BUSTING MYTHS ABOUT MUNIS

In 1913, President Woodrow Wilson irrevocably changed lives when he signed the 16th Amendment to the US Constitution into law—Congress' right to impose a federal income tax. That act supercharged the burgeoning cottage industry of municipal bonds ("munis") in the financial sector. Although municipal bonds existed before 1913, the exemption on income taxes for the interest component proved to be essential to making munis a fundamental portion of the US financial markets, with nearly $4 trillion in market cap.

Over the last half century or so, the market has accelerated, providing funding opportunities for various municipalities including states, cities, counties, schools, and other governmental entities to borrow. Importantly, with minor exceptions, these borrowings have mostly been used to finance capital projects like parks, schools, bridges, highways and/or water and sewer systems. Unlike borrowing in the corporate space, states and local governments typically do not borrow to balance budgets, as most have a requirement that budgets be balanced from recurring revenue. Bond investors receive the promise of regular interest payments and return of principal, or original investment, at maturity.

Many investors may have questions or misconceptions about munis, and by understanding common myths and the reality behind them, you can help uncover potential opportunities in the muni market.

Myth: Municipal Credit Risk is Similar to Corporate Credit Risk

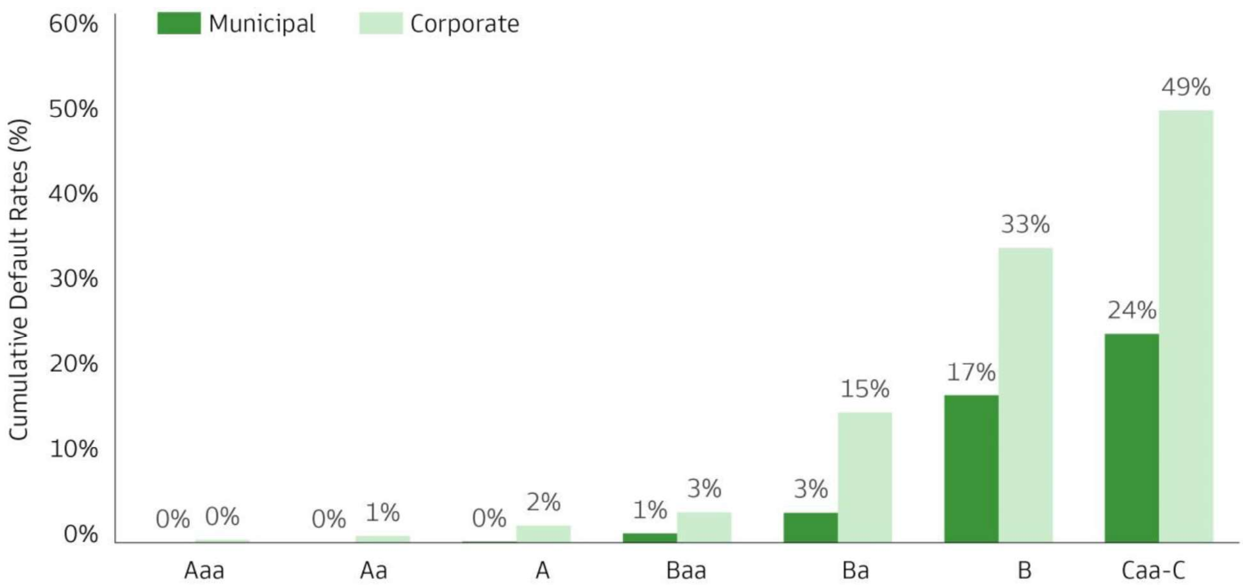
Like all investments, municipal bonds carry some degree of risk. If an issuer defaults, the investor may lose some, or all, of the principal value of the bond. While some state and local governments face challenges to their budgets and financial health, the muni market is well-diversified and historically, muni default risk is low compared to that of corporate bonds (Exhibit 1, by grade). The average ten-year cumulative default from 1970-2021 for Moody's rated municipals was 0.15%, while the same statistic for corporates was 10.36%. For investment grade, Moody's rated credits only, those statistics become 0.09% and 2.17% for municipals and corporates, respectively.[1]

Three pillars of strength support our confidence in the asset class:

- Diverse revenue sources have historically provided financial cushion
- Federal support expands meaningfully during times of historical dislocation
- Budgetary discipline to historically raise tax revenues and to cut expenses

Most recently, many municipalities received federal aid during the COVID-19 pandemic and entered 2023 with healthy balance sheets. If the economy does dip into a recession, we believe municipalities will power through on the back of those strong reserves, conservative budgeting, and diverse revenue streams.

