



Municipal Securities Rulemaking Board

MARCH 2024

Trading Patterns in the Municipal Securities Market

Number of Securities Traded Per Day, 2023	Cumulative % of Securities Traded	Average Number of Securities Traded
1	30.6%	6,238
2	37.3%	7,606
3	45.9%	8,232
4	54.3%	8,685
5	62.6%	8,926
6-10	68.0%	9,044
11-24	73.8%	9,117
25-49	79.1%	9,144
50-74	83.8%	9,153
75-99	88.0%	9,153
100 or More	99.8%	9,153
Total	100.0%	20,365

Even though 2023 was a record year for trade count, on average only one security traded between 75-99 times a day and one security traded 100 times or more a day. Moreover, 41% of the trading days had no securities trade 75-99 times in a day and 53% of days had no securities trade 100 or more times. That said, there were numerous days when one or more securities had 75-99 or 100 or more trades. There were 148 days in 2023 where at least one security had between 75 and 99 times and there were 117 days where at least one security traded 100 times or more. In comparison, in 2021, there were only 30 days where at least one security traded 75-99 times and only 12 days where at least one security traded 100 or more times.

The practical implication of this data is that if an individual investor is looking to buy or sell a security, there likely will be fewer than three trades, and possibly no trades, in that security on a particular day. With a limited number of trades per individual bond and only about 100 of outstanding securities trading daily, it is important that investors look at similar securities to inform their investment decisions. This is likely why the available functionality on the Municipal Market Access (EMMA®) website that allows users to compare different securities similar to the security an investor is interested in buying or selling, thus assisting in their investment making.

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Introduction¹

The municipal securities market is often considered to be more fragmented than other fixed income markets because of the tens of thousands of issuers, the nearly one million outstanding securities, and the wide diversity of structures in the market. This paper analyzes the impact of this fragmentation on patterns and trends associated with municipal securities trades reported to the MSRB, often referred to as post trade data.

Data and Methodologies

This report analyzes data from two unique and contrasting years: 2021 and 2023. The year 2023 was the second consecutive year with a record high trade count, while 2021 had a record low number of trades. The data analyzed includes all trades reported to the MSRB's Real-Time Transaction Reporting System but excludes trades reported as List Offering Price and takedown transactions (LOP).² These LOP trades are often reported in bulk at the time of first execution, which is likely different from the time the agreement to purchase the securities was made. For this reason, LOP trades may not reflect the market for the security at the time of first executions, so market participants look at these trades differently from non-LOP trades.

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- ¹ The views expressed in the research paper are those of the author(s) and do not necessarily reflect the views and positions of the MSRB Board and other MSRB staff.
- ² Indicates a trade executed on the first day of trading of a new issue, either by an underwriter or another broker-dealer or bank involved in the initial distribution of the securities at the published "list offering price" for the security, or by an underwriter to another broker-dealer or bank involved in the initial distribution of the securities at a discount (or "takedown") from the published list offering price for the security.

Analysis and Findings

As Figure 1 shows, in 2023, on average, more than 12% of the trades in the municipal market occurred with securities that traded only once a day. Approximately 30% of the trades occurred in securities that traded twice a day and almost 80% of the trades occurred in securities that traded five times or less on any given day. In contrast, less than 10% of trades occurred in securities that traded more than 10 times a day and just over 3% of trades occurred in securities traded 25 or more times a day.

This pattern is not surprising given the fragmentation in the market. The data in this analysis shows that only about 2% of the nearly one million securities outstanding traded on an average day in 2023 (1% in 2021), and for securities that did trade, there was limited depth in trading volume per security. This is important because if an investor is interested in buying a security on a particular day, it is unlikely there will be more than a few trades and often there will be only one trade in the security. Logically, an investor would be more confident about buying a security that has several data points than one that has only a single data point on a given day.

Figure 1. Number of Trades Per Day, 2023

Number of Times a Security Is Traded	% of Trades	Cumulative % of Trades	Average Number of Trades	Total Number of Trades
1	12.3%	12.3%	6,238	1,565,625
2	29.9%	42.2%	15,213	3,818,496
3	19.1%	61.3%	9,697	2,433,846
4	13.3%	74.5%	6,741	1,691,972
5	5.2%	79.7%	2,631	660,310
6–10	11.8%	91.5%	6,010	1,508,515
11–24	5.7%	97.2%	2,895	723,731
25–49	1.9%	99.1%	990	248,368
50–74	0.5%	99.6%	250	62,642
75–99	0.2%	99.8%	84	20,971
100 or More	0.2%	100.0%	104	26,070
Total			50,839	12,760,546

Since 2023 was a record year for trade count volume in the municipal securities market, the same analysis was performed on trade data from 2021, a record low year for trade volume. With far fewer securities trading in 2021, those trading a smaller number of times per day had a significantly larger share of the overall trades. Securities trading once, twice or fewer, or four times or fewer represented 12%, 42% and 75% of all trades in 2023, respectively, compared to 17%, 47% and 82% in 2021. On the other hand, securities that traded more than 10 times a day represented 8% of trades in 2023 but only 4% in 2021.

Another way to look at the data is how often individual securities trade in the market each day. In 2023, on average, almost 31% of the securities that traded on a given day traded only one time and about 37% traded only twice. This means that approximately two-thirds of municipal securities that traded on any given day had only one or two trades per day. Similarly, about 92% of these securities traded four times or fewer per day.

