



 First Trust

CLIENT RESOURCE KIT
FIXED INCOME

INVESTMENT MANAGEMENT TEAMS

LEVERAGED FINANCE

William Housey, CFA, MBA, 28 years
 Jeffrey Scott, CFA, MBA, 35 years
 Scott D. Fries, CFA, MBA, 30 years
 Gregory Olsen, CFA, MBA, 32 years
 Henry Reukauf, CFA, MBA, 30 years
 Brian Kessler, CFA, CMT, 20 years
 Berk Kisal, MBA, 27 years
 Andy Rybak, CFA, MBA, 25 years
 Jeffrey Johnson, CFA, 11 years
 Ryan Kommers, 28 years
 Brian Buscher, 32 years
 Daniel Nagode, CFA, 8 years
 Daniel Waldron Jr., 8 years
 Sam Cafi, MBA, 14 years
 Brandon Nelson, 4 years
 Nathan Barewin, 1 year
 John Zimmermann, 1 year

GLOBAL BONDS

(First Trust Global Portfolios Limited)
 Derek Fulton, 28 years
 Leonardo DaCosta, CFA, 20 years
 Anthony Beevers, CFA, 14 years

GOVERNMENT AND SECURITIZED PRODUCTS GROUP

Jim Snyder, MBA, 36 years
 Jeremiah Charles, MS, 22 years
 Jud Tigerman, MBA, 29 years
 Austin Stockfisch, 13 years
 Alex DeRochie, 7 years
 Minhua Wu, MS, 7 years
 Owen Aronson, 17 years
 Samuel Cecil, MBA, 14 years
 Jordan Pflum, MS, 4 years
 Aiden Cremins, 1 year
 Amrit Sandhu, 1 year
 German Gaymer, 18 years

INVESTMENT GRADE

Todd Larson, CFA, 34 years
 Eric Maisel, CFA, MS, 32 years
 Scott Skowronski, CFA, 27 years
 Zach Natale, 17 years
 Ying Timmerman, CFA, CPA, 18 years
 David Worniak, CFA, 18 years
 Nathan Simons, CFA, 14 years
 Charles Kovarik, 7 years
 Lee Mizell, 2 year
 Trevor King, < 1 year

CLOSED-END FUNDS

Ken Fincher, MBA, 33 years
 Nick Grant, 2 year

MUNICIPAL SECURITIES

Tom Byron, 42 years
 Johnathan Wilhelm, JD, 35 years
 Nick Novosad, CFA, 13 years
 Jeff Samuel, 32 years
 Sarah Galpin, CFA, MPA, 20 years
 Shari Sikes, MS, 31 years
 Aaron Cook, 22 years
 John Loch, MBA, 30 years
 Andrew Folland, MBA, 31 years
 Andrea McKeague, 33 years
 Shawn O'Leary, MS, 21 years

PREFERRED SECURITIES

(Stonebridge Advisors LLC)
 Scott Fleming, MBA, 43 years
 Robert Wolf, MBA, 25 years
 Eric Weaver, MS, 17 years
 Angelo Graci, CFA, MBA, 29 years
 Connor Fleming, CFA, CIPM, 13 years
 Scott Hubbell, CFA, 16 years
 Jeff Vinca, 20 years
 Marie-Belle Mikue, 11 years
 Jeff Bernstein, MBA, CPA, 36 years
 Celeste Guerrero, 18 years

RESEARCH

David McGarel, CFA, CPA, 34 years
 Jon Erickson, CFA, MBA, 34 years
 Chris Peterson, CFA, MBA, 26 years

FIXED INCOME RESEARCH

Jim Vavrek, CFA, 25 years
 Steve Collins, CFA, MBA, 19 years
 Orlando Becerra, 12 years

PRODUCT SPECIALIST

Jeff Margolin, MBA, 29 years
 Ryan O. Issakainen, CFA, MA, 24 years
 Andrew Hull, 17 years
 Bob Derochie, MBA, 36 years
 Robby Fatta, 20 years

STRATEGY RESEARCH

Chris Bush, CFA, 19 years
 Bob Hensley, CFA, MS, 23 years
 Omar Sepulveda, CFA, 27 years
 Graham Homberg, CFA, 18 years
 Elliott Papineau, 17 years
 Brad Phillips, CFA, 14 years
 Steve Rinn, CFA, 9 years
 John Bria, CFA, 11 years
 Grayson Harris, CFA, 2 year
 Reece Sparling, 1 year
 Lilly Nikkel, 1 year
 Ayush Gaur, < 1 year

EQUITY RESEARCH

John Sherren, CFA, MBA, 26 years
 Jared Wollen, CFA, MS, 15 years
 Jack Wagner, 5 years
 Eric Glombicki, 4 years
 Connor Fries, 1 year

QUANT TECH

Dan Godoy, CFA, MBA, 18 years
 Jeff Sommars, PhD, CFA, MBA, 10 years
 John Hageron, CFA, 25 years
 Landon Kavlie, PhD, CFA, 9 years
 Matthew Goldsberry, 9 years
 Nathan Bliss, PhD, CFA, 7 years
 Jordan Freitag, 4 years
 Matt Adomshick, 3 years
 Natan Jara, 3 years
 Joel Stapleton, PhD, 9 years
 Matthew Milone, 2 years
 Johannes Byle, 2 year
 Josiah Elliott, 2 years
 Matthew Erickson, 2 year
 Stephen Lovett, PhD, 1 year
 Stephen Kil, 1 year
 Jonathan Barrett, 1 year
 David Stapleton, PhD, < 1 year
 Zakery Kates, 10 year
 Jacob Book, < 1 year

MODEL INVESTMENT COMMITTEE

Daniel J. Lindquist, CFA, MBA
 Chairman and Managing Director
 32 years

David McGarel, CFA, CPA
 CIO, COO and Managing Director
 34 years

William Housey, CFA, MBA
 Managing Director of Fixed-Income
 28 years

Chris Peterson, CFA, MBA
 SVP, Head of Strategy Research
 26 years

Chris Fallow, CFA
 SVP, Portfolio Oversight
 24 years

Steve Collins, CFA, MBA
 SVP, Senior Fixed-Income Analyst
 18 years

ECONOMICS

Brian Wesbury, MBA, 41 years
Robert Stein, CFA, 28 years
Strider Elass, 16 years
Andrew Opdyke, CFA, MBA, 12 years
Bryce Gill, MBA, 10 years
Nate Gerze, 5 years
Mary Buchanan, 20 years

MARKET ANALYSIS

Bob Carey, CFA, 38 years
Peter Leonteos, 16 years

MARKET DATA

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4. WEEKLY S&P 500 INDEX
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6. WEEKLY 10 YR AND 30 YR U.S. TREASURY YIELD
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FIXED INCOME OPPORTUNITY SET

