



Municipal Securities Rulemaking Board

and Concentration in Municipal Securities Trading
Some volatility in trading activity since 2006, the size of the municipal market has
and relatively stable, particularly since 2009. Par amount traded decreased 51 percent
2006 (and 55 percent since the peak in 2007) while the total amount of outstanding
in the municipal market increased 17 percent since 2006 (but nearly unchanged since
9). Figure 3 shows trading activity and market size for all types of municipal securities.

Figure 3. Municipal Trading Activity and Market Size

JUNE 2018

Dealer Participation and Concentration in Municipal Securities Trading



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Abstract

The purpose of this report is to measure changes and identify trends in the trade activity of municipal securities dealers.¹ These trends are evaluated through two distinct measures: dealer participation and concentration of trades with dealers. Dealer participation is defined as the total number of dealers participating in municipal customer trades, whereas dealer concentration is defined as the market share of the 50 most-active dealers in terms of trading activity of customer trades in the municipal market. While dealer participation and concentration may be atypical measures of liquidity in the municipal market, they do provide unique insights. These trends provide a means of quantifying how dealer activity has shifted over time given the decline in the number of MSRB-registered dealers participating in the municipal securities market.

Dealers have traditionally served as the main source of liquidity in the municipal market. However, recent data disseminated by the Federal Reserve show that dealer inventories of municipal bonds have decreased by approximately 67 percent since 2006.² Despite the decreasing number of MSRB-registered dealers and smaller dealer inventories, trading activity in municipal securities has remained relatively stable over the past several years³ with robust dealer participation and overall activity becoming less concentrated among top dealers.

¹ Collectively referred to as dealers throughout this report.

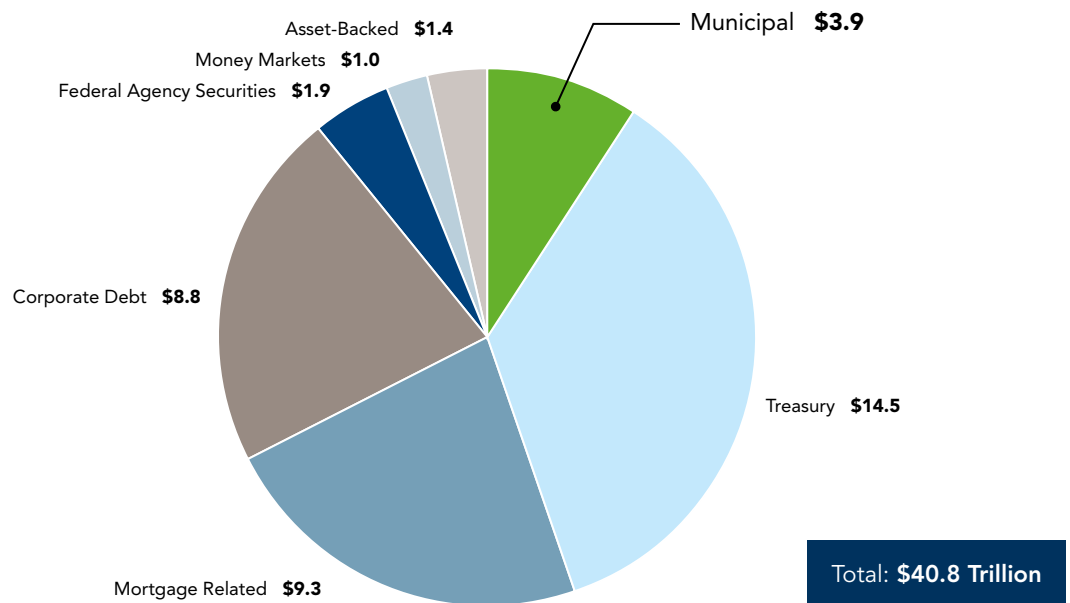
² Federal Reserve Financial Accounts of the United States, Table L. 212 (March 2018) available at www.federalreserve.gov.

³ MSRB 2017 Fact Book, available at www.msrb.org.

Municipal Market Overview

The public purpose and size of the municipal securities market underscore its importance to the U.S. economy. In addition to financing critical governmental projects and operations, municipal securities are used by state and local governments to meet a wide variety of other public needs, including transportation and environmental infrastructure, economic development and educational and healthcare facilities. Issuers of municipal securities include towns, cities, counties and states, as well as state and local government agencies and authorities that issue debt. There are an estimated 50,000 issuers of municipal securities, and by the close of 2017, outstanding principal value of municipal securities was estimated to be approximately \$3.9 trillion.⁴ This compares with other U.S. debt markets as shown in Figure 1.

