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July 19, 2017

Brent J. Fields
Secretary
Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549-1090

Re: File Number 4-698
National Market System Plan Governing the Consolidated Audit Trail

Dear Mr. Fields:

In accordance with Section 6.11 of the National Market System Plan Governing the Consolidated Audit Trail (the "CAT NMS Plan" or "Plan"),¹ on May 15, 2017, the Operating Committee for CAT NMS, LLC provided the Securities and Exchange Commission with a document outlining how the Participants² could incorporate into the consolidated audit trail ("CAT") information with respect to equity securities that are not NMS Securities or OTC Equity Securities, including Primary Market Transactions in securities that are not NMS Securities or OTC Equity Securities and in debt securities (the "Expansion Report").³ The Participants determined to update the discussion of equity securities other than NMS Securities and OTC Equity securities that appears on pages 63 and 64 of the enclosed amended Expansion Report.

¹ The CAT NMS Plan is a national market system plan approved by the Commission pursuant to Section 11A of the Exchange Act and the rules and regulations thereunder. See Securities Exchange Act Release No. 79318 (Nov. 15, 2016), 81 Fed. Reg. (Nov. 23, 2016). The full text of the CAT NMS Plan is available at www.catnmsplan.com.


² The Participants to the CAT NMS Plan are Bats BYX Exchange, Inc., Bats BZX Exchange, Inc., Bats EDGA Exchange, Inc., Bats EDGX Exchange, Inc., BOX Options Exchange LLC, C2 Options Exchange, Incorporated, Chicago Board Options Exchange, Incorporated, Chicago Stock Exchange, Inc., Financial Industry Regulatory Authority, Inc., Investors' Exchange LLC, Miami International Securities Exchange, LLC, MIAX PEARL, LLC, NASDAQ BX, Inc., Nasdaq GEMX, LLC, Nasdaq ISE, LLC, Nasdaq MRX, LLC, NASDAQ PHLX LLC, The NASDAQ Stock Market LLC, NYSE National, Inc., New York Stock Exchange LLC, NYSE MKT LLC, and NYSE Arca, Inc.

³ See Letter from Michael Simon, CAT NMS Plan Chair, to Brent J. Fields, Secretary, SEC (May 15, 2017). Unless otherwise defined herein, capitalized terms are defined as set forth in the CAT NMS Plan.

Brent J. Fields
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Thank you for your attention to this matter. Please contact me at 212-229-2455 if you have any questions or comments.

Respectfully submitted,



Michael Simon
CAT NMS Plan Chair

cc (via email): The Hon. Jay Clayton, Chairman
The Hon. Michael S. Piwowar, Commissioner
The Hon. Kara M. Stein, Commissioner
Ms. Heather Seidel, Acting Director, Division of Trading and Markets
Mr. Gary L. Goldsholle, Deputy Director, Division of Trading and Markets
Mr. David S. Shillman, Associate Director, Division of Trading and Markets
Mr. David Hsu, Assistant Director, Division of Trading and Markets
CAT NMS Plan Participants

**DISCUSSION OF THE
POTENTIAL EXPANSION OF THE
CONSOLIDATED AUDIT TRAIL
PURSUANT TO
SECTION 6.11 OF THE CAT NMS PLAN**

PREPARED BY THE PARTICIPANTS TO THE CAT NMS PLAN

PREPARED MAY 15, 2017

(AMENDED JULY 19, 2017)

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On July 11, 2012, the Securities and Exchange Commission (“Commission”) adopted Rule 613 of Regulation NMS (“Rule 613”) under the Securities Exchange Act of 1934 (“Exchange Act” or “SEA”)¹ to require the national securities exchanges and national securities association to jointly submit a national market system plan to create, implement, and maintain a consolidated audit trail (“CAT”) and central repository.² On September 30, 2014, the national securities exchanges and the Financial Industry Regulatory Authority (“FINRA”), the sole national securities association (collectively, the “Participants”), filed the National Market System Plan Governing the Consolidated Audit Trail (“CAT NMS Plan”).³ The Commission unanimously approved the CAT NMS Plan, as amended by the Participants and modified by the Commission, and deemed it effective on November 15, 2016.⁴

Pursuant to Rule 613(i) and Section 6.11 of the CAT NMS Plan, the Participants are required to “jointly provide to the Commission within six months after effectiveness of the [CAT NMS Plan] a document outlining how [the Participants] could incorporate into the [CAT] information with respect to . . . debt securities, . . . and primary market transactions in debt securities, including details for each order and reportable event that may be required to be provided, which market participants may be required to provide the data, an implementation timeline, and a cost estimate” (“Expansion Document”). Specifically, Rule 613(i) requires the Expansion Document to address expanding the CAT to include:

¹ 17 C.F.R. § 242.613.

² Securities Exchange Act Release No. 67457 (July 18, 2012), 77 Fed. Reg. 45722, 45743 (Aug. 1, 2012) (“Rule 613 Adopting Release”).

³ A copy of the CAT NMS Plan as filed on September 30, 2014, is available at <https://www.sec.gov/divisions/marketreg/cat-nms-agreement.pdf>. The cover letter for the CAT NMS Plan is available at <https://www.sec.gov/divisions/marketreg/cat-nms-plan-letter.pdf>. The Participants submitted an Amended and Restated CAT NMS Plan in February 2015 and several subsequent amendments, available at <http://www.catnmsplan.com/catnmsplan/>.

⁴ Securities Exchange Act Release No. 79318 (Nov. 15, 2016), 81 Fed. Reg. 84696 (Nov. 23, 2016) (“Plan Adopting Release”).

1. Equity securities that are not NMS securities,⁵
2. Debt securities, and
3. Primary market transactions in NMS securities, equity securities that are not NMS securities and debt securities.

In addition, the Expansion Document must include the relevant details for each order and reportable event, identification of the market participants that would be providing the data, an implementation timeline, and a cost estimate for expanding the CAT.⁶

I. DEBT SECURITIES

A. Debt Securities Market Background

1. Scope of the Term “Debt Securities”

Section 6.11 of the CAT NMS Plan, which implements Rule 613(i), requires that the Expansion Document address the possible expansion of CAT to “debt securities.” Although there is no definition of the term “debt securities” in Rule 613, when proposing Rule 613, the Commission indicated that it intends that the CAT eventually would be expanded to include corporate bonds, asset-backed securities, municipal bonds, and other debt instruments.⁷

Debt securities are issued by many different entities, including the U.S. government, counties, cities, corporations, and financial institutions, as well as international bodies and can take the form of a number of different security types. Debt securities can vary based on factors such as issuer characteristics (e.g., federal government versus private corporations) and issue

⁵ The Participants, with industry support, included equity securities that are not NMS securities in the definition of “Eligible Securities” under Article 1 of the CAT NMS Plan. *See* SIFMA Industry Recommendations for the Creation of the Consolidated Audit Trail (CAT) at 70 (Mar. 28, 2013) available at <http://www.catnmsplan.com/Source/industryfeedback/p242319.pdf>, and discussions with the Development Advisory Group (DAG) on July 24, 2013.

⁶ Rule 613 Adopting Release, *supra* note 2, at 45743.

⁷ *See* Securities Exchange Act Release No. 62174 (May 26, 2010), 75 Fed. Reg. 32556, at 32569, 32587-88 (June 8, 2010).

characteristics (e.g., coupon rate, collateral, maturity), and trading practices in different types of debt securities can also vary (e.g., electronic trading versus voice messaging). Such differences can also lead to different clientele for the instruments. For example, while there is a lot of retail participation in the municipal securities market, mainly due to the tax advantage of interest income for some investors, the corporate bond market has a combination of retail and institutional investors, and securitized products are mainly traded by institutions.

There are also differences in regulatory reporting across debt securities. FINRA, the New York Stock Exchange (“NYSE”), and the Municipal Securities Rulemaking Board (“MSRB”)⁸ each already require reporting of certain information for debt securities. The MSRB’s rules govern the reporting of transactions in municipal securities.⁹ The NYSE’s rules govern the entry, display and execution of orders and the reporting of transactions in debt securities on the NYSE Bonds[®] system.¹⁰ FINRA rules govern the reporting of trades in most other types of debt securities. The debt securities currently reportable to FINRA’s Trade Reporting and Compliance Engine (“TRACE”) system include:¹¹

- Corporate Bonds: Corporate bonds are issued by individual companies to raise money for capital expenditures, operations, and acquisitions. There are many types of corporate

⁸ In 1975, Congress established the MSRB to regulate the activities of broker-dealers and banks that buy, sell and underwrite municipal securities.

⁹ *Infra* Section I.B.2

¹⁰ NYSE operates the NYSE Bonds[®] system. Trading in eligible bonds by NYSE members on the NYSE Bonds system is pursuant to NYSE Rules 86-88. FINRA Rule 6730(e)(4) exempts FINRA members from reporting to TRACE transactions in TRACE-Eligible Securities that are executed on a facility of NYSE in accordance with specified NYSE rules and that are reported to NYSE and disseminated publicly, provided that a data sharing agreement between FINRA and NYSE related to transactions covered by FINRA Rule 6730 remains in effect.

¹¹ On July 10, 2017, FINRA will begin requiring its members to report transactions in U.S. Treasury Securities (“Treasuries”). See FINRA *Regulatory Notice* 16-39; see also Securities Exchange Act Release No. 79116 (Oct. 18, 2016), 81 Fed. Reg. 73167 (Oct. 24, 2016) (Order Approving SR-FINRA-2016-027). The discussion of debt securities in this document does not include Treasuries.

bonds with various structures, coupon rates, maturity dates and credit quality, among other characteristics.¹²

- Asset-Backed Securities (“ABSs”): ABSs are certificates that represent an interest in a pool of assets such as credit card receivables, auto loans and leases, home equity loans, and even the future royalties of a musician. This class includes Mortgage-Backed Securities (“MBSs”).¹³
- Agency Debt Securities (“Agencies”): There are two types of Agencies: (1) bonds issued or guaranteed by U.S. federal government agencies; and (2) bonds issued by government-sponsored enterprises (“GSEs”)—corporations created by Congress to foster a public purpose, such as affordable housing. Bonds issued or guaranteed by federal agencies such as the Government National Mortgage Association (Ginnie Mae) are backed by the “full faith and credit of the U.S. government,” like Treasuries. This is an unconditional commitment to pay interest payments and to return the principal investment in full to the security holder when a debt security reaches maturity. Bonds issued by GSEs such as the Federal National Mortgage Association (Fannie Mae), the Federal Home Loan Mortgage (Freddie Mac), and the Federal Agricultural Mortgage Corporation (Farmer Mac) are not backed by the same guarantee as federal government agencies.¹⁴
- Collateralized Mortgage Obligations (“CMOs”): CMOs are debt securities that are backed by mortgage loans or assets derived from MBSs, including Real Estate Mortgage Investment Conduit (“REMICs”).¹⁵

¹² See Types of Bonds, available at <http://www.finra.org/investors/types-bonds>.

¹³ See *id.*

¹⁴ See *id.*

¹⁵ See FINRA Rule 6710(dd).

- Small Business Administration (“SBA”) Backed ABS: An SBA-Backed ABS is a debt instrument issued by a program of the SBA for which the timely payment of principal and interest is guaranteed by the SBA. An SBA-Backed ABS represents an ownership interest in a pool or pools of loans or debentures and structured to “pass through” the principal and interest payment made by the borrowers in such loans or debentures to the holders of the security on a pro rata basis.¹⁶

In addition to FINRA’s TRACE reporting requirements, the MSRB requires reports of transactions in municipal securities, which are debt securities issued by states, cities, counties and other state or local governmental entities to raise money to fund public projects. Most municipal debt pays a specified amount of interest (usually semiannually) and returns the principal to the security holder on a specific maturity date.¹⁷ Because the MSRB is not a Participant in the CAT NMS Plan, it did not participate in preparation of the Expansion Document, and since the MSRB has specific jurisdiction over municipal securities, the Participants recommend that the MSRB be consulted before any analysis regarding the potential expansion of the CAT to municipal securities is undertaken.¹⁸ Thus, although some concepts discussed in the Expansion Document may be relevant to municipal securities, it is generally focused on debt securities that are reportable to TRACE or the NYSE as of the date of the Expansion Document.

2. Debt Markets v. Equity Markets

The U.S. debt markets and equity markets are vastly different in most material respects. As noted above, the markets vary significantly in types of issuers, issue characteristics, trading,

¹⁶ See FINRA Rule 6710(bb).

¹⁷ See Types of Bonds, available at <http://www.finra.org/investors/types-bonds>.

¹⁸ See 15 USC § 78o-4(b).

and regulatory regimes such as the level of market transparency on both a pre- and post-trade basis. All of these differences would influence how expanding the CAT to include reporting for debt securities could be efficiently and effectively achieved. Below, we describe some of the key characteristics of the government and corporate debt markets.

First, the U.S. debt market is significantly larger than the equities market in terms of both the number of outstanding securities and the amount of capital raised; however, the size of the U.S. debt market is heavily influenced by U.S. Treasury securities.¹⁹ Second, there are significantly more issuances of debt securities as compared with equity securities. Many public companies may have only one class of stock, but can issue numerous types of bonds with different yields, maturities, and denominations.²⁰ For example General Electric has only one class of stock, but it has issued over 1,000 unique bonds.²¹ In addition, daily trading volumes are significantly different for equities than for debt, with the number of trades in equity securities far surpassing trades in debt securities.

