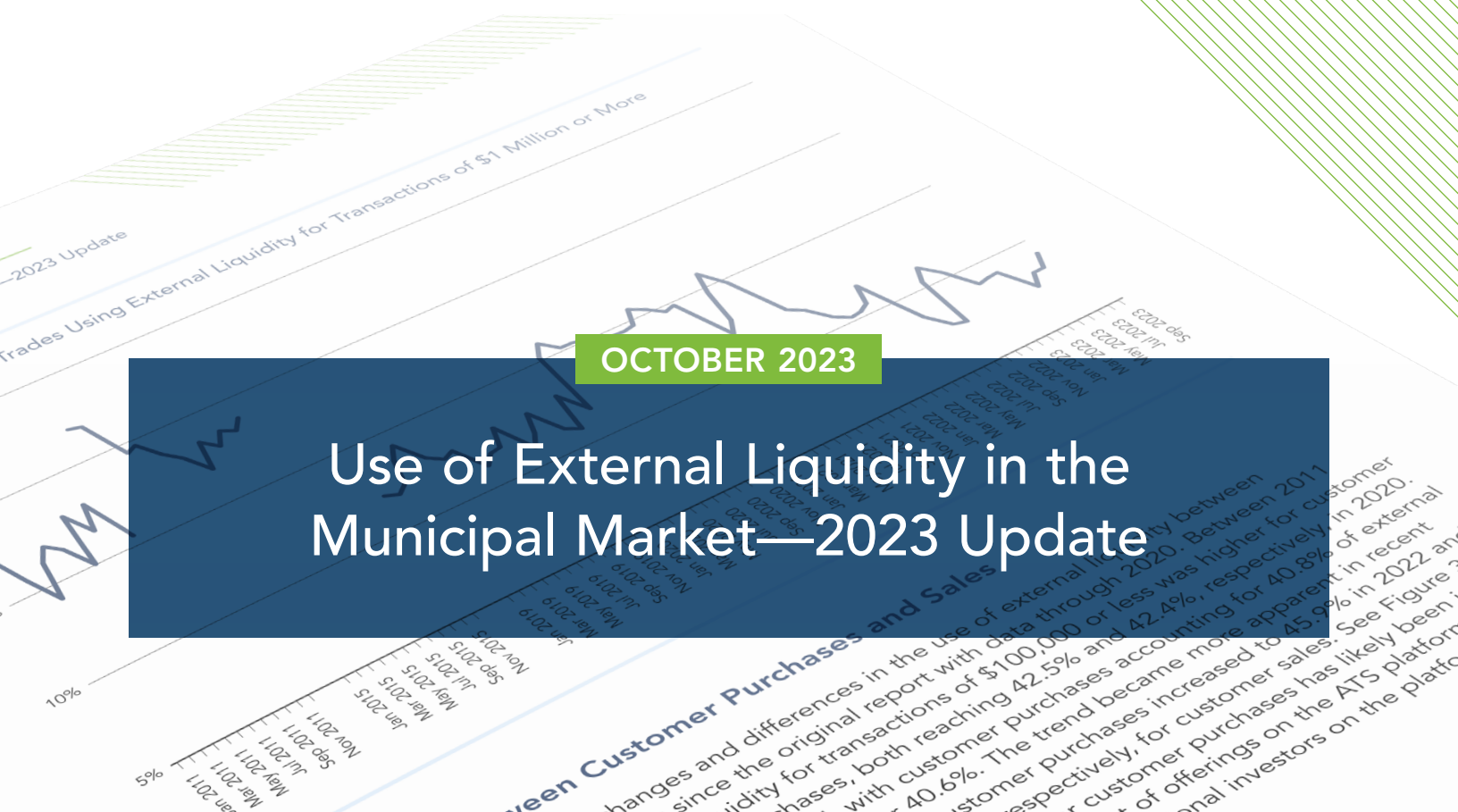




Municipal Securities Rulemaking Board



OCTOBER 2023

Use of External Liquidity in the Municipal Market—2023 Update

Differences Between Customer Purchases and Sales

Analysis shows some key changes and differences in the use of external liquidity between customer purchases and sales since the original report with data through 2020. Between 2011 and 2020, the use of external liquidity for transactions of \$100,000 or less was higher for customer sales compared with customer purchases, both reaching 42.5% and 42.4%, respectively. Starting in 2021, those trends reversed, with customer purchases accounting for 40.8% of external liquidity and customer sales accounting for 40.6%. The trend became more apparent in recent years, when the use of external liquidity for customer purchases increased to 45.9% in 2022 and 46.5% in 2023, compared to 41.0% and 42.0%, respectively, for customer sales. See Figure 2 by a significant increase in the use of external liquidity for customer purchases has likely been might be attributable to an increase in trading by institutional investors on the ATS platform the growing presence of electronic and algorithmic trading.

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Summary¹

On November 2021, the MSRB published a report on the [Use of Internal and External Liquidity in the Municipal Market](#) that examined changes in patterns of customer transactions and use of external liquidity during the periods of 2011, 2015, 2019 and 2020. This follow-up report provides an update to those patterns for the subsequent years of 2021, 2022 and the first nine months 2023. As in the original report, external liquidity is defined as when a customer purchase or sale is filled using the offer or bid of a different (and unaffiliated) dealer than the client's dealer. The related interdealer trade would be for the same quantity as the customer buy or sell and transacted on the same day.²

From 2021 through September of 2023, findings indicate that the use of external liquidity for customer transactions of \$100,000 or less has continued to increase, albeit not at the same pace as it did from 2011 to 2020.³ For these small-sized transactions, the use of external liquidity increased from an average of 30.2% in 2011 to 42.4% in 2020 and to 44.6% in the first nine months of 2023. For customer transactions of \$1 million or more, the use of external liquidity generally decreased from an average 16.3% in 2011 to 13.0% in 2020 before bottoming out to an average of 9.1% in 2023, the lowest levels since the MSRB started analyzing this information.⁴

