MSRB

Municipal Securities Rulemaking Board

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2022 Mid-Year Market Update

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Municipal Securities Rulemaking Board

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Overview[1]

In 2021, demand in the municipal bond market far exceeded supply, with low volatility and absolute and relative yields closing at or near historic lows. That changed in 2022 as rising inflation and subsequent increases in short-term interest rates by the Federal Reserve Board (Fed), as well as concerns about the Fed reducing its balance sheet, caused interest rates across fixed income products to rise. The supply/demand equation changed rapidly, as mutual funds, the largest buyer of municipal bonds, especially in the long end, became significant sellers to meet unprecedented outflows in the first half of the year ($88 billion through June 29).[2] Benchmark yields rose 170 basis points or more and credit spreads widened. Taxable issuance, which accounted for over 27% of total bond issuance in 2020 and 2021, plummeted to 15% year-to-date and only 8% in June.

While mutual funds saw significant outflows in the first half of 2022, individual investors, who had seen their share of municipal bond holdings decrease over the years, stepped in, especially in May and June. A dramatic increase in the number of trades in the second quarter is mostly attributed to a significant increase in demand for municipal bonds by individual investors.[3] As benchmark rates were reaching levels not seen since 2013, trading volumes for municipal bonds reached record levels, with the daily average number of trades in May reaching nearly 58,000, almost double the 29,683 daily average in 2021. Tax-exempt Exchange-Traded Funds (ETFs) also saw significant inflows in contrast to mutual funds, with trading volumes climbing to unprecedented levels in the first half of 2022, up 410% over 2021.

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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.

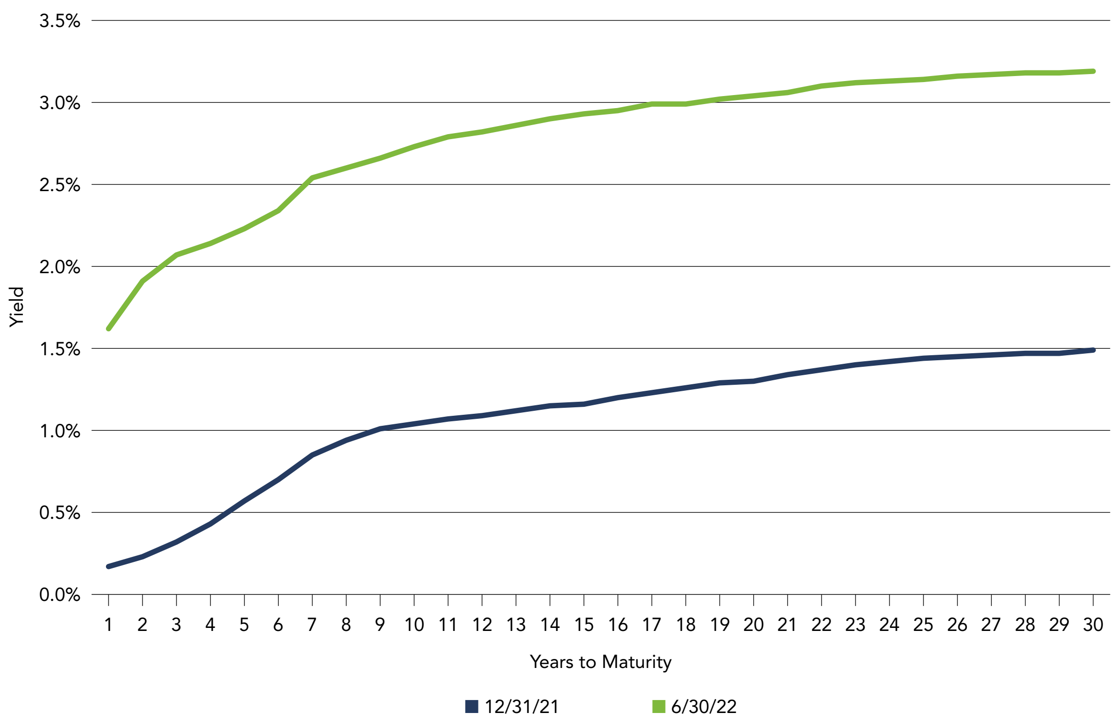
2 Investment Company Institute (ICI).

3 All trade data in this report is for fixed-rate and zero-coupon securities only.

Interest Rates Soar in the Tax-Exempt Muni Market

As shown in Figure 1, at the end of 2021, tax-exempt yields were at nominal and historical lows. Benchmark tax-exempt rates were 0.57% for 5-year bonds, 1.03% for 10-year and less than 1.50% for 30-year. Although tax-exempt rates were relatively flat in the second half of 2021, they started rising immediately in January and continued rising steadily through the middle of May before declining in the second half of May. By the end of June, tax-exempt rates had risen 166, 170, and 171 basis points for 5-, 10- and 30-year bonds, respectively.

