

Municipal market liquidity: Not a completely dry subject

Overview

Liquidity is an often-overlooked contributor to (or detractor from) total return

No one wants to pay too much to buy a security or to sell it at a price lower than its estimated value. The liquidity of a security can impact a transaction price, and transaction costs can hamper total return performance of an investment portfolio. The liquidity of municipal securities has changed over the past decade, partly as a direct result of the financial crisis. Some of the developments have improved the liquidity of munis, and others have caused liquidity to worsen. In this Muni Opinion, we'll review the unique liquidity aspects of municipals, how some liquidity factors have changed in recent years, and what you should know as you build your investment in municipal bonds. For the purposes of this piece, we're considering liquidity in two ways – the difference between the bid price and the offer price (bid-ask spread),

and the ability to sell a position at the assigned market price. In addition, we'll address not only the liquidity of a specific bond but also the liquidity of a portfolio.

Let's start with the bad news

Long-time investors in munis know – this market is a different animal when compared to other fixed income asset classes such as Treasuries and investment-grade corporates. Yes, munis typically are solid credits, and the default rate for investment grade municipals is only 0.18% but credit quality isn't always a predictor of liquidity.¹ There are approximately one million outstanding municipal securities, and the chance of a specific security trading on a given day is about one percent.² Additionally, over 90% of the muni market does not trade in any given year.³ No doubt, munis are a "unique" asset class.



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¹ Source: emma.msrb.org as of March 2019

² Source: MSRB, "Transaction Costs for Customer Trades in the Municipal Bond Market: What is Driving the Decline?" as of July 2018

³ Source: MSRB, Municipal Market Analytics

For a number of reasons, muni liquidity is generally inferior compared to many other asset classes. In 2018, new issuance volume totaled just \$388 billion for municipal securities compared to \$1.376 trillion for corporate securities, according to the Municipal Securities Rulemaking Board (MSRB). Arbitrage and hedging activities are limited since munis can't effectively be "shorted" and municipal derivative vehicles are not widely traded. Muni ETFs or index products

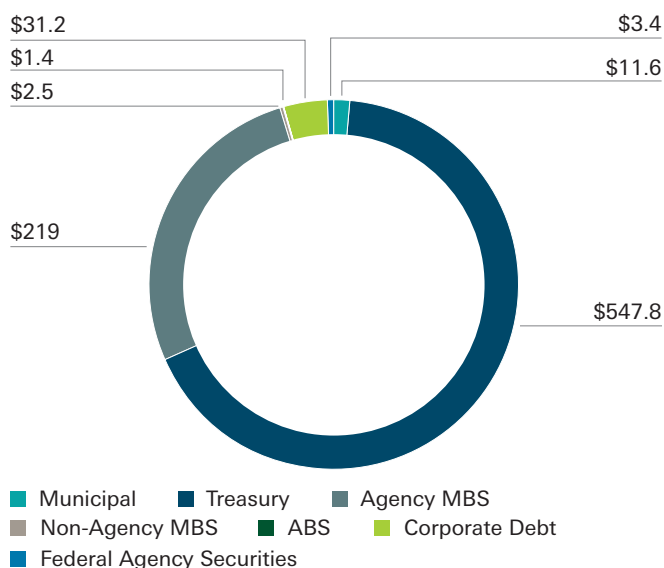
must apply "representative sampling" strategies since broad muni indices are virtually impossible to replicate. Consider that the Bloomberg Barclays Municipal Bond Index contains 54,251 items, while the U.S. Aggregate contains 10,374 items as of March 31, 2019. And of course pricing is very different from a stock since the bonds aren't traded on an exchange and rely on over the counter (OTC) negotiation instead. These factors all contribute to liquidity challenges.