Figure 1. U.S. Bond Market Size, 2017

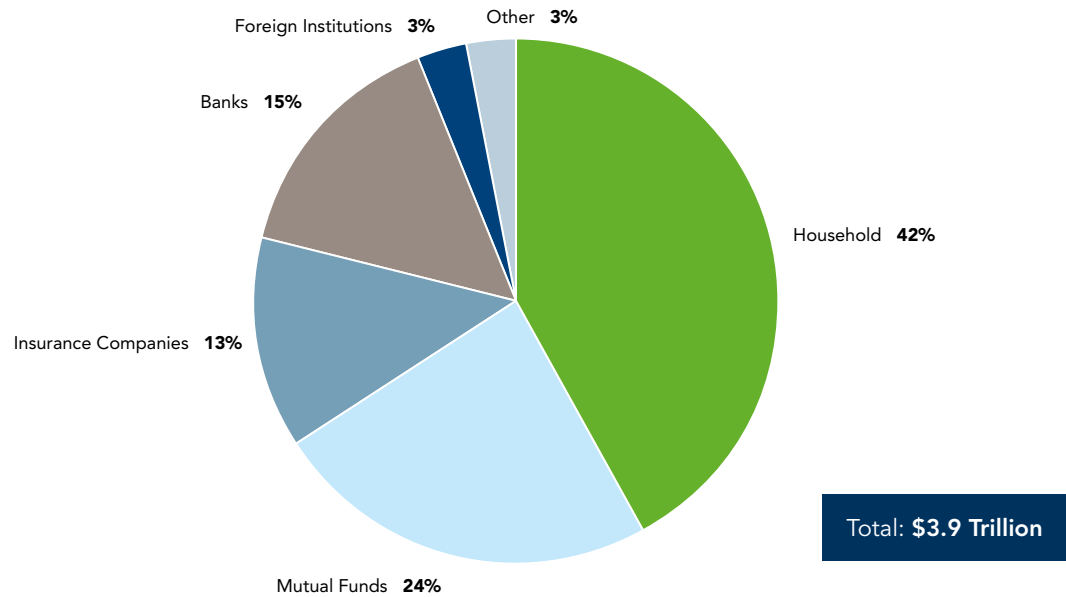


Source: Federal Reserve, SIFMA

⁴ Federal Reserve Financial Accounts of the United States, Table L-211 (March 2018) available at www.federalreserve.gov.

The major categories of holders of municipal securities include individual investors, mutual funds, insurers, banks and broker-dealers. Figure 2 shows the percentages of investments in municipal securities in the categories tracked by the Federal Reserve.

Figure 2. Holdings of U.S. Municipal Securities



Source: Federal Reserve Financial Accounts of the U.S., as of December 2017

In general, individuals participating in the municipal securities market tend to be “buy-and-hold” investors. Typically, municipal securities with fixed interest rates trade relatively frequently during the initial weeks after issuance (especially for larger maturities), but trade infrequently or sporadically during the remaining life of the security. Generally, only about one percent of the one million outstanding municipal securities will trade on any given day.⁵

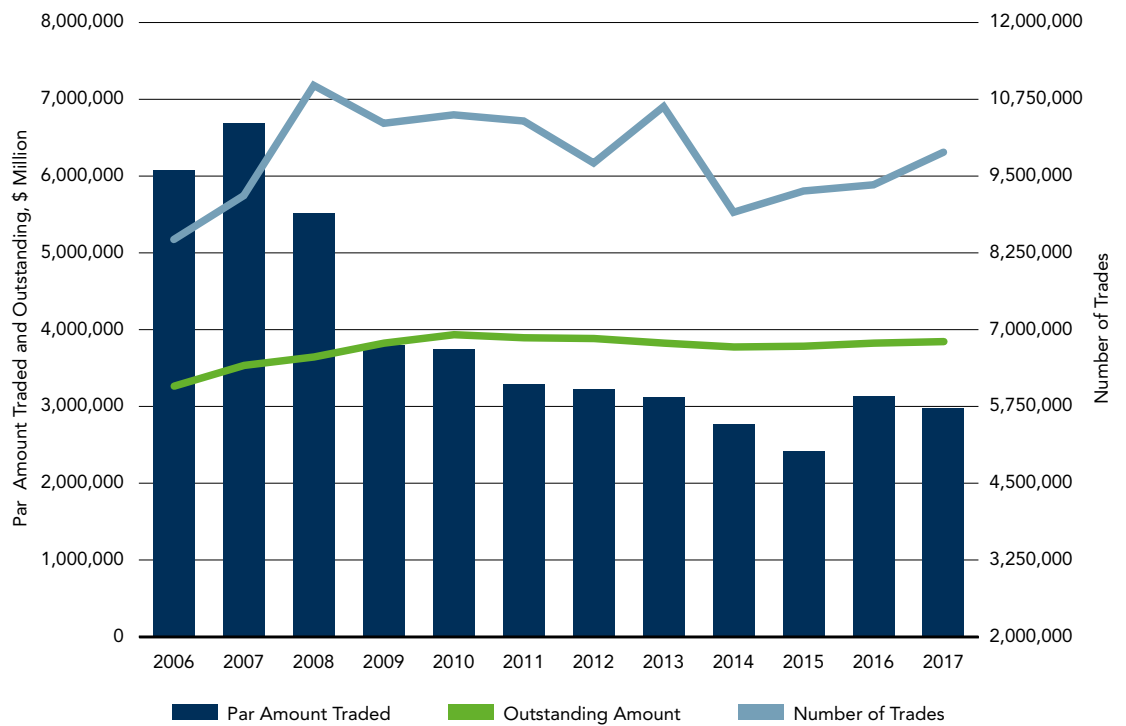
Aggregate daily trading activity in the market is substantial. From 2006 to 2017, an average of nearly 39,000 transactions in municipal securities was reported to the MSRB each trading day, resulting in an average total trading value of about \$14 billion per day.⁶ During the same time period, approximately 45 percent of all trades were sales from dealers to customers while 22 percent were purchases by dealers from customers with the remaining trades being conducted between dealers.

⁵ MSRB 2017 Fact Book, available at www.msrb.org.

⁶ The MSRB provides statistical data on market activity on its website at www.msrb.org and through its EMMA website at emma.msrb.org. Certain statistics in the report exclude certain types of securities. See Overview of Data Used and Calculation Methodology section.

Despite some volatility in trading activity since 2006, the size of the municipal market has remained relatively stable, particularly since 2009. Par amount traded decreased 51 percent since 2006 (and 55 percent since the peak in 2007) while the total amount of outstanding debt in the municipal market increased 17 percent since 2006 (but nearly unchanged since 2009). Figure 3 shows trading activity and market size for all types of municipal securities.

Figure 3. Municipal Trading Activity and Market Size



Source: MSRB, Federal Reserve

Municipal Market Fragmentation

Although both the corporate and municipal bond markets are over-the-counter markets, they operate differently. The municipal securities market is more fragmented due to, among other reasons, the large number of securities and municipal issuers and the difficulty in hedging positions. Municipal securities also trade less frequently than some corporate bonds and seldom have the same depth of market.

