



October 2024

Observations in Fixed Income

TP965



Observations in the Macro Landscape

Risky Asset
Valuations

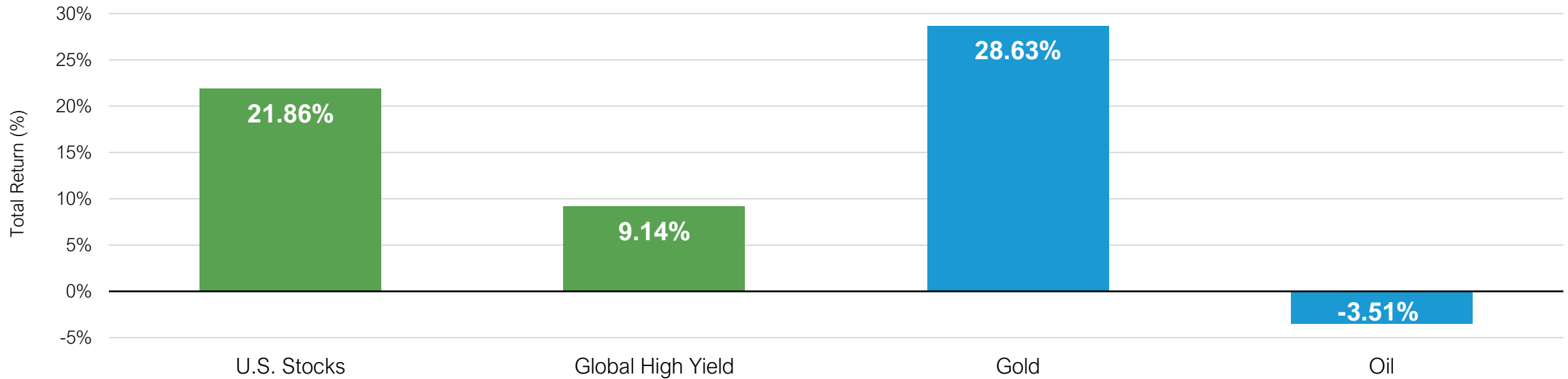
Monetary
Policy

State of the
Consumer

Risky Asset Markets Interpreting the Macro Picture Very Differently

Equities and credit are more sanguine, while commodities less so

2024 YTD MARKET RETURNS (%)



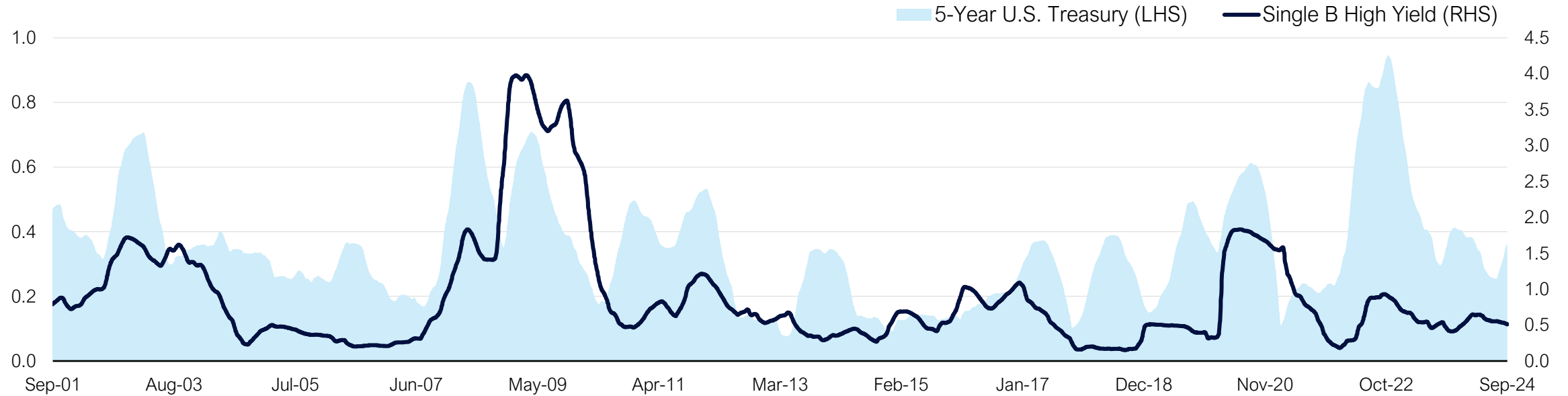
Past performance does not guarantee future results.

Source: Bloomberg, as of 30 September 2024

Rate Volatility Significantly Higher than Spread Volatility

Gap reveals complacency in pricing of credit spreads

ROLLING 1-YEAR STANDARD DEVIATION: RATE VOLATILITY VS. SPREAD VOLATILITY



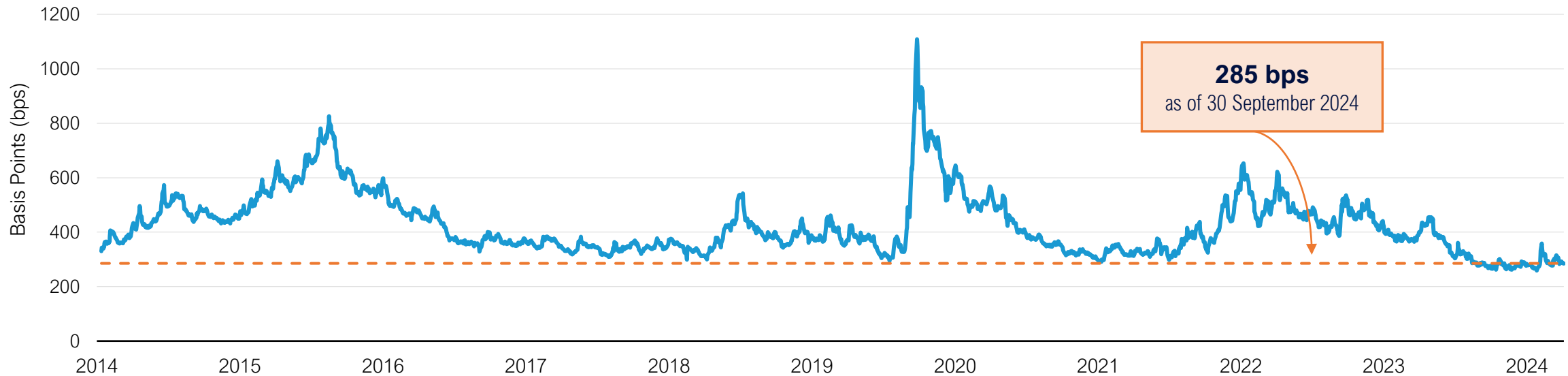
Past performance does not guarantee future results.

Source: Bloomberg, as of 30 September 2024

Risky Fixed Income Sector Spreads Are Tight Versus History

High yield corporate spreads are at levels that price in too much optimism

SINGLE-B U.S. HIGH YIELD OPTION ADJUSTED SPREAD (OAS)



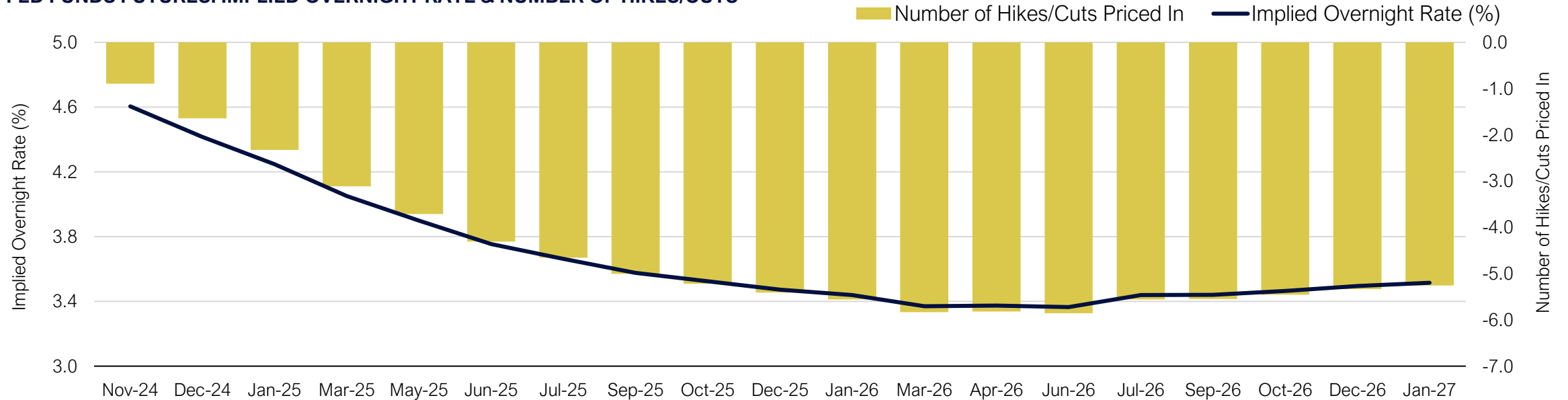
Past performance does not guarantee future results.

Source: Bloomberg, as of 30 September 2024

Markets Are Pricing in Cuts – But What Does This Mean?

