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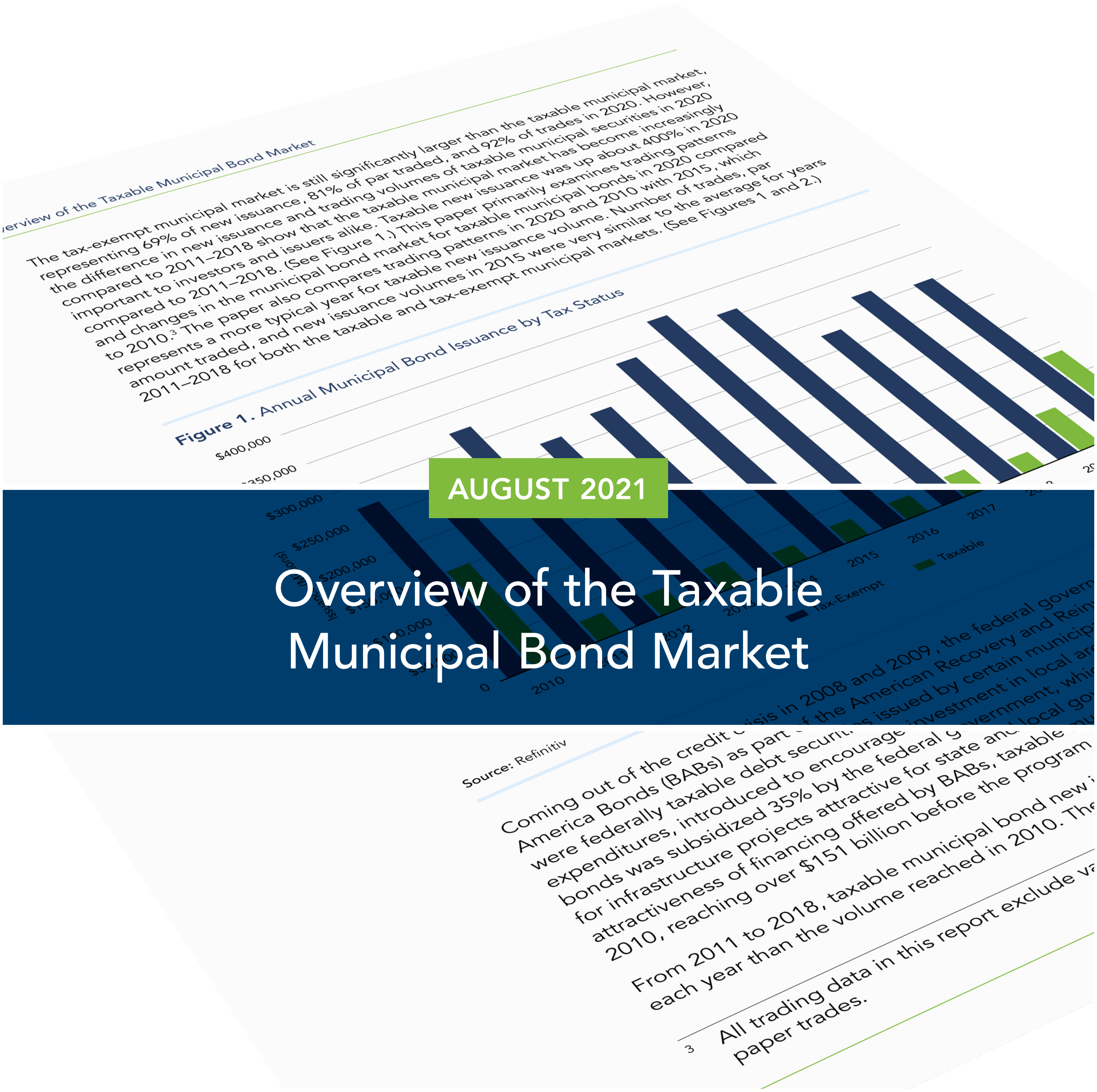
Municipal Securities Rulemaking Board



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Overview of the Taxable Municipal Bond Market

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Municipal Securities Rulemaking Board

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Introduction[1]

The global financial market crisis in early 2020 was a disruptive force in the municipal bond market. In March and April 2020, the dislocation in the municipal market had an extraordinary impact on both the primary and secondary market. The recovery was also fast, helped by the Federal Reserve Bank of New York establishing a Municipal Liquidity Facility to buy bonds directly from municipalities for the first time. Municipalities' ability to take advantage of low rates and dramatically increase taxable municipal bond new issuance volume also aided the recovery. By June 2020, the municipal market returned to pre-pandemic levels, moving toward historically low rates by August 2020. In many cases, these taxable new issuances allowed municipalities to refund outstanding tax-exempt debt and generate up-front savings to plug budget gaps created by the impact of the COVID-19 pandemic.

