Quarterly Market Review

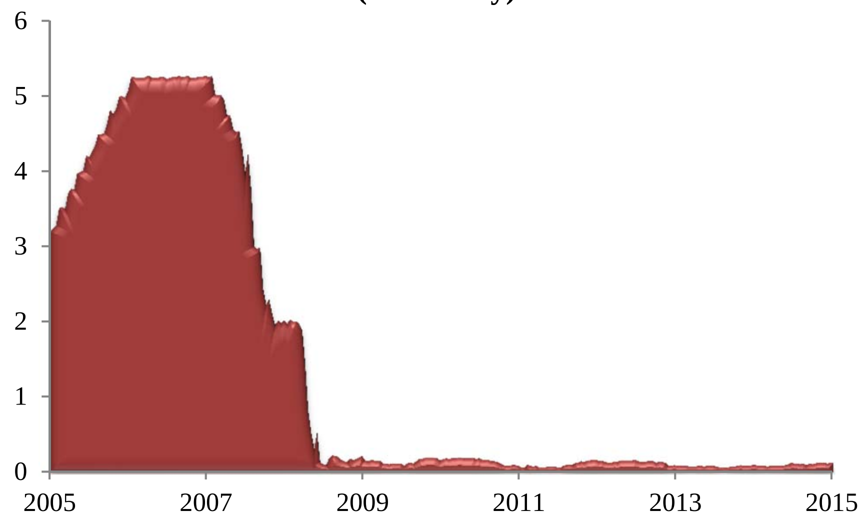
Summer 2015

Market Update: Municipal bond yields increased during the second quarter with AAA 5 year, 10 year, and 20 year yields rising 14, 32, and 34 basis points, respectively. Positive economic data, a surge in supply and anticipation of a rate increase by the Federal Reserve helped drive rates higher across the curve.

Economic data throughout the quarter was generally positive, leading many to believe that the Federal Reserve would begin to raise short-term rates before the end of the year. Jobless claims dropped, non-farm payrolls rose, and CPI data was in-line with expectations, buoying anticipation of the first rate hike in almost 10 years.

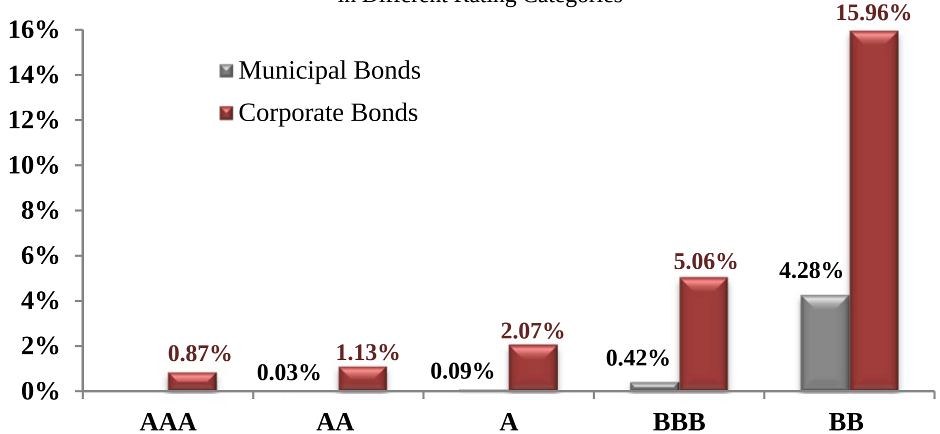
Municipal supply rose during the quarter, as many issuers sought to take advantage of cost savings by refunding older issues before a possible rate rise. Municipal funds saw net withdrawals, as demand fell with investors looking to reduce allocations in anticipation of eventual rate hikes. The coupling of a rise in supply and fall in demand, along with better than expected economic news, helped push the yield curve higher.

Effective Federal Funds Rate
(Bi-Weekly)



Source: Board of Governors of the Federal Reserve System (US), *Effective Federal Funds Rate* [DFF], retrieved from FRED, Federal Reserve Bank of St. Louis https://research.stlouisfed.org/fred2/series/DFF/, July 8, 2015.

Unequal Risk
10-year Default Risk of Municipal and Corporate Bonds in Different Rating Categories



Source: Standard & Poor's.

Safety In Municipal Bonds: Recent research reports published by both Moody's Investor Services and Standard & Poor's show a large difference in the default rates of municipal versus corporate bonds. The chart above shows the default risk of various rated municipal and corporate bonds as detailed in these reports. A corporate bond holding a BB rating is 3.5x more likely to default than a similarly rated municipal bond. Additionally, a corporate bond with a AA rating is 38x more likely to default than a municipal bond with a similar rating. Moody's reported that between 1970-2013, municipals rated Baa1, Baa2, and Baa3 (the 3 lowest tiers of Investment grade) saw a default rate of 0.32%. Over the same period Aaa corporates (the highest rating tier) saw a default rate of 0.49% (vs. 0% for municipals). Standard and Poor's had similar findings over this time period.

