Investment Insights

Anatomy of a Municipal Comeback

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Key Takeaways

- Investor behavior can have a big impact on investment results over time.
- Sitting in cash can be costly. Municipal bonds typically outperform T-bills.
- Recoveries happen quickly. Missing the first few months of a recovery can eliminate much of the returns.

In the following pages we explore some risks of investor behavior that may have a long-term impact on results. We have broken the story down to highlight three investor behaviors that can be detrimental to investment results.

Risks:
1. Market Timing: The high cost of market timing in fixed income
2. Sitting in cash: Scared money rarely wins
3. Waiting for the bottom: It may be better to be early than late

Risk #1: Market Timing

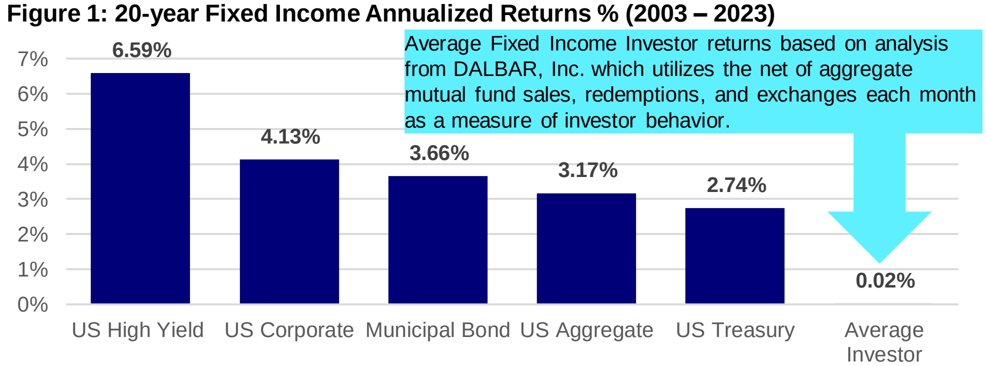
What has the greatest impact on investment results?.

According to a recent DALBAR study, the average fixed income investor has earned 0.2% annualized over the past 20 years as seen in Figure 1. This disparity of returns is most likely due to investors moving money between asset classes at times that is not beneficial to overall results. This highlights the high cost of market timing

Risk #1: Market Timing

1. The average investor has earned 0.2% annualized over 20 years versus 3.66% for municipal bonds in that same time period.
2. This demonstrates the high cost of attempting to time the markets.

Figure 1: 20-year Fixed Income Annualized Returns % (2003 – 2023)



Source: Macrobond. Indices shown are the Bloomberg Municipal Bond Index (1), the Bloomberg US High Yield Corporate Index (2), the Bloomberg US Treasury Index (3), the Bloomberg US Aggregate Bond Index (4), and the Bloomberg US Corporate Index (5). Investor Behavior callout is showing the Average Fixed Income Investor's return is based on an analysis by DALBAR, Inc. which utilizes the net of aggregate mutual fund sales, redemptions, and exchanges each month as a measure of investor behavior from 2003-2023. **Past performance is not a guarantee of future results.** An investment cannot be made in an index.

Risk #2: Sitting in Cash

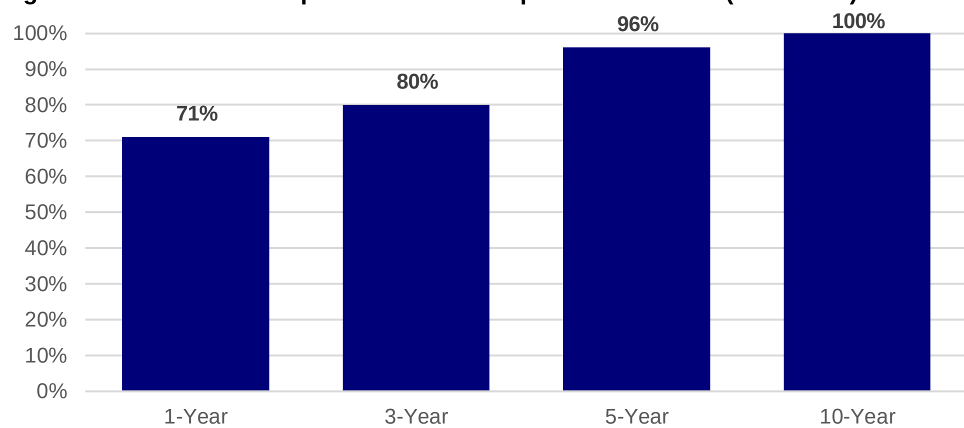
1. Over rolling ten-year periods, municipal bonds have outperformed T-bills 100% of the time.
2. Calendar year performance for municipal bonds is positive nearly 90% of the time with an average return of 7.13%.