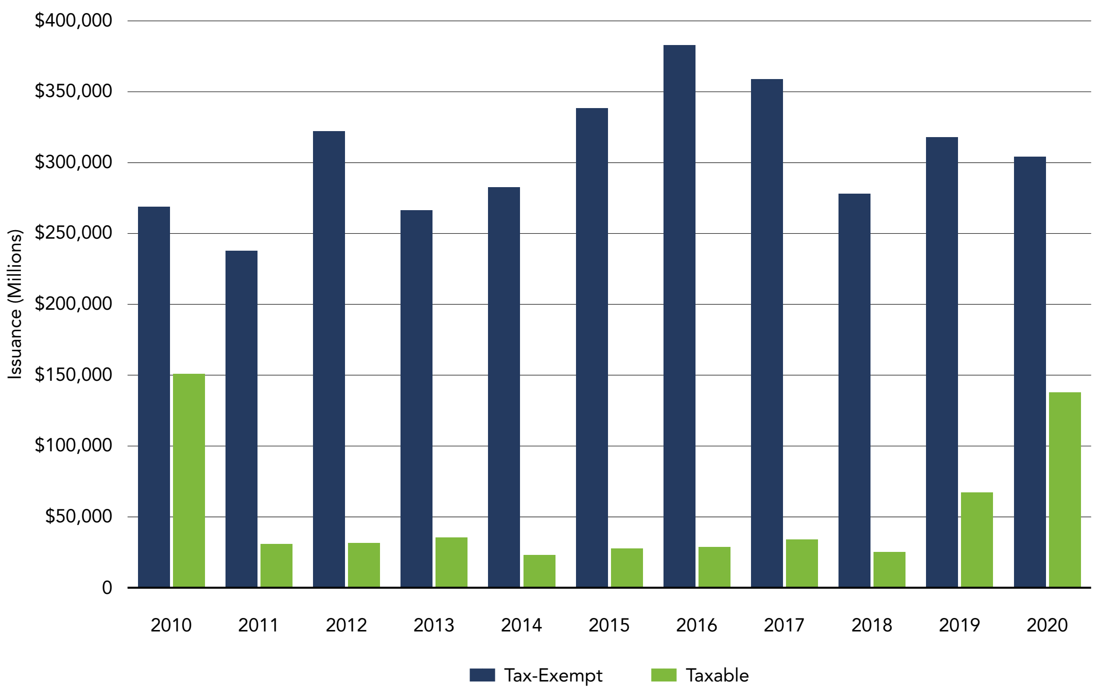
The last time the municipal market saw comparable volumes of taxable new issuance was 2010, the peak of the Build America Bonds program. Taxable new issuance reached unprecedented highs in the years 2020 and 2010, with much lower and consistent volume in the intervening years. Taxable municipal new issuance volume exceeded $150 billion in 2010 before dropping for the next eight years. On average, there was less than $30 billion in taxable new issuance each year from 2011 to 2018. In 2019, taxable new issuance began to rise again, with $67 billion in 2019 and $138 billion in 2020. (See Figure 1.)[2] Moreover, taxable securities represented 19% of total par traded (relative to trades of tax-exempt securities) in both 2020 and 2010, compared to an average of 9% between 2011 and 2018. These statistics demonstrate the uniqueness of 2020 and 2010 relative to other periods in the municipal market.

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 Source: Refinitiv, excludes securities maturing in 12 months or less and new issuances subject to Alternative Minimum Tax (AMT).

The tax-exempt municipal market is still significantly larger than the taxable municipal market, representing 69% of new issuance, 81% of par traded, and 92% of trades in 2020. However, the difference in new issuance and trading volumes of taxable municipal securities in 2020 compared to 2011–2018 show that the taxable municipal market has become increasingly important to investors and issuers alike. Taxable new issuance was up about 400% in 2020 compared to 2011–2018. (See Figure 1.) This paper primarily examines trading patterns and changes in the municipal bond market for taxable municipal bonds in 2020 compared to 2010.[3] The paper also compares trading patterns in 2020 and 2010 with 2015, which represents a more typical year for taxable new issuance volume. Number of trades, par amount traded, and new issuance volumes in 2015 were very similar to the average for years 2011–2018 for both the taxable and tax-exempt municipal markets. (See Figures 1 and 2.)

Figure 1. Annual Municipal Bond Issuance by Tax Status



Source: Refinitiv

Coming out of the credit crisis in 2008 and 2009, the federal government created Build America Bonds (BABs) as part of the American Recovery and Reinvestment Act. BABs were federally taxable debt securities issued by certain municipalities to finance capital expenditures, introduced to encourage investment in local areas. The interest paid on these bonds was subsidized 35% by the federal government, which made the cost of borrowing for infrastructure projects attractive for state and local governments. Because of the attractiveness of financing offered by BABs, taxable municipal bond issuance exploded in 2010, reaching over $151 billion before the program ended on January 1, 2011.

From 2011 to 2018, taxable municipal bond new issuance volume was significantly lower each year than the volume reached in 2010. The Tax Code and Jobs Act, which became

3 All trading data in this report exclude variable rate securities and municipal commercial paper trades.

effective in 2018, eliminated issuers' ability to advance refund outstanding debt with tax-exempt bonds. Taxable issuance began to increase in 2019 as a result, and taxable new issuance volume increased dramatically in 2020, as issuers took advantage of historically low rates to advance refund existing tax-exempt debt with taxable debt. These refundings often enabled issuers to realize significant upfront savings to help balance their budgets that suffered from the breakout of the COVID-19 pandemic in 2020. In 2010, taxable new issuance volume was driven by the attractive subsidy offered for BAB issuance. In 2020, the surge in taxable new issuance volume was driven by historically low rates enabling issuers to refund tax-exempt debt with taxable debt. In fact, 62% of taxable municipal issuance was refunding in 2020, compared to just 2% in 2010.[4] This shows that much of the increase in taxable issuance and trading in 2020 was a result of the combination of the Tax Code and Jobs Act, which eliminated the ability for an issuer to use tax-exempt bonds to advance refund outstanding debt, low interest rates and the ability for issuers to compensate for cost and revenue imbalances caused by the COVID-19 pandemic with savings from advance refunded deals.[5]

Although 2020 had similar new issuance volume to 2010, MSRB analysis of trade data shows a significant change in trading patterns for taxable municipal bonds in 2020 compared to 2010. Among other differences, trading of taxable municipal securities was dominated by institutional investors in 2020, with significantly less participation from individual investors than in 2010 or 2015. Among taxable trades of $1 million or more, often used as a proxy for institutional investors, there were 41% more trades in 2020 than in 2010. On the other hand, among trades of $100,000 or less, a proxy for trades by individual investors, there were 50% fewer taxable trades in 2020 than 2010. In 2020, 66% of taxable trades were of $100,000 or less, compared to 81% in 2010 and 80% in 2015.

