

Keynote Address at the Evolving Structure of the U.S. Treasury Market Conference, Federal Reserve Bank of New York: "Taking Stock of Treasury Market Regulation"

Chair Mary Jo White

Oct. 20, 2015

I am very pleased to participate in this important conference on the structure and regulation of the U.S. Treasury market, and want to acknowledge particularly the organizing efforts of the Department of Treasury and the Federal Reserve Bank of New York.

As one of five contributors to the report on the events of October 15th in the Treasury market,^[1] the SEC staff was very impressed with the truly collaborative and productive environment that characterized its preparation. The time is right to build on that collaboration and progress by assessing the changes that have occurred in the Treasury market and considering steps that could strengthen it.

Each of the several agencies participating in the October 15th Report rightly regards this undertaking as a shared regulatory obligation. Under existing laws, the Treasury Department has authority to write rules for transactions in government securities by government securities broker-dealers. The SEC, federal bank regulators, and FINRA, in consultation with the Treasury Department, are authorized to issue sales practices rules. The antifraud provisions of the federal securities laws apply to government securities broker-dealers, and enforcement and examination authority resides with the SEC, FINRA, and the appropriate bank regulator. And Treasury futures are regulated by the CFTC.

Since coming to the Commission, I have seen in a variety of contexts that, to be effective, regulations must continually be evaluated in light of current conditions. Past decisions, and the assumptions on which they often were based, must be tested in order to determine whether they still meet the intended objectives — in the case of the Commission, furthering our mission of protecting investors, maintaining market integrity, and promoting capital formation.

The October 15th Report catalogues some of the fundamental changes in recent years in the Treasury market that preceded that day's volatility. Many of these changes are quite familiar to equity market participants and regulators. They include the growth of high-speed electronic trading, with associated shifts in the nature of market participants and the ways that they both demand and supply liquidity. In the Treasury market, the events of October 15th sharply focused the attention of regulators and market participants on these developments and underscored the need to thoroughly understand all aspects of the market and to take steps as appropriate to optimize today's Treasury market structure.

What is happening in the Treasury market strongly resonates with our experience in the equity markets. For the U.S. equity markets, the Flash Crash on May 6, 2010 also highlighted significant market changes and was a catalyst for reform. Even before the Flash

Crash, the SEC was actively reviewing equity market structure, as it always is. In 2010, the agency published a release requesting comment on, among other things, the rise of automated markets and trading practices and their effects on market quality.^[2] The Flash Crash occurred just weeks after the comment period ended. The event helped crystallize the attention of both market participants and regulators on priority issues. It also led to a series of steps that strengthened equity market structure and regulation — which I will discuss further in a moment, as that experience and the SEC’s regulatory response may contain important insights for the Treasury market.

And while we have made significant enhancements, many of which I will describe, our ongoing evaluation of equity market structure continues. Last June, I laid out an ambitious plan for the SEC staff to develop additional rulemaking initiatives for the Commission to consider.^[3] Some, like new rules for operational integrity at key market participants and enhanced regulations for certain proprietary firms, have already been completed or proposed. But the plan also includes:

- Strengthening the risk controls for firms using trading algorithms;
- Developing standards to address the use of aggressive,^[4] destabilizing trading strategies by active proprietary traders in vulnerable market conditions;
- Addressing the regulatory status of active proprietary trading firms; and
- Enhancing the operational transparency of non-exchange trading platforms.

These initiatives and the SEC’s years of experience with electronic equity markets should be helpful in assessing certain aspects of the structure and regulation of today’s interdealer Treasury market for the most recently issued “on-the-run” Treasury securities. There are obvious similarities in the transformation from a manual to electronic market structure for both markets. But there are important differences as well, including the nature of the financial products themselves and the nature of market participants in the two markets.

We cannot therefore simply import a program of equity market regulation into the Treasury markets. Rather, equity market experience should be put to work to help take stock of Treasury market structure and regulation. In particular, we should ask two key questions. Is a particular issue identified in the equity market also present in the Treasury market? If so, should the issue be addressed in a similar manner as for equities or are there other approaches better suited to the particular nature of the Treasury market?

What I will do today is briefly touch on some of the key features of equity market regulation that may most usefully inform the consideration of enhanced regulation for the Treasury market.

Operational Integrity

First and foremost, we have learned through experience that operational integrity is an essential foundation of electronic markets. While individual market participants obviously have incentives to use high-quality systems, it also is true that problems with one participant’s systems can lead to market disruptions that can harm many other participants.

Updating regulations to require good practices by all significant market participants can help address these disruptive ripple effects. Such efforts also serve as an opportunity for the industry to work together to reach consensus on best practices and risk controls.