Risk #2: Sitting in cash

How often do bonds outperform cash equivalents?

Figure 2 compares the annualized returns of the Bloomberg Municipal Bond Index versus T-bills. Municipals have outperformed T-bills 96% of the time in a rolling 5-year period, and 100% of the time in a rolling 10-year period.

Figure 2: % of time Municipal Bonds have outperformed T-Bills (2013-2023)

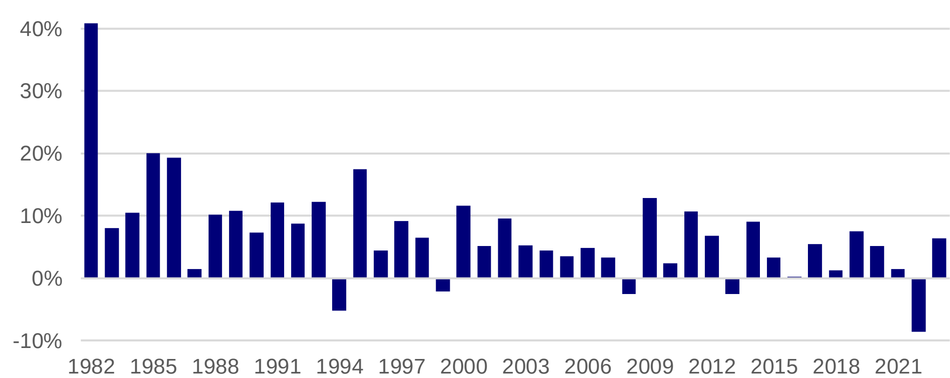


Source: Macrobond. Historical analysis reviews Bloomberg Municipal Bond Index (1) and Bloomberg US Treasury Bills Index (6) annualized rolling return data dating back to 2013. The calculation measures how often Municipal Bonds on a rolling 12-month basis have provided a higher return than T-bills measured in that same rolling 12-month period. An investment cannot be made in an index. **Past performance is not a guarantee of future results.**

How often are municipal bond returns negative?

There have only been five calendar years with negative returns in the Bloomberg Municipal Bond Index since inception in 1980 (Figure 3). Nearly 90% of the time, index returns have been positive with an annualized average return of 7.13%.

Figure 3: There have only been five calendar years since 1980 with negative returns



Source: Macrobond. Bloomberg Municipal Bond Index (1) calendar return data dating back to index inception (1/31/1980). An investment cannot be made in an index. **Past performance is not a guarantee of future results.**

Risk #3: Waiting for the bottom to get back in

1. Market timing is nearly impossible as the rebound can happen very quickly.
2. The average number of months to recovery for a drawdown is six months.
3. The 12-month period after a cycle low has historically provided strong returns.

Risk #3: Waiting for the bottom to get back in

How quickly does a recovery happen after a drawdown of more than 5%?

Since inception of the Bloomberg Municipal Bond Index in 1980, there have been ten periods with a drawdown of greater than 5%. Figure 4 shows that the average number of months to a recovery after a drawdown is six months.

Figure 4: Drawdown of greater than -5% since index inception

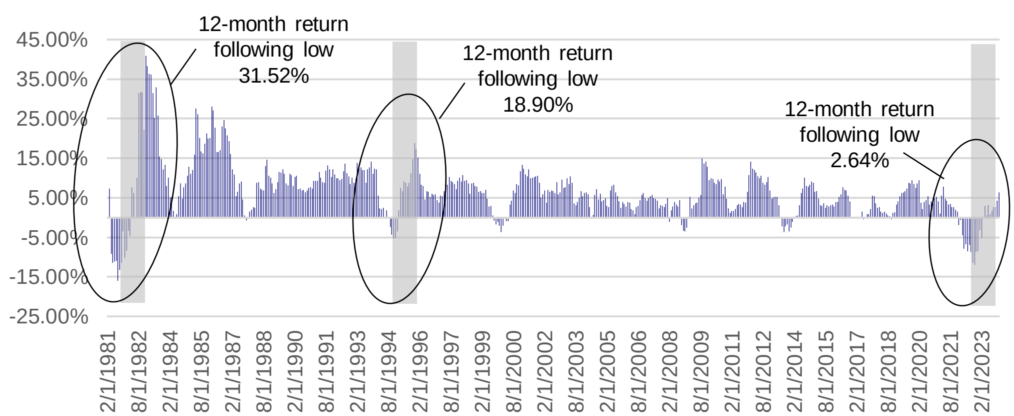
Drawdown greater than -5%	Peak to trough %	Months of drawdown	Months to Recovery
Low: Mar 1980	-5.2%	1	1
Low: Aug 1981	-22.4%	14	12
Low: May 1984	-6.6%	4	2
Low: May 1987	-6.5%	3	8
Low: Nov 1994	-8.3%	10	4
Low: Oct 2008	-5.7%	2	4
Low: Jan 2011	-5.0%	5	6
Low: Aug 2013	-6.2%	4	8
Low: Nov 2016	-5.2%	3	8
Low: Oct 2022	-13.2%	15	TBD
Average		**6**	**6**

Source: Macrobond. Bloomberg Municipal Bond Index (1) drawdown data dating back to index inception. An investment cannot be made in an index. **Past performance is not a guarantee of future results.**

What does it cost if you are late?

