

Custom SMAs by Invesco: Tax-Aware SMA strategy highlight¹

Summary

1. The Invesco Tax-Aware Limited Term SMA is an actively managed fixed income strategy that looks for opportunities across tax-free and taxable bonds and seeks more effective after-tax returns over time. This may be an ideal strategy for clients in mid-range tax brackets or high earners in low-income-tax states.
2. In periods of volatility, our portfolio management team has sought to take advantage of uncorrelated returns within different sectors of investment grade fixed income, including US Treasuries/agencies, corporates, tax-exempt municipals, taxable municipals, mortgages, and supranationals.
3. Due to our use of dynamic asset allocation, we have shown competitive historical performance with low standard deviation, high Sharpe ratio, and low maximum drawdown.

1. About the Invesco Tax-Aware Limited Term SMA



Allocations. The Invesco Tax-Aware Limited Term SMA is a blend of tax-exempt municipal bonds (minimum 50% allocation) and taxable bonds, which may include allocations to corporates, Treasuries/agencies, government bonds, mortgage-backed securities, Treasury Inflation-Protected Securities, and taxable municipal bonds. The sector mix is based on after-tax relative value.



Duration. We target a weighted average portfolio duration of 3.75 years with individual bond maturities no greater than 12 years. The strategy exhibits moderate sensitivity to changes in interest rates.

- Seeks to identify high-quality securities that maximize income potential and actively manage portfolio risks while mitigating the downside.
- Utilizes our active top-down, bottom-up investment approach by a veteran team of portfolio managers, analysts, and traders.



Risk framework. As an active manager, our team can quickly shift focus to themes and sectors believed to have compelling and timely relative value. The team's comprehensive risk framework allows portfolio risks to be managed accurately while seeking to mitigate downside performance.

Case study: Municipal and government allocations during the pandemic

Before the onset of the global pandemic, we had a higher allocation to government bonds due to tight credit markets. During the market sell-off that began in March 2020, the team added to municipal and corporate credit for the remainder of 2020. Municipals were trading at historically cheap levels, and corporations were flush with cash. This rotation out of government bonds and into credit is illustrated in the sector allocation chart (Figure 1).

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1. The focus of this piece is on the limited-term duration; however, much of the analysis can be applied to all other tax-aware duration options offered: Tax-Aware Enhanced Cash SMA, Tax-Aware Short Term SMA, Tax-Aware Intermediate Term SMA, and Tax-Aware Long Term SMA.

Figure 1: We adjusted our allocations during and after the COVID-19 market sell-off

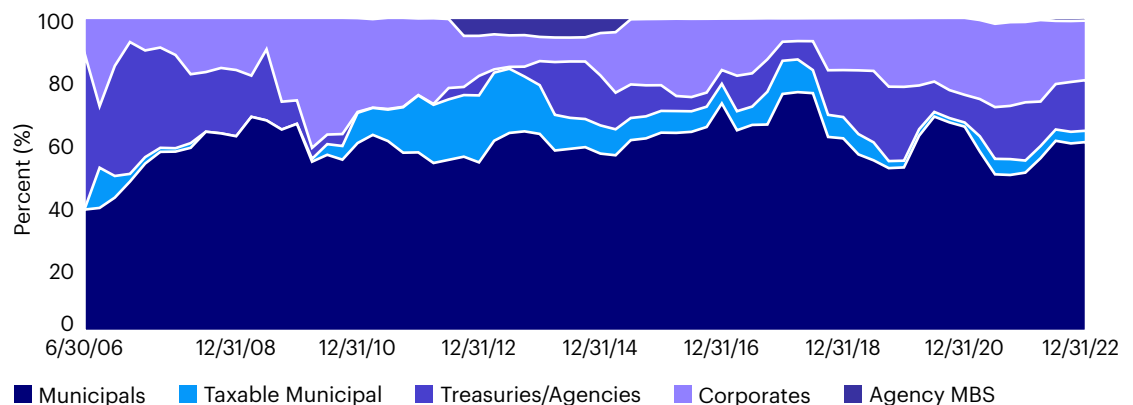
| Date | Municipals (%) | Taxable Municipal (%) | Treasuries/ Agencies (%) | Corporates (%) | Agency MBS (%) |
|------------|----------------|-----------------------|-----------------------------|----------------|-------------------|
| 12/31/2019 | 52.23 | 2.15 | 23.57 | 21.98 | 0.07 |
| 3/31/2020 | 62.36 | 2.07 | 13.96 | 21.57 | 0.04 |
| 6/30/2020 | 68.46 | 1.49 | 9.69 | 20.33 | 0.03 |
| 9/30/2020 | 66.60 | 1.38 | 8.93 | 23.07 | 0.02 |
| 12/31/2020 | 65.25 | 1.32 | 8.83 | 24.58 | 0.02 |
| 3/31/2021 | 57.30 | 4.87 | 11.89 | 25.23 | 0.02 |
| 6/30/2021 | 50.02 | 4.95 | 16.51 | 26.61 | 0.02 |
| 9/30/2021 | 49.82 | 5.06 | 16.99 | 26.73 | 0.03 |
| 12/31/2021 | 50.57 | 3.85 | 18.59 | 25.66 | 0.01 |

Source: Invesco, December 31, 2021.

