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## **Abstract**

This report examines municipal securities market dealer concentration and participation in 2018, and is an update and expansion of a previous report published by the Municipal Securities Rulemaking Board (MSRB) in June 2018, which examined 2017 trends. Similar to the previous report, this report measures changes and identifies trends in the trading activity of municipal securities dealers.<sup>2</sup> These trends are evaluated through two distinct measures: dealer participation and concentration of customer trades. Dealer participation is defined as the total number of dealers participating in customer municipal trades. Dealer concentration is defined as the market share of the 50 most-active dealers in terms of customer trading activity in the municipal market. Dealer participation and concentration are different measures of liquidity that provide unique insights in the municipal securities market. Changes occurring in these measures provide a means of quantifying how dealer activity has shifted over time concurrent with the decline in the number of MSRB-registered dealers participating in the municipal securities market.

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MSRB, Dealer Participation and Concentration in Municipal Securities Trading, June 2018, <a href="http://msrb.org/~/media/Files/Resources/MSRB-Dealer-Participation-and-Concentration-Report.ashx?la=en">http://msrb.org/~/media/Files/Resources/MSRB-Dealer-Participation-and-Concentration-Report.ashx?la=en</a>.

<sup>&</sup>lt;sup>2</sup> Collectively referred to as dealers throughout this report.

## **Municipal Market Trading Activity Overview**

Overall trading activity in the municipal securities market increased in 2018 with par traded up 3.7% to \$3.09 trillion, or about \$12.3 billion per day, compared to \$2.98 trillion in 2017. The number of trades increased 2.9% to 10.2 million trades in 2018, or 40,372 trades per day, up from the 9.89 million trades in 2017, and the highest since 2013, as shown in Figure 1. 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.3 In 2018, approximately 39% of all trades consisted of sales from dealers to customers while 23% represented purchases by dealers from customers. The remaining trades were conducted between dealers. By comparison, between 2006 and 2017, sales by dealers to customers accounted for 45% and purchases by dealers from customers accounted for 21% of all trades. Trades of \$100,000 or less remained relatively stable and accounted for approximately 85% of all customer trades for 2006, 2011, 2017 and 2018, while trades of \$1,000,000 or more accounted for 3.2% of all customer trades on average. In terms of par amount traded, trades of \$100,000 or less increased from 9.6% of all customer par amount traded in 2006 to 18.2% in 2011 before decreasing to 14.4% in 2018. Trades of \$1,000,000 or more accounted for 66.8% of par amount traded in 2018, down from the 78.4% in 2006.4

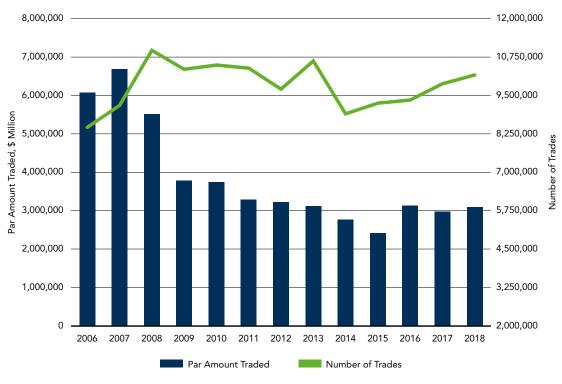


Figure 1. Municipal Trading Activity

Source: MSRB

The MSRB provides statistical data on market activity on its website at <a href="https://www.MSRB.org">www.MSRB.org</a> and through its Electronic Municipal Market Access (EMMA®) website at <a href="https://www.EMMA.MSRB.org">www.EMMA.MSRB.org</a>. Certain statistics in this report exclude certain types of securities. See Overview of Data Used and Calculation Methodology section.

<sup>&</sup>lt;sup>4</sup> Includes only tax-exempt, long-term, fixed-rate municipal securities and excludes list offering price transactions.

# Overview of Data Used and Calculation Methodology

This report is based on a set of transaction data and related descriptive data for calendar years 2006, 2011, 2017 and 2018. The data set consists of approximately 48 million trades. To focus this analysis on secondary market customer trading in fixed-rate, tax-exempt, long-term transactions only, the following categories of municipal trades were eliminated from the analysis 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 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 but less than \$1,000,000, and trades of \$1,000,000 or more. 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 3, 4, 5 and 6, a more comprehensive set of statistics can be found in Appendices A and B.

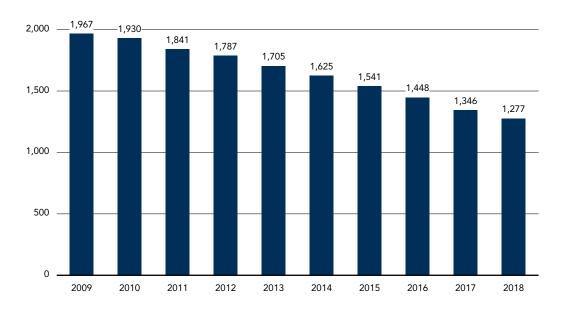
## **Dealer Participation**

As noted in the previous report, the number of registered municipal securities dealers has decreased over time, as shown in Figure 2. Several factors have affected the number of registered dealers, including consolidation of broker-dealers and dealers exiting the municipal securities business. The number of registered dealers as of October 1, 2018, compared to the number of dealers as of October 1, 2017, decreased 5.1%.