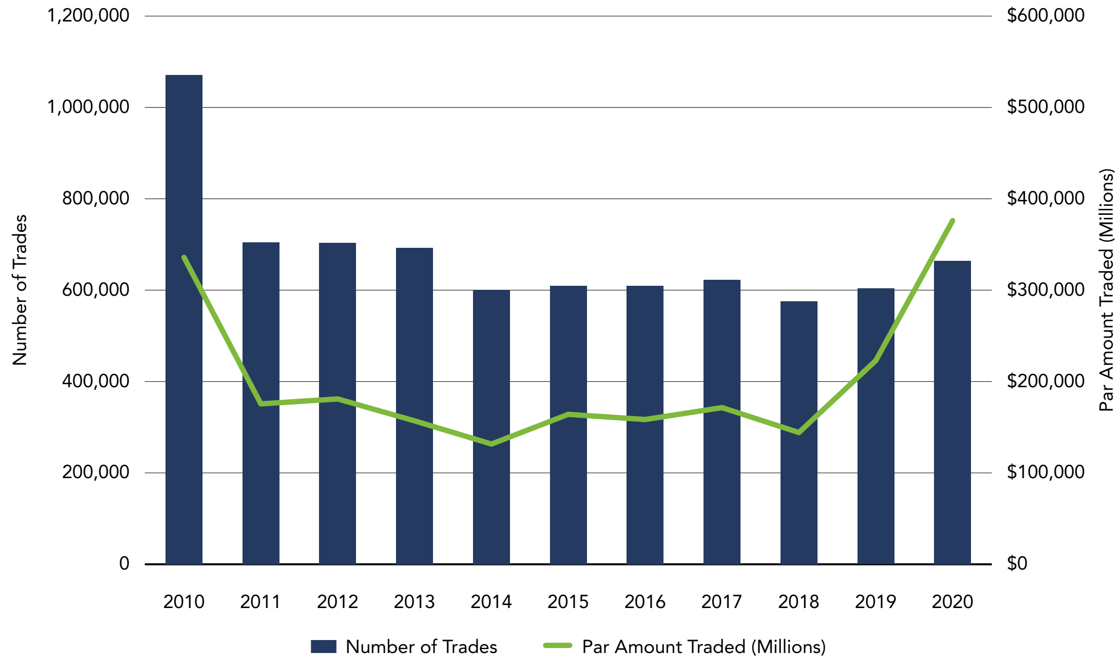
Trade Activity Overview and Background

While new issuance volumes were very similar in 2020 and 2010, trade patterns were distinct. In particular, the 2020 taxable municipal market was dominated by institutional investors, while individual investors had much higher participation in the 2010 taxable market. Figure 2 demonstrates that 2020 saw more par traded in the taxable municipal market than 2010, despite the fact that there were nearly 40% fewer trades in 2020 than 2010.

4 Source: Refinitiv, excludes securities maturing in 12 months or less.

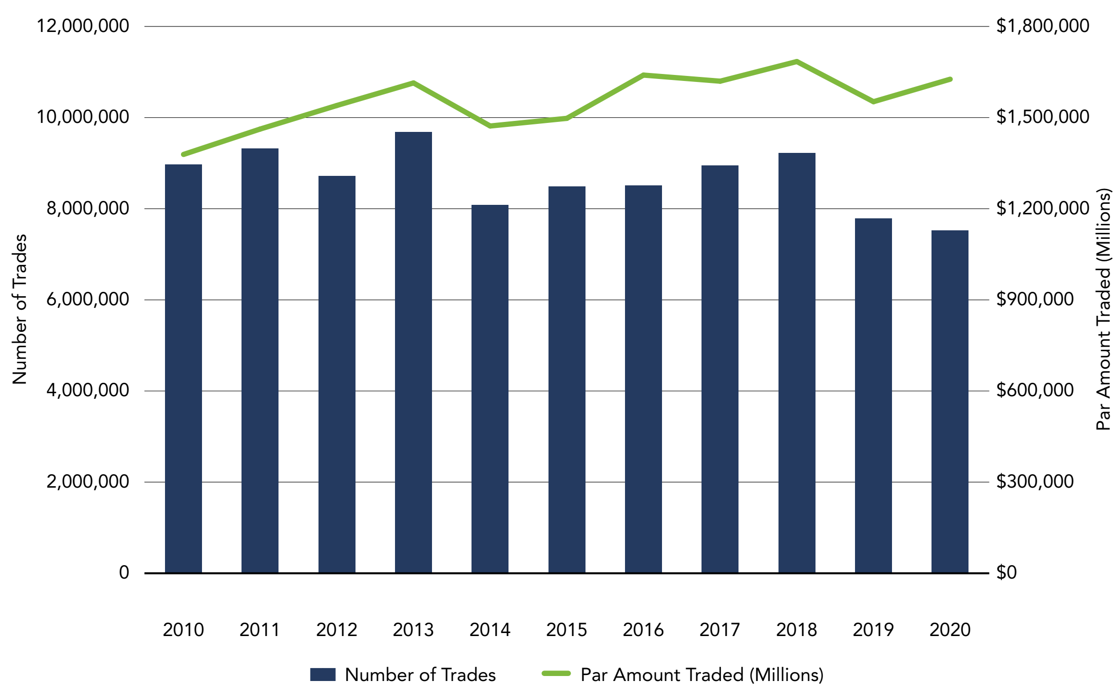
5 Additionally, approximately $40 billion in taxable debt was issued by traditional municipal conduit issuers into the corporate bond market in 2020. Many of these deals were issued by higher education entities, hospitals, and non-profit organizations. While the comparable statistic for 2010 is unknown, it is likely small because bonds in the corporate market did not qualify for the 35% reimbursement from the BABs program.