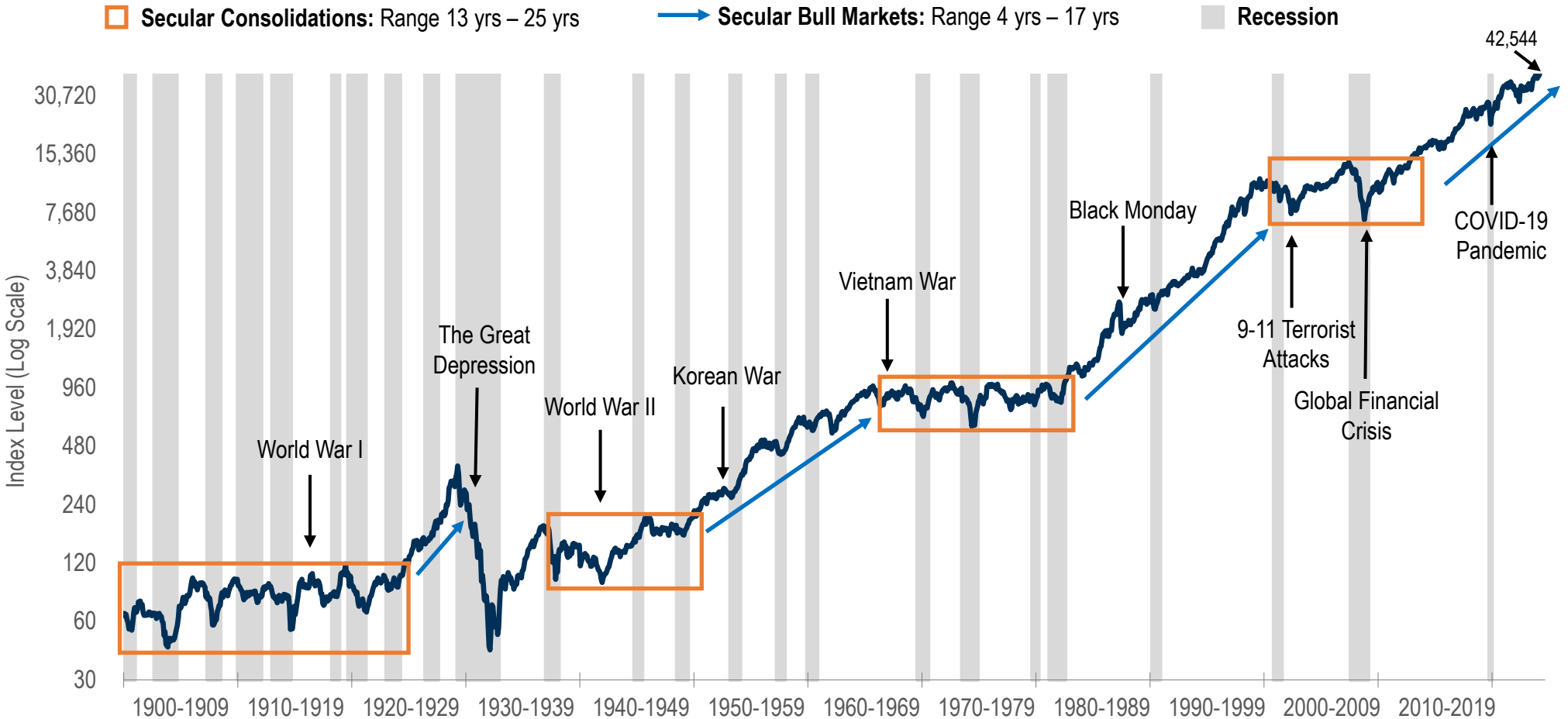
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All index data shown herein is for illustrative purposes only and not indicative of any actual investment. Index returns do not reflect any fees, expenses, or sales charges. Investors cannot invest directly in an index. The information presented is not intended to constitute an investment recommendation for, or advice to, any specific person. By providing this information, First Trust is not undertaking to give advice in any fiduciary capacity within the meaning of ERISA, the Internal Revenue Code or any other regulatory framework. Financial professionals are responsible for evaluating investment risks independently and for exercising independent judgment in determining whether investments are appropriate for their clients.

SECULAR BULL AND BEAR EQUITY MARKETS

Dow Jones Industrial Average (January 31, 1900 – December 31, 2024)

MARKET DATA



Source: Bloomberg. See Index Definitions.
Past performance is no guarantee of future results.

WEEKLY S&P 500 INDEX

December 31, 1999 – December 27, 2024

MARKET DATA



Source: Bloomberg. See Index Definitions.
Past performance is no guarantee of future results.

WEEKLY 2 YEAR AND 5 YEAR U.S. TREASURY YIELD

December 31, 2005 – December 27, 2024

MARKET DATA

2 YEAR U.S. TREASURY Q4 2024 RETURN: -0.20%



5 YEAR U.S. TREASURY Q4 2024 RETURN: -2.72%



Source: Bloomberg. **Past performance is no guarantee of future results.** The 2 Year U.S. Treasury return is represented by the ICE BofA Current 2-Year U.S. Treasury Index. The 5 Year U.S. Treasury return is represented by the ICE BofA Current 5-Year U.S. Treasury Index. See Index Definitions.

WEEKLY 10 YEAR AND 30 YEAR U.S. TREASURY YIELD

December 31, 1999 – December 27, 2024

MARKET DATA

10 YEAR U.S. TREASURY Q4 2024 RETURN: -5.22%

Broke through resistance of 4.40%. Upside targets remain 4.75% and 5.02% with downside support of 4.34% and 4.07%.



30 YEAR U.S. TREASURY Q4 2024 RETURN: -9.53%

Support of 4.34% was tested and held in December. Upside targets are 4.85% and 5.15% with downside support of 4.34% and 4.00%.



Source: Bloomberg. **Past performance is no guarantee of future results.** The 10 Year U.S. Treasury return is represented by the ICE BofA Current 10-Year U.S. Treasury Index. The 30 Year U.S. Treasury return is represented by the ICE BofA Current 30-Year U.S. Treasury Index. See Index Definitions.

MONTHLY 10 YEAR U.S. TREASURY YIELD 1980 - PRESENT

January 31, 1980 – December 31, 2024



MARKET DATA



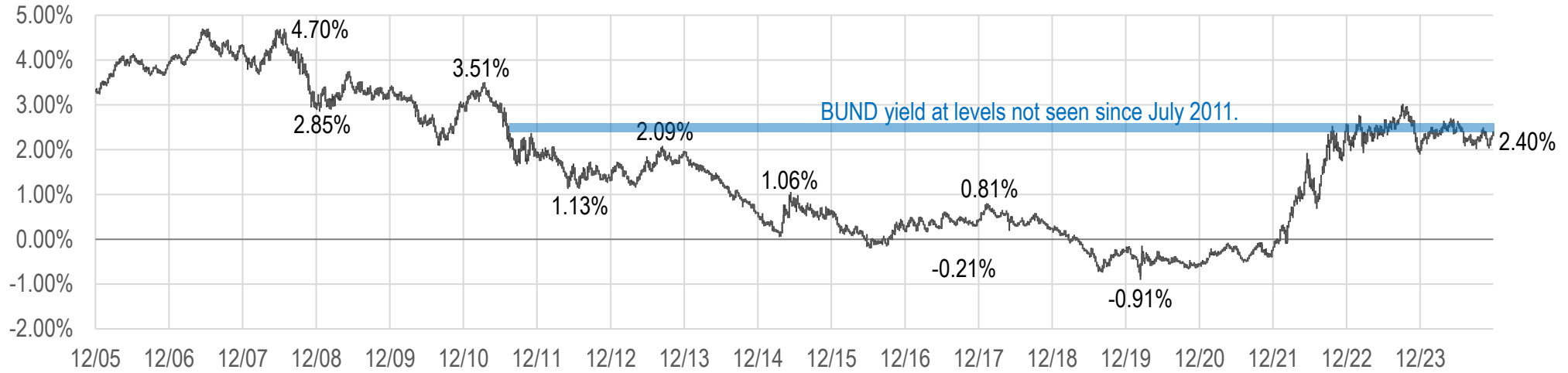
Source: Bloomberg. Past performance is no guarantee of future results. See Index Definitions.

WEEKLY 10 YEAR GOVERNMENT BOND YIELDS (GERMANY & JAPAN)