The following charts highlight some of the more significant differences between the debt markets and the equity markets. Chart 1 compares the monthly value of new issue corporate bonds and public corporate stocks in the United States from January 2015 to January 2017.²²

¹⁹ For example, at the end of 2016, there was approximately \$39.4 trillion in outstanding U.S. bond market debt. Of that total, over one-third (approximately \$13.9 trillion) was issued by the U.S. Treasury and another \$3.8 trillion represented municipal securities. See U.S. Bond Market Issuance and Outstanding, available at www.sifma.org/research/statistics.aspx.

²⁰ Kurt Shrout, "The U.S. Bond Market May Be Much Different Than You Think It Is," LearnBonds, May 30, 2013. Accessed December 18, 2014, available at: <http://www.learnbonds.com/how-big-is-the-bond-market>.

²¹ *Id.*

²² Data was compiled from Federal Reserve data available at <https://www.federalreserve.gov/data.htm>.

Chart 1: U.S. Corporations New Securities Issues (\$ mil)

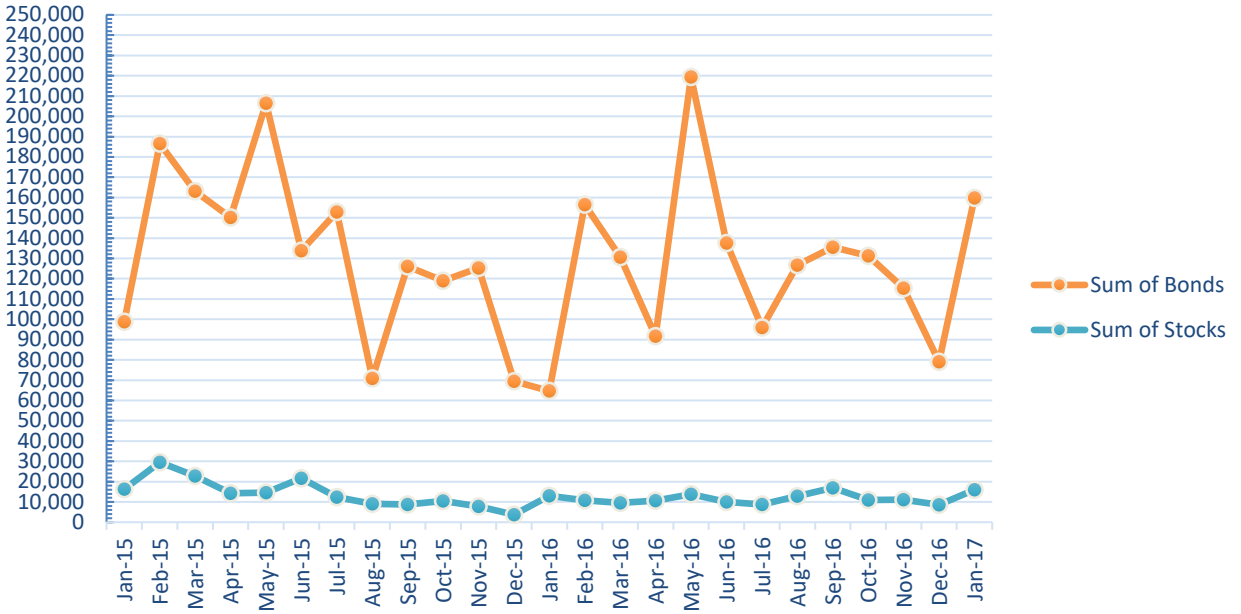
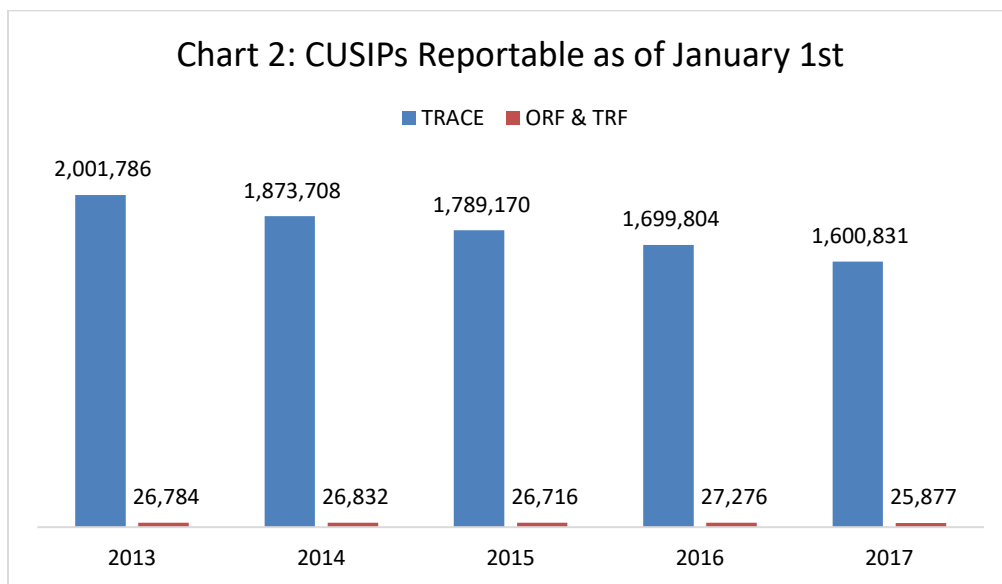


Chart 2 demonstrates the number of issues in the U.S. debt and equities markets by charting the number of unique CUSIPs reportable to a FINRA facility as of the beginning of the calendar year for each of the last five years.²³ As the chart makes clear, there are significantly more CUSIPs for debt securities than for equity securities.²⁴



²³ For reporting purposes, FINRA maintains CUSIP information for trades reportable to the Over-the-Counter Reporting Facility (ORF) and FINRA’s Trade Reporting Facilities (TRFs). The ORF is the service provided by FINRA for the reporting of trades in OTC Equity Securities executed other than on or through an exchange and for trades in Restricted Equity Securities effected under Securities Act Rule 144A and dissemination of last sale reports. Each FINRA TRF provides FINRA members with a mechanism for the reporting of transactions effected otherwise than on an exchange. Trades by FINRA members in exchange-listed securities executed otherwise than on an exchange may be reported to a FINRA TRF.

²⁴ From January 2015 through March 2017, there were 52,530 requests for CUSIPs for U.S. corporate or municipal bonds and 22,176 requests for CUSIPs for U.S. equities. Data compiled from CUSIP Issuance Trends available at <https://www.cusip.com/cusip/insights.htm>.

Chart 3 displays the average daily trading volume for U.S. corporate debt, all TRACE reported debt, and exchange-listed equity securities for each month from January 2016 to March 2017.²⁵ As the chart makes clear, in any given month the trading volume on equities exchanges is generally over five times that in U.S. corporate debt. However, when compared with all TRACE reported debt, the notional volume of transactions in U.S. debt and exchange-listed equity securities is relatively similar due to the high notional volume of transactions in Agency MBSs.

²⁵ Data consolidated from SIFMA statistics available at <http://www.sifma.org/research/statistics.aspx>. TRACE reported debt information includes Agency MBS, Non-Agency MBS, ABS, Corporate Debt and Federal Agency Securities. Equity securities include NYSE, NASDAQ, BATS, Direct Edge, Other and Off-Exchange.

Chart 3: U.S. Average Daily Trading Volume
USD Billions

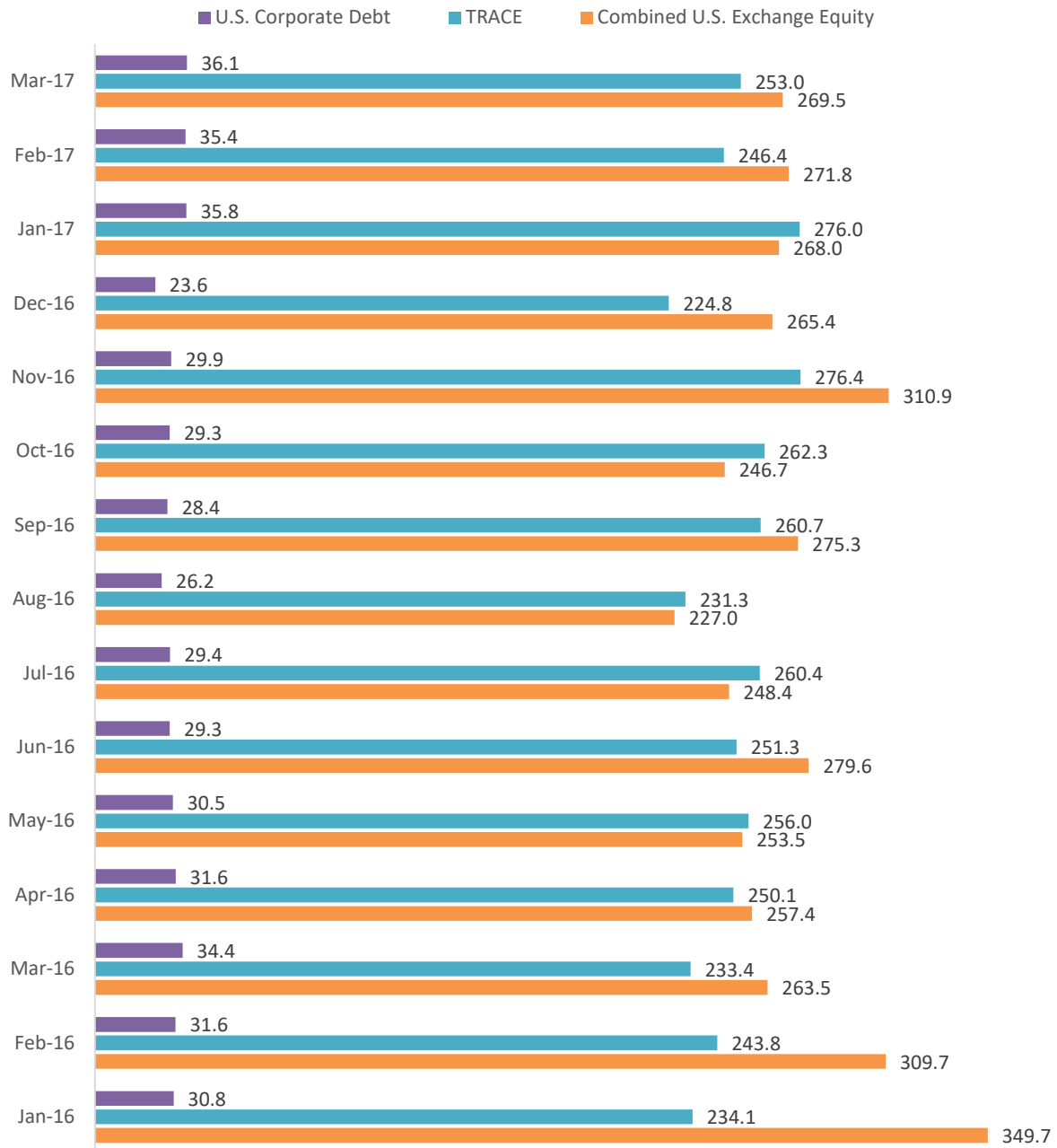
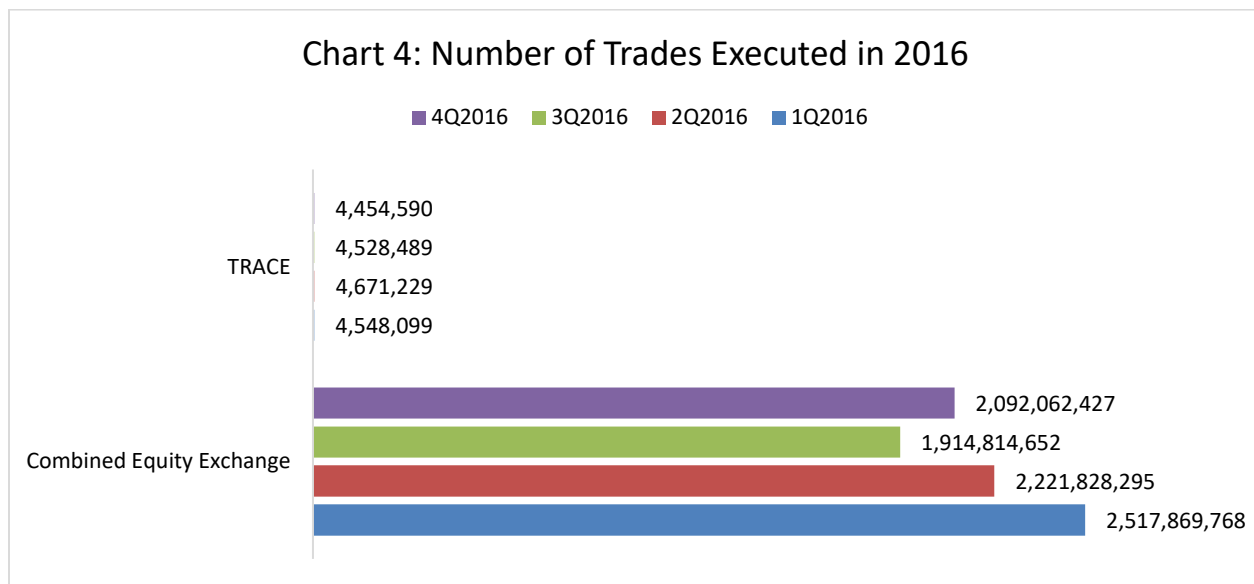


Chart 4 shows the combined equity trades on exchanges compared to the TRACE reported trades during each quarter of 2016.²⁶ Despite the fact that there are substantially more bonds in the market and more new bond issuances, the volume of equity trades is higher, and there are significantly more equity transactions on a daily basis than bond transactions. While exchanges had in excess of 1.5 billion trades each quarter, with one quarter over 2.5 billion, TRACE averages only 4.5 million reported trades per quarter.