Our take: We manage our clients' "mattress money" and a primary objective is preservation of capital. Our process starts and ends with sound credit research and has been adapted and modified over the past 30 years. The recent studies by Moody's and S&P confirm our belief that municipal bonds deserve a place in every investor's portfolio as they provide tax-exempt income, diversification, enhancement of risk-adjusted returns, and capital preservation benefits for our clients. Please contact us if you have interest in increasing your exposure to municipal bonds or have general questions about the municipal bond market.

Federal Reserve HQLA Proposal: On Thursday, May 21st, the Federal Reserve proposed a rule that would allow U.S. municipal bonds to be counted as High Quality Liquid Assets (HQLA) under the Liquidity Coverage Ratio, which defines how much in "liquid assets" banks must hold. Banks need to comply with the rule by January 1, 2017. Although the Fed proposal is a positive, it would only apply to banks who currently choose to be members of the Federal Reserve System with $250 billion or more in consolidated assets . In order for other banks to receive similar treatment, other bank regulators including the Office of the Comptroller of Currency (OCC) and the Federal Deposit Insurance Corporation (FDIC) would need to support a similar measure.

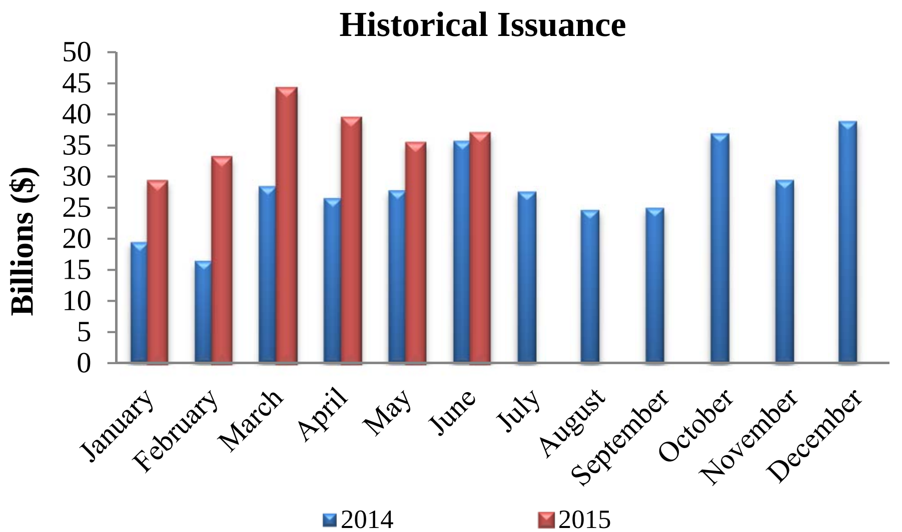
Our take: Although an overall positive for the market, there are still many hurdles to overcome as it pertains to the HQLA proposal. The current guidelines for municipals that can be included as part of the HQLA are very restrictive. This limits the ability of banks to add municipals to their portfolios, therefore minimizing their benefits. Additionally, without the backing of the OCC and FDIC, if the Fed's proposal is accepted, it will have very little effect, as it only pertains to banks with $250 billion or more in assets.

Sources:

Board of Governors of the Federal Reserve System. Federal Reserve, n.d. Web. 02 July 2015. <http://www.federalreserve.gov/>.

"The Structure of the Federal Reserve System - Federal Reserve Education." *The Structure of the Federal Reserve System - Federal Reserve Education*. Federal Reserve, n.d. Web. 02 July 2015. <https://www.federalreserveeducation.org/about-the-fed/structure-and-functions>.

Glazier, Kyle. "Fed Proposes Limited Muni HQLA Rule." *Fed Proposes Limited Muni HQLA Rule*. The Bond Buyer, 21 May 2015. Web. 02 July 2015. <http://www.bondbuyer.com/news/washington-securities-law/fed-proposes-limited-muni-hqla-rule-1074094-1.html>.



Source: SIFMA.

Uptick in Municipal Supply: Municipal issuers have taken advantage of the current low yield environment by increasing bond issuance, with anticipation building for an eventual rate hike. Through the first six months of the year, municipal issuers have issued $218 billion in debt compared to $155 billion in the first six months of 2014. A majority of the recent issues, roughly 66%, have been used to refund older issues held at higher rates, allowing municipalities and taxpayers to benefit from lower interest expense. The proceeds from the new issues are placed in an escrow account, typically invested in U.S. government securities. Interest and principal payments from these funds are used to "pre-refund" the existing issues.