Exhibit 1: Municipal Default Rates are Historically Low Compared to Corporates (1970-2021)



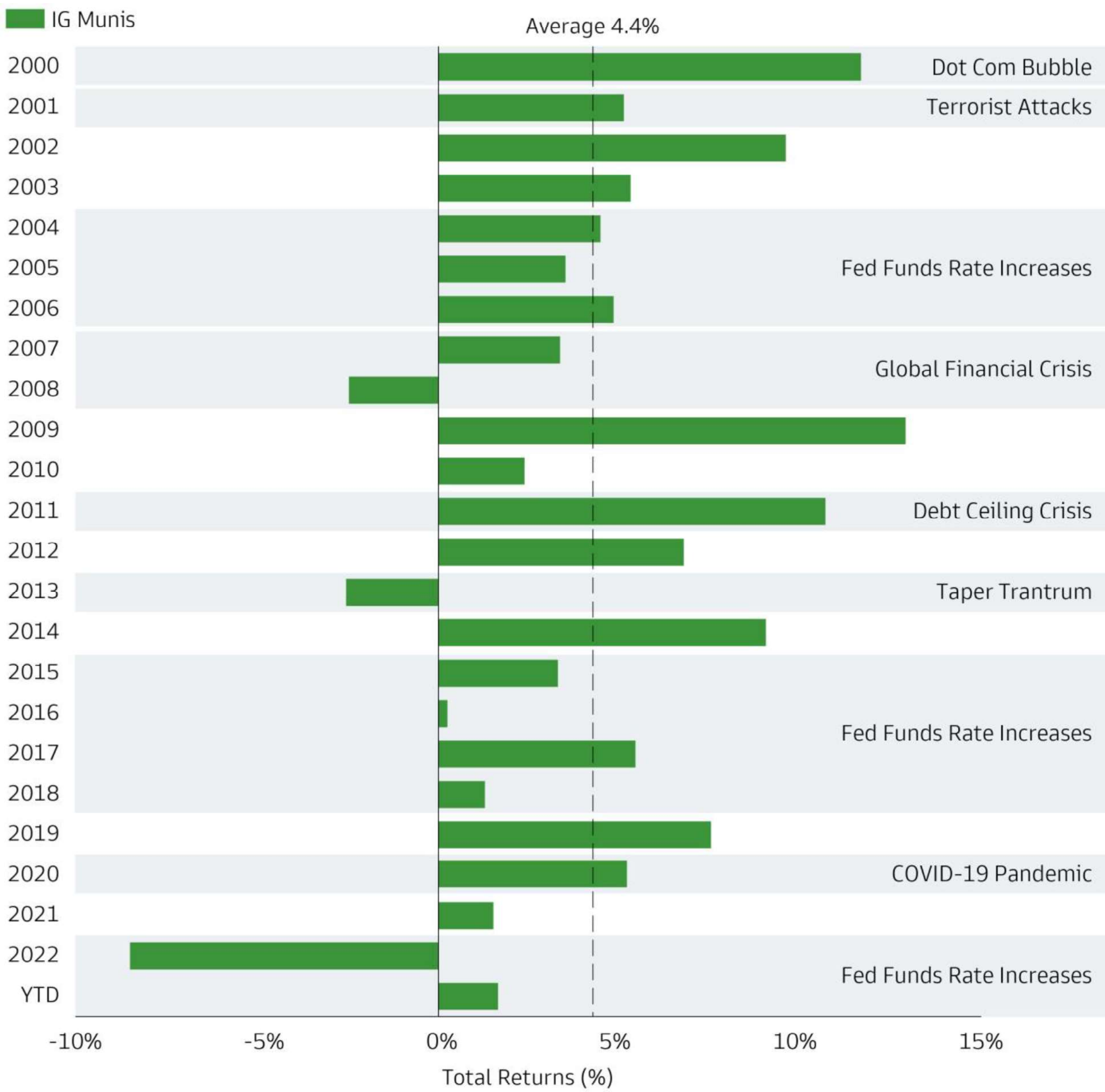
Source: Moody's Investors Service, "US municipal bond defaults and recoveries," as of April 2022.

