

**TESTIMONY OF JOE RATTERMAN  
U.S. SENATE BANKING COMMITTEE**

**July 8, 2014**

Thank you and good morning. My name is Joe Ratterman, Chief Executive Officer of BATS Global Markets, Inc. (“BATS”), and one of the founding employees. I am pleased to be here and want to thank Chairman Johnson, Ranking Member Crapo, and the entire Banking Committee for inviting me to testify on matters related to the U.S. equity market structure. This Committee has played a leading role in the development of the securities laws over the past 80 years, and I appreciate the attention to these timely and important issues related to our capital markets.

BATS was a start-up less than a decade ago, formed in 2005 in response to a competitive void that emerged in the U.S. equity markets. The NYSE and NASDAQ had acquired the first generation of efficient, technology-oriented exchange competitors, namely Archipelago, Inet (which reflected the merger of Instinet and Island), and Brut. In the face of this exchange duopoly, BATS stepped into the competitive void, launching as a small alternative trading system (“ATS”) from a north Kansas City storefront in January 2006. In January of this year, we merged with Direct Edge, an innovative exchange operator that was similarly formed in 2005 to enhance competition among markets.

BATS remains headquartered in the Kansas City area, and maintains offices in New York, New Jersey, and London. With approximately 300 employees globally, we compete vigorously every day in the U.S. and Europe to earn our customers’ business and trust. We have leveraged technology to significantly reduce execution costs for all investors and deliver innovative products and services to market participants.

I agree with the sentiments recently expressed by SEC Chair Mary Jo White, who said that our markets are “not broken, let alone rigged.”<sup>1</sup> Academic and empirical evidence overwhelmingly demonstrates that the automation of the market over the last decade or more has resulted in significant enhancements in market quality for long term investors, whether retail or institutional. But like Chair White and her fellow commissioners, I recognize that our markets are not perfect; indeed, the search for perfection is a never-ending quest. As exchanges, we are not only competing market centers, but also regulators and, therefore, approach these issues with utmost seriousness. Because of this, I am particularly grateful to be here today and have the opportunity to share my views.

---

<sup>1</sup> Mary Jo White, Chair, SEC, *Enhancing our Equity Market Structure* (speech given at Sandler O’Neill & Partners, L.P. Global Exchange and Brokerage Conference, New York, NY, June 5, 2014).

## **I. Background**

In 1975, Congress amended the Exchange Act of 1934 (“Act”) to adopt Section 11A, which was designed to facilitate the establishment of a national market system to link together the multiple individual markets that trade securities. Congress intended for the SEC to take advantage of opportunities created by advancements in technology to preserve and strengthen the securities markets. By leveraging technology, our national market system is designed to achieve the objectives of efficient, competitive, fair, and orderly markets that are in the public interest and protect investors.

In response to this Congressional mandate, the SEC has adopted various rules since 1975 to further the objectives of the national market system, including the order handling rules in 1997, Regulation ATS in 1998, decimalization in 2000, and Regulation NMS in 2005. Many of the innovative structural characteristics of our market owe their existence to Congress’ 1975 amendments to the Act, and subsequent SEC rulemaking in furtherance of those amendments.

Our national market system is premised on promoting fair competition among individual markets, while at the same time assuring that all of these markets are linked together in a unified system that promotes interaction among the orders of buyers and sellers. The national market system thereby incorporates two distinct types of competition – competition among individual markets and competition among individual orders – that together contribute to efficient markets. Vigorous competition among markets promotes more efficient and innovative trading services, while integrated competition among orders promotes more efficient pricing of individual stocks for all types of orders, large and small. Together, they produce markets that offer the greatest benefits for investors and listed companies.

In adopting Regulation NMS, the SEC stated that its primary challenge in facilitating the establishment of the national market system has been to maintain the appropriate balance between fostering competition between markets and fostering competition between orders; mandates that at times come into conflict. The SEC further stated that it attempted to avoid the extremes of: (1) isolated markets that trade securities without regard to trading in other markets, and (2) a totally centralized system that loses the benefits of vigorous competition and innovation among individual markets. The SEC navigated these extremes by allowing market competition, while at the same time fostering order competition through the adoption of the order protection rule, which prohibits markets from trading without regard to the prices posted on other markets.