Figure 2. Annual Number of Trades and Par Amount Traded: Taxable Municipal Market



Meanwhile, the tax-exempt market has also grown more institutionally dominated over the past decade. However, the change in the tax-exempt market is less pronounced than in the taxable market and has been more gradual. (See Figure 3.)

Figure 3. Annual Number of Trades and Par Amount Traded: Tax-Exempt Municipal Market



Trade Size

In 2020, the market for taxable municipal securities was dominated by institutional-sized trades of $1 million or more. There were 41% more institutional-sized trades of taxable securities in 2020 than in 2010, with 93,008 trades in 2020 and 65,869 in 2010. There were notably fewer taxable trades of this magnitude in 2015, with 33,713 trades. In both 2010 and 2015, 6% of all trades of taxable securities were institutional-sized, while 14% were of that size in 2020.

While there were 41% more institutional-sized trades of taxable securities in 2020 than in 2010, there were 50% fewer individual investor-sized trades of $100,000 or less in the taxable municipal bond market in 2020 than in 2010. There were also fewer individual investor-sized taxable trades in 2020 than in 2015, even though taxable issuance and trading overall were much smaller in 2015 than 2020. In 2020, there were 435,959 individual investor-sized trades of taxable municipal securities, compared to 868,671 in 2010 and 487,400 in 2015. Moreover, in 2020, 66% of trades of taxable municipal securities were $100,000 or less, while 81% were of this size in 2010 and 80% were in 2015. (See Figure 4.) Par value traded in trades of $100,000 or less was similarly lower in 2020 than in 2010 and 2015. (See Figure 5.) In 2020, average trade size of taxable securities was $558,933, 77% higher than the average trade size of $316,608 in 2010. This discrepancy indicates that the taxable bond market in 2020 largely skewed toward institutional sizes.

Figure 4. Number of Trades of Taxable Securities by Trade Size

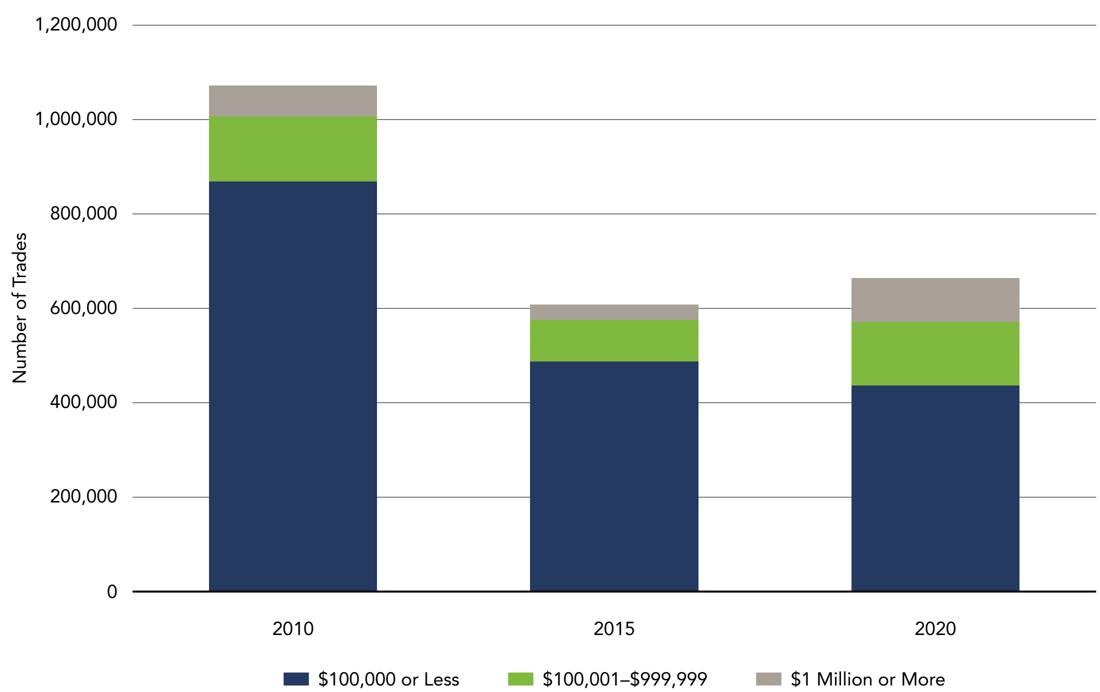
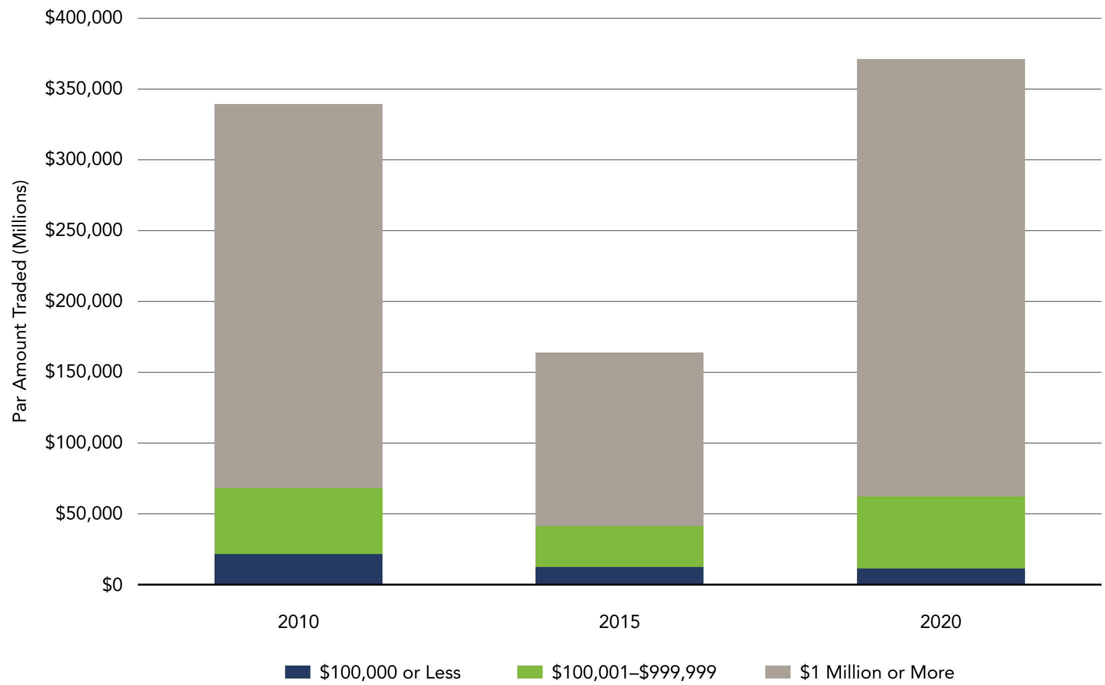