[1] Moody's and Goldman Sachs Asset Management as of May 31, 2023. Any reference to a specific company or security does not constitute a recommendation to buy, sell, hold, or directly invest in the company or its securities. **Past performance does not guarantee future results, which may vary. Goldman Sachs does not provide accounting, tax or legal advice.** Please see additional disclosures at the end of this document.

Myth: Municipal Debt Returns Are Not Consistent

Historically, munis have produced positive returns. Since 1980, over rolling 3-year periods, investment grade munis have only experienced negative returns 2% of the time (Exhibit 2). While munis have had a limited number of years with negative performance, historically, the asset class tends to bounce back with positive returns in the following year. This theme has held true so far this year, as munis have posted positive returns in Q1 of 2023.

Exhibit 2: Muni Have Delivered Strong Returns Over Time



Source: Morningstar and Goldman Sachs Asset Management as of May 31, 2023. Investment Grade Munis refers to the Bloomberg Municipal Bond Index. **Past performance does not guarantee future results, which may vary.**

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Myth: High Yield Municipals in Particular Are High Risk Investments

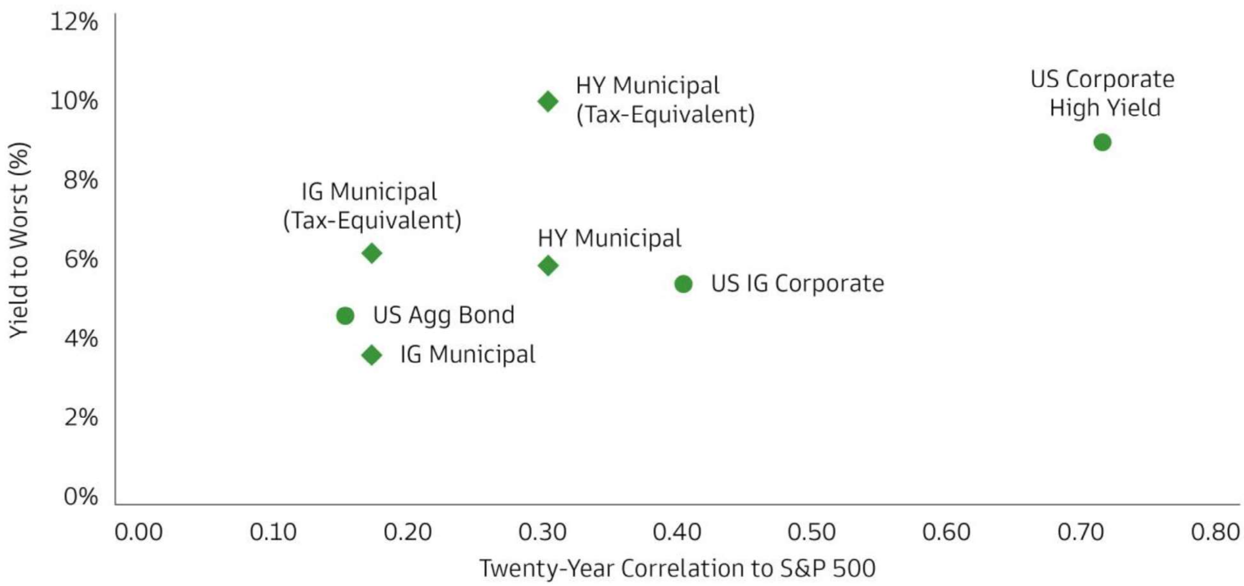
High yield municipals have the potential to offer an appealing level of income by taking both credit and duration risk. High yield bonds tend to be a longer duration asset class than its high-grade brethren. However, when compared with high yield corporates the default experience has been materially lower with the added benefit of lower correlation to the equity market (Exhibit 3). Past correlations are not indicative of future correlations, which may vary.

