LPL RESEARCH

BOND MARKET PERSPECTIVES

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MUNICIPAL BONDS: A DIVERSIFICATION OPPORTUNITY

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KEY TAKEAWAYS

Taxable equivalent yield and ratio analysis show that municipal bonds offer compelling value when compared to other high-quality bonds.

Municipal bonds have very little correlation to stocks and could be used to potentially increase credit quality and diversify portfolios.

Thus far in 2017, municipal bonds are performing well, outpacing most other high-quality sectors.

With stocks and lower credit quality bonds coming under recent pressure, investors may be looking for high-quality bond options to help diversify portfolios. Although often overlooked, municipal bonds (munis) offer a tax-advantaged way to help diversify portfolios while remaining high in credit quality. These bonds have very little correlation to stocks, and taxable equivalent yield and ratio analysis show that muni valuations are attractive relative to taxable bonds.

After losing 3.6% in the fourth quarter of 2016, the Bloomberg Barclays Municipal Bond Index has staged a comeback, returning 1.6% year to date as of March 27, 2017. One theory for the improved performance is that munis may be benefiting as investors begin to rotate out of the equity-sensitive sectors that performed well in 2016, like high-yield corporates (+17.1% based on the Bloomberg Barclays High Yield Bond Index), in favor of higher credit quality holdings. It remains to be seen if reducing an investment at all-time highs (stocks) and minimizing exposure to stock-like bonds (high-yield corporates) will work this year, but for now this appears to be prudent as stock market volatility has been increasing in recent weeks and high-yield corporate spreads have been widening.

NEGATIVE CORRELATION, FOR NOW

Many investors use fixed income as a counter-balance in their portfolio in the event that stocks become volatile. Historically, during a strong economy stocks tend to outperform bonds, while the opposite is true in weak economies. The impact of holding bonds relative to stocks changes over time, but correlation analysis — the degree to which assets move together — can be used to show the relationship between these asset classes. Correlations range from -1 to +1 and indicate how much assets tend to move up and down together compared to their averages. A correlation of zero indicates that there is no relationship between movements between the two asset classes.

Investors that want their bond allocations to behave less like stocks may look at high-quality municipal bonds. Munis are issued by state and local governments rather than corporations, and tend to be negatively correlated to the stock market. This does not guarantee that munis will see positive returns if stocks go down in price; however, the lower correlation between the two asset classes means that historically the two tend to react differently to a variety of market environments [Figure 1].

Municipal bonds are subject to availability, price, and to market and interest rate risk if sold prior to maturity. Bond values will decline as interest rates rise. Interest income may be subject to the alternative minimum tax. Federally tax-free but other state and local taxes may apply.

MUNICIPAL RATIOS

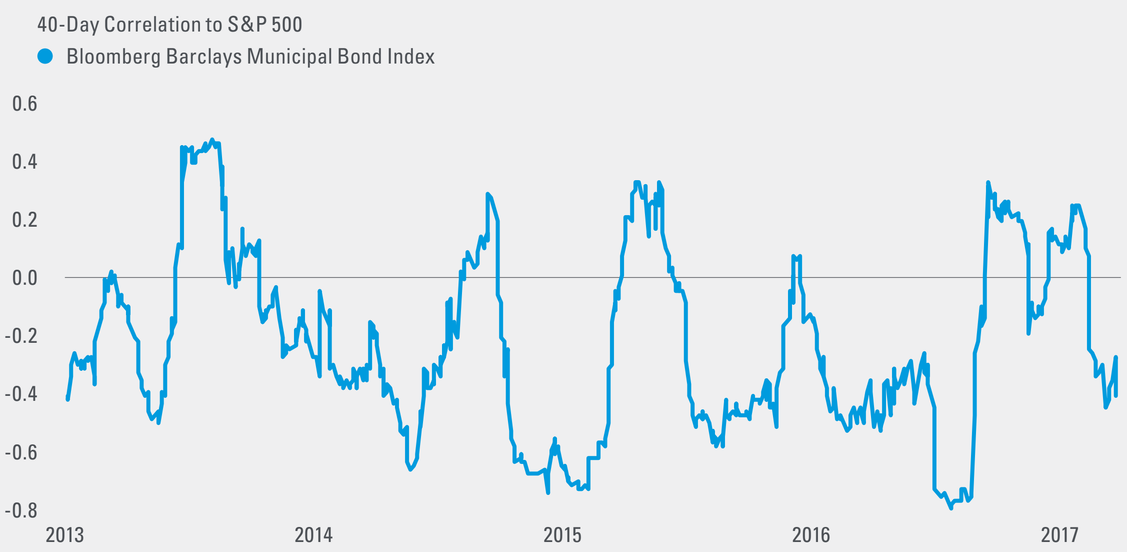
Munis have historically offered diversification potential for equity market investors and have been performing well year to date, but this could of course change. Determining the best entry point is always difficult, but analysis of municipal-to-Treasury yield ratios and taxable equivalent yields can help.