Fast forward to Q2 2021. We came full circle, selling municipal credit and adding to its government allocation as spreads have gone through pre-pandemic levels. We kept our allocation to select corporate debt unchanged, with an emphasis on the front-end of the yield curve.

Figure 2: We have made asset allocation adjustments throughout the lifetime of the strategy

Tax-Aware Limited Term SMA asset allocation since 6/30/06



Source: Invesco, December 31, 2022.

The strategy has historically taken advantage of asset allocation shifts to drive total return. Also, it is comprised of liquid investment grade issues that, in normal market conditions, can be readily sold to reallocate to sectors/securities in which we find more value.

2. Taking advantage of uncorrelated returns in different fixed income sectors

As you can see in the correlation matrix in Figure 3, tax-free municipal bonds (as represented by ICE BofA US Muni TR USD) have historically had a lower correlation to the S&P 500, as have US government securities (as represented by ICE BofA US Treasury TR USD). This can be advantageous in times when markets become volatile but can also hold back return potential when markets are recovering. As shown in the previous example, during the global pandemic, we had a higher allocation to government securities in the lead-up to the pandemic and put that dry powder to work by adding to cheaper, more economically sensitive areas of the bond market.

Figure 3: We seek to capitalize on correlations between fixed income categories

Correlation matrix: Time period from 6/30/06 to 2/28/23

1.00 to 0.80
0.80 to 0.60
0.60 to 0.40
0.40 to 0.20
0.20 and below

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--------------------------------------|------|-------|------|------|------|------|-------|------|
| 1. Invesco Tax-Aware Limited Term | 1.00 | | | | | | | |
| 2. ICE BofA US Agency TR USD | 0.76 | 1.00 | | | | | | |
| 3. ICE BofA US Corporate TR USD | 0.77 | 0.63 | 1.00 | | | | | |
| 4. ICE BofA US MBS TR USD | 0.77 | 0.85 | 0.64 | 1.00 | | | | |
| 5. ICE BofA US Muni TR US | 0.85 | 0.52 | 0.68 | 0.60 | 1.00 | | | |
| 6. ICE BofA US Taxable Muni + TR USD | - | - | - | - | - | 1.00 | | |
| 7. ICE BofA US Treasury TR USD | 0.68 | 0.95 | 0.52 | 0.81 | 0.46 | - | 1.00 | |
| 8. S&P 500 TR USD | 0.20 | -0.05 | 0.46 | 0.13 | 0.23 | - | -0.14 | 1.00 |

Source: Morningstar Direct.

Invesco Tax-Aware Limited Term SMA Composite

| Year | Gross return (%) | Net return (%) | Invesco Tax-Aware Limited Term SMA Custom Index Return (%) | Composite dispersion (%) | Composite 3-year annualized standard deviation (%) | Benchmark 3-year annualized standard deviation (%) | Number of accounts | Composite assets (\$ millions) | Total firm assets* (\$ billions) |
|------|------------------|----------------|--|--------------------------|--|--|--------------------|--------------------------------|----------------------------------|
| 2022 | -6.03 | -6.17 | -5.66 | 0.30 | 3.89 | 3.72 | 577 | 1005 | 865 |
| 2021 | -0.31 | -0.49 | -0.18 | 0.20 | 2.38 | 2.11 | 574 | 1,183 | 975 |
| 2020 | 6.18 | 5.99 | 4.55 | 0.31 | 2.29 | 2.09 | 582 | 1,163 | 876 |
| 2019 | 6.03 | 5.81 | 5.50 | 0.23 | 1.64 | 1.71 | 556 | 672 | 826 |
| 2018 | 1.62 | 1.36 | 1.79 | 0.25 | 2.17 | 2.10 | 531 | 639 | N/A |
| 2017 | 3.18 | 2.95 | 2.42 | 0.29 | 2.19 | 2.09 | 486 | 634 | N/A |
| 2016 | 0.74 | 0.52 | 0.47 | 0.41 | 1.31 | 1.18 | 427 | 504 | N/A |
| 2015 | 2.32 | 2.08 | 1.87 | 0.21 | 1.97 | 1.91 | 372 | 476 | N/A |
| 2014 | 3.92 | 3.68 | 3.41 | 0.35 | 1.98 | 1.89 | 279 | 331 | N/A |
| 2013 | -0.43 | -0.68 | -0.29 | 0.35 | 2.05 | 1.91 | 233 | 284 | N/A |

