

Index Insights | Fixed Income

FTSE Russell Fixed Income Perspectives:

A comprehensive guide to US fixed income market trends and analysis

February 2025

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Executive summary

The final stretch of 2024 proved difficult for US fixed income markets as poor fourth quarter performance cemented a modest annual return for the overall asset class. On average, US fixed income funds (including both conventional mutual funds and exchange-traded funds) returned a positive 3.68% during the year, marking the second-straight calendar year in the black after their worst year on record in 2022 (-9.83%). The promising start through September (+5.04%) was derailed by Q4 (-1.33%) — the first quarterly loss in five at the asset class level.

High-level averages tend to make for good headlines and poor analysis. Going one step deeper, sector performance looked like what we have seen over the last two years. 2024 saw sectors which are typically less sensitive to interest rate movements outperforming the pack — shorter duration and lower credit quality. Emerging markets were an additional bright spot after a strong 2023, with US policy easing efforts realised there first.

| Classification | FTSE Index | Q4 (%) | 1-Year (%) | 3-Year (%) | 5-Year (%) | 10-Year (%) |
|---------------------|--|--------|------------|------------|------------|-------------|
| Core Bond | FTSE US Broad Investment Grade (USBIG) | (3.08) | 1.27 | (2.47) | (0.33) | 1.36 |
| Treasury | FTSE USBIG Treasury (USBIG TSY) | (3.10) | 0.65 | (2.84) | (0.66) | 0.83 |
| Inflation-Protected | FTSE US Inflation Linked Securities (ILS) | (2.90) | 1.92 | (2.29) | 1.96 | 2.31 |
| IG Corporate | FTSE USBIG Corporate (USBIG CORP) | (2.93) | 2.30 | (2.12) | 0.46 | 2.49 |
| High Yield | FTSE High Yield Market (HYM) | 0.23 | 8.49 | 3.11 | 4.19 | 5.03 |
| Mortgages | FTSE USBIG Mortgage (USBIG MTG) | (3.26) | 1.16 | (2.28) | (0.85) | 0.88 |
| Tax-Exempt | FTSE US Municipal Tax-Exempt IG (MUNITEIG) | (1.29) | 0.99 | (0.57) | 1.00 | 2.36 |
| World Income | FTSE World Government BIG (WGBI) | (4.94) | (1.48) | (4.57) | (2.09) | 0.06 |
| Emerging Markets | FTSE Emerging Markets Broad Bond (EMBBI) | (1.76) | 6.55 | (0.62) | 0.58 | 3.31 |

Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

Risk-wise, the probability of widespread defaults is seen to remain minimal, keeping spreads tight across the board. Yield levels have stayed above historical averages, opening the door for investors to lock in attractive income streams and diversify against an expensive equity market.

From the fund market viewpoint, fixed income has seen record fund launches and strong inflows throughout 2024. ETF issuers were busy building out their suite of active strategies alongside passive sector building blocks.

The future is bright for the asset class as investor demand, market technicals, and innovative strategies have highlighted the opportunities within specific sub-sector components.

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| Through most of 2024, the US economy reported declining inflation, resilient labour markets, and positive economic growth. Then, job market concerns led to the widely anticipated shift in monetary policy. Now, stickier inflation and uncertainty around the impacts of potential legislation have put the Federal Reserve in a holding pattern. | |
| US fixed income fund market | 7 |
| US fixed income funds attracted their fourth-largest calendar year inflow on record (+\$479.7 billion). Conventional mutual funds made up \$187.5 billion of that, with ETFs amassing a new annual record of \$292.2 billion in net inflows. | |
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| The market saw a bear steepener with longer rates rising faster than shorter counterparts. From the Fed's 50-bps cut, the 10- (+22.5%) and 30-year (+19.2%) spiked leading to short-end outperformance — USBIG Treasury 1-3 (+4.44%) was the top performing segment in the '24 Treasury market. | |
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| 2025 and beyond | 29 |
| The future is bright. Fixed income allocation conversations are moving beyond standard "Core." Strategically navigating sectors and/or tactically adding on specific sub-sectors via beta building blocks is becoming more common and more rewarding. We see 2025 as a pivot year for innovation. | |

Full tables detailing FTSE index returns and risk characteristics, including average active/passive fund returns in specific classifications.

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Introduction

Setting the stage

Attractive yield levels, positive credit fundamentals, semi-stable monetary policy, and forecasted earnings growth are just a few of the forces pushing investors to revisit asset allocations.

While there is still uncertainty around geopolitics and the impacts of trade, immigration, and tax policies, market participants are cautiously optimistic in the prospects of continued economic growth and the overall trajectory of inflation and unemployment.

Just three years ago, the market lost faith in the 60/40 portfolio with equity and fixed income returns both realising record drawdowns as the Federal Reserve increased interest rates at a historic pace. The worst calendar year performance on record left fixed income investors shell-shocked. Many found comfort in the coffers of money market funds and other income-oriented strategies.

Now in this new part of the cycle, market participants are eyeing fixed income as an attractive source of both reliable income and portfolio diversification. The lens through which investors dissect this asset class is much more well defined than ever before.

The modernisation of fixed income data combined with standard indexation practices has broadened the knowledge base around income opportunities and the differentiated risk/returns underlying each specific sector.

The exchange-traded fund (ETF) has turned that knowledge into something more easily investable. This ability to enter more precise corners of the fixed income world through the ETF has allowed asset managers, asset owners, and everyday investors to expand their toolkit in defence against various rate regimes and economic cycles. What was once thought of as solely a trading tool, has transformed into a vessel used to both strategically navigate fixed income sectors and create tactical portfolio building-blocks. These two use-cases have provided a secondary tailwind for the asset class — where the ETF goes, innovation (and inflows) tend to follow.

Fixed income should no longer simply be benchmarked or evaluated within the context of just the "Agg." This asset class has become more nuanced. Investors should be leveraging the data at hand to hold their managers and asset allocation policies to a higher standard.

In this paper, we touch on the 2024 major macroeconomic headlines, discuss the current state of the fixed income fund market, breakdown key bond sectors by risk/return, then conclude with thoughts on the year to come.

To those investors who have taken holiday since 2022's horrid showing, we gladly welcome you back. What I hope you will find is that the more granular areas of fixed income have become more closely tracked and accessible. And with that, the understanding of the underlying risk/return profiles have become ever more important.

To those who have stayed in touch, I hope this motivates you to continue fostering innovation. At the end of each sector update, I highlight a few strategies I find interesting to bring to market. Let us build something new.

Macroeconomic backdrop

Tale of two parts

Through the first nine months, the US economy saw gradually declining inflation data, a resilient labour market, and positive economic growth. Each new data release carried with it an uneasy feeling as markets kept all eyes and ears on the Federal Reserve, postulating, not if, but when and why the Fed will shift course in its monetary policy.

While there was plenty of volatility in the first half of 2024 due to handful of negative surprises in economic data, the real action started in late summer/early fall.

August data (published at the end of Q3) revealed that annual changes in both the Consumer Price Index (CPI) and core-CPI (excluding energy and food) had fallen from January (+3.1% and 3.9%, respectively) to August (+2.5% and +3.2%). The Personal Consumption Expenditures Index (PCE) — the Fed's preferred gauge of inflation — also fell from January's 12-month change of +2.6% to August's +2.3%. In terms of economic growth, the US gross domestic product (GDP) published in September grew at a solid 3.0% annual clip, up from a positive 1.6% annualised gain in the first quarter.

The labour market, however, was viewed by the central bank at that time as starting to trend in the wrong direction. Job gains were averaging 191,000 per month (lowest average through the first nine months of a year since 2019, excluding COVID's 2020). Although low by historical standards, the unemployment rate had moved slightly higher from 3.7% at the start of the year to 4.1% in September.

Then, a moment markets had been waiting for all year, came into fruition during the Jackson Hole Economic Symposium. Not mincing words, Fed Chair Jerome Powell said,

"We do not seek or welcome further cooling in labour market conditions...The time has come for policy to adjust."

Following suit, the central bank cut rates by a combined 100-basis points (bps) over its final three meetings of the year. The end of September saw a 50-bps cut, November's 25-bps cut came one day after the re-election of President Donald Trump, followed by a final 25-bps decrease in mid-December.

Expectations re-set in Q4

While the initial Fed cut and commentary signalled interest rates were on a path of steady decline, inflationary fears began to return leading up to the presidential election. Economist and policy makers alike voiced concerns that if President Trump were to be re-elected, his proposals on tariffs, taxes, and immigration might create strong upward pressures on prices.

Most notably, the Federal Open Market Committee (FOMC) minutes from December's policy meeting acknowledged officials were in general agreement that the rate cutting process will take longer than previously anticipated due to the prospective legislation put forth by the (at the time) president-elect.

November's inflation figures, reported near the end of December, showed slightly elevated prints — CPI (+2.7%) and PCE (+2.8%) had both increased since September. Suddenly, the economy felt a little hotter than expected. The third estimate for Q3 GDP showed an annual rate of 3.1% growth, a vast improvement on earlier estimates.

November's job openings data (released in early January) showed an unexpected rise to 8.1 million, the most since February. Then on January 10, the Department of Labour reported the US economy added 256,000 jobs during the month of December as the unemployment rate moved down to 4.1%, marking the largest monthly nonfarm payrolls gain since March.

