KARPUS INVESTMENT MANAGEMENT

COMMENTARY

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Municipal Bonds and Diversification

Municipal bonds can provide a compliment to your stock or taxable bond portfolio by helping to reduce volatility.

Municipal bonds (as measured by the Bloomberg Municipal Bond Index) are largely uncorrelated to the overall equity market (as measured by the S&P 500 Index), and less volatile than the overall bond market (as measured by the Bloomberg U.S. Government/Credit Index).

A way to measure this relationship is to calculate a beta coefficient, which measures the correlation between two asset classes. A beta coefficient of 1 would indicate that the assets tend to move together with one another, whereas a beta of -1 would indicate that these assets move in opposite directions. Lastly, a beta of zero indicates the asset classes are unrelated.

The broad municipal bond market has a beta coefficient of .02 when compared to the overall equity market, indicating there is very little to no relationship between these two asset classes as measured over a 20-year time period ending 8/31/2022.

Further, municipal bonds tend to be related, but less volatile than the overall bond market (as measured by the Bloomberg U.S. Government/Credit Index), with a beta coefficient of .68 for this same 20-year measurement period.

With all of this said, it's important to note that the municipal bond market is vast and complex. In fact, there are approximately 1 million individual issues outstanding as of 2021, all with unique risk and return characteristics.

While the overall municipal bond market tends to be considered a safe place for investors with its low historic default rate as Moody's reports from 1970 through 2021, no two municipal bonds are created equally.

Essentially, there are two basic types of municipal bonds - general obligation bonds and revenue bonds.

General obligation bonds are considered to be safer from a credit perspective, as they are backed by full faith and credit of the taxing authority of the state or local entity. These issuers have the ability to increase taxes and prioritize debt service above all other expenses.

Revenue bonds, on the other hand, often are considered a higher credit risk, as these bonds are tied to a single revenue source.

There are a few primary sectors of municipal revenue bonds, each with varying degrees of risk depending on the financial health of the issuer. Some of these sectors are as follows:

1. <u>Transportation</u> backed bonds for projects such as public transit systems, toll roads, or airports, and depend on consumer demand for these services. COVID was an unforeseen event which caused some stress to these types of issues.
2. <u>Education bonds</u> are issued by public or private schools and universities to build new classrooms or dorms for example, and depend largely on tuition payments from students and/or college endowments.
3. <u>Hospital/Healthcare bonds</u> depend upon payments from patients and insurance companies.
4. <u>Water and sewer bonds</u>, or "essential service" bonds, are revenue bonds that are considered among the highest credit quality largely because rates for the underlying services can be adjusted if needed.

In addition to diversifying across these various sectors and types of municipal bonds, it's also prudent to diversify geographically. While concentrating holdings in a specific state may derive favorable tax treatment for bond holders within that state, this comes with heightened geographic risk.

Different parts of the U.S. (and its territories) are all prone to different economic and political conditions. For example, Detroit and Puerto Rico defaulted on their debt in 2013 and 2017, respectively, due to poor economic conditions. The city of Chicago also has a severely underfunded pension, and we believe such conditions could result in a reduction in promised benefits to pension holders, and/or a reduction to bond holders. Further, a natural disaster, such as a flood or hurricane, also illustrates a situation where there could be unforeseen devastating economic effects on particular area.

As mentioned earlier, the overall municipal bond market has been a safe place from a credit perspective, as, according to Moody's Investors Service, the cumulative default rate for investment-grade municipal bonds is a miniscule 0.09% over the period 1970–2021.[1] This compares to 2.17% for comparable corporate bonds over the same time period.[2]

We believe that a well-diversified municipal bond portfolio—both by sector and geography—should continue to enjoy low default rates.

As we approach a possible recession or perhaps a "soft landing," we anticipate that municipal tax revenue will decline due to the effects of a slowing economy.

Further, higher interest rates and inflation also cause a corresponding increase to the both the costs of debt service and the underlying expenses of municipal projects. This is a new environment for municipal bond issuers and now is an important time to take a close look at your municipal bond portfolio and ensure it is well-diversified.

In our experience, we think that a way to gain exposure to the municipal bond market and leverage the knowledge of multiple municipal bond credit analysts is by investing in an open-end or closed-end municipal bond fund. To learn more about municipal bonds or how investing in them via our strategy can assist you in reaching your long-term goals, please contact us for more information.

For other Karpus insights, please see our website.

Sources: Bloomberg Finance, L.P., Bond Buyer, Moody's Investors Service, Municipal Securities Rulemaking Board, Reuters.

1&2. Moody's Investors Service, U.S. municipal bond defaults and recoveries, 1970-2021, Exhibit 4

Note: A beta coefficient is a measure of sensitivity or correlation of a security or an investment portfolio to movements in the overall market. We can derive a statistical measure of risk by comparing the returns of an individual security/portfolio to the returns of the overall market and identify the proportion of risk that can be attributed to the market.

Index definitions: The Bloomberg Municipal Bond Index covers the U.S. dollar denominated long-term tax-exempt bond market. As of 12/31/2021, the index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and prerefunded bonds. The S&P 500 Index is widely regarded as the best single gauge of large-cap U.S. equities and serves as the foundation for a wide range of investment products. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalizations as of 12/31/2021. The Bloomberg U.S. Government/Credit Bond Index (BGC) is a broad-based flagship benchmark that measures the non-securitized component of the U.S. Aggregate Index. It includes investment grade, U.S. dollar-denominated, fixed-rate Treasuries, government-related and corporate securities as of 12/31/2021. The BGC is unmanaged, includes the reinvestment of income and cannot by purchased directly by investors. Data provided by Bloomberg Finance, L.P.

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Contacts

Information/Queries

Rochester, NY
183 Sully's Trail
Pittsford, New York 14534
Phone: 585 586 4680
Fax: 585 586 4315

Website

www.karpus.com

Important Notice

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