Our take: Cost savings to municipalities and taxpayers is a welcome development, as it increases fiscal flexibility for counties, cities and towns. One way we add value during our portfolio management process is to seek issues that are more likely to become pre-refunded. When these issues become pre-refunded, our client portfolios benefit from an automatic credit upgrade, as these issues become backed by U.S. government securities. In addition to the credit upgrade, portfolios receive their original purchase yield, tax-free until the issue is retired.

The Relationship Between Tax-Exempt Municipals and U.S. Treasury Rates and Its Effect on the Application of Duration

Bond duration is the sensitivity of a bond's price to a given change in interest rates. Duration is an important measurement of risk, for active investors, and should be understood and reviewed throughout the investment process. A buy and hold investor, with a properly laddered portfolio, typically will place less consideration on the overall duration figure.

The concept and calculation for duration "assumes" that all bond types act the same when interest rates rise or fall. This begs the question, should duration be looked at the same for different types of bonds? **The simple answer is no.**

In order to verify this question, we ran regressions and analyzed the relationship between movements in Treasury yields versus movements in municipal yields, using three separate datasets. You can find each dataset and simplified regression output on the right.

These data series provide a broad analysis of the market, as it incorporates historical short-term, intermediate-term, and long-term yield movements. We have greatly simplified the analysis in this piece, due to space constraints. If you wish to have a more in depth conversation about our findings, please contact us.

The data shows that each regression came up with statistically significant results (i.e. extremely likely that the outcome is not a random occurrence). We also noticed a positive correlation between the two variables. Yield movements, up or down, were generally in the same direction as one another.

The most important metric in this analysis is the regression coefficient. This coefficient is shown in the column labeled "Muni Yield Movement given 1% move in Treasury Yield." To simplify our explanation, when 5, 10, and 15 year Treasury yields rose (fell) 1.00% over the past 15 years, on average comparable municipal yields only increased (decreased) 0.73%, 0.61%, and 0.60% respectively. In each of the datasets, municipal yields experienced lower volatility than their Treasury counterparts. Although yield movements tend to occur in the same direction, the extent of the rise (or fall) seems to be less dramatic for municipals with comparison to Treasuries.

So what is the point?

Given the analysis, if historically municipal bonds are less volatile than their Treasury counterparts, should the interpretation of a given duration figure be the same for the two fixed income types?

> **Using history as our guide, given the lower volatility of municipal bond yields, one could argue duration targets could be more aggressive for a municipal bond portfolio versus a given duration target for a Treasury portfolio.**

According to this analysis, Treasury bonds have experienced more volatility over the last 15 years than their municipal counterparts. This follows the anecdotal rule of thumb that municipal market advisors have gone by in the past. In a ultra-low rate environment, investors should consider this when making decisions about their allocations within their fixed income portfolio.

We can see from this analysis that municipal bonds can play a vital role in all investors' portfolios. Whether your end goal is tax-free income, capital preservation, maximization of risk-adjusted returns, or diversification, municipal bonds can help fulfill any one of these purposes. Every investor should be cognizant and aware of the risks involved, as the anticipation for a Federal Reserve rate hike and the inevitable rise in interest rates is high. As demonstrated, an allocation to municipal bonds may be able to dampen some of the volatility experienced within other fixed income markets when rates eventually rise. Additionally, municipal bonds traditionally have experienced lower volatility than the equity and alternative asset classes, another consideration when finalizing your overall asset allocation decision.

If you would like more information about the municipal bond industry or have interest in increasing your exposure to municipal bonds, please feel free to contact us.

Datasets and Output

Time Frame Analyzed (as of 5/31/15)
5 Year
10 Year
15 Year

Dataset 1
US 5 Year Treasury
AAA 5 Year GO Muni

Dataset 2
US 10 Year Treasury
AAA 10 Year GO Muni

Dataset 3
US 30 Year Treasury
AAA 30 Year GO Muni

5 Year Treasury vs. 5 Year AAA GO Muni			
Time Frame	Muni Yield Movement given 1% move in Treasury Yield	Significant (Yes/No)	Correlation
5 Years	0.61%	Yes	0.89
10 Years	0.73%	Yes	0.95
15 Years	0.73%	Yes	0.97

10 Year Treasury vs. 10 Year AAA GO Muni			
Time Frame	Muni Yield Movement given 1% move in Treasury Yield	Significant (Yes/No)	Correlation
5 Years	0.85%	Yes	0.92
10 Years	0.65%	Yes	0.90
15 Years	0.61%	Yes	0.96

30 Year Treasury vs. 30 Year AAA GO Muni			
Time Frame	Muni Yield Movement given 1% move in Treasury Yield	Significant (Yes/No)	Correlation
5 Years	0.93%	Yes	0.90
10 Years	0.55%	Yes	0.70
15 Years	0.60%	Yes	0.81

Source: Bloomberg

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Municipal bonds not FDIC insured • May lose principal • Not appropriate for all investors

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