Figure 1. Bloomberg BVAL AAA 10-Year Callable Yields, 12/31/2021 and 6/30/2022



Source: Bloomberg Finance L.P.

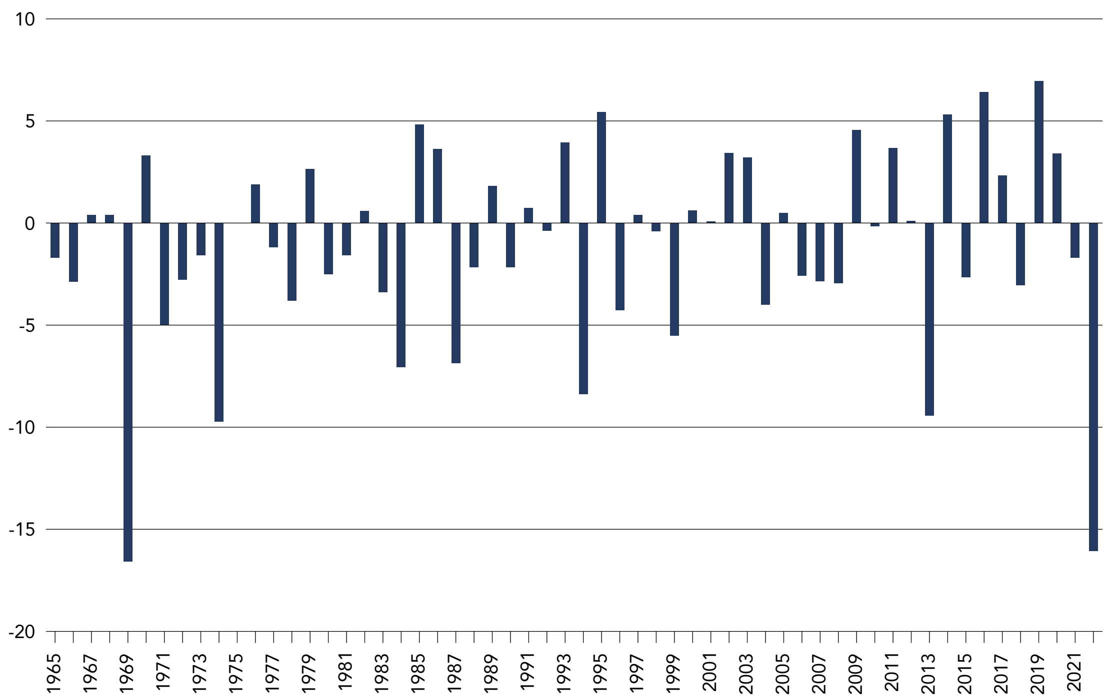
Figure 2 shows the change in yields in the Bloomberg BVAL AAA Callable 10-year tax-exempt curve from 2011 through June 2022. In 2022, 10-year rates rose consistently and peaked on May 18 at 2.95%. By comparison, during the pandemic-driven market dislocation in March 2020, 10-year BVAL callable rates peaked at 2.85% on March 23. The 2.95% closing yield on May 18, 2022 was the highest closing yield for the BVAL AAA 10-year callable index since mid-September 2013. It should also be pointed out that the short-term market has experienced similar and significant increases in 2022, with the SIFMA Municipal Swap Index increasing from an average of 0.04% in 2021 to 0.83% in June 2022.

Figure 2. Bloomberg BVAL AAA 10-Year Callable Yields, 2011–June 2022

Source: Bloomberg Finance L.P.

The price declines in the first half of 2022 were among the worst first halves ever recorded in the municipal bond market. In fact, according to Municipal Market Analytics (MMA), the 16.06% price decrease in the 10-year index during the first half of 2022 is the worst first half performance since 1969 when it decreased 16.59%. (See Figure 3.)

Figure 3. 1st Half MMA Municipal Price Change 10-Year Index, 1965–2022



Source: Municipal Market Analytics (MMA)—www.mma-research.com

Benchmark yield curves are typically developed for highly rated (often AA and AAA) securities and may not reflect changes in yields for lower-rated and non-rated bonds. In fact, credit spreads of municipal bonds have widened year-to-date so the rise in yields for many lower-rated and non-rated bonds has been higher than increases in benchmark yields. To illustrate the rise in yields for lower-rated bonds, the Buckeye Tobacco Financing Authority bond with a 5% coupon, maturing on 06/01/2055 and a $3.38 billion par amount can be used as an example.[4] The bond trades frequently and is a bellwether bond for the high-yield municipal bond market. On December 27, 2021, bonds traded at a 2.83% yield. On June 30, 2022, the same bonds traded at a 5.37% yield—up 254 basis points. By comparison, during the time between these two trades, yields on benchmark 30-year bonds rose by 176 basis points, reflecting a widening of credit in the lower-rated bonds. Similarly, the MSRB observed larger increases in lower-rated yield curves than high-grade yield curves.

4 *See* Buckeye Tobacco Financing Authority bond on EMMA.