Figure 5 shows that returns are strong in the 12 months following a 12-month rolling return of -5% or greater. This underscores the idea that timing the bottom is very difficult and recoveries happen quickly. Being late by even a few months can be costly.

Figure 5: Municipal bond returns have been strong 12 months after the cycle low



Source: Macrobond. Historical analysis reviews Bloomberg Municipal Bond Index (1) annualized rolling 12-month total return data dating back to index inception (1/31/1980). Grey highlights signify the 12-months following the 12-month annualized low greater than -5%. An investment cannot be made in an index. **Past performance is not a guarantee of future results.**

Figure 6: Returns have been strong at the end of fed hiking cycles

End of Fed Hiking Cycle	Fed Rate (%)	1 year after	2 years after (annualized)	3 years after (annualized)
Aug 1984	11.75	16.63	19.87	14.52
Feb 1989	9.75	10.26	9.74	9.82
Feb 1995	6.00	11.05	8.24	8.54
May 2000	6.50	12.14	9.29	9.64
July 2006	5.25	4.27	3.54	4.06
Dec 2018	2.50	7.54	6.37	4.73
July 2023	5.50	TBD	TBD	TBD

Source: Macrobond. Bloomberg Muni Bond Index annualized total return data. An investment cannot be made in an index. **Past performance is not a guarantee of future results.**

Where do we go from here?

Whether we measure returns from the low in a cycle (Figure 5), or the end of a Fed hiking cycle (Figure 6), returns over the next 12 months and beyond could be compelling.

Understanding the high cost of fixed income market timing, and the cost of sitting in cash can help investors make better decisions.

Being a little early has historically been better than being late when the cycle turns. We believe the time may be right for investing in Municipal Bond Funds.

Index definitions:

(1) **Bloomberg Municipal Bond Index:** The Bloomberg 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 pre-refunded bonds.

(2) **Bloomberg US High Yield Corporate Index:** The Bloomberg US Corporate High Yield Bond Index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Bloomberg EM country definition, are excluded.

(3) **Bloomberg US Treasury Index:** The Bloomberg US Treasury Index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint but are part of a separate Short Treasury Index. STRIPS are excluded from the index because their inclusion would result in double-counting.

(4) **Bloomberg US Aggregate Bond Index:** The Bloomberg US Agg Index is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities.

(5) **Bloomberg US Corporate Index:** The Bloomberg US Corporate Bond Index measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility, and financial issuers.

(6) **Bloomberg US Treasury Bills Index:** The Bloomberg US Treasury Bill Index tracks the market for treasury bills issued by the US government. US Treasury bills are issued in fixed maturity terms of 4-, 13-, 26- and 52-weeks.

A drawdown refers to how much an investment or trading account is down from the peak before it recovers back to the peak.

About risk

Municipal securities are subject to the risk that legislative or economic conditions could affect an issuer's ability to make payments of principal and/or interest.

Junk bonds involve greater risk of default or price changes due to changes in the issuer's credit quality.

The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested. The values of junk bonds fluctuate more than those of high-quality bonds and can decline significantly over short time periods.

All fixed income securities are subject to two types of risk: credit risk and interest rate risk. Credit risk refers to the possibility that the issuer of a security will be unable to make interest payments and/ or repay the principal on its debt. Interest rate risk refers to the risk that bond prices generally fall as interest rates rise and vice versa.

Municipal bonds are issued by state and local government agencies to finance public projects and services. They typically pay interest that is a tax in their state of issuance. Because of their tax benefits, municipal bonds usually offer lower pre-tax yields than similar taxable bonds.

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Fixed income investments are subject to credit risk of the issuer and the effects of changing interest rates. Interest rate risk refers to the risk that bond prices generally fall as interest rates rise and vice versa. An issuer may be unable to meet interest and/or principal payments, thereby causing its instruments to decrease in value and lowering the issuer's credit rating.

Before investing, investors should carefully read the prospectus and/or summary prospectus and carefully consider the investment objectives, risks, charges and expenses. For this and more complete information about the fund(s), investors should ask their financial professional for a prospectus/summary prospectus or visit invesco.com/fundprospectus.

All data provided by Invesco unless otherwise noted.

All data provided is in USD.

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