Figure 5. Par Traded for Taxable Securities by Trade Size



This shift in taxable municipal market participants may be related to the economic context of 2020 compared to 2010. First, the 2010 BABs project was well known among individual investors at the time, and there is no analogous project in 2020. Additionally, interest rates were significantly higher and perhaps more attractive to individual investors in 2010 than in 2020. Among issuers with similar ratings, yields were approximately 50% lower in 2020 than in 2010.[6]

In general, these changes are similar to decade-long trends in the tax-exempt market, discussed in detail in "Municipal Securities Market Sees Noticeable Shift in Buying Patterns," but the difference between 2010 and 2020 trading volumes is larger in the taxable market than in the tax-exempt market. In the taxable market, there were 50% fewer individual investor-sized trades in 2020 compared to 2010. In the tax-exempt market, there were 16% fewer trades of this size in 2020 than in 2010. Average trade size for tax-exempt securities was also larger in 2020 than in 2010, by 25%. However, that increase was significantly lower than the 77% increase in average trade size for the taxable market. Both the taxable and tax-exempt municipal bond markets have become more dominated by institutional-sized trades over time, but the shift away from individual investor-sized trades is particularly marked in the taxable market.

[6] For example, University of Michigan issued 10-year, 20-year, and 30-year bonds in 2010 and 2020. The 10-year bonds had a yield of 3.456 in 2010 and 1.672 in 2020; the 20-year bonds had a yield of 5.083 in 2010 and 2.437 in 2020; and the 30-year bonds had a 5.333 yield in 2010 and a 2.256 yield in 2020. Among other issuers who maintained similar ratings, the pattern is similar. The State of Washington issued 3-year paper in 2010 with a yield of 1.54 and issued similar 3-year paper with a yield of 0.38 in 2020. University of Virginia also issued 30-year bonds in 2010 and 2020, with a yield of 4.90 in 2010 and 2.256 in 2020.

Primary and Secondary Market Trading[7]

In 2020, there was less secondary market trading of taxable securities than in either 2015 or 2010. Ninety-eight percent of trades of taxable securities were in the secondary market in 2015, compared to 93% in 2010 and 89% in 2020. Meanwhile, there was insignificant change in the tax-exempt market. Figure 6 shows the number of trades and par amount traded in the primary and secondary markets for taxable and tax-exempt bonds in 2010, 2015 and 2020. Note that although 2020 saw 38% fewer trades of taxable securities than 2010 – with 664,031 trades in 2020, down from 1,071,533 in 2010 – 2020 saw almost 10% more par amount traded in the taxable market. In the primary market, however, par amount and number of trades were similar for 2010 and 2020, with both years far exceeding the trade volumes of 2015. These statistics demonstrate that the significant decrease in the number of trades and slight increase in par traded is attributable to trading in the secondary market. (See Figure 6.)