High yield municipals are issued for a variety of purposes, and from a variety of issuers. While high yield municipals bonds are often issued as non-rated or below investment grade, issuance historically came from project finance (a variety of highly speculative, unique credits such as megamalls, waste-to-burn energy facilities and start-up sports complexes), health care, corporate and land secured housing (bonds backed by assessments and related to commercial or residential development) issuing entities.

High yield municipal bonds tend to be longer duration instruments and are driven by many idiosyncratic factors—making credit research paramount when evaluating issues across the market.

In all, municipal credit—even high yield municipal credit—has proven resilient. Default activity in the market has remained historically low versus corporates as we mentioned earlier. When the market has experienced disruption, time has healed, and many investors have benefited. These periods of disruption have generally been potential entry points for long-term investors.

Exhibit 3: Munis Have Historically Offered Low Correlation to the Equity Market



Source: Goldman Sachs Asset Management, Morningstar, Barclays Live as of May 31, 2023. The Bloomberg Municipal Bond Index is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. High Yield Municipal represents the High Yield Municipal portion of the Bloomberg Municipal Bond Index. "Tax-equivalent yield" refers to yield divided by one minus the current tax rate. A 35% tax rate was used to calculate tax-equivalent yield for current period. Past correlations are not indicative of future correlations, which may vary. Goldman Sachs does not provide accounting, tax or legal advice. Please see additional disclosures at the end of this document. **Past performance does not predict future returns and does not guarantee future results, which may vary.**

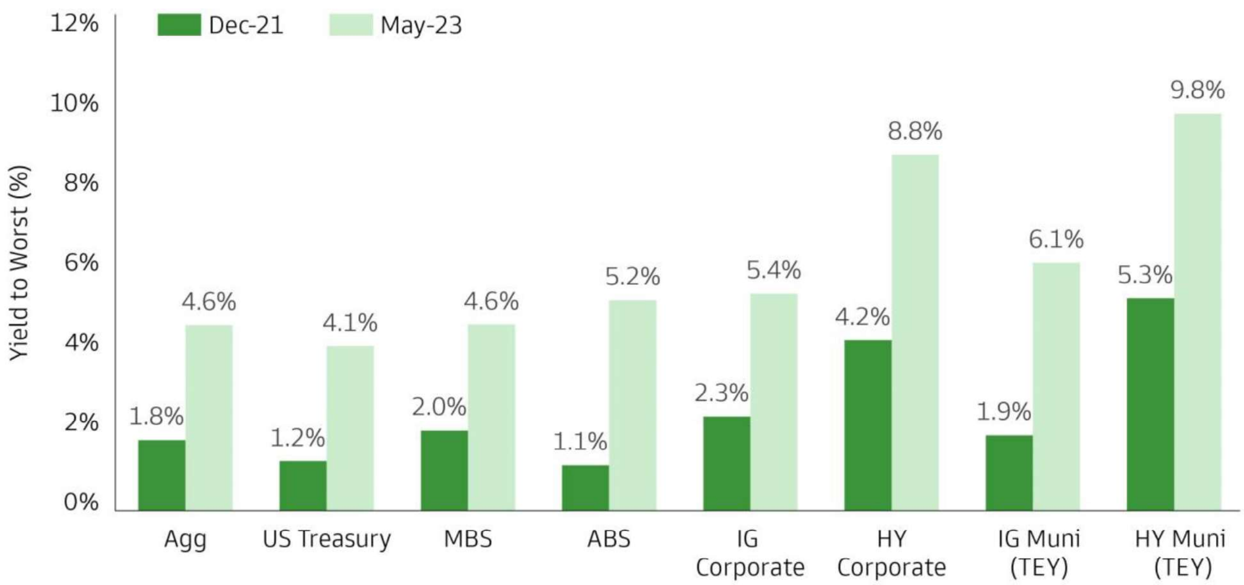
Myth: Munis Are Not Attractive Investments in Times of Rising Interest Rates.