Figure 2. Number of MSRB-Registered Dealers, 2009–2018

As of October 1 each year





Source: MSRB

The analysis shows that the decline in participating dealers is largely concentrated in dealers that did not have a significant presence in the municipal securities market. In 2006, 1,426 dealers conducted municipal securities trades. In 2011, 471 of the 1,426 dealers did not conduct any trades. It should be noted that the majority of the 471 dealers conducted 50 or fewer trades in 2006.<sup>5</sup> Of the 110 dealers that did not trade in 2018, nearly 80% effected 50 trades or less in 2017, as shown in Figure 3.

It is important to reiterate that several factors can influence the number of MSRB-registered dealers, however, in general, dealers that left the business did not execute a significant number of municipal securities transactions.

While the number of registered dealers decreased by 69 in 2018 from 2017, 57 new dealers registered with the MSRB in 2017 and 2018. New entrants accounted for about 680,000 trades and \$44.3 billion in trading activity in 2017 and 2018, collectively.

<sup>&</sup>lt;sup>5</sup> Includes only tax-exempt, long-term, fixed-rate municipal securities and excludes list offering price transactions.

Figure 3. Changes in Dealer Participation

	Participating Dealers in 2006 not Participating in 2011	Participating Dealers in 2011 not Participating in 2017	Participating Dealers in 2017 not Participating in 2018
Total Number of Dealers	471	462	110
Number Dealers with 10 Trades or Less	197 or 42%	176 or 38%	59 or 54%
Number Dealers with 20 Trades or Less	255 or 54%	227 or 49%	73 or 66%
Number Dealers with 50 Trades or Less	309 or 66%	288 or 62%	87 or 79%

The analysis shows that trends observed in the previous report continued in 2018. While the number of dealers with 10 or fewer customer trades in 2018 rose to 20.5% in 2018 compared to 18.2% in 2017, the percentage of dealers with the smallest number of trades was still significantly lower than 25.1% in 2006. Dealers with 250 trades or less, or about five trades per week, accounted for 58.9% of all dealers in 2018—a substantial decline from 70.5% of dealers in 2006. Dealers that executed more than 1,000 customer trades in 2018 accounted for 24.8% of all dealers that conducted trades in 2018—up slightly from 24.2% in 2017, but up significantly from 15.8% in 2006. The number of dealers executing more than 25,000 trades per year continued to increase in 2018 to 43, or 5% of all dealers, up from 39 dealers in 2017, or 4.5% of all dealers, and 27 dealers in 2006, or 1.9% of all dealers. A similar trend is observed when looking at the par amount traded. Changes in dealer concentration indicate that while the number of overall registered dealers has decreased since 2006, a larger percentage of dealers are participating in more transactions, both in terms of the number of trades and par traded in 2018 when compared to 2006. A summary of these findings can be found in Figures 4 and 5.

**Figure 4.** Dealer Participation—Number of Dealers Participating in Trades All Customer Trades Based on Number of Trades

(Additional statistics on dealer participation can be found in Appendix A)

	20	006	20	011	20	017	20	)18
	Number of Dealers	Percentage of Total Dealers						
Dealers with 1–10 Trades	358	25.1%	271	22.6%	157	18.2%	176	20.5%
Dealers with 11–100 Trades	470	33.0%	364	30.4%	273	31.6%	242	28.2%
Dealers with 101–1,000 Trades	373	26.2%	328	27.4%	226	26.1%	226	26.3%
Dealers with 1,001–2,500 Trades	87	6.1%	76	6.3%	69	8.0%	75	8.7%
Dealers with 2,501–25,000 Trades	111	7.8%	127	10.6%	101	11.7%	96	11.1%
Dealers with More than 25,000 Trades	27	1.9%	31	2.6%	39	4.5%	43	5.0%

**Figure 5.** Dealer Participation—Number of Dealers Participating in Trades All Customer Trades Based on Par Amount Traded

(Additional statistics on dealer participation can be found in Appendix A)

	20	006	20	011	20	017	20	)18
	Number of Dealers	Percentage of Total Dealers						
Dealers with \$1,000,000 Par or Less	486	34.1%	371	31.0%	233	26.9%	235	27.4%
Dealers with \$1,000,001- \$5,000,000 Par	288	20.2%	218	18.2%	160	18.5%	149	17.4%
Dealers with \$5,000,001- \$50,000,000 Par	340	23.8%	308	25.7%	214	24.7%	216	25.2%
Dealers with \$50,000,001- \$1,000,000,000 Par	235	16.5%	222	18.5%	176	20.3%	169	19.7%
Dealers with \$1,000,000,001- \$5,000,000,000 Par	47	3.3%	47	3.9%	50	5.8%	53	6.2%
Dealers with More than \$5,000,000,000 Par	30	2.1%	31	2.6%	32	3.7%	36	4.2%

## **Dealer Concentration**

Dealer concentration—defined in this report as the dealer market share of municipal customer trades—continued to decrease in 2018, both in terms of the number of trades conducted and par amount traded. The top three dealers accounted for 19.7% of customer trades and 24.5% of par amount traded in 2018, both lower than the 23.8% in trades and 25.6% of par traded in 2017. Based on the number of customer trades, concentration in the top five and top 10 dealers also declined significantly in 2018 compared to 2017. Concentration in the top 30, 40 and 50 dealers remained relatively stable over the years across the different trade sizes. Generally, the concentration is higher in terms of the par amount traded than in the number of trades conducted. For example, the top 15 dealers accounted for nearly 58% of all trades in 2018, compared to the 63.8% in terms of par amount traded in 2018.