Figure 6. Primary and Secondary Market Trading Volumes by Tax Status

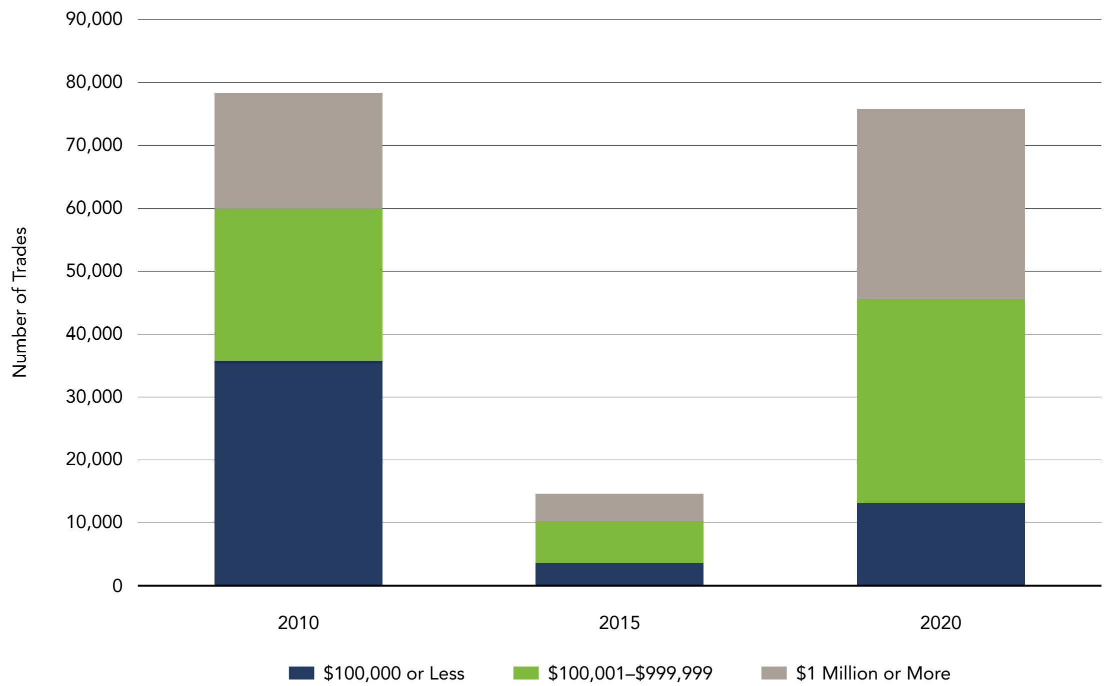
		Tax-Exempt Market			Taxable Market		
		2010	2015	2020	2010	2015	2020
Overall	Number of Trades	8,564,226	8,326,778	7,411,986	1,071,533	608,604	664,031
	Total Par (Millions)	$1,439,743	$1,460,320	$1,556,023	$339,256	$163,925	$371,149
Primary Market	Number of Trades	335,464	307,729	265,683	78,363	14,670	75,781
	Total Par (Millions)	$252,558	$264,595	$280,600	$124,664	$21,230	$127,777
Secondary Market	Number of Trades	8,228,762	8,019,049	7,146,303	993,170	593,934	588,250
	Total Par (Millions)	$1,187,185	$1,195,725	$1,275,423	$214,592	$142,695	$243,372

As discussed, there were notably fewer individual investor-sized trades of taxable securities overall in 2020 compared to 2010. This disparity is greater in the primary market than in the secondary market. In 2010, there were 35,760 individual investor-sized trades of taxable securities in the primary market. In 2020, there were 13,085, a decrease of 63%. (See Figure 7.)

Similarly, there was much more institutional-sized trading of taxable securities overall in 2020 than in 2010, and that increase was larger among primary market trades than in the secondary market. In 2010, there were 18,412 institutional-sized primary market trades of taxable securities, compared to 30,271 in 2020, an increase of 64%. (See Figure 7.)

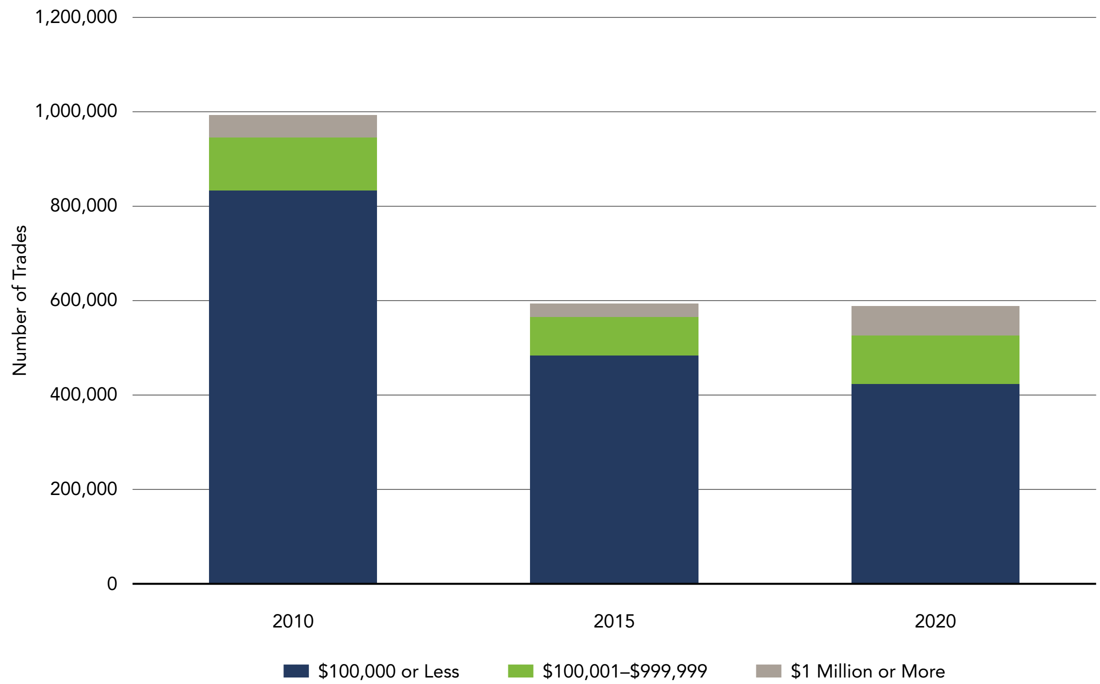
[7] Primary market and secondary market trades are differentiated using MSRB data on list offering price and takedown transactions, which generally encompass primary market transactions.