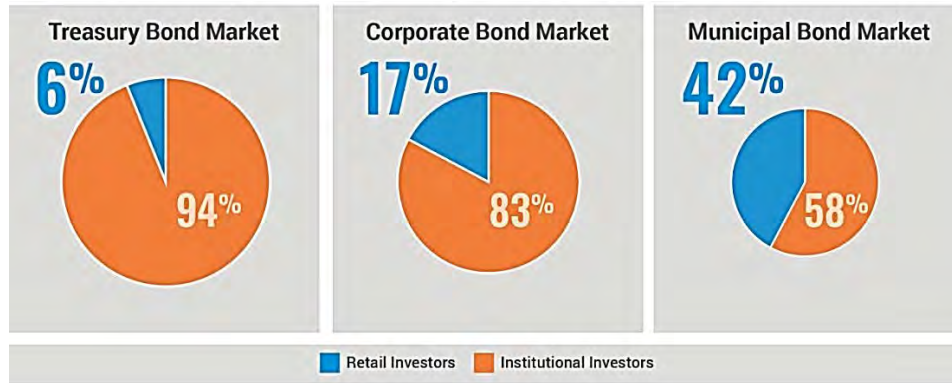
Another major difference between the bond and equity markets is the size of the trades. The dollar value of bond transactions typically is greater than stock transactions. The average size of a bond trade exceeds \$500,000 whereas the average stock trade is less than \$10,000.²⁷ These large transaction sizes are the result of a substantial portion of transactions by institutional

²⁶ Information for Chart 4 was compiled from https://www.bats.com/us/equities/market_statistics/historical_market_volume/ (equity transactions) and <http://www.finra.org/industry/trace/trace-fact-book> (TRACE corporate transactions).

²⁷ *Supra* note 20.

investors in the debt markets as compared to the equity markets.²⁸ Chart 5 uses Federal Reserve financial sector data to chart retail investors in different bond types.

Chart 5: Presence of Retail Investors in the Bond Market²⁹



In general, the debt markets have a much higher proportion of institutional market participants than in the equity markets, in which retail investor participation is substantially higher.³⁰ However, for purposes of Chart 5, institutional investors include mutual funds, pension funds, insurance companies, and endowments. When these forms of indirect ownership are factored in, 49% of U.S. households are invested in bonds.³¹

Two other major differences between the debt and equity markets are related. Due to the vast number and variety of debt securities outstanding, most individual debt securities trade much less often than a typical stock, particularly listed stocks. For an equity security that is listed on an exchange, there is an active market for the stock, and, consequently, it is easy to

²⁸ *Id.*

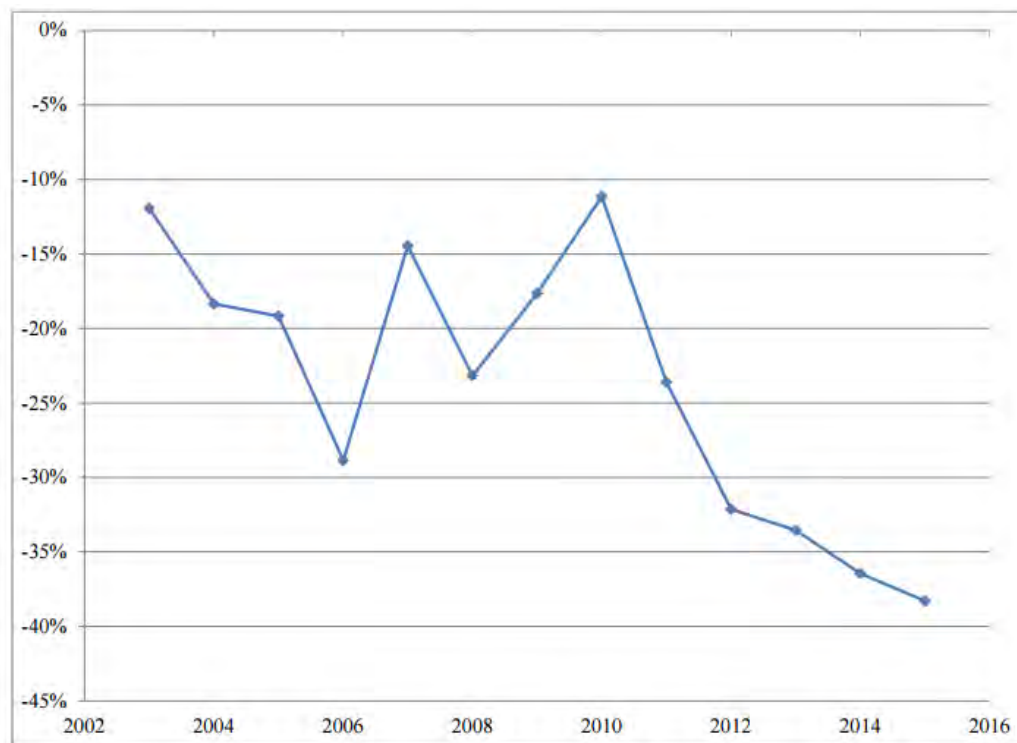
²⁹ *Supra* note 20. This chart displays corporate bond market data excluding non-financial sector debt obtained from the Federal Reserve at <https://www.federalreserve.gov/apps/fof/FOFTables.aspx>.

³⁰ *Supra* note 20.

³¹ See United States, Board of Governors of the Federal Reserve System, “Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances,” Table 3, Federal Reserve Bulletin, September 2014, Vol. 100, No. 4. Accessed February 17, 2016. Available at: <http://www.federalreserve.gov/econresdata/scf/scfindex.htm>.

obtain a current price for any particular listed stock. However, bonds and other debt securities tend to actively trade during the period after their initial issue, but, thereafter, trading in a particular debt security may not occur for months or even years.

Chart 6: Trading Volume Reduction in Corporate Debt 90 Days After Issuance³²



Because of the relative lack of liquidity in the debt markets compared to the equity markets, there is significantly less pre-trade price transparency for most debt securities compared to equity securities. In addition, because of the relative lack of trading activity in the debt markets compared to the equity markets, it is significantly less difficult to link specific orders in debt securities to resultant trades. For example, an order in an equity security may be split into numerous child orders (or numerous orders can be aggregated into a larger order). By requiring

³² This chart displays the reduction in corporate bond trading in the secondary market 90 days after the issuance. See Bruce Mizrach, “Analysis of Corporate Bond Liquidity,” FINRA Office of the Chief Economist Research Note, December 2015 (“FINRA Study”), available at http://www.finra.org/sites/default/files/OCE_researchnote_liquidity_2015_12.pdf.

that the parent order and each child order be linked, the equity order audit trail provides insight into these relationships that otherwise would be difficult to ascertain.

Along with these fundamental differences in the character of equity versus debt securities, the manner in which orders are handled in the two markets—and even what constitutes an “order”—and how trades are executed, differ substantially. In the debt market, it is common for an investor to contact his or her broker to purchase a bond with certain characteristics (e.g., a specific yield, credit rating or maturity) rather than a particular security, and the broker will reach out to other bond brokers and assess what debt securities that meet those criteria are available. Based on this information, the broker generally provides the investor with options, and the investor can choose a particular debt security to purchase when presented with the options. FINRA requires its members to submit trade reports to TRACE and disseminates some of this information; however, this information is limited to post-trade transparency and is subject to other limitations, such as volume thresholds. By contrast, exchanged-listed stocks always have pre-trade bid and offer prices available, often on multiple trading centers.

Finally, unlike most equity securities, most debt securities are traded over-the counter (“OTC”) rather than on an exchange. In 2017, approximately 10,000 of the approximately 61,500 corporate bonds outstanding—approximately 16%—were reportable to NYSE’s bond trading platform, which is the largest centralized corporate bond exchange in the U.S..³³ The vast majority of transactions in debt securities are executed through informal networks of bond dealers in the OTC market. Further, while there has been significant growth in electronic trading

³³ As of 2017, NYSE Bonds had 10,007 corporate debt securities reportable to its system and TRACE had 61,522 corporate debt securities. In 2016, the average number of corporate debt securities transactions reported to TRACE was approximately 54,600 per day and on NYSE Bonds it was 20 per day.

venues for bonds in recent years—the number of corporate bond transactions occurring on ATSS has grown to approximately 20%—much of the activity in this space occurs as a Request for Quote (“RFQ”) or similar format where the terms of a trade are negotiated bilaterally.³⁴

B. Current Audit Trail Requirements for Debt Securities

1. TRACE Reporting Requirements

a. Debt Securities Reportable to TRACE and Reporting Timeframes

Pursuant to the FINRA Rule 6700 Series (“TRACE Rules”), broker-dealers that are FINRA members generally are required to report executed transactions in TRACE-Eligible Securities³⁵ to FINRA through the TRACE system, unless an exception or exemption applies.³⁶ FINRA uses the information reported to TRACE for regulatory purposes and disseminates certain transaction information publicly. “TRACE-Eligible Security” includes corporate bonds,

³⁴ See Securities Industry and Financial Markets Association, “SIFMA Electronic Bond Trading Report: US Corporate & Municipal Securities,” February 2016 (“SIFMA Report”), available at <http://www.sifma.org/issues/item.aspx?id=8589958906>.

³⁵ FINRA Rule 6710 provides that “TRACE-Eligible Security” means a debt security that is United States (“U.S.”) dollar-denominated and issued by a U.S. or foreign private issuer, and, if a “restricted security” as defined in Securities Act Rule 144(a)(3), sold pursuant to Securities Act Rule 144A; or is a debt security that is U.S. dollar-denominated and issued or guaranteed by an agency or a Government-Sponsored Enterprise (“GSE”). FINRA Rule 6710 also provides that “TRACE-Eligible Security” does not include a debt security that is issued by a foreign sovereign, or a U.S. Treasury Security, or a money market instrument. Effective July 10, 2017, the definition of “TRACE-Eligible Security” will be expanded to include U.S. Treasury Securities. However, as discussed herein, “TRACE-Eligible Security” refers to the definition prior to July 10, 2017, and does not include Treasuries. See *supra* note 11.

³⁶ See also Section I.B.1.c. (Transactions Excepted or Exempt from TRACE).

Agencies³⁷ and Securitized Product³⁸ (“SP”) sub-types. SPs include ABSs,³⁹ Agency Pass-Through Mortgage-Backed Securities,⁴⁰ SBA-Backed ABSs,⁴¹ and any other SP.

FINRA Rule 6730 prescribes the period of time within which a reportable transaction in a TRACE-Eligible Security must be reported to TRACE: (1) corporates, agencies, ABSs, and Agency Pass-Through Mortgage-Backed Securities traded TBA for good delivery generally must be reported within 15 minutes of execution of the transaction; (2) Agency Pass-Through Mortgage-Backed Securities traded TBA not for good delivery, SBA-Backed ABSs traded TBA or in Specified Pool Transactions, and CMOs executed on or after issuance generally must be

³⁷ FINRA Rule 6710 generally provides that “Agency Debt Security” means a debt security (i) issued or guaranteed by an agency; or (ii) issued or guaranteed by a GSE. The term excludes a U.S. Treasury Security and a Securitized Product (“SP”), where an agency or a GSE is the securitizer or the guarantor of the SP.

³⁸ FINRA Rule 6710 generally provides that “Securitized Product” means a security collateralized by any type of financial asset, such as a loan, a lease, a mortgage, or a secured or unsecured receivable, and includes but is not limited to an asset-backed security as defined in Section 3(a)(79)(A) of the SEA, a synthetic asset-backed security, and any residual tranche or interest.

³⁹ FINRA Rule 6710 generally defines ABS as a type of SP where the ABS is collateralized by any type of financial asset, such as a consumer or student loan, a lease, or a secured or unsecured receivable, and excludes: (i) an SP that is backed by residential or commercial mortgage loans, mortgage-backed securities, or other financial assets derivative of mortgage-backed securities; (ii) an SBA-Backed ABS traded To Be Announced (“TBA”) or in a Specified Pool Transaction; and (iii) a collateralized debt obligation.

FINRA Rule 6710 generally provides that “To Be Announced” means a transaction in an Agency Pass-Through Mortgage-Backed Security or an SBA-Backed ABS where the parties agree that the seller will deliver to the buyer a pool of a specified face amount and meeting certain other criteria but the specific pool to be delivered at settlement is not specified at the time of execution, and includes TBA transactions “for good delivery” and TBA transactions “not for good delivery.”

FINRA Rule 6710 generally provides that “Specified Pool Transaction” means a transaction in an Agency Pass-Through Mortgage-Backed Security or an SBA-Backed ABS requiring the delivery at settlement of a pool that is identified by a unique pool identification number at the time of execution.

⁴⁰ Agency Pass-Through Mortgage-Backed Securities may be traded TBA for good delivery, TBA not for good delivery, or in Specified Pool Transactions. FINRA Rule 6710 generally provides that “Agency Pass-Through Mortgage-Backed Security” means a type of SP issued in conformity with a program of an agency or GSE, for which timely payment (principal and interest) is guaranteed by the agency or GSE representing ownership interest in a pool of mortgage loans structured to “pass through” payments to holders of the security on a pro rata basis.