Certain key characteristics of the municipal market have contributed to market fragmentation:

- There are approximately one million unique municipal securities compared to about 30,000 corporate securities.
- The 50,000 different municipal issuers with debt outstanding is significantly higher than the approximately 10,000 listed corporate issuers.
- Corporate bonds are traded frequently with nearly 60,000 daily trades on average, compared to about 40,000 daily trades in the municipal market.⁷
- A vast majority, or about 99 percent, of municipal securities do not trade on any given day.⁸
- Municipal issuers vary in size and capital needs. For example, issuers such as the State of Texas or the City of New York have billions of dollars in municipal securities outstanding and regularly access the market, while issuers such as the Town of Culpepper, Virginia or Saint Mary's College in Maryland may have less than \$50 million in outstanding debt and may wait years between new issuances.
- A varying range of profiles and preferences of municipal investors in terms of investment horizon, credit risk, bond structure and in-state bond preferences.

⁷ MSRB 2017 Fact Book, available at www.msrb.org and FINRA TRACE Fact Book, available at www.finra.org.

⁸ MSRB 2017 Fact Book, available at www.msrb.org.

Overview of Data Used and Calculation Methodology

This report is based on a set of transaction data reported to the MSRB by dealers and related descriptive data for the period consisting of calendar years 2006, 2011 and 2017.⁹ The entire dataset consists of approximately 38 million trades. In order to focus the analysis on secondary market customer trading in fixed-rate, tax-exempt, long-term transactions, the following categories of municipal trades were eliminated when possible:

- Variable rate securities;
- Taxable securities;
- Inter-dealer transactions;
- Securities that mature in one year or less; and
- List offering price and takedown transactions (which are defined such that they generally encompass primary market transactions).

The data are categorized by customer trade type (customer purchases and customer sales) and trade sizes, including trades of \$100,000 or less, trades greater than \$100,000 and less than \$1,000,000, and trades of more than \$1,000,000. Calculations were based on both the number of trades and par amount traded for specific periods.

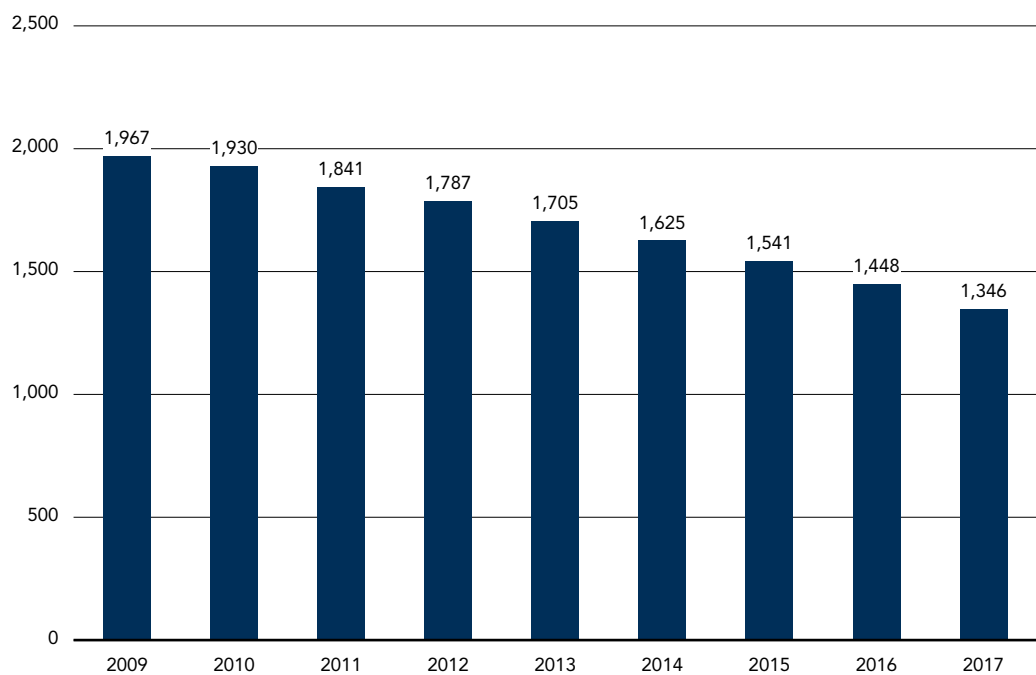
While summaries of the findings are shown in Figures 5, 6, 7 and 8, a more comprehensive set of statistics can be found in Appendices A and B.

⁹ The MSRB obtains some information on the characteristics of securities traded from the New Issue Dissemination Service (NIDS) and Standard and Poor's Financial Services LLC.

Dealer Participation

The number of registered municipal securities dealers has steadily decreased over time. At the end of 2009, nearly 2,000 dealers were registered with the MSRB. As of the end of 2017, the number of registered dealers had decreased to about 1,350 dealers (see Figure 4). Several factors have affected the number of registered dealers, including consolidation of broker-dealers and dealers exiting the municipal securities business.

Figure 4. Number of MSRB-Registered Dealers
As of October 1



Source: MSRB

While the number of registered dealers has decreased over time, the decline in participating dealers appears to be concentrated in dealers that did not have a significant presence in the municipal securities market.

Analysis shows that in 2006, 358 dealers — representing 25 percent of the dealers — executed 10 or fewer customer transactions in municipal securities. In 2017, this number declined to 157 dealers, or 18 percent of the total number of dealers transacting in customer trades. Dealers that executed more than 1,000 customer trades in 2006 represented 16 percent of the dealers, compared to 24 percent of dealers in 2017. In fact, since 2006 the number of dealers executing more than 25,000 trades per year has increased from 27 to 39. A similar trend can be found when looking at customer purchases and sales separately. A summary of these findings can be found in Figures 5 and 6.