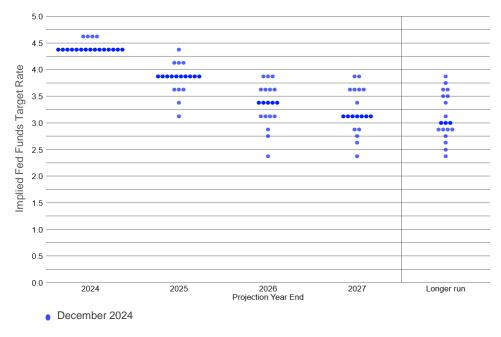
| Month | Nonfarm Payrolls (MoM) | Unemployment Rate | PCE (YoY) | Core PCE (YoY) | CPI (YoY) | Core CPI (YoY) |
|-----------|---------------------------|----------------------|--------------|-------------------|--------------|-------------------|
| January | +256,000 | 3.7% | +2.6% | +3.1% | +3.1% | +3.9% |
| February | +236,000 | 3.9% | +2.6% | +2.9% | +3.2% | +3.8% |
| March | +310,000 | 3.9% | +2.8% | +3.0% | +3.5% | +3.8% |
| April | +108,000 | 3.9% | +2.7% | +2.9% | +3.4% | +3.6% |
| May | +216,000 | 4.0% | +2.6% | +2.7% | +3.3% | +3.4% |
| June | +118,000 | 4.1% | +2.4% | +2.6% | +3.0% | +3.3% |
| July | +144,000 | 4.2% | +2.5% | +2.7% | +2.9% | +3.2% |
| August | +78,000 | 4.2% | +2.3% | +2.7% | +2.5% | +3.2% |
| September | +255,000 | 4.1% | +2.1% | +2.7% | +2.4% | +3.3% |
| October | +43,000 | 4.1% | +2.3% | +2.8% | +2.6% | +3.3% |
| November | +212,000 | 4.2% | +2.4% | +2.8% | +2.7% | +3.3% |
| December | +256,000 | 4.1% | +2.6% | +2.8% | +2.9% | +3.2% |

Source: LSEG Workspace. Data as of 01/31/2025.

Five days later, the Bureau of Labour Statistics published December's CPI, showing a small month-overmonth acceleration (+2.9%) in annualised figures. Core-CPI remained sticky with a slight deceleration. To wrap up 2024 data, the Bureau of Economic Analysis reported on January 31, 2025, that annual PCE sped up modestly to 2.6%, while core-PCE stalled at 2.8%.

And just like that, the feelings of concern over a deteriorating labour market and the relief felt towards price stability flipped. At the time of drafting this report, market consensus is now pricing in fewer cuts this year. LSEG Interest Rate Probabilities (IRPR) Workspace application has an 97.5% likelihood of no rate change during the next meeting on March 19, 2025.

Figure 1: FOMC dot plot: December projections



Source: LSEG Datastream.

Unlike previous easing cycles over the past 100 years, the Fed was not the first G7 central bank to cut policy rates, in fact it was the last — marking a divergence globally in growth and inflation. As we note in later sections, longer-dated Treasury yields continued to climb throughout this easing period.

As the market is learning to live with higher rates, investors are re-evaluating opportunities within their playbooks they once deemed attractive based on past easing cycles.

The latest employment report (published February 7, 2025) had 143,000 nonfarm jobs added during the month of January. Although this fell short of market expectations, the unemployment rate fell for the third straight month to 4.0% which supports the US central bank's stance of "wait and see."

Two other significant factors (outside of tariffs, taxes, and immigration) facing the US economy head-on in 2025 worth noting are the unsustainable federal debt level and ongoing geopolitical uncertainty. First, in what manner the US government plans to service its \$36.2 trillion debt must be answered this year. Second, whether it's in Eastern Europe, the Middle East, or at the US borders, insecurity on the global stage will continue to introduce volatility and perhaps opportunities into economic markets.

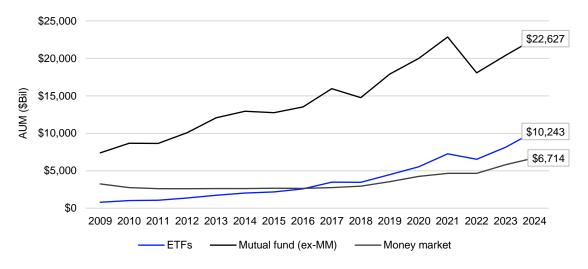
US fixed income fund market

Now to the "fun'd" stuff!

Overall, 2024 market headlines (non-crypto):

- Exchange-traded funds (including all asset types) set a new calendar year inflow record surpassing \$1.1 trillion.
- Capital continues towards the sidelines as money markets post their second-largest annual inflow (+\$733.2 billion), following only 2023's total (+1.0 trillion).
- 3. Active ETFs gain market share. In fixed income, active ETFs moved from 11.6% to 15.9% of total assets under management (AUM). Active equity ETFs moved from 5.0% up to 6.6%.

Figure 2: US fund market assets under management



Source: LSEG Lipper Global Fund Flows (GFF). Data as of 12/31/2024.

| Asset Universe | AUM (\$Mil) |
|----------------|-------------|
| ETFs | 10,243,111 |
| Alternatives | 151,337 |
| Bond | 1,793,649 |
| Commodity | 161,428 |
| Equity | 8,238,325 |
| Mixed assets | 26,835 |
| Mutual funds | 22,626,529 |
| Alternatives | 283,486 |
| Bond | 4,810,787 |
| Commodity | 27,907 |
| Equity | 13,972,394 |
| Mixed assets | 3,531,955 |
| Money market | 6,713,783 |

| ETFs Net Flow (\$Mil) | Active | Passive | Total |
|--------------------------|---------|---------|-----------|
| Total | 296,402 | 851,923 | 1,148,325 |
| Alternatives | 10,249 | 77,778 | 88,027 |
| Bond | 109,099 | 183,052 | 292,151 |
| Commodity | (674) | 1,908 | 1,234 |
| Equity | 175,521 | 587,842 | 763,363 |

| Mutual Funds Net Flow (\$Mil) | Active | Passive | Total |
|----------------------------------|-----------|----------|-----------|
| Total (Ex-MM) | (494,416) | 73,564 | (420,852) |
| Alternatives | 5,244 | 24 | 5,268 |
| Bond | 102,064 | 85,443 | 187,507 |
| Commodity | 16 | 388 | 404 |
| Equity | (488,527) | (10,579) | (499,106) |
| Mixed Assets | (113,213) | (1,712) | (114,925) |
| Money Market | 732,680 | - | 732,680 |

Who are the investors in **money market funds**?

While money market AUM is staggering, the 10-year average of money market AUM as percentage of the total US fund market is 14.6%. As of December 2024, money markets represent 18.3%, leading me to believe the amount up for grabs is closer to \$1.0 trillion - still a worthy prize, but far from what the headlines suggest.

Are some "active" ETFs smart-beta descendants hiding in plain sight?

On the equity side, the term "active" has been loosely assigned to recent ETF launches that overlay a systematic options strategy on a passive foundation. Is something similar happening in fixed income? Not that there is anything wrong with that, but the market should improve its framework around defining active management.

Fixed income fund market landscape

US fixed income funds attracted their fourth-largest calendar year inflow (+\$479.7 billion). Conventional mutual funds took in \$187.5 billion, with fixed income ETFs setting an annual inflow record of \$292.2 billion. Fixed income has been the one bright spot for the mutual fund wrapper, led by index-linked strategies.

Active fixed income funds collected inflows of \$211.2 billion, as active ETFs (+\$109.1 billion) set a new all-time high. Passive fixed income (+\$268.5 billion) brought in its third-largest calendar year total — \$183.1 billion of which went towards passive ETFs (fourth-largest calendar year intake).

Exchange-Traded Funds Mutual Funds \$1,000 18.0% \$700 \$900 83.0% 16.0% \$600 \$800 82.0% \$500 12.0% \$400 10.0% N \$600 80.0% \$300 \$500 79.0% 8.0% \$200 \$400 \$100 \$300 77.0% -\$100 75.0% Passive Active Active AUM % (Right)

Figure 3: US fixed income cumulative flows and active management market share

Source: LSEG Lipper Global Fund Flows (GFF). Data as of 12/31/2024.

At the fund company level (including both mutual funds and ETFs), Vanguard (+\$123.3 billion), Blackrock (+\$59.8 billion), Fidelity Investments (+\$38.1 billion), Capital Group/American Funds (+\$30.5 billion), and J.P. Morgan Asset Management (+\$24.2 billion) pulled in the top fixed income inflows over the year — J.P. Morgan was the only new addition to this top five list from a year ago.

Looking at ETFs only, Vanguard (+\$64.0 billion), Blackrock (+\$55.2 billion), and State Street Global Advisors (+\$14.4 billion) finished as the top three. Janus Henderson (+\$13.2 billion) and Fidelity Investments (+\$12.4 billion) rounded out the top five, with Fidelity as the newcomer here.

The year 2024 saw fixed income set a record in product launches (179). The industry brought to market 39 passive and 140 active strategies — counting only unique funds. **Target maturity** funds had the most launches by a wide margin, with more to come in 2025.

In terms of liquidations and fund mergers, there were 79 total unique fixed income funds that were either liquidated or closed due to merger during the year. There were 16 ETF liquidations, five of which were ESG-focused. Of the 79 total closures, 70 of them were actively managed.

Target maturity mandates have been launched by sector: Treasuries (19), corporates (19), inflation-protected (17), high yield (2), and municipal bond (2) have all seen launches during 2024.

To build out a target maturity suite, firms will launch products that span over a period from anywhere between five and 15 years.

Why so many? Why now?

Well, I believe its due to the growing demand in outcome-defined investments post 2022. As fixed income investors were licking their wounds, equity markets saw a boom in the demand of income producing/outcome-oriented option strategies that try to mitigate against the downside. With today's yield levels and economic outlook, those strategies are starting to apply themselves to fixed income.

