Madison INVESTMENTS

BOND CONCEPTS

Municipal Bonds

Municipal bonds make up nearly 10% of the investment grade bond market and rank fourth in size after government, mortgage-backed, and corporate bonds. The $4 trillion in municipal debt is issued by government entities to cover expenses and finance projects that significantly benefit the public. Municipal bonds are considered a high-quality asset class; most issues are rated AA or higher. Individuals are the largest holders of municipal securities, with banks and insurance companies also investing significantly. Tax advantages are available to most muni investors, primarily exemption from federal income tax and state tax in certain situations. While municipal trading is well-developed, the market can experience periods of inefficiency due to unique nuances compared to other fixed income sectors.

Types of Municipal Bonds

Municipal bonds are typically classified into two primary sectors:

General Obligation (GO)

— Approximately 35% of outstanding muni debt.
— Issued by states, cities, counties, and school districts.
— Debt service is backed by the state or local government authority to levy taxes.

Revenue Bonds (REV)

— Approximately 65% of outstanding muni debt.
— Issued to finance projects such as educational facilities, industrial development, transportation systems, hospitals, and water/sewer.
— Secured by project revenues (utility bills, tolls) and often backed by reserve funds.

A portion of GO and REV bonds are further segmented into two categories:

Pre-refunded / Escrowed-to-Maturity (ETM)

— Approximately 4% of outstanding muni debt.
— New debt is issued to pay off existing bonds.
— Either cash from new debt issuance or another form of high-quality collateral is placed in an escrow account for the benefit of bondholders.
— Existing bonds (now called ETM) are generally redeemed at the next call date.

Insured

— Approximately 9% of outstanding muni debt.
— A muni bond can be fully insured at issuance, or an investor can buy insurance on a secondary offering to cover interest and principal payments, subject to availability.
— An insurer's obligation begins only in the event of default.

Issuers

Municipal bonds could be issued by at least 70,000 government entities, including all state and local governments across the U.S. Nearly 40% of outstanding muni debt is issued within California, New York, and Texas. U.S. territories and possessions, including Puerto Rico, Guam, the U.S. Virgin Islands, and American Samoa, also issue muni bonds.

Issuance

There are approximately one million active issues (as measured by unique CUSIP numbers), far exceeding those in other fixed income sectors. New muni issuance ranges from a few million dollars to as large as $10 billion. Most muni deals are issued with serial maturities, meaning a single bond issue consists of multiple maturities, each identified with a unique CUSIP number. The issuer's desired repayment schedule determines the maturity distribution for a specific issue.

Credit Quality

The average credit quality of municipal issuers falls into the AA category. In rough numbers, investment grade muni debt is rated AAA, 15%; AA, 55%; A, 20%; and BBB, 10%, while non-investment grade muni debt represents about 10% of the entire muni universe. The high-quality nature of the muni market is further validated by default rates which are much lower than comparably rated corporate bonds. Some muni bonds do not have ratings, primarily because the issuer decides against ratings or the rating agency withdraws its ratings on a bond that is pre-refunded or escrowed to maturity.

15-Year Cumulative Default Rates
S&P Global Ratings (1986-2022)

Rating	Municipals*	Corporates
AAA	0.00%	1.13%
AA	0.04%	1.35%
A	0.14%	2.49%
BBB	0.92%	5.49%
BB	4.21%	16.83%
All Ratings	0.32%	12.81%

*Excludes the housing sector.

Tax Implications

FEDERAL

The Revenue Act of 1913 established the income tax system and exempted taxation for certain organizations, including government entities. As such, income derived from municipal debt, which provides significant public benefit, is generally exempt from federal taxation. In contrast, muni debt not benefiting the public could be fully taxable at the federal level or subject to Alternative Minimum Tax (AMT).

STATE

In many cases, municipal bond interest is also exempt from state and local taxes, assuming the investor lives within the state where the muni bond is issued. For example, a California resident would generally not be subject to state income tax if they purchased a bond issued by a California municipality. However, five states typically tax in-state issued bonds, including Illinois, Iowa, Oklahoma, Utah, and Wisconsin.