Figure 5. Dealer Participation — Number of Dealers Participating in Trades¹⁰
 All Customer Trades Based on Number of Trades
 (Additional statistics on dealer participation can be found in Appendix A)

	2006			2011			2017		
	Number of Dealers	Percentage of Total Dealers	Trading Impact*	Number of Dealers	Percentage of Total Dealers	Trading Impact*	Number of Dealers	Percentage of Total Dealers	Trading Impact*
Dealers with 1-10 Trades	358	25.1%	0.04%	271	22.6%	0.02%	157	18.2%	0.01%
Dealers with 11-100 Trades	470	33.0%	0.42%	364	30.4%	0.28%	273	31.6%	0.22%
Dealers with 101-1,000 Trades	373	26.2%	3.03%	328	27.4%	2.26%	226	26.1%	1.82%
Dealers with 1,001-2,500 Trades	87	6.1%	3.19%	76	6.3%	2.18%	69	8.0%	2.14%
Dealers with 2,501-25,000 Trades	111	7.8%	20.41%	127	10.6%	18.38%	101	11.7%	17.19%
Dealers with More than 25,000 Trades	27	1.9%	72.92%	31	2.6%	76.88%	39	4.5%	78.62%

* Trades of corresponding dealers as a percentage of market

Figure 6. Dealer Participation — Number of Dealers Participating in Trades¹¹
 All Customer Trades Based on Par Amount Traded
 (Additional statistics on dealer participation can be found in Appendix A)

	2006			2011			2017		
	Number of Dealers	Percentage of Total Dealers	Trading Impact*	Number of Dealers	Percentage of Total Dealers	Trading Impact*	Number of Dealers	Percentage of Total Dealers	Trading Impact*
Dealers with \$1,000,000 Par or Less	486	34.1%	0.01%	371	31.0%	0.01%	233	26.9%	0.01%
Dealers with \$1,000,001-\$5,000,000 Par	288	20.2%	0.06%	218	18.2%	0.07%	160	18.5%	0.05%
Dealers with \$5,000,001-\$50,000,000 Par	340	23.8%	0.48%	308	25.7%	0.70%	214	24.7%	0.48%
Dealers with \$50,000,001-\$1,000,000,000 Par	235	16.5%	4.68%	222	18.5%	6.87%	176	20.3%	5.39%
Dealers with \$1,000,000,001-\$5,000,000,000 Par	47	3.3%	8.81%	47	3.9%	14.82%	50	5.8%	12.92%
Dealers with More than \$5,000,000,000 Par	30	2.1%	85.97%	31	2.6%	77.52%	32	3.7%	81.15%

* Trades of corresponding dealers as a percentage of market

¹⁰ See Overview of Data Used and Calculation Methodology section for additional information.

¹¹ *Id.*

It is important to reiterate that several factors can have an impact on the number of MSRB-registered dealers, and that the data simply show that a significant number of dealers with no transactions in 2017 had conducted fewer than 10 trades in 2006. In general, dealers that did not execute a significant number of municipal securities transactions were more likely to leave the business than those dealers that had significant transaction volume.

Dealer Concentration

MSRB analysis shows that since 2006, dealer concentration, defined here as the dealer market share of municipal customer trades, has decreased significantly both in terms of the number of trades conducted and par amount traded. The top three dealers accounted for 29 percent of customer trades and 37 percent of customer par amount traded in 2006, compared to 24 percent in customer trades and 26 percent of customer par traded in 2017. Based on the number of customer trades, concentration in the top five dealers declined from 42 percent in 2006 to 35 percent in 2017.

Since 2006, there have been some changes to the composition of the top dealers. Accounting for mergers and acquisitions, four out of the top five dealers in 2006 are still in the top five dealers in 2017, in terms of the number of trades, while seven out of the top 10 dealers in 2006 are still in the top 10 dealers in 2017. In terms of number of trades, out of the top 20 dealers in 2006, 13 dealers remain in the top 20 dealers in 2017.

In institutional-sized trades of \$1,000,000 or more, the top three dealers accounted for 42 percent of the market in 2006, but only 35 percent of the market in 2017 based on par amount traded. Similarly, the concentration in the top 10 dealers decreased from 77 percent to 68 percent in the same period. These trends held for customer purchases and sales. In terms of number of trades, dealer concentration for institutional-sized trades of \$1,000,000 or more also decreased during the same period.

For customer trades of \$100,000 or less, often characterized as retail-sized transactions, the top three dealers accounted for 31 percent of the par amount traded in 2006, compared to 26 percent in 2017. The top 10 dealers' percentage of par amount traded declined from 59 percent to 53 percent. In terms of the number of trades, dealer concentration in this category declined even more with the top 10 dealers' market share declining from 63 percent in 2006 to 55 percent in 2017.

In general, a decline in dealer concentration — especially in the institutional market — may be favorable to investors because they are less reliant on a small number of dealers. Less concentration can potentially mean that more dealers are competing for a customer's business.

The growth of e-trading has potentially helped dealers to become more efficient in aggregating liquidity and competitive for a substantial portion of the customer order flow.

Figure 7. Dealer Concentration — Percentage of Trades Conducted by the Top 50 Dealers¹²
All Customer Trades Based on Number of Trades

(Additional statistics on dealer concentration can be found in Appendix B)

	\$100,000 or Less			\$1 Million or More			All Sizes		
	2006	2011	2017	2006	2011	2017	2006	2011	2017
Top 3 Dealers	31.5%	32.2%	25.3%	27.9%	21.9%	26.4%	29.4%	29.4%	23.8%
Top 5 Dealers	45.4%	46.7%	37.2%	39.3%	32.6%	36.5%	42.2%	43.3%	34.6%
Top 10 Dealers	63.3%	64.2%	54.8%	59.7%	50.2%	54.6%	58.8%	60.1%	51.9%
Top 15 Dealers	68.1%	69.7%	64.0%	70.0%	60.1%	66.4%	63.9%	66.2%	60.7%
Top 20 Dealers	71.7%	73.8%	69.2%	75.6%	66.2%	74.9%	68.2%	70.8%	65.8%
Top 30 Dealers	77.3%	79.4%	76.5%	83.3%	76.5%	84.8%	74.6%	76.4%	73.7%
Top 40 Dealers	81.2%	83.0%	81.8%	87.9%	83.5%	89.8%	79.0%	80.4%	79.1%
Top 50 Dealers	84.0%	85.7%	85.7%	90.8%	88.9%	93.0%	82.1%	83.4%	83.5%