For customer trades of \$100,000 or less—often characterized as retail-sized transactions—the top three dealers accounted for 21.8% in terms of the number of trades and 20.6% of the par amount traded in 2018, compared to 25.3% and 25.6% in 2017 and 31.5% and 31.4% in 2006, respectively. Additionally, changes in customer sales of \$100,000 or less were more pronounced, declining from 29% in 2006 to 18.6% in 2018, based on par amount traded. While the analysis shows that the top three dealers accounted for fewer retail-sized trades, the number of trades of retail-sized transactions in the top 50 dealers increased from 84% in 2006 to 85.7% in 2017 and 86.7% in 2018.

For institutional-sized trades of \$1,000,000 or more, trading for the top three dealers decreased slightly from 34.9% in 2017 to 34% in 2018 based on par amount traded. That trend was significantly lower compared to 41.5% in 2006. Compared to smaller-sized trades, larger block trades of \$1 million or more continued to be more concentrated, despite overall improvements in concentrations in smaller trade sizes over the years. For example, the top 15 dealers accounted for 47.7% of trades of more than \$100,000 and less than \$1 million in 2018 compared to 78.5% for trades of \$1 million or more in 2018.

While the composition of the top five dealers in 2018 did not change compared to 2017, eight of the top 10 dealers and 18 out of the top 20 dealers in 2018 were in the top 10 and top 20 dealers in 2017.

The decrease in concentration in the top five dealers and a greater number of dealers participating in both large and small trades could be a sign of greater overall market liquidity, increased competition for customer business and a sign that customers are not as reliant on a few dealers as before.

**Figure 6.** Dealer Concentration—Percentage of Trades Conducted by the Top 50 Dealers All Customer Trades Based on Number of Trades

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

	\$100,000 or Less					\$1 Millio	n or More			All S	izes	
	2006	2011	2017	2018	2006	2011	2017	2017	2006	2011	2017	2018
Top 3 Dealers	31.5%	32.2%	25.3%	21.8%	27.9%	21.9%	26.4%	24.7%	29.4%	29.4%	23.8%	19.7%
Top 5 Dealers	45.4%	46.7%	37.2%	31.1%	39.3%	32.6%	36.5%	37.6%	42.2%	43.3%	34.6%	28.5%
Top 10 Dealers	63.3%	64.2%	54.8%	49.4%	59.7%	50.2%	54.6%	55.9%	58.8%	60.1%	51.9%	46.5%
Top 15 Dealers	68.1%	69.7%	64.0%	61.3%	70.0%	60.1%	66.4%	67.7%	63.9%	66.2%	60.7%	57.8%
Top 20 Dealers	71.7%	73.8%	69.2%	68.7%	75.6%	66.2%	74.9%	76.2%	68.2%	70.8%	65.8%	65.1%
Top 30 Dealers	77.3%	79.4%	76.5%	76.9%	83.3%	76.5%	84.8%	84.9%	74.6%	76.4%	73.7%	73.2%
Top 40 Dealers	81.2%	83.0%	81.8%	82.8%	87.9%	83.5%	89.8%	89.7%	79.0%	80.4%	79.1%	79.0%
Top 50 Dealers	84.0%	85.7%	85.7%	86.7%	90.8%	88.9%	93.0%	93.1%	82.1%	83.4%	83.5%	83.5%

**Figure 7.** Dealer Concentration—Percentage of Trades Conducted by the Top 50 Dealers All Customer Trades Based on Par Amount Traded

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

	\$100,000 or Less					\$1 Millio	n or More			All S	iizes	
	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018
Top 3 Dealers	31.4%	26.9%	25.6%	20.6%	41.5%	32.1%	34.9%	34.0%	37.0%	24.4%	25.6%	24.5%
Top 5 Dealers	42.6%	41.1%	35.4%	30.2%	56.8%	46.9%	48.4%	49.6%	49.8%	34.8%	35.9%	37.3%
Top 10 Dealers	58.5%	59.0%	53.3%	48.3%	77.4%	67.8%	68.0%	69.8%	68.1%	52.6%	53.5%	54.3%
Top 15 Dealers	63.8%	65.4%	61.6%	59.4%	85.4%	74.7%	76.7%	78.5%	76.0%	63.2%	63.9%	63.8%
Top 20 Dealers	68.0%	70.3%	66.7%	65.8%	88.9%	79.8%	83.5%	85.0%	80.8%	69.1%	71.0%	70.8%
Top 30 Dealers	74.3%	76.1%	74.0%	74.4%	92.9%	86.5%	90.6%	91.2%	86.0%	76.9%	79.9%	80.0%
Top 40 Dealers	78.9%	80.3%	79.5%	80.1%	94.9%	90.7%	94.0%	94.3%	89.3%	82.4%	85.0%	85.3%
Top 50 Dealers	82.0%	83.3%	83.9%	84.1%	96.2%	93.9%	96.1%	96.3%	91.4%	86.4%	88.3%	88.7%

## **Conclusion**

As noted in the MSRB report published in 2018, municipal securities dealer concentration and participation has changed significantly since 2006. Those trends continued in 2018, with the top 10 dealers accounting for less market share of customer trades compared to 2017.