The same factors that may have led to changes in the use of external liquidity prior to 2021 when the first report was released, including the development and proliferation of electronic trading such as Alternative Trading Systems (ATS) and algorithmic and proprietary trading, as well as liquidity aggregation tools, are likely still driving the changes in the last few years. For many dealers and individual investors, ATSs provide the tools and technology that make access to

¹ The views expressed in this research paper are those of the authors and do not necessarily reflect the views and positions of the MSRB.

² This update uses the same methodology from the original report and additional information can be found in Appendix A.

³ Trades of \$100,000 or less are commonly categorized as individual investor-sized trades.

⁴ Trades of \$1 million or more are often referred to as institutional-sized trades.

municipal bonds easier and more efficient. For smaller-sized customer sales, electronic trading facilitates liquidity by efficiently disseminating bid-wanted or Request for Quotes (RFQs) and gathering the responses to bid-wanted. For smaller-sized customer purchases, electronic trading automatically aggregates tens of thousands of offerings and provides tools to help financial professionals and individual investors efficiently sort offerings to identify potential purchases. Because ATs predominantly have smaller-sized trades, their impact can be seen in the significant decrease in the average size of interdealer trades. The average trade size for interdealer trades has shrunk from approximately \$136,000 in 2021 to \$110,000 for the first nine months of 2023.⁵

When comparing the use of internal and external liquidity, the authors do not believe that the market benefits from one type versus the other. Rather, the market appears to benefit from a mix of internal and external liquidity for customer purchases and sales in smaller-sized transactions. If either internal or external liquidity were to become the dominant type of liquidity for trades with individual investors, that could indicate a significant decrease in liquidity in the market. In the end, individual investors do not appear to have a preference whether a dealer is using their own inventory or the liquidity of another dealer. This study shows a healthy balance and competition for individual investor order flow for both purchases and sales.