Figure 8. Dealer Concentration — Percentage of Trades Conducted by the Top 50 Dealers¹³
All Customer Trades Based on Par Amount Traded

(Additional statistics on dealer concentration can be found in Appendix B)

	\$100,000 or Less			\$1 Million or More			All Sizes		
	2006	2011	2017	2006	2011	2017	2006	2011	2017
Top 3 Dealers	31.4%	26.9%	25.6%	41.5%	32.1%	34.9%	37.0%	24.4%	25.6%
Top 5 Dealers	42.6%	41.1%	35.4%	56.8%	46.9%	48.4%	49.8%	34.8%	35.9%
Top 10 Dealers	58.5%	59.0%	53.3%	77.4%	67.8%	68.0%	68.1%	52.6%	53.5%
Top 15 Dealers	63.8%	65.4%	61.6%	85.4%	74.7%	76.7%	76.0%	63.2%	63.9%
Top 20 Dealers	68.0%	70.3%	66.7%	88.9%	79.8%	83.5%	80.8%	69.1%	71.0%
Top 30 Dealers	74.3%	76.1%	74.0%	92.9%	86.5%	90.6%	86.0%	76.9%	79.9%
Top 40 Dealers	78.9%	80.3%	79.5%	94.9%	90.7%	94.0%	89.3%	82.4%	85.0%
Top 50 Dealers	82.0%	83.3%	83.9%	96.2%	93.9%	96.1%	91.4%	86.4%	88.3%

¹² See Overview of Data Used and Calculation Methodology section for additional information.

¹³ *Id.*

Conclusion

Since 2006, municipal securities dealer concentration and participation has changed significantly. Customer trades are more widely dispersed among dealers, with the top 10 dealers accounting for significantly less market share in 2017 than in 2006. These patterns held for retail and institutional sized transactions measured by par amount and number of trades.

The data also show that most dealers that are no longer conducting customer trades in 2017 provided little liquidity in the market and participated in fewer than 10 customer trades in 2006. Meanwhile, the number of dealers that execute a substantial amount of business, more than 10,000 trades, increased to 69 dealers in 2017, up from 56 in 2006.

The MSRB will continue to monitor these trends and provide periodic updates as needed. View more statistical reports and analyses of municipal market trade activity on the MSRB's website at www.msrb.org. The MSRB welcomes feedback and suggestions on this report as well as recommendations on additional analysis that could be helpful to municipal market stakeholders. Please contact Marcelo Vieira at mvieira@msrb.org or 202-838-1500.

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Appendix A: Dealer Participation

Number of Dealers Participating in Customer Trades Based on the Number of Trades

Tax-exempt, long-term, fixed-rate municipal securities — excluding list offering price transactions when possible

All Customer Trades

	2006			2011			2017		
Total Dealers	1,426			1,197			865		
Trade Distribution	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact
Dealers with 1-5 Trades	256	18.0%	0.01%	184	15.4%	0.01%	120	13.9%	0.01%
Dealers with 6-10 Trades	102	7.2%	0.02%	87	7.3%	0.01%	37	4.3%	0.01%
Dealers with 11-25 Trades	189	13.3%	0.07%	135	11.3%	0.04%	102	11.8%	0.03%
Dealers with 26-50 Trades	141	9.9%	0.12%	111	9.3%	0.08%	81	9.4%	0.06%
Dealers with 51-100 Trades	140	9.8%	0.23%	118	9.9%	0.16%	90	10.4%	0.13%
Dealers with 101-250 Trades	177	12.4%	0.67%	130	10.9%	0.38%	81	9.4%	0.25%
Dealers with 251-500 Trades	103	7.2%	0.83%	110	9.2%	0.72%	74	8.6%	0.52%
Dealers with 501-1,000 Trades	93	6.5%	1.53%	88	7.4%	1.16%	71	8.2%	1.04%
Dealers with 1,001-2,500 Trades	87	6.1%	3.19%	76	6.3%	2.18%	69	8.0%	2.14%
Dealers with 2,501-10,000 Trades	82	5.8%	9.73%	91	7.6%	8.17%	71	8.2%	7.25%
Dealers with More than 10,000 Trades	56	3.9%	83.59%	67	5.6%	87.10%	69	8.0%	88.57%
TOTAL TRADES	4,369,134			5,485,897			5,114,251		

Customer Purchases Only

	2006			2011			2017		
Total Dealers	1,266			1,071			778		
Trade Distribution	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact
Dealers with 1-5 Trades	238	18.8%	0.02%	169	15.8%	0.01%	101	13.0%	0.01%
Dealers with 6-10 Trades	114	9.0%	0.03%	75	7.0%	0.02%	51	6.6%	0.01%
Dealers with 11-25 Trades	172	13.6%	0.10%	116	10.8%	0.05%	100	12.9%	0.05%
Dealers with 26-50 Trades	122	9.6%	0.15%	105	9.8%	0.10%	67	8.6%	0.07%
Dealers with 51-100 Trades	120	9.5%	0.29%	108	10.1%	0.21%	68	8.7%	0.16%
Dealers with 101-250 Trades	152	12.0%	0.83%	126	11.8%	0.54%	89	11.4%	0.46%
Dealers with 251-500 Trades	91	7.2%	1.11%	108	10.1%	1.03%	69	8.9%	0.77%
Dealers with 501-1,000 Trades	77	6.1%	1.84%	71	6.6%	1.33%	57	7.3%	1.23%
Dealers with 1,001-2,500 Trades	68	5.4%	3.65%	74	6.9%	3.25%	59	7.6%	2.75%
Dealers with 2,501-10,000 Trades	70	5.5%	11.23%	72	6.7%	9.56%	69	8.9%	10.13%
Dealers with More than 10,000 Trades	42	3.3%	80.75%	47	4.4%	83.90%	48	6.2%	84.37%
TOTAL TRADES	2,970,998			3,801,338			3,284,577		