The data also show that most dealers that did not conduct trades in 2018 provided little liquidity in the market in 2017, with over half of the dealers participating in fewer than 10 trades. Meanwhile, the number of dealers that executed a substantial amount of business, categorized as more than 25,000 trades per year, continued to increase in 2018 to 43, or 5% of all dealers, up from 39 dealers in 2017, or 4.5% of all dealers, and 27 dealers in 2006, or 1.9% percent of all dealers. Additionally, dealer concentration varies based on trade size with a higher concentration in institutional-sized trades compared to smaller trades (less than \$1 million). While it is hard to identify the exact reasons for changes in concentration and participation over the years, growth in algorithmic trading, which did not exist in 2006, is a relatively new source of liquidity and may have contributed to these changes, particularly for small-sized transactions, as well as investments by dealers in technology to improve trading efficiency.

It is also important to note that while the decline in the number of MSRB-registered dealers continued in 2018, 57 new dealers registered with the MSRB in 2017 and 2018. These new registrants accounted for about 680,000 trades and \$44.3 billion in trading activity in those two years.

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 MSRB Director of Research Marcelo Vieira at mvieira@msrb.org or 202-838-1500. View more statistical reports and analyses of municipal market trade activity on the MSRB's website at <a href="https://www.MSRB.org">www.MSRB.org</a>.

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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			2018	
Total Dealers		1,426			1,197			865			858	
Trade Distribution	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%	120	14.0%	0.01%
Dealers with 6-10 Trades	102	7.2%	0.02%	87	7.3%	0.01%	37	4.3%	0.01%	56	6.5%	0.01%
Dealers with 11-25 Trades	189	13.3%	0.07%	135	11.3%	0.04%	102	11.8%	0.03%	94	11.0%	0.03%
Dealers with 26–50 Trades	141	9.9%	0.12%	111	9.3%	0.08%	81	9.4%	0.06%	67	7.8%	0.05%
Dealers with 51-100 Trades	140	9.8%	0.23%	118	9.9%	0.16%	90	10.4%	0.13%	81	9.4%	0.11%
Dealers with 101–250 Trades	177	12.4%	0.67%	130	10.9%	0.38%	81	9.4%	0.25%	87	10.1%	0.27%
Dealers with 251–500 Trades	103	7.2%	0.83%	110	9.2%	0.72%	74	8.6%	0.52%	83	9.7%	0.59%
Dealers with 501–1,000 Trades	93	6.5%	1.53%	88	7.4%	1.16%	71	8.2%	1.04%	56	6.5%	0.75%
Dealers with 1,001-2,500 Trades	87	6.1%	3.19%	76	6.3%	2.18%	69	8.0%	2.14%	75	8.7%	2.30%
Dealers with 2,501–10,000 Trades	82	5.8%	9.73%	91	7.6%	8.17%	71	8.2%	7.25%	69	8.0%	7.03%
Dealers with More than 10,000 Trades	56	3.9%	83.59%	67	5.6%	87.10%	69	8.0%	88.57%	70	8.2%	88.85%
TOTAL TRADES	4,369,134		5,485,897			5,114,251			5,156,858			

### **Customer Purchases Only**

		2006			2011			2017			2018	
Total Dealers		1,266			1,071			778			773	
Trade Distribution	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%	105	13.6%	0.01%
Dealers with 6–10 Trades	114	9.0%	0.03%	75	7.0%	0.02%	51	6.6%	0.01%	56	7.2%	0.01%
Dealers with 11-25 Trades	172	13.6%	0.10%	116	10.8%	0.05%	100	12.9%	0.05%	78	10.1%	0.04%
Dealers with 26–50 Trades	122	9.6%	0.15%	105	9.8%	0.10%	67	8.6%	0.07%	75	9.7%	0.09%
Dealers with 51-100 Trades	120	9.5%	0.29%	108	10.1%	0.21%	68	8.7%	0.16%	73	9.4%	0.16%
Dealers with 101–250 Trades	152	12.0%	0.83%	126	11.8%	0.54%	89	11.4%	0.46%	93	12.0%	0.49%
Dealers with 251–500 Trades	91	7.2%	1.11%	108	10.1%	1.03%	69	8.9%	0.77%	68	8.8%	0.76%
Dealers with 501–1,000 Trades	77	6.1%	1.84%	71	6.6%	1.33%	57	7.3%	1.23%	49	6.3%	1.13%
Dealers with 1,001–2,500 Trades	68	5.4%	3.65%	74	6.9%	3.25%	59	7.6%	2.75%	67	8.7%	3.46%
Dealers with 2,501–10,000 Trades	70	5.5%	11.23%	72	6.7%	9.56%	69	8.9%	10.13%	60	7.8%	9.62%
Dealers with More than 10,000 Trades	42	3.3%	80.75%	47	4.4%	83.90%	48	6.2%	84.37%	49	6.3%	84.24%
TOTAL TRADES	2,970,998		3,801,338			3,284,577			3,212,204			