In 2022, with persistently high levels of inflation not seen in decades, the Federal Reserve (Fed) embarked on a historic monetary policy tightening campaign and pushed the Fed Funds Rate from 0.25% to 5.25%.[2]

Like other fixed income assets, prices for munis are generally inversely related to interest rates. Investors spent much of 2022 watching their municipal portfolios suffer losses as AAA municipal yields rose multiple percentage points, and many sold munis at a historic pace.

In 2023, we expect a higher and more normalized interest rate environment as the Fed keeps the Fed Funds rate elevated to combat high levels of inflation. As a result, municipal investors can earn meaningful tax-free income at current levels. Indeed, so far in 2023, munis have remained resilient amid market volatility largely due to a strong credit backdrop (Exhibit 4).

Exhibit 4: Income is Plentiful Across the Bond Market



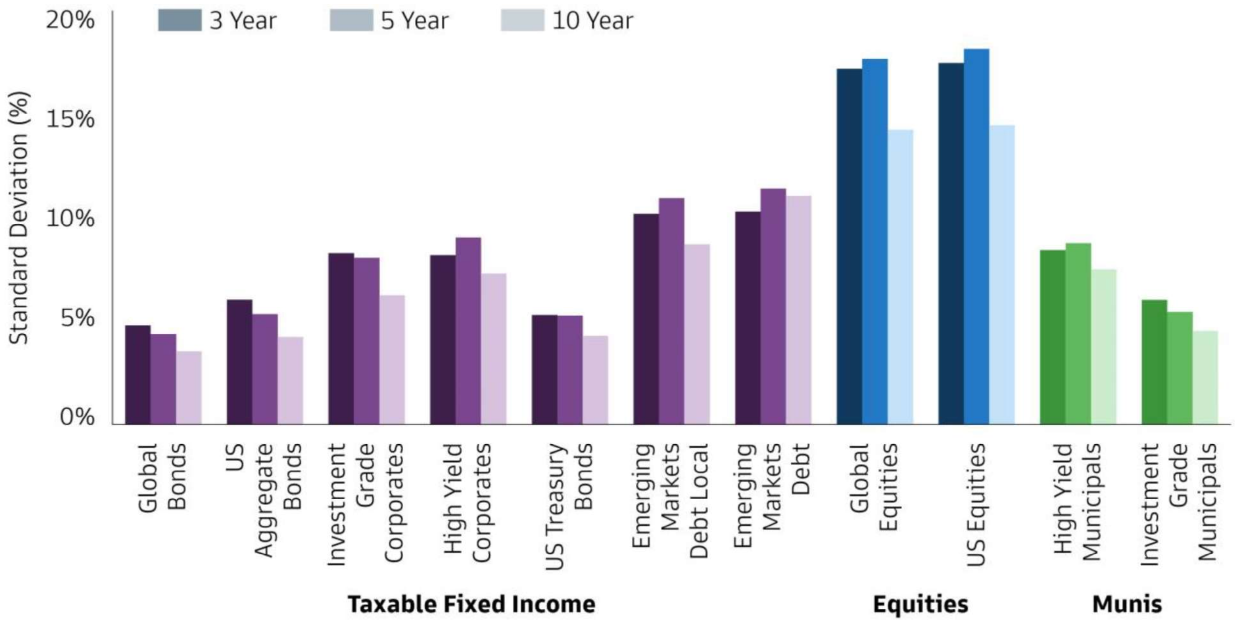
Source: Goldman Sachs Asset Management, and Barclays Live as of May 31, 2023. Tax-Equivalent Yield shown for municipal yields which reflect the top tax bracket of 37% in addition to the Medicare surcharge tax of 3.8%. **Past performance does not guarantee future results, which may vary.**

[2] Federal Funds Rate target upper bound as of June 14, 2023. Source: Bloomberg. The economic and market forecasts presented herein are for informational purposes as of the date of this document. There can be no assurance that the forecasts will be achieved. Please see additional disclosures at the end of this document. **Past performance does not guarantee future results, which may vary.**

Myth: Munis Are More Volatile Than Other Fixed Income Asset Classes

Munis have historically exhibited volatility in line with corporate bonds and lower volatility than emerging markets debt and equities (Exhibit 5). Given their recent elevated yields and historically low default rates, munis may be attractive to investors compared to other asset classes.