Customer Sales Only

	2006			2011			2017		
Total Dealers	1,277			1,087			791		
Trade Distribution	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact
Dealers with 1-5 Trades	324	25.4%	0.05%	267	24.6%	0.04%	154	19.5%	0.02%
Dealers with 6-10 Trades	111	8.7%	0.06%	96	8.8%	0.04%	66	8.3%	0.03%
Dealers with 11-25 Trades	190	14.9%	0.23%	143	13.2%	0.14%	99	12.5%	0.09%
Dealers with 26-50 Trades	127	9.9%	0.33%	103	9.5%	0.22%	84	10.6%	0.17%
Dealers with 51-100 Trades	132	10.3%	0.67%	111	10.2%	0.46%	69	8.7%	0.26%
Dealers with 101-250 Trades	136	10.6%	1.56%	96	8.8%	0.90%	83	10.5%	0.75%
Dealers with 251-500 Trades	79	6.2%	1.98%	84	7.7%	1.75%	74	9.4%	1.46%
Dealers with 501-1,000 Trades	55	4.3%	2.82%	61	5.6%	2.54%	34	4.3%	1.28%
Dealers with 1,001-2,500 Trades	52	4.1%	5.76%	47	4.3%	4.57%	37	4.7%	3.34%
Dealers with 2,501-10,000 Trades	47	3.7%	17.30%	52	4.8%	17.35%	47	5.9%	12.24%
Dealers with More than 10,000 Trades	24	1.9%	69.24%	27	2.5%	71.99%	44	5.6%	80.36%
TOTAL TRADES	1,398,136			1,684,559			1,829,674		

Number of Dealers Participating in Customer Trades Based on the Par Amount Traded

Tax-exempt, long-term, fixed-rate municipal securities — excluding list offering price transactions when possible

All Customer Trades

	2006			2011			2017		
Total Dealers	1,426			1,197			865		
Trade Distribution	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact
Dealers with \$50,000 Par or Less	102	7.2%	0.00%	72	6.0%	0.00%	51	5.9%	0.00%
Dealers with \$50,001-\$100,000 Par	70	4.9%	0.00%	47	3.9%	0.00%	22	2.5%	0.00%
Dealers with \$100,001-\$500,000 Par	196	13.7%	0.00%	170	14.2%	0.01%	90	10.4%	0.00%
Dealers with \$500,001-\$1,000,000 Par	118	8.3%	0.01%	82	6.9%	0.01%	70	8.1%	0.01%
Dealers with \$1,000,001-\$2,000,000 Par	126	8.8%	0.01%	90	7.5%	0.02%	67	7.7%	0.01%
Dealers with \$2,000,001-\$5,000,000 Par	162	11.4%	0.04%	128	10.7%	0.05%	93	10.8%	0.04%
Dealers with \$5,000,001-\$10,000,000 Par	118	8.3%	0.07%	101	8.4%	0.09%	58	6.7%	0.05%
Dealers with \$10,000,001-\$25,000,000 Par	140	9.8%	0.18%	119	9.9%	0.24%	96	11.1%	0.18%
Dealers with \$25,000,001-\$100,000,000 Par	161	11.3%	0.67%	166	13.9%	1.05%	118	13.6%	0.75%
Dealers with \$100,000,001-\$500,000,000 Par	122	8.6%	2.31%	110	9.2%	3.21%	88	10.2%	2.36%
Dealers with More than \$500,000,000 Par	111	7.8%	96.70%	112	9.4%	95.32%	112	12.9%	96.61%
TOTAL PAR (\$ Billion)	\$1,253			\$812			\$844		

Customer Purchases Only

	2006			2011			2017		
Total Dealers	1,266			1,071			778		
Trade Distribution	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact
Dealers with \$50,000 Par or Less	69	5.5%	0.00%	59	5.5%	0.00%	33	4.2%	0.00%
Dealers with \$50,001-\$100,000 Par	53	4.2%	0.00%	39	3.6%	0.00%	24	3.1%	0.00%
Dealers with \$100,001-\$500,000 Par	195	15.4%	0.01%	145	13.5%	0.01%	86	11.1%	0.01%
Dealers with \$500,001-\$1,000,000 Par	115	9.1%	0.01%	77	7.2%	0.01%	56	7.2%	0.01%
Dealers with \$1,000,001-\$2,000,000 Par	106	8.4%	0.02%	77	7.2%	0.02%	62	8.0%	0.02%
Dealers with \$2,000,001-\$5,000,000 Par	161	12.7%	0.08%	126	11.8%	0.09%	86	11.1%	0.06%
Dealers with \$5,000,001-\$10,000,000 Par	113	8.9%	0.12%	84	7.8%	0.13%	66	8.5%	0.10%
Dealers with \$10,000,001-\$25,000,000 Par	116	9.2%	0.27%	140	13.1%	0.50%	86	11.1%	0.30%
Dealers with \$25,000,001-\$100,000,000 Par	141	11.1%	1.03%	134	12.5%	1.53%	114	14.7%	1.35%
Dealers with \$100,000,001-\$500,000,000 Par	112	8.8%	3.71%	105	9.8%	5.56%	76	9.8%	3.72%
Dealers with More than \$500,000,000 Par	85	6.7%	94.76%	85	7.9%	92.14%	89	11.4%	94.42%
TOTAL PAR (\$ Billion)	\$707			\$451			\$469		