Treasuries

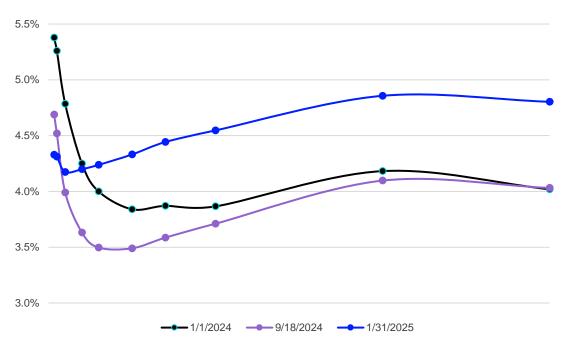
Finally, re-inversion

US Treasuries are one of the most tracked and traded fixed income markets in the world. In the US open-ended fund market, there are a total of \$810.6 billion in assets under management classified here — ETFs represent \$470.8 billion with mutual funds holding another \$352.8 billion. This fixed income sector is primarily characterised by passive, index-linked investments, making up 77% of the Treasuries fund market.

An important aspect of fixed income markets is not where the yield curve is today, but rather the trajectory and speed of its future movements at specific tenors. This drives investor behaviour and acts a signal of the market's risk appetite. Many factors can affect the direction and rate of change of the yield curve like monetary policy, inflation expectations, and earnings forecasts, to name just a few.

The Treasury yield curve was inverted for most of 2024, with the two-year yield higher than the 10-year. It was not until August when the **10-two spread** re-inverted, signalling the market's confidence in the Fed following through with its first rate cut since 2020. From the moment the two-year peaked at 5.03% on April 30 until the Fed's first cut on September 18, the two- (-27.8%) fell sharper than the 10- (-20.71%) and 30-year (-15.74%) Treasury yields.

Figure 4: US Treasury yield curve



Source: LSEG Workspace. Data as of 12/31/2024.

10-Two Treasury yield

A negative **10-two spread** has lived as a leading indicator for an oncoming recession. The associated challenge with an inverted curve is: why lock up your investments in longer-dated bonds when you are guaranteed a higher rate of return over a shorter holding period?

This dynamic can (and historically has) manifested into a deceleration of economic growth as tighter credit conditions make borrowing more expensive, strain consumer spending, and inevitably damage the market's long-term expectations.

A premature move out in duration?

By the end of Q3 many had already moved into intermediate- to long-dated Treasury funds, anticipating the market was near or had reached peak yield levels. Ideally, investors could also capitalise on increasing bond prices if longer-term rates fell.

Treasury ETFs attracted \$48.2 billion during the first three quarters, 93.9% went to intermediate-to-long Treasuries — 73.7% to just seven ETFs.

| ETF Ticker | Top 10 Treasury Inflows Through Q3 2024 | Through Q3 (\$Mil) | Q4 Flows (\$Mil) |
|------------|--|-----------------------|---------------------|
| LII TICKEI | Top to Treasury lilliows Through Q3 2024 | (Ф18111) | (\$IVIII) |
| TLT | iShares 20+ Year Treasury Bond ETF | 9,255 | (4,036) |
| VGIT | Vanguard Intermediate-Term Treasury ETF | 8,319 | 977 |
| SGOV | iShares 0-3 Month Treasury Bond ETF | 8,038 | 4,157 |
| IEF | iShares 7-10 Year Treasury Bond ETF | 5,691 | (599) |
| GOVT | iShares US Treasury Bond ETF | 4,610 | 2,666 |
| VGLT | Vanguard Long-Term Treasury; ETF | 3,916 | (3,683) |
| BOXX | Alpha Architect 1-3 Month Box ETF | 3,195 | 478 |
| SPTL | SPDR Portfolio Long Term Treasury ETF | 2,958 | (81) |
| SCHR | Schwab Intermediate-Term Treasury ETF | 2,377 | 97 |
| SPTI | SPDR Port Intermediate Term Treasury ETF | 2,003 | 468 |

Source: LSEG Lipper Global Fund Flows (GFF). Data as of 12/31/2024.

While those investors were rewarded in Q3 with nice returns, the celebration was short-lived. Since September 18, the market has seen a bear steepener as longer-term interest rates increased at a faster rate than their short-term counterparts. From the Fed's 50-bps cut, the 10- (+22.5%) and 30-year (+19.2%) outpaced the two-year (+15.6%), leading to a steeper yield curve. During this same period the ultrashort-end witnessed decreasing yields with the one- (-10.2%), two- (-10.4%), and six-month (-4.6%) yields all falling.

As you can see from the table above, there was an unwind of the longer-dated Treasury trade during the final three months of the year.

The table below shows the top 10 ETF inflows during Q4 — a vastly different list favouring short and ultra-short.

| ETF Ticker | Top 10 Treasury Inflows Q4 | Q4 Flows (\$Mil) |
|------------|--|---------------------|
| SGOV | iShares 0-3 Month Treasury Bond ETF | 4,157 |
| GOVT | iShares US Treasury Bond ETF | 2,666 |
| BIL | SPDR Bloomberg 1-3 Month T-Bill ETF | 2,650 |
| STIP | iShares 0-5 Year TIPS Bond ETF | 2,615 |
| VGIT | Vanguard Intermediate-Term Treasury ETF | 977 |
| VGSH | Vanguard Short-Term Treasury ETF | 932 |
| SCHP | Schwab US TIPS ETF | 655 |
| BOXX | Alpha Architect 1-3 Month Box ETF | 478 |
| SPTI | SPDR Port Intermediate Term Treasury ETF | 468 |
| TBIL | US Treasury 3 Month Bill ETF | 455 |

Source: LSEG Lipper Global Fund Flows (GFF). Data as of 12/31/2024.

Sure, part of this trade might be attributed to tax-loss harvesting and parking losses, but I would wager it's more so the market positioning itself for a longer- "higher for longer" period brought on by the uncertainty over potential policy coming out of Washington.

Treasury fund

The Treasury fund market is generally segmented into five classifications. These are classified based on the weighted average maturity of the fund's holdings and prospectus language.

Short Treasury covers one to three years, intermediate spans five to 10, short-intermediate includes one to five, and the general Treasury category holds both broad market funds and those focusing on the long-end. Also, within the Treasury/government sector are the TIPS funds.

Treasury fund market overview

These classifications highlight just how significantly different the risk and return characteristics can be in even a vanilla sector. You can see the attraction to short Treasuries as the USBIG Treasury 1-3 was yielding 4.25% at year-end with limited interest rate sensitivity.

| Classification | Index | YTW | Eff Dur | OAS | Quality |
|-------------------------------------|--------------------------|------|---------|--------|---------|
| General Treasury/Govt | FTSE USBIG Treasury | 4.45 | 5.73 | (0.32) | AA+ |
| Short Treasury/Govt | USBIG Treasury 1-3 | 4.25 | 1.75 | (0.71) | AA+ |
| Short-Intermediate Treasury/Govt | USBIG Treasury 1-5 | 2.50 | 1.75 | (0.71) | AA+ |
| Intermediate Treasury/Govt | USBIG Treasury 5-10 | 4.48 | 6.12 | (0.09) | AA+ |
| Inflation Protected Bond | FTSE US Inflation Linked | 4.52 | 4.28 | 6.14 | AA+ |

Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

The tables below highlight how passive managers within these classifications have fared against active. One general observation to be made from these results is that passive or index-linked strategies tend to outperform active over longer periods in the more narrowly defined segments. But in General Treasuries, which captures a wider range of products that give managers the ability to make duration-specific bets, active funds have had the upper hand — however still under-performing the FTSE Treasury Index.

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|---------------------------|------------|------------|------------|------------|-------------|---------------------|
| FTSE USBIG Treasury Index | 0.65 | (2.84) | (0.66) | 0.59 | 0.83 | 5.73 |
| Passive General | (2.82) | (7.27) | (3.35) | (1.02) | (0.17) | 9.31 |
| Active General | (0.22) | (4.13) | (1.28) | (0.05) | 0.31 | 7.25 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|-------------------------|------------|------------|------------|------------|-------------|---------------------|
| FTSE USBIG Treasury 1-3 | 4.44 | 1.71 | 1.52 | 1.88 | 1.61 | 1.75 |
| Passive Short Treasury | 4.64 | 2.65 | 1.80 | 1.93 | 1.48 | 1.39 |
| Active Short Treasury | 4.17 | 1.17 | 1.07 | 1.32 | 1.02 | 1.84 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|--------------------------|------------|------------|------------|------------|-------------|---------------------|
| FTSE USBIG Treasury 5-10 | 1.03 | (2.46) | (0.25) | 1.05 | 1.47 | 6.12 |
| Passive Int. Treasury | 1.16 | (2.09) | (0.29) | 0.93 | 1.09 | 5.24 |
| Active Int. Treasury | 0.67 | (2.43) | (0.60) | 0.37 | 0.53 | 5.57 |

| Name | 1- (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|-------------------------------------|--------|------------|------------|------------|-------------|---------------------|
| FTSE US Inflation Linked Securities | 1.92 | (2.29) | 1.96 | 2.40 | 2.31 | 4.28 |
| Inflation Passive | 3.23 | (0.31) | 2.44 | 2.56 | 2.19 | 4.38 |
| Inflation Active | 2.47 | (1.60) | 1.85 | 2.12 | 1.90 | 5.28 |

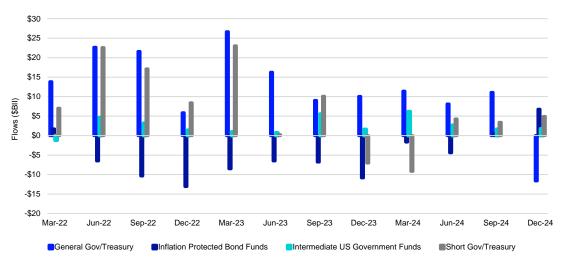
Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

Below details the assets under management at year-end and 2024 net flows for various sub-sectors of the US Treasury and government fund market.

| | ı | AUM (\$Mil) | | Net Flows (\$Mil) | | | |
|------------------------------------|---------|-------------|---------|-------------------|---------|--------|--|
| Classifications | Passive | Active | Total | Passive | Active | Total | |
| General Treasury / Govt | 245,968 | 42,250 | 288,218 | 25,831 | 1,103 | 26,934 | |
| Short Treasury / Govt | 195,389 | 33,325 | 228,714 | 8,838 | 2,127 | 10,965 | |
| Short-Intermediate Treasury / Govt | 90 | 3,785 | 3,875 | 57 | (157) | (100) | |
| Intermediate Treasury / Govt | 44,001 | 21,347 | 65,347 | 11,417 | 1,162 | 12,579 | |
| Inflation Protected Bond | 141,197 | 83,252 | 224,450 | 9,715 | (5,966) | 3,749 | |

Figure 5 highlights the deceleration of capital into general/longer Treasuries along with a recent reversal of flows towards both Short Treasury and Inflation-Protected Bond funds — most of which have been into passive mandates (detailed above).