Exhibit 5: Municipals Have Exhibited Lower Volatility Compared to Other Asset Classes



Source: Morningstar and Goldman Sachs Asset Management as of May 31, 2023. Global Bonds refers to the Bloomberg Global Aggregate Bond Index, US Aggregate Bonds refers to the Bloomberg US Aggregate Index, Investment Grade Corporates refers to the Bloomberg US Corporate Bond Index, High Yield Corporates refers to the Bloomberg US Corporate High Yield Index, US Treasury Bonds refers to the Bloomberg US Treasury Index, Emerging Markets Debt Local refers to the JPM EMBI Global Diversified Index, Emerging Markets Debt refers to the JPM GBI-EM Global Diversified Index, Global Equities refers to the MSCI World Index, US Equities refers to the S&P 500 Index, High Yield Municipals refers to the Bloomberg High Yield Municipal Bond Index, Investment Grade Municipals refers to the Bloomberg Municipal Bond Index.

As a measure of risk-adjusted return, the Sharpe Ratio can be another way to compare munis against other asset classes. Exhibit 6 shows that munis have either demonstrated higher or comparable risk-adjusted returns against other types of debt. A higher Sharpe ratio suggests an asset may have more attractive risk-adjusted returns. Standard Deviation is a statistical measure of volatility indicates the “risk” associated with a return series.

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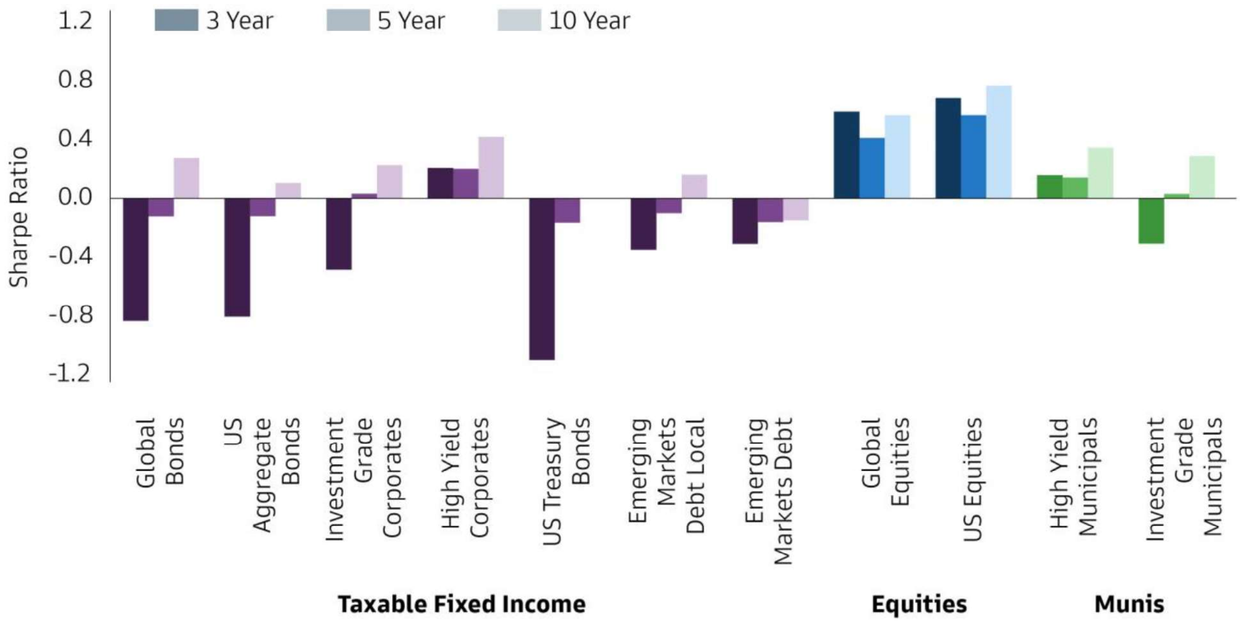
Exhibit 6: Munis May Offer Attractive Risk-Adjusted Returns