Implied number of cuts infers a soft-landing scenario

FED FUNDS FUTURES: IMPLIED OVERNIGHT RATE & NUMBER OF HIKES/CUTS



Source: Bloomberg, as of 23 October 2024

Achieving a Soft Landing Is...Hard

It must be a combination of no shock, no financial bubble, and “good politics”

HIKING CYCLES

FED CHAIR	END OF HIKING CYCLE
Burns	July 1974
Burns/Miller/Volcker	April 1980
Volcker	January 1981
Volcker	August 1984
Greenspan	April 1989
Greenspan	April 1995
Greenspan	July 2000
Greenspan/Bernanke	June 2006
Yellen/Powell	December 2018

GDP IMPACT

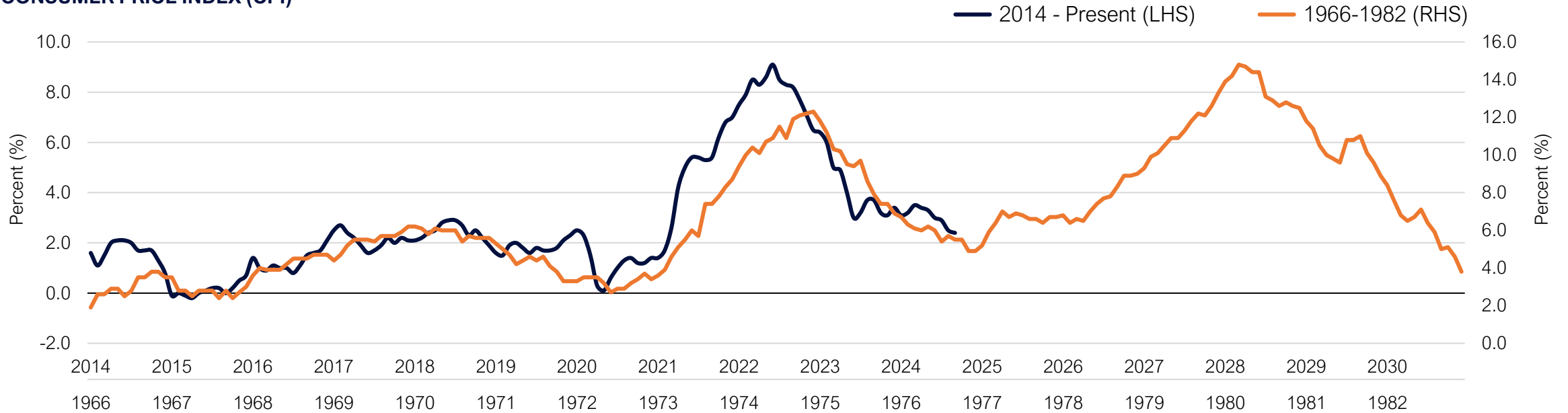
DID RECESSION OCCUR?	REAL GDP	LESSON
YES	-2.7%	Inflationary Politics Shock
YES	-2.2%	Inflationary Politics
YES	-2.1%	Inflationary Politics
NO	Positive	No Shock No Financial Bubble Good Politics
YES	-1.4%	Shock
NO	Positive	No Shock No Financial Bubble Good Politics
YES	-0.1%	Financial Bubble
YES	-3.8%	Financial Bubble
YES	-10.1%	Shock

Source: Bloomberg and Thornburg, as of 30 September 2024

History Shows the Inflation Fight May Be Far from Over

In the 1970s, inflation rose again despite initial success

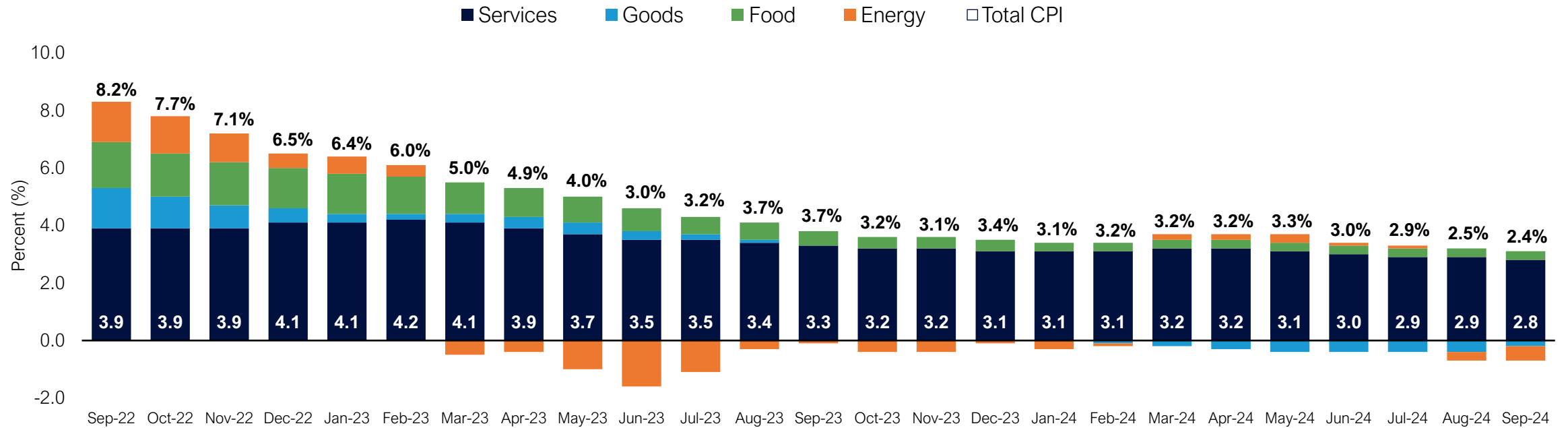
CONSUMER PRICE INDEX (CPI)



Bloomberg, as of 30 September 2024

Services Inflation Remains Sticky Despite Previous Fed Action

A weaker labor market is needed to achieve the Fed's price stability goals

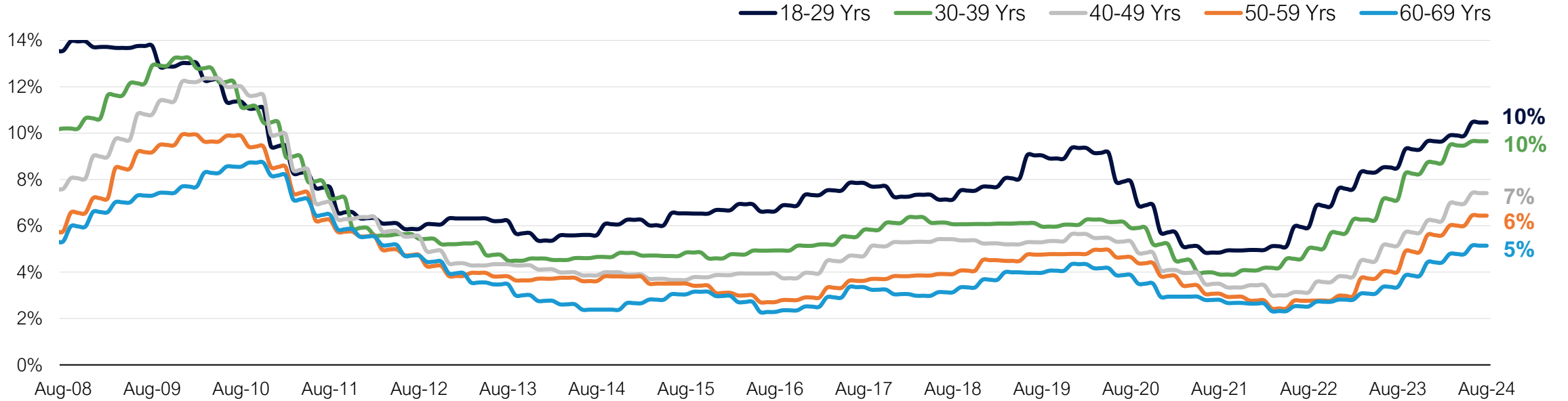


Source: Bloomberg, as of 30 September 2024
Data represents U.S. Consumer Price Index.

Rising Consumer Delinquencies Are Gradual but Shows No Abatement

Delinquencies now at levels last seen in 2011-2012

U.S. CREDIT CARD DELINQUENCIES (90+ DAYS) BY AGE GROUP



Source: Bloomberg, as of 31 August 2024
Data represents U.S. Credit Card Quality Index.