MUNIS VS. CORPORATES: A SIDE-BY-SIDE COMPARISON

	Municipal securities	Corporate securities
Market size	\$3.8 trillion	\$9.2 trillion
No. of securities	~1,000,000	~30,000
No. of issuers	~50,000	~10,000
Daily trading volume	\$11.6 billion	\$31.2 billion
New issuance volume, 2018	\$388 billion	\$1,376 billion
Default rates, investment grade-rated	0.18%	1.74%

Source: MSRB, Federal Reserve, SIFMA, S&P, Moody's and World Federation of Exchanges.

2018 U.S. BOND MARKET DAILY TRADING VOLUME (\$BIL)



Source: SIFMA, MSRB May not be indicative of future results.

The nature of the buyer base impacts the liquidity of the municipal bond market. It's a largely retail market, with approximately 2/3 of the bonds being held by individuals, either through direct purchases or pooled vehicles.⁴ This is why many bonds "go away" after they are first brought to market, i.e. an individual buys the bonds, doesn't trade them again, and holds them to maturity. Buying and selling often occurs in odd lot size (amounts under \$1 million par) since many of the market players are individuals. These factors create inefficiencies, meaning, for example, some bonds may trade at prices different from expectations; bid-offer spreads can be wider compared to other asset classes, especially in odd lot trades. The MSRB acknowledges, "Traditionally there is an inverse relationship between trade size and transaction costs in the municipal securities market, with transaction costs decreasing as trade size increases."⁵ During challenging circumstances, such as a credit event for a bond or during a period of rapidly rising rates, bids for some bonds can be thin or non-existent.

⁴ Source: emma.msrb.com as of March 2019

⁵ Source: MSRB, "Transaction Costs for Customer Trades in the Municipal Bond Market: What is Driving the Decline?" as of July 2018

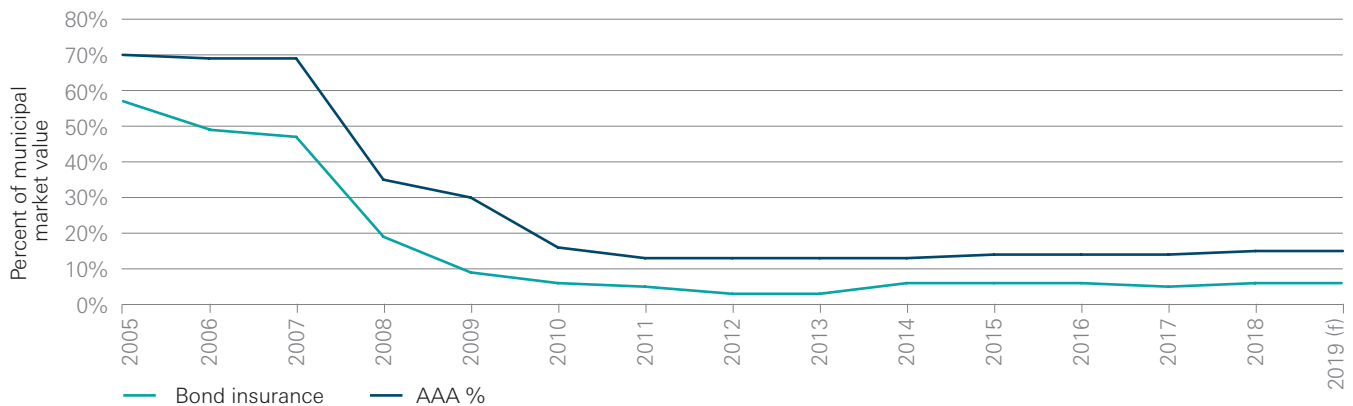
Market forces, regulatory changes and fiscal policies have impacted liquidity

Dramatic changes in the muni market have occurred since 2008, with both positive and negative results regarding liquidity. The most significant change in the municipal market stemming from the financial crisis is the demise of most of the monoline insurers. Prior to 2008, over 50% of new issue municipal bonds were insured.⁶ In 2009-2018, roughly 6-7% of new issues were insured against default, and none of the insurers carried AAA ratings. This precipitous decline in insurance lowered the credit rating and widened credit spreads for many names, primarily for munis with underlying ratings of single A and BBB. The absence of AAA rated insurance also can

reduce liquidity, particularly for issuers that are smaller and lesser-known.