⁴¹ FINRA Rule 6710 generally provides that “SBA-Backed ABS” means an SP issued in conformity with a program of the Small Business Administration (“SBA”), for which the timely payment of principal and interest is guaranteed by the SBA, representing ownership interest in a pool of loans or debentures and structured to “pass through” payments by borrowers to the holders of the security on a pro rata basis.

reported within 60 minutes of the time of execution of the transaction;⁴² and (3) other SPs generally must be reported by the end of the day of execution.

Type of Security		General TRACE Reporting Timeframes
Corporates		
	Corporate Bonds	Within 15 minutes of time of execution
	Agencies	Within 15 minutes of time of execution
Securitized Products		
	Asset-Backed Securities	Within 15 minutes of time of execution
	Agency Pass-Through MBS Traded TBA For Good Delivery	Within 15 minutes of time of execution
	Agency Pass-Through MBS Traded TBA Not For Good Delivery	Within 60 minutes of time of execution
	SBA-Backed ABS Traded TBA or in Specified Pool Transactions	Within 60 minutes of time of execution

⁴² Transactions in SPs that are CMOs executed before the issuance of the security must be reported no later than the first settlement date of the security. See FINRA Rule 6730(a)(3)(C).

Agency Pass-Through MBS Traded in Specified Pool Transactions	Within 60 minutes of time of execution
Collateralized Mortgage Obligation Transactions On or After Issuance	Within 60 minutes of time of execution
Other Securitized Products	Same day reporting during TRACE system hours

TRACE reporting timeframes differ for primary market transactions, specifically, for transactions that meet the definition of “List or Fixed Offering Price Transaction” or “Takedown Transaction.”⁴³ The TRACE Rules provide that transactions that meet either of these two definitions be reported by no later than the next business day during TRACE system hours. TRACE trade reporting obligations, however, generally do not include any primary market transaction that is a sale from an issuer to an underwriter or initial purchaser as part of an offering.⁴⁴

b. Information Reported to TRACE

Each FINRA member that is a party to a reportable transaction in a TRACE-Eligible Security generally is required to report the transaction to TRACE, and FINRA Rule 6730(c) (Transaction Information To Be Reported) sets forth the items of information required to be

⁴³ FINRA Rule 6710 generally provides that a “List or Fixed Offering Price Transaction” is a primary market sale transaction sold on the first day of trading of a security, including an ABS but excluding any other SP: (i) by a sole underwriter, syndicate manager, syndicate member or selling group member at the published or stated list or fixed offering price, or (ii) in the case of a primary market sale transaction effected pursuant to Securities Act Rule 144A, by an initial purchaser, syndicate manager, syndicate member or selling group member at the published or stated fixed offering price.

⁴⁴ FINRA Rule 6710 provides that a “Reportable TRACE Transaction” is “any transaction in a TRACE-Eligible Security except: (1) a transaction that is not reported as specified in Rule 6730(e); and (2) a sale from an issuer to an underwriter(s) or initial purchaser(s) as part of an offering, except a sale of an Agency Pass-Through Mortgage-Backed Security as defined in [Rule 6710] paragraph (v) from a Securitizer as defined in paragraph (s) to any purchaser.”

reported to TRACE in connection with the execution of a transaction in a TRACE-Eligible Security. Importantly, the TRACE reporting requirements apply only to transactions; any activity prior to execution is not required to be reported. Each TRACE trade report generally must include the following information:

- CUSIP number, similar numeric identifier, or FINRA symbol;
- Size (volume) of the transaction;
- Price of the transaction (or the elements necessary to calculate price, which are contract amount and accrued interest);
- Buy or Sell;
- Date of Trade Execution (“as/of” trades only);
- Contra-party’s identifier (MPID, customer, or a non-member affiliate, as applicable);
- Principal or Agent;
- Time of Execution;
- Reporting side executing broker as “give-up” (if any);
- Contra side Introducing Broker in case of “give-up” trade;
- Commission (total dollar amount), if applicable;
- Date of settlement;
- If the member is reporting a transaction that occurred on an alternative trading system (“ATS”) pursuant to Rule 6732, the ATS’s separate MPID obtained in compliance with Rule 6720(c); and
- Modifiers, as applicable.

c. Transactions Excepted or Exempt from TRACE

The TRACE Rules except or exempt certain transactions and transfers of securities from trade reporting. FINRA Rule 6730(e) (Reporting Requirements for Certain Transactions and Transfers of Securities) generally provides that the following types of transactions not be reported:

- Transfers of TRACE-Eligible Securities for the sole purpose of creating or redeeming an instrument that evidences ownership of or otherwise tracks the underlying securities transferred (e.g., an exchange-traded fund);
- Transactions resulting from the exercise or settlement of an option or a similar instrument, or the termination or settlement of a credit default swap, other type of swap, or a similar instrument;
- Certain transfers of securities made pursuant to an asset purchase agreement in connection with a bankruptcy (subject to conditions);
- Transactions where the buyer and the seller have agreed to trade at a price substantially unrelated to the current market for the TRACE-Eligible Security (e.g., to allow the seller to make a gift); and
- Transactions in TRACE-Eligible Securities that are listed on a national securities exchange, when such transactions are executed on and reported to the exchange and the transaction information is disseminated publicly, and certain transactions in TRACE-Eligible Securities that are executed on a facility of NYSE and reported to NYSE and disseminated publicly by NYSE (subject to conditions).

In addition to the exceptions provided in FINRA Rule 6730(e), exemptions from TRACE reporting may, on a case-by-case basis, be granted to an ATS under FINRA Rule 6731

(Exemption from Trade Reporting Obligation for Certain Alternative Trading Systems) or FINRA Rule 6732 (Exemption from Trade Reporting Obligation for Certain Transactions on an Alternative Trading System). Where an ATS receives an exemption under FINRA Rule 6731 or 6732, it is not required to report some or all transactions to TRACE, as provided for in each rule. However, FINRA continues to receive transaction information on exempt ATS transactions from the other parties to the transaction on the ATS (who report their role in the trades to TRACE), as well as directly from the ATS outside of the TRACE system.

2. MSRB Reporting Requirements for Municipal Securities

As noted above, the MSRB is not a Participant, and the following discussion therefore describes the Participants' understanding of MSRB requirements and MSRB transparency systems.

a. Securities Reportable to RTRS

MSRB Rule G-14 requires a broker, dealer or municipal securities dealer to report information about each transaction effected in a municipal security⁴⁵ to the MSRB's Real-time Transaction Reporting System ("RTRS"). The MSRB collects the information to provide reported prices for transparency purposes and to compile an audit trail for regulatory purposes.

Municipal securities required to be reported to RTRS include four municipal security sub-types – fixed rate and zero coupon securities, commercial paper, variable rate demand

⁴⁵ Municipal securities are included in the definition of "exempted securities" under Exchange Act Section 3(a)(12)(A)(ii), except with respect to Exchange Act Sections 15 and 17A, and are defined in Section 3(a)(29) as "securities which are direct obligations of, or obligations guaranteed as to principal or interest by, a State or any political subdivision thereof, or any agency or instrumentality of a State or any political subdivision thereof, or any municipal corporate instrumentality of one or more States, or any security which is an industrial development bond (as defined in section 103(c)(2) of the Internal Revenue Code of 1954) the interest on which is excludable from gross income under section 103(a)(1) of such Code if, by reason of the application of paragraph (4) or (6) of section 103(c) of such Code (determined as if paragraphs (4)(A), (5), and (7) were not included in such section 103(c)), paragraph (1) of such section 103(c) does not apply to such security."

obligations, and auction rate securities. MSRB rules generally require that these securities be reported to RTRS as follows:

Type of Security	General Reporting Timeframe
Fixed Rate/Zero Coupon	Within 15 minutes of time of execution
Commercial Paper	End-of-Day
Variable Rate Demand Obligation	End-of-Day
Auction Rate Securities	End-of-Day

MSRB also provides for specific reporting timeframes for particular transaction types.

Type of Transaction	General Reporting Timeframe
Away from Market	End-of-Day
Inter-Dealer Variable Rate Demand Obligation ineligible on trade date	End of day on which the trade becomes eligible for automated comparison
Inter-Dealer resubmission of an RTTM cancel	Resubmit identical trade information by the end of day following the day the trade was cancelled

b. Information Reported to RTRS

RTRS collects transaction information for customer and inter-dealer transactions effected in municipal securities. Inter-Dealer Regulatory-Only (IDRO) transactions, which involve instances when an introducing broker effects a trade for a customer against the principal position of its clearing broker, are also reportable to RTRS. For inter-dealer transactions, firms must compare and match their trades through National Securities Clearing Corporation's ("NSCC") Real-Time Trade Matching ("RTTM") system. RTTM allows firms to satisfy their transaction reporting obligations in addition to matching their inter-dealer transactions. Firms are able to submit their municipal securities transactions for both trade matching and regulatory reporting in a single trade message to RTTM. In an IDRO transaction, the transaction between the clearing

and introducing broker is not required to be submitted for comparison purposes in RTTM, because it does not result in a movement of a principal position between dealers.⁴⁶

Matched data for inter-dealer transactions includes the following:⁴⁷

- Accrued Interest
- Buy / Sell Indicator
- Concession
- Contra-party
- Contra-party Correspondent
- DK Reason
- CUSIP
- Issue Type
- Locked-in / Demand / Bilateral Trade Indicator
- Market of Execution
- Participant
- Participant Correspondent
- Price
- Quantity
- Record Type
- Reversal Indicator
- Settlement Amount
- Settlement Date
- Settlement Date Adjustment
- Settlement Type Indicator
- Trade Date
- Trade Type / Target Indicator

Inter-dealer trade data used solely for regulatory purposes includes the following:⁴⁸

⁴⁶ MSRB, “Specifications for Real-Time Reporting of Municipal Securities Transactions,” Version 3.0, July 2016, available at <http://www.msrb.org/msrb1/RTRS/RTRS-Specifications.pdf>.

⁴⁷ *Id.*

⁴⁸ *Id.*

- Destination
- Executing Broker Commission
- External Reference
- Originator of message
- Regulatory Dollar Price
- Reversal Control Number
- Special Condition Indicator
- Trade Time
- Trading Capacity – Contra-party
- Trading Capacity – Participant
- Type of Price – Weighted Price
- All fields on Customer and IDRO trades are used for regulatory purposes only

If the trade is subject to the following special conditions,⁴⁹ firms report the appropriate indicator code:

- Flat Trades – A security that is traded on terms that do not include accrued interest.
- Away From Market Trades – A security that is traded at a price that differs substantially from the market price or involved in one of the following specific scenarios:
 - Customer Repurchase Agreement Transactions

⁴⁹ Special Condition Indicator – The code is used to indicate that a trade is eligible for an extended reporting deadline other than the 15-minute requirement; that a trade is subject to a special condition; and/or that a customer trade did not include a mark-up, markdown, or commission or an inter-dealer transaction executed with or using the services of alternative trading system (ATS) with Form ATS on file with the SEC.

- UIT-Related Transactions
- TOB-Related Transactions
- Alternative Trading System Transactions – Inter-trade that was executed with or using the services of an alternative trading system with Form ATS on file with the SEC.
- Customer Trades Involving Non-Transaction-Based-Compensation (NTBC) Arrangements – A customer trade that did not include a mark-up, markdown or commission.

Transaction Fields by Trade Type:⁵⁰

Field Name	Inter-Dealer	IDRO	Customer
Trade Transaction Type indicator	Mandatory	Mandatory	Mandatory
Master reference number (X-REF)	Mandatory	Mandatory	Mandatory
Previous X-REF	May be used	May be used	May be used
RTTM assigned reference (TID)	May be used	Omit	Omit
Regulator control number	Omit	May be used	May be used
Match control number	May be used	Omit	Omit
Trade date and time	Mandatory	Mandatory	Mandatory
Time of trade	Mandatory	Mandatory	Mandatory
Settlement Date	Mandatory	Mandatory	Mandatory
Deal price as dollar price	Use to report deal price as dollar price	Use to report deal price as dollar price	Use to report deal price as dollar price

⁵⁰ *Supra* note 46.