#### **Customer Sales Only**

	2006				2011			2017			2018	
Total Dealers		1,277			1,087			791			776	
Trade Distribution	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%	169	21.8%	0.02%
Dealers with 6-10 Trades	111	8.7%	0.06%	96	8.8%	0.04%	66	8.3%	0.03%	56	7.2%	0.02%
Dealers with 11–25 Trades	190	14.9%	0.23%	143	13.2%	0.14%	99	12.5%	0.09%	85	11.0%	0.08%
Dealers with 26–50 Trades	127	9.9%	0.33%	103	9.5%	0.22%	84	10.6%	0.17%	75	9.7%	0.15%
Dealers with 51–100 Trades	132	10.3%	0.67%	111	10.2%	0.46%	69	8.7%	0.26%	75	9.7%	0.28%
Dealers with 101–250 Trades	136	10.6%	1.56%	96	8.8%	0.90%	83	10.5%	0.75%	88	11.3%	0.77%
Dealers with 251–500 Trades	79	6.2%	1.98%	84	7.7%	1.75%	74	9.4%	1.46%	61	7.9%	1.16%
Dealers with 501–1,000 Trades	55	4.3%	2.82%	61	5.6%	2.54%	34	4.3%	1.28%	41	5.3%	1.48%
Dealers with 1,001–2,500 Trades	52	4.1%	5.76%	47	4.3%	4.57%	37	4.7%	3.34%	38	4.9%	3.35%
Dealers with 2,501–10,000 Trades	47	3.7%	17.30%	52	4.8%	17.35%	47	5.9%	12.24%	45	5.8%	12.68%
Dealers with More than 10,000 Trades	24	1.9%	69.24%	27	2.5%	71.99%	44	5.6%	80.36%	43	5.5%	80.00%
TOTAL TRADES	1,398,136		1,684,559			1,829,674			1,944,654			

## 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			2018	
Total Dealers		1,426			1,197			865			858	
Trade Distribution	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%	47	5.5%	0.00%
Dealers with \$50,001- \$100,000 Par	70	4.9%	0.00%	47	3.9%	0.00%	22	2.5%	0.00%	30	3.5%	0.00%
Dealers with \$100,001- \$500,000 Par	196	13.7%	0.00%	170	14.2%	0.01%	90	10.4%	0.00%	99	11.5%	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%	59	6.9%	0.00%
Dealers with \$1,000,001- \$2,000,000 Par	126	8.8%	0.01%	90	7.5%	0.02%	67	7.7%	0.01%	58	6.8%	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%	91	10.6%	0.03%
Dealers with \$5,000,001- \$10,000,000 Par	118	8.3%	0.07%	101	8.4%	0.09%	58	6.7%	0.05%	66	7.7%	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%	97	11.3%	0.15%
Dealers with \$25,000,001- \$100,000,000 Par	161	11.3%	0.67%	166	13.9%	1.05%	118	13.6%	0.75%	102	11.9%	0.54%
Dealers with \$100,000,001- \$500,000,000 Par	122	8.6%	2.31%	110	9.2%	3.21%	88	10.2%	2.36%	99	11.5%	2.28%
Dealers with More than \$500,000,000 Par	111	7.8%	96.70%	112	9.4%	95.32%	112	12.9%	96.61%	110	12.8%	96.939
TOTAL PAR (\$ Billion)		\$1,253			\$812			\$844			\$992	

#### **Customer Purchases Only**

		2006			2011			2017			2018	
Total Dealers		1,266			1,071			778			773	
Trade Distribution	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%	32	4.1%	0.00%
Dealers with \$50,001– \$100,000 Par	53	4.2%	0.00%	39	3.6%	0.00%	24	3.1%	0.00%	29	3.8%	0.00%
Dealers with \$100,001– \$500,000 Par	195	15.4%	0.01%	145	13.5%	0.01%	86	11.1%	0.01%	96	12.4%	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%	49	6.3%	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%	53	6.9%	0.01%
Dealers with \$2,000,001- \$5,000,000 Par	161	12.7%	0.08%	126	11.8%	0.09%	86	11.1%	0.06%	91	11.8%	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%	68	8.8%	0.09%
Dealers with \$10,000,001- \$25,000,000 Par	116	9.2%	0.27%	140	13.1%	0.50%	86	11.1%	0.30%	77	10.0%	0.23%
Dealers with \$25,000,001- \$100,000,000 Par	141	11.1%	1.03%	134	12.5%	1.53%	114	14.7%	1.35%	109	14.1%	1.09%
Dealers with \$100,000,001- \$500,000,000 Par	112	8.8%	3.71%	105	9.8%	5.56%	76	9.8%	3.72%	80	10.3%	3.47%
Dealers with More than \$500,000,000 Par	85	6.7%	94.76%	85	7.9%	92.14%	89	11.4%	94.42%	89	11.5%	95.03%
TOTAL PAR (\$ Billion)		\$707			\$451			\$469			\$534	