Municipal bond investors often pay a higher price (receive a lower yield) for the added benefit of the tax-free income they receive. Thus when municipal prices are below comparable taxable bond prices, municipal bonds are said to be cheap. Ratio analysis, which looks at the yield of a Treasury bond divided by the yield of a similar maturity muni, is one way to measure this relative value. For example, as of 03/27/17 the yield on AAA 10-year munis was 2.28%, and the 10-year Treasury was at 2.36%, making the 10-year muni/Treasury ratio 96.6%. Historically, ratios over 90% represent attractive valuations. The 10-year ratio is also currently just above (more attractive than) the five-year average of 96.2%. The 30-year was even wider at 102.0% (3.07% muni/3.00% Treasury), but below (less attractive than) the five-year average of 103.0%. At 100% or higher, the investor is basically getting the tax-exempt benefit from the muni for free, assuming no alternative minimum tax.

TAXABLE EQUIVALENT YIELD

Comparing bonds on a similar tax basis by converting the tax-exempt bond to a taxable yield is another tool that investors can use to determine if municipal bonds are attractively priced. This can be accomplished by utilizing taxable equivalent yield (TEY) analysis, which calculates the return

1 THE BLOOMBERG BARCLAYS MUNICIPAL BOND INDEX HAS LOW CORRELATION TO THE S&P 500



Source: LPL Research, Bloomberg 03/22/17

All indexes are unmanaged and cannot be invested into directly. Unmanaged index returns do not reflect fees, expenses, or sales charges. Index performance is not indicative of the performance of any investment. Past performance is not indicative of future results.

Correlation ranges between -1 and +1. Perfect positive correlation (a correlation co-efficient of +1) implies that as one security moves, either up or down, the other security will move in lockstep, in the same direction. Alternatively, perfect negative correlation means that if one security moves in either direction the security that is perfectly negatively correlated will move in the opposite direction. If the correlation is 0, the movements of the securities are said to have no correlation; they are completely random.

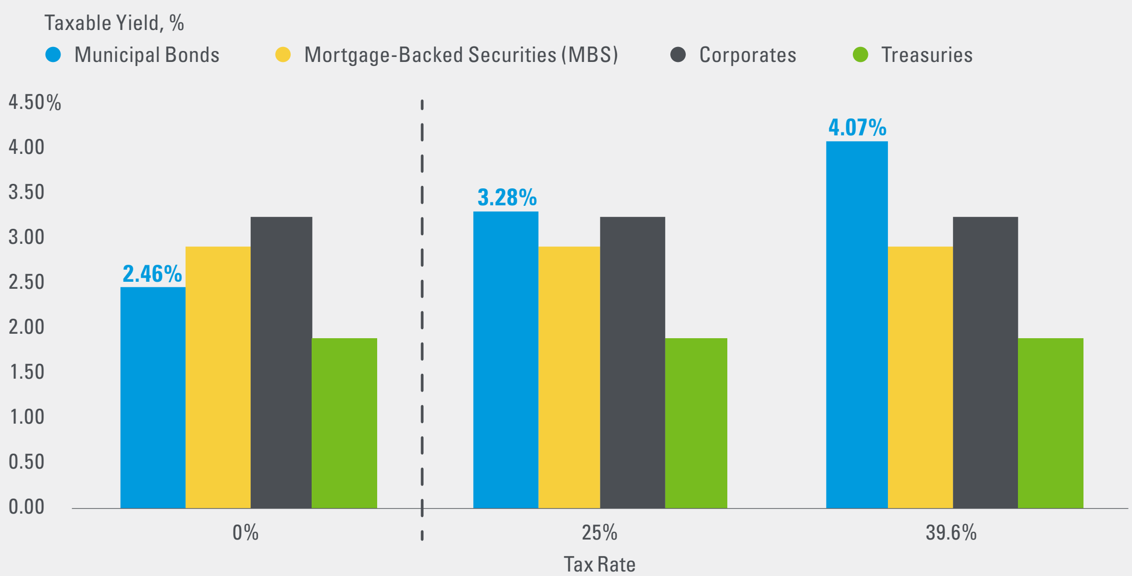
needed on a taxable bond that would make it equal to the return on the tax-exempt bond.