Customer Sales Only

	2006			2011			2017		
Total Dealers	1,277			1,087			791		
Trade Distribution	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact	Number of Dealers	Percentage of Total Dealers	Trading Impact
Dealers with \$50,000 Par or Less	163	12.8%	0.00%	109	10.0%	0.00%	70	8.8%	0.00%
Dealers with \$50,001-\$100,000 Par	80	6.3%	0.00%	75	6.9%	0.00%	41	5.2%	0.00%
Dealers with \$100,001-\$500,000 Par	226	17.7%	0.01%	182	16.7%	0.01%	118	14.9%	0.01%
Dealers with \$500,001-\$1,000,000 Par	113	8.8%	0.01%	89	8.2%	0.02%	76	9.6%	0.02%
Dealers with \$1,000,001-\$2,000,000 Par	116	9.1%	0.03%	101	9.3%	0.04%	73	9.2%	0.03%
Dealers with \$2,000,001-\$5,000,000 Par	143	11.2%	0.08%	113	10.4%	0.10%	76	9.6%	0.06%
Dealers with \$5,000,001-\$10,000,000 Par	97	7.6%	0.12%	81	7.5%	0.16%	61	7.7%	0.12%
Dealers with \$10,000,001-\$25,000,000 Par	88	6.9%	0.26%	90	8.3%	0.41%	59	7.5%	0.26%
Dealers with \$25,000,001-\$100,000,000 Par	103	8.1%	0.98%	101	9.3%	1.39%	82	10.4%	1.10%
Dealers with \$100,000,001-\$500,000,000 Par	76	6.0%	2.99%	71	6.5%	4.08%	60	7.6%	4.16%
Dealers with More than \$500,000,000 Par	72	5.6%	95.51%	75	6.9%	93.79%	75	9.5%	94.25%
TOTAL PAR (\$ Billion)	\$546			\$360			\$375		

Appendix B: Dealer Concentration

Percentage of Trades Conducted by the Top 50 Dealers

Tax-exempt, long-term, fixed-rate municipal securities — excluding list offering price transactions when possible

All Customer Trades

	\$100K or Less			Greater \$100K - Less \$1MM			\$1MM or More			All Sizes		
	2006	2011	2017	2006	2011	2017	2006	2011	2017	2006	2011	2017
Top 3 Dealers	31.5%	32.2%	25.3%	22.5%	17.9%	20.2%	27.9%	21.9%	26.4%	29.4%	29.4%	23.8%
Top 5 Dealers	45.4%	46.7%	37.2%	30.3%	26.9%	28.1%	39.3%	32.6%	36.5%	42.2%	43.3%	34.6%
Top 10 Dealers	63.3%	64.2%	54.8%	43.7%	40.1%	42.6%	59.7%	50.2%	54.6%	58.8%	60.1%	51.9%
Top 15 Dealers	68.1%	69.7%	64.0%	51.6%	48.1%	51.6%	70.0%	60.1%	66.4%	63.9%	66.2%	60.7%
Top 20 Dealers	71.7%	73.8%	69.2%	57.9%	54.5%	58.2%	75.6%	66.2%	74.9%	68.2%	70.8%	65.8%
Top 30 Dealers	77.3%	79.4%	76.5%	66.4%	64.7%	67.8%	83.3%	76.5%	84.8%	74.6%	76.4%	73.7%
Top 40 Dealers	81.2%	83.0%	81.8%	72.2%	71.7%	74.2%	87.9%	83.5%	89.8%	79.0%	80.4%	79.1%
Top 50 Dealers	84.0%	85.7%	85.7%	77.0%	76.9%	78.9%	90.8%	88.9%	93.0%	82.1%	83.4%	83.5%

Customer Purchases Only

	\$100K or Less			Greater \$100K - Less \$1MM			\$1MM or More			All Sizes		
	2006	2011	2017	2006	2011	2017	2006	2011	2017	2006	2011	2017
Top 3 Dealers	32.3%	33.6%	27.7%	23.5%	18.3%	24.4%	27.4%	20.8%	24.6%	30.1%	31.1%	26.1%
Top 5 Dealers	46.3%	48.5%	40.8%	31.5%	27.7%	32.9%	38.3%	31.2%	35.7%	43.4%	45.6%	38.2%
Top 10 Dealers	64.8%	66.3%	59.6%	44.6%	41.0%	45.9%	58.2%	48.7%	53.8%	60.8%	62.8%	56.8%
Top 15 Dealers	69.9%	71.8%	68.3%	53.1%	48.7%	54.3%	68.8%	58.4%	65.1%	66.0%	68.7%	62.3%
Top 20 Dealers	73.6%	75.7%	72.8%	59.0%	55.0%	61.0%	74.2%	64.8%	73.8%	70.1%	72.9%	69.8%
Top 30 Dealers	79.0%	80.9%	79.6%	66.9%	64.8%	70.0%	82.0%	75.0%	83.6%	76.0%	78.2%	76.5%
Top 40 Dealers	82.3%	84.4%	83.9%	72.7%	71.9%	75.8%	87.0%	82.3%	89.1%	80.0%	81.9%	81.4%
Top 50 Dealers	85.1%	86.7%	87.0%	77.6%	76.6%	79.9%	90.2%	87.6%	92.4%	83.0%	84.6%	85.0%

Customer Sales Only

	\$100K or Less			Greater \$100K - Less \$1MM			\$1MM or More			All Sizes		
	2006	2011	2017	2006	2011	2017	2006	2011	2017	2006	2011	2017
Top 3 Dealers	29.9%	28.8%	22.4%	20.6%	18.0%	16.8%	28.5%	23.3%	28.4%	28.0%	25.5%	21.1%
Top 5 Dealers	43.5%	42.5%	32.4%	28.1%	25.7%	23.8%	40.7%	34.2%	38.5%	39.6%	38.5%	29.9%
Top 10 Dealers	60.0%	60.3%	48.2%	42.6%	39.7%	38.3%	61.7%	52.6%	56.7%	55.2%	55.7%	44.8%
Top 15 Dealers	65.1%	66.1%	58.1%	51.7%	48.2%	48.2%	71.7%	62.4%	68.5%	61.4%	61.8%	54.0%
Top 20 Dealers	69.1%	70.6%	65.3%	58.2%	55.5%	55.1%	77.6%	68.5%	76.6%	66.1%	67.0%	61.1%
Top 30 Dealers	75.6%	76.9%	74.3%	67.2%	66.3%	65.8%	85.2%	78.7%	86.2%	73.1%	73.6%	71.2%
Top 40 Dealers	80.2%	81.6%	81.0%	73.7%	73.7%	73.2%	89.7%	85.6%	91.3%	78.0%	78.6%	78.0%
Top 50 Dealers	83.3%	85.2%	85.6%	78.6%	78.9%	79.1%	92.2%	90.6%	94.1%	81.5%	82.7%	83.2%