Observations in Global Fixed Income

Continuum of Global
Investment Opportunities

Fundamentals
& Valuations

Market
Dynamics

Continuum of Global Investment Opportunities

We see various investment opportunities in the current market to achieve attractive levels of income and total return

SECTOR	CURRENT VIEW	CURRENT OUTLOOK
Treasuries/TIPS	+	We are opportunistic around duration positioning given continued interest rate volatility, having modestly trimmed since spring, but added back slightly early in Q4. With inflation still above the Fed's goal, realized cuts over the next year may be more modest than expected.
Investment Grade (IG) Corporates	○	The technical backdrop is solid, but tight IG spreads still warrant caution. We continue to be highly selective with a focus on more defensive, less cyclical issuers. With a solid IG new issuance calendar this fall, we prefer to add where pricing concessions provide better opportunities to exploit relative value on a security level.
High Yield (HY) Corporates	-	The sector continues to have good overall yield and protection to wider spreads. Risk/reward is skewed to the downside as spreads price in optimistic growth and default scenarios. High yield spreads are at levels that historically have indicated a limited ability to rally much further versus their ability to widen.
Bank Loans	-	Floating rates remain relatively high and continue to put pressure on over-levered and weak businesses, causing default rates to trend modestly higher. Additionally, waves of re-pricings are eroding spread from the asset class, increasing downside risk.
Agency MBS	+	Low coupon MBS dollar prices remain discounted, and although they appear closer to fair value, are interesting on a relative value basis versus IG corporates. We have added a bit to Agency CMOs, which have relatively wide spreads versus corporates and remain cheap as bank buyers have yet to step back in.
ABS	○	Cautious on the consumer, particularly subprime, with delinquencies continuing their steady rise, though ABS senior bonds with shorter weighted average lives are well protected, pay down principal faster than junior tranches, and have good front end yield.
CMBS	○	Although not a large representation in portfolios, there have been select opportunities in single asset single borrower (SASB) deals backed by high quality office properties with robust occupancy and in attractive locations within metropolitan areas.
CMOs (Non-Agency)	+	Backdrop for housing remains strong, with low LTVs and demand exceeding supply. Continue to fundamentally like Non-QM, though valuations are fair in our view. The reperforming (RPL) loan space looks appealing, with discounted dollar prices, low LTVs, and a high percentage of borrowers paying on their mortgage loans.
Emerging Markets	○	We are neutral on EM spread risk, given pockets of widening in both IG and HY rated areas on the back of U.S. rate volatility and Fed policy path uncertainty. Focus continues to be on countries with attractive real rates, falling inflation, and currency appreciation. Hard currency quasi-sovereigns remain a favored space within the broad universe, and we have made small adds to local currency EM.

CURRENT VIEW KEY

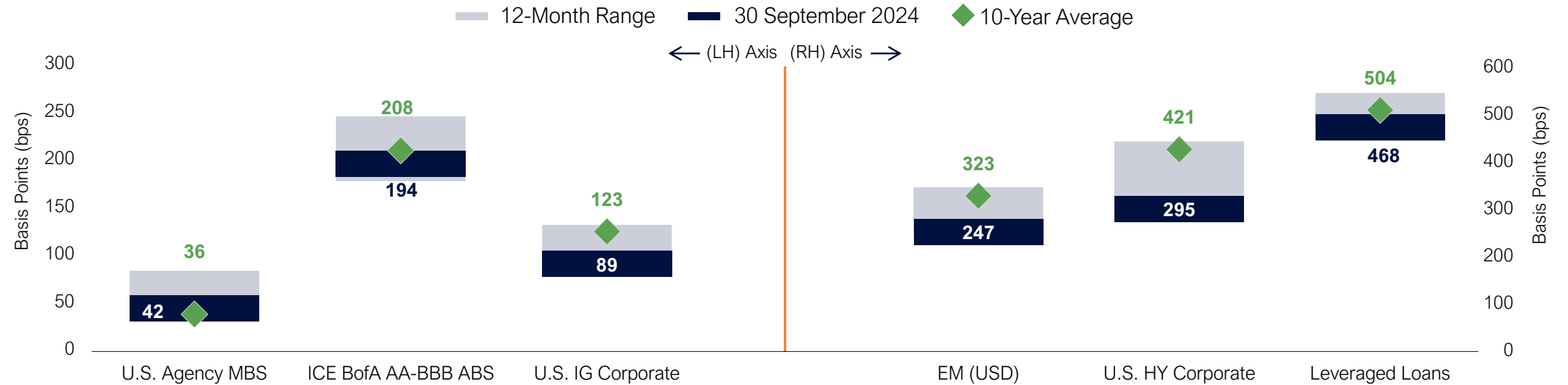
+ Positive ○ Neutral - Negative

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Spread Levels in Credit Tight versus Underlying Risks

We will add risk opportunistically should spread levels widen

OPTION ADJUSTED SPREADS FOR SUB-INDEXES



Past performance does not guarantee future results.

Source: Bloomberg, as of 30 September 2024

The Importance of Flexibility in Managing Portfolios Is Increasing

Market sell-offs and recoveries have accelerated in the post-global financial crisis era

HIGH YIELD INDEX OAS – LENGTH OF SELLOFFS (TIME PERIOD WHERE SPREAD > 600 BPS)



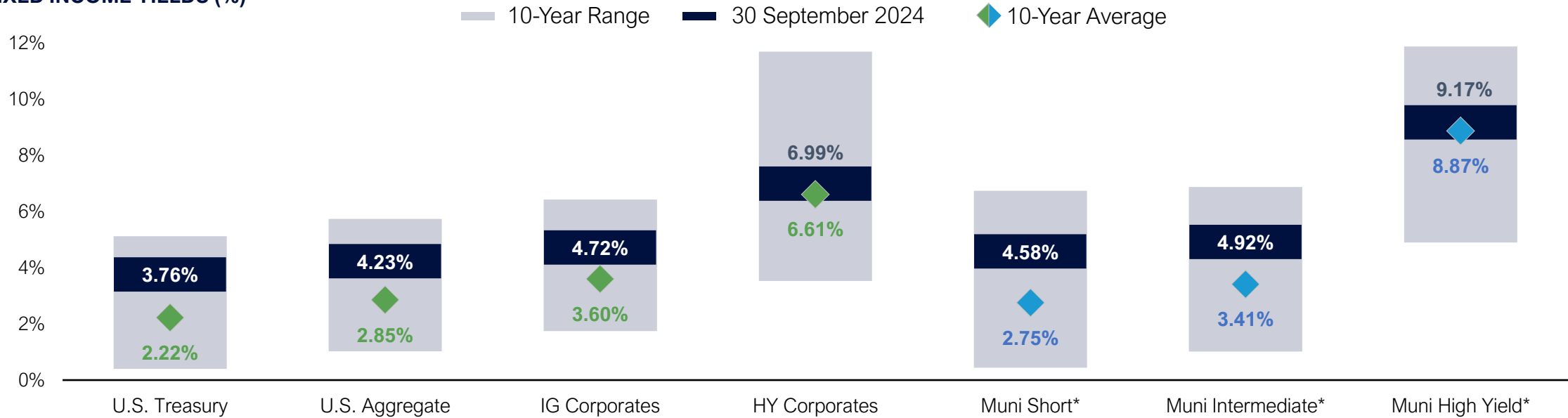
Past performance does not guarantee future results.

Source: Bloomberg, as of 30 September 2024

Higher Yields Provide Optimism for Fixed Income Market Returns Going Forward

Yields across fixed income are consistently above long-term averages

FIXED INCOME YIELDS (%)



Past performance does not guarantee future results.

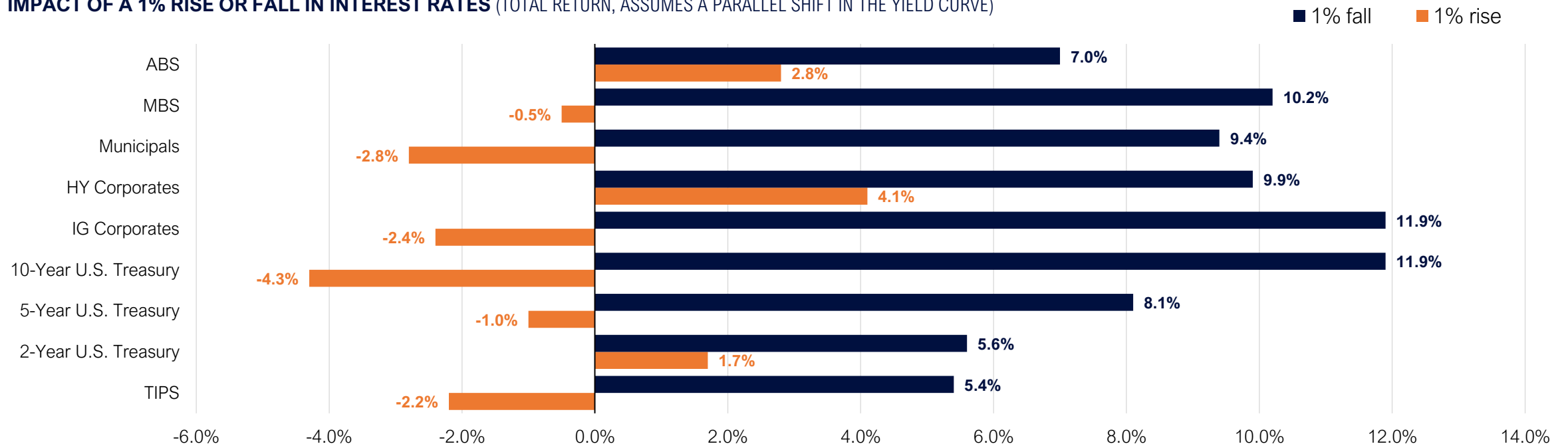
Source: Bloomberg, as of 30 September 2024

*Municipal yields are tax adjusted. Assumes top marginal Federal bracket of 37% and Medicare surcharge of 3.8%.