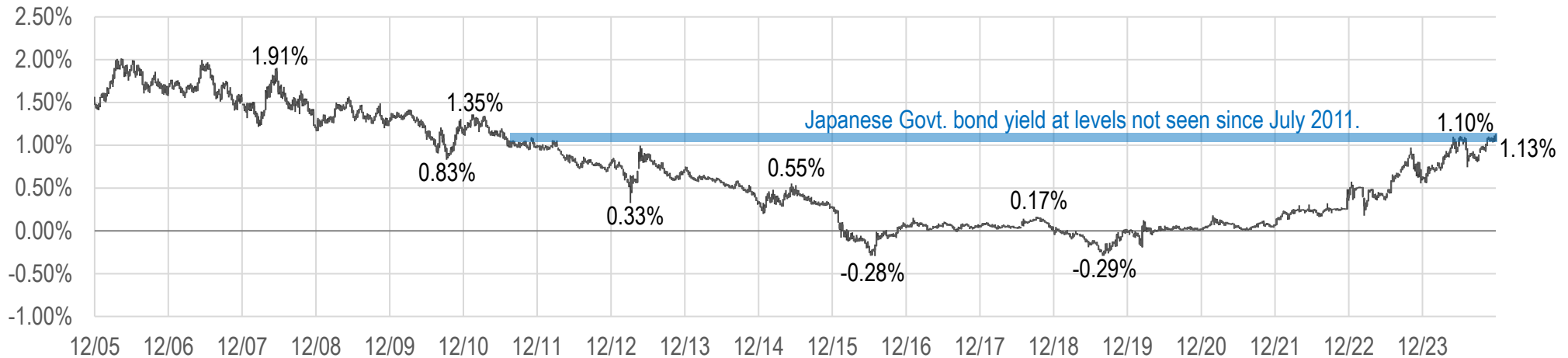
December 31, 2005 – December 27, 2024

MARKET DATA

WEEKLY 10 YEAR GERMAN BUND YIELD



WEEKLY 10 YEAR JAPANESE GOVERNMENT BOND YIELD



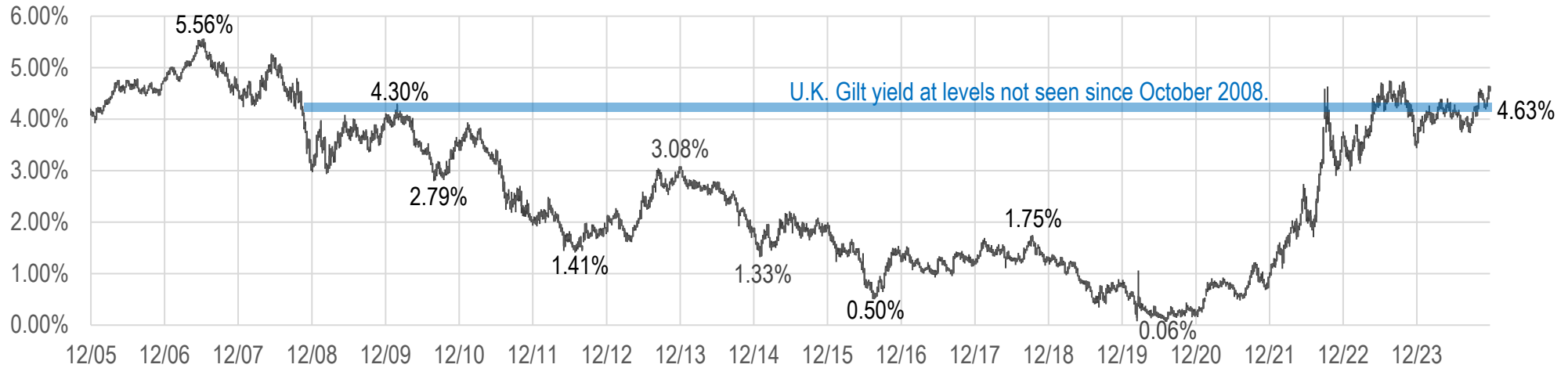
Source: Bloomberg. Past performance is no guarantee of future results. See Index Definitions.

WEEKLY 10 YEAR GOVERNMENT BOND YIELDS (U.K. & ITALY)

December 31, 2005 – December 27, 2024

MARKET DATA

WEEKLY 10 YEAR U.K. GOVERNMENT BOND YIELD



WEEKLY 10 YEAR ITALIAN GOVERNMENT BOND YIELD

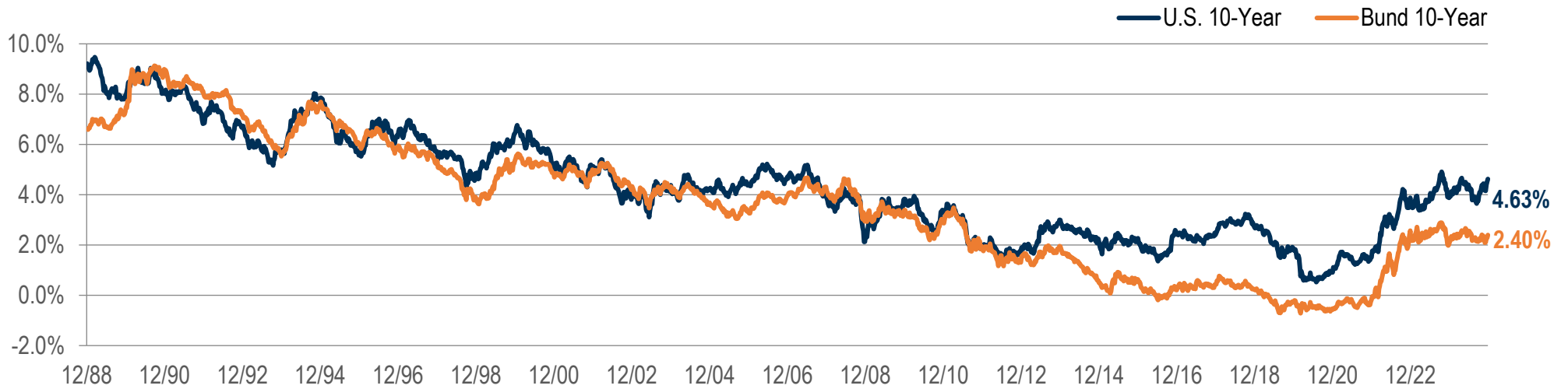


Source: Bloomberg. Past performance is no guarantee of future results. See Index Definitions.

10 YEAR U.S. TREASURY YIELD AND 10 YEAR GERMAN BUND YIELD

December 31, 1988 – December 27, 2024

MARKET DATA



YIELD SPREAD BETWEEN THE 10 YEAR U.S. TREASURY YIELD AND THE 10 YEAR GERMAN BUND YIELD

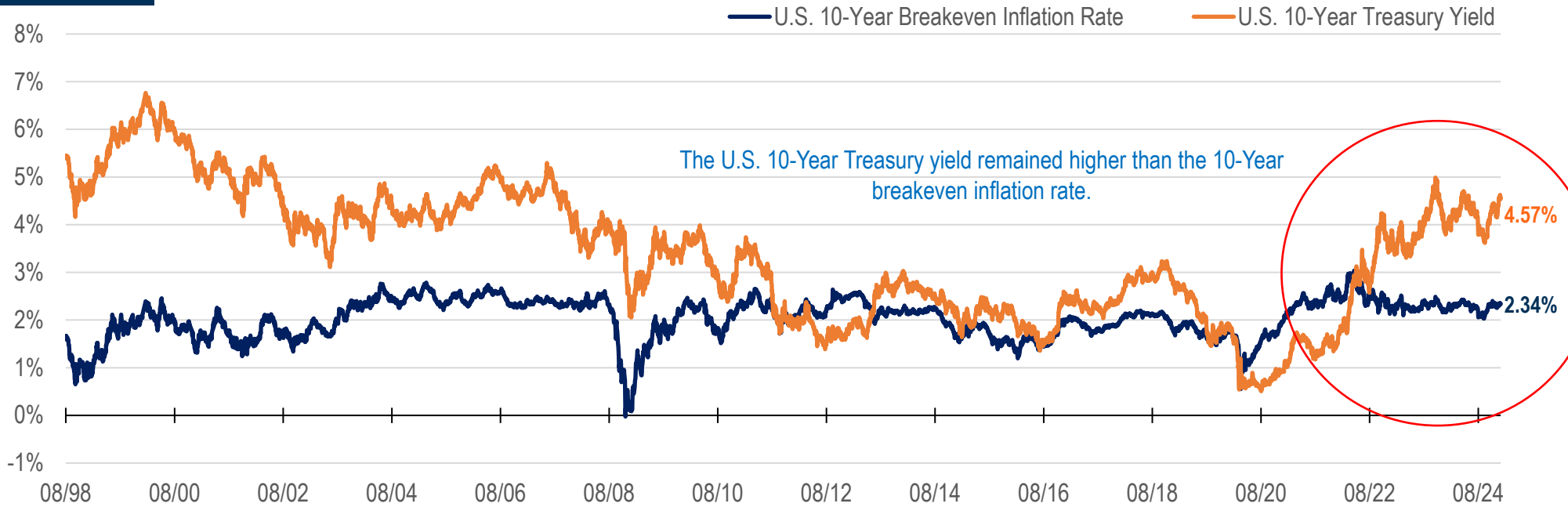


Source: Bloomberg. Past performance is no guarantee of future results. See Index Definitions.