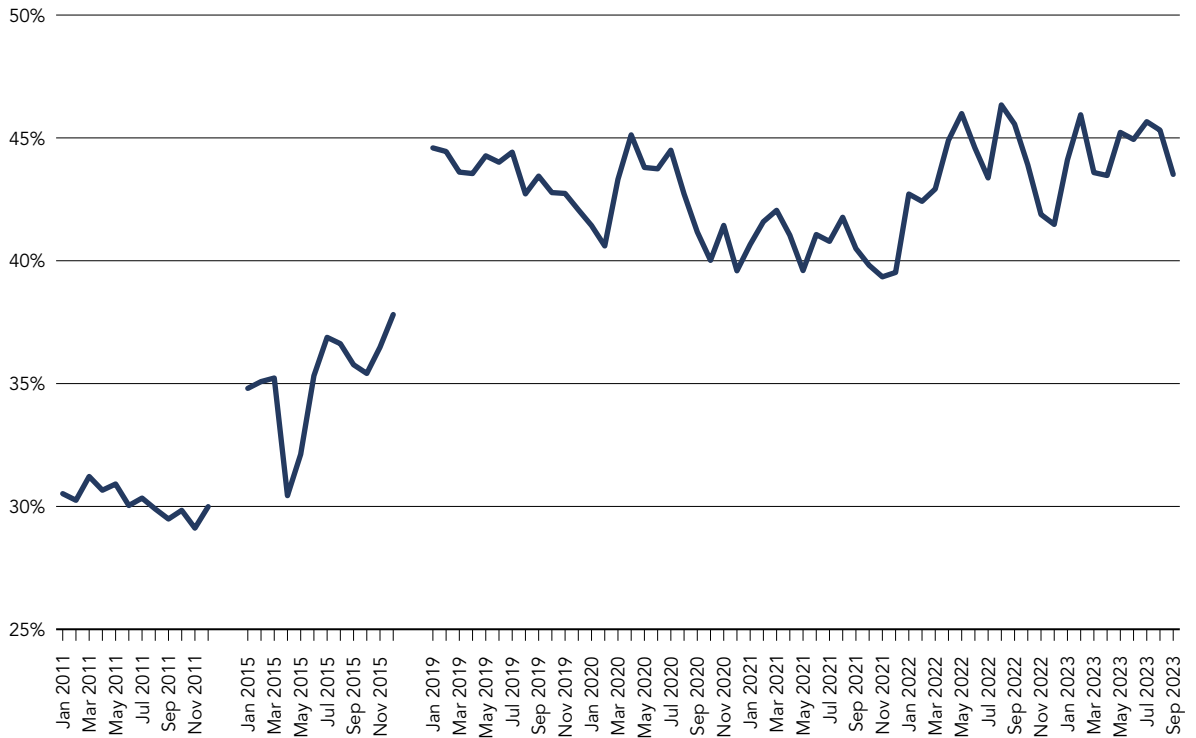
Overall Findings

All Customer Transactions

Analysis shows that the use of external liquidity reached the highest level during the first nine months of 2023 with an average of 44.6% of all customer trades of \$100,000 or less, an increase from 43.8% in 2022, 40.7% in 2021 and 30.2% in 2011. See Figure 1. While the overall use of external liquidity has increased since 2011, it is important to note that between the years 2019 and 2021, annual averages decreased from 43.6% to 40.7% before bouncing back in more recent years.