Field Name	Inter-Dealer	IDRO	Customer
Deal price as yield	Use to report deal price as yield	Use only when security is in when-issued status and is traded on basis of yield	Use only when security is in when-issued status and is traded on basis of yield
Market of execution	Mandatory	Mandatory	Mandatory
Settlement Amount	Use for regular way trades and for NI trades reported with final money	Omit	Omit
Buy/sell indicator	Mandatory	Mandatory	Mandatory
Type of price/weighted price	Use when applicable	Use when applicable	Use when applicable
MT515 Record Type	Mandatory	Mandatory	Mandatory
Trade type: QSR indicator	Use for QSR or target QSR trade	Omit	Omit
Against payment indicator	Mandatory	Mandatory	Mandatory
Participant	Mandatory	Mandatory	Mandatory
Buyer (contra) X-ref and Seller (contra) X-ref	Use in DK message	Omit	Omit
Correspondent	Mandatory	Mandatory	Mandatory
Correspondent of correspondent <i>(reserved for future)</i>	Omit	Omit	Omit
Contra-party Correspondent of correspondent <i>(reserved for future)</i>	Omit	Omit	Omit
Capacity indicator – acting as agent/principal	Mandatory	Mandatory	Mandatory

Field Name	Inter-Dealer	IDRO	Customer
Quantity (par)	Mandatory	Mandatory	Mandatory
CUSIP	Mandatory	Mandatory	Mandatory
DK reason	Use for DK	Omit	Omit
Destination	Mandatory	Mandatory	Mandatory
Syndicate trade indicator	Use for syndicate or targeted syndicate trade	Use for syndicate or targeted syndicate trade	Omit
Trade reversal indicator	Use when applicable	Omit	Omit
Special condition indicator	Use when applicable	Use when applicable	Use when applicable
Reversal control number	Use on reversal	Omit	Omit
Yield	Omit	Omit	Omit
Settlement Indicator – Reporting only	Mandatory	Mandatory	Mandatory
Concession	Use on new-issue trades when applicable	Omit	Omit
Commission	Omit	Omit	Use for agency trades
Accrued Interest	Use for final money trades	Omit	Omit
Originator of message	Mandatory on Web input	Mandatory	Mandatory
Settlement date adjustment	Use when applicable	Omit	Omit
Settlement type indicator	Use when applicable	Use when applicable	Use when applicable

Field Name	Inter-Dealer	IDRO	Customer
Regulatory Dollar Price	Mandatory for trades submitted with final money	Omit	Omit

c. Transactions Excepted from RTRS

Firms are not required to the report the following transactions under MSRB Rule G-14:

- Transactions in securities without assigned CUSIP numbers;
- Transactions in municipal fund securities (e.g., 529 College Savings Plans);
- Inter-dealer transactions for principal movement of securities between dealers that are not inter-dealer transactions eligible for comparison in a clearing agency registered with the Commission;⁵¹ and
- Sales from issuers to broker-dealers as part of new issues of municipal securities.⁵²

3. NYSE Bonds

NYSE Bonds is an electronic order-driven matching system through which Exchange members enter and match orders for eligible debt securities on a price and time priority basis. The system provides access to the order book, which displays orders in the time sequence

⁵¹ Under MSRB Rule G-12(f)(iv)(A), an “Inter-Dealer Transaction Eligible for Comparison by a Clearing Agency Registered with the Commission” means a contract for purchase and sale between one dealer and another dealer, resulting in a contractual obligation for one such dealer to transfer municipal securities to the other dealer involved in the transaction, and which contract is eligible for comparison under the procedures of an automated comparison system operated by a registered clearing agency.

⁵² MSRB Rule D-9 defines “customer” to mean “any person other than a broker, dealer, or municipal securities dealer acting in its capacity as such or an issuer in transactions involving the sale by the issuer of a new issue of its securities.” Since Rule G-14 applies only to inter-dealer and customer trades, new issue transactions between an issuer and a broker-dealer, while not explicitly exempt from the reporting requirements, are not subject to the Rule because in this context an issuer is neither a customer nor a broker-dealer.

received. Upon execution, trades are submitted for clearing to the Depository Trust Clearing Corporation.

a. Order Information

NYSE members authorized to access NYSE Bonds may enter buy and sell orders in eligible bonds to the NYSE Bonds system. All orders, modifications and cancellations of such orders, by NYSE members entered on the NYSE Bonds system throughout each trading day, are retained by the Exchange.

Each order generally must include the following information:

- Entering member's MPID;
- CUSIP number or identifier;
- Order type,⁵³ and any modifiers;
- Buy or Sell;
- Price and Quantity; and
- Capacity (Agent or Principal).

NYSE Bonds centralizes bond trading and publishes a real-time bond data feed to members authorized to use NYSE Bonds and to subscribers that reflects all orders in time sequence on the NYSE Bonds order book.

b. Trade Reports

The trade reports of executions on the NYSE Bonds system include the following information:

- CUSIP number or identifier;

⁵³ See NYSE Rule 86(b)(2)(B) for types of orders that may be entered on NYSE Bonds.

- Price and Quantity of each filled execution;
- Average Price of fills for each order;
- Total Quantity of fills on open orders;
- Buy or Sell;
- Time of Execution;
- Settlement Type (whether same day, T+1, T+2 or T+3);
- Type of Trade Execution (“Partially Filled”, “Filled”);
- Type of Instrument (“Corporate Bond”, “Treasury Bill”); and
- Contra-party’s MPID identifier, and number of Contra-parties on a fill.

In addition, the Exchange retains a record and disseminates trade data and execution reports of trades that were cancelled. Such reports identify trades that were cancelled after the execution was reported and includes identifiers to map any cancelled trade with the original trade.

4. Order Information for Debt Securities

As discussed above, FINRA and MSRB rules generally require firms to report transaction information in covered securities within specified periods following the execution of reportable transactions and do not require members to report any order or other pre-trade information.

SEA Rule 17a-3(a)(6)⁵⁴ prescribes recordkeeping requirements for broker-dealers, including recordkeeping requirements for orders in debt securities. Specifically, SEA Rule 17a-3(a)(6), among other things, requires broker-dealers to make and keep a memorandum of each brokerage order, and of any other instruction, given or received for the purchase or sale of securities, whether executed or unexecuted. The order memorandum must show: (i) the terms

⁵⁴ 17 CFR 240.17a-3(a)(6).

and conditions of the order or instructions and of any modification or cancellation thereof; (ii) the account for which entered; (iii) the time the order was received; (iv) the time of entry; (v) the price at which executed; (vi) the identity of each associated person, if any, responsible for the account; (vii) the identity of any other person who entered or accepted the order on behalf of the customer or, if a customer entered the order on an electronic system, a notation of that entry; and (viii) to the extent feasible, the time of execution or cancellation.⁵⁵

Firms also may use various systems to internally manage their order workflow in debt securities. These systems may capture order information such as security information (e.g., CUSIP, side, quantity, coupon and maturity), order details (e.g., date and time of order receipt, the order's time in force, and any limit price), and may include additional information (e.g., settlement date, whether the order was solicited, the name of the representative who took the order, and account information). Based on discussions with multiple firms, firms' order workflow management practices differ widely, and the systems firms use may provide varying degrees of linkages with other relevant information, such as executions or order updates/cancellations.

C. Debt Security Consolidated Audit Trail – Possible Approaches

As noted above, unlike for equity securities, there is no current regulatory requirement for broker-dealers to report order information for orders involving debt securities. Consequently, there is no current order reporting framework on which to base potential CAT reporting. Set forth below are three general frameworks that could be used in considering how the CAT might be expanded to include debt securities, though the Participants do not currently recommend that the CAT be expanded to debt securities. The Participants believe that the CAT should first be

⁵⁵ *Id.*

fully implemented for equities and listed options, and that the Participants should then have the benefit of having gained experience with CAT operation in the equity space prior to analyzing the potential expansion to debt securities. In addition, the Participants believe that industry outreach and input would be necessary to inform any analysis of the potential expansion of the CAT to debt securities.

The possible approaches discussed below by no means are exclusive representations of all frameworks that may warrant discussion. In addition, because current practices related to order taking, sourcing, and agreeing to trades are markedly different for debt securities than for equity securities, the Participants believe that the development of any concept or proposal for CAT expansion (or establishing an order audit trail regime more generally) to debt securities should be carefully considered, including to identify how regulatory objectives may be best met taking these unique characteristics into consideration.

The three approaches to a possible audit trail framework for debt securities discussed below are presented in order of the simplest and least-granular—from requiring order-originating firms to report new orders and cancellations/executions (Approach #1), to the most complex and granular, which mirrors more closely the extensive order life cycle-reporting regime for equities and options being implemented for the CAT (Approach #3). The approaches attempt to account for unique order handling processes and features in the market for, or nature of, debt securities. For example, in the market for debt securities, customers may contact their representatives providing only general characteristics regarding the type of debt security they wish to invest in, rather than a particular CUSIP. In these cases, based on the investor's criteria, a representative may present to the customer several similar debt securities for consideration prior to the customer deciding on, and placing an order for, a particular security. In addition to oral

interactions with customers, orders or indications of interest between dealers also may be communicated manually (e.g., a telephone call or message to a broker's broker).

Some debt securities may not be widely quoted and may trade infrequently and, as a result, information on the security's availability and pricing may be limited or unavailable. Firms have stated that representatives, therefore, often must take the additional step of confirming the final details of a potential transaction with the customer prior to executing the order and, for this reason, in these cases the time of order receipt and time of order execution are essentially simultaneous (because the customer officially places the order only once the specifics of the potential transaction are known). Similarly, quotations on electronic platforms (including ATSs) that trade debt securities may not be firm (e.g., RFQs and IOIs). In such cases, the systems do not automatically execute transactions and, instead, require manual confirmation from subscribers. Special consideration would need to be given to the use of non-firm quotation types in debt securities (e.g., RFQs and IOIs) on electronic systems and how this might impact an order audit trail for debt securities.

Thus, the concept of order receipt, order routing, and assessing the market for some debt securities can be very different than for equities or for listed options. Further, firms have represented that, due to the manual nature of order taking in the debt market, creating a new order record electronically and systematically tracking orders through to execution may be a significant departure from current practice for many firms. In addition, industry participants have represented that the lack of full detail on and experience in reporting to the CAT makes it impossible to evaluate or estimate the direct and indirect costs of CAT expansion to debt securities at this time. As such, the Participants do not believe that applying the current CAT framework to debt securities, without significant modification, would be workable. For these

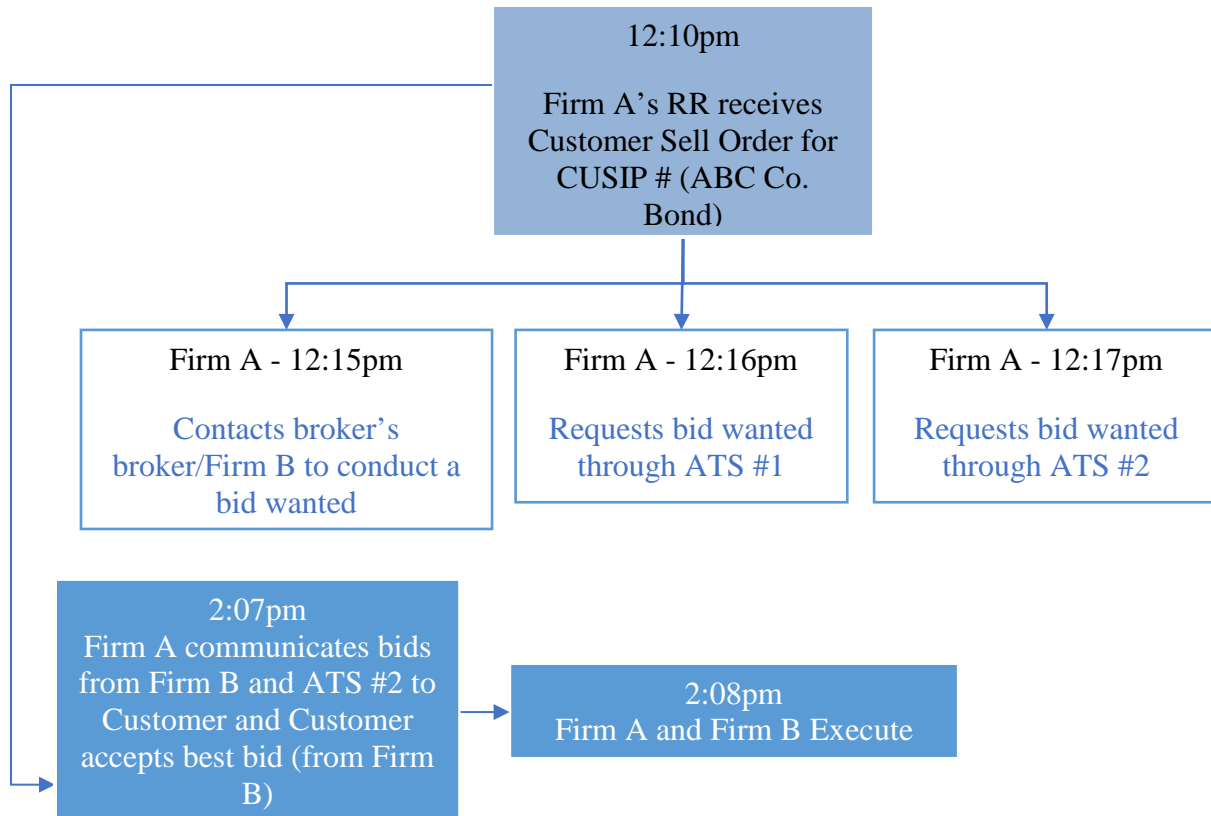
reasons and others, as discussed in Section I.D. below,⁵⁶ the Participants do not recommend expanding the CAT to include debt securities at this time.

**1. Originating Firm New Order Report; Execution Reports
(Approach #1)**

Under Approach #1, originating firms would report the receipt of a new order from a customer (i.e., when an order for a CUSIP/specific security is received), including a customer identifier that would be linkable to a separate database containing the relevant personally identifiable information (“PII”), similar to the CAT framework.⁵⁷ If a transaction is fully or partially executed, the originating firm would enter an execution report that is linked to its new order report in the audit trail. Likewise, if the order was cancelled in whole or in part, the cancellation would be included in the audit trail, and would be linked to the originating firm’s new order report. The execution report also would include an identifier that would link it to the related TRACE transaction report. The Participants do not assume any changes to current transaction reporting frameworks. Where no customer order is involved, no audit trail requirement would be required as data would be available from the transaction report.

⁵⁶ See Section I.E. (Recommendations and Projected Implementation Timeframe).

⁵⁷ See *supra* note 3, Amended and Restated CAT NMS Plan at Appendix C, A.1(a)(iii) and Appendix D, 9.



Approach #1 - Example

The below relates to the sell order scenario depicted above. Relevant order audit trail reports under this approach are underlined. Note that the events used in the example are illustrative and that alternatives, such as indications of interest, requests for quotes, non-firm quotes and negotiated trades, may also be used as examples.