Comparing the Municipal Market with the Treasury Market

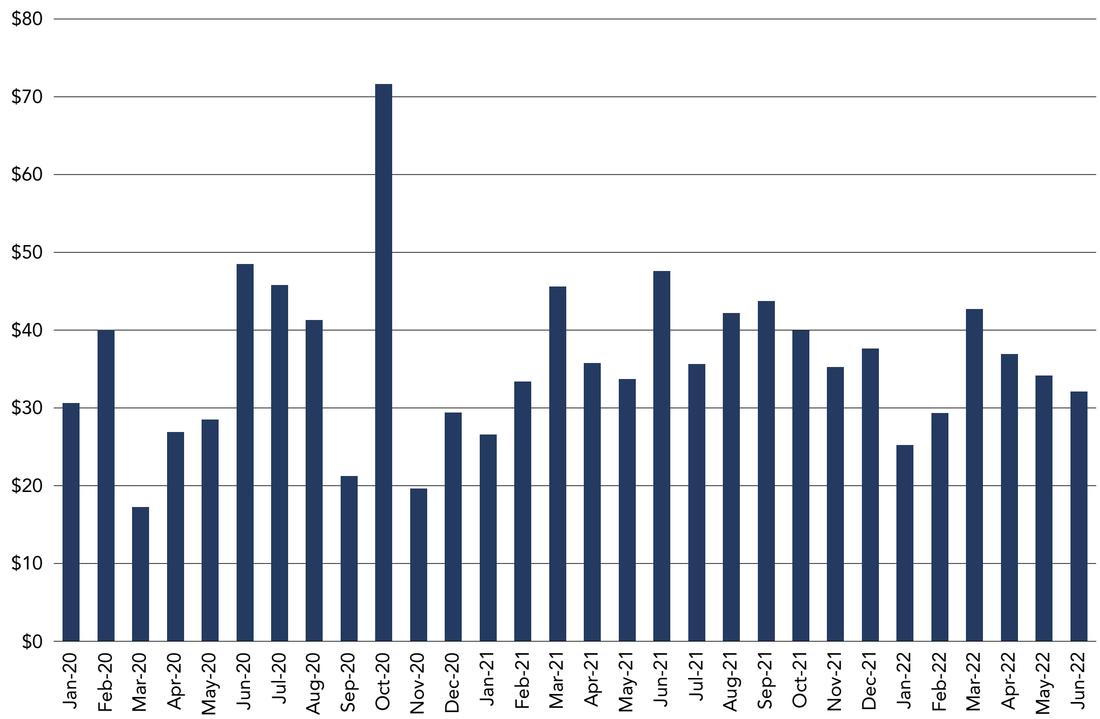
The Municipal-to-Treasury (M/T) ratio compares the rates on tax-exempt municipal bonds to U.S. Treasury bonds of the same tenor. The calculation shows the relative value of municipal bonds to Treasury bonds. The higher the ratio, the more attractive municipal bonds are relative to Treasury bonds. At the end of 2021, demand for municipal bonds was greater than supply and the M/T ratio was at or near historical lows, meaning yields on municipal bonds were low compared with Treasury bonds. For example, the 10-year M/T ratio stood at 68% at year-end. On June 30, it was at 92%, which means municipal bonds are dramatically more attractive relative to Treasury bonds than they were at year-end. In fact, the M/T ratio was significantly higher at the end of June across all maturities compared to year-end 2021.

Of course, yields have risen across all fixed income markets in 2022. Interestingly, yields on Treasury bonds have risen more than municipal bonds on the short end of the market, while municipal bond yields have risen more than Treasury bond yields on the long end of the market. Yields on 1-, 5-, 10- and 30-year Treasury bonds have risen by 241, 175, 146 and 124 basis points, respectively. Meanwhile benchmark municipal bond yields have risen by 145, 166, 170 and 171 basis points for the same maturities.

New Issue Volumes Decline

Issuance in the municipal market totaled $200.5 billion in the first half of 2022, down 10% from the $222.6 billion issued in the same period of 2021 and down 15.6% from the first half of 2020.[5] Monthly issuance averaged $33 billion in the first six months of the year, compared to $38 billion in 2021. (See Figure 4.)[6]

Figure 4. Monthly Bond Issuance, 2020–June 2021 ($ Billions)



Source: Refinitiv. Excluding securities with maturities of one year or less and private placements

For the first six months of the year, tax-exempt issuance was relatively unchanged at $160.7 billion, up approximately 1% from the same period in 2021 and 2020.[7] Despite difficulties in the tax-exempt market, especially related to mutual fund outflows, issuers were able to issue almost the same amount of tax-exempt debt in the first half of 2022 as they did for the same period in 2021 and 2020.