Figure 5: US Treasury / Government classifications net flows



Source: LSEG Lipper Global Fund Flows (GFF). Data as of 12/31/2024.

Future Innovation

First, I would like to see a target maturity suite that uses systematic or enhanced-yield overlays. Second, would be the implementation of Carry-and-Roll-Down (CaRD) strategy — both not only function as a differentiator in a crowded space but might lead to some interesting outcomes in the coming cycle.

A second wave of innovation has been through pricing partnerships. I recently heard the quote, "The only difference between a good trade and a bad trade is price." Improved risk calculations and decreased portfolio tracking errors are just two dynamics leading to an improved investor experience. There is a growing number of firms adopting more precise, market-determined pricing.

Corporate credit

Strong issuance fuelled by refinancing

Overall, US corporate debt captured average returns on the year. Stop me if you have heard this before, but this sector was carried by shorter-duration and below-investment grade debt. The FTSE High Yield Market Index returned a positive 8.49% and was one of the few bright spots in all fixed income during the fourth quarter (+0.23%). The FTSE USBIG Corporate Index reported a positive 2.30% calendar-year gain, despite Q4's 2.93% loss.

On the issuance side, investment grade corporate debt logged its second-largest total annual issuance with \$1.1 trillion offered. Q1 marked the third-largest quarterly total — only trailing Q1 and Q2 of COVID's 2020. According to LSEG SDC, refinancing debt led the way as the primary use of proceeds, accounting for 28.4% of 2024's issuance. The largest two maturity buckets of IG corporate debt issuance were three to six and nine to 12 years, each totalling about 30.0%.

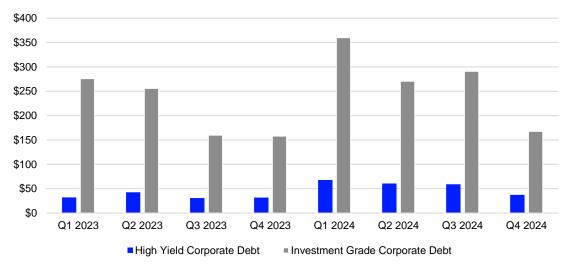


Figure 6: US corporate high yield and investment grade debt issuance

Source: LSEG Workspace SDC. Data as of 12/31/2024.

High yield corporate debt also saw strong annual issuance with proceeds equalling \$224.8 billion (sixth largest), with 58.7% maturing in six to nine years. High yield corporate debt also had its thirteenth-largest calendar year total for individual deals closed (305). During the year, 55.2% of high yield debt issued was flagged for refinancing as the primary use of proceeds — the largest market share since 2018, which was the fifth largest on record.

Corporate debt issuance and total deals fell off once monetary policy started to ease but rebounded nicely in January. Looking at industries, utilities was the only segment that saw the number of deals decrease since last year, while financials reported the largest annual increase by a significant margin.

180,000 300 160,000 250 140,000 200 120,000 100,000 150 80,000 60,000 100 40,000 50 20.000 Feb-24 Mar-24 Apr-24 May-24 Jun-24 Jul-24 Aug-24 Sep-24 Oct-24 Nov-24 Dec-24 Jan-25 Proceeds amount (\$Mil) - Number of deals (RH)

Figure 7: Monthly corporate debt issuance and total deals

Source: LSEG Workspace SDC. Data as of 01/10/2025.

Elevated yields, tight spreads

Both the FTSE High Yield Index and FTSE USBIG Corporate Index have been at yields above their five-year averages with option adjusted spreads (OAS) at levels near 10-year lows — making for an interesting dynamic in corporate credit markets. The FTSE High Yield Index spread tightened 11.8% since Septembers cuts, with the USBIG Corporate spread falling 15.8%.

While many believe there is little room for continued spread compression, it is hard to ignore current yield levels as entry points for buy and hold investors or those looking for an enticing income alternative to equity markets.

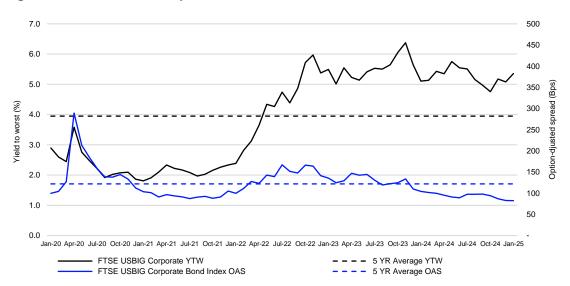


Figure 8: FTSE USBIG Corporate Index: Historical OAS and YTW

Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

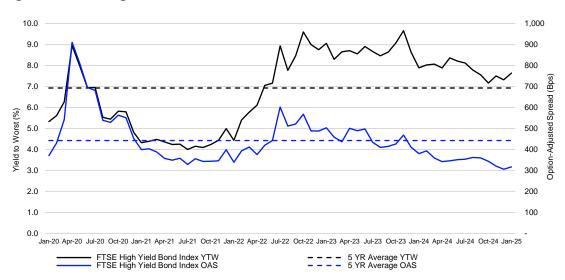


Figure 9: FTSE High Yield Market Index: Historical OAS and YTW

Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

IG industry returns see little differentiation

Looking at underlying USBIG Corporate industries, losses were felt across the board in Q4 just as gains were broad-based during 2024. While finance may have provided some cushion from the end of year bear steepening, no sector went completely unscathed.

| FTSE USBIG Corporate | Q4 (%) | 1 Year (%) |
|-----------------------------|--------|------------|
| Finance – Bank | (1.89) | 4.55 |
| Finance – Independent | (1.11) | 5.99 |
| Finance – Insurance | (3.84) | 1.02 |
| Finance – Other | (1.99) | 4.00 |
| Industrial – Consumer | (3.39) | 1.90 |
| Industrial – Energy | (2.86) | 2.41 |
| Industrial – Manufacturing | (2.84) | 1.79 |
| Industrial – Other | (2.91) | 2.10 |
| Industrial – Services | (3.69) | 0.56 |
| Industrial – Transportation | (4.27) | (0.05) |
| Utility – Electric | (3.35) | 1.96 |
| Utility – Gas | (3.50) | 1.45 |
| Utility – Other | (3.30) | 2.40 |
| Utility – Telecom | (3.87) | 1.09 |
| Index Total | (2.93) | 2.30 |

Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

As we move down the rating scale we see improved returns, aligning with our 2024 narrative of shorter duration, high-yielding segments outperforming their sector. Ceteris paribus, lower-rated debt tends to be less sensitive to interest rate movements through shorter terms and higher compensations for taking on additional credit risk.

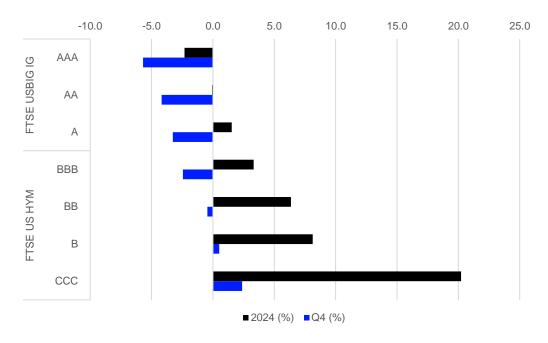
More industry opportunities in high yield

Lower-rated debt also fared better in the FTSE High Yield Market index seen in figure 10. The difference here is that sector exposure did provide some variance in annual returns, with industrials standing out.

| FTSE High Yield Market | Q4 (%) | 1 Year (%) |
|-----------------------------|--------|------------|
| Finance – Bank | (0.12) | 7.55 |
| Finance – Independent | 0.92 | 7.52 |
| Finance – Insurance | 0.81 | 7.29 |
| Finance – Other | 0.05 | 9.25 |
| Industrial – Consumer | (0.38) | 7.73 |
| Industrial – Energy | 0.42 | 7.51 |
| Industrial – Manufacturing | (0.10) | 8.09 |
| Industrial – Other | 1.78 | 7.39 |
| Industrial – Services | 0.29 | 8.76 |
| Industrial – Transportation | 2.06 | 10.68 |
| Utility – Electric | (0.40) | 6.36 |
| Utility – Gas | 0.20 | 5.68 |
| Utility – Other | (1.91) | 5.48 |
| Utility – Telecom | 1.50 | 11.95 |
| Index Total | 0.23 | 8.49 |

Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

Figure 10: Annual return (%) by rating: FTSE USBIG Corporate & FTSE High Yield Market



Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

Corporate balance sheets appear to be in much healthier standing, with the share of Fallen Angels currently at a 25-year low. Issuers seem better prepared to manage market shocks, learning from the Global Financial Crisis (GFC) and Covid-19 crashes.