#### **Customer Sales Only**

		2006			2011			2017			2018	
Total Dealers		1,277			1,087			791			776	
Trade Distribution	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%	78	10.1%	0.00%
Dealers with \$50,001– \$100,000 Par	80	6.3%	0.00%	75	6.9%	0.00%	41	5.2%	0.00%	37	4.8%	0.00%
Dealers with \$100,001- \$500,000 Par	226	17.7%	0.01%	182	16.7%	0.01%	118	14.9%	0.01%	99	12.8%	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%	60	7.7%	0.01%
Dealers with \$1,000,001- \$2,000,000 Par	116	9.1%	0.03%	101	9.3%	0.04%	73	9.2%	0.03%	70	9.0%	0.02%
Dealers with \$2,000,001- \$5,000,000 Par	143	11.2%	0.08%	113	10.4%	0.10%	76	9.6%	0.06%	92	11.9%	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%	57	7.3%	0.09%
Dealers with \$10,000,001- \$25,000,000 Par	88	6.9%	0.26%	90	8.3%	0.41%	59	7.5%	0.26%	61	7.9%	0.21%
Dealers with \$25,000,001- \$100,000,000 Par	103	8.1%	0.98%	101	9.3%	1.39%	82	10.4%	1.10%	76	9.8%	0.83%
Dealers with \$100,000,001- \$500,000,000 Par	76	6.0%	2.99%	71	6.5%	4.08%	60	7.6%	4.16%	66	8.5%	3.25%
Dealers with More than \$500,000,000 Par	72	5.6%	95.51%	75	6.9%	93.79%	75	9.5%	94.25%	80	10.3%	95.52%
TOTAL PAR (\$ Billion)		\$546			\$360			\$375			\$548	

# **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		Gr	eater \$100i	K - Less \$1N	IM		\$1MM	or More		All Sizes			
	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018
Top 3 Dealers	31.5%	32.2%	25.3%	21.8%	22.5%	17.9%	20.2%	19.1%	27.9%	21.9%	26.4%	24.7%	29.4%	29.4%	23.8%	19.7%
Top 5 Dealers	45.4%	46.7%	37.2%	31.1%	30.3%	26.9%	28.1%	25.9%	39.3%	32.6%	36.5%	37.6%	42.2%	43.3%	34.6%	28.5%
Top 10 Dealers	63.3%	64.2%	54.8%	49.4%	43.7%	40.1%	42.6%	40.5%	59.7%	50.2%	54.6%	55.9%	58.8%	60.1%	51.9%	46.5%
Top 15 Dealers	68.1%	69.7%	64.0%	61.3%	51.6%	48.1%	51.6%	48.7%	70.0%	60.1%	66.4%	67.7%	63.9%	66.2%	60.7%	57.8%
Top 20 Dealers	71.7%	73.8%	69.2%	68.7%	57.9%	54.5%	58.2%	55.2%	75.6%	66.2%	74.9%	76.2%	68.2%	70.8%	65.8%	65.1%
Top 30 Dealers	77.3%	79.4%	76.5%	76.9%	66.4%	64.7%	67.8%	65.8%	83.3%	76.5%	84.8%	84.9%	74.6%	76.4%	73.7%	73.2%
Top 40 Dealers	81.2%	83.0%	81.8%	82.8%	72.2%	71.7%	74.2%	73.8%	87.9%	83.5%	89.8%	89.7%	79.0%	80.4%	79.1%	79.0%
Top 50 Dealers	84.0%	85.7%	85.7%	86.7%	77.0%	76.9%	78.9%	78.8%	90.8%	88.9%	93.0%	93.1%	82.1%	83.4%	83.5%	83.5%
Number of Trades	3,659,825	4,785,683	4,334,428	4,318,343	527,471	568,888	629,341	665,446	181,838	131,326	150,482	173,069	4,369,134	5,485,897	5,114,251	5,156,858
Percentage of Total Trades	83.8%	87.2%	84.8%	83.7%	12.1%	10.4%	12.3%	12.9%	4.2%	2.4%	2.9%	3.4%				

#### **Customer Purchases Only**

		\$100K	or Less		Greater \$100K - Less \$1MM					\$1MM	or More		All Sizes			
	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018
Top 3 Dealers	32.3%	33.6%	27.7%	25.3%	23.5%	18.3%	24.4%	23.9%	27.4%	20.8%	24.6%	24.4%	30.1%	31.1%	26.1%	23.2%
Top 5 Dealers	46.3%	48.5%	40.8%	35.8%	31.5%	27.7%	32.9%	31.1%	38.3%	31.2%	35.7%	37.3%	43.4%	45.6%	38.2%	33.5%
Top 10 Dealers	64.8%	66.3%	59.6%	56.1%	44.6%	41.0%	45.9%	44.3%	58.2%	48.7%	53.8%	55.6%	60.8%	62.8%	56.8%	53.2%
Top 15 Dealers	69.9%	71.8%	68.3%	65.9%	53.1%	48.7%	54.3%	52.4%	68.8%	58.4%	65.1%	66.9%	66.0%	68.7%	62.3%	62.6%
Top 20 Dealers	73.6%	75.7%	72.8%	71.3%	59.0%	55.0%	61.0%	58.7%	74.2%	64.8%	73.8%	75.5%	70.1%	72.9%	69.8%	67.9%
Top 30 Dealers	79.0%	80.9%	79.6%	79.0%	66.9%	64.8%	70.0%	68.4%	82.0%	75.0%	83.6%	84.4%	76.0%	78.2%	76.5%	75.5%
Top 40 Dealers	82.3%	84.4%	83.9%	84.0%	72.7%	71.9%	75.8%	75.3%	87.0%	82.3%	89.1%	89.3%	80.0%	81.9%	81.4%	80.9%
Top 50 Dealers	85.1%	86.7%	87.0%	87.3%	77.6%	76.6%	79.9%	79.8%	90.2%	87.6%	92.4%	92.6%	83.0%	84.6%	85.0%	84.5%
Number of Trades	2,530,484	3,396,844	2,819,456	2,723,909	340,429	338,557	387,600	400,402	100,085	65,937	77,521	87,893	2,970,998	3,801,338	3,284,577	3,212,204
Percentage of Total Trades	85.2%	89.4%	85.8%	84.8%	11.5%	8.9%	11.8%	12.5%	3.4%	1.7%	2.4%	2.7%				