Conversely, issuance of taxable municipal bonds decreased dramatically in 2022 compared to the elevated levels of 2020 and 2021. Monthly volume for the past two calendar years

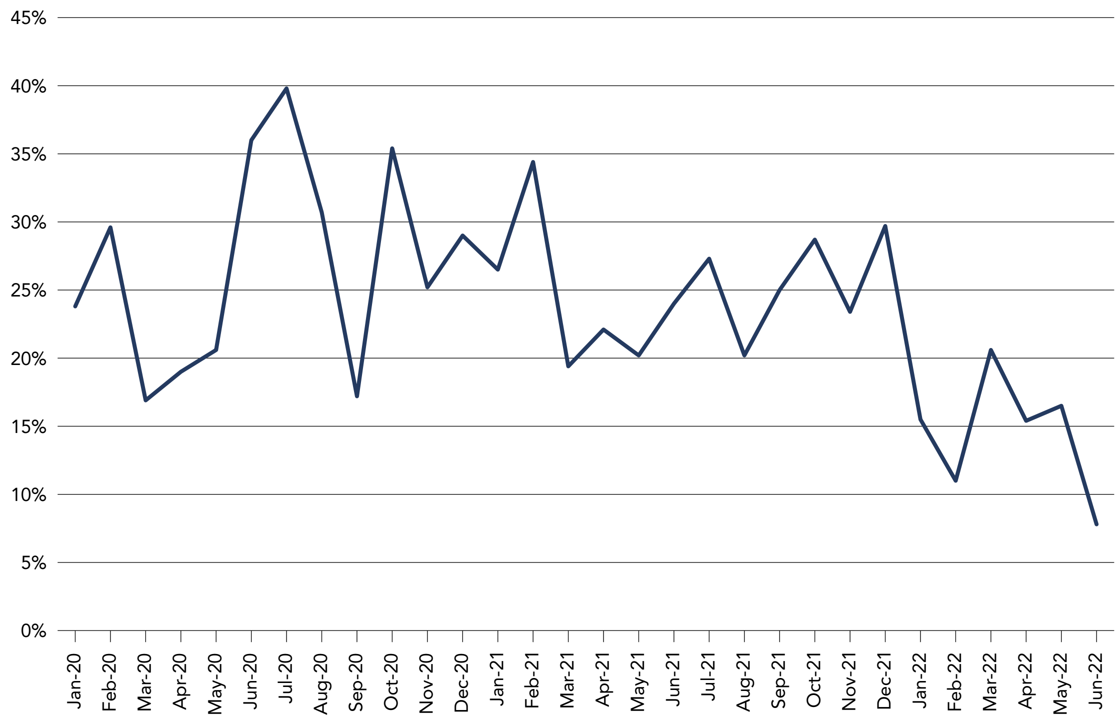
5 According to Refinitiv and excluding securities with maturities of one year or less and private placements.

6 Issuance spike in October 2020 was due to issuers accessing the market before the November Presidential election.

7 Tax-exempt issuance includes Alternative Minimum Tax issuance (AMT).

averaged 27% of the overall market. That is a dramatic contrast with the 15% monthly average for the first half of 2022 and the 7.8% level for June 2022. (See Figure 5.)

Figure 5. Monthly Market Share of Municipal Taxable Issuance, 2020–June 2021



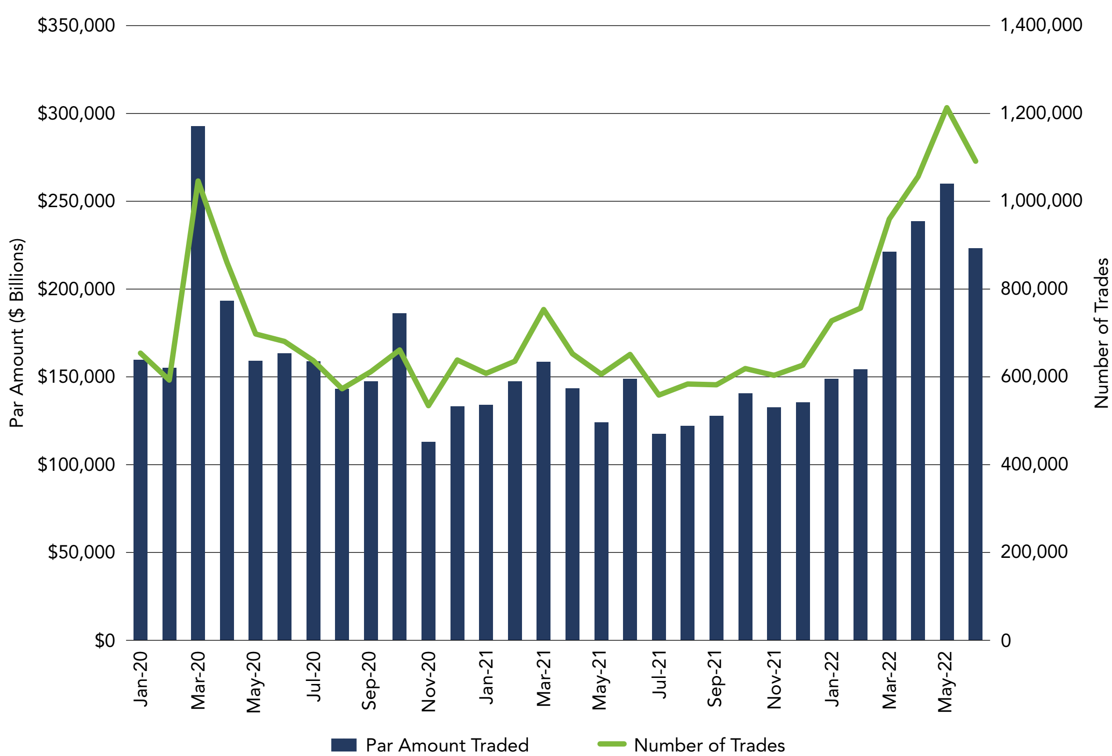
Source: Refinitiv. Excluding securities with maturities of one year or less and private placements