Source: Morningstar and Goldman Sachs Asset management as of May 31, 2023. Sharpe Ratio is calculated by taking the excess return of the fund versus the risk-free rate and dividing that result by the standard deviation of the fund over that same period. Global Bonds refers to the Bloomberg Global Aggregate Bond Index, US Aggregate Bonds refers to the Bloomberg US Aggregate Index, Investment Grade Corporates refers to the Bloomberg US Corporate Bond Index, High Yield Corporates refers to the Bloomberg US Corporate High Yield Index, US Treasury Bonds refers to the Bloomberg US Treasury Index, Emerging Markets Debt Local refers to the JPM EMBI Global Diversified Index, Emerging Markets Debt refers to the JPM GBI-EM Global Diversified Index, Global Equities refers to the MSCI World Index, US Equities refers to the S&P 500 Index, High Yield Municipals refers to the Bloomberg High Yield Municipal Bond Index, Investment Grade Municipals refers to the Bloomberg Municipal Bond Index.

Myth: The Universe of Munis is Limited, and Many Are Very Similar.

There are more than 50,000 issuers in the highly diverse US muni market — each with unique financing needs for capital improvements, schools, local infrastructure, and sustainable development. Munis are also available in a range of durations from a few years to several decades. Compared to approximately 3,700 publicly listed companies on US exchanges[3], tracking the muni bond market is a major undertaking.

According to the Municipal Securities Rulemaking Board (MSRB), 2022 saw a record number of muni market transactions—12.7 million, 17% higher than the previous record in 2008.[4] This high level of activity was a reversal from steadily declining trend experienced between 2018-2021 that reflected generally low interest rates and periods of lower volatility. A report from the Securities Industry and Financial Markets Association (SIFMA) estimated average daily muni bond trading in 2022 to be $14.1 billion with notional outstanding at $4 trillion.[5]

The size, scope and depth of the muni market allows investors to diversify portfolios across various dimensions, including but not limited to sectors, maturity, risk, and yields. This complexity and fragmentation are reasons why it's important for investors to truly know what they own. One way to do this is by leveraging the experience and research team of an active manager to wade through the variety of issuers to find opportunities.

[3] CNN.com, "America has lost half its public companies since the 1990s. Here's why." As of June 9, 2023.
[4] Municipal Securities Rulemaking Board, "2022 Municipal Market Year in Review." As of January 2, 2023.
[5] SIFMA, "Understanding Fixed Income Markets in 2023." As of May 9, 2023.

Myth: Munis Don't Need Active Management.

Investors have a variety of different options to gain exposure to municipal bonds. People can choose to invest in specific munis or via mutual funds and exchange-traded funds (ETFs) that invest in municipal bonds. Separately Managed Accounts (SMAs) also provide access to customized individual security portfolios which may include muni offerings, tailored to investor needs.

Today's changing market environment of interest rate volatility, recent Fed tightening, and sticky inflation—along with the diversity of issuers, credit quality, and durations—underscores the challenge of identifying bonds with the most attractive risk-adjusted return potential.

We believe that investing in munis shouldn't be a do-it-yourself job. Making the most of these opportunities requires thoughtful active management and in a constantly shifting municipal bond landscape, experience matters. There is a premium on managers with a deep bench of municipal bond knowledge and the flexibility to invest dynamically across the vast muni market. Offering mutual funds, ETFs, and SMAs as approaches to muni bond investing, Goldman Sachs Asset Management draws on deep expertise and diverse perspectives. We help steer investors through the fragmented and increasingly complex municipal bond market and to help make informed decisions on behalf of our clients. The portfolio risk management process includes an effort to monitor and manage risk, but does not imply low risk.

Why Consider Goldman Sachs Asset Management?

- Over $727 billion total fixed income assets under supervision[6]
- Breadth of municipal investment management expertise: over $145 billion municipal fixed income assets
- 32 credentialed team members, senior members average 17 years industry experience[7]
- 3 vehicles to access the muni market: Mutual funds, Separately Managed Accounts, and ETF

Opportunities From Every Angle

We believe maintaining an active and flexible approach to investing in municipals is crucial. Please reach out to your relationship manager to learn more about the Goldman Sachs municipal bond suite.