10 YEAR U.S. TREASURY REAL YIELD

August 3, 1998 – December 31, 2024

MARKET DATA



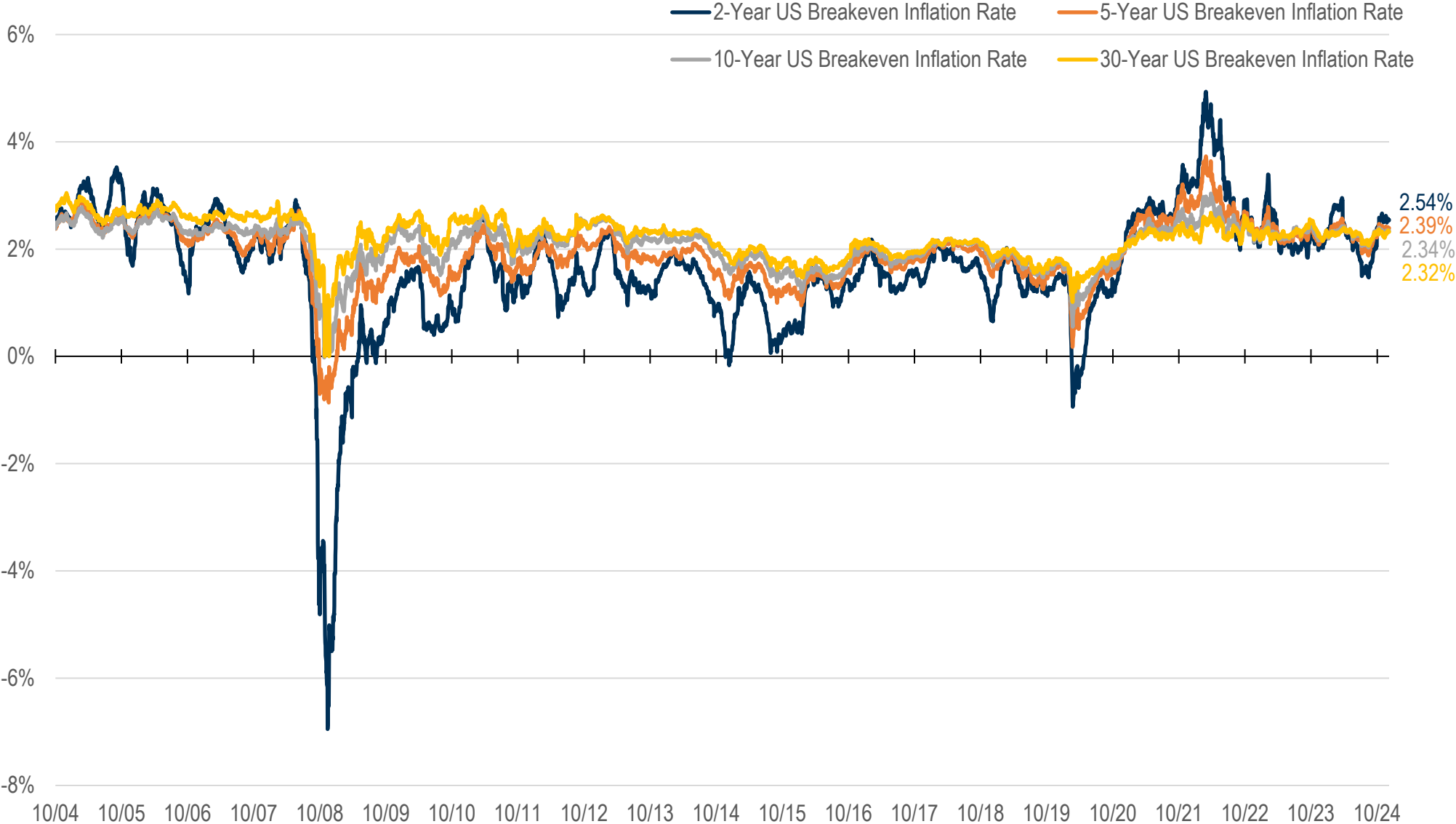
Real Yield is an interest rate that has been adjusted to remove the effects of inflation. Real Yield is calculated as the difference in yields between U.S Treasury bonds and Treasury Inflation-Protected Securities (TIPS). The breakeven rate is a market-based gauge for the expected annual inflation. See Index Definitions.

Source: Bloomberg. Past performance is no guarantee of future results.

INFLATION: BREAKEVENS

October 27, 2004 – December 31, 2024

MARKET DATA

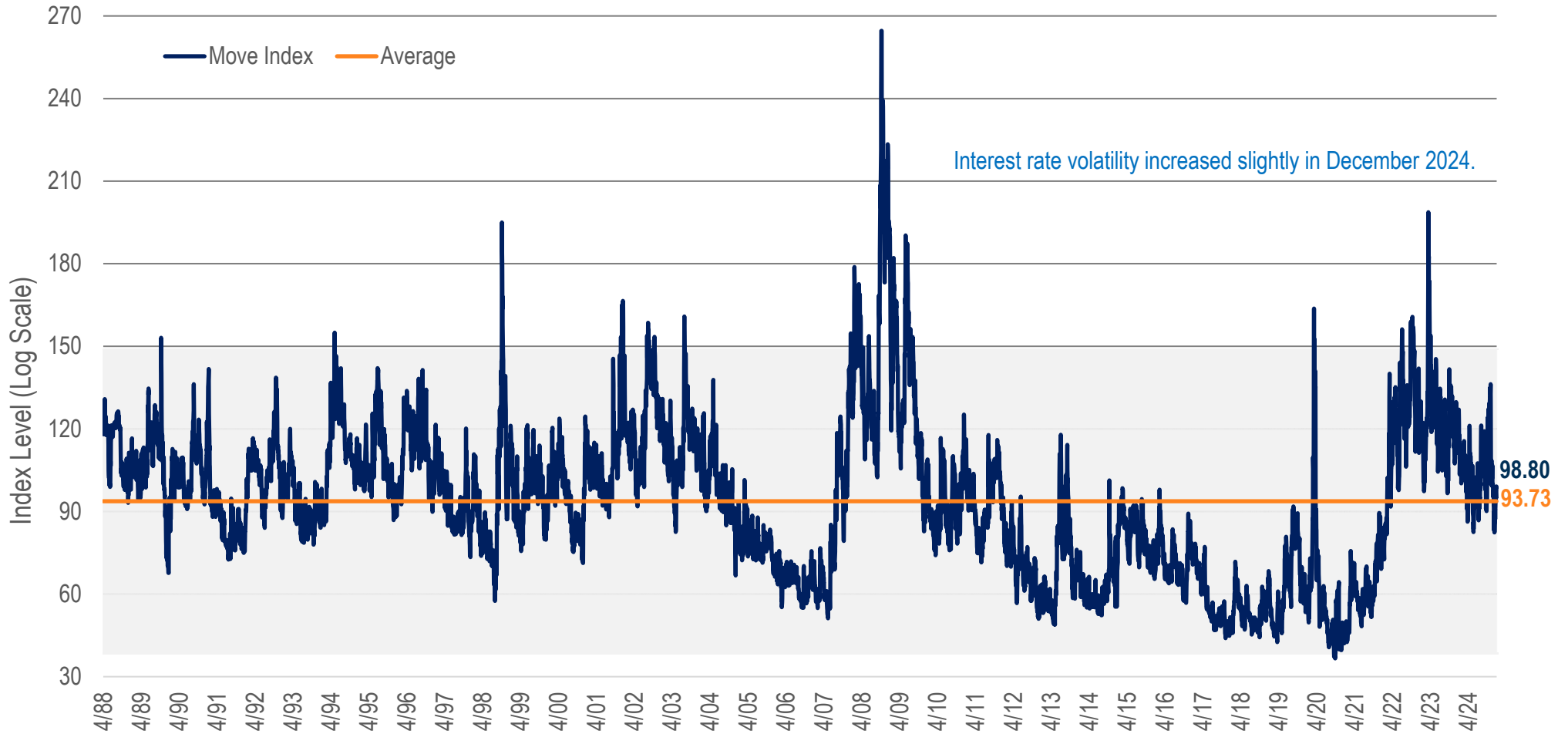


Source: Bloomberg. The breakeven rate is a market-based gauge for the expected annual inflation. Past performance is no guarantee of future results. See Index Definitions.