Figure 7: Number of Trades of Taxable Securities in the Primary Market by Trade Size



In the secondary market, there were 41% fewer trades of taxable securities in 2020 than in 2010, with 588,250 in 2020 and 993,170 in 2010. The year 2020 appears to have had notably few secondary market trades altogether, as there were more secondary market trades in 2015 (at 593,934) than in 2020. However, there was 13% more taxable par traded in the secondary market in 2020 than in 2010, with a 91% higher average trade size: $413,723 in 2020, compared to $216,068 in 2010. In 2015, the average trade size of taxable securities traded in the secondary market was in between the averages in 2010 and 2020, at $240,254. Though there was more par traded in trades of taxable securities in the secondary market in 2020 than in 2010, there were significantly fewer trades, so trade sizes were much larger in 2020 than in either 2010 or 2015. (See Figure 8.) While 2010 taxable secondary market trades were notably small in size, with particularly high participation from individual investors, 2020 secondary market trades were notably large, with particularly high participation from institutional investors.

Figure 8. Number of Trades of Taxable Securities in the Secondary Market by Trade Size



For comparison, the number of secondary market trades in the tax-exempt market has not seen much change since 2010. However, the tax-exempt market has seen an increase in average trade size, though the difference is less large than in the taxable market: in 2020, the average trade size for tax-exempt securities in the secondary market was 24% higher than in 2010, while that increase was 91% in the taxable market.

The average trade size for taxable primary market trades was 6% higher in 2020 than in 2010. However, the median trade size in taxable primary market trades in 2020 was 235% higher than in 2010, with a median par value of $520,000 in 2020 versus $155,000 in 2010. In 2015, the median par value for taxable primary market trades was $365,000. This distinction comes from a difference in distribution of trades: in 2010, the average trade size for taxable securities in the primary market was skewed higher than the median by a small number of large trades. In 2020, the distribution shifted so that there were more large trades overall, so the median was closer to the average. Despite there being 3% fewer trades of taxable securities in the primary market in 2020 than in 2010, par amount traded was 17% higher.

Trade Type

In terms of number of trades, 2015 had the most customer sales of taxable securities and 2010 had the fewest. In 2010, there were 92,756 customer sales of taxable securities, compared to 156,610 in 2015 and 138,757 in 2020. In 2020, there was also significantly more par traded in customer sales of taxable securities, with $74.4 billion in 2020 compared to $49.1 billion in 2010—a 52% difference. (See Figure 9.) There were markedly high rates of customer sales in March and October 2020, specifically, but the entire difference cannot be attributed to market turmoil in 2020, especially as there were more customer sales in 2015 than 2010.

It is interesting to note that although the number of customer purchases of taxable securities of $100,000 or less dropped by 75% and par amount decreased by 68% from 2010 to 2020, the number of taxable customer sales of $100,000 or less increased by 56% and par value increased by 39%. Among taxable customer sales of $1 million or more, there was a similar increase: 72% more trades and 58% more par value traded. (See Figure 9.) The large number of customer sales in 2020 is at least in part related to an increase in individual investor-sized customer sales, notably distinct from other segments of the market where the taxable market skewed largely toward institutional-sized trades in 2020.

Figure 9. Taxable Customer Trades by Trade Size

		2010	2015	2020
Customer Purchases (All Trade Sizes)	Number of Trades	722,439	222,053	279,529
	Total Par (Millions)	$198,212	$70,882	$218,094
	Median Trade Size	$20,000	$25,000	$70,000
	Average Trade Size	$274,365	$319,211	$780,219
Customer Sales (All Trade Sizes)	Number of Trades	92,756	156,610	138,757
	Total Par (Millions)	$49,084	$43,800	$74,364
	Median Trade Size	$45,000	$20,000	$25,000
	Average Trade Size	$529,176	$279,673	$535,930
Customer Purchases (Trades of $100,000 or Less)	Number of Trades	629,617	175,923	155,737
	Total Par (Millions)	$13,943	$4,351	$4,428
	Median Trade Size	$15,000	$15,000	$20,000
	Average Trade Size	$22,146	$24,731	$28,435
Customer Purchases (Trades of $1 Million or More)	Number of Trades	30,354	14,662	52,794
	Total Par (Millions)	$163,901	$55,988	$186,434
	Median Trade Size	$2,000,000	$2,000,000	$2,000,000
	Average Trade Size	$5,399,666	$3,818,568	$3,531,351
Customer Sales (Trades of $100,000 or Less)	Number of Trades	63,138	129,419	98,765
	Total Par (Millions)	$2,010	$3,105	$2,412
	Median Trade Size	$25,000	$15,000	$15,000
	Average Trade Size	$31,833	$23,995	$24,417
Customer Sales (Trades of $1 Million or More)	Number of Trades	10,945	8,413	18,875
	Total Par (Millions)	$40,771	$34,550	$64,260
	Median Trade Size	$2,000,000	$2,070,000	$2,000,000
	Average Trade Size	$3,725,062	$4,106,721	$3,404,506