- 12:10pm – Firm A creates New Order ID #1234 – New Order Report

Report Type	Report Fields
New Order Report	<ul style="list-style-type: none"> – Customer ID (Order originating firm only) – Order Receiving Firm MPID – Order Received Date – Order Receiving Firm Order ID # – Order Received Time – Security CUSIP – Buy/Sell – Quantity – Long/Short – Limit price, if any – Received Method – Special handling instructions

- 2:08pm – Order Execution: Firm A executes Order ID #1234 with Firm B – Execution Report by Firm A (linked); Firm B would have no reporting obligation

Report Type	Report Fields
Execution Report	<ul style="list-style-type: none"> – Linked to New Order Report – Execution Date – Execution Time – Quantity – Price – Contra-party's identifier – Link to applicable trade report

- If all or part of the order was cancelled, Firm A would submit a Cancel Report. The Cancel and New Order Reports would be linked

Report Type	Report Fields
Cancel Report	Linked to New Order Report – Cancelled by Flag – Cancel Type Flag – Cancel Quantity – Cancel Leaves Quantity

2. Originating and Route Recipient Firm New Order Reports; Partially Linked; Execution Reports (Approach #2)

Under Approach #2, originating firms would report the receipt of a new order from a customer (i.e., when an order for a CUSIP/specific security is received), including a customer identifier that would be linkable to a separate database containing the relevant PII. Where the originating firm sends an order to another firm or solicits interest from or through another firm regarding an order, the sending firm would document this activity by submitting a route report. While this approach describes this activity as a “route,” the Participants acknowledge that, because of the differences in the debt markets, typically, the order itself is not truly being routed in the same sense as occurs in the equity markets; rather, the firm is contacting a dealer or market center for indications of interest in the particular bond.

Under this approach, the receiving firm would be required to create a new order report only if it further sends the order to another firm (e.g., report a new order and link it to the route report). If a receiving firm executes the order, or if the order is cancelled before any further action is taken by the receiving firm, a new order report would not be required of the receiving firm. Full or partial execution reports would be required of any firm with a related new order. The execution report also would include an identifier that would link it to the related transaction report. Likewise, if the order was cancelled in whole or in part, any firm with a new order report related to the cancellation also would report the cancellation.

Approach #2 - Example

The below relates to the same sell order scenario depicted above for Approach #1. Relevant order audit trail reports under this approach are underlined. Note that the events used in the example are illustrative and that alternatives, such as indications of interest, requests for quotes, non-firm quotes and negotiated trades, may also be used as examples.

- 12:10pm – Firm A creates New Order ID #1234, a reportable event by Firm A – New Order Report
- At 12:15pm, 12:16pm and 12:17pm, respectively, Firm A sends Sub-Orders #12341, #12342 and #12343 to Firm B, ATS #1 and ATS #2, respectively. Reportable events by Firm A – Route Reports

Report Type	Report Fields
Route Report	Linked to New Order Report <ul style="list-style-type: none">– Special Routing Condition– Routed Quantity– Routed Method (e.g., voice, message or electronic)– Sent to firm MPID– Routed Order ID

- Firm B, ATS #1, and ATS #2 are required to record items of new order information only if they ultimately route the order
- 2:08pm - Order Execution: Firm A executes Order ID #1234 / #12341 with Firm B – Execution Report by Firm A
- Firm A cancels Sub-Orders #12342 and #12343 – Cancel Report

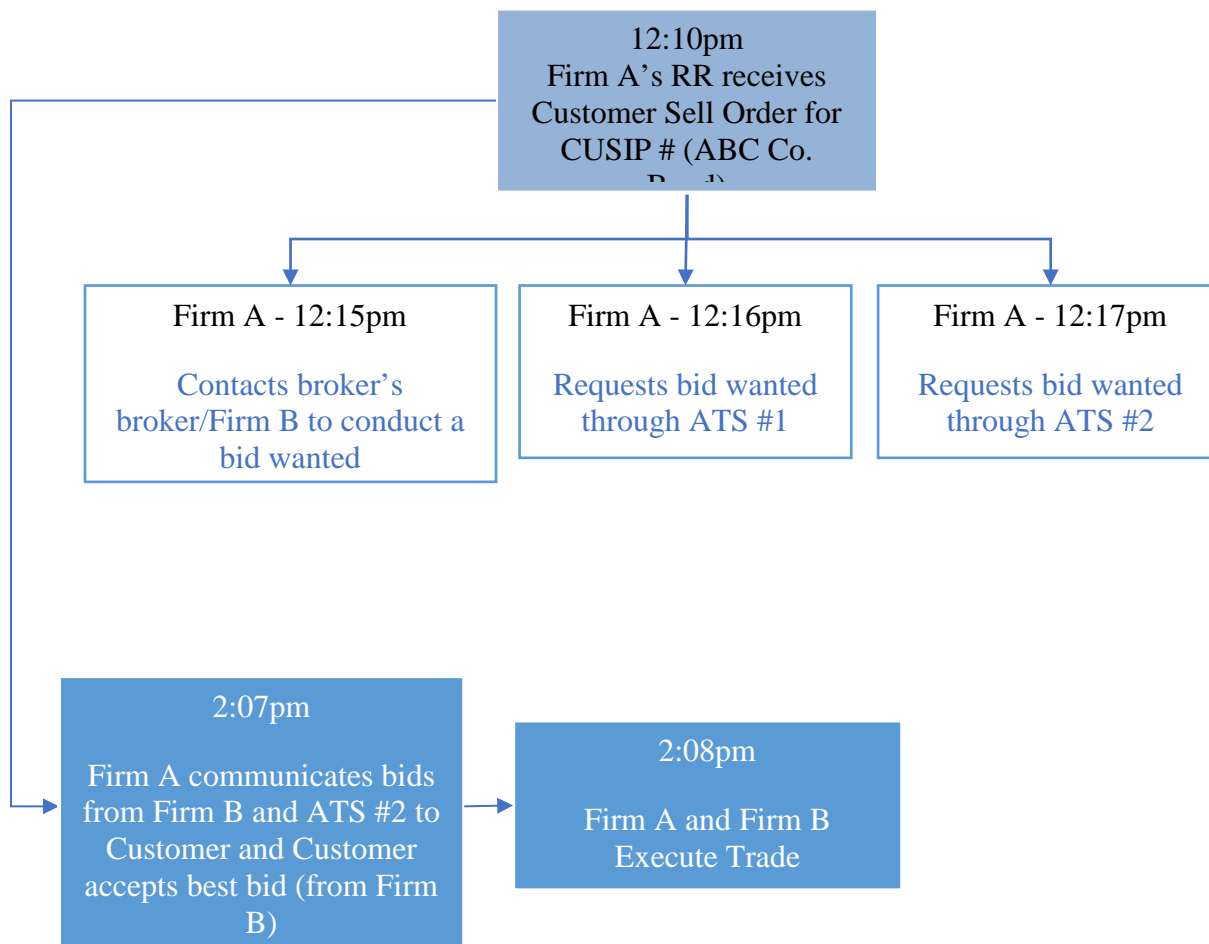
3. Complete, Linked, Order through Execution Life Cycle (Approach #3)

In the course of considering how the CAT might be expanded to include debt securities, the Participants also have considered whether the submission of a new order report is the earliest life cycle event that might be captured for debt securities. As noted above, one of the unique features of the debt market is the often simultaneous timing of an order and its execution (where the customer does not place an order until all the specifics of the potential transaction are known). Prior to the entry of an order for a particular security, however, customers may provide firms with desired criteria for a debt security and the firm then works on identifying, locating, and presenting specific options for the customer's consideration.

The Participants understand that this process is common in the debt area and, therefore, initially considered whether an audit trail might begin with recording and reporting certain pre-order information obtained by the firm in advance of the entry of an order for a particular security. For example, an approach might be considered where, if a customer provides a minimum number of descriptive elements regarding a debt security — e.g., where a customer provides several of the following: investment dollar amount; issuer; sector; yield; coupon; maturity; rating; or specified additional features — a firm conceivably might be required to submit a pre-order report. Any securities presented by the firm to the customer as satisfying the customer's criteria also could be entered into a pre-order report and, should an order result, the pre-order report could be linked to the new order report (which would be followed by route, execution or cancellation reports, as applicable). This type of framework would be an attempt to capture in an automated fashion the pre-order events that are likely to be extensive in the debt markets. However, the Participants haven't included the concept of a pre-order report in Approach #3 due to the possibly numerous manual steps likely necessary to submit and amend such a report to account for each debt security being explored.

Under Approach #3, firms (both originating firms and route recipients) would report the receipt of a new order, though only originating firms would be required to report a customer identifier that would be linkable to a separate database containing the relevant PII. As noted above, although typically the order itself is not being truly routed to multiple firms (the originating firm is contacting a dealer or market center for indications of interest in the particular bond), this approach would require new order reports from all receiving firms and any associated executions or cancellations. Where a firm sends an order to another firm, a route report would be added to the audit trail by the sender (linked to the related new order report). If an order is fully or partially executed, any firm with a new order report related to the execution would enter an execution report that is linked to its new order report in the audit trail. The execution report also would include an identifier that would link it to the related transaction report. Likewise, if the order was cancelled in whole or in part, any firm with a new order report related to the cancellation also would report the cancellation.

Approach #3 - Example



The below relates to the sell order scenario depicted above. Relevant audit trail reports under this approach are underlined. Note that the events used in the example are illustrative and that alternatives, such as indications of interest, requests for quotes, non-firm quotes and negotiated trades, may also be used as examples.

- 12:10pm – Firm A creates a new order and assigns Internal Order ID #1234, a reportable event by Firm A – New Order Report
- 12:15pm, 12:16pm and 12:17pm, Firm A sends Sub-Orders #12341, #12342 and #12343 to Firm B, ATS #1 and ATS #2, respectively. Reportable events by Firm A – Route Reports

- 12:15pm - Firm B creates Internal Order ID # (linked to Firm A's Route Report), a reportable event by Firm B – New Order Report
- 12:16pm - ATS #1 creates Internal Order ID # (linked to Firm A's Route Report), a reportable event by ATS #1 – New Order Report
- 12:17pm - ATS #2 creates Internal Order ID # (linked to Firm A's Route Report), a reportable event by ATS #2 – New Order Report
- 2:08pm - Order Execution: Firm A executes Internal Order ID #1234 / #12341 with Firm

B. Required reports are as follows:

- Firm A reports execution and links it to Order ID #1234 / #12341 – Execution Report
- Firm B reports execution and links it to Internal Order ID # (linked to Sub-Order #12341) – Execution Report
- Related Order/Sub-Order cancellations required:
 - Firm A cancels Sub-Orders #12342 and #12343 – Cancel Report
 - ATS #1 cancels Internal Order ID # (linked to Firm A's Route Report) (Reason Code – cancelled by Firm A) – Cancel Report
 - ATS #2 cancels Internal Order ID # (linked to Firm A's Route Report) (Reason Code – cancelled by Firm A) – Cancel Report

4. Other Considerations

The Participants believe that a discussion of possible ways that order audit trail information for debt securities might be captured for regulatory purposes should include consideration of an option other than expanding the CAT to capture debt securities. One important factor is that there are fewer regulatory entities that would be primary users of order

data for debt securities (SEC, MSRB and FINRA) than the universe of regulators for NMS securities, which also would include all national securities exchanges. Thus, the Participants believe that methods other than integrating order audit trail information on debt securities into the CAT should be considered, both from a short-term and long-term solution perspective. For example, the SEC could ask FINRA to: consider ways to enhance its TRACE reporting requirements to include more granular customer information on TRACE-Eligible Securities, such as a large trader identifier or customer categories; and establish a separate reporting mechanism for reporting order-related information that can be linked to TRACE trade reports.

D. Economic Impact Analysis

The debt market consists of multiple segmented markets, each with its own clientele and unique trading and reporting practices and processes. Currently, transactions in debt securities in all of the segments except municipal bonds, debt securities issued by a foreign sovereign, and money market instruments are, or soon will be, reportable to TRACE. However, the economic impacts on firms of expanding the CAT to debt securities likely differ in significant ways across these segments due to the differences in the nature and amount of data that is collected in the pre-trade and trade processes in each segment. Such differences in data collection are attributable, to a large extent, to different trading mechanisms (e.g., telephonic communications versus electronic trading systems) and varying levels of automation that are implemented in the trading process (e.g., algorithmic trading).

Trading in most debt securities traditionally occurred OTC via messaging across broker-dealers and large institutions. However, recent advancements in technology, a changing regulatory environment, and market forces are increasing the role of electronic trading in debt

securities.⁵⁸ First, the emergence of ATSS and other electronic trading platforms has provided trading opportunities that do not exist in traditional voice trading. Second, regulatory reform initiatives enacted after the financial crisis have decreased dealers' incentives to hold inventories and reduced proprietary trading by broker dealers.⁵⁹ Also, as the SIFMA Report suggests, there has been an increased emphasis on best execution in the debt markets.⁶⁰ This emphasis has increased the value of pre-trade transparency that may provide valuable information on prevailing market values, as well as the sources and movements of liquidity. Third, as the FINRA Study shows, changes in the supply and demand for primary and secondary market transactions for corporate debt have manifested in greater transaction volume, but smaller average transaction sizes and increased numbers of counterparties among dealers.⁶¹

The prevalence of electronic trading in some debt markets is relevant to the discussion of a potential order audit trail for debt securities, as electronic trading protocols may already be systematically collecting some of the information that would be requested in the order life-cycle approaches described above. Accordingly, costs associated with CAT reporting may differ for different debt securities based on the level of electronic trading. The SIFMA Report shows that the number of electronic trading platforms has increased from two in 2000, to an estimated 20 in 2016. There are significant differences across platforms with respect to the bond types being traded, the trading protocols employed, and order types. The BIS Report discusses that the use of electronic trading is greater in the most liquid instruments. According to the SIFMA Report,

⁵⁸ See Bank for International Settlements, "Electronic trading in fixed income markets," January 2016 ("BIS Report"), available at <http://www.bis.org/publ/mktp07.pdf>.