MOVE INDEX

As of December 30, 2024

MARKET DATA



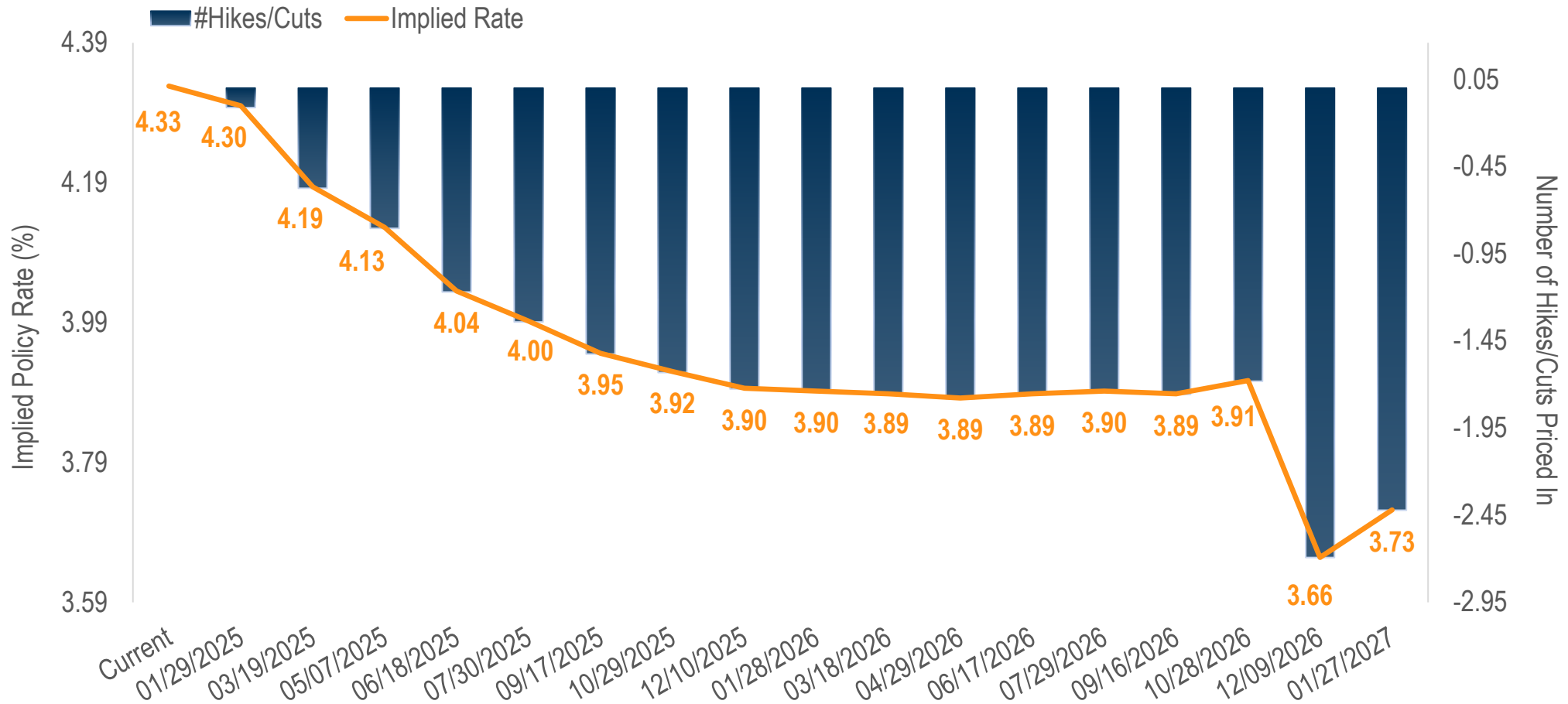
Source: Bloomberg. Data from 4/4/88 – 12/30/24. **Past performance is no guarantee of future results.** The ICE BofA MOVE Index is shown above. See Index Definitions. The area shaded in gray represents 2 standard deviations above and below the mean of the MOVE Index inception to date.

IMPLIED FEDERAL FUNDS RATE & NUMBER OF HIKES/CUTS

As of December 31, 2024

MARKET DATA

The current Effective Federal Funds Rate is 4.33% and the market is pricing in an additional 43bps of cuts by the end of 2025 and 67bps of cuts by the end of 2026.



Source: Bloomberg.

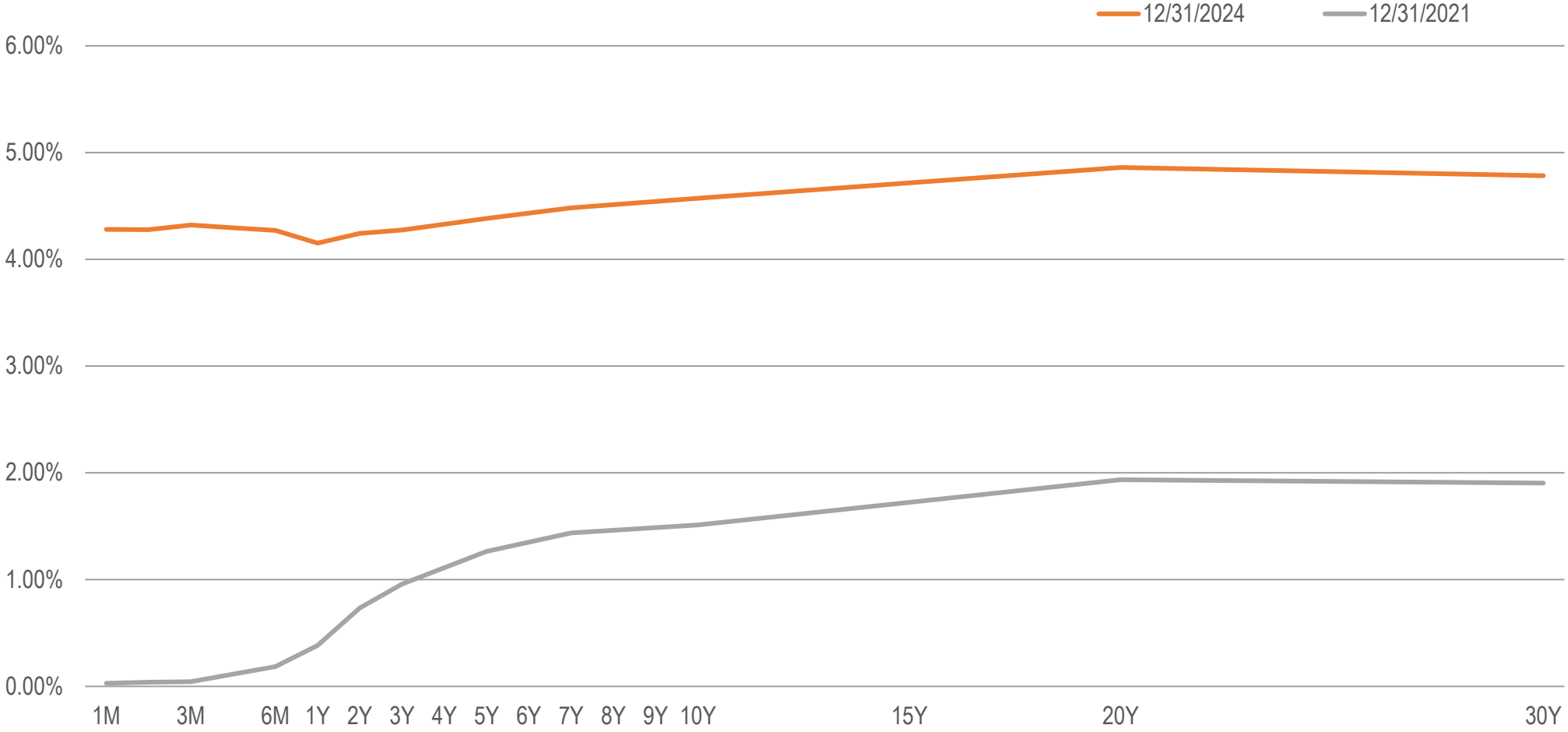
The assumed rate movement for one rate hike or cut is equivalent to +/- 0.25%. There is no assurance forecasts will be achieved.

The Federal Funds Rate is the interbank overnight lending rate for commercial banks' excess reserves. The Implied Federal Funds Rate for the US is the estimated forward rate for the United States and is derived from Federal Funds Futures contracts to determine the probability of the Federal Reserve changing monetary policy at a particular meeting.