As a result, today we have an equity marketplace that is widely considered to be the most liquid, transparent, efficient and competitive financial market in the world. Costs for long term investors, both institutional and retail, in the U.S. equity marketplace are among the lowest globally and these gains in market quality have been noted by academics, institutional buy-side

investors, and agency brokers:

- In April 2010, *Vanguard* noted that estimates of declining trading costs over the previous ten to fifteen years *ranged from a reduction of 35% to more than 60%* and stated that Vanguard’s own experience was in line with that range. Reduced trading costs, as Vanguard noted, flow directly as a “substantial benefit to investors in the form of higher returns.”<sup>2</sup>
- In June 2013, three economists, including former SEC Chief Economist Larry Harris, found a dramatic change in the spread for NYSE-listed and Nasdaq-listed stocks over the preceding twelve years. In particular, between 2001 and 2013, *the spread paid by investors had decreased from more than 6 cents to below 2 cents for NYSE-listed stocks and from above 5 cents to below 3 cents for Nasdaq-listed stocks.*<sup>3</sup>
- In April 2014, *Blackrock* noted the same positive trends in their assessment of market structure performance since 1998, stating that *bid-ask spreads have narrowed significantly* and that *institutional trading costs have declined and are among the lowest in the world.*<sup>4</sup>
- In June 2014, *ITG’s Global Cost Review Report* further confirmed the decline in institutional trading costs, noting that from Q3 2009 to Q4 2013, *implementation shortfall*<sup>5</sup> *costs decreased from roughly 45 basis points to 40 basis points.* (This decline followed a drop from 63 basis points in Q3 2003).<sup>6</sup>

Further, our market is able to handle volume and message traffic considered astronomical only a few decades ago, and the efficient operation of this market throughout the recent financial crisis and resulting volatility should serve as a reminder of the systemic risks that have been reduced as a result.

---

<sup>2</sup> See Letter from George Sauter, Managing Director and Chief Investment Officer, Vanguard Group, Inc. to Elizabeth M. Murphy, Secretary, Securities and Exchange Commission, dated April 21, 2010.

<sup>3</sup> See Angel, James J., Lawrence E. Harris and Chester S. Spatt, “Equity Trading in the 21<sup>st</sup> Century: An Update” (June 21, 2013), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1584026](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1584026).

<sup>4</sup> See BlackRock, “US Equity Market Structure: An Investor Perspective” (April 2014).

<sup>5</sup> ITS defines Implementation Shortfall cost as the difference, or slippage, between the arrival price and the execution price for a trade.

<sup>6</sup> See ITG, “Global Cost Review Q4/2013” (June 6, 2014), available at [http://itg.com/marketing/ITG\\_GlobalCostReview\\_Q42013\\_20140509.pdf](http://itg.com/marketing/ITG_GlobalCostReview_Q42013_20140509.pdf); see also Speech by Chair Mary Jo White: Enhancing Our Equity Market Structure (June 5, 2014)

Despite the overall high quality of our equity capital markets today, we must remain focused on identifying areas in which market quality and stability can be improved and regulators should consider responsible, data-driven regulatory action where appropriate. In this regard, we are encouraged by the SEC's plan for a continuous and comprehensive review of the state of our market structure, and we appreciate the Banking Committee's oversight. Such a review is timely because the aforementioned changes, particularly those following from the implementation of Regulation NMS in 2007, reflect a relatively recent and dramatic evolution in the manner in which securities trade.

We should always strive to improve market quality, but should act only when we can be sure to avoid disrupting or reversing the substantial improvements in market quality we have experienced. While it has been widely recognized that retail investors have benefited the most from improvements in market quality over the last decade, I also believe institutional investors have experienced measurable benefits in the form of the above-referenced reductions in implementation shortfall costs. That said, I recognize that institutional investors continue to face challenges in executing large orders with a minimum of market impact. To be sure, finding a "natural" investor or liquidity provider willing to take the opposite side of a well-informed institutional investor's order is a complex problem to solve regardless of market structure.