Given the core importance of operational integrity in electronic markets, the SEC has adopted a series of steps in this area for equities:

Prior to the Flash Crash, the SEC proposed its Market Access Rule, which it subsequently adopted in 2010.^[5] That important rule requires firms that either have market access themselves or provide market access to others to implement better controls to manage the financial, regulatory, operational, and other risks of such access. The SEC adopted another very important rule — Regulation Systems Compliance and Integrity (SCI) — last year to establish stricter requirements for the technology used by exchanges, other large trading platforms, clearing agencies, and information processors.^[6] More generally, we have worked with the exchanges and other regulators to strengthen the critical market infrastructure systems that have been identified as “single points of failure.”^[7]

A critical aspect of our current regulatory efforts with respect to operational integrity relates specifically to the overwhelming dominance of trading algorithms in today’s electronic markets. Last year, I called for improvements to firms’ risk management of algorithms and enhanced regulatory oversight over their use. In response, FINRA published a proposal this spring to require registration and qualification of associated persons involved in the design or development of algorithmic trading strategies.^[8] The SEC staff is also developing a recommendation that would enhance the Commission’s information on how firms design and use their algorithms. Similar efforts are underway in the derivatives markets regulated by the CFTC.

As the October 15th Report describes, risk controls at firms and trading venues in the U.S. Treasury market must be able to address the rapid growth of automation in that market. Operational integrity is certainly as important to the Treasury market as it is to the equity market. An important question we should thus consider in the working group is what additional controls may be required to help ensure that the Treasury market continues to function smoothly, and which market participants should be required to implement enhanced controls.

Volatility Moderators

Beyond operational integrity, another persistent concern about electronic markets is that they are vulnerable, or at least perceived by many to be vulnerable, to periods of excessive short-term — or “transitory” — price volatility. A few high-profile events, like the Flash Crash and October 15th, have contributed to this concern. But transitory volatility events occur on a daily basis among the more than 8,000 equities that trade on U.S. equity exchanges. While some such events are to be expected in a large, diversified market, a high-quality market structure should help minimize them.

It is important in analyzing volatility to first distinguish between transitory volatility and volatility associated with the arrival of new information that is relevant to pricing fundamentals. In fundamental volatility events, prices may move sharply to reflect the new information, but the price move generally does not reverse substantially before the close of

the trading day because its precipitator is some change in valuation. Such movements related to fundamentals are inherent in markets and all market participants should be aware that those risks are real before investing.

Transitory volatility events, on the other hand, are troubling precisely because the extreme price moves cannot be fully explained by fundamentals. Rather, an initial price move, usually establishing a new intraday high or low, is followed by an intraday reversal of a substantial part of the initial price move. Often, there is little or no new information that would explain either the initial price change or the reversal. Severe transitory volatility events can thus call into question the integrity and stability of a financial market.

As you would expect, given the persistent concerns about volatility in electronic markets, SEC staff has studied such events very closely. The most immediate cause is generally — and predictably — a very temporary imbalance in the demand for and supply of liquidity on electronic order books. These electronic order book systems dominate price discovery in most active financial markets, including equities and on-the-run Treasuries, and are capable of executing thousands of orders in a single second. The market participants that trade on electronic order books also use algorithms and other automated tools that are capable of submitting and cancelling orders with great speed and volume.

The speed with which orders can be generated, cancelled, and executed on electronic order books can lead to sudden imbalances in liquidity supply and demand. In particular, a surge in price-insensitive orders demanding liquidity on one side of the market — whether buys or sells — overwhelms the available supply of resting orders supplying liquidity on the contra side. This imbalance leads to an initial price move, which then substantially reverses as demand slackens, additional liquidity arrives, or a combination of both.

To address these liquidity imbalances and help moderate transitory volatility, the SEC and self-regulatory organizations have adopted a number of measures.

One is a circuit breaker. When prices move too far too fast, a circuit breaker triggers a relatively short pause in trading. In this respect, circuit breakers are primarily intended to address the supply side of the problem with temporary liquidity imbalances. Given that a surge of imbalanced demand likely has overwhelmed normal supplies of liquidity, the pause provides an opportunity for additional sources of liquidity to arrive that may have been outpaced by the speed of a price move. The goal is to facilitate a more balanced aggregation of liquidity supply and demand.

We currently have two types of circuit breakers in the U.S. equity markets. First, the Commission and the CFTC together oversee market-wide circuit breakers across the equities, options, and futures markets.^[9] These are first triggered when the S&P 500 Index moves seven percent away from the previous day's close. At that point, trading in all equities and equity-related derivatives is paused for fifteen minutes.