It is important to note that even though nearly 70% of the securities traded on a particular day had more than one trade, the percentage of time a market participant had access to a same-day trade is much less than that. In fact, almost 40% of the trades that occur on an average day have no prior data points at the time of trade. Market participants must use the data available to them at the time they are ready to make trading decisions. Trades that occur after their investment decision is made would not factor into their decision. So, although a security may have traded three times a day, the first trade happened without another trade that day to consider, the second trade had one same-day trade and the last trade had two trades to inform their investment decision.

Looking at the number of securities traded emphasizes the fragmented nature of the market. On average in 2023, approximately 20,400 different securities traded per day. About 14,000 securities traded two times or fewer and almost 19,000 traded four times or fewer. Conversely, approximately 234 securities traded more than 10 times a day and 36 securities traded 25 or more times a day. Comparing 2021 trade data to 2023 data, we see an even higher concentration in the percentage of securities trading once or only a few times a day. The number of securities trading once, twice or fewer, or four times or fewer represented 38%, 71% and 95%, respectively, in 2021 compared to 31%, 68% and 92% in 2023.

Figure 2. Number of Securities Traded Per Day, 2023

Number of Times a Security Is Traded	% of Securities Traded	Cumulative % of Securities Traded	Average Number of Securities Traded
1	30.6%	30.6%	6,238
2	37.3%	68.0%	7,606
3	15.9%	83.8%	3,232
4	8.3%	92.1%	1,685
5	2.6%	94.7%	526
6–10	4.1%	98.9%	844
11–24	1.0%	99.8%	197
25–49	0.1%	100.0%	30
50–74	0.0%	100.0%	4
75–99	0.0%	100.0%	1
100 or More	0.0%	100.0%	1
Total			20,365

Even though 2023 was a record year for trade count, on average in 2023 only one security traded between 75–99 times a day and one security traded 100 times or more a day. Moreover, 41% of the trading days had no securities trade 75–99 times in a day and 53% of days had no securities trade 100 or more times. That said, there were numerous days when one or more securities had 75–99 or 100 or more trades. There were 148 days in 2023 where at least one security traded between 75 and 99 times and there were 117 days where at least one security traded 100 times or more. In comparison, in 2021, there were only 30 days where at least one security traded 75–99 times and only 12 days where at least one security traded 100 or more times.

The practical implication of this data is that if an individual investor is looking to buy or sell a security,³ there likely will be fewer than three trades, and possibly no trades, in that security on a particular day. With a limited number of trades per individual bond and only about 2% of outstanding securities trading daily, it is important that investors look at similar securities to inform their investment decisions. This is likely why the available functionality on the Electronic Municipal Market Access (EMMA[®]) website that allows users to compare different securities is one of the most used tools on the website. This functionality helps users to find trades in securities similar to the security an investor is interested in buying or selling, thus assisting their decision making.

³ With a few exceptions, if an investor is looking to sell a security, they have held in their portfolio the chance that that security traded the same day is exceedingly small, likely near 0%.

Data Points for Larger Size Trades

The municipal market is heavily reliant upon various tools such as yield curves and evaluated pricing to function efficiently. Entities that provide these tools are dependent on MSRB trade data for their products. The methodologies that many providers of these tools use will often remove trades under a certain size and use only a subset of the MSRB trade data. Because of the importance of these tools to the market, this analysis also included data for trades with a par amount of \$500,000 or more and \$1 million or more.

In 2023, for trades of \$500,000 or more, there were fewer than 700,000 total trades. That means that on an average daily basis, there were fewer than 2,800 trades and 1,500 securities traded per day available to these providers. For trades of \$1 million or more, there were fewer than 1,800 trades and fewer than 1,000 securities traded per day on average. Since 2023 was a record year for trade count, we performed the same analysis in 2021, which was a record low year for trade count. In 2021, the average number of trades and securities traded per day available for trades of \$500,000 or more were significantly lower, with 1,900 trades and 1,000 securities traded per day on average. For trades of \$1 million or more, there were only about 1,200 trades and 650 securities traded per day on average.

The number of data points used by providers of various tools in the municipal market is probably significantly smaller than the total number of trades reported to the MSRB.⁴ Besides minimum trade size, available tools likely use additional filters to eliminate trades based on the rating, tax status, coupon, and maturity date, among others.

Conclusions

This analysis shows the extent of the fragmentation in the municipal securities market and the lack of depth and breadth of available data for market participants. Only about 2% of outstanding securities traded on any day in 2023 (1% in 2021). For securities that did trade, about 80% of trades occurred in securities that traded five times or fewer per day. Furthermore, approximately two-thirds of municipal securities that traded in a day had only one or two trades per day in 2023.

The lack of breadth and depth in the municipal market is even more apparent when smaller sized trades are removed from the overall results. The methodologies that certain market data providers use to provide pricing and other tools to the market typically place a higher value on trades of \$500,000 or \$1 million or more. A market tool that removes trades below \$500,000 in par amount would use less than 6% of all trades in the market, less than 4% when removing trades of less than \$1 million. This illustrates the value of using trades in related securities to inform decisions in a market with limited trading volume.

⁴ Third-party providers of analytical market tools may use other sources of data in their products.

ABOUT THE MSRB

The Municipal Securities Rulemaking Board (MSRB) protects and strengthens the municipal bond market, enabling access to capital, economic growth, and societal progress in tens of thousands of communities across the country. The MSRB fulfills this mission by creating trust in our market through informed regulation of dealers and municipal advisors that protects investors, issuers and the public interest; building technology systems that power our market and provide transparency for issuers, institutions, and the investing public; and serving as the steward of market data that empowers better decisions and fuels innovation for the future. The MSRB is a self-regulatory organization governed by a board of directors that has a majority of public members, in addition to representatives of regulated entities. The MSRB is overseen by the Securities and Exchange Commission and Congress.



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