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Municipal Bonds
AVOIDING SURPRISES IN A HIGH-QUALITY MARKET

KEY POINTS

- Tax-free municipal bonds have been resilient since the global financial crisis, overcoming occasional bouts of volatility thanks to strengthening fundamentals and compelling taxable-equivalent yields.
- Although municipal finances have improved overall, thorough credit research and careful security selection are more important than ever. Some states and cities are lagging in their economic recoveries, and large unfunded employee retirement obligations are a growing concern for certain issuers.
- We have a strong preference for single-project revenue bonds that are secured by specified revenue-generating assets. Revenue bonds are more insulated from the pension risks that we believe will become increasingly priced into the market over time and typically offer an incremental yield advantage over state and local GO debt.
- In the current environment, we believe an actively managed, broadly diversified tax-free municipal bond portfolio holds benefits for investors—particularly for residents of areas with deteriorating credit metrics and unsustainable fiscal practices.

Since being battered by the global financial crisis, municipal finances have enjoyed a turnaround amid the long economic recovery. Many state and local governments have made difficult decisions to increase taxes and fees, slash spending, and put off large capital projects, leaving them in better fiscal health. This recovery, combined with investor demand for attractive tax-free yields, has helped municipal bonds weather recent periods of volatility, including high-profile predictions of widespread municipal bankruptcies in 2010, the taper tantrum of 2013, and the sell-off experienced after the 2016 presidential election.

In our view, the asset class remains high quality with a solid fundamental foundation. Consisting of tens of thousands of issuers, it should not be painted with a broad brush. While many governments are improved fiscally, the economic recovery has been uneven, and the impact of the recession still lingers around the country. In some jurisdictions, significant funding shortfalls for pension and other post-employment benefit (OPEB) obligations remain a longer-term concern.

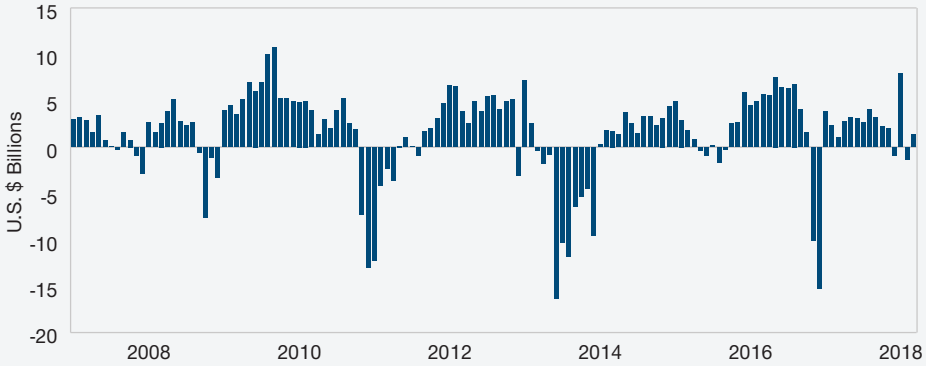
Given this backdrop, careful credit research and bond selection are essential for participants in the municipal market. Moreover, although they may forgo the benefit of income that is exempt from state or local taxes, we believe investors domiciled in certain areas with deteriorating credit metrics and large unfunded liabilities should consider a diversified tax-free bond fund that invests nationally, as buying and holding only local municipal bonds has become riskier.

MUNIS RESILIENT IN THE POSTCRISIS ERA

Investor demand for municipal bonds has been robust in recent years, notwithstanding occasional bouts of stress. There have been four distinct periods of investor flight from the retail investor-driven, rate-sensitive asset class since 2007 (see Figure 1). On each occasion, demand rebounded strongly as investors were lured back by compelling valuations and firming fundamentals.

FIGURE 1: Munis Have Endured Four Periods of Stress Since 2007

Municipal mutual fund monthly flows. January 2007 to March 2018



Source: Morningstar.

I. GLOBAL FINANCIAL CRISIS

In late 2008, with the global economy and financial markets in freefall, investors retreated from municipal bond funds amid concerns about rising unemployment, declining tax receipts, plummeting government pension fund balances, and potential defaults. The market also had to contend with the near-total demise of municipal bond insurance, as major monoline insurers lost their AAA credit ratings after suffering heavy losses on their holdings of structured mortgage debt. Insured bonds were suddenly rerated and began trading on their underlying fundamentals.

Although it experienced considerable flux, the asset class soon bounced back. Inflows resumed in 2009 as investors found extremely cheap valuations hard to resist. Highly accommodative Federal Reserve policy and large-scale fiscal stimulus helped restore investor confidence.