High yield debt tends to be more correlated with company earnings and the issuers' ability to reliably service debt — default being the primary concern. LSEG Proprietary Research forecasts sizeable earnings growth during 2025, anticipating strong calendar years for the S&P 500 (+14.0%) and Russell 2000 (+49.0%) — setting the stage for potentially another strong year in high yield credit markets.

My LSEG colleagues found, in a separate paper¹, that high-yield has maintained a high correlation with equities from the mid-90s up to 2024 — registering near 0.8 and exceeding the correlation of any other fixed income sector. So, a bet on high yield is also a bet on the continued durability of the equity market.

IG and HY fund market overview

| Classification | Index | YTW | Eff. Dur | OAS | Quality |
|-----------------------------|-----------------------------------|------|----------|-----|---------|
| Corp Debt Funds A-Rated | Custom FTSE USBIG Corp A, AA, AAA | 5.18 | 7.17 | 64 | Α |
| Corp Debt Funds BBB-Rated | FTSE USBIG Corporate | 5.35 | 6.81 | 82 | A- |
| Short Investment Grade Debt | FTSE USBIG Corporate 1-3 | 4.83 | 1.76 | 54 | A- |
| Short-Intermediate IG Debt | FTSE USBIG Corporate 1-5 | 4.94 | 2.53 | 63 | A- |
| High Yield Funds | FTSE High Yield Market | 7.40 | 3.26 | 288 | B+ |
| Short High Yield Funds | FTSE High Yield Market 1-3 | 7.53 | 1.54 | 315 | B+ |

Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

Again, we see passive funds, on average, outperforming active over longer periods within the more granular classifications. The exceptions here are in the Short Investment Grade and Corporate Debt A-Rated classifications.

Short Investment Grade tends to be made up of IG funds with a weighted average maturity (or effective duration) of less than three years. Unlike the A- and BBB-Rated classifications, Short Investment Grade funds can allocate to IG securitised debt (which they often do).

The Corporate A-Rated classification had a similar story. Passive funds indexed to longer-termed debt were the biggest drag on performance. Here we see just how important it was over the last three years to manage duration exposure within IG corporate credit markets.

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|--------------------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| Corporate Debt Funds A Rated Passive | (3.03) | (7.82) | (2.60) | (0.04) | 1.22 | 12.80 |
| Corporate Debt Funds A Rated Active | 1.55 | (2.91) | (0.04) | 1.37 | 1.90 | 6.60 |

Source: LSEG Lipper. Data as of 12/31/2024.

¹ Multi-asset return correlations – a new regime, or an era of instability? | LSEG

Investment-grade debt fund classifications

Name

FTSE High Yield Market 1-3

Short High Yield Funds Passive

Short High Yield Funds Active

The investment grade credit fund classifications take on the same term breakout as Treasuries with the additional granularity using individual credit rating buckets.

The one caveat here is the Short-IG and Short-Intermediate IG classifications do include funds that invest in IG debt outside of corporate credit, much like Core and Core-Plus classifications.

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|---|--|-------------------------------------|------------------------------------|------------------------------------|-------------------------------------|---|
| FTSE USBIG Corporate | 2.30 | (2.12) | 0.46 | 1.90 | 2.49 | 6.81 |
| Corporate Debt Funds BBB-Rated Passive | 2.78 | (1.41) | 0.66 | 1.90 | 2.30 | 6.27 |
| Corporate Debt Funds BBB-Rated Active | 1.99 | (2.88)) | (0.06) | 1.33 | 1.88 | 7.21 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| FTSE USBIG Corporate 1-3 | 5.35 | 2.48 | 2.26 | 2.58 | 2.30 | 1.76 |
| Short Investment Grade Debt Funds Passive | 4.53 | 1.88 | 1.69 | 1.98 | 1.93 | 2.05 |
| Short Investment Grade Debt Funds Active | 5.28 | 2.14 | 2.06 | 2.26 | 2.01 | 1.95 |
| | | | | | | |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| Name FTSE USBIG Corporate 1-5 | | | | | | |
| | (%) | (%) | (%) | (%) | (%) | Eff. Dur |
| FTSE USBIG Corporate 1-5 | (%) 5.05 | 1.77 | 2.08 | (%) 2.59 | 2.47 | Eff. Dur 2.53 |
| FTSE USBIG Corporate 1-5 Short-Intermediate Investment Grade Debt Funds Passive | (%) 5.05 4.64 | (%) 1.77 1.44 | (%) 2.08 1.70 | (%) 2.59 2.22 | (%) 2.47 2.25 | 2.53 2.55 |
| FTSE USBIG Corporate 1-5 Short-Intermediate Investment Grade Debt Funds Passive Short-Intermediate Investment Grade Debt Funds Active | (%) 5.05 4.64 4.51 | (%) 1.77 1.44 1.02 3-Year | (%) 2.08 1.70 1.53 | (%) 2.59 2.22 1.89 | (%) 2.47 2.25 1.75 | 2.53 2.55 2.63 Average |
| FTSE USBIG Corporate 1-5 Short-Intermediate Investment Grade Debt Funds Passive Short-Intermediate Investment Grade Debt Funds Active Name | (%) 5.05 4.64 4.51 1-Year (%) | (%) 1.77 1.44 1.02 3-Year (%) | (%) 2.08 1.70 1.53 5-Year (%) | (%) 2.59 2.22 1.89 7-Year (%) | (%) 2.47 2.25 1.75 10-Year (%) | 2.53 2.55 2.63 Average Eff. Dur |
| FTSE USBIG Corporate 1-5 Short-Intermediate Investment Grade Debt Funds Passive Short-Intermediate Investment Grade Debt Funds Active Name FTSE High Yield Market | (%) 5.05 4.64 4.51 1-Year (%) 8.49 | (%) 1.77 1.44 1.02 3-Year (%) 3.11 | (%) 2.08 1.70 1.53 5-Year (%) 4.19 | (%) 2.59 2.22 1.89 7-Year (%) 4.61 | (%) 2.47 2.25 1.75 10-Year (%) 5.03 | 2.53 2.55 2.63 Average Eff. Dur 3.35 |

(%)

9.77

8.22

7.30

(%)

5.95

4.60

3.87

Source: FTSE Russell Index Module (FIXM) and LSEG Lipper. Data as of 12/31/2024.

FTSE Russell 20

(%)

5.46

4.67

3.78

(%)

5.35

4.81

3.80

Eff. Dur

1.62

2.38

1.75

(%)

5.73

4.56

3.73

Intermediate credit see strong flows

The below table shows how corporate debt funds attracted strong inflows all year. Flows concentrated towards intermediate IG and high yield mandates during Q3. We also saw elevated flow levels into short-IG at the end the year.

| Classification | Q1 (\$Mil) | Q2 (\$Mil) | Q3 (\$Mil) | Q4 (\$Mil) | 2024 Flow (\$Mil) | AUM (\$Mil) |
|-----------------------------------|---------------|---------------|---------------|---------------|-------------------------|----------------|
| Corporate Debt Funds A Rated | (742) | (599) | 648 | (438) | (1,136) | 43,054 |
| Corporate Debt Funds BBB-Rated | 14,351 | 4,736 | 14,841 | 5,437 | 39,356 | 257,630 |
| Short Investment Grade Debt Funds | 1,927 | 2,965 | (373) | 3,065 | 7,577 | 344,395 |
| Short-Intermediate IG Debt Funds | 241 | (3,553) | 761 | (543) | (3,090) | 207,694 |
| Investment Grade Totals | 15,777 | 3,549 | 15,877 | 7,521 | 42,707 | 852,776 |
| High Yield Funds | 3,749 | 1,435 | 10,031 | 2,135 | 17,330 | 311,240.0 |
| Short High Yield Funds | 1,853 | 1,594 | 1,164 | 1,329 | 5,933 | 28,525.5 |
| High Yield Totals | 5,602 | 3,029 | 11,195 | 3,464 | 23,263 | 339,765 |

Source: LSEG Lipper Global Fund Flows (GFF). Data as of 12/31/2024.

The table below shows the top 10 annual inflows for IG corporate-debt focused ETFs but if you zoom out to the top 50 corporate credit ETFs, there were only two which reported negative annual performance of those top 50 — Vanguard Long-Term Corporate Bond Index ETF (-1.87%) and iShares 10+ Year Investment Grade Corp Bond ETF (-1.13%). Which to me indicates just how prevalent flows where to shorter/intermediate funds.

| ETF Ticker | Name | Trailing 1 Year ENF (\$Mil) |
|------------|--|-----------------------------------|
| VCLT | Vanguard Long-Term Corp. Bond ETF | 7,822 |
| VCIT | Vanguard Intermediate. Term Corp Bond ETF | 4,291 |
| USIG | iShares Broad USD IG Corporate Bond | 2,416 |
| SPIB | SPDR Port. Intermediate. Term Corp. Bd ETF | 2,211 |
| SCHI | Schwab 5-10 Year Corporate Bond ETF | 2,112 |
| BSCQ | Invesco BulletShares 2026 Corp. Bond ETF | 1,861 |
| DFSD | DFA Dimensional Short-Duration FI ETF | 1,779 |
| IBDU | iShares iBonds Dec 2029 Term Corp. ETF | 1,307 |
| SPSB | SPDR Port. Short Term Corp Bond ETF | 1,237 |

Source: LSEG Lipper Global Fund Flows (GFF). Data as of 12/31/2024.