From 2020 to 2021, issuers were able to take advantage of a low interest rate environment and access the new issue market, both with new money as well as refunding offerings. In 2022, however, higher interest rates restricted the ability to refund many deals and significantly raised costs to fund projects, particularly on a taxable debt basis. While new money issuance was 9% higher in the first half of the year, refunding new issuance decreased nearly 50% to $25.8 billion.

Overall Trading Activity is Notably Higher

Trading volume in the municipal market was up significantly in the first half of 2022, particularly during the months of April, May and June. In fact, April, May and June of 2022 each surpassed one million trades of fixed-rate municipal securities, an occurrence that has only happened eight times from 2007 through 2021.[8] (See Figure 6.) The 5.8 million trades of fixed-rate securities in the first half of 2022 were 49% higher than trades in the first half of 2021 and 28% higher than trades in the first half of 2020. Trading had been relatively stable since March and April 2020 when trading activity spiked during the pandemic-driven market dislocation, averaging about 625,000 trades per month from May 2020 to December 2021. But volume began to surge in early 2022, peaking in May with 1.21 million trades, the highest monthly volume since the implementation of the MSRB's Real-Time Transaction Reporting System (RTRS) in 2005. The par amount traded of fixed-rate municipal securities reached $1.25 trillion in the first six months of the year, up 46% from the same period one year ago and up 11% from in the first half of 2020. The $260 billion traded in May was the highest monthly volume since March 2020 and more than double the $124 billion traded in May 2021. In fact, volume from May through August of 2021 was the lowest four-month period in the last five years. For additional detail on trading activity after the pandemic in 2020, please see the MSRB 2021 Municipal Market Trading Update report.

Figure 6. Monthly Trade Activity, Fixed-Rate Securities, 2020–June 2022



[8] *See* "Municipal Securities Market, Trade Activity 2007–2021," Municipal Securities Rulemaking Board, May 2022.

Individual Investors Drive Increase in Trading Volumes

The steady and significant rise in rates for most of 2022, coupled with the dramatic increase in the number of trades in the second quarter, clearly indicate a dramatic increase in the purchasing of municipal bonds by individual investors. Analysis of trades of $100,000 or less, typically referred to as individual investor-sized trades, accounted for 83.4% of all fixed-rate trades in the first half of the year, compared to 80.6% in the same period of 2021. Overall, in 2022, the 4.8 million trades of $100,000 or less were 54% higher than the 3.2 million trades in the first six months of 2021. This renewed source of demand from individual investors, among other factors including a decrease in new issue supply, potentially enabled the market to stabilize and see rates decline since the apex of tax-exempt rates in mid-May.

When looking at different types of trades, analysis shows that while the number of trades was relatively stable across customer and inter-dealer trades, as seen in Figure 6, the share of customer sales par traded increased significantly during the first half of the year compared with 2021. The market share of customer sales increased from 25%, or $213 billion, in the first six months of 2021 to 31%, or $387 billion, in the same period of 2022. Customer purchases market share decreased from 52% in the first half of 2021 to 48% in 2022 and similarly, market share of inter-dealer trades decreased from 23% to 21%. This data is consistent with bid-wanted volume data the MSRB identified and indicates an increased need for customers to sell bonds in 2022 compared to 2021. This is also consistent with the record-setting outflows from tax-exempt mutual funds, which significantly reduced demand in the market.

Figure 7. Market Percentage of Trade Types, Fixed-Rate Securities, 2020–June 2022

	Number of Trades			Par Amount Traded		
	Customer Purchase	Customer Sale	Inter-dealer	Customer Purchase	Customer Sale	Inter-dealer
First Half 2020	36%	25%	39%	49%	29%	22%
First Half 2021	36%	27%	37%	52%	25%	23%
First Half 2022	36%	26%	38%	48%	31%	21%

As noted in the MSRB's Municipal Securities Market, Trade Activity 2007–2021 report, high trading volume months are typically associated with an increase in market yields, and 2022 was no different, with rates starting to elevate early in the year and peaking in mid-May at 3.04%, according to Municipal Market Analytics (MMA). (See Figure 8.) In addition to spikes in trading activity, MSRB analysis also showed that as yields increased in 2022, the number of customer purchases at significant discounts and outside the de minimis thresholds increased significantly. In March 2022, the MSRB published an issue brief that alerts investors to the tax and liquidity considerations of buying municipal bonds at a deep discount.