II. MEDIA FIRESTORM

In late 2010, expectations for stronger economic growth and concerns about higher inflation led to a sharp (but ultimately short-lived) increase in longer-term Treasury rates. A spate of negative publicity aimed at the municipal market also alarmed investors, as several pundits made high-profile forecasts that fiscal imprudence and excessive leverage would soon trigger widespread municipal bankruptcies. Amid these dire prognostications, muni funds endured sizable redemptions between November 2010 and May 2011.

Although a handful of bankruptcy filings made headlines, the value of the debt write-downs was diminutive relative to the size of the municipal bond market. As it became clear that fears of rampant defaults were overblown, investors returned in large numbers to take advantage of relatively attractive muni yields.

III. TAPER TANTRUM

Like other fixed income sectors, municipal bond prices cratered in May 2013 when Fed officials began to discuss ending the central bank's large-scale asset purchases. Treasury yields ascended rapidly in anticipation of reduced Fed support. Headlines about troubled issuers added to the turbulence during this period.

Sentiment abruptly changed for the better in January 2014. Investors grew more sanguine about the path of interest rates as Fed officials conveyed their intent to remain highly accommodative for a considerable time. In addition, market participants seemed to recognize that situations like Detroit and Puerto Rico were rare and that municipal bond market fundamentals had quickly been improving. Strong returns were the end result: Municipal bonds recorded positive returns in every month of 2014, culminating in an annual gain of 9.04% (based on the Bloomberg Barclays Municipal Bond Index).

IV. PRESIDENTIAL ELECTION

Muni bonds experienced a substantial sell-off following the November 2016 presidential election amid a sharp increase in Treasury yields as investors grew concerned that the Trump administration's plan to cut taxes and boost infrastructure spending would lead to a pickup in inflation. Muni losses were compounded by high issuance levels, fund outflows, and concerns about the potential effects of tax reform on the asset class.

Munis recovered in the following months, though, as valuations relative to Treasuries became more attractive, boosting demand, and the technical backdrop became more favorable. Tax-free bonds outperformed the taxable Bloomberg Barclays U.S. Aggregate Index in 2017.

MUNICIPAL FUNDAMENTALS ARE SOLID ON THE WHOLE...

Despite periodic headlines suggesting the contrary, the fundamentals of the broad municipal market are stronger now than they have been in years:

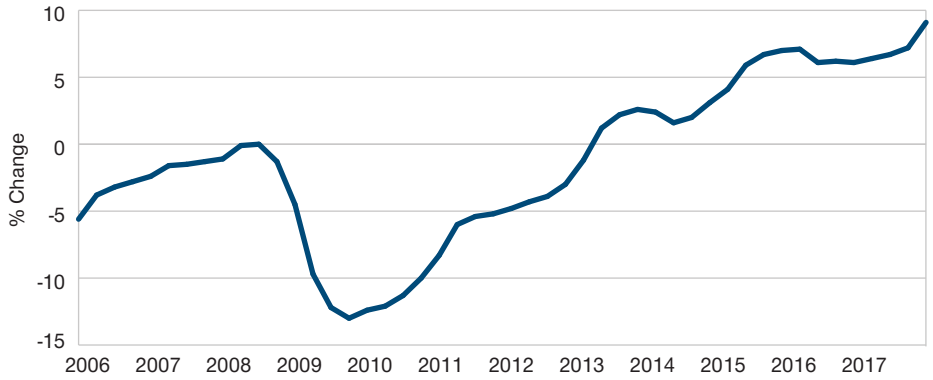
- State and local governments have been fiscally conservative, financing only critical projects and increasing spending at a much slower pace than before the crisis. This has translated into relatively light new money issuance, and, in recent years, many issuers took advantage of historically low interest rates to refinance existing debt.[1] In addition to shoring up balance sheets, the reluctance to issue additional debt has provided technical support for the market by curtailing supply.

- According to data compiled by the Pew Charitable Trusts, state tax revenues plummeted 13% from their 2008 peak. But they recovered over the following years, eventually reaching their pre-recession totals in 2013, driven by economically sensitive sales and income tax collections (see Figure 2). More recently, national state tax collections reached a new high during the fourth quarter of 2017, representing the strongest growth in tax receipts since the financial crisis.