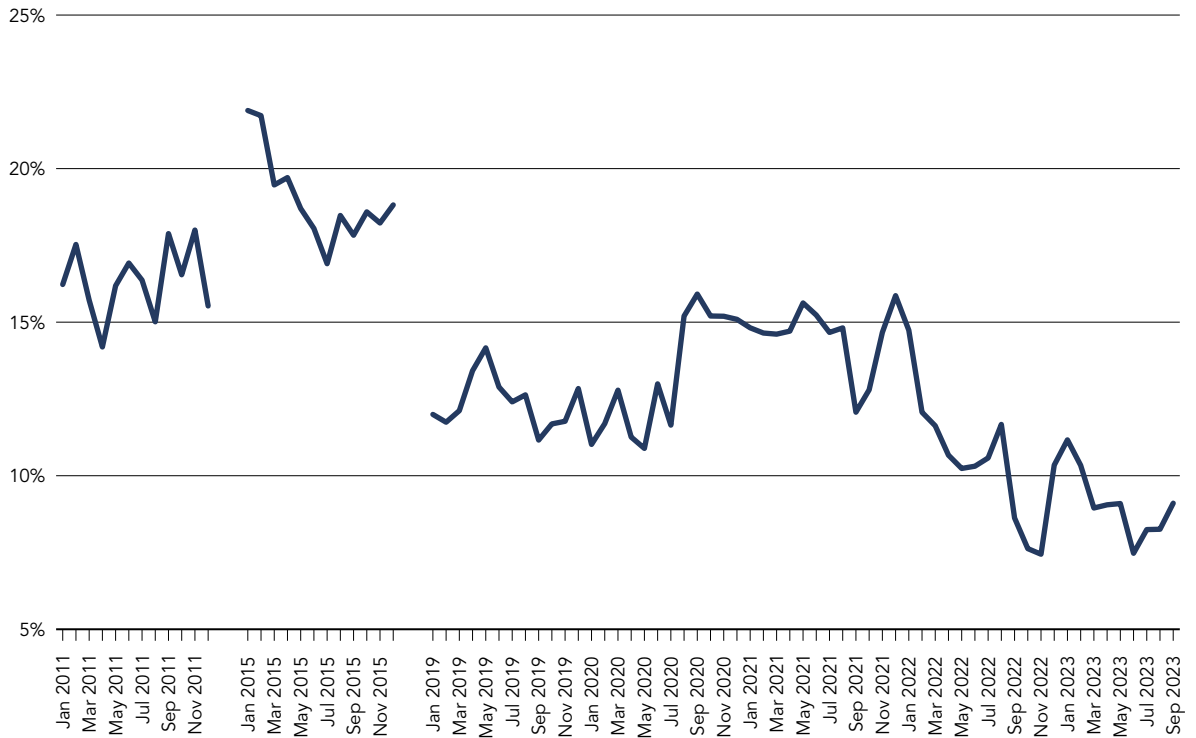
⁵ MSRB plans to conduct additional research on the relationship and characteristics of customer and interdealer trades.

Figure 1. Customer Trades Using External Liquidity for Transactions of \$100,000 or Less



An even more significant change occurred in larger transactions of \$1 million or more, with the use of external liquidity decreasing to an annual average of 9.1% in 2023 through September, compared to 10.2% in 2022 and 14.5% in 2021, as shown in Figure 2. Between 2011 and 2020, the use of external liquidity was more volatile for larger transactions, increasing from 16.3% in 2011 to 19% in 2015 before decreasing to 13% in 2020.

Figure 2. Customer Trades Using External Liquidity for Transactions of \$1 Million or More



Differences Between Customer Purchases and Sales

Analysis shows some key changes and differences in the use of external liquidity between customer purchases and sales since the original report with data through 2020. Between 2011 and 2020, the use of external liquidity for transactions of \$100,000 or less was higher for customer sales compared with customers purchases, both reaching 42.5% and 42.4%, respectively, in 2020. Starting in 2021, those trends reversed, with customer purchases accounting for 40.8% of external liquidity and customer sales accounting for 40.6%. The trend became more apparent in recent years, when the use of external liquidity for customer purchases increased to 45.9% in 2022 and 46.5% in 2023, compared to 41.0% and 42.0%, respectively, for customer sales. See Figure 3. The continued increase in the use of external liquidity for customer purchases has likely been impacted by a significant increase in the number and par amount of offerings on the ATS platforms, which might be attributable to an increase in trading by institutional investors on the platforms as well as the growing presence of electronic and algorithmic trading.