#### **Customer Sales Only**

		\$100K	or Less		Gr	Greater \$100K - Less \$1MM				\$1MM	or More		All Sizes				
	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018	
Top 3 Dealers	29.9%	28.8%	22.4%	18.4%	20.6%	18.0%	16.8%	13.5%	28.5%	23.3%	28.4%	25.8%	28.0%	25.5%	21.1%	16.9%	
Top 5 Dealers	43.5%	42.5%	32.4%	27.3%	28.1%	25.7%	23.8%	20.6%	40.7%	34.2%	38.5%	37.9%	39.6%	38.5%	29.9%	24.5%	
Top 10 Dealers	60.0%	60.3%	48.2%	44.1%	42.6%	39.7%	38.3%	35.7%	61.7%	52.6%	56.7%	57.4%	55.2%	55.7%	44.8%	40.3%	
Top 15 Dealers	65.1%	66.1%	58.1%	57.9%	51.7%	48.2%	48.2%	45.2%	71.7%	62.4%	68.5%	69.8%	61.4%	61.8%	54.0%	53.2%	
Top 20 Dealers	69.1%	70.6%	65.3%	66.6%	58.2%	55.5%	55.1%	52.8%	77.6%	68.5%	76.6%	78.0%	66.1%	67.0%	61.1%	61.8%	
Top 30 Dealers	75.6%	76.9%	74.3%	76.3%	67.2%	66.3%	65.8%	63.9%	85.2%	78.7%	86.2%	86.0%	73.1%	73.6%	71.2%	71.7%	
Top 40 Dealers	80.2%	81.6%	81.0%	82.6%	73.7%	73.7%	73.2%	72.5%	89.7%	85.6%	91.3%	90.6%	78.0%	78.6%	78.0%	72.3%	
Top 50 Dealers	83.3%	85.2%	85.6%	87.0%	78.6%	78.9%	79.1%	78.9%	92.2%	90.6%	94.1%	94.2%	81.5%	82.7%	83.2%	83.4%	
Number of Trades	1,129,341	1,388,839	1,514,972	1,594,434	187,042	230,331	241,741	265,044	81,753	65,389	72,961	85,176	1,398,136	1,684,559	1,829,674	1,944,654	
Percentage of Total Trades	80.8%	82.4%	82.8%	82.0%	13.4%	13.7%	13.2%	13.6%	5.8%	3.9%	4.0%	4.4%					

## 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	2018	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018
Top 3 Dealers	31.4%	26.9%	25.6%	20.6%	21.1%	16.4%	18.9%	17.7%	41.5%	32.1%	34.9%	34.0%	37.0%	24.4%	25.6%	24.5%
Top 5 Dealers	42.6%	41.1%	35.4%	30.2%	29.0%	24.5%	25.9%	24.3%	56.8%	46.9%	48.4%	49.6%	49.8%	34.8%	35.9%	37.3%
Top 10 Dealers	58.5%	59.0%	53.3%	48.3%	42.9%	37.4%	40.4%	38.0%	77.4%	67.8%	68.0%	69.8%	68.1%	52.6%	53.5%	54.3%
Top 15 Dealers	63.8%	65.4%	61.6%	59.4%	51.5%	46.4%	50.6%	47.7%	85.4%	74.7%	76.7%	78.5%	76.0%	63.2%	63.9%	63.8%
Top 20 Dealers	68.0%	70.3%	66.7%	65.8%	58.0%	53.1%	57.7%	55.1%	88.9%	79.8%	83.5%	85.0%	80.8%	69.1%	71.0%	70.8%
Top 30 Dealers	74.3%	76.1%	74.0%	74.4%	67.4%	64.0%	67.6%	65.6%	92.9%	86.5%	90.6%	91.2%	86.0%	76.9%	79.9%	80.0%
Top 40 Dealers	78.9%	80.3%	79.5%	80.1%	73.2%	71.4%	74.6%	73.8%	94.9%	90.7%	94.0%	94.3%	89.3%	82.4%	85.0%	85.3%
Top 50 Dealers	82.0%	83.3%	83.9%	84.1%	77.9%	77.2%	79.6%	79.4%	96.2%	93.9%	96.1%	96.3%	91.4%	86.4%	88.3%	88.7%
Par Amount Traded (\$ Bil)	\$119.8	\$148.1	\$142.3	\$142.6	\$151.0	\$157.7	\$176.4	\$186.6	\$982.6	\$505.8	\$524.9	\$663.0	\$1,253.4	\$811.5	\$843.6	\$992.2
Percentage of Total Par Amount	9.6%	18.2%	16.9%	14.4%	12.0%	19.4%	20.9%	18.8%	78.4%	62.3%	62.2%	66.8%				