A primer on Core and Core-Plus bond funds

Much like the Short Investment Grade classification, the Core and Core-Plus classifications predominantly invest in investment grade issues that range from government, corporates, and securitised debt. Core Bond funds tend to be more heavily invested in Treasuries and government-backed debt, whereas Core-Plus will hold larger allocations to corporate debt and have more freedom to add to their below-investment grade positions with "non-traditional" fixed income sectors.

Core Bond funds is the largest fixed income classification thanks to the \$1.4 trillion sitting in mutual funds, which is split down the middle between active and passive. The ETF landscape in Core Bond is majority passive (\$305.8 billion).

| Classification | Index | YTW | Eff Dur | OAS | Quality |
|----------------|---|------|---------|-----|---------|
| Core Bond Fund | FTSE US Broad Investment-Grade Bond (USBIG) | 4.94 | 5.99 | 33 | AA |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|--------------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| FTSE USBIG | 1.27 | (2.47) | (0.33) | 0.97 | 1.36 | 5.99 |
| Core Bond Passive Mutual Funds | 1.29 | (2.49) | (0.40) | 0.89 | 1.26 | 5.75 |
| Core Bond Active Mutual Funds | 1.83 | (2.32) | (0.06) | 1.05 | 1.39 | 6.09 |
| Core Bond Passive ETFs | 2.06 | (2.07) | (0.07) | 1.26 | 1.54 | 5.73 |
| Core Bond Active ETFs | 2.01 | (2.09) | 0.17 | 1.53 | 2.20 | 6.21 |

| Classification | Q1 (\$Mil) | Q2 (\$Mil) | Q3 (\$Mil) | Q4 (\$Mil) | 2024 Flow (\$Mil) | AUM (\$Mil) |
|----------------------|---------------|---------------|---------------|---------------|----------------------|-------------|
| Core Bond Funds | 55,397 | 27,089 | 36,944 | 51,802 | 171,237 | 1,697,115 |
| Core Plus Bond Funds | 8,267 | (1,698) | (615) | (2,400) | 3,547 | 399,939 |

Source: FTSE Russell Index Module (FIXM) and LSEG Lipper. Data as of 12/31/2024.

Future innovation

Like Treasuries, there is a queue of target maturity and laddered strategies ready to launch next year. But what I would like to see in the corporate debt space is growth in industry-specific high yield, Russell Value-fixed income, and index-linked Core-Plus strategies.

An interesting idea to me is a Russell Value strategy targeting the underlying companies with the strongest balance sheets (side note: Russell recently moved to a semi-annual reconstitution).

Municipals

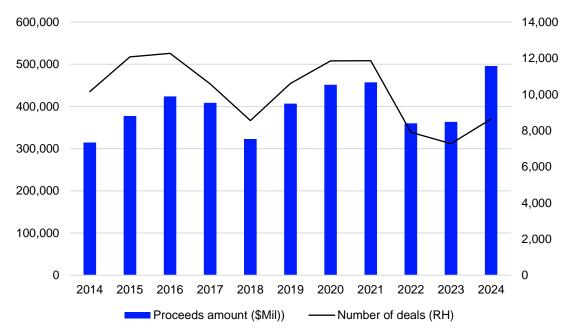
Additional implications for tax-exempt sector

Tax-exempt municipal bonds are one of my favourite sectors going into 2025. Between the macro setting, sector technicals, and forecasted outlook, municipal bonds are poised to not only grab headlines but offer compelling risk-adjusted opportunities within investor portfolios.

Starting with a little context.

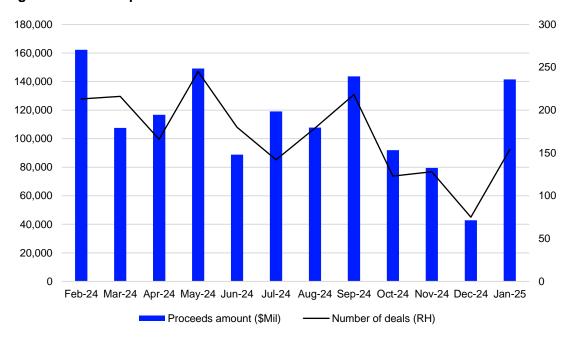
In 2017, Congress introduced the Tax Cuts and Jobs Act (TCJA) which played a significant role in shaping investor incentives in the municipal bond market. Implemented in January 2018, the TCJA, among other things, removed a cost-effective tool for municipal issuers to refinance existing debt, lowered the corporate tax rate from 35% to 21%, lowered the top marginal income tax rate from 39.6% to 37%, increased the Alternative Minimum Tax (AMT) exemption level, and placed a cap on the state and local taxes (SALT) deduction (which includes state income, local property taxes, and sales taxes).

Figure 11a: Municipal debt issuance



Source: LSEG Workspace SDC. Data as of 01/10/2025.

Figure 11b: Municipal debt issuance



Source: LSEG Workspace SDC. Data as of 01/10/2025.

The outcome of TCJA initially led to a significant drop in municipal debt issuance during 2018 (lowest since 2014) and a decrease in demand from corporations. Municipal bond funds only collected a net \$8.4 billion during the year, marking the lowest annual net flow since 2013.

Volatility in a non-volatile sector

Then came 2019, which saw historic levels of inflows (+\$102.2 billion). The combination of lower market supply, solid sector outlook, and the cap on SALT deductions increased investor demand for tax-exempt income leading to a record-setting year.

\$150 \$100 \$50 Flows (\$Bn) \$0 -\$50 -\$100 -\$150 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 US National Municipal Debt Funds ■ US Single State Municipal Debt Funds

Figure 12: Municipal debt net flows

Source: LSEG Lipper Global Fund Flows (GFF). Data as of 12/31/2024.

Why the walk down memory lane?

Well, 2025 is setting up to be a pivotal year regarding tax policy with the TCJA scheduled to sunset at the end of this year. Whether these major changes to the tax code get modified, extended, or allowed to expire, the ensuing consequences will be felt across fixed income sectors — likely none more than the municipal bond market.

The odds-on favourite is for most, if not all, the TCJA policies to be extended which will continue to function as amplifier of municipal debt tax benefits for high-net worth investors.

To round out the demand side of my "2025 municipal bond explosion hypothesis", I want to highlight the concept of **tax-equivalent yield (TEY)** — a measure used to compare yields between tax-exempt and taxable investments.

Figure 13 illustrates how the TEY on MUNITEIG would look against other fixed income sectors if you applied the highest federal income rate (37%) — in some cases you would also add in state and local taxes as well. The TEY for MUNITEIG is not at the FTSE High Yield Market index or EMBBI levels, but in terms of total risk as measured by duration times spread (DTS), it offers an extremely compelling option at one-fourth the DTS.

On the supply side, municipal debt issuance, much like corporate credit, fell off in the fourth quarter post-fed easing (Figure 11b). Despite lower volume to end the year, 2024 was a record year for municipal debt issuance. The market is also forecasting a strong 2025 backed by solid reserve balances and continued infrastructure spending.

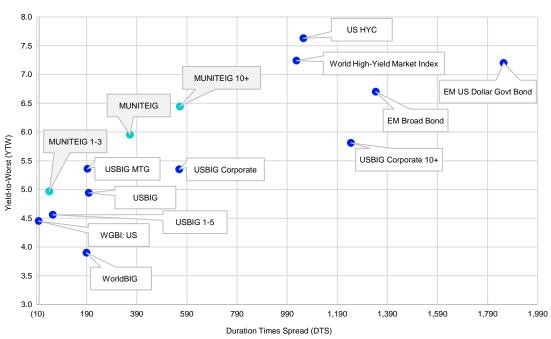


Figure 13: Fixed income sectors: Yield-to-Worst (YTW) vs. Duration Times Spread (DTS)

Source: FTSE Russell Index Module (FIXM). Data as of 12/31/2024.

Fax-Equivalent Yield

TEY is used to evaluate the yield of a tax-exempt investment (i.e. municipal bond) against a taxable investment (i.e. corporate bond). This measure considers the individual investor's tax rate and shows the pre-tax yield that a taxable investment would need to generate to provide the same after-tax return as the tax-exempt investment.

The simple formula is: TEY = (Tax-Exempt Yield) divided by (one minus the investors tax rate). The investor's tax rate can include federal, state, and local taxes where applicable.

Municipal bond fund market overview

Before we get into the market specifics, two other key factors to monitor in the municipal bond market are the increased frequency of significant climate shocks and the deteriorating tax pool caused by outmigration. Both of which present huge risks to the both the national and single-state municipal bond market.

In the fund market, municipal bond funds have historically been contained to the mutual fund wrapper with \$769.9 billion in assets under management (AUM) compared to ETF's \$138.9 billion.

But like the rest of the fund industry, momentum into ETFs started to grow circa 2019 with the Securities Exchange Commission (SEC) adopting what is referred to as the "ETF Rule". This rule shortened the runway to launch products while improving frameworks around operational measures. AUM in muni mutual funds has fallen 5.1% since 2019, while ETF AUM has tripled.

The municipal bond fund space is segmented by the same term buckets as the rest of the sectors we have highlighted (short, short-intermediate, and general). This growing space also includes short high yield, general high yield, and single-state classifications. The single-state distinctions are important because funds within these classifications offer unique advantages to the taxpayers living in those

respective states. Even some single-state classifications have additional breakouts by short and intermediate.