US TREASURY YIELD CURVE

As of December 31, 2024

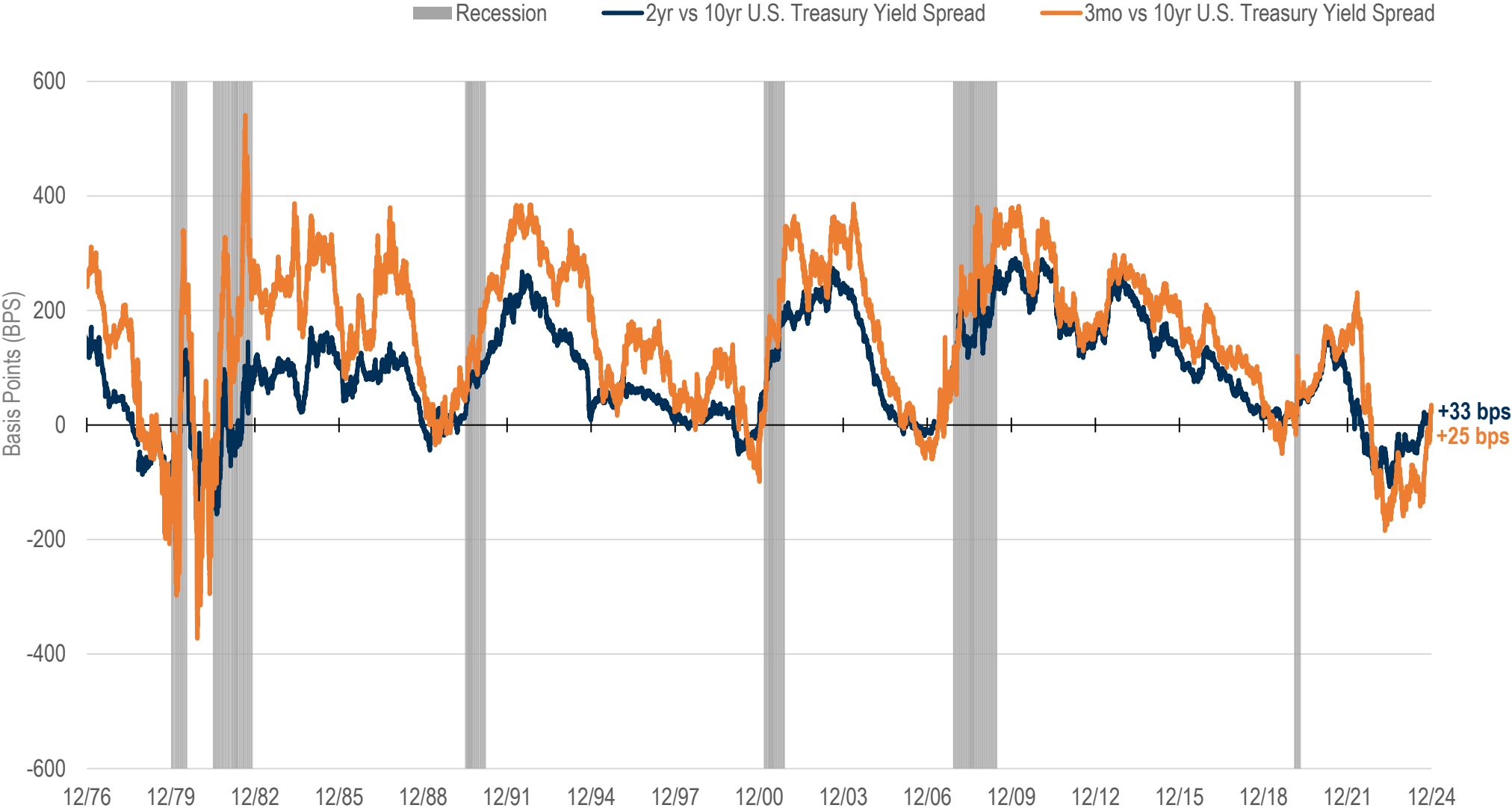
MARKET DATA



Source: Bloomberg. Past performance is no guarantee of future results.

2-YR/10-YR U.S YIELD CURVE & 3-MO/10-YR U.S YIELD CURVE

MARKET DATA



Source: Bloomberg, as of 12/31/2024. **Past performance is no guarantee of future results.** The yield spread is the difference between yields on the varying Treasury maturities. A basis point is a common unit of measure for interest rates and is equal to 1/100th of 1% or 0.01%. A 1% change is equal to 100 basis points. See Index Definitions.

MARKET DATA

| 2-yr/10-yr US Yield Curve Inversion Date | 3-mo/10-yr US Yield Curve Inversion Date | Recession following Inversion | Days Since 2-yr/10-yr US Yield Curve Inversion | Days Since 3-mo/10-yr US Yield Curve Inversion | S&P 500 All Time High After Curve Inversion |
|--|--|-------------------------------|--|--|---|
| 8/17/1978 | 12/15/1978 | Jan 1980 - Jul 1980 | 502 | 382 | N/A |
| 9/11/1980 | 10/27/1980 | Jul 1981 - Nov 1982 | 293 | 247 | 11/28/1980 |
| 1/5/1989 | 5/24/1989 | Jul 1990 - Mar 1991 | 542 | 403 | 6/4/1990 |
| 2/11/2000 | 7/18/2000 | Mar 2001 - Nov 2001 | 384 | 226 | 3/24/2000 |
| 1/31/2006 | 7/19/2006 | Dec 2007 - Jun 2009 | 669 | 500 | 10/9/2007 |
| 7/5/2022 | 11/8/2022 | TBD | 910* | 784* | 12/6/2024 |
| | | | Mean | 478 | 352 |
| | | | Median | 502 | 382 |

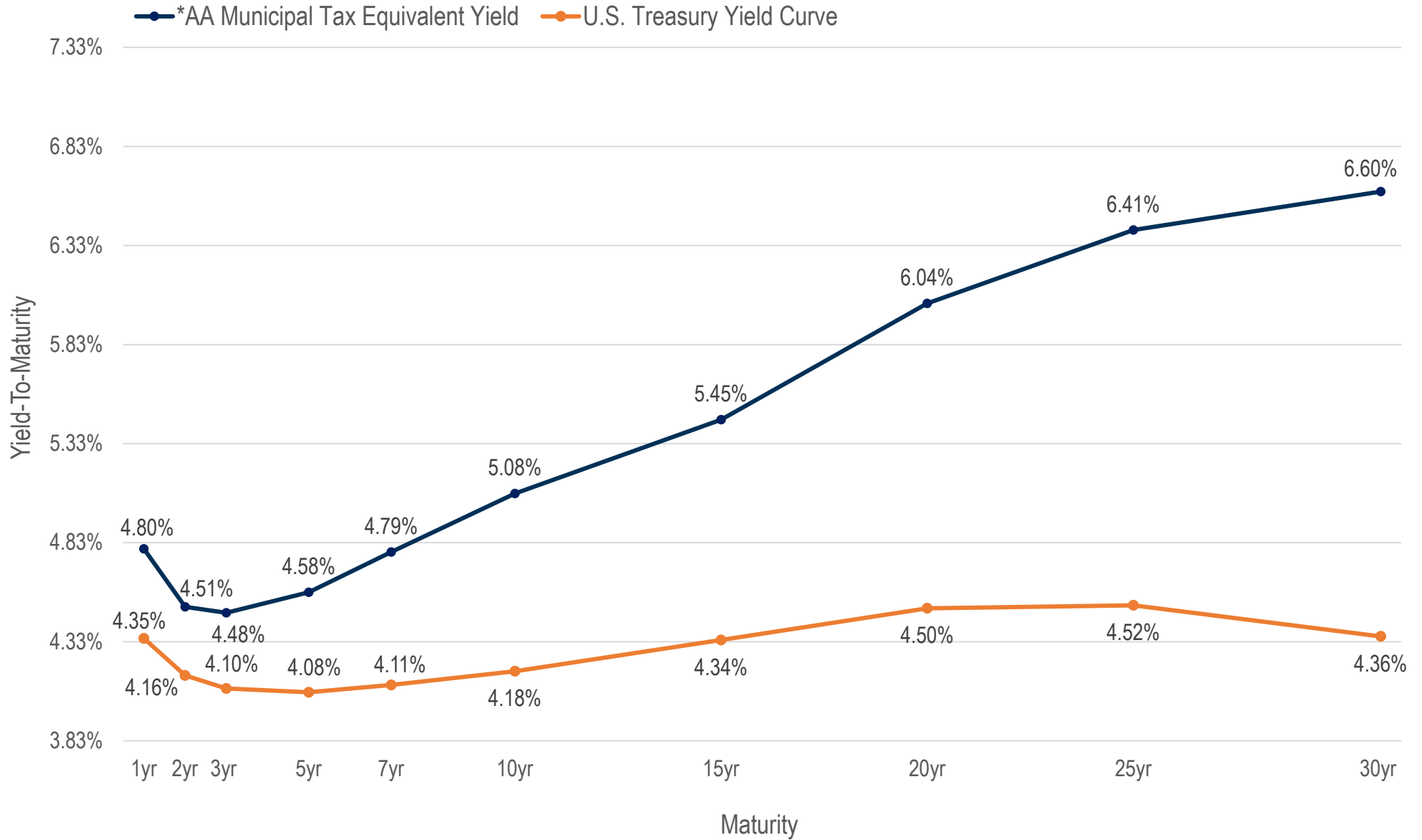
*Measures the time since inversion.