Fixed Income Total Return Potential Is Skewed to the Upside

Higher coupons help protect against rising rates while providing tailwind for rate rallies

IMPACT OF A 1% RISE OR FALL IN INTEREST RATES (TOTAL RETURN, ASSUMES A PARALLEL SHIFT IN THE YIELD CURVE)



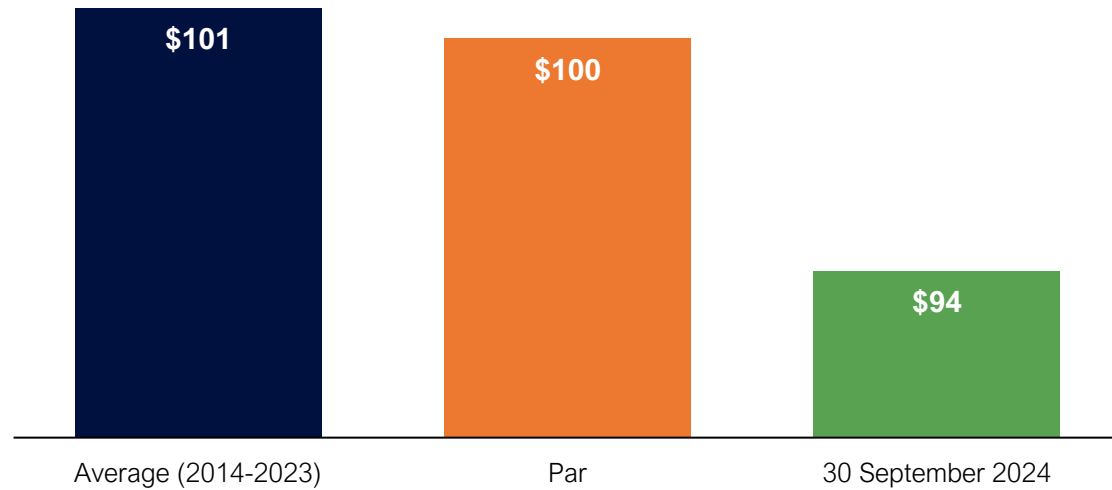
Past performance does not guarantee future results.

Source: JPMorgan Asset Management, as of 30 September 2024

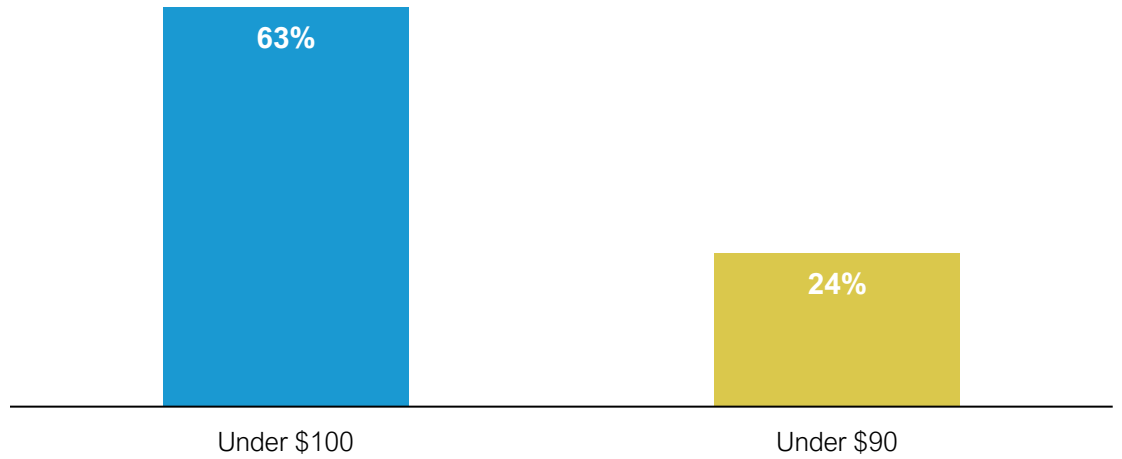
Today's Rate Environment Leaves the Fixed Income Market Priced at a Discount

Return generation will be driven not only by income but the 'pull-to-par'

U.S. BOND MARKET AVERAGE DOLLAR PRICE



PERCENT OF U.S. BOND MARKET TRADING AT A DISCOUNT



Bloomberg, as of 30 September 2024
U.S. Bond Market represented by the Bloomberg U.S. Universal Index

Fixed Income or Cash? Advantage Fixed Income

Fixed income historically outperforms cash after the Fed cuts rates

INVESTED AT BEGINNING OF CUTS - SUBSEQUENT 2-YEAR RETURN

PERIOD	FED HIKING CYCLE	END OF CYCLE/ FIRST CUT
1994-1995	3.00% - 6.00%	1 Feb 1995/ 6 Jul 1995
1999-2000	5.00% - 6.50%	16 May 2000/ 3 Jan 2001
2004-2006	1.00% - 5.25%	29 Jun 2006/ 18 Sep 2007
2015-2018	0.25% - 2.50%	20 Dec 2018/ 31 Jul 2019

U.S. TREASURY BILL	U.S. IG CORPORATES	U.S. HY CORPORATES	U.S. MUNICIPALS
5.75%	6.93%	11.75%	7.43%
3.06%	9.47%	1.88%	6.95%
1.94%	6.34%	4.33%	5.62%
0.80%	6.79%	7.33%	4.32%

Past performance does not guarantee future results.

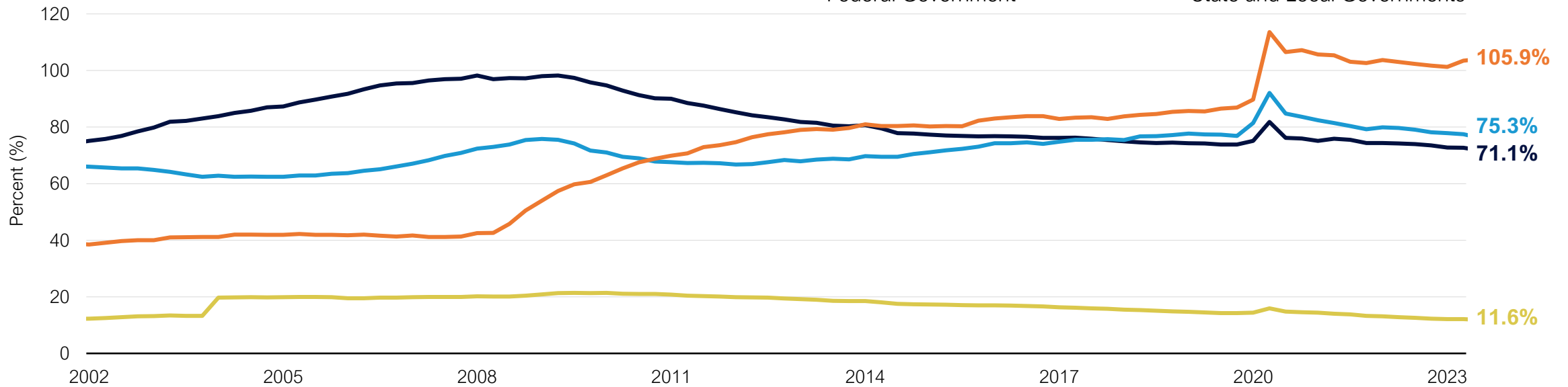
Source: Bloomberg

Not All Balance Sheets Are Created Equal

Investing at its core is about choosing good balance sheet exposure and avoiding the bad ones

% OF DEBT TO GROSS DOMESTIC PRODUCT (GDP)

- Households and Nonprofits
- Federal Government
- Nonfinancial Business
- State and Local Governments



Source: Bloomberg, St Louis Fed, Trading Economics, as of 31 March 2024 (latest data available)

Observations in Municipal Fixed Income

Municipal
Credit Outlook

Fundamentals
& Valuations

Market
Dynamics

Municipal Credit Outlooks Remain Stable for Most Sectors

U.S. public finance sector views for 2H 2024

SECTOR	CURRENT VIEW
Charter Schools	O
Health Care	-
Higher Education - Public	O
Higher Education - Private	-
Housing	O

SECTOR	CURRENT VIEW
Local Governments	O
State Governments	O
Mass Transit	-
Public Power	+
Transportation	+
Water & Sewer	+