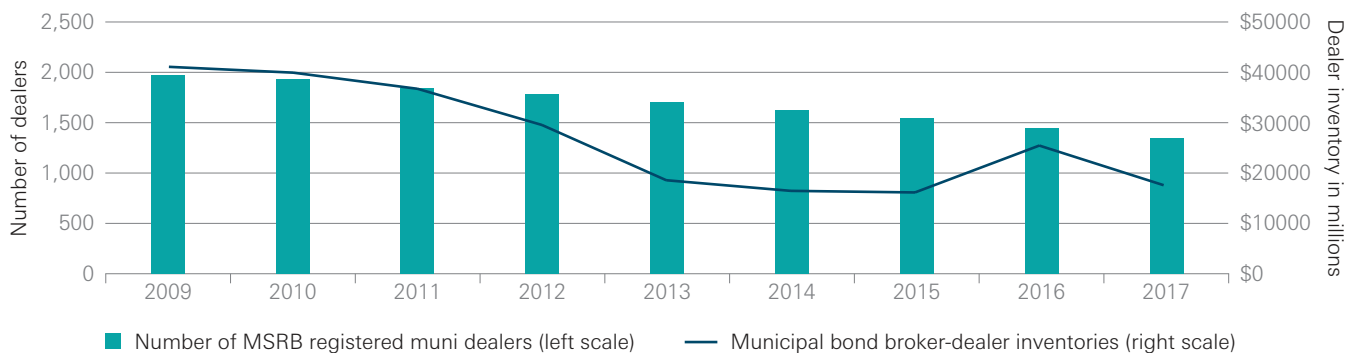
Another change since 2008 adversely impacting liquidity is a decline in support from dealers. There has been a 32% decline in the number of municipal bond dealers over the past 9 years, and a 67% reduction of the level of inventory they carry since 2006. This can reduce the volume and frequency of trading, and it can mean less price support in a scenario such as large mutual fund redemptions. Yet in a positive development, dealer concentration – the market share of the most-active dealers in municipal trading activity – has declined. The top five firms executed 42% of customer trades in 2006, compared with 35% in 2017, indicating a wider group of dealers executing trades, which could enhance liquidity.⁷

INSURANCE AND AAA-RATED SECURITIES HAVE DROPPED SINCE 2005



Source: DWS, Bloomberg. May not be indicative of future results.

MSRB REGISTERED MUNICIPAL BROKER-DEALERS AND MUNICIPAL BOND DEALER INVENTORY HAS DECLINED SINCE 2009



Source: MSRB (dealers) and CreditSights (inventories) as of 10/31/17 (most recent data) Broker-dealer data is as of October each year. May not be indicative of future results.

⁶ Source: DWS

⁷ Source: The Bond Buyer, Kyle Glazier, "Municipal bond dealers dwindle, competition heats up" June 19, 2018

The 2017 Tax Cuts and Jobs Act has impacted liquidity by changing the municipal bond ownership landscape. With the reduced corporate tax rate, demand for municipals has declined for banks and insurance companies since the tax exemption of municipals is less valuable. These buyers, particularly banks, bought munis across the yield curve including maturities beyond 20 years, while retail separately managed account (SMA) demand typically is in maturities 10 years and shorter. Aside from tax changes, the muni market scored a win with the passage of the Economic Growth, Regulatory Relief and Consumer Protection Act in May 2018. Specifically, the Act now grants certain investment grade municipals level 2B status under High Quality Liquid Assets (HQLA) pertaining to a bank's Liquidity Coverage Ratio (LCR). Previously, munis were not covered bonds under HQLA, meaning they could not be included in the LCR. While this development may not increase muni demand from banks in the near-term due to recent tax changes, we believe it is a moderately favorable development likely to support long-term bank demand. In the interim, this leaves mutual funds as a more dominant buyer of munis with long maturities, arguably reducing liquidity for long paper, particularly in a period of mutual fund outflows.