Percentage of Par Amount Traded Conducted by the Top 50 Dealers

Tax-exempt, long-term, fixed-rate municipal securities — excluding list offering price transactions when possible

All Customer Trades

	\$100K or Less			Greater \$100K - Less \$1MM			\$1MM or More			All Sizes		
	2006	2011	2017	2006	2011	2017	2006	2011	2017	2006	2011	2017
Top 3 Dealers	31.4%	26.9%	25.6%	21.1%	16.4%	18.9%	41.5%	32.1%	34.9%	37.0%	24.4%	25.6%
Top 5 Dealers	42.6%	41.1%	35.4%	29.0%	24.5%	25.9%	56.8%	46.9%	48.4%	49.8%	34.8%	35.9%
Top 10 Dealers	58.5%	59.0%	53.3%	42.9%	37.4%	40.4%	77.4%	67.8%	68.0%	68.1%	52.6%	53.5%
Top 15 Dealers	63.8%	65.4%	61.6%	51.5%	46.4%	50.6%	85.4%	74.7%	76.7%	76.0%	63.2%	63.9%
Top 20 Dealers	68.0%	70.3%	66.7%	58.0%	53.1%	57.7%	88.9%	79.8%	83.5%	80.8%	69.1%	71.0%
Top 30 Dealers	74.3%	76.1%	74.0%	67.4%	64.0%	67.6%	92.9%	86.5%	90.6%	86.0%	76.9%	79.9%
Top 40 Dealers	78.9%	80.3%	79.5%	73.2%	71.4%	74.6%	94.9%	90.7%	94.0%	89.3%	82.4%	85.0%
Top 50 Dealers	82.0%	83.3%	83.9%	77.9%	77.2%	79.6%	96.2%	93.9%	96.1%	91.4%	86.4%	88.3%

Customer Purchases Only

	\$100K or Less			Greater \$100K - Less \$1MM			\$1MM or More			All Sizes		
	2006	2011	2017	2006	2011	2017	2006	2011	2017	2006	2011	2017
Top 3 Dealers	32.5%	27.9%	28.3%	22.1%	16.8%	23.0%	41.5%	31.4%	33.8%	36.4%	23.0%	23.5%
Top 5 Dealers	44.2%	42.6%	39.9%	30.1%	25.4%	30.4%	56.0%	46.8%	47.4%	48.0%	32.7%	34.9%
Top 10 Dealers	60.7%	61.3%	57.7%	43.8%	38.2%	43.3%	76.3%	67.2%	66.7%	66.0%	50.8%	52.7%
Top 15 Dealers	66.1%	67.6%	66.4%	52.3%	46.7%	52.9%	84.9%	74.0%	75.5%	74.1%	62.1%	63.6%
Top 20 Dealers	70.3%	72.1%	70.9%	58.9%	53.2%	60.0%	88.3%	79.0%	82.5%	79.3%	68.1%	70.1%
Top 30 Dealers	76.1%	77.7%	77.4%	67.5%	63.9%	69.7%	92.2%	85.8%	89.9%	84.8%	75.6%	79.1%
Top 40 Dealers	80.2%	81.4%	82.0%	73.5%	71.4%	75.9%	94.5%	90.3%	93.7%	88.3%	81.2%	84.6%
Top 50 Dealers	83.0%	84.1%	85.3%	78.3%	76.6%	80.3%	95.9%	93.4%	95.8%	90.7%	85.4%	87.8%

Customer Sales Only

	\$100K or Less			Greater \$100K - Less \$1MM			\$1MM or More			All Sizes		
	2006	2011	2017	2006	2011	2017	2006	2011	2017	2006	2011	2017
Top 3 Dealers	29.0%	25.4%	22.8%	19.3%	16.4%	15.3%	41.4%	33.3%	36.1%	37.8%	26.8%	28.2%
Top 5 Dealers	39.2%	39.0%	32.1%	27.3%	23.3%	22.4%	57.7%	47.0%	49.9%	52.2%	37.4%	38.5%
Top 10 Dealers	54.4%	55.5%	45.7%	42.9%	37.1%	39.8%	78.7%	68.8%	69.7%	71.2%	56.1%	54.9%
Top 15 Dealers	60.1%	62.2%	54.5%	51.9%	46.5%	47.4%	86.0%	75.9%	78.5%	79.1%	65.0%	65.4%
Top 20 Dealers	64.9%	67.3%	61.1%	58.7%	54.0%	55.1%	89.6%	81.1%	85.1%	83.2%	71.1%	73.0%
Top 30 Dealers	72.2%	74.4%	71.2%	68.2%	65.7%	66.1%	93.7%	87.5%	91.3%	88.1%	78.8%	81.3%
Top 40 Dealers	77.8%	79.5%	78.2%	74.7%	73.4%	74.0%	95.6%	91.8%	94.9%	90.9%	84.2%	85.9%
Top 50 Dealers	81.7%	83.2%	83.5%	79.7%	78.9%	79.6%	96.9%	94.8%	96.9%	92.8%	88.3%	89.1%

ABOUT THE MSRB

The MSRB protects investors, state and local governments and other municipal entities, and the public interest by promoting a fair and efficient municipal securities market. The MSRB fulfills this mission by regulating the municipal securities firms, banks and municipal advisors that engage in municipal securities and advisory activities. To further protect market participants, the MSRB provides market transparency through its [Municipal Securities Information System \(MSIS\)](#), the official repository for information on all municipal bonds. The MSRB also serves as an objective resource on the municipal market, conducts extensive education and outreach to market stakeholders, and provides market leadership on key issues. The MSRB is a Congressionally-chartered, self-regulatory organization governed by a 21-member board of directors that has a majority of public members, in addition to representatives of regulated entities. The MSRB is subject to oversight by the Securities and Exchange Commission.



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