National municipal debt classifications

| Classification | Index | YTW | Eff. Dur | OAS | Quality |
|---------------------------|--|------|-------------|-----|---------|
| General Municipals | FTSE Muni Tax-Exempt Investment Grade (MUNITEIG) | 4.94 | 5.99 | 33 | AA |
| Short Municipals | MUNITEIG 1-3 | 3.13 | 1.61 | 25 | AA+ |
| Short-Interim. Municipals | MUNITEIG 1-5 | 3.17 | 2.35 | 30 | AA |
| Intermediate Municipals | MUNITEIG 5-10 | 3.42 | 4.83 | 48 | AA |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|--|---------------|---------------|---------------|---------------|----------------|---------------------|
| FTSE Muni Tax-Exempt Investment Grade (MUNITEIG) | 0.99 | (0.57) | 1.00 | 1.90 | 2.36 | 5.99 |
| General Municipal Debt Funds Passive | 1.07 | (1.08) | 0.67 | 1.64 | 2.06 | 6.75 |
| General Municipal Debt Funds Active | 2.35 | (0.95) | 0.82 | 1.74 | 2.07 | 6.90 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|--------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| MUNITEIG 1-3 | 2.47 | 1.22 | 1.25 | 1.56 | 1.33 | 1.61 |
| Short Municipals Passive | 2.03 | 1.14 | 0.92 | 1.17 | 0.94 | 2.72 |
| Short Municipals Active | 2.87 | 1.37 | 1.20 | 1.39 | 1.11 | 1.74 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|---------------------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| MUNITEIG 1-5 | 2.05 | 0.72 | 1.08 | 1.56 | 1.47 | 2.35 |
| Short-Intermediate Municipals Passive | 2.15 | 0.72 | 1.09 | 1.42 | 1.19 | 1.58 |
| Short-Intermediate Municipals Active | 2.12 | 0.42 | 1.00 | 1.43 | 1.32 | 3.03 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|---------------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| MUNITEIG 5 - 10 | 0.65 | (0.23) | 0.96 | 1.85 | 2.19 | 4.83 |
| Intermediate Municipals Passive | 1.12 | (1.13) | 0.76 | 1.54 | 1.99 | 4.02 |
| Intermediate Municipals Active | 1.86 | (0.24 | 1.02 | 1.73 | 1.80 | 5.08 |

Source: FTSE Russell Index Module (FIXM) and LSEG Lipper. Data as of 12/31/2024.

Select single state classifications

| Classification | Index | YTW | Eff Dur | OAS | Quality |
|-----------------|---------------------|------|---------|-----|---------|
| California Muni | MUNITEIG California | 3.55 | 6.69 | 35 | AA- |
| New York Muni | MUNITEIG New York | 3.76 | 7.37 | 50 | AA |
| Ohio Muni | MUNITEIG Ohio | 3.76 | 7.06 | 53 | AA |
| New Jersey Muni | MUNITEIG New Jersey | 3.75 | 6.95 | 52 | A+ |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|-------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| MUNITEIG California | 0.78 | (0.47) | 0.96 | 1.85 | 2.36 | 6.69 |
| California Muni Passive | 1.41 | (0.94 | 0.66 | 1.65 | 2.13 | 6.75 |
| California Muni Active | 2.52 | (0.99) | 0.74 | 1.70 | 2.13 | 7.52 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|-----------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| MUNITEIG New York | 0.97% | (0.50) | 0.99 | 1.79 | 2.29 | 7.37 |
| New York Muni Passive | 1.16 | (1.05) | 0.76 | 1.68 | 2.09 | 7.37 |
| New York Muni Active | 1.86 | (1.09) | 0.73 | 1.69 | 2.00 | 7.77 |

| | | AUM (\$Mil) | | Net | Flows (\$M | il) |
|-------------------------|---------|-------------|---------|---------|------------|---------|
| Classifications | Passive | Active | Total | Passive | Active | Total |
| General Municipals | 87,698 | 214,022 | 301,719 | 8,490 | 9,797 | 18,287 |
| Short Municipals | 3,608 | 54,871 | 58,479 | (300) | (1,835) | (2,135) |
| Short-Intermediate Muni | 9,617 | 64,488 | 74,105 | (366) | (1,579) | (1,945) |
| Intermediate Muni | 6,004 | 175,582 | 181,586 | 704 | 7,700 | 8,404 |
| High Yield Muni | 6,239 | 139,286 | 145,525 | 181 | 15,400 | 15,581 |
| Single State Muni | 5,801 | 158,501 | 164,303 | 1,583 | 1,483 | 3,066 |

Source: FTSE Russell Index Module (FIXM) and LSEG Lipper. Data as of 12/31/2024.

ure innovation

Where is the passive suite of single-state municipal bond funds? There are a total of six passive single-state muni ETFs. These six are attracting significant inflows. This space feels poised to grow as ETF adoption grows among institutions and high-net worth individuals.

Target maturity and enhanced yields strategies might fit this sector better than most given the tax-advantages and current yield levels. Also, why not have an industry specific muni? Overall, I am overly excited about this sector... given, of course, the tax-exemption benefit is not discarded by the current administration.

2025 and beyond

The future is bright for fixed income. Investors and capital allocators are increasingly viewing this space as much more than typical "Core" segments. Strategically navigating sectors and/or tactically adding on specific sub-sectors via beta building blocks is becoming more common. We see 2025 as a pivotal year for innovation within the asset class.

The macro-economic landscape, asset class technicals, and the ability to index more granular segments of the fixed income world has led to wider realisation (or re-education) that these segments maintain unique risk/return qualities that can provide opportunities to round out an investor's portfolio.

We are in the early innings of innovation. Whether it is through pricing partnerships, implementation of more outcome-oriented mandates, or revisiting older portfolio strategies through the ETF wrapper, new/differentiated ideas will be coming to the fixed income market. Along with innovative ideas, I anticipate broader adoption of fixed income through ETFs in general.

In the coming year I will be adding onto reports like this with further analysis on securitised, international, emerging-markets, and single-state muni debt. What I would also like to tackle is a deeper dive into the active/passive management spectrum and how that has evolved in fixed income.

APPENDIX: FTSE Fixed Income Index and Lipper classification active/passive returns

| Classification | FTSE Index | Q4 (%) | 1-Year (%) | 3-Year (%) | 5-Year (%) | 10-Year (%) |
|---------------------|--|-----------|---------------|---------------|---------------|----------------|
| Core Bond | FTSE US Broad Investment Grade (USBIG) | (3.08) | 1.27 | (2.47) | (0.33) | 1.36 |
| Treasury | FTSE USBIG Treasury | (3.10) | 0.65 | (2.84) | (0.66) | 0.83 |
| Inflation-Protected | FTSE US Inflation Linked Securities | (2.90) | 1.92 | (2.29) | 1.96 | 2.31 |
| IG Corporate | FTSE USBIG Corporate | (2.93) | 2.30 | (2.12) | 0.46 | 2.49 |
| High Yield | FTSE High Yield Market | 0.23 | 8.49 | 3.11 | 4.19 | 5.03 |
| Mortgages | FTSE USBIG Mortgage | (3.26) | 1.16 | (2.28) | (0.85) | 0.88 |
| Tax-Exempt | FTSE US Municipal Tax-Exempt IG (MUNITEIG) | (1.29) | 0.99 | (0.57) | 1.00 | 2.36 |
| World Income | FTSE World Government BIG (WGBI) | (4.94) | (1.48) | (4.57) | (2.09) | 0.06 |
| Emerging Markets | FTSE Emerging Markets Broad Bond (EMBBI) | (1.76) | 6.55 | (0.62) | 0.58 | 3.31 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|---------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| FTSE USBIG Treasury Index | 0.65 | (2.84) | (0.66) | 0.59 | 0.83 | 5.73 |
| Passive General | (2.82) | (7.27) | (3.35) | (1.02) | (0.17) | 9.31 |
| Active General | (0.22) | (4.13) | (1.28) | (0.05) | 0.31 | 7.25 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| USBIG Treasury 1-3 | 4.44 | 1.71 | 1.52 | 1.88 | 1.61 | 1.75 |
| Passive Short Treasury | 4.64 | 2.65 | 1.80 | 1.93 | 1.48 | 1.39 |
| Active Short Treasury | 4.17 | 1.17 | 1.07 | 1.32 | 1.02 | 1.84 |