Figure 3. Use of External Liquidity as a Percentage of Customer Trades for Transactions of \$100,000 or Less

	2011	2015	2019	2020	2021	2022	2023*
Customer Sales	30.7%	39.0%	44.9%	42.5%	40.6%	41.0%	42.0%
Customer Purchases	30.0%	33.1%	42.8%	42.4%	40.8%	45.9%	46.5%
Difference	0.7%	5.9%	2.1%	0.1%	-0.2%	-4.9%	-4.5%

* As of September

As shown in Figure 4, the differences in use of external liquidity between the two types of customer trades were much smaller and less predictable for trades of \$1 million or more. The use of external liquidity for customer purchases decreased from 15.5% in 2021 to 8.5% in the first nine months of 2023. Similarly, the use of external liquidity for customer sales decreased from 13.3% in 2021 to 9.7% in 2023. It should also be noted that customer purchases outpaced customers sales in five out of the seven years analyzed.

Figure 4. Use of External Liquidity as a Percentage of Customer Trades for Transactions of \$1 Million or More

	2011	2015	2019	2020	2021	2022	2023*
Customer Sales	15.7%	18.4%	12.8%	12.3%	13.3%	10.0%	9.7%
Customer Purchases	16.9%	19.6%	12.2%	13.7%	15.5%	10.4%	8.5%
Difference	-1.2%	-1.2%	0.6%	-1.4%	-2.2%	-0.4%	1.2%

* As of September

Dealer Characteristics

While the profile of the firms providing external liquidity changed significantly between 2011 and 2020, changes in the types of dealers providing external liquidity were much less evident between 2021 and the first nine months of 2023. Of the top 10 providers of external liquidity in 2011, only four remained in the top 10 by 2020 and only three did so by the first nine months of 2023. In 2011, the providers of external liquidity were dominated by large wealth management firms with large numbers of individual investors, often referred to as national firms. Starting in 2020 through 2023, the providers of external liquidity were more evenly divided between national firms and firms that have few or no individual investors. Many of these firms employ algorithmic trading models to make markets on a wide variety of bonds on various trading platforms in order to capture order flow for customer purchases and customer sales for odd-lots and smaller block positions. Looking at the top five firms providing external liquidity, dealers remained essentially unchanged after 2020 with four out of the top five dealers in 2020 remaining in top five in 2022 and 2023. The exception was one dealer that entered the top five in recent years that was not

in the top 10 in prior years. Additionally, the top six dealers and eight out of the top 10 firms remained the same in 2022 and 2023.

Consistent with trends observed in the original report, the percentage of external liquidity market share continued to become more concentrated. During the first nine months of 2023, the top three dealers provided nearly a third of the external liquidity, a significant increase from 24% in 2020 and 18% in 2011. The top five and 10 dealers providing external liquidity accounted for 40% and 58% in 2023, a significantly higher share than the 31% and 46% in 2020.

Figure 5. External Liquidity Provided by Top Dealers

	2011	2020	2023*
Top Three Dealers	18%	24%	30%
Top Five Dealers	26%	31%	40%
Top 10 Dealers	42%	46%	58%

* As of September

The number of firms providing external liquidity continued to decrease and reached a low of 468 firms in the first nine months of 2023, compared to 534 firms in 2020 and 743 firms in 2011. When looking at firms providing significant external liquidity, i.e., more than 10,000 trades in 2011 and 2020 and more than 7,500 trades in 2023, the number of firms increased from 27 in 2011 to 42 in 2020 and 44 in 2023. Although the concentration of external dealer liquidity has increased since 2020, the multiple business models among dealers that drive how, when and how much liquidity a dealer will provide in various market environments are among the significant contributors to external liquidity in the market. The varied business models should be a positive for market liquidity going forward.