Second, circuit breakers for individual equities are set forth in what is known as the Limit-Up/Limit-Down Plan, which covers securities listed on national securities exchanges.^[10] For active equities, these velocity-based circuit breakers generally trigger a five-minute trading pause if a price moves five percent in less than five minutes. This volatility moderator has not been finalized — it operates on a pilot basis that is designed to provide robust data to

enable an evaluation of the effectiveness of the mechanism in different market conditions. Indeed, how the mechanism operated on August 24th, one of the most volatile trading days during the operation of the pilot, is providing quite useful data in our assessment.

To complement these circuit breakers, I have directed the SEC staff to develop another type of volatility moderator — an anti-disruptive trading rule — that would focus on the *demand* side of a liquidity imbalance. In particular, there is a need to consider how to address the concern that the use of aggressive, destabilizing trading strategies in vulnerable market conditions could be seriously exacerbating price volatility. A regulatory response needs to be carefully tailored to apply to active proprietary traders in short time periods when liquidity is most vulnerable and the risk of price disruption caused by aggressive short-term trading strategies is highest. Drafting such a rule is a complex task and requires grounding in solid empirical analysis, and the SEC staff is examining many volatility events in order to fashion quantitative metrics to appropriately calibrate their recommendation to the Commission.

The transitory volatility event in the Treasury market on October 15th appears to raise concerns similar to those that would be addressed by an anti-disruptive trading rule. As described in the October 15th Report, market conditions were vulnerable that day. Displayed liquidity had fallen dramatically for both cash and futures in the hour before the volatility event window from 9:33 to 9:45AM. At that point, a surge in aggressive buy orders drove prices higher in both cash and futures for six minutes. Consistent with volatility events in the equities markets, the cumulative net imbalance of aggressive orders was highly correlated with the initial price move.

The October 15th Report also found that nearly all of the large imbalance in aggressive buy orders was attributable to two types of firms — principal trading firms and bank-dealers. Both are professional traders, in contrast to retail traders and other types of investors that often are associated with surges in a price-insensitive demand for liquidity in equities. The Report also observed that the surge in aggressive demand by principal trading firms and bank-dealers appears to have increased, rather than reduced, their exposure to the market in the direction of the price moves. Such trading is troubling because it suggests a destabilizing short-term trading strategy during a period of market weakness. In this respect, the Treasury market activity appears analogous to the very type of activity we have observed in the equity markets, which should inform our regulatory response.

Intermediary Registration and Regulation

Improving operational integrity and imposing volatility moderators are measures that are chiefly designed to address issues raised by high-speed electronic markets. I want to turn now to a few more general features of equity market regulation that may help inform our assessment of potential issues and responses in the Treasury market.

One is registration and regulation of market intermediaries. In equities, there are two broad types of regulatory regimes for intermediaries — one for trading platforms and one for firms acting as brokers or dealers. Requiring registration is typically the basis for the application of a broad-based regulatory framework to a particular trading platform or firm.

In general, trading platforms provide facilities for bringing buyers and sellers together and executing trades. They may either register as exchanges or provide notice that they will operate as alternative trading systems, or ATs. Both perform similar market functions, but exchanges also act as self-regulatory organizations for their members, while FINRA performs the self-regulatory function for ATs.

At the time the SEC adopted the regulatory structure for ATs in 1998, it chose to exclude from that regulation trading platforms that trade solely in government securities. The SEC stated in its preamble to the final rules for ATs that it believed trading venues trading only government securities raise issues similar to those raised by trading venues trading equity and other debt securities. Nevertheless, the Commission decided to exclude trading venues for government securities from these rules because of the joint regulation of government securities broker-dealers by the Commission, U.S. Department of the Treasury, and federal banking regulators. As market conditions have evolved, this decision should be reassessed by all of these agencies.

Another important issue in today's equity markets is the extent to which ATs provide adequate public disclosure about their operations and subscribers. Registered exchanges are required, among many other things, to publicly disclose the material aspects of their operations. ATs, in contrast, currently file relatively limited information with the SEC, which is not publicly available. I have spoken before about my concerns here, and last year I asked SEC staff to develop a recommendation to expand publicly available information about AT operations, an initiative that I expect the Commission to act on in the near future. For the Treasury market, we should similarly consider the extent to which the primary trading platforms, which now account for substantially all of the trading in this interdealer market, provide sufficient useful information about their operations to market participants and regulators.

The other primary type of intermediary regulatory regime in the equity markets applies to firms acting as brokers or dealers. Such firms are required to register with the Commission as broker-dealers and also to become a member of a self-regulatory organization, such as FINRA. To strengthen regulatory oversight over active proprietary trading firms and the strategies they use, SEC staff is preparing a recommendation to clarify the broker-dealer status of any firms that may be unregistered.

As noted in the October 15th Report, bank-dealers represent between 30 to 40 percent of volume on trading platforms for cash Treasuries. They typically are engaged in client trading and are SEC-registered broker-dealers subject to a comprehensive regulatory regime, including the Market Access Rule, net capital requirements, and SEC examination of their books and records. They also are members of FINRA and would be subject to any FINRA rules establishing oversight over personnel involved in developing and supervising trading algorithms.