Figure 8. MMA 10-Year Yields, 2020–June 2022

Source: Municipal Market Analytics (MMA)—www.mma-research.com

Muni Bond Mutual Funds See Outflows

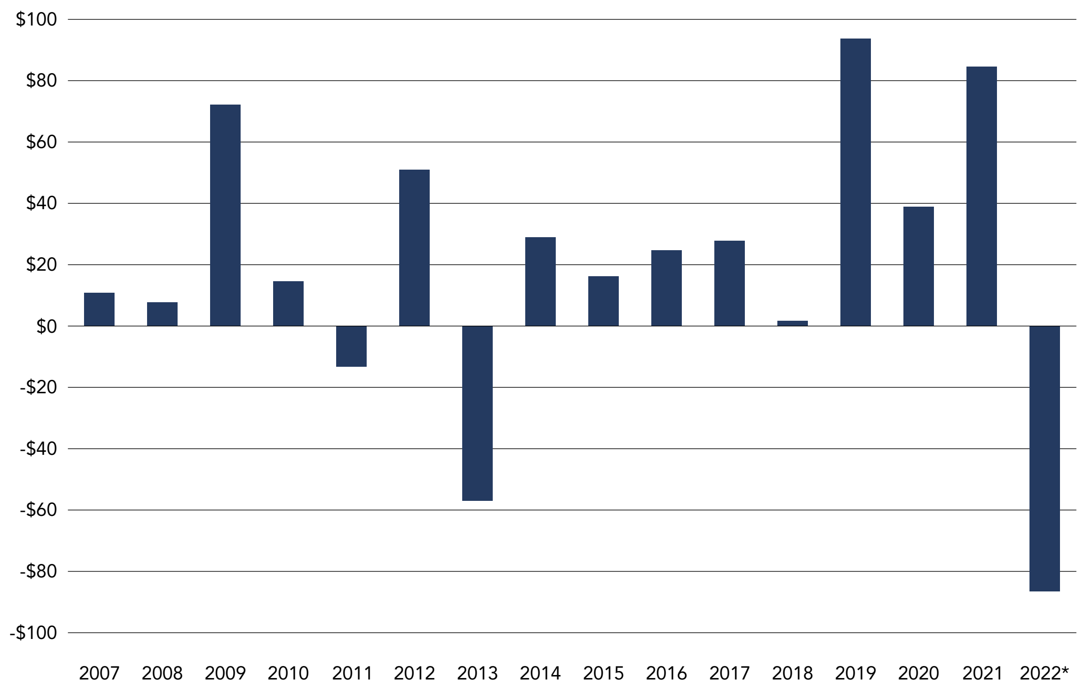
Over the years, the municipal bond market has become increasingly reliant upon demand from mutual funds to drive the market. Fed municipal bond holdings data shows that mutual funds have become increasingly important to the market. Total mutual fund holdings of municipal securities stand at $900 billion, or 22% of the entire municipal market, as of the end of the first quarter of 2022. Mutual funds' municipal holdings have ramped up significantly in recent years, up from 16% of all municipal securities five years ago and just 13% of all municipal securities 10 years ago. Mutual funds also continue to tighten the market share gap with households, the largest holder of municipal securities.[9] Growth in tax-exempt mutual funds is also evident in data provided by the Investment Company Institute (ICI). The years 2019 and 2021 were the two largest periods for municipal bond inflows on record. (See Figure 9.) From 2019 through 2021, municipal bond mutual funds brought in more than $217 billion. That is 17% more than the combined flows from 2007 through 2018.

Although mutual funds saw record weekly outflows of $19 billion in consecutive weeks in March 2020 during the market dislocation caused by the COVID-19 pandemic, the outflows were short-lived and the market ended the year with mutual fund inflows of $39 billion.

[9] *See* "Trends in Municipal Securities Ownership," Municipal Securities Rulemaking Board, June 2022.

Starting in mid-January through early June of this year, municipal bond mutual funds had 19 consecutive weeks of outflows totaling $76 billion. Since 2007, there have been more consecutive weeks of outflows only twice—25 weeks from November 2010 to May 2011 and 33 weeks from June 2013 to January 2014. However, the volume of outflows in those two periods totaled $45 billion and $66 billion, respectively, lower than the 2022 outflows. Although the string of consecutive weeks of outflows was broken in June, relief was short-lived. After one week of inflows, outflows returned for the rest of June and net outflows for the first six months ended at $88 billion. Since 2007, tax-exempt mutual funds have only had two outflow years, $13 billion in 2011 and $57 billion in 2013. Without a significant and quick turnaround in flows, outflows in 2022 could be far in excess of those in 2013.