- In contrast with states, local governments rely more heavily on property taxes for revenue. This source tends to be relatively stable, as infrequent reassessments smooth out fluctuations in home values. Even with the national decline in real estate prices that triggered the recession, property tax collections experienced only a shallow dip and have resumed a measured uptrend amid the ongoing housing market recovery.[2]

FIGURE 2: State Tax Revenues Have Returned From the Brink

Change in tax revenue from each state's peak quarter, adjusted for inflation. From Q1 2006 to Q4 2017



Source: The Pew Charitable Trusts. Analysis based on the U.S. Census Bureau's Quarterly Summary of State and Local Taxes, as adjusted by the Nelson A. Rockefeller Institute of Government in its State Government Tax Revenue by State table. Data adjusted for inflation using the U.S. Bureau of Economic Analysis' implicit price deflator for gross domestic product, accessed May 23, 2018. Each data point reflects a rolling four-quarter average for all 50 states of the change for each state from its peak quarter since 2006, to show the effects of the global financial crisis.

... BUT CONDITIONS VARY ACROSS THE U.S.

While some states and localities have fared quite well, others are more challenged. For example, although tax revenues have recovered in aggregate—with strong increases in states such as Minnesota and North Dakota—16 states had yet to return to their previous peak by the fourth quarter of 2017 after adjusting for inflation.[3]

States possess a range of liquidity cushions to protect against revenue volatility. However, there is a growing disparity between states that have adequately rebuilt reserves since the last recession and those that have not. According to a recent Moody's Analytics study, only 12 states have reserve levels necessary to withstand a moderate recession. Conversely, 15 states have a significantly weaker reserve profile according to Moody's—well below what would be needed for the next recession. This group includes states with stressed budgets, such as Illinois and New Jersey.

Our analysts closely evaluate the strategies governments use to balance budgets, as this sheds light on their true fiscal status. When faced with budget gaps, we prefer that officials find recurring revenue streams to close the deficits or make sensible cuts that will not impair future growth. We are cautious when deficits are closed with one-time revenue enhancements. Recent examples of the use of nonrecurring revenues to close budget gaps include issuing—or refinancing—tobacco bonds and raiding state highway trust funds or other reserves.

UNFUNDED LIABILITIES ARE A CONCERN IN SOME STATES AND CITIES

Public pension plans have benefited from a nine-year equity bull market, but many states and cities are still grappling with underfunded pension and OPEB (primarily retiree health care) obligations. These funding gaps stem from investment losses during the financial crisis, insufficient plan contributions, and unrealistic return projections. Total unfunded public pension liabilities in the United States have grown by nearly 20% per year over the past 10 years, and this pace will accelerate during the next recession.[4]

[1]Source: SIFMA.
[2]Source: U.S. Census Bureau Quarterly Summary of State and Local Taxes.
[3]Source: Pew Center on the States, Decade After Recession Began, Tax Revenue Higher in 34 States, May 2018.
[4]Source: Federal Reserve Board, State & Local Government Employee Retirement Funds, March 2018.

Although few large plans are at risk of insolvency in the near term, the magnitude of unfunded liabilities is becoming more conspicuous in some jurisdictions, resulting in increased risk premiums for their bonds.

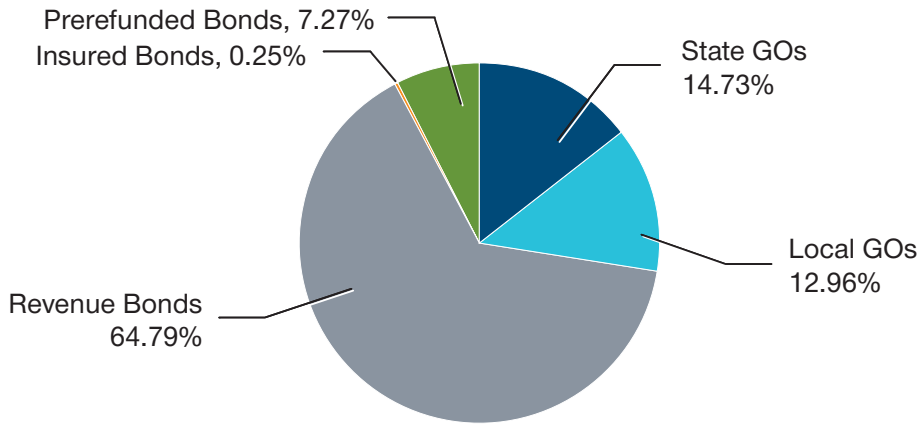
The situation in Illinois, which is the lowest-rated state in the U.S., has drawn increasing scrutiny. Its unfunded pension obligation is more than $130 billion. Contributions consistently fall below the level necessary to pay down this liability, and Illinois must devote a growing portion of its annual budget to pension expenses.[5] What's more, reforming the state's pension plan to reduce its unfunded liability is made more difficult by state constitutional protections for pension benefits.