[6] Goldman Sachs Asset Management, Assets Under Supervision (AUS) data as of December 30, 2022. AUS includes assets under management and other client assets for which Goldman Sachs does not have full discretion.
[7] As of March 31, 2023.

GLOSSARY

The Bloomberg Municipal Bond Index covers the USD-denominated long-term tax-exempted bond market, including state and local general obligation bonds, revenue bonds, insured bonds, and prerefunded bonds. Investors cannot directly invest in an unmanaged index.

The Bloomberg Global Aggregate Bond Index measures global investment grade debt from 24 local currency markets, including treasury, government-related, corporate, and securitized fixed-rated bonds from both developed and merging market issuers.

The Bloomberg High Yield Municipal Bond Index is a rules-based, market-value-weighted index engineered for the high yield tax-exempt bond market.

The Bloomberg US Corporate Bond Index is the Corporate component of the US Credit index.

The Bloomberg US Aggregate Bond Index represents an unmanaged diversified portfolio of fixed income securities, including US Treasuries, investment grade corporate bonds, and mortgage backed and asset-backed securities.

The Bloomberg US Corporate High Yield Index covers performance for United States high yield corporate bonds.

The Bloomberg US Treasury Index is the US Treasury component of the US Government index. It includes public obligations of the U.S. Treasury with a remaining maturity of one year or more.

The JPM EMBI Global Diversified Index measures the performance of US dollar-denominated emerging market bonds.

The JPM GBI-EM Global Diversified Index tracks the performance of local currency-denominated bonds issued by emerging market governments.

The MSCI World Index is a free-float weighted equity index that includes developed world markets and does not include emerging markets.

The S&P 500 Index is the Standard & Poor's 500 Composite Stock Prices Index of 500 stocks, an unmanaged index of common stock prices.

Risk Considerations

Mutual funds are subject to various risks, as described fully in each Fund's prospectus. There can be no assurance that the Funds will achieve their investment objectives. The Funds may be subject to style risk, which is the risk that the particular investing style of the Fund (i.e., growth or value) may be out of favor in the marketplace for various periods of time. Equity securities are more volatile than fixed income securities and subject to greater risks. Small and mid-sized company stocks involve greater risks than those customarily associated with larger companies. Investments in fixed income securities are subject to the risks associated with debt securities generally including credit, liquidity and interest rate risk. Investments in high yield fixed income securities are considered speculative, involve greater risk of default, and tend to be more volatile than investment grade fixed income securities. Investments in foreign securities entail special risks such as currency, political, economic, and market risks. These risks are heightened in emerging markets. An investment in real estate securities is subject to greater price volatility and the special risks associated with direct ownership of real estate. Investments in commodities may be affected by changes in overall market movements, commodity index volatility, changes in interest rates or factors affecting a particular industry or commodity. Investments in derivatives such as options, futures, or swaps may involve a high degree of financial risk, including the risk that a small movement in the price of the underlying security or benchmark may result in a disproportionately large movement in the price of the derivative. Asset allocation portfolios invest primarily in other Goldman Sachs Funds and are subject to the risk factors of those Funds.

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Municipal Securities are subject to credit/default risk, interest rate risk and certain additional risks. High-yield, lower-rated securities involve greater price volatility and present greater credit risks than higher-rated fixed income securities. Investments in fixed-income securities are subject to credit and interest rate risks. Bond prices fluctuate inversely to changes in interest rates. Therefore, a general rise in interest rates can result in the decline in the bond's price. Credit risk is the risk that an issuer will default on payments of interest and principal. All fixed income investments may be worth less than their original cost upon redemption or maturity. Income from municipal securities is generally free from federal taxes and state taxes for residents of the issuing state. While the interest income is tax-free, capital gains, if any, will be subject to taxes. Income for some investors may be subject to the federal Alternative Minimum Tax (AMT).

The portfolio risk management process includes an effort to monitor and manage risk but does not imply low risk.

Index Benchmarks

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Date of First Use: June 23,2023. 322875-OTU-1818299.