Also, unlike other categories, the median trade size for taxable customer sales was smaller in 2020 than in 2010, with $25,000 in 2020 and $45,000 in 2010. The median in 2015 was $20,000, again signaling that 2010 may have been a more unique market in this respect. These annual differences in the taxable market are not consistent with the tax-exempt market, where a smaller increase in customer sales is mostly driven by an increase in larger institutional-sized sales. See Figure 10 for the customer buy-to-sell ratios by trade size in both the taxable and tax-exempt municipal markets.

As to customer purchases, there were 61% fewer customer purchases of taxable municipal securities in 2020 than in 2010, but 10% more par traded in taxable customer purchases, with a 185% larger average trade size in 2020 than in 2010. The decrease in the number of customer purchases was driven by the significant decrease in customer purchases of $100,000 or less. The increase in par traded was driven by a 74% increase in institutional-sized customer purchases of taxable securities, and a 75% decrease in individual investor-sized customer purchases. The large volume of individual investor-sized customer purchases in 2010 appears to have driven much of the 2010 taxable market. (See Figure 9.)

In general, the 2020 customer buy-to-sell ratios of taxable municipal securities were less extreme than in 2010, where there was a 997% buy-to-sell ratio for the number of individual investor-sized trades of taxable securities. In 2020, the same ratio was 158%, much closer to the ratio of the more typical year in 2015. In 2020, there were larger buy-to-sell ratios among institutional-sized trades of taxable securities, with a 290% ratio for par traded. In both the taxable and tax-exempt markets, there were higher buy-to-sell ratios among institutional-sized trades than individual investor-sized trades in 2020. However, this trend is more remarkable in the taxable market than in the tax-exempt market. (See Figure 10.)

Figure 10. Customer Buy-to-Sell Ratios by Tax Status and Trade Size

Customer Buy to Customer Sell Ratio: $100,000 or Less

	Tax-Exempt			Taxable		
	2010	2015	2020	2010	2015	2020
Par	228%	208%	139%	694%	140%	184%
Number of Trades	256%	207%	137%	997%	136%	158%

Customer Buy to Customer Sell Ratio: $1 Million or More

	Tax-Exempt			Taxable		
	2010	2015	2020	2010	2015	2020
Par	209%	212%	185%	402%	162%	290%
Number of Trades	167%	204%	197%	277%	174%	280%

Conclusion

Overall, the 2020 taxable municipal securities market was primarily driven by institutional trading. The increasing influence of institutional market participants is consistent with overarching trends in the municipal market overall, including in the tax-exempt market, but the shift is most pronounced in the taxable market.

New issuance statistics and primary market trades in the taxable markets of 2020 and 2010 looked similar, but trade activity looked very different in the two years. As demonstrated in Figure 1, there were very similar volumes of new issuance of taxable municipal debt in 2010 and 2020. However, trade activity in 2020 was notably distinct from 2010: there were 38% fewer trades of taxable municipal securities in 2020 than 2010, but 9% more par traded. In terms of the distribution of trades, the 2020 taxable market was more similar to 2015 than 2010.

In many cases, the data suggest that 2010, the most recent year with significant taxable issuance, saw a particularly unique taxable market. Likely due in part to the structure of the Build America Bonds program, trading volume in the 2010 taxable market largely comprised individual investor-sized trades, especially customer purchases, and involved much more trading in the secondary market than the taxable market in 2020. The 2020 taxable market included many more customer sales and institutional-sized trades than in 2010.

The number of customer sales of taxable municipal securities in 2020 was more similar to 2015 than to 2010, with more customer sales in 2020 and 2015 than in 2010. In 2010, the majority of trades of taxable securities consisted of customer purchases, with very few customer sales. In 2015 and 2020, there were even more customer purchases and interdealer trades, with about 50% more customer sales than in 2010. The customer buy-to-sell ratio in 2010 was 997%, compared to 158% in 2020 and 136% in 2015.

Furthermore, the individual investor-sized taxable market was notably different in 2010 than in 2015 or 2020. In 2010, there were 50% more trades and 28% more par traded in individual investor-sized trades of taxable securities than in 2020. Indeed, 2020 saw even less trading activity in the individual investor-sized taxable market than in 2015, both in terms of number of trades and par traded.

The main drivers of the large volumes of taxable new issuance in 2010 and 2020 are also distinct. In 2010, the creation of BABs in response to the global financial crisis dramatically increased taxable municipal issuance. In 2020, the elimination of tax-exempt advance refundings combined with municipalities' imbalances in costs and revenues due to the COVID-19 pandemic led to the surge in taxable municipal issuance, especially advance refunding deals.

The 2020 taxable market also appears to be unique in terms of proportion of individual investor-sized trades, as about 80% of trades of taxable securities were individual investor-sized in both 2010 and 2015, but only 66% were in 2020. These data show that the 2020 taxable market was skewed more toward institutional-sized trades than any previous taxable market. While the 2010 taxable market was uniquely suited to individual investors, the large differences in individual investor-sized trades in the taxable market can also be attributed to the overall trend toward institutional trading in the municipal market.

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 and conducts extensive education and outreach to market stakeholders. 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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