Two other states with major pension and OPEB concerns are New Jersey and Pennsylvania. Both states have sizable unfunded liabilities that will continue to grow until contributions improve materially. New Jersey benefits from above-average per capita wealth and a diverse economy, but its taxes are already near the highest in the country, and tepid revenue growth will be largely consumed by rising retirement costs. In Pennsylvania, minor reforms were made to pensions by placing newly hired employees in a hybrid defined benefit/defined contribution retirement plan. While this is incrementally positive, the benefits of this reform will take decades to materialize.

As pension stress continues to evolve, investors are likely to demand higher compensation to invest in states and cities that fail to address growing liabilities. Indeed, credit spreads for tax-supported debt issued by Illinois, New Jersey, and Pennsylvania widened from 2013 to 2018; over the same period, spreads for revenue sectors in which we were more likely to invest, such as airports and hospitals, tightened.

FIGURE 3: Revenue Bonds Dominate the Muni Market

Sector weightings for the Bloomberg Barclays Municipal Bond Index. As of March 31, 2018



Source: Bloomberg Barclays.

We are also following developments in Puerto Rico. In May 2017, the commonwealth asked a U.S. federal court to restructure more than $50 billion of its debt—making it by far the largest municipal bankruptcy in U.S. history. The bankruptcy was not surprising as Puerto Rico's finances have raised red flags for our municipal team for some time. As the bankruptcy proceedings continue, any precedents set by the court—such as how to sort out the competing claims of holders of general obligation bonds and bonds backed by sales taxes—could have an impact on the broader muni market.

More generally, our analysts are focused on overall growth of government fixed costs, including debt service and pension and OPEB contributions, as well as Medicaid costs. Medicaid spending by state governments has grown by 4.6% annually over the past 10 years, compared with growth in state tax collections of 2.6%. This trend shows little sign of slowing down.[6] In fiscal year 2017, Connecticut—another state experiencing fiscal stress—dedicated 52% of its general fund budget to fixed costs, including pension contributions, debt service, retiree health care, and entitlements. This figure was up from 37% a decade earlier.[7]

We remain cautious toward and underweight state and local general obligation (GO) bonds given the uneven economic recovery, outsized pension liabilities for certain issuers, and mounting fiscal pressure posed by fixed cost growth, especially where bonds are not priced at levels that take this risk into account.

REVENUE BONDS OFFER INCREMENTAL YIELD, LESS PENSION RISK

While Detroit emerged from bankruptcy at the end of 2014, the city's experience with Chapter 9 provided lessons for muni bondholders that continue to be important. Perhaps the most significant takeaway from what was then the costliest municipal restructuring in history is the extent to which non-debt liabilities associated with retirees (e.g., pensions and health insurance) diluted bondholder recoveries.

Moody's calculated an 82% aggregate recovery rate (excluding OPEBs) for pensioners when including funded and unfunded liabilities—well in excess of the 74% recovery on Detroit's GO unlimited tax debt and 34% recovery for GO limited tax bondholders. This outcome emphasizes the need for close scrutiny by investors when evaluating state and local

[5]Source: Illinois, New Jersey, and Pennsylvania 2017 State Pension CAFRs.
[6]Source: Centers for Medicare and Medicaid Services.
[7]Source: Connecticut Office of Fiscal Accountability.

government complexes with materially underfunded pension obligations and reinforces our strong preference for single-project revenue bonds that are secured by specified revenue-generating assets.

The revenue sector is a large and diverse opportunity set, composing nearly two-thirds of the market index (see Figure 3). Revenue bonds also typically offer an incremental yield advantage over state and local GO debt. As of the end of March 2018, the yield-to-worst of the Bloomberg Barclays Revenue Bond Index was 2.81%, which exceeded the Bloomberg Barclays GO Bond Index's yield-to-worst by 22 basis points.