Policymakers looking to reform our equity market structure must be cognizant of the concern that enacting rules that tip the scales for or against particular market constituents runs the very real risk of negating benefits currently delivered by our equity markets. Therefore, we advocate for responsible and carefully crafted changes supported by reliable data and perhaps even tested through pilot programs of sufficient duration to obtain data that adequately demonstrates the impact of the change.

## **II. Speed of Today's Markets**

There has been much commentary of late regarding the speed at which our equity market operates, and the benefits and risks associated with that speed. It is certainly true that today's fully automated equity market is capable of processing order messages in time frames that were unthinkable a decade ago. These gains in speed (or reductions in latency) have been made possible by advances in the computer hardware and software that underpin the equity market structure, as well as innovations by industry participants.

The increasing speed at which equity trading occurs is but another dimension of how technology has improved the efficiency of our markets. Whether trading as an investor or acting as a market maker, time equals risk, and execution speed reduces that risk and the costs associated with it. This risk mitigation benefits all investors in the form of a lower risk premium, expressed as tighter spreads and lower overall transaction costs. Importantly, these benefits are

quantifiable; as noted above, the evidence shows a market that has experienced declining spreads for retail investors and declining implementation shortfall costs for institutional investors.

Long term investors are the primary beneficiaries of this risk mitigation through the narrowing of spreads. Both institutional and retail investors have access to tools that leverage the benefits of these improvements in speed. For example, institutional investors can and regularly do utilize trading algorithms programmed on brokers' servers co-located within market centers. And, retail investors accessing real-time market data can act on trading decisions from their brokers' websites and receive an execution report within a matter of seconds or even less, at a price at or better than the national best bid and offer ("NBBO") prevailing at the moment the trade was placed, and with a commission rate of less than \$10. This result is widely taken for granted today, but it was not that long ago when retail orders were processed much slower, with much less certainty of outcome, and at commission rates considerably higher than those today.

It is not readily apparent why regulators should be particularly concerned about the extent to which firms are willing to pay for tools that help them achieve increased speed. It stands to reason that if the marginal cost of gaining additional speed exceeds the marginal benefit, firms will decide not to spend the money seeking that gain. As a practical matter, it is worth noting that we are probably reaching that point now.

That said, there are risks and concerns associated with the speed of trading that warrant managing and addressing. Differentials in speed associated with the dissemination of market data may create perceptions of unfairness. Because of the flexibility of our national market system for market data, it is in many ways the fairest in the world. With side-by-side competition between a nationally consolidated feed and direct feeds from multiple exchanges, market participants pay only for the content and related infrastructure they actually need. Given that quote and trade information serve multiple needs ranging from real-time trading data to back-office reference information to news and information, providing multiple products through multiple sources meets the needs of market participants in a diverse, constructive, and efficient fashion.

Nonetheless, there remain perceptions that differences in content and speed of dissemination confer unwarranted advantages on select market participants. And perceptions affect investor confidence about the integrity of the markets, so I take them very seriously. While Rule 603 of Regulation NMS dictates that exchanges do not release market data to private recipients before disseminating that data to the public securities information processor ("SIP"), differences in content and downstream technologies can still create a perception of unfairness.

To address this perception issue most effectively, exchanges should continue to strive to make the dissemination of consolidated data through the SIPs as fast as possible, and should consider including aggregated depth-of-book data per exchange based on industry demands.

Perceptions of unfairness are also present with respect to the market data exchanges use in their matching engines and routing infrastructure to calculate the NBBO. Some have suggested that exchanges using the SIP data to calculate the NBBO provide unfair opportunities to sophisticated traders engaging in risk-free latency arbitrage. Exchanges historically have used SIP data to determine the NBBO with the changeover to direct feeds being a relatively recent phenomenon. While that change yields an optimization in the speed with which quotes can update, there are reasons why that optimization is not as significant at an exchange as the difference in the speed between the SIPs and direct feeds. Specifically, this is because exchanges accept intermarket sweep orders (“ISOs”), which can display on an exchange at a price from the SIP data that appears to lock another exchange’s quote. The ISO designation on an order tells the exchange that the sender has either sent an order to execute against the locking quote or that the sender has a faster view of the market and knows that the locking quote no longer exists. Therefore, when SIP data is augmented by ISOs, exchanges are able to update the quote in their matching engines nearly as fast as direct feeds update.