Source: Bloomberg. Data from 12/1/1976 – 12/31/2024. **Past performance is no guarantee of future results.** The yield curve spread is the difference between yields on the varying Treasury maturities. When longer dated maturities are yielding less than shorter dated maturities the yield curve spread is negative or “inverted”. The inversion dates were determined as the start date of the first period prior to a recession that the 2-Year US Treasury Yield and 3-Month US Treasury Yield were greater than the 10-Year US Treasury Yield for at least 30 consecutive days. Only recession periods that experienced at least one inversion (as defined previously) for both the 2-Year/10-Year yield curve and 3-Month/10-year yield curve since the end of the last recessionary period were considered. The 2-yr/10-yr US yield curve measurement periods are 8/17/1978-1/1/1980, 9/11/1980-7/1/1981, 1/5/1989-7/1/1990, 2/11/2000-3/1/2001, 1/31/2006-12/1/2007, and 7/5/2022-12/31/2024. The 3-mo/10-yr US yield curve measurement periods are 12/15/1978-1/1/1980, 10/27/1980-7/1/1981, 5/24/1989-7/1/1990, 7/18/2000-3/1/2001, 7/19/2006-12/1/2007, and 11/8/2022-12/31/2024. Recessionary periods are determined by the National Bureau of Economic Research (NBER). Measurement will continue for the current inversion periods until the next recessionary period begins.

MUNICIPAL YIELD CURVE

As of December 31, 2024

MARKET DATA



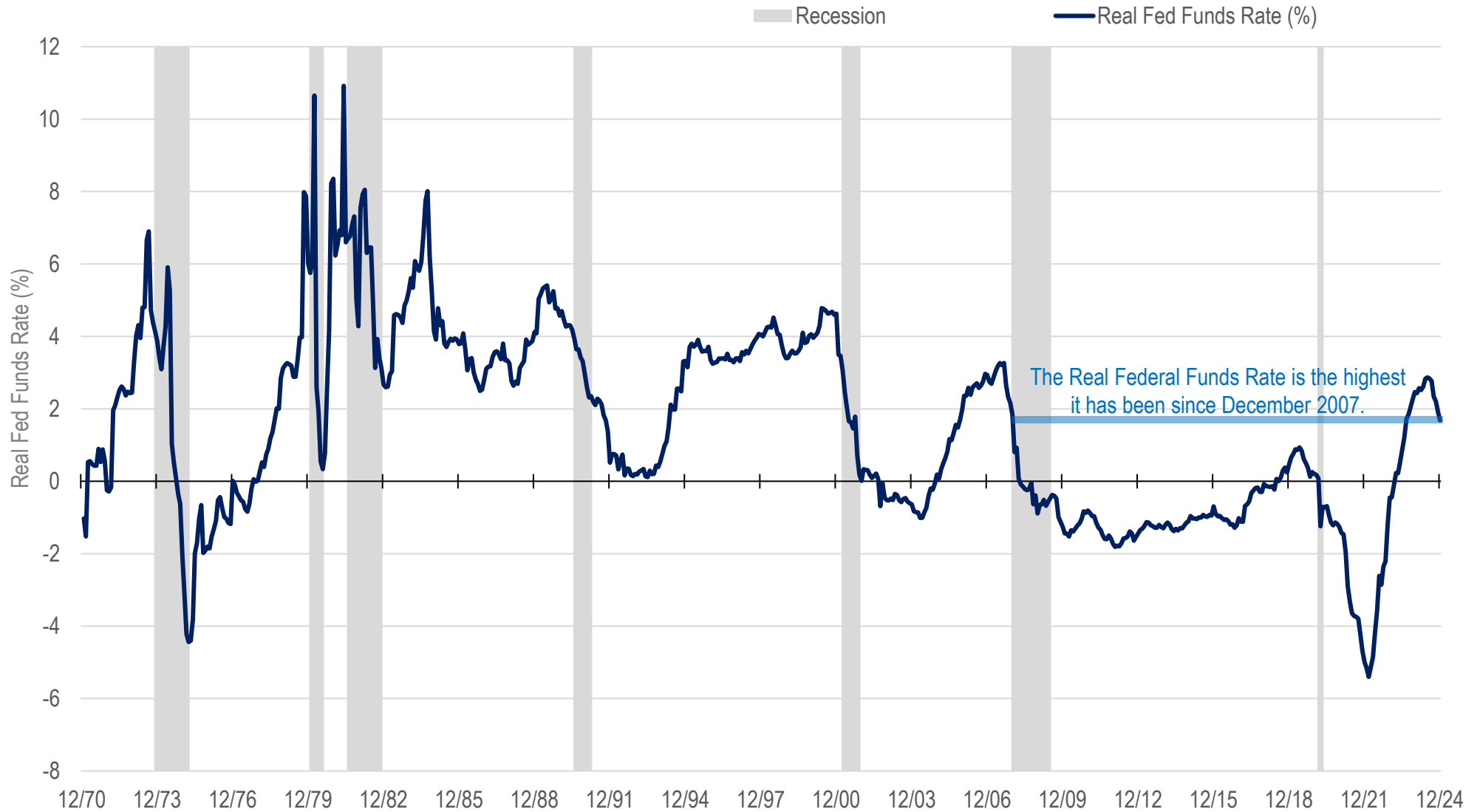
Source: Bloomberg. **Past performance is no guarantee of future results.**

*YTM represents the Tax-Equivalent Yield (TEY) for the highest tax bracket of 37% plus a Medicare tax rate of 3.8% for a total tax rate of 40.8%.

REAL FEDERAL FUNDS RATE

December 31, 1970 – December 31, 2024

MARKET DATA

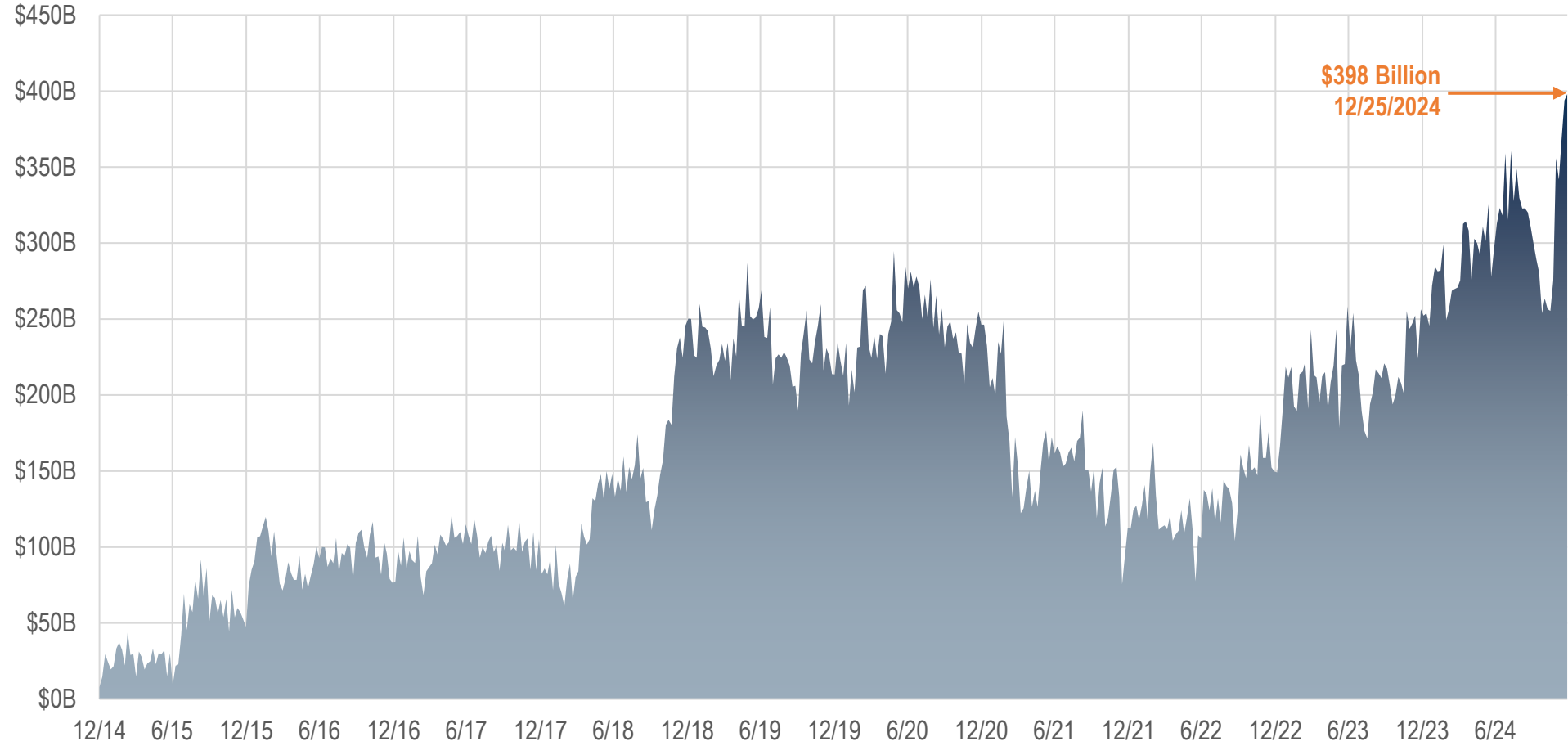


Source: Bloomberg, FRED. The Real Federal Funds Rate is the effective Federal Funds Rate minus 12-month core PCE inflation. The Effective Federal Funds Rate is the interest rate banks charge each other for overnight lending. See Index Definitions.