⁵⁹ See Jack Bao, et al., "The Volcker Rule and Market-Making in Times of Stress," December 8, 2016, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2836714.

⁶⁰ *Supra* note 34.

⁶¹ *Supra* note 32.

the share of electronic trading of investment grade bonds is estimated to have increased from approximately 8% in 2013 to 20% in 2015 at the time of the study, whereas the shift to electronic trading is relatively slower in municipal bonds.

The BIS Report also draws attention to regulators' lack of access to comprehensive data generated by trading protocols across electronic trading platforms and the lack of comparability across trade information collected in different types of bonds, consistent with the assertion in the SIFMA Report that "stakeholders have limited information to gain a robust understanding of the incumbent and new platforms' functionality and the evolving price discovery and execution protocols." These differences can include very basic information, such as whether a bond price is represented as a dollar value, as a yield, or as a basis above a reference security. The fact that the degree of electronic trading varies significantly across different types of debt securities is a relevant factor in considering the challenges that likely would be involved in transitioning from reporting only transaction information to CAT reporting.

The Participants have identified three approaches described in Section I.C. as possible audit trail framework alternatives for debt securities. These approaches differ from each other in terms of the granularity of the data items that would need to be collected, what events in the order life cycle would be captured, the firms that would have reporting obligations, and the linkages that need to be built across the reports.

As noted in Section I.B, TRACE reporting requirements apply only to transactions, with no pre-trade or route information collected. Each approach described in Section I.C. above progressively introduces additional layers of data collection and reporting in the pre-trade period, and hence is associated with different levels of costs and benefits.

Approach #1 requires only order originating firms to report and link new orders, cancellations and executions. This approach still requires the creation of a New Order Report that contains information that is not currently reported to regulators. The information that would be contained in an Execution Report is included today in trade reports to the applicable regulator, so the costs of this approach would mostly arise from generating the New Order Report and Cancel Report, and from creating the linkages across reports and to the database that contains the personally identifiable information (PII). Approach #1 would be relatively less costly to implement and provide additional information to regulators than currently is available. For example, if an electronic audit trail were established for debt securities, regulators would have a more efficient means to observe the time of order receipt, the time from receiving the order to execution, and the extent to which others sought to sell the same security at the same time. But this approach provides the regulators with only a limited picture of an order's life cycle relative to Approaches #2 and #3, discussed below. Specifically, Approach #1 does not capture the route information that provides a detailed view of the dealers that the order has been exposed to before execution or cancellation.

Approach #2 introduces a Route Report that is linked to the New Order Report, to capture the information on the specific dealers that a bond order travels to before it gets executed or cancelled. As noted in the discussion in Section I.C.1 and 2 above, the Participants acknowledge that orders are not "routed" in the debt market as typically occurs in the equity market. However, for purposes of this discussion, a route occurs when a firm sends an order to another firm or solicits interest from or through another firm regarding an order. New Order and Route Reports could enable regulators to have access to a record of the identity, order and timing of dealers contacted as part of a potential purchase or sale of a specific debt security. As with

Approach #1, the obligation accrues only once an order for a specific CUSIP or issue has been received. This approach requires the collection of additional information on the life cycle of orders than described in Approach #1, and therefore would be relatively more costly to capture and report. Nevertheless, the route information could provide useful insight regarding routing practices that might potentially be abusive to customers or inconsistent with best execution obligations.

Approach #3 requires firms to build a more complete order life-cycle record. This approach resembles the level of granularity required in audit trail reporting for equity securities and potentially provides regulators with the most complete data to conduct markup reviews and surveillance for best execution obligations in debt markets, and enables regulators to compare execution quality across all brokers that orders have been exposed to. Nonetheless, Approach #3 would be the most expensive to implement, as it would require connectivity across firms and collection and reporting of more data. This approach may potentially deter some dealers from accepting orders from other firms because accepting an order from another firm would result in an obligation to create a New Order Report (in addition to Execution and Cancel Reports, as applicable).

Reporting of primary market transactions may entail further challenges in CAT reporting, as establishing the linkages between New Order and Execution Reports may require more resources for distributions in the primary market, as order receipt and executions are different in nature.

Since there is no current regulatory requirement for broker-dealers to report order information in debt securities and CAT implementation for equities and options has not yet begun, there currently is no framework to base potential costs regarding the expansion of the

CAT to incorporate debt securities. Therefore, the Participants solicited industry feedback regarding the viability of expansion along with the potential direct and indirect costs (challenges) to expansion. The Participants solicited feedback from several market participants as well as industry groups⁶² to collect information on the potential economic impacts of such potential expansion on the industry, third-party providers and customers.

The Participants actively sought responses to two sets of questions that were shared with the respondents in advance of the meetings. One set solicited feedback regarding the economic impacts associated with data collection, i.e., the new data fields that would have to be collected for each of the potential reporting scenarios described above. Specifically, the questions sought to address issues such as:

- Whether existing Order Management Systems (OMS) and Execution Management Systems (EMS) for trading in debt securities are flexible enough to accommodate new asset classes and have the capability to capture order life cycles, i.e., linking new orders, routes, cancellations and executions as described in the options above;
- The challenges and costs associated with collecting the information required in the reports and creating new data fields contained in such reports (e.g., Route ID);
- Whether there are limitations to communication / coordination / standardization across trading desks that would hinder the collection of certain items in the reports; and
- Characteristics of orders (e.g., orders with special handling instructions) or any order types (such as limit versus market orders, IOC, etc.) for which CAT reporting would potentially require more resources.

⁶² FINRA conducted interviews with Securities Industry and Financial Markets Association (SIFMA), Financial Information Forum (FIF), and Bond Dealers of America (BDA).

The second set of questions was intended to gain a better understanding of the potential impacts associated with reporting information under each of the potential scenarios. The

Participants requested feedback on potential issues such as:

- The nature of the changes that would be necessary to apply CAT reporting obligations to debt securities (e.g., software, hardware, backup, or connectivity);
- The impact of CAT reporting on order, trade and execution workflows, and competition for provision of intermediation services in debt securities;
- Whether there would be new functionalities (integration across systems, maintaining and establishing connectivity across brokers, automation of reporting, etc.) and new data management tools (capacity, encryption, transfer, etc.) that would be required to be implemented within the front, middle and back offices;
- Whether there would be any cost savings provided by potential convergence of platforms and systems across asset classes; and
- Whether potential costs vary based on size / business model / characteristics of reporting firms, e.g., introducing vs. clearing firms, large vs. small firms, broker-dealers vs. ATSs.

The respondents stated that there were material differences between equity markets and debt markets with respect to order characteristics, order handling and trade execution. The respondents also expressed that order handling and trading is predominantly OTC, where dealers communicate through informal networks.

There may be potential benefits associated with a life cycle reporting regime in debt markets, where more granular data, as depicted in Approach #3, may potentially provide regulators with a detailed view of market participants' decision-making behavior and can provide further insight into relevant regulatory issues such as the cost of liquidity provision or best

execution practices in debt markets. As noted above, order receipt and execution are frequently concurrent, as the execution is an outcome of a negotiated process of order details, and an order is placed only once the execution terms are agreed upon. Moreover, the Participants understand that OMSs that automatically capture the details of the order are not utilized at every firm or for every order; therefore, it is likely that the requirement to collect more information that is not currently being collected will impose greater direct costs on firms, which may potentially result in a change in the way they participate in debt markets, and this could eventually impact investors. Respondents voiced concerns that the collection of order details may become so costly that representatives may switch to offering substitute products such as mutual funds and ETFs to their clients. Such a change in behavior potentially could reduce liquidity in the debt markets, reducing the price efficiency in these instruments. The burden of collecting and reporting such data potentially would be more significant for small firms, and the respondents asserted that some of these firms would be more likely to exit the market.

The respondents also raised concerns regarding establishing linkages across new order, route and execution reports. Building such linkages necessitates creating connectivity across desks and third-party providers, but, due to the manual process of order receipt and routing orders, using a unique order ID to link the reports would not be feasible for most orders. Such a challenge would be more prominent for certain types of securities. Respondents also indicated that communicating with other broker-dealers regarding an order involves multiple feeds and messages and such messages may contain information regarding multiple orders with varying special conditions. Therefore, building a complete order life cycle for debt securities in a manner similar to equities was not perceived by respondents as a viable option.

Respondents commented that order and execution characteristics are generally different for larger-sized orders, where there is more negotiation and communication across brokers, which may potentially result in a large number of route reports that are recorded manually. Collecting and processing such information may result in significant costs that may hinder the ability to trade large amounts in debt markets.

Respondents also provided feedback on issues pertaining to reporting such information to CAT. They stated that uniform reporting across all debt securities may potentially create gaps and inconsistencies across different types of debt securities due to the differences in characteristics. However, some respondents believed that a single transaction reporting platform for all types of debt securities may save costs in the long run, provided that a single platform is flexible enough to capture differences across life cycles of different security types (i.e., a single platform for reporting TRACE-Eligible and municipal securities, instead of separately reporting to FINRA, NYSE and MSRB).

E. Recommendations and Projected Implementation Timeframe

As of the submission of this Expansion Document to the Commission, no Participants or industry members are reporting information to the CAT, and Technical Specifications detailing required order information for equity securities by broker-dealers are not yet available. Consequently, it is impractical for the Participants to attempt to itemize with any degree of specificity, beyond that described in Section I.C. above, the order details that might be appropriate to report information regarding orders in debt securities. Based on conversations with industry participants and industry trade organizations, the Participants note the following important considerations:

- Trade information involving significant portions of the debt markets are already reported to FINRA's TRACE system, MSRB's RTRS system, or to the NYSE Bonds system.

Consequently, leveraging existing systems could be a more efficient and cost-effective manner to expand the reporting of information concerning debt transactions to include order information.

- Among industry members, order handling practices for debt securities vary significantly from those in place for equity security orders, primarily due to the differences in the nature of the markets between the two types of securities. Consequently, attempting to replicate the order reporting paradigm for equity securities onto the debt markets is not advisable.
- The obligation to report information concerning debt security orders and transactions to the CAT would fall primarily on broker-dealers as a substantial majority of all debt market activity is conducted OTC rather than on an exchange. Some of these broker-dealers lack the current infrastructure to report order information. For example, 13% of FINRA members that currently report to TRACE do not conduct equity activity and thus do not report to FINRA's Order Audit Trail System ("OATS") and would not have CAT reporting requirements under the Plan. Consequently, expanding order reporting obligations to include debt securities would be a costly and time-intensive effort for these firms.

As a result of these considerations, the Participants do not currently recommend that the Commission take any steps with respect to requiring the reporting of order information regarding debt securities, including primary market transactions in debt securities,⁶³ to the CAT. The Participants believe such an expansion would be premature at this time and should be considered only after both Participants and industry members are successfully reporting equity securities and

⁶³ *Supra* note 43.

listed options information to the CAT so that experience with the operation of the CAT can be used to inform any future expansion. In addition, other alternatives, besides an expansion of CAT, should be considered as a means to collect order data related debt securities. As noted previously, the Participants recommend that the MSRB be consulted before any analysis regarding the potential expansion of the CAT to municipal securities is undertaken. Moreover, a reliable cost/benefit analysis cannot be performed until the Participants and industry members have more details as to the specific information that would be required to be reported and how that information would be reported.

II. PRIMARY MARKET TRANSACTIONS

As the Participants described in the CAT NMS Plan, an eventual expansion of the CAT to gather complete information on Primary Market Transactions would be beneficial to providing regulators with a comprehensive audit trail that efficiently and accurately tracks all activity in NMS Securities throughout the U.S. markets.⁶⁴ The Participants received cost and other information regarding the expansion of the CAT to include Primary Market Transactions in NMS Securities during the comment process for the CAT NMS Plan. Based on the Participants' 2016 analysis, the Participants concluded that it would be appropriate to limit CAT submissions related to allocations in Primary Market Transactions to sub-account allocations.⁶⁵

The Participants believe that any recommendation to expand the CAT to include Primary Market Transactions is premature and should be based on data derived from Participant and Industry Members' actual experience with CAT reporting. In support of this recommendation, this section discusses our current view of the costs and benefits of the expansion of CAT to

⁶⁴ See Amended and Restated CAT NMS Plan, *supra* note 3, at Appendix C.

⁶⁵ *Id.*

include both top-account and sub-account allocations for Primary Market Transactions.⁶⁶ As required by the Plan, this section also includes details for each order and Reportable Event that may be required to be provided, which market participants may be required to provide the data, the implementation timeline, and a cost estimate associated with incorporating Primary Market Transactions into the CAT.

A. Top-Account Allocations

The Participants, during the course of developing the CAT, received cost estimates regarding inclusion of top account allocation information from members of the Development Advisory Group (“DAG”), a group of industry participants formed to assist the SROs with information to inform the design and implementation of the CAT. Using that data, the SROs concluded that reporting top-account allocation information was not currently justified because of the significant costs likely associated with requiring top-account allocations and the marginal benefit likely derived from reporting top-account information in Primary Market Transactions to the CAT.⁶⁷ Commenters supported this conclusion, indicating that significant analysis and data modeling are required to implement the inclusion of Primary Market Transactions, and the inclusion of top-account information is less feasible than the inclusion of sub-account allocations.⁶⁸ Furthermore, given the lack of experience with the CAT, market participants cannot currently provide more definitive cost figures related to such a proposal.