### **III. Conflicts of Interest**

Certain practices surrounding broker agency relationships, such as payment for order flow and soft dollar arrangements, as well as exchange fee structures create the potential for conflicts of interest; however, I believe these potential conflicts of interest can be and generally are managed by vigorous oversight within broker-dealers, and can be supplemented through additional transparency as well as oversight and enforcement by FINRA and the SEC. For example, I believe institutional investors could benefit from additional transparency about the ATSs to which their brokers route orders. I support the voluntary initiatives of some ATSs to make public their Form ATS, and additional steps could be considered to require ATSs to provide customers with their rules of operation, which would include order types, eligible participant and participant tiers, all forms of data feed products, and order-routing logic and eligible routing venues. With this information, institutional investors would be better positioned to determine which trading venues best meet their trading needs, and compare disparate broker product and service offerings.

Moreover, I support reviewing current SEC rules designed to provide transparency into execution quality and broker order routing practices. In particular, Rules 605 and 606 of Regulation NMS require execution venues to periodically publish certain aggregate data about execution quality and require brokers to publish periodic reports of the top ten trading venues to which customer orders were routed for execution over the period, including a discussion of any material relationships the broker has with each venue. Publication of this data has helped better inform investors about how their orders are handled.

Nonetheless, these rules were adopted nearly 15 years ago<sup>7</sup> and the market has evolved significantly enough to warrant re-examining whether additional transparency could be provided that would benefit investors. For example, advances in technology now permit significant market events to occur in millisecond time frames, and audit trails are granular enough to capture that activity. However, the current requirements of Rule 605 effectively allow a trading venue to measure the quality of a particular execution by reference to any national best bid or offer in effect within the one-second period that such order was executed. Given the frequency of quote updates in actively traded securities within any single second, compliance with this requirement may not in all cases provide adequate transparency into a particular venue's true execution quality. In addition, the scope of Rule 605 could be extended to cover broker-dealers, and not just market centers. Transparency could further be improved by amending Rule 606 to require disclosure about the routing of institutional orders, as well as a separate disclosure regarding the routing of marketable and non-marketable orders.

Some have suggested that exchange fee structures may be the source of unmanageable conflicts of interest associated with order routing decisions. The dominant exchange pricing mechanism over the last decade has been the so-called maker-taker model, which generally encourages liquidity makers to take the risk of exposing an order in the marketplace by paying them a small rebate, if and only when their order is executed. Under Regulation NMS, exchange fees to access – or “take” – liquidity are capped at 30 cents per 100 shares, which effectively serves as a cap on the rebate that can be paid to liquidity makers.

These rebates provide an effective incentive to encourage liquidity makers to post tight bid-offer spreads, which benefit all investors. I believe restricting incentives to provide liquidity could be counter-productive. Whether it is banning the current maker-taker fee structure, limiting payment for order flow generally, or other attempts to alter the fundamental economics of trading, price controls are a blunt instrument likely to cause disruptions and consequences that are unforeseeable and potentially detrimental to all types of investors. I am concerned that additional pricing restrictions could drive significantly more volume to dark venues or order types, make the compensation brokers receive for their liquidity far less transparent, and widen the displayed bid-ask spread in a manner that effectively taxes all investors. Efforts to avoid these potential consequences could lead to a set of regulations so complex that the root cause of future behaviors could never fully be known.

#### **IV. Venue Complexity – How Many Is Too Many?**

Competition and automation have combined to dramatically improve the market's trading infrastructure. The low commissions, diversity of products and ability to handle large order and trading volumes are a direct result of these forces. Regulation ATS and Regulation NMS

---

<sup>7</sup> Exchange Act Release No. 43590 (Nov. 17, 2000) (Rules 605 and 606 were originally adopted as Rules 11Ac1-5 and 11Ac1-6, respectively, under the Exchange Act).

provided a framework for this competition to thrive, and maintaining a system whereby new entrants can prove their value to the market is essential. At the same time, we need to reconsider where regulation may artificially subsidize competition or encourage complexity that does not address a market need.