And now good news

The MSRB has found that the average effective spread between bid and offer price exceeded 150bp in 2005 and fell to 73bp in early 2018. While the average effective spread for over-\$1million par value trades has not changed significantly in recent years, spreads for smaller trades have declined.⁸ As said before, odd lot trades still have wider spreads than round lot trades, but at least the gap has narrowed. With the growth of SMAs, odd lot trading has increased, primarily with high quality names, likely helping to reduce the bid-asked spreads of odd lots. Electronic trading platforms, while not used as much in munis as in other asset classes, have no doubt made odd lot trading more efficient.

Over the past several years, regulatory bodies have made efforts to improve the transparency and liquidity of municipal bonds and mutual funds. A significant development has been the posting of trades on the MSRB (Municipal

Securities Rulemaking Board) website EMMA. The Real-Time Transaction Reporting System (RTRS) began in 2005, meaning municipal securities dealers must report most transactions to the MSRB within 15 minutes of the time of trade, and the MSRB makes the information available on the EMMA website soon thereafter. Now that trading levels are quickly visible, it's less likely that excessive mark ups will happen. The new mark-up rule implemented May 2018 should also have a positive impact. The new rule requires dealers, when acting in a principal capacity, to disclose compensation (mark-up) in municipal bond retail customer trades. This should help reduce large spreads between bid and offer in trades from brokers to individuals. In addition, the SEC has strengthened disclosure rules with rule 15c2-12 to help all investors gain access to key issuer information. And the SEC has moved to strengthen the liquidity of mutual funds and exchange traded fund's (ETF's), implementing the liquidity risk management program requirements as of December 2018 and June 2019. The program is designed to improve liquidity during times of heavy mutual fund outflows.

Has the growth of municipal bond ETFs changed liquidity in the muni market?

According to a study by the MSRB, the growth of ETFs between 2007 and 2017 did not add to or detract from the market's liquidity.⁹ According to the authors, previous research into the corporate bond market showed that ETF growth was a detractor of the liquidity of the underlying bonds.

Where do these changes settle out, and why should you care?

Whether you buy munis directly or through an SMA or a mutual fund, you want to know the purchases and sales are at a price close to the value of the bonds. Why leave money on the table when buying or selling anything? Investors who think they'll never need to sell assume they won't have an unexpected need for cash and assume they won't need to trade the bond for other purposes such as a tax loss swap, to redeploy assets elsewhere, pay college tuition, etc. Liquidity should matter to investors with individual positions as well as

⁸ Source: MSRB, "Transaction Costs for Customer Trades in the Municipal Bond Market: What is Driving the Decline?" as of July 2018

⁹ Source: Simon Z. Wu and Meghan Burns, MSRB, "Municipal Bond ETFs: Liquidity Impact on the Municipal Bond Market, April 2018

to those holding pooled vehicles. Active management requires buying as well as selling bonds to craft the best portfolio for investors. Mutual fund holders need to have confidence their fund's portfolio manager can efficiently manage the portfolio in times of inflows as well as outflows.

In our opinion, due to strong demand from retail buyers, including individuals, SMA and mutual fund investors, and thanks to added transparency from posted trade information, the liquidity of high quality, familiar municipal credits, with large deal size has improved over the past 10 years, even with odd lot blocks. Larger deal size and more frequent issuance helps an issuer's liquidity. It makes sense that the more frequently an issuer comes to market with a deal, the more trade experience there is for the bond, the more accurate the bond's pricing will be, and the more comfortable market participants will be trading that bond. In addition, according to a report published by Markit, increasing the number of dealers quoting a bond from one to four increases the probability of a revenue bond trading from 19% to 66%, using 2015 data.¹⁰