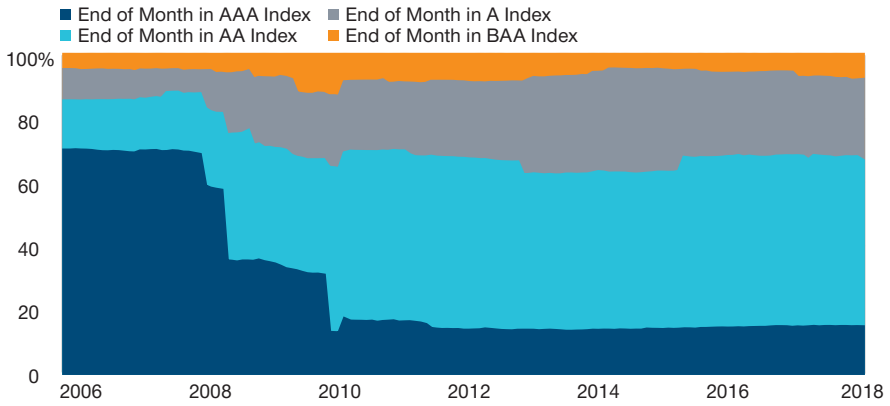
Revenue bonds are more insulated from the pension risks that we believe will become increasingly priced into the market over time. However, investing in these higher-yielding bonds requires rigorous fundamental analysis. Investors must assess whether individual projects will be financially viable over the long term and fully understand how deals are structured. Although infrequent, municipal defaults more often come from revenue sectors such as special tax districts, hospitals, and housing-related debt than from government bankruptcies, underscoring the importance of bottom-up, fundamental credit research.

Our municipal portfolios are strategically underweight GO bonds, with a preference for higher-quality names that have manageable debt burdens, strong economic profiles, and records of responsible fiscal stewardship. States such as Washington and Wisconsin offer relatively meager yields but possess superior fundamentals and tend to be more liquid during times of distress than lower-quality peers.

Consistent with our strategy of seeking to optimize risk-adjusted returns, our municipal team will consider opportunities in more troubled GO names when there is sufficient spread pickup to compensate for the increased credit risk. We avoid situations where valuations do not reflect building pension pressures that we believe will be increasingly recognized by the market.

FIGURE 4: Despite Postcrisis Transformation, Muni Market Remains Solidly Investment Grade

January 2007 Through March 2018



Source: Bloomberg Barclays.

DESPITE IDIOSYNCRATIC RISKS, MUNIS REMAIN HIGH QUALITY

Until 2008, nearly 70% of the municipal market was AAA rated. That changed during the credit crisis as bond insurers suffered downgrades, fundamentally altering the quality profile of the market. Even with this dramatic transformation, which increased the importance of fundamental research, the market is still firmly investment grade. As shown in Figure 4, more than 60% of the municipal index falls into the top two rating categories.

Municipal bankruptcies have been rare historically. When defaults have occurred, they represented minuscule portions of an expansive market. Moody's studied bonds it rated over the period from 1970 to 2016 and found that the 10-year cumulative default rate for all rated municipal bonds was 0.14%. In contrast, the cumulative default rate for all rated corporate issuers was 11.58% over the same time frame.

A number of factors contribute to the infrequency of municipal credit events. Debt service payments typically make up only a small portion of budgets and often have legal priority over other expenditures. Although they sometimes resort to accounting gimmickry, officials are usually bound by requirements to maintain balanced budgets and have limits on the amount of debt they can issue. Unlike private companies, municipal entities have the ability to boost revenues through taxes and fee increases.

In the event of default, recovery rates have also been higher for municipal bonds. Examining defaults on bonds it rated over the 46-year period covered by its study, Moody's calculated a 66% recovery for municipals compared with 53% for senior secured corporate bonds. Municipalities cannot liquidate assets and dissolve themselves after seeking bankruptcy protection as companies can. With significant incentive to maintain access to the capital market, municipal issuers will typically exhaust all options before defaulting and will strive to make bondholders whole if a credit event does occur.

MUNIS STILL ATTRACTIVE AFTER TAX REFORM

The tax reform legislation passed at the end of 2017 cut the highest tax bracket (including the net investment income tax) from 43.4% to 40.8%, but we expect favorable tax-equivalent yields to continue to support demand for muni bonds. For

those in the highest bracket, a 30-year tax-free bond yielding 3% equates to a 5.07% yield in the taxable market after accounting for federal taxes. In the current low-rate environment, obtaining that level of yield from a taxable bond investment would likely require taking on substantial credit risk. Even at lower tax rates, tax-free income offers advantages (see Figure 5).

Other tax law changes could have an impact on muni supply and demand. The limits on the state and local tax (SALT) deduction on federal tax returns could increase the demand for muni bonds in higher tax states such as California and New York. Additionally, the new lower corporate tax rates have reduced the attractiveness of owning munis for banks and insurers and could lead to selling by those institutions. On the supply side, the new law eliminated issuers' ability to refinance old debt with new tax-exempt bonds, a change that could reduce new tax-exempt muni supply by 10% to 20% and provide technical support to the market.