In particular, all exchanges are given a significant competitive advantage regardless of their size by virtue of the order protection rule under Regulation NMS. While this was necessary in an era where legacy exchanges routinely ignored their competitors, current practices have reduced the need for regulatory protections of smaller venues. Recent events provide evidence that market forces ultimately can correct for venues that add only marginal value; the existing concentration of exchanges among scale providers – including BATS – means that in some cases the marginal operating cost for a “new” exchange is near zero. The cost and complexity of connectivity to a small venue for market participants, however, can be substantial.

Accordingly, Regulation NMS should be revised so that, until an exchange achieves greater than a de minimis level of market share, perhaps 1%, in any rolling three-month period:

- They should no longer be protected under the order protection rule; and
- They should not share in/receive any NMS plan market data revenue.

The combination of these two provisions would: (a) potentially reduce client costs in connecting to small exchanges, giving them the flexibility to route around them should they so choose, while still protecting displayed limit orders on all venues of meaningful size; and (b) take away market data revenue that may be the basis for the continued operation of marginal venues.

## **V. Order Type Complexity – Drivers and Solutions**

While I am sensitive to concerns about the complexity of our markets, the vast majority of market functionality exists because it meets the needs of a diverse group of market participants.<sup>8</sup> Functionality becomes counter-productive when it exists solely to address arcane or trivial requirements, rather than addressing important economic, operational or regulatory needs of market participants. This is especially true when the level of complexity is high in relation to the supposed benefits.

One such driver of excessive exchange complexity is rooted in an often-overlooked provision of Regulation NMS – the ban on locked markets. Price-sliding logic and other order types such as ISOs often stem directly from this discrete prohibition. Given that existing regulatory guidance already effectively prohibits locking a market for the sole purpose of avoiding or reducing fees, revisiting regulatory obligations in this regard could be a simple yet powerful way to materially reduce the complexity of exchange operations.

---

<sup>8</sup> See e.g. Gregg E. Berman, Associate Director, Division of Trading and Markets, SEC, *What Drives Complexity and Speed of our Markets* (speech given at the North American Trading Architecture Summit, New York, NY, April 15, 2014).



## **VI. Systemic Complexity – Strengthening Critical Infrastructure**

Technology has undoubtedly transformed our market for the better, but it has also created new challenges and risks. Even in a market with fewer exchanges and fewer order types, the risk of IT or operational malfunctions will remain. Since 2010, the SEC and the industry have worked constructively to improve coordination and systemic risk management, from the implementation of Limit Up/Limit Down execution price bands to the enactment of the Market Access Rule to the harmonization of the standards for clearly erroneous trades. Taken together, these initiatives represent significant progress with respect to enhancing market stability.

This progress is measurable. According to the Financial Information Forum, exchange system issues as measured by self-help declarations have dropped more than 80% since 2007 and 2008, the first years after Regulation NMS. In addition, the number of clearly erroneous executions across the industry has dropped dramatically over the last few years. For example, clearly erroneous events reported on the BATS BZX Exchange in 2014 is on pace to be approximately 66% lower than 2013 and 85% lower than the previous 5-year average.

Further mitigating operational risk requires continuous vigilance and a flexible framework. More can and needs to be done with respect to critical market infrastructure as a whole, and by the individual institutions that actively participate in the markets. In particular, a well vetted and properly scaled Regulation SCI should be finalized and adopted with respect to exchanges, SIPs and clearance and settlement facilities. While the SEC should work with these future Regulation SCI entities to refine its requirements in a manner that will achieve the best outcomes, completing this regulation should be prioritized. I am encouraged by Chair White's recent comments on her desire to finalize the proposal. This would strengthen market infrastructure truly deemed to be "critical" around industry best practices and help better manage the complexity that competition brings where it is needed.

## **VII. Conclusion**

While our current equity market structure is certainly not perfect, I believe that it is by far the fairest, most efficient and most liquid market in the world. And because it is a complex ecosystem, policymakers need to be mindful of the potential unintended consequences of sudden, significant changes. I fully support the SEC conducting a deliberate, data-driven study of the quality of our market structure and advocate for reforms where that analysis supports the likelihood for market quality improvement.

Thank you for the opportunity to appear before you today. I would be happy to answer any of your questions.