As also noted in the Report, however, principal trading firms represent between 51 and 58 percent of volume on trading platforms for cash Treasuries. These firms generally do not have clients as in a typical broker-dealer business model. Much of their cash Treasury volume occurs in entities that are not registered as government securities broker-dealers and that are not members of FINRA — although most have broker-dealer affiliates.

Regulators should seriously reevaluate the extent to which unregistered firms that represent such a large portion of cash Treasury volume need to be subject to an appropriate regulatory regime.

Public Price Transparency

Another core feature of the U.S. regulatory regime for equities is public price transparency on both a pre- and post-trade basis. Over the last decade, public post-trade transparency has also been extended to the corporate bond and municipal securities markets.^[11] Further work on pre-trade price transparency is also ongoing in both.

In the cash Treasury market, the primary trading platforms provide both pre-trade and post-trade transparency to their subscribers by distributing real-time quote and trade feeds. But, as noted in the October 15th Report, there currently is not even post-trade transparency to the public or to regulators in the significant dealer-to-customer segment of the cash Treasury market. Any review of Treasury market structure and regulation must address the important questions of whether post-trade transparency in this market segment would be beneficial and, if so, the most appropriate means to achieve this objective. My working assumption is that the answer to the first question is “yes,” with the hard work to follow on the “how best” to do it question.

Regulators’ Access to Data and Cooperation

The final feature of equities market regulation that I want to mention today is the access needs of regulators to trading data and cooperation among regulators in sharing that data. The message volume generated in active electronic markets is enormous. For regulators to understand market dynamics and exercise their market oversight function, they need access to this voluminous data in a way that facilitates analysis with automated tools.

To further this goal in the equity markets, the SEC has launched a Consolidated Audit Trail initiative, or CAT, which will result in a database of comprehensive and readily accessible data regarding orders and executions, along with trader identifications. An initiative of this size and scope has required a significant investment of time and resources and the close coordination among the Commission, FINRA, and the exchanges, and that work is ongoing. I am eager for progress on CAT to continue expeditiously.

In the Treasury market, too, comprehensive data sharing among different regulators and across many different trading venues will require time and resources, but it is essential for the success of all of our other efforts. We should, without doubt, carry forward the model of cooperative regulation that produced the October 15th Report in our assessment of Treasury market structure and regulation to address this and other critical issues. The forthcoming request for information Antonio Weiss talked about this morning and its focus on regulatory data assessment, public price transparency and relevant initiatives in other markets is an important next step.

Conclusion

Let me end by emphasizing that I have not reached any final conclusions on the optimal ways to update the regulatory regime for the Treasury market. Indeed, the productive discussions at this conference are part of a robust public debate that will help clarify many

questions and the course forward, as it has in our work in the equity markets. As that work highlights, it is essential that our collective regulation of this critical market keeps pace with the dramatic changes in the Treasury market to optimize its functioning. An efficient and stable Treasury market demands no less of all of us.

Thank you.

[1] Joint Staff Report: The U.S. Treasury Market on October 15, 2014 (July 13, 2015), available at http://www.treasury.gov/press-center/press-releases/Documents/Joint_Staff_Report_Treasury_10-15-2015.pdf.

[2] Securities Exchange Act Release No. 61358 (January 14, 2010), 75 FR 3594 (January 21, 2010).

[3] Chair Mary Jo White, "Enhancing Our Equity Market Structure," Sandler O'Neill & Partners, L.P. Global Exchange and Brokerage Conference, New York, NY (June 5, 2014).

[4] "Aggressive" refers to trading strategies that primarily employ orders that are priced to execute immediately against "passive," resting orders in an order book.

[5] Securities Exchange Act Release No. 63241 (November 3, 2010), 75 FR 69791 (November 15, 2010).

[6] Securities Exchange Act Release No. 73639 (November 19, 2014), 79 FR 72252 (December 5, 2014).

[7] These efforts were described in a FINRA news release: Self-Regulatory Organizations Response to SEC for Strengthening Critical Market Infrastructure (November 12, 2013).

[8] FINRA Regulatory Notice No. 15-06, Registration of Associated Persons Who Develop Algorithmic Trading Strategies (March 2015).

[9] The market-wide circuit breakers are described in SEC Press Release No. 2012-107, SEC Approves Proposals to Address Extraordinary Volatility in Individual Stocks and Broader Stock Market (June 1, 2012).

[10] Securities Exchange Act Release No. 67091 (May 31, 2012), 77 FR 33498 (June 6, 2012).

[11] The TRACE system operated by FINRA provides post-trade transparency for corporate fixed income products and the EMMA system operated by the MSRB provides the same for municipal securities.