Calculating Tax-Equivalent Yields

The varying tax implications make comparing similar bonds across fixed income sectors a challenge. To account for state and federal tax when comparing bonds, investors should calculate the tax-equivalent yield of muni bonds.

For example, assume a California resident is subject to the top federal (37%) and state (13.3%) tax rates and purchases a tax-exempt bond yielding 2.50%. Below is a comparison of the investor purchasing a California-issued bond versus a bond issued in a different state.

In-State

$$\frac{\text{Bond Yield}}{\text{(1 - (federal + state tax rate)}} \qquad \frac{2.50\%}{(1 - (37\% + 13.3\%))} = \mathbf{5.03\%}$$

Pre-tax equivalent yield for in-state

Out-of-State

$$\frac{\text{Bond Yield}}{\text{(1 - federal tax rate)}} \qquad \frac{2.50\%}{(1 - 37\%)} = \mathbf{3.97\%}$$

Pre-tax equivalent yield for out-of-state

Keep in mind that a lower tax bracket will also lower the tax-equivalent yield. For example, if an investor resides in a state without income tax and falls into a federal tax bracket of 10%, their pre-tax equivalent yield would be 2.81% for an in-state bond and 2.78% for an out-of-state bond.

Trading Distinctions

Municipal bond trading is more nuanced than other fixed income asset classes, sometimes resulting in inefficiencies that investors can use to their advantage. The vast number of issuers, inconsistent availability of financial reports, new issue supply, irregular trading of unique CUSIPs, and trade size influence muni valuations.

Factors Contributing To Inefficiency

— Substantial number of issuers.

— Massive number of unique CUSIPs.

— Minimum trade size of $5,000.

— Infrequent trading for unique CUSIPs.

— Bid/ask spreads vary widely by trade size.

The Municipal Securities Rulemaking Board (MSRB) analyzed transaction costs in 2018. The study found that bid/ask spreads (the difference in yield between buy and sell transactions) were much lower for larger trade sizes and significantly higher for smaller trade sizes. For instance, an investor purchasing $25,000 of a specific muni bond may receive a higher yield than a $1,000,000 trade for the same security. In contrast, selling a smaller position may result in a much lower price than selling a larger position. There are also occasions when some retail investors panic when reading negative news about a muni issue they own. This can result in the investor bailing out of a muni security without evaluating the realities of the situation or ascertaining the appropriate valuation.

“Madison” and/or “Madison Investments” is the unifying tradename of Madison Investment Holdings, Inc., Madison Asset Management, LLC (“MAM”), and Madison Investment Advisors, LLC (“MIA”). MAM and MIA are registered as investment advisers with the U.S. Securities and Exchange Commission. Madison Funds are distributed by MFD Distributor, LLC. MFD Distributor, LLC is registered with the U.S. Securities and Exchange Commission as a broker-dealer and is a member firm of the Financial Industry Regulatory Authority. The home office for each firm listed above is 550 Science Drive, Madison, WI 53711. Madison’s toll-free number is 800-767-0300.

Any performance data shown represents past performance. Past performance is no guarantee of future results.

Non-deposit investment products are not federally insured, involve investment risk, may lose value and are not obligations of, or guaranteed by, any financial institution. Investment returns and principal value will fluctuate.

This report is for informational purposes only and is not intended as an offer or solicitation with respect to the purchase or sale of any security.

In addition to the ongoing market risk applicable to portfolio securities, bonds are subject to interest rate risk, credit risk and inflation risk. When interest rates rise, bond prices fall; generally, the longer a bond’s maturity, the more sensitive it is to this risk. Credit risk is the possibility that the issuer of a security will be unable to make interest payments and repay the principal on its debt. Bonds may also be subject to call risk, which allows the issuer to retain the right to redeem the debt, fully or partially, before the scheduled maturity date. Proceeds from sales prior to maturity may be more or less than originally invested due to changes in market conditions or changes in the credit quality of the issuer.

It is Madison’s opinion that the tax-exempt market is inefficient. There is no guarantee that Madison can consistently exploit these perceived inefficiencies.

Madison and its affiliates do not provide tax or legal advice. Please consult with a qualified professional for questions in these areas.