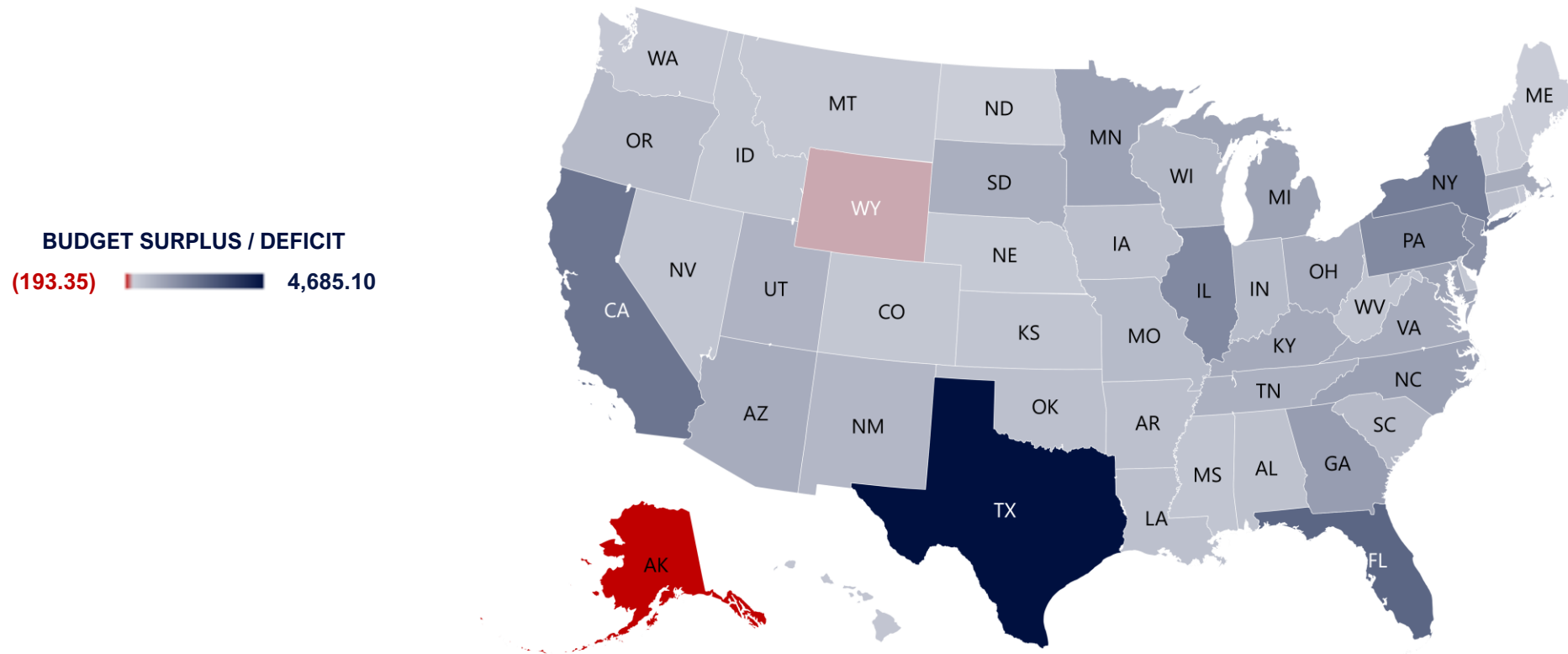
CURRENT VIEW KEY

+ Positive	O Neutral	- Negative
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State Revenues Exceeded Expenses for Most Recent Fiscal Year

Recent filings suggest that revenues peaked in 2022 or 2023 and are trending down

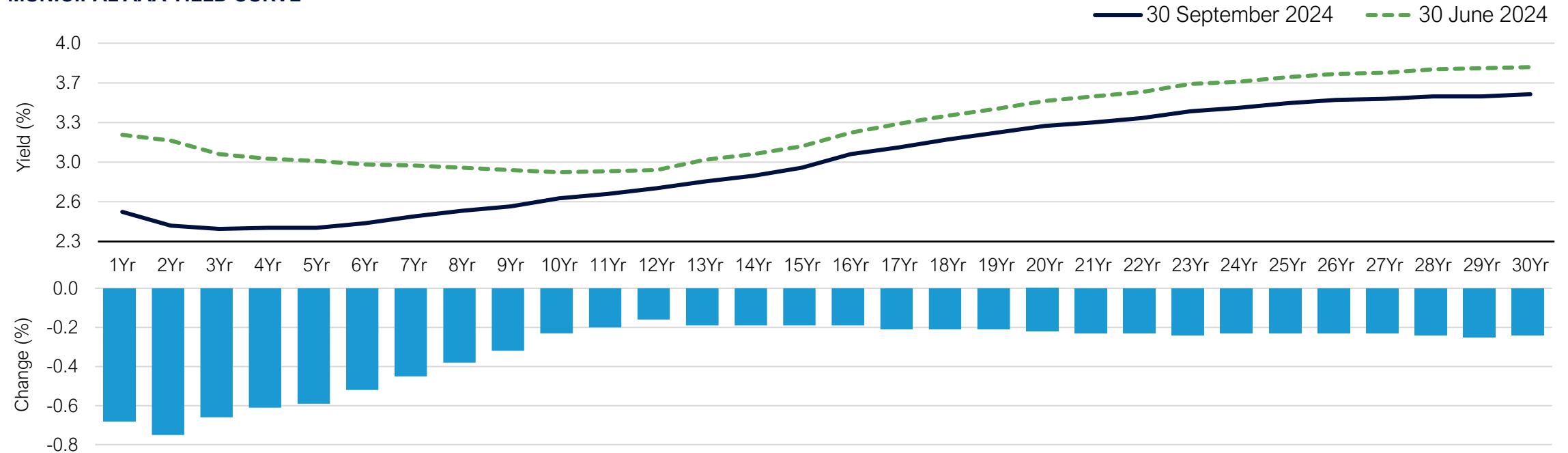


Source: Bloomberg, Municipal Issuer Fundamental Analysis
As of fiscal year end 2022 & 2023 (most recently available)

Municipal Yields Fell During the Quarter, Driven by Fed Rate Cut

The decline was part of a 100bps move down from the highs set in October 2023

MUNICIPAL AAA YIELD CURVE



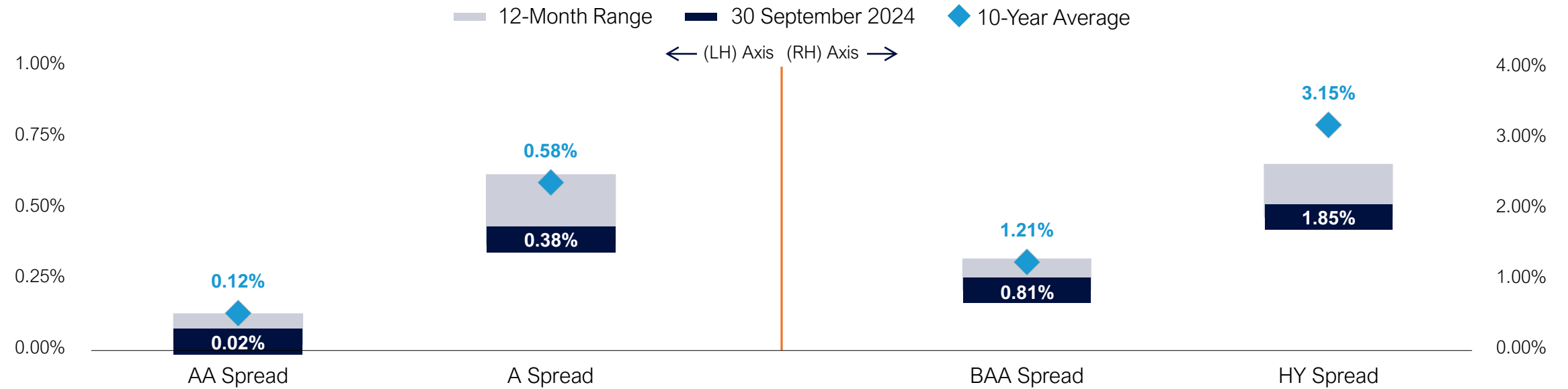
Past performance does not guarantee future results.

Source: Bloomberg

Spreads near Bottom of 12-Month Range and Well Below 10-Year Averages

Investment grade looks fairly priced compared to long-term averages

CREDIT SPREADS BY QUALITY



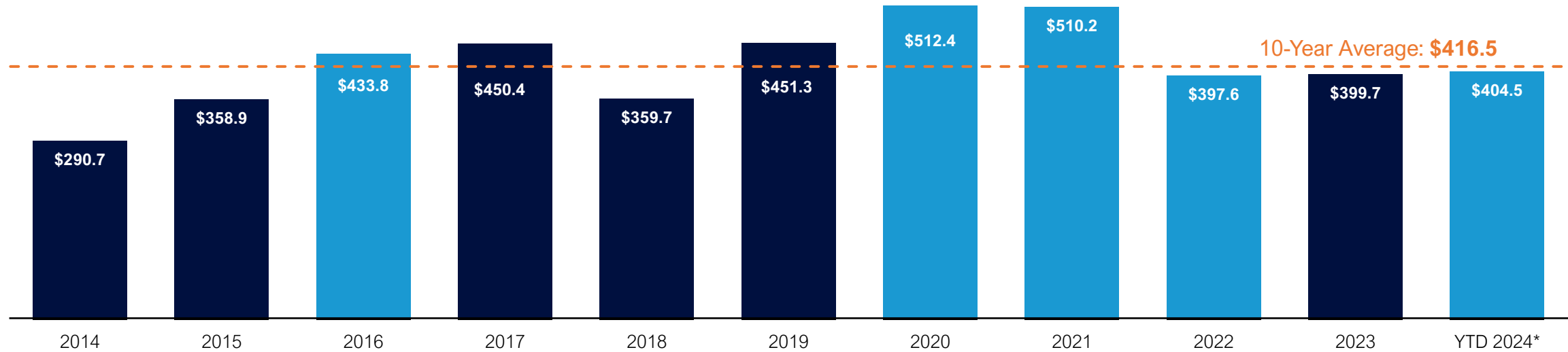
Past performance does not guarantee future results.