⁶⁶ Plan Adopting Release, *supra* note 4, at 84779-80.

⁶⁷ Amended and Restated CAT NMS Plan, *supra* note 3, at Appendix C.

⁶⁸ Letter to Brent J. Field, Secretary, SEC, from Mary Lou Kaenel, Managing Director, Financial Information Forum (July 8, 2016) (“FIF Letter”) at 13; Letter to Brent J. Field, Secretary, SEC, from Theodore R. Lazo, Managing Director and Associate General Counsel, and Ellen Greene, Managing Director, Financial Services Operations, Securities Industry and Financial Markets Association (July 18, 2016) (“SIFMA Letter”) at 36.

1. Scope

The Participants understand that top-account allocations occur during the book-building phase of Primary Market Transactions. During this phase, the underwriter engages in efforts to ascertain indications of interest in purchasing quantities of the underwritten securities at varying prices from potential investors. Based on this information, the underwriter will then decide how to allocate IPO shares to purchasers. Accordingly, the top-account allocation could be defined to include the following: (1) the conditional indications of interest that may fluctuate until the offering syndicate terminates, and (2) the final allocation (that is, the actual allocation of securities to the customers' accounts).

The cost-benefit analysis also depends upon which market participant(s) would be obligated to report the data to the CAT. As the Commission noted, the estimate included in Appendix C of the Plan was sensitive to the number of underwriters.⁶⁹ In particular, the estimates assumed that all underwriters participating in an offering would need to implement changes if required to submit top-account allocation information. In contrast, however, the Commission suspected that the total number of underwriters that would need to implement changes for top-account information may be lower because lead underwriters could have all of the information necessary to report the top-account allocation information, depending upon the top-account allocation information that was required to be reported. If only the lead underwriters need to implement systems changes to report top-account allocations, the total implementation costs could be lower.

⁶⁹ Plan Adopting Release, *supra* note 4, at 84904.

In addition, the cost-benefit analysis depends on the data elements that would need to be reported for each Primary Market Transaction. The Participants anticipate that the following top-account allocation data could be reported to the CAT:

- the identity of all market participants that receive top-account allocations of NMS Securities in Primary Market Transactions;
- the identification of the relevant NMS Security;
- the number of such NMS Securities each such market participant is allocated via a top-account;
- the identity of the entity making each such allocation; and
- the time of the top-account allocation.

2. Costs and Benefits

a. Benefits

As set forth in the CAT NMS Plan, the Participants believe that most of the potential benefits could be achieved through the collection of sub-account information.⁷⁰

In contrast to the Participants' conclusions about the value of top-account allocations, the SEC stated that it believes that the inclusion of top-account allocations in the CAT would provide significant regulatory benefits beyond those provided by sub-account allocations.⁷¹ The SEC noted that top-account allocation information would be necessary to conduct surveillance for prohibited activities in the book-building process and would improve the efficiency of investigations into such prohibited activities. The SEC also noted that top-account allocation

⁷⁰ Amended and Restated CAT NMS Plan, *supra* note 3 at Appendix C.

⁷¹ Plan Adopting Release, *supra* note 4, at 84905.

information would provide useful insights into IPO and follow-on allocations in market analysis and that such insights would help inform rulemaking and other policy decisions.⁷²

Similarly, in response to the proposal of the CAT NMS Plan, one commenter emphasized that many benefits could only be achieved by requiring the reporting of primary market transactions at both the top-account and the sub-account allocation levels.⁷³ Further, this commenter also stated that top-account information would facilitate analyses of the value of discretionary allocation in book-building for issuers. This commenter also indicated that final top-account allocations should be sufficient to achieve such benefits, while also indicating that information on the indications of interest was crucial for the understanding of the capital formation process and for designing efficient regulations that would facilitate capital formation without compromising investor protection.⁷⁴

However, the Participants maintain that because top account information of conditional and interim allocations for NMS Securities fluctuates throughout the syndicate process and may vary significantly among firms, the marginal benefits of such information over final sub-account allocations are much less.⁷⁵

b. Costs

The Participants concluded in the CAT NMS Plan that the inclusion of top-account allocations would likely impose significant costs on CAT Reporters. The Participants

⁷² *Id.* at 84904.

⁷³ Letter to Brent J. Fields, Secretary, SEC, from Kathleen Weiss Hanley, Bolton-Perella Chair in Finance, Lehigh University, et al., (July 12, 2016) (“Hanley Letter”) at 4.

⁷⁴ *Id.* at 5-6.

⁷⁵ Amended and Restated CAT NMS Plan, *supra* note 3, at Appendix C.

understand that broker-dealers generally maintain top-account allocation information in book building systems that are separate from their systems for secondary market transactions and that differ across the industry, including the use of applications provided by third parties, in house systems and spreadsheets for small firms. The Participants also understand that the investment banking divisions of broker-dealers typically use different compliance systems than those used for secondary market transactions.⁷⁶ In addition, the Participants conclusion is based on the estimate received from the DAG that providing top-account allocations would costs \$176.1 million.⁷⁷

One commenter disputed the DAG's estimate, stating that the cost would be substantially less, approximately \$2,400 per offering for providing top-account allocation information,⁷⁸ although this estimate may measure the ongoing annual costs to maintain reporting, rather than the implementation costs of adding top-account allocation information to the CAT. Similarly, the SEC posited that the cost to add top-account information to the CAT may be lower than estimated, noting that the cost depended on timestamp requirements and the number of underwriters subject to the reporting requirement.⁷⁹ The Participants note, however, that they currently have no authoritative information indicating that the less stringent timestamp requirement would result in any material reduction on the cost for Industry Members to institute new systems to enable such reporting. The SEC also noted that it is unclear whether the cost

⁷⁶ Amended and Restated CAT NMS Plan, *supra* note 3, at Appendix C.

⁷⁷ *Id.*

⁷⁸ Hanley Letter, *supra* note 73, at 5.

⁷⁹ Plan Adopting Release, *supra* note 4, at 84904.

estimates cover the inclusion of indications of interest, or the final top-account allocation information.⁸⁰

In light of the varying cost estimates for the inclusion of top-account allocation information in the CAT, the Participants recommend that additional cost analysis be conducted regarding the inclusion of top-account information in the CAT, both for the inclusion of final top-account allocation information and the inclusion of book building indications of interest. Such analysis should be conducted after a period of experience of industry reporting into the CAT. Without the experience of industry reporting into the CAT and without detailed technical analysis by the various industry members who would provide such top-account data, however, the SROs have no ability to improve upon the current cost estimates in this area.

B. Sub-Account Allocations

As described in the CAT NMS Plan, information related to sub-account allocations is maintained by broker-dealers in a manner that may allow for reporting to the CAT without unreasonable costs and could assist the Commission and the Participants in their regulatory obligations, including a variety of rulemaking and policy decisions.⁸¹ Accordingly, the Participants continue to recommend the inclusion of sub-account allocations in the CAT as a future phase in CAT reporting.

1. Scope

The costs and benefits of including sub-account allocation information in the CAT depend on the definition of what constitutes a sub-account allocation and what information is to

⁸⁰ *Id.* at 84905.

⁸¹ Amended and Restated CAT NMS Plan, *supra* note 3, at Appendix C.

be reported about the sub-account allocations. The Participants understand that sub-account allocations represent the allocation of IPO shares to the actual account receiving the shares. Sub-account allocations occur after top-account allocations and are made by the top-account institutions and broker-dealers prior to settlement.⁸²

The cost-benefit analysis also depends upon which market participant(s) would be obligated to report the data to the CAT Market. In addition, the cost-benefit analysis also depends upon the data elements that would need to be reported for each primary market transaction. The Participants anticipate that the following sub-account allocation data may be reported to the CAT:

- the identity of all market participants that receive sub-account allocations of NMS Securities in Primary Market Transactions;
- the identification of the relevant NMS Security;
- the number of such NMS Securities each such market participant is allocated via a sub-account;
- the identity of the market participant making each such allocation; and
- the time of the sub-account allocation.

2. Cost and Benefits

a. Benefits

As set forth in the CAT NMS Plan, the Participants noted that sub-account allocation information could aid the Commission and the Participants to gain a better understanding of how

⁸² Plan Adopting Release, *supra* note 4, at 84984.

shares allocated in Primary Market Transactions are sold in the secondary market, or how allocations differ across broker-dealers.⁸³ The Commission agreed that such data could improve compliance monitoring and market analyses by the Commission and the Participants, which, in turn, could help inform rulemaking and other policy decisions.⁸⁴ For example, such data could enhance the Commission's understanding of the role of the allocations in the capital formation process, when and how investors receiving allocations sell their Eligible Securities and how allocations differ among broker-dealers.⁸⁵ Such data also could assist the Commission and Participants in conducting their respective examinations and investigations related to Primary Market Transactions.⁸⁶

b. Costs

Based on feedback from Industry Members, the Participants understand that it would be more feasible to gather information relating to sub-account allocations in Primary Market Transactions than top-account allocations.⁸⁷ The Participants noted their understanding that sub-account allocations are received in a manner and level of detail similar to allocations in secondary market transactions, and that the same middle and back office systems that are used for the processing of sub-account allocations for secondary market transactions generally are also used for the sub-account allocations for Primary Market Transactions. If Industry Members maintain sub-account allocations for Primary Market Transactions in an electronic format that

⁸³ Amended and Restated CAT NMS Plan, *supra* note 3, at Appendix C.

⁸⁴ Plan Adopting Release, *supra* note 4, at 84984.

⁸⁵ *Id.*

⁸⁶ *Id.*

⁸⁷ *See generally* Amended and Restated CAT NMS Plan, *supra* note 3, Appendix C, A.6.

could be converted into a reportable format acceptable for the CAT System, it may be that certain Industry Members could more easily report information about sub-account allocations to the Central Repository.⁸⁸ In addition, the Participants' conclusion was based on the DAG estimate that providing sub-account allocations would cost approximately \$58.7 million (as opposed to the much higher \$171.6 million for top-account allocations).⁸⁹

This conclusion was further supported by another commenter, which argued that the incremental cost of providing sub-account allocation information would be de minimis.⁹⁰

C. Implementation Timeline

As noted in the CAT NMS Plan, the Participants do not support the inclusion of any Primary Market Transaction information in the initial phase of CAT reporting.⁹¹ As one commenter noted, primary market transactions should not be added to the CAT until regulatory and surveillance requirements have been defined.⁹² As such, the Participants recommend that further analysis regarding the possible inclusion of Primary Market Transaction data occur no sooner than six months after the Industry Member CAT Reporters have gained experience with implementing changes to secondary market transaction systems and have gained experience reporting to the CAT. Such experience will permit more informed cost analyses. Further supporting the SRO's recommendation, SIFMA explained that the industry is currently absorbing substantial new regulatory costs. Allowing determination whether to require top-

⁸⁸ *Id.* at Appendix C.

⁸⁹ *Id.*

⁹⁰ Hanley Letter, *supra* note 69, at 5.

⁹¹ Plan Adopting Release, *supra* note 4, at 84779.

⁹² SIFMA Letter, *supra* note 68, at 36.

account and sub-account data be reported to CAT reporting to benefit from experience with the CAT would allow the industry to better absorb additional cost because of the experience reporting other data to the CAT and because of the longer time horizon that CAT Reporters would have to comply with any added requirement.⁹³

III. EQUITY SECURITIES OTHER THAN NMS SECURITIES AND OTC EQUITY SECURITIES

Rule 613(i) requires the CAT NMS Plan to include a provision requiring the Participants to include in the Expansion Document how the Participants could incorporate into the CAT information with respect to equity securities that are not NMS Securities or OTC Equity Securities, including primary market transactions in such securities. Section 6.11 of the CAT NMS Plan effectuates this requirement. The CAT NMS Plan submitted to the Commission by the Participants included OTC Equity Securities as Eligible Securities subject to CAT reporting requirements; consequently, OTC Equity Securities are already subject to the same CAT reporting requirements as NMS Securities.⁹⁴

Although the vast majority of securities that trade on Participant exchanges are Eligible Securities, the Participants considered whether two types of transactions that may fall into this category are cabinet trades and trades in Flex options. After reviewing these trades, the

⁹³ *Id.*

⁹⁴ The term “OTC Equity Security” is defined in the CAT NMS Plan as “any equity security, other than an NMS Security, subject to prompt last sale reporting rules of a registered national securities association and reported to one of such association’s equity trade reporting facilities.” This would include all equity securities that are not NMS securities other than Restricted Equity Securities, which are not subject to prompt last sale reporting under FINRA rules, see FINRA Rules 6622(a)(3), 6420(f), and not reportable to FINRA’s Order Audit Trail System, see FINRA Rule 7410(l). Restricted Equity Securities are generally subject to trading restrictions, and the Participants believe inclusion of Restricted Equity Securities in the CAT should be considered only after the CAT is fully implemented.

Participants determined to include Reportable Events regarding cabinet trades and Flex options in the CAT. This section describes cabinet trades and flex trades.

A. Cabinet Trades

Cabinet trades are manual trades that are executed in order to remove worthless options from a member firm's books for accounting purposes. The trades are permitted by exchange rules and typically execute at a price of \$1 per options contract. These relatively rare trades are manual trades that are not reported to OPRA.

B. Flex Options

Flex options are bespoke option contracts where parties to the transaction may choose the expiration date, the strike price and the exercise style. These options are permitted by exchange rules, although the option is not standardized.