Non-rated can sometimes mean non-traded

The reverse of the above tenets can be true as well. Where we see a continuing challenge of muni liquidity is with bonds infrequently traded, regardless of credit quality, and in segments of the high yield muni market. Note that lower credit quality doesn't always imply lower liquidity. Tobacco bonds rated below investment grade, and even Puerto Rico

bonds while in default, are frequently quoted and traded securities. On the other hand, much of the high yield market does not carry ratings, making it harder for investors to assess the credit quality. Many high yield deals are small and trade infrequently, with only a few owners. This means few investors (sometimes only one) are following developments in the credit over time, and few dealers (often only one) are familiar with the credit, so if a seller wants to sell, buyers are few and far between. When mutual funds experience outflows, they sell their most liquid names first. Getting a good bid on a small nonrated deal can take more than a day. That's why A or BBB rated bonds often perform worse at the beginning of a sell off than nonrated names, because the rated, more liquid names trade first. In this instance, more liquidity can make the bond's price decline faster. But if it becomes necessary to trade less liquid names, prices of these can fall unexpectedly sharply, leaving bondholders with very unpleasant return surprises.

The fragmented nature and lower relative liquidity of munis compared to many other asset classes can create value opportunities. These characteristics can also present pitfalls if not managed properly. While illiquid names can provide more yield, there's a reason for that. Portfolios need to have plenty of liquid securities to enable nimble portfolio management and to efficiently meet redemptions. Furthermore, portfolios must have well-researched credits and plenty of diversification of sectors and individual issuers. With these thoughts in mind, we advise investors to consider liquidity factors in their municipal investment decisions.

¹⁰ Source: "Special Report: Measuring municipal bond market liquidity," Markit, May 9, 2016.

Definitions:

Technically, arbitrage refers to buying a security in one market and simultaneously selling it or its equivalent in the same market or other markets, for the differential or spread prevailing at least temporarily because of conditions peculiar to each market. Commonly, arbitrage refers to a swap done between two similar issues based upon an anticipated change in price spreads. The bid-ask spread is essentially the difference between the highest price that a buyer is willing to pay for an asset and the lowest price that a seller is willing to accept to sell it. The Bloomberg Barclays Municipal Bond Index covers the investment grade tax-exempt bond market. In the simplest of terms, credit quality refers to an independent assessment of a bond issuer's ability to make timely interest payments. This does not, however, guarantee payments or performance. The default rate refers to the proportion of borrowers who cannot service their loans. Economic Growth Regulatory Relief and Consumer Protection Act contains provisions that can be categorized as providing regulatory relief to banks and certain companies accessing capital markets. Exchange traded funds (ETFs) are a sort of exchange traded product (ETP) that can hold a variety of underlying assets and that can be traded on a stock exchange. An investment-grade (IG) rating by a rating agency such as Standard & Poor's indicates that a bond has a relatively low risk of default. The high-quality liquid assets include only those with a high potential to be converted easily and quickly into cash. The liquidity coverage ratio (LCR) refers to the proportion of highly liquid assets held by financial institutions, to ensure their ongoing ability to meet short-term obligations. An odd lot is an order amount for a security that is less than the normal unit of trading for that particular asset. Over-the-counter (OTC) is a security traded in some context other than on a formal exchange such as the New York Stock Exchange. A separately managed account (SMA) is a customized share portfolio where the assets are owned by individual investors. The spread is the difference between the quoted yields on two different investments, usually of different credit quality.

The opinions and forecasts expressed here are those of the contributors listed on the first page, are as of May 2019, and may not actually come to pass. This information is subject to change at any time, based on market and other conditions, and should not be construed as a recommendation of any specific security.

Important risk information

Bond investments are subject to interest-rate and credit risks. When interest rates rise, bond prices generally fall. Credit risk refers to the ability of an issuer to make timely payments of principal and interest. Investments in lower-quality and nonrated securities present greater risk of loss than investments in higher-quality securities. Inverse floaters are derivatives that involve leverage and could magnify gains or losses on tax-free investments.

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