Source: Bloomberg, as of 30 September 2024

New Issuance Is on Pace for Best Year in a Decade

Despite a glut of supply, market demand has been insatiable and kept yields in check

NEW MUNICIPAL ISSUANCE (\$ BILLIONS)

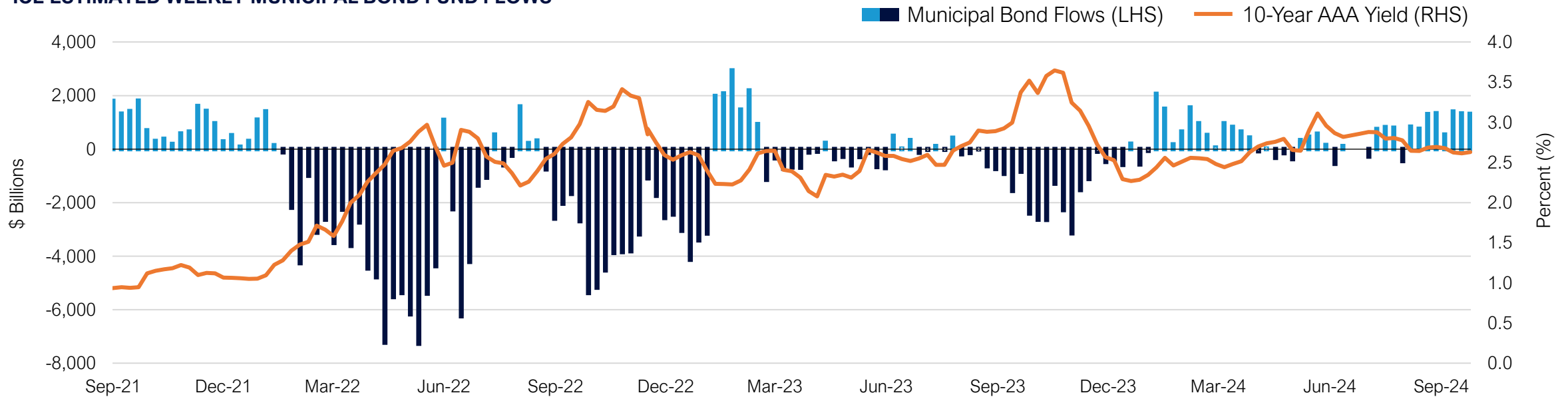


Source: MSRB, EMMA
*As of 30 September 2024

Mutual Fund Investors Chase Price Returns and Not Yield

Only yield on Munis are tax-exempt, making it more valuable than price appreciation, which is taxable

ICE ESTIMATED WEEKLY MUNICIPAL BOND FUND FLOWS



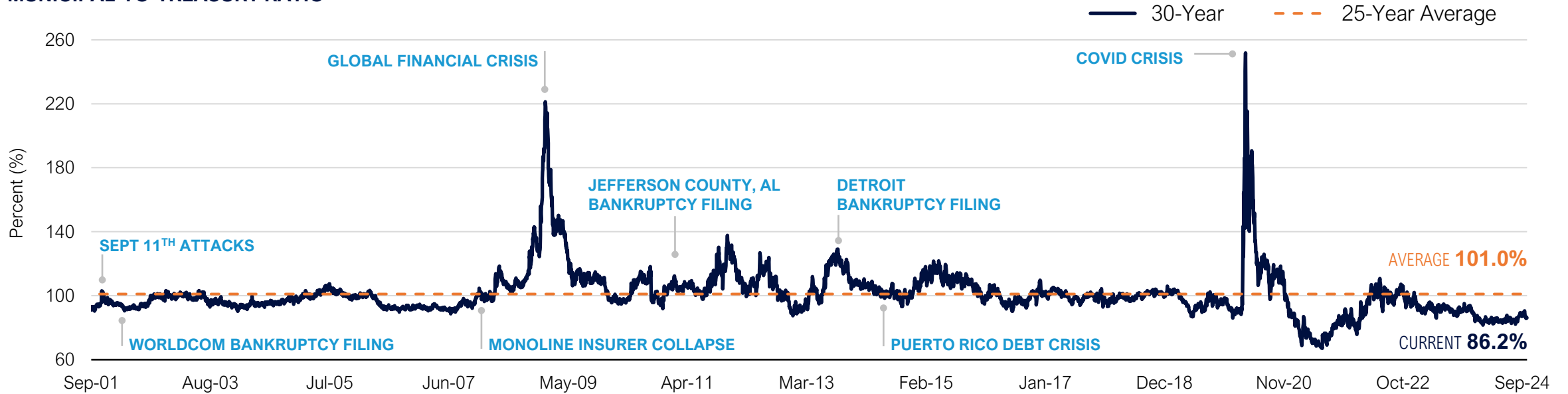
Source: ICI, Bloomberg

ICI Municipal Bond Estimated Weekly Net New Cash Flows. Estimated long-term mutual fund weekly cash flows in millions of dollars over a week. Weekly cash flows are estimates that are adjusted to represent industry totals, based on reporting covering 95% of industry assets.

Historical Events Impact on Municipal-to-Treasury Ratios

The ratio for 30-year maturities has remained in a tight range over the last 25 years

MUNICIPAL-TO-TREASURY RATIO



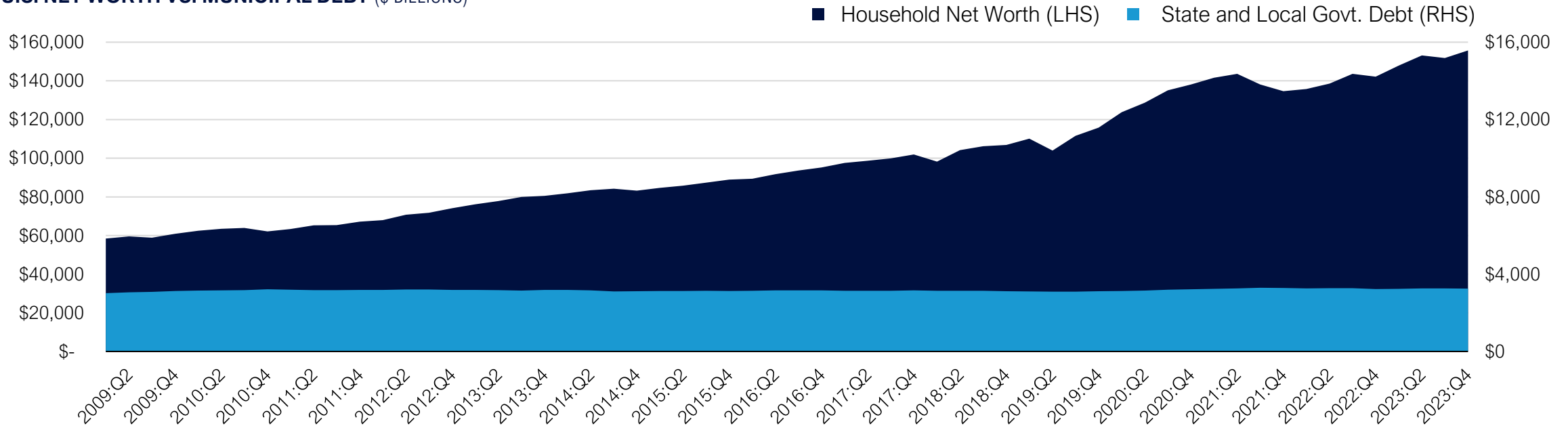
Past performance does not guarantee future results.

Source: Bloomberg, as of 30 September 2024

Household Net Worth Has Tripled While Municipal Market Has Not Grown

More dollars chasing a stagnant amount of bonds could be to blame for below average Muni-to-Treasury ratios

U.S. NET WORTH VS. MUNICIPAL DEBT (\$ BILLIONS)

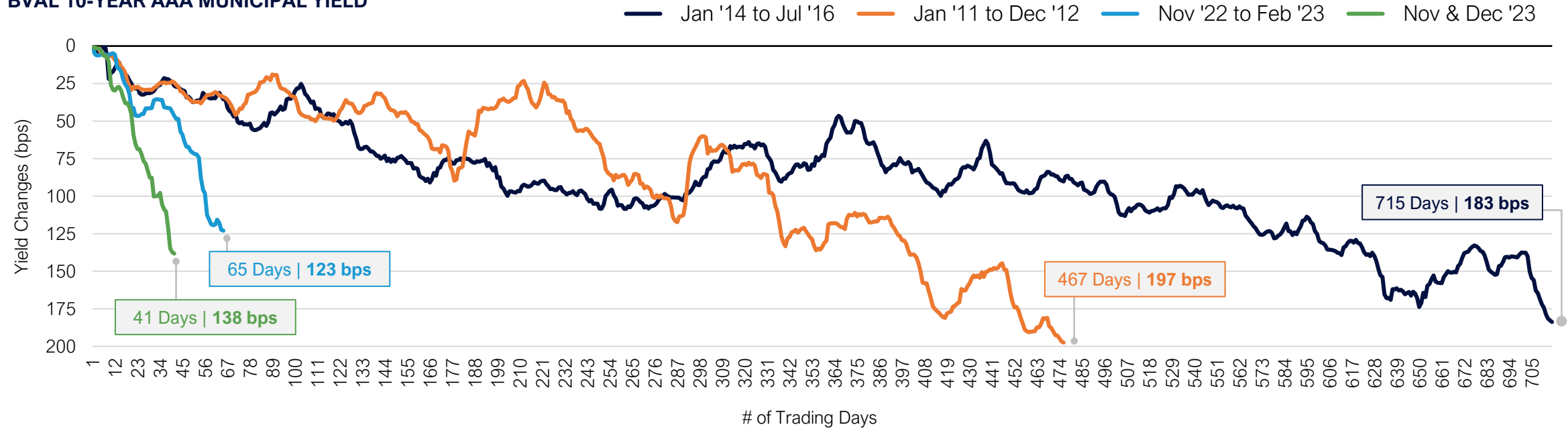


Source: Federal Reserve Bank of St. Louis, Economic Research Division, as of 31 December 2023