To do this, we simply divide the tax-exempt yield by 1 minus the tax rate. For example, if the 2.46% average tax-free yield of the Bloomberg Barclays Municipal Bond Index (as of 03/27/17) is converted to a taxable-equivalent yield using a 39.6% tax rate, it converts to a 4.07% taxable yield [(2.46% / (1-39.6%)]. From here, investors can simply choose the highest yield (cheapest price) assuming that the credit quality is similar. Used in the example in Figure 2, this comparison shows the after-tax yield for the high-quality municipal index is actually higher than similar-quality corporate bonds for investors who pay at least a 25% tax rate.

NOT WITHOUT RISK

Despite attractive valuations, munis do not come without risk. A seasonal increase in new issues that typically hits the market in March and early April may hurt near-term performance for the municipal market. Additionally, proposed changes to taxation and the threat of additional inflation due to infrastructure spending may act as longer-term headwinds, though the inability to push through changes to healthcare legislation last week may have an impact on the timing and details of tax policy and infrastructure spending proposals. Lastly, although munis have a very low default rate, there have been large municipal defaults in recent years, including Detroit, Michigan, Jefferson County,

2 TAXABLE-EQUIVALENT YIELDS ALLOW AN APPLES-TO-APPLES COMPARISON OF TAXABLE AND TAX-FREE YIELDS



Source: LPL Research, Bloomberg 03/27/17

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Yields are subject to change. Tax equivalent yield is the pre-tax yield that a comparable high-quality taxable bond needs to possess for its after-tax yield to be equal to that of a tax-free municipal bond.

Indexes: Municipal Bonds: Bloomberg Barclays Municipal Bond Index; MBS: Bloomberg Barclays U.S. Aggregate Securitized MBS; Corporate Bonds: Bloomberg Barclays U.S. Aggregate Credit Index; Treasuries: Bloomberg Barclays U.S. Aggregate Government Treasury Index.

The benchmark yield for the Bloomberg Barclays Municipal Bond Index is 2.46%.

Alabama, and Puerto Rico. However, the problems exhibited in these situations were years in the making and known well in advance of the default. Generally, credit issues for munis remain isolated and can be managed through proper diversification.

Municipal valuations, both on a ratio and tax equivalent yield basis, look attractive at this time, though seasonal weakness due to higher new issuance could continue to hurt performance in the near term, keeping us at a neutral overall rating for the asset class. However, if valuations stay reasonable as we move out of the March timeframe of historical seasonal weakness, municipal bonds may be setting up for an attractive entry point in the near future. ■

DEFINITIONS

The Bloomberg Barclays Capital High Yield Index covers the universe of publicly issued debt obligations rated below investment grade. Bonds must be rated below investment grade or high yield (Ba1/BB+ or lower), by at least two of the following ratings agencies: Moody's, S&P, and Fitch. Bonds must also have at least one year to maturity, have at least $150 million in par value outstanding, and must be U.S. dollar denominated and nonconvertible. Bonds issued by countries designated as emerging markets are excluded.

The Bloomberg Barclays U.S. Municipal Index covers the USD-denominated long-term tax exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds and prerefunded bonds.

The Bloomberg Barclays U.S. Aggregate Securitized MBS Index tracks agency mortgage backed pass-through securities (both fixed rate and hybrid ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

The Bloomberg Barclays U.S. Aggregate Credit Index is a broad-based benchmark that measures the investment-grade, U.S. dollar-denominated, fixed-rate, taxable corporate bond market.

The Bloomberg Barclays U.S. Aggregate Government Treasury Index measures US dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index.

The S&P 500 Index is a capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

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