Figure 9. Mutual Funds Net Cash Flows, 2007–June 2022 ($ Billions)

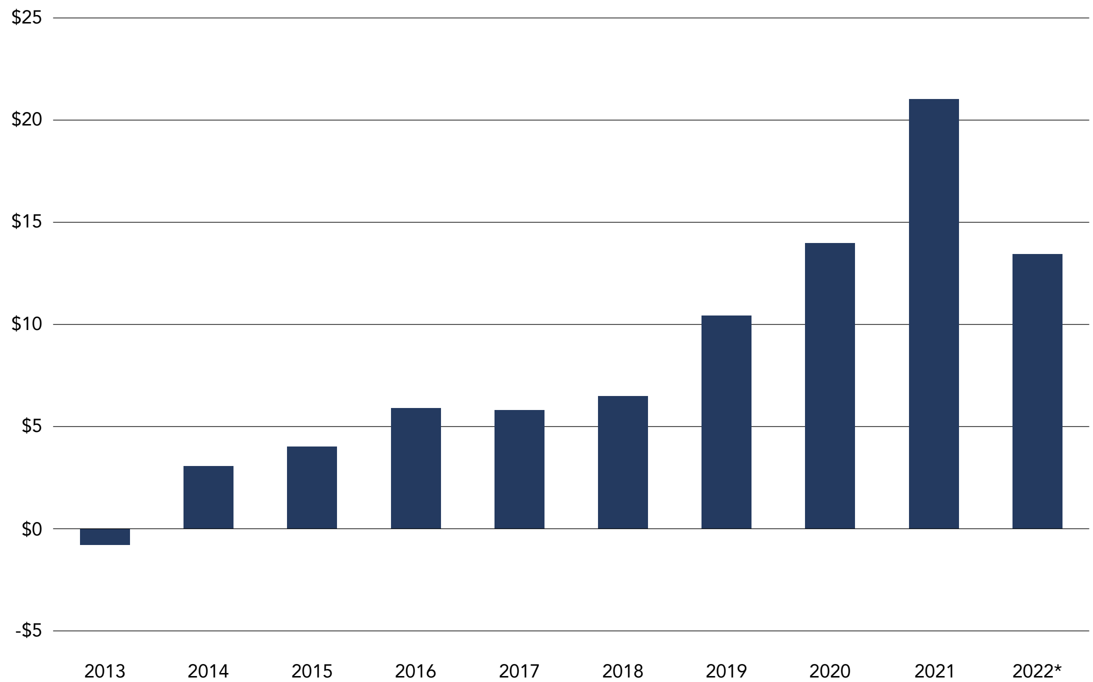


* As of June 29, 2022
Source: Investment Company Institute (ICI)

Muni Bond ETFs Inflows

Although tax-exempt ETFs are a much smaller part of the municipal bond market than tax-exempt mutual funds, there has been significant growth in the past few years. This year, the market witnessed an interesting divergence in flows to ETFs and mutual funds. As mentioned previously, tax-exempt mutual funds saw record outflows in the first half of 2022, however, tax-exempt ETFs continued to attract assets. Although tax-exempt ETFs saw a few weeks of outflows in 2022, year-to-date, they have had inflows of $13.5 billion.[10] (See Figure 10.) These trends indicate strong growth in a challenging year.

Figure 10. Exchange-Traded Funds (ETFs) Net Cash Flows, 2013–June 2022 ($ Billions)



* As of June 29, 2022
Source: Investment Company Institute (ICI)