The Speed of the Municipal Market Unlike Anytime in the Past

Prices rallies and corresponding yield declines take weeks and not months or years

BVAL 10-YEAR AAA MUNICIPAL YIELD



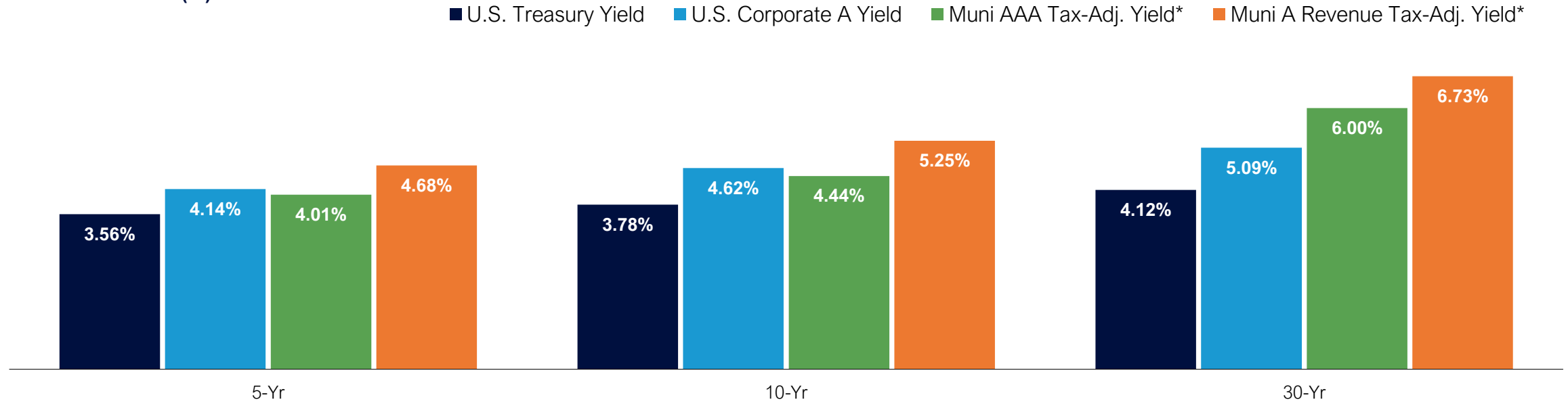
Past performance does not guarantee future results.

Source: Bloomberg, BVAL

Municipal Yields Held Up Well After Fed Rate Cut

Investors interested in locking in attractive yields should look to longer dated municipal bonds

RELATIVE YIELDS (%)



Past performance does not guarantee future results.

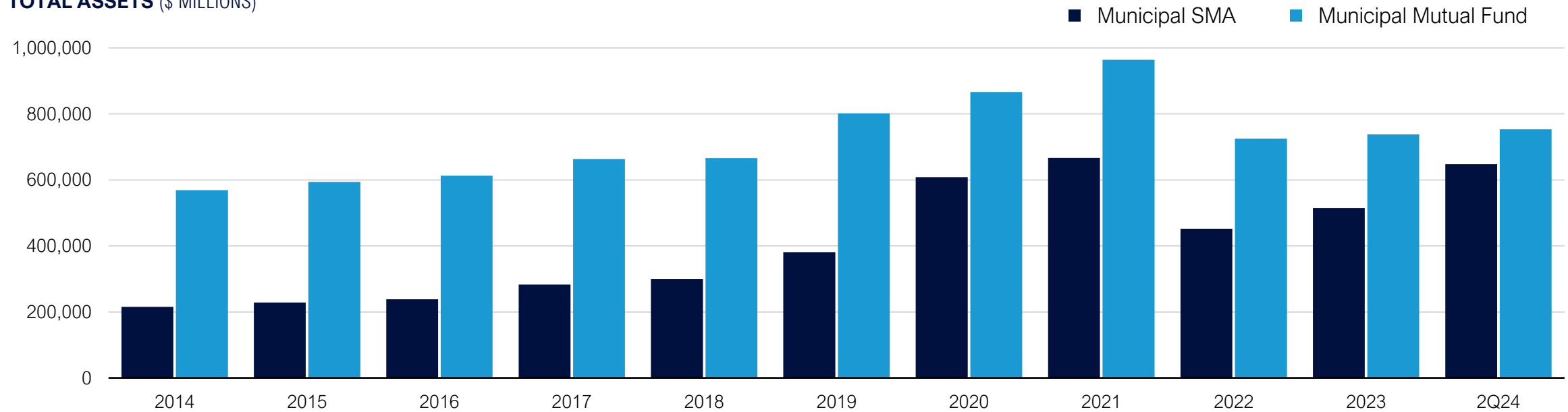
Source: Bloomberg, as of 30 September 2024

*Top Federal marginal rate of 37% plus 3.8% Medicare surcharge.

Growth of SMAs Has Pushed Assets Within Reach of Mutual Funds

SMAs and Mutual Funds have unique benefits and should not be viewed as mutually exclusive

TOTAL ASSETS (\$ MILLIONS)

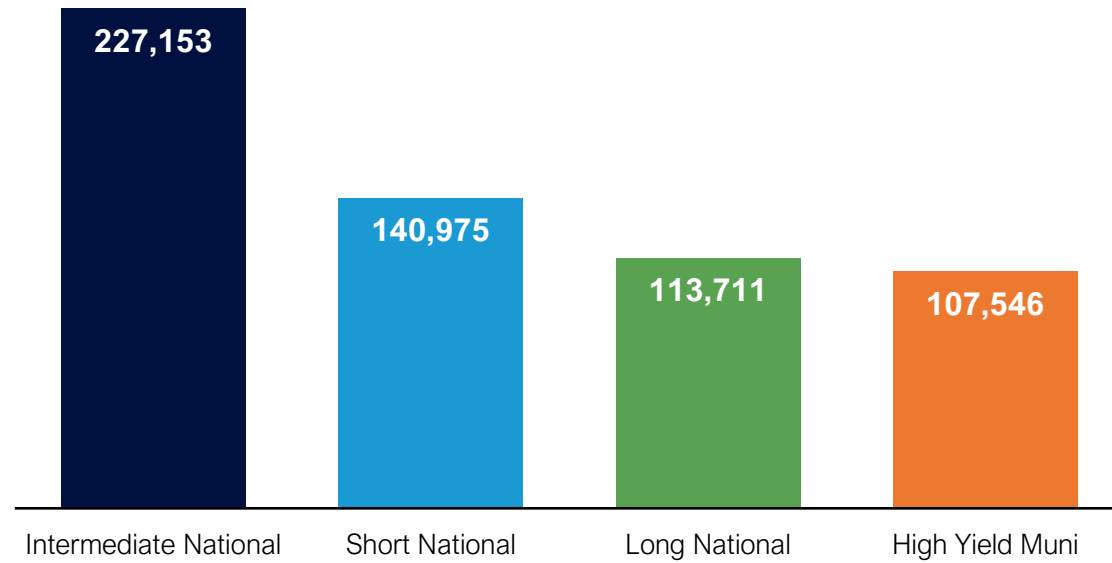


Source: Morningstar

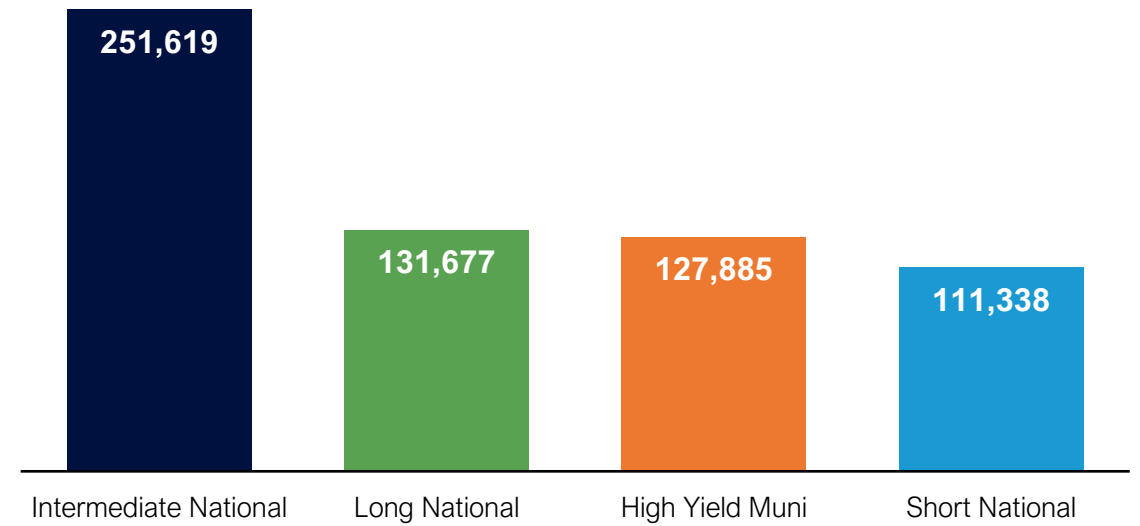
Municipal Mutual Fund Investors Have Favored Duration and Credit

Inflows have driven returns in High Yield Municipal, but a slowing economy may create challenges moving forward

MORNINGSTAR CATEGORY ASSETS: 3Q 2022 (\$ MILLIONS)



MORNINGSTAR CATEGORY ASSETS: 3Q 2024 (\$ MILLIONS)



Source: Morningstar

Appendix

Important Information



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Investments carry risks, including possible loss of principal.

