top-of-book data (in other words, the NBBO), should also display depth-of-book data (more than just the NBBO). This may be a difficult task, but through a competitive process among multiple independent vendors, it should be achievable.

## FOCUS ON SRO STRUCTURE AND GOVERNANCE

In our August 22, 2012 comment letter on NASDAQ's handling of the Facebook IPO, Citi argued that for-profit exchanges should no longer be afforded status as SROs, nor be entitled to regulatory immunity for their commercial activities.[10] We reiterate these recommendations now.

Several events since the time of filing Citi's Facebook Comment Letter have only bolstered these arguments. On August 22, 2013 (one year to the day after Citi's Facebook Comment Letter was filed), the NASDAQ consolidated feed experienced an outage that shut down trading in the U.S. stock market for more than three hours. Since that time, many have speculated that a contributing cause of this event is the lack of incentive that NASDAQ and the other exchanges have to maintain the operational resiliency of the consolidated feed, given that the exchanges also operate directly competing market data feeds for which they charge sizable fees. Year after year, exchanges generate an increasing percentage of their overall revenues from the sale of their direct, or proprietary, market data feeds. This has been demonstrated to lead to issues of operational resiliency that have caused major market disruptions like the one seen last August.

A similarly disconcerting incident occurred in the option market on April 29, 2014. On that day, a computer malfunction at IntercontinentalExchange Group Inc. (ICE)'s two U.S. options exchanges caused approximately 20,000 erroneous executions early in the trading day that were later canceled. The NYSE ARCA Options Market by its own rules was allowed to bust the erroneous trades, but did not do so until much later in the day. The NYSE AMEX Options market did not have such a clear rule and they did not make a determination to bust trades until very near to the close of trading that day. The lack of a determination until late in the day meant that market participants such as

[10] Letter from Daniel Keegan, Managing Director, Citigroup Global Markets Inc. (August 22, 2012), available at http://www.sec.gov/comments/sr-nasdaq-2012-090/nasdaq2012090-5.pdf ("Citi's Facebook Comment Letter").

Citi, through no fault of their own, were unable to determine the amount of risk they were carrying. Nonetheless, the liability of all exchanges is capped at a relatively low dollar amount.

In an era in which the exchanges were mutualized entities comprised entirely of member firms, these concerns may not have been as relevant. That era, however, is long gone; the exchanges have long-since been demutualized and taken public, and now answer to their shareholders (as they should). What has not kept pace with these developments is the self-regulatory structure that continues to govern our equity markets today.

As a longer-term matter, it seems clear that the Commission should continue its holistic review of equity market structure, including whether the self-regulatory model for exchanges should be reworked. Where the exchanges are operating in a purely regulatory capacity (e.g., in their listings function facilitating access to the capital markets for companies that seek to avail themselves of the public markets), then they should be allowed to self-regulate and should continue to enjoy regulatory immunity for their actions. But where the exchanges are operating in a commercial capacity (e.g., selling market data for a profit), then they should not be allowed to self-police and should no longer enjoy the benefits of regulatory immunity for such actions.[11]

Finally, the entire industry needs more direct representation on its various regulatory and governance committees, including the CQ/CT and UTP Plans specific to market data, not just in an advisory role. This governance issue has direct ramifications on the ability of the industry to efficiently and expediently implement new rules issues by the Commission and the SROs, and therefore had direct ramifications on investor confidence in our markets.[12]

## WHAT HAS ALREADY BEEN DONE

The SEC should be commended for the many constructive measures it has taken in the past several years to bolster our current market structure. As stated in SIFMA's December 13, 2011 letter entitled "Impact of High Frequency Trading and Considerations for Regulatory Change,"[13] several steps have already been taken since 2010 to address many of the concerns still being debated today. The SEC's Market Access Rule,[14] Limit Up/Limit Down,[15] enhancements to the Market-Wide Circuit

[11] *See* Citi's Facebook Comment Letter, pages 11-15; *see also* Letter from Theodore R. Lazo, Managing Director and Associate General Counsel, SIFMA (July 31, 2013), available at http://www.sifma.org/issues/item.aspx?id=8589944673 (the "SIFMA SRO Letter").

[12] *See the* SIFMA Board Committee Recommendations, page 2; *see also* the SIFMA SRO Letter, pages 11-12.

[13] http://www.sifma.org/issues/item.aspx?id=8589936694

[14] http://www.sec.gov/rules/final/2010/34-63241.pdf

Breakers,[16] Large Trader Reporting[17] and the Consolidated Audit Trail[18] have made and will continue to make today's markets better and more transparent than they were in the past. Since the SIFMA HFT Letter, further actions have been taken, including the availability of MIDAS data on the SEC's website, FINRA's Rule 4552 to enhance ATS reporting obligations, "Kill Switches" implemented by several exchanges, and the forthcoming final Regulation SCI (Systems Compliance and Integrity) and Tick Size Pilot Proposal from the SEC.

## WHAT SHOULD NOT BE DONE

Also as stated in the SIFMA HFT letter, certain regulatory steps should not be pursued in the U.S. for fear of doing more harm than good. These include: financial transaction taxes of the kind that have been imposed in certain European countries and have shown to have a detrimental impact on liquidity there; "banning" high frequency trading or other forms of computer-based trading; imposing artificial limits on technological advances, such as minimum quote durations; and imposing a "Trade-At" Rule for the reasons described above. Citi commends the Commission, FINRA and the U.S. Congress for adopting a measured approach to these issues in the face of intense public and media scrutiny, and for refusing to adopt reactionary, "knee-jerk" regulatory or legislative responses to issues that demand thoughtfulness and should be based on empirical data.

We commend SEC Chair Mary Jo White for her leadership on these issues, noting in particular the many helpful recommendations made in her June 5, 2014 speech entitled, "Enhancing Our Equity Market Structure".[19] We are hopeful that the recommendations we've made in this letter can assist the Commission in shaping its priorities for rulemaking in this space.

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[15] http://www.sec.gov/rules/sro/nms/2012/34-67091.pdf

[16] http://www.sec.gov/rules/sro/bats/2012/34-67090.pdf

[17] http://www.sec.gov/rules/final/2011/34-64976.pdf

[18] http://www.sec.gov/rules/final/2012/34-67457.pdf

[19] http://www.sec.gov/News/Speech/Detail/Speech/1370542004312

## CONCLUSION

We sincerely appreciate the opportunity to comment on equity market structure issues, and we welcome feedback from all market participants on our above recommendations. Citi looks forward to discussing these matters further with the Commission and its staff. If you have any comments or questions, please do not hesitate to contact me at [redacted] or [redacted].

Sincerely,

Daniel Keegan
Managing Director,
Head of Equities for the Americas

cc: The Honorable Mary Jo White, Chair
The Honorable Daniel M. Gallagher, Commissioner
The Honorable Luis A. Aguilar, Commissioner
The Honorable Kara M. Stein, Commissioner
The Honorable Michael S. Piwowar, Commissioner
Stephen Luparello, Director, Division of Trading and Markets
James R. Burns, Deputy Director, Division of Trading and Markets
David Shillman, Associate Director, Division of Trading and Markets
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