ETF Trade Volume Increases Significantly

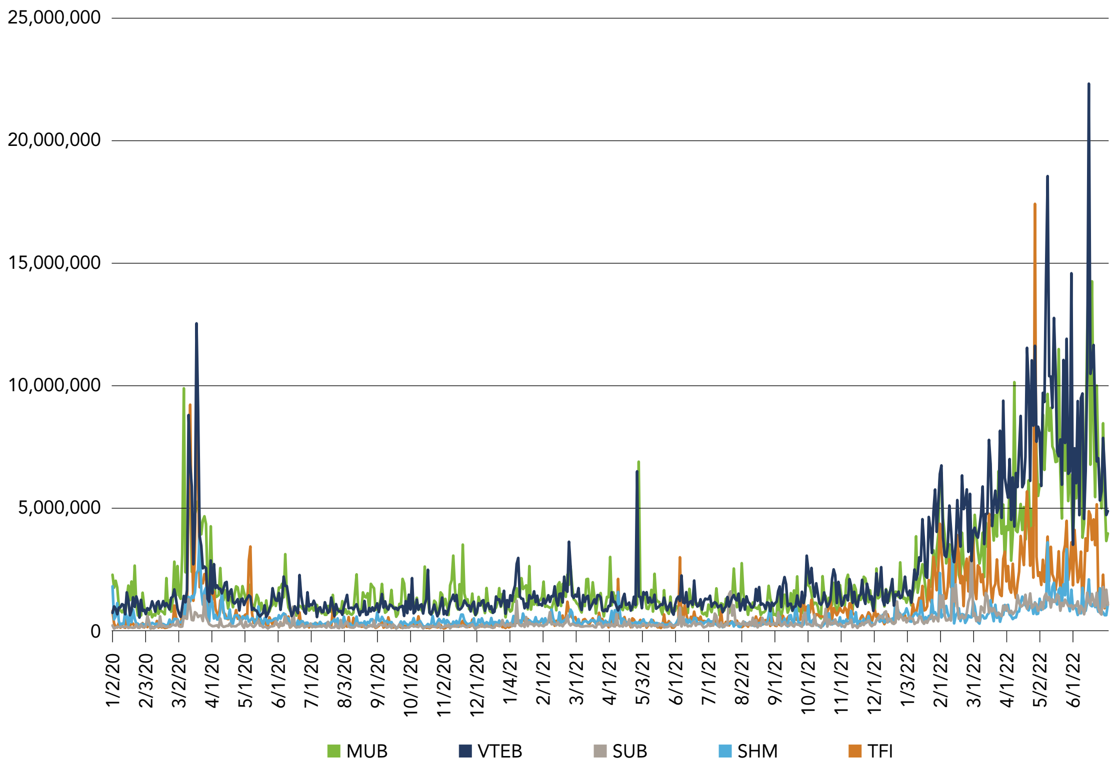
Although the MSRB analysis shows a significant increase in municipal bond trading overall, the increase in trading volume for municipal bond exchange-traded funds (ETFs) is even more noticeable in 2022. Figure 11 shows the trade volume for the five largest municipal bond ETFs by assets under management (MUB, VTEB, SUB, SHM, TFI) from the first quarter of 2020 through the end of the second quarter of 2022. Together, these five ETFs hold $64 billion in total assets, which accounts for roughly three-quarters of total municipal bond ETF assets.[11] Daily trade volume of these five largest municipal ETFs has averaged 15.9 million trades in the first and second quarters of 2022, more than four times the 3.8 million average in 2021 and 3.9 million in 2020.

In 2021, the total daily trade volume of the five largest ETFs never once surpassed 10 million. By contrast in 2022, the total for the same group of ETFs has surpassed 10 million trades for each of the past 78 trading days, from March 10 through June 30.

[10] Long-Term Mutual Fund Net New Cash Flow, Investment Company Institute (ICI).

[11] VettaFi EFT Database.

Figure 11. Trading Volume of Five Largest Municipal ETFs, 2020–June 2022



Source: VettaFi ETF Database and Yahoo Finance

During the height of the COVID-19 market dislocation in March 2020, trade volumes for the five ETFs reached 11.6 million average daily trades, which still pales in comparison to the 2022 daily average of 15.6 million. Trade volumes continued to climb throughout 2022, with June seeing the largest trade volume at over 20 million average daily trades.

Figure 12. Average Daily Trade Volume of Five Largest Municipal ETFs, 2020–June 2022

Time Frame	Average Daily Trade Volume – 5 Largest Muni ETFs
2020	3.9 million
March, 2020	11.6 million
2021	3.8 million
2022	15.6 million
June, 2022	20.5 million

Source: VettaFi ETF Database and Yahoo Finance

Changes in Offering and Bid-Wanted Volume

Along with the significant increase in trading levels, including a record month in May, the MSRB analysis shows a similar increase in the amount of bonds offered and the amount of bid-wanteds on various electronic platforms. For example, in 2021, a period with low rates and demand exceeding supply, the average par amount of bonds out for the bid each day on the Bloomberg's bid-wanted system was $551 million.[12] In 2022, that number more than doubled to $1.26 billion. Although the number of bid-wanteds also increased, the increase in the par amount out for the bid was far greater. MSRB analysis shows that for the first six months of 2022, there were 87 days where the par amount of bid-wanteds on Bloomberg's system reached or exceeded $1 billion. In 2021, there were only two days when that happened.

The MSRB identified a significant increase in the amount of offerings on various electronic platforms on a daily basis, especially in regard to par amount offered. Although some of this increase could be attributable to additional contributors on the platforms, it also likely shows the difficulty market participants had moving positions for much of the first half of 2022.

Conclusion

After a stellar year in 2021, conditions in the municipal bond market changed rapidly in 2022. In the first half of 2022, the market experienced rising rates, record outflows from tax-exempt mutual funds, lower new issue volumes led by taxable municipal bonds, a significant increase in secondary market trading activity and tax-exempt ETFs, and the reemergence of large-scale demand from individual investors. While these occurrences are not unique on their own, their combined impact on the municipal bond market was measurable and significant. The second half of 2022 will likely be largely influenced by many of the same factors that impacted supply and demand in the first half, in particular, continued inflationary pressures, aggressive Fed tightening and concerns about a possible recession.

[12] Bloomberg Finance L.P.

ABOUT THE MSRB

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

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