The performance data quoted represents past performance; it does not guarantee future results.

The Bloomberg U.S. Treasury Index includes public obligations of the U.S. Treasury. Treasury bills are excluded by the maturity constraint but are part of a separate Short Treasury Index. In addition, certain special issues, such as state and local government series bonds (SLGs), as well as U.S. Treasury TIPS, are excluded. STRIPS are excluded from the index because their inclusion would result in double-counting.

The Bloomberg U.S. Corporate Bond Investment Grade Index is publicly issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements. To qualify, bonds must be SEC-registered.

The Bloomberg U.S. Corporate High Yield Index (BBG US Corp High Yield TR Value) measures the market of USD-denominated, non-investment grade, fixed-rate, taxable corporate bonds. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below. The index excludes emerging market debt.

The Bloomberg Emerging Markets U.S. Aggregate Bond Index is a hard currency emerging markets debt benchmark that includes fixed and floating-rate U.S. dollar-denominated debt issued from sovereign, quasi-sovereign, and corporate EM issuers.

The Bloomberg Agency Mortgage-backed Securities (MBS) Index is the U.S. MBS component of the U.S. Aggregate Index.

The Bloomberg High Yield Municipal Bond Index is a rules-based, market-value-weighted index that measures the non-investment grade and non-rated U.S. tax-exempt bond market.

The Bloomberg Municipal Index covers the USD-denominated, investment-grade, long-term, tax-exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and prerefunded bonds.

The Bloomberg Asset-backed Securities (ABS) Index is the ABS component of the U.S. Aggregate index.

The Bloomberg Global High Yield Index is a multi-currency measure of the global high yield debt market. The index represents the union of the U.S. High Yield, the Pan-European High Yield, and Emerging Markets Hard Currency High Yield Indices.

The Bloomberg Intermediate Corporate Index (BBG Int Corp TR Value) measures the investment grade, fixed-rate taxable corporate bond market.

The Bloomberg U.S. Aggregate Index (BBG US Agg TR Value) is composed of approximately 8,000 publicly traded bonds including U.S. government, mortgage-backed, corporate and Yankee bonds. The index is weighted by the market value of the bonds included in the index.

The Bloomberg U.S. Universal Index (BBG US Universal TR Value) measures the performance of U.S. dollar-denominated taxable bonds that are rated either investment-grade or high yield. The index includes U.S. Treasury bonds, investment-grade and high yield U.S. corporate bonds, mortgage-backed securities, and Eurodollar bonds.

Source: Bloomberg Index Services Limited. "Bloomberg®" and the Bloomberg index(es) mentioned in this piece are service marks of Bloomberg Finance L.P. and its affiliates, including Bloomberg Index Services Limited ("BISL"), the administrator of the index (collectively, "Bloomberg") and have been licensed for use for certain purposes by Thornburg Investment Management. Bloomberg is not affiliated with Thornburg, and Bloomberg does not approve, endorse, review, or recommend Thornburg. Bloomberg does not guarantee the timeliness, accurateness, or completeness of any data or information relating to Thornburg.

ICE BofA U.S. ABS Index tracks the performance of U.S. dollar denominated investment grade fixed and floating rate asset backed securities publicly issued in the U.S. domestic market.

The S&P 500 Index (S&P 500 TR) is an unmanaged broad measure of the U.S. stock market.

The S&P 500/LSTA Leveraged Loan Index is a market value-weighted index designed to measure the performance of the U.S. leveraged loan market based upon market weightings, spreads and interest payments.

The Municipal Securities Rulemaking Board (MSRB) is a regulating body that creates rules and policies for investment firms and banks in the issuing and sale of municipal bonds, notes, and other municipal securities.

The Electronic Municipal Market Access (EMMA) website is the municipal market's free source of data and information on virtually all municipal bonds.

The CCQI (Credit Card Quality Index) is a monthly performance index that aggregates performance information of securitized credit card receivables in the following key risk areas: receivables outstanding, yield, payment rate, charge-off rate, delinquencies, base rate, and excess spread rate.

Consumer Price Index (CPI) - Index that measures prices of a fixed basket of goods bought by a typical consumer, including food, transportation, shelter, utilities, clothing, medical care, entertainment and other items. The CPI, published by the Bureau of Labor Statistics in the Department of Labor, is based at 100 in 1982 and is released monthly. It is widely used as a cost-of-living benchmark to adjust Social Security payments and other payment schedules, union contracts and tax brackets. Also known as the cost-of-living index.

Important Information



U.S. Treasury securities, such as bills, notes and bonds, are negotiable debt obligations of the U.S. government. These debt obligations are backed by the "full faith and credit" of the government and issued at various schedules and maturities. Income from Treasury securities is exempt from state and local, but not federal, taxes.

TIPS (Treasury Inflation Protected Securities) - A U.S. Treasury note or bond that offers protection from the effects of inflation. Using the Consumer Price Index as a guide, the value of the principal is adjusted to reflect the effects of inflation. A fixed interest rate is paid semi-annually on the adjusted amount. At maturity, if inflation has increased the value of the principal, the investor receives the higher value. If deflation has decreased the value, the investor receives the original face amount of the security.

Mortgage-backed Security - A type of asset-backed security that is secured by a mortgage or collection of mortgages. These securities must be grouped in one of the top two ratings as determined by a accredited credit rating agency and usually pay periodic payments that are similar to coupon payments. The mortgage must have originated from a regulated and authorized financial institution.

Asset-backed Security (ABS) - A security whose value and income payments are derived from and collateralized (or "backed") by a specified pool of underlying assets. The pool of assets is typically a group of small and illiquid assets that are unable to be sold individually. Pooling the assets into financial instruments allows them to be sold to general investors, a process called securitization, and allows the risk of investing in the underlying assets to be diversified because each security will represent a fraction of the total value of the diverse pool of underlying assets.

Commercial Mortgage-backed Securities (CMBS) - A type of mortgage-backed security backed by commercial mortgages rather than residential real estate. CMBS tend to be more complex and volatile than residential mortgage-backed securities due to the unique nature of the underlying property assets. CMBS issues are usually structured as multiple tranches, similar to collateralized mortgage obligations, rather than typical residential pass-throughs.

Collateralized Mortgage Obligation (CMO) - A type of mortgage-backed security that creates separate pools of pass-through rates for different classes of bondholders with varying maturities, called tranches. The repayments from the pool of pass-through securities are used to retire the bonds in the order specified by the bonds' prospectus.

RMBS (Residential Mortgage Backed Securities) - A type of mortgage-backed debt securities where the cash flows are derived from residential mortgages.

OAS (Option Adjusted Spread) - The difference between the yield of a fixed income instrument and the duration-matched Treasury yield assuming the instrument had no embedded options (such as an issuer's option to call a bond at a future date). Option-adjusted spreads enable investors to separate out embedded options and better judge the degree to which an instrument's yield compensates them for credit risk, liquidity risk, or other such factors.

High yield bonds may offer higher yields in return for more risk exposure.

Basis Point (bp) - A unit equal to 1/100th of 1%. 1% = 100 basis points (bps).

Gross Domestic Product (GDP) - A country's income minus foreign investments: the total value of all goods and services produced within a country in a year, minus net income from investments in other countries.

A bond credit rating assesses the financial ability of a debt issuer to make timely payments of principal and interest. Ratings of AAA (the highest), AA, A, and BBB are investment-grade quality. Ratings of BB, B, CCC, CC, C and D (the lowest) are considered below investment grade, speculative grade, or junk bonds.

Maturity is the length of time during which interest is paid on a bond. When it reaches maturity, its owner is repaid the principal.

The par value is the amount of money that the issuer promises to repay bondholders at the maturity date of the bond. The par value also determines the dollar value of coupon payments.

Muni-to-Treasury ratio is calculated by comparing the yield on an index of AAA-rated municipal bonds vs. the yield on the equivalent Treasury Note.

Yield Spread - The difference between yields on differing debt instruments, calculated by deducting the yield of one instrument from another.

Yield Curve - A line that plots the interest rates, at a set point in time, of bonds having equal credit quality, but differing maturity dates.

Coupon - The interest rate stated on a bond when it's issued. The coupon is typically paid semiannually.

Fed Funds Futures - Financial futures contracts based on the federal funds rate and traded on the Chicago Mercantile Exchange (CME) operated by CME Group Inc. (CME). The federal funds rate is the rate banks charge each other for overnight loans of reserves on deposit with the Federal Reserve.

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Our client teams are here to support you.

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