Figure 6. Firms Providing External Liquidity by Number of Trades

	Number of Firms		
	2011	2020	2023*
At least One Trade	743	534	468
500 Trades or More	154	160	150
5,000 Trades or More	49	59	55
10,000 Trades or More	27	42	37
20,000 Trades or More	17	22	22

* As of September

Conclusion

Market structure and how market participants access the market has changed over the past 10 to 15 years and those changes, including electronic trading, algorithmic trading, as well as liquidity aggregation tools, continue to drive the use of external liquidity.

Similar trends identified in the original [*Use of Internal and External Liquidity in the Municipal Market*](#) report continued in the years since 2020. For customer transactions of \$100,000 or less, the use of external liquidity increased between 2020 and the first nine months of 2023, while the use of external liquidity for transactions of \$1 million or more decreased in the same period.

Appendix A

This report is based on a set of transaction data and related descriptive data for calendar years 2011, 2015, 2019, 2020, 2021, 2022 and the first nine months of 2023. The data set consists of approximately 35 million trades as submitted to the MSRB's Real-Time Transaction Reporting System (RTRS). To focus this analysis on secondary market customer trading in fixed-rate, longer-term transactions only, the following categories of municipal trades were eliminated from the analysis when possible:

- Variable rate securities;
- Short-term instruments under nine months including variable rate instruments, auction rate products and commercial paper; and
- List offering price and takedown transactions, which generally encompass primary market transactions.

As mentioned earlier, external liquidity is defined as when a customer purchase (sale) is filled using the offering (bid) of a different and unaffiliated dealer than the client's dealer. The related interdealer trade would be for the same quantity as the customer buy or sell and transacted on the same day. Customer transactions on any day other than the day the dealer bought (sold) the position are considered to be internal liquidity because the dealer held a position overnight, incurring additional risk and cost to finance the position.⁶

The report seeks, among other things, to identify and match customer and interdealer transactions based on the CUSIP, trade date, par amount and executing dealer.

⁶ Several firms with significant trading volume employ a two broker-dealer model where the capital and risk taking is with one broker-dealer and the individual investor transactions are done with a different broker-dealer. This model results in an interdealer trade between the affiliated dealers for all or almost all transactions with individual investors. This paper does not consider a customer trade to be filled with external liquidity unless the risk taking broker-dealer has an offsetting interdealer trade on the same day.

Figure 7 illustrates a small sample of the data used in the report for three different instances of external liquidity matches, with highlighted rows being matched transactions.

Figure 7. External Liquidity Sample

Trade Date	Trade Time	Par Amount	Trade Type	Buying Entity	Selling Entity
01/06/2015	12:15:32 PM	\$50,000	Cust Purchase	Customer	Dealer 123
01/06/2015	14:15:11 PM	\$50,000	Interdealer	Dealer 123	Dealer ABC
06/09/2019	11:10:57 AM	\$150,000	Cust Sale	Dealer XYZ	Customer
06/09/2019	11:10:59 AM	\$150,000	Cust Buy	Customer	Dealer 456
06/09/2019	11:11:31 AM	\$150,000	Interdealer	Dealer ERT	Dealer XYZ
03/13/2020	9:15:04 AM	\$125,000	Cust Buy	Customer	Dealer 789
03/13/2020	12:27:42 PM	\$80,000	Cust Buy	Customer	Dealer UIO
03/13/2020	12:27:42 PM	\$80,000	Interdealer	Dealer UIO	Dealer 159
03/13/2020	12:27:42 PM	\$80,000	Interdealer	Dealer 159	Dealer NHY
03/13/2020	1:59:25 PM	\$500,000	Interdealer	Dealer 159	Dealer ERT

It should be noted that the methodology used does not account for transactions of different par amount sizes and, therefore, for example, it is possible that one larger purchase that is subsequently sold as smaller pieces could be categorized as external liquidity but not counted in this report. Similarly, a dealer could buy a bond to place into their inventory without an offsetting customer order but receive a customer order later that day for the same amount. This report would count this trade as being filled with external liquidity, when it is reasonable to categorize this pattern as being a trade filled internally.

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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