#### **Customer Purchases Only**

		\$100K	or Less		Greater \$100K - Less \$1MM					\$1MM	or More		All Sizes			
	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018
Top 3 Dealers	32.5%	27.9%	28.3%	24.3%	22.1%	16.8%	23.0%	22.3%	41.5%	31.4%	33.8%	33.7%	36.4%	23.0%	23.5%	23.0%
Top 5 Dealers	44.2%	42.6%	39.9%	35.8%	30.1%	25.4%	30.4%	28.5%	56.0%	46.8%	47.4%	50.1%	48.0%	32.7%	34.9%	36.1%
Top 10 Dealers	60.7%	61.3%	57.7%	54.3%	43.8%	38.2%	43.3%	41.9%	76.3%	67.2%	66.7%	69.3%	66.0%	50.8%	52.7%	53.5%
Top 15 Dealers	66.1%	67.6%	66.4%	63.8%	52.3%	46.7%	52.9%	50.9%	84.9%	74.0%	75.5%	77.7%	74.1%	62.1%	63.6%	63.6%
Top 20 Dealers	70.3%	72.1%	70.9%	68.8%	58.9%	53.2%	60.0%	57.7%	88.3%	79.0%	82.5%	84.1%	79.3%	68.1%	70.1%	70.6%
Top 30 Dealers	76.1%	77.7%	77.4%	76.5%	67.5%	63.9%	69.7%	68.1%	92.2%	85.8%	89.9%	90.7%	84.8%	75.6%	79.1%	79.4%
Top 40 Dealers	80.2%	81.4%	82.0%	81.8%	73.5%	71.4%	75.9%	75.7%	94.5%	90.3%	93.7%	94.0%	88.3%	81.2%	84.6%	85.1%
Top 50 Dealers	83.0%	84.1%	85.3%	85.1%	78.3%	76.6%	80.3%	80.4%	95.9%	93.4%	95.8%	96.0%	90.7%	85.4%	87.8%	88.3%
Par Amount Traded (\$ Bil)	\$82.8	\$100.9	\$93.2	\$90.7	\$95.9	\$92.1	\$107.2	\$110.7	\$528.3	\$258.5	\$268.1	\$332.8	\$707.0	\$451.4	\$468.5	\$534.3
Percentage of Total Par Amount	11.7%	22.3%	19.9%	17.0%	13.6%	20.4%	22.9%	20.7%	74.7%	57.3%	57.2%	62.3%				

### **Customer Sales Only**

\$100K or Less Greater \$100K - Less \$1MM \$1MM or More All Sizes																
		\$100K	or Less		Greater \$100K - Less \$1MM					\$1MM	or More		All Sizes			
	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018	2006	2011	2017	2018
Top 3 Dealers	29.0%	25.4%	22.8%	18.6%	19.3%	16.4%	15.3%	12.5%	41.4%	33.3%	36.1%	34.3%	37.8%	26.8%	28.2%	26.9%
Top 5 Dealers	39.2%	39.0%	32.1%	26.5%	27.3%	23.3%	22.4%	19.6%	57.7%	47.0%	49.9%	49.1%	52.2%	37.4%	38.5%	38.6%
Top 10 Dealers	54.4%	55.5%	45.7%	42.6%	42.9%	37.1%	39.8%	34.2%	78.7%	68.8%	69.7%	70.3%	71.2%	56.1%	54.9%	55.8%
Top 15 Dealers	60.1%	62.2%	54.5%	54.4%	51.9%	46.5%	47.4%	44.4%	86.0%	75.9%	78.5%	79.9%	79.1%	65.0%	65.4%	65.2%
Top 20 Dealers	64.9%	67.3%	61.1%	62.6%	58.7%	54.0%	55.1%	52.5%	89.6%	81.1%	85.1%	86.6%	83.2%	71.1%	73.0%	74.3%
Top 30 Dealers	72.2%	74.4%	71.2%	72.7%	68.2%	65.7%	66.1%	64.2%	93.7%	87.5%	91.3%	92.1%	88.1%	78.8%	81.3%	81.3%
Top 40 Dealers	77.8%	79.5%	78.2%	79.3%	74.7%	73.4%	74.0%	72.6%	95.6%	91.8%	94.9%	95.1%	90.9%	84.2%	85.9%	86.0%
Top 50 Dealers	81.7%	83.2%	83.5%	84.2%	79.7%	78.9%	79.6%	79.1%	96.9%	94.8%	96.9%	97.0%	92.8%	88.3%	89.1%	89.6%
Par Amount Traded (\$ Bil)	\$37.0	\$47.2	\$49.1	\$51.9	\$55.2	\$65.6	\$69.2	\$75.9	\$454.3	\$247.3	\$256.8	\$330.2	\$546.4	\$360.1	\$375.1	\$457.9
Percentage of Total Par Amount	6.8%	13.1%	13.1%	11.3%	10.1%	18.2%	18.5%	16.6%	83.1%	68.7%	68.5%	72.1%				

#### **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 Electronic Municipal Market Access (EMMA®) website, 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 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 overseen by the Securities and Exchange Commission and Congress.



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