Annualized compound rates of return ending December 31, 2022

| Period | Gross return (%) | Net returns (%) | Benchmark return (%) |
|-----------------------------|------------------|-----------------|----------------------|
| 1 year | -6.03 | -6.17 | -5.66 |
| 3 year | -0.18 | -0.35 | -0.52 |
| 5 year | 1.40 | 1.21 | 1.07 |
| 10 year | 1.67 | 1.45 | 1.32 |
| Since inception (3/31/2006) | 3.11 | 2.88 | 2.67 |

* On May 24, 2019 Invesco acquired Massachusetts Mutual Life Insurance Company's asset management affiliate OppenheimerFunds. As a result of this transaction, assets previously part of the OFI Global Asset Management (OFI Global) GIPS® firm are now be part of Invesco Worldwide (IWW) GIPS® firm. Firm assets prior to 2019 are not presented because the composite was not part of the firm.

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- A complete list and description of Firm composites, limited distribution pooled funds, broad distribution pooled funds and performance results is available upon request. Additional information regarding policies for calculating and reporting returns is available upon request. All returns are expressed in U.S. dollars and are gross of nonreclaimable withholding tax, if applicable.
- The Invesco Tax-Aware Limited Term SMA Composite (formerly named SNW Municipal/Taxable Blend Intermediate Composite) includes every fully representative portfolio managed in the strategy. The composite includes portfolios that generally hold at least 50% but no more than 80% of assets in securities that are exempt from federal taxes. Portfolios are actively managed with tax efficient considerations with regard to any state and local income taxes. All holdings within the portfolios are investment grade and dollar denominated. Eligible securities include those in the municipal, U.S. Treasury, government-related, and corporate sectors of the investment-grade bond market. The weighted average duration of the portfolios included in the composite is between 3.5 – 4.5 years, and the weighted average credit rating of member portfolios is single A or above. The composite is managed in comparison to, not duplication of the benchmark. The composite inception date is 3/31/2006. The composite was created in January 2012.
- The Composite gross-of-fee returns reflect the reinvestment of income and the impact of transaction costs, but do not include the deduction of investment advisory fees, distribution expenses or any other account expenses, such as custodial fees. Composite net-of-fee returns are calculated by deducting actual management fees from the underlying portfolios' gross returns. Annual fees for the Invesco Tax-Aware Limited Term SMA product range up to 0.75% of the market value of the assets under management. The minimum account size is \$250,000. Actual fees may vary depending on, among other things, the vehicle type, applicable fee schedule and portfolio size.
- The Custom Benchmark is an unmanaged index that is a custom-weighted blend of 67% of the ICE Bank of America Merrill Lynch 1-10 Year U.S. Municipal Securities Index (a subset of the ICE Bank of America Merrill Lynch U.S. Municipal Securities Index including all securities with a remaining term to final maturity less than 10 years, and 33% of the ICE Bank of America Merrill Lynch 1-10 Year AAA-A U.S. Corporate & Government Index (a subset of the ICE Bank of America Merrill Lynch U.S. Corporate & Government Index including all securities with a remaining term to final maturity less than 10 years and rated AAA through A3, inclusive). From inception through December 31, 2011, the benchmark returns represent a custom-weighted blend of 54% of the ICE Bank of America Merrill Lynch 1-5 Year U.S. Municipal Securities Index, 33% of the ICE Bank of America Merrill Lynch 1-10 Year AAA-A U.S. Corporate & Government Index, and 13% of the ICE Bank of America Merrill Lynch 5-7 Year U.S. Municipal Securities Index. For comparison purposes the index is fully invested, which includes the reinvestment of income. The returns for the index do not include any transaction costs, management fees or other costs.
- The dispersion of annual returns is measured by the equal-weighted standard deviation of account returns included in the composite for the full year. For periods with five or fewer accounts included for the entire year, dispersion is not presented as it is not considered meaningful.
- The three-year annualized ex-post standard deviation measures the variability of the monthly returns of the composite and the benchmark over the preceding 36 months. The standard deviation is not presented where there is less than 36 months of performance history.
- Prior to September 1, 2019, performance represents results achieved by the respective investment team while it was part of OppenheimerFunds, Inc. Invesco acquired Massachusetts Mutual Life Insurance Company's asset management affiliate OppenheimerFunds on May 24, 2019. Composite assets and returns prior to August 2019 represent results while it was part of OppenheimerFunds. OFI Global was GIPS verified by another firm through December 31, 2018. Effective December 31, 2019, the composite name changed from the SNW Municipal/Taxable Blend Intermediate Composite to the Invesco Tax-Aware Limited Term SMA Composite.

Past performance is not indicative of future results. As with any investment vehicle there is always the potential for gains as well as the possibility of losses.



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