Index Insights | Fixed Income

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|--|---------------|---------------|---------------|---------------|----------------|---------------------|
| USBIG Treasury 5-10 | 1.03 | (2.46) | (0.25) | 1.05 | 1.47 | 6.12 |
| Passive Int. Treasury | 1.16 | (2.09) | (0.29) | 0.93 | 1.09 | 5.24 |
| Active Int. Treasury | 0.67 | (2.43) | (0.60) | 0.37 | 0.53 | 5.57 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| FTSE US Inflation Linked Securities | 1.92 | (2.29) | 1.96 | 2.40 | 2.31 | 4.28 |
| Inflation Passive | 3.23 | (0.31) | 2.44 | 2.56 | 2.19 | 4.38 |
| Inflation Active | 2.47 | (1.60) | 1.85 | 2.12 | 1.90 | 5.28 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| FTSE USBIG Corporate | 2.30 | (2.12) | 0.46 | 1.90 | 2.49 | 6.81 |
| Corporate Debt Funds BBB-Rated Passive | 2.78 | (1.41) | 0.66 | 1.90 | 2.30 | 6.27 |
| Corporate Debt Funds BBB-Rated Active | 1.99 | (2.88)) | (0.06) | 1.33 | 1.88 | 7.21 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| FTSE USBIG Corporate 1-3 | 5.35 | 2.48 | 2.26 | 2.58 | 2.30 | 1.76 |
| Short Investment Grade Debt Funds Passive | 4.53 | 1.88 | 1.69 | 1.98 | 1.93 | 2.05 |
| Short Investment Grade Debt Funds Active | 5.28 | 2.14 | 2.06 | 2.26 | 2.01 | 1.95 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| FTSE High Yield Market | 8.49 | 3.11 | 4.19 | 4.61 | 5.03 | 3.35 |
| High Yield Funds Passive | 7.76 | 2.89 | 3.84 | 4.39 | 4.58 | 2.92 |
| High Yield Funds Active | 7.65 | 2.45 | 3.61 | 3.99 | 4.34 | 3.13 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| FTSE High Yield Market 1-3 | 9.77 | 5.95 | 5.46 | 5.35 | 5.73 | 1.62 |
| Short High Yield Funds Passive | 8.22 | 4.60 | 4.67 | 4.81 | 4.56 | 2.38 |
| Short High Yield Funds Active | 7.30 | 3.87 | 3.78 | 3.80 | 3.73 | 1.75 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| FTSE USBIG Corporate 1-5 | 5.05 | 1.77 | 2.08 | 2.59 | 2.47 | 2.53 |
| Short-Intermediate Investment Grade Debt Funds Passive | 4.64 | 1.44 | 1.70 | 2.22 | 2.25 | 2.55 |
| Short-Intermediate Investment Grade Debt Funds Active | 4.51 | 1.02 | 1.53 | 1.89 | 1.75 | 2.63 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|--|---------------|---------------|---------------|---------------|----------------|---------------------|
| FTSE High Yield Market | 8.49 | 3.11 | 4.19 | 4.61 | 5.03 | 3.35 |
| High Yield Funds Passive | 7.76 | 2.89 | 3.84 | 4.39 | 4.58 | 2.92 |
| High Yield Funds Active | 7.65 | 2.45 | 3.61 | 3.99 | 4.34 | 3.13 |
| | 1-Year | 3-Year | 5-Year | 7-Year | 10-Year | Average |
| Name | (%) | (%) | (%) | (%) | (%) | Eff. Dur |
| FTSE High Yield Market 1-3 | 9.77 | 5.95 | 5.46 | 5.35 | 5.73 | 1.62 |
| Short High Yield Funds Passive | 8.22 | 4.60 | 4.67 | 4.81 | 4.56 | 2.38 |
| Short High Yield Funds Active | 7.30 | 3.87 | 3.78 | 3.80 | 3.73 | 1.75 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| Corporate Debt Funds A Rated Passive | (3.03 | (7.82) | (2.60) | (0.04) | 1.22 | 12.80 |
| Corporate Debt Funds A Rated Active | 1.55 | (2.91) | (0.04) | 1.37 | 1.90 | 6.60 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| FTSE US Broad Investment Grade (USBIG) | 1.27 | (2.47) | (0.33) | 0.97 | 1.36 | 5.99 |
| Core Bond Passive Mutual Funds | 1.29 | (2.49) | (0.40) | 0.89 | 1.26 | 5.75 |
| Core Bond Active Mutual Funds | 1.83 | (2.32) | (0.06) | 1.05 | 1.39 | 6.09 |
| Core Bond Passive ETFs | 2.06 | (2.07) | (0.07) | 1.26 | 1.54 | 5.73 |
| Core Bond Active ETFs | 2.01 | (2.09) | 0.17 | 1.53 | 2.20 | 6.21 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| FTSE Muni Tax-Exempt Investment Grade (MUNITEIG) | 0.99 | (0.57) | 1.00 | 1.90 | 2.36 | 5.99 |
| General Municipal Debt Funds Passive | 1.07 | (1.08) | 0.67 | 1.64 | 2.06 | 6.75 |
| General Municipal Debt Funds Active | 2.35 | (0.95) | 0.82 | 1.74 | 2.07 | 6.90 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| MUNITEIG 1-3 | 2.47 | 1.22 | 1.25 | 1.56 | 1.33 | 1.61 |
| Short Municipals Passive | 2.03 | 1.14 | 0.92 | 1.17 | 0.94 | 2.72 |
| Short Municipals Active | 2.87 | 1.37 | 1.20 | 1.39 | 1.11 | 1.74 |
| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
| MUNITEIG 1-5 | 2.05 | 0.72 | 1.08 | 1.56 | 1.47 | 2.35 |
| Short-Intermediate Municipals Passive | 2.15 | 0.72 | 1.09 | 1.42 | 1.19 | 1.58 |
| Short-Intermediate Municipals Active | 2.12 | 0.42 | 1.00 | 1.43 | 1.32 | 3.03 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|---------------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| MUNITEIG 5 – 10 | 0.65 | (0.23) | 0.96 | 1.85 | 2.19 | 4.83 |
| Intermediate Municipals Passive | 1.12 | (1.13) | 0.76 | 1.54 | 1.99 | 4.02 |
| Intermediate Municipals Active | 1.86 | (0.24 | 1.02 | 1.73 | 1.80 | 5.08 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|-------------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| MUNITEIG California | 0.78 | (0.47) | 0.96 | 1.85 | 2.36 | 6.69 |
| California Muni Passive | 1.41 | (0.94 | 0.66 | 1.65 | 2.13 | 6.75 |
| California Muni Active | 2.52 | (0.99) | 0.74 | 1.70 | 2.13 | 7.52 |

| Name | 1-Year (%) | 3-Year (%) | 5-Year (%) | 7-Year (%) | 10-Year (%) | Average Eff. Dur |
|-----------------------|---------------|---------------|---------------|---------------|----------------|---------------------|
| MUNITEIG New York | 0.97% | (0.50) | 0.99 | 1.79 | 2.29 | 7.37 |
| New York Muni Passive | 1.16 | (1.05) | 0.76 | 1.68 | 2.09 | 7.37 |
| New York Muni Active | 1.86 | (1.09) | 0.73 | 1.69 | 2.00 | 7.77 |

Source: FTSE Russell Index Module (FIXM) and LSEG Lipper. Data as of 12/31/2024. Active/Passive classification returns represent simple averages of US domiciled conventional mutual funds and ETFs.

APPENDIX: FTSE Fixed Income index risk characteristics as of 12/31/2024

Broad-based fixed income sectors

| Classification | Index | YTW | Eff Dur | OAS | Quality |
|------------------------------|--|------|---------|--------|---------|
| Core Bond Fund | FTSE US Broad Investment-Grade (USBIG) | 4.94 | 5.99 | 33 | AA |
| General Treasury / Govt | FTSE USBIG Treasury | 4.45 | 5.73 | (0.32) | AA+ |
| Corp Debt Funds BBB-Rated | FTSE USBIG Corporate | 5.35 | 6.81 | 82 | A- |
| High Yield Funds | FTSE High Yield Market | 7.40 | 3.26 | 288 | B+ |
| Mortgages | FTSE USBIG Mortgage | 5.36 | 5.66 | 34 | AA+ |
| General Municipals | FTSE Muni Tax-Exempt IG (MUNITEIG) | 4.94 | 5.99 | 33 | AA |
| California Muni | MUNITEIG California | 3.55 | 6.69 | 35 | AA- |
| New York Muni | MUNITEIG New York | 3.76 | 7.37 | 50. | AA |
| World Income | FTSE World Government BIG (WGBI) | 3.36 | 6.95 | 6 | AA |
| Emerging Markets | FTSE Emerging Markets Broad Bond (EMBBI) | 6.63 | 6.13 | 214 | BBB |

Fixed income sub-sectors

| Classification | Index | YTW | Eff Dur | OAS | Quality |
|-------------------------------------|--|------|---------|--------|---------|
| General Treasury/Govt | FTSE USBIG Treasury | 4.45 | 5.73 | (0.32) | AA+ |
| Short Treasury/Govt | USBIG Treasury 1-3 | 4.25 | 1.75 | (0.71) | AA+ |
| Short-Intermediate Treasury/Govt | USBIG Treasury 1-5 | 2.50 | 1.75 | (0.71) | AA+ |
| Intermediate Treasury/Govt | USBIG Treasury 5-10 | 4.48 | 6.12 | (0.09) | AA+ |
| Inflation Protected Bond | FTSE US Inflation Linked | 4.52 | 4.28 | 6.14 | AA+ |
| Classification | Index | YTW | Eff Dur | OAS | Quality |
| Corp Debt Funds A-Rated | Custom FTSE USBIG Corp A, AA, AAA | 5.18 | 7.17 | 64 | А |
| Corp Debt Funds BBB-Rated | FTSE USBIG Corporate | 5.35 | 6.81 | 82 | A- |
| Short Investment Grade Debt | FTSE USBIG Corporate 1-3 | 4.83 | 1.76 | 54 | A- |
| Short-Intermediate IG Debt | FTSE USBIG Corporate 1-5 | 4.94 | 2.53 | 63 | A- |
| High Yield Funds | FTSE High Yield Market | 7.40 | 3.26 | 288 | B+ |
| Short High Yield Funds | FTSE High Yield Market 1-3 | 7.53 | 1.54 | 315 | B+ |
| Classification | Index | YTW | Eff Dur | OAS | Quality |
| General Municipals | FTSE Muni Tax-Exempt Investment Grade (MUNITEIG) | 4.94 | 5.99 | 33 | AA |
| Short Municipals | MUNITEIG 1-3 | 3.13 | 1.61 | 25 | AA+ |
| Short-Interim. Muni | MUNITEIG 1-5 | 3.17 | 2.35 | 30 | AA |
| Intermediate Muni | MUNITEIG 5-10 | 3.42 | 4.83 | 48 | AA |
| Classification | Index | YTW | Eff Dur | OAS | Quality |
| 0.114 | | | | | |

California Muni MUNITEIG California 3.55 6.69 35 AA-New York Muni MUNITEIG New York 3.76 7.37 50 AAOhio Muni MUNITEIG Ohio 3.76 7.06 53 AA 3.75 New Jersey Muni MUNITEIG New Jersey 6.95 52 A+

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