FIGURE 5: Municipal Bonds Offer Attractive Tax-Equivalent Yields Across Tax Brackets

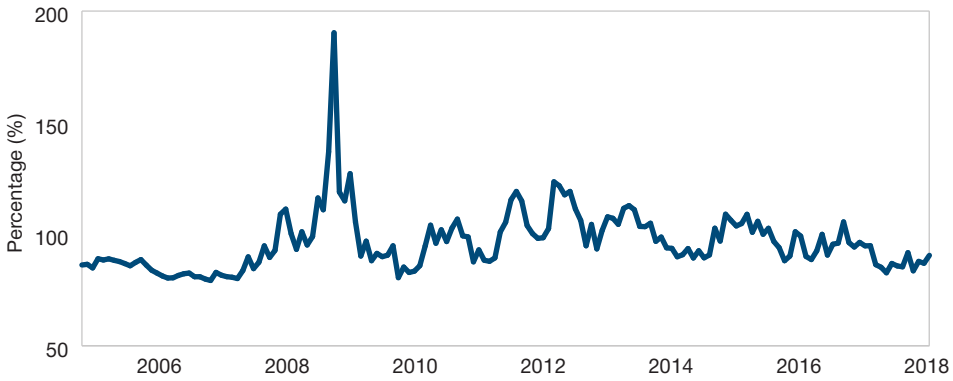
As of January 1, 2018

Tax-Exempt Yields	Taxable-Equivalent Yields Based on Federal Marginal Tax Bracket					
	22.0%	**24.0%**	**32.0%**	**35.8%***	**38.8%***	**40.8%***
1.0%	1.3	1.3	1.5	1.6	1.6	1.7
1.5	1.9	2.0	2.2	2.3	2.5	2.5
2.0	2.6	2.6	2.9	3.1	3.3	3.4
2.5	3.2	3.3	3.7	3.9	4.1	4.2
3.0	3.8	3.9	4.4	4.7	4.9	5.1
3.5	4.5	4.6	5.1	5.5	5.7	5.9
4.0	5.1	5.3	5.9	6.2	6.5	6.8
4.5	5.8	5.9	6.6	7.0	7.4	7.6
5.0	6.4	6.6	7.4	7.8	8.2	8.4

Source: T. Rowe Price.
*These federal marginal tax brackets include an additional 3.8% net investment income tax. Some filers in the 24% and 32% brackets may also be affected by the net investment income tax.
Note: Some municipal bond income may be subject to the alternative minimum tax (AMT). Factoring in state and local income taxes would result in even higher taxable-equivalent yields. This chart is for illustrative purposes only and does not represent the performance of any specific security.

FIGURE 6: When Muni Valuations Become Cheap Versus Treasuries, Buyers Quickly Step In

Ratio between AAA rated 10-year municipal bond yields and similar-maturity Treasury securities. From January 2005 to March 2018



Source: Bloomberg.

A GENERALLY CONSTRUCTIVE OUTLOOK, BUT DUE DILIGENCE IS NEEDED

While we do not see a wave of municipal bankruptcies on the horizon, stress on state and local budgets will increase as long-term liability issues get closer with each passing year. Some jurisdictions are taking proactive steps to control unsustainable legacy costs, but others appear unwilling or unable to address them. Yield spreads for these names will gradually widen as concerns about long-term liabilities become more tangible, and defaults by government entities are bound to occur more frequently than they have in the past. In this environment, we believe an actively managed, broadly diversified tax-free portfolio holds benefits for investors—particularly for those living in areas where fiscal practices are unsustainable.

As the Fed continues on the path to interest rate normalization, muni bond yields are likely to rise along with Treasury yields—although probably not to the same extent. While higher yields pressure bond prices, munis should be less susceptible to slowly rising rates than Treasuries given their attractive tax-equivalent yields and the steady demand for tax-exempt income. We expect any potential Fed rate increases to be gradual and believe we could remain in a relatively low rate environment for some time.

While an unexpected spike in Treasury yields could spark a broad muni sell-off, history has shown that cheap valuations are usually short-lived (see Figure 6). Investors quickly returned to take advantage of more attractive taxable-equivalent yields and the opportunity to purchase high-quality securities at a discount. We believe this resiliency will endure, but it is critical to possess the fundamental research prowess to avoid the deteriorating credits at the heart of the storm.

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