NET DEALER TREASURY HOLDINGS

December 31, 2014 – December 25, 2024

MARKET DATA

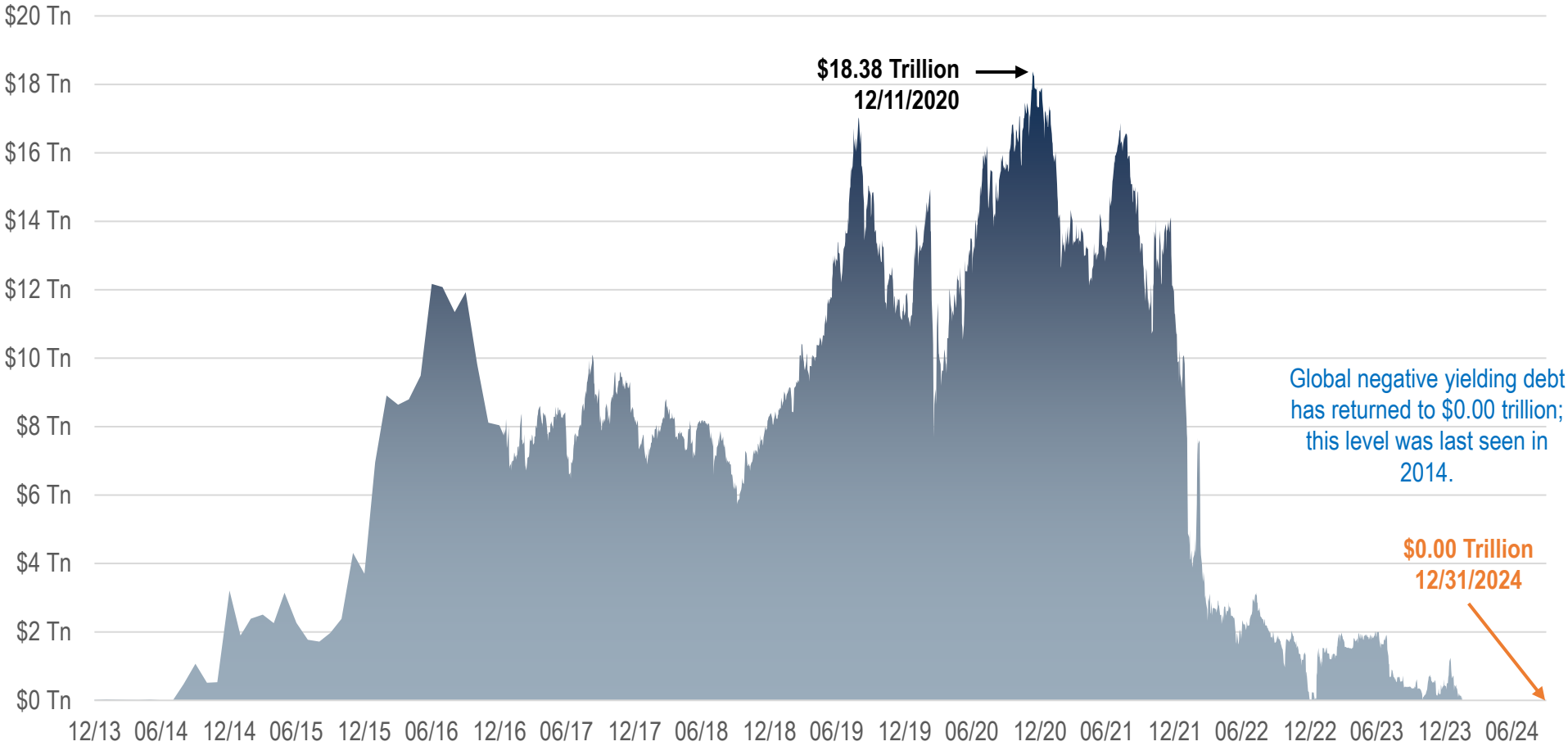


Source: Bloomberg, Federal Reserve. See Index Definitions.

GLOBAL NEGATIVE YIELDING DEBT

December 31, 2013 – December 31, 2024

MARKET DATA

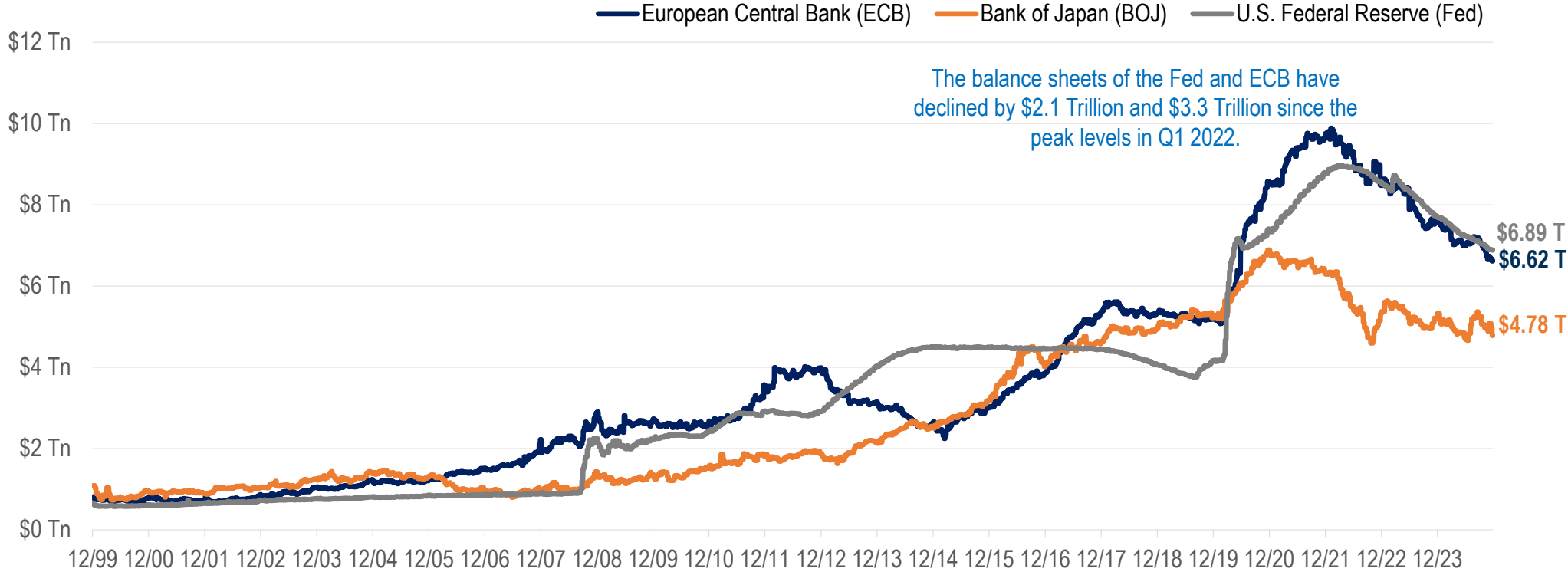


Source: Bloomberg. Global negative yielding debt is comprised by summing the negative yielding debt within the Bloomberg Global Aggregate Index. See Index Definitions.

CENTRAL BANK BALANCE SHEETS

December 31, 1999 – December 27, 2024

MARKET DATA



Source: Bloomberg. See Index Definitions.

WEEKLY U.S. DOLLAR INDEX (DXY)

December 31, 2010 – December 27, 2024

MARKET DATA

DXY is a measure of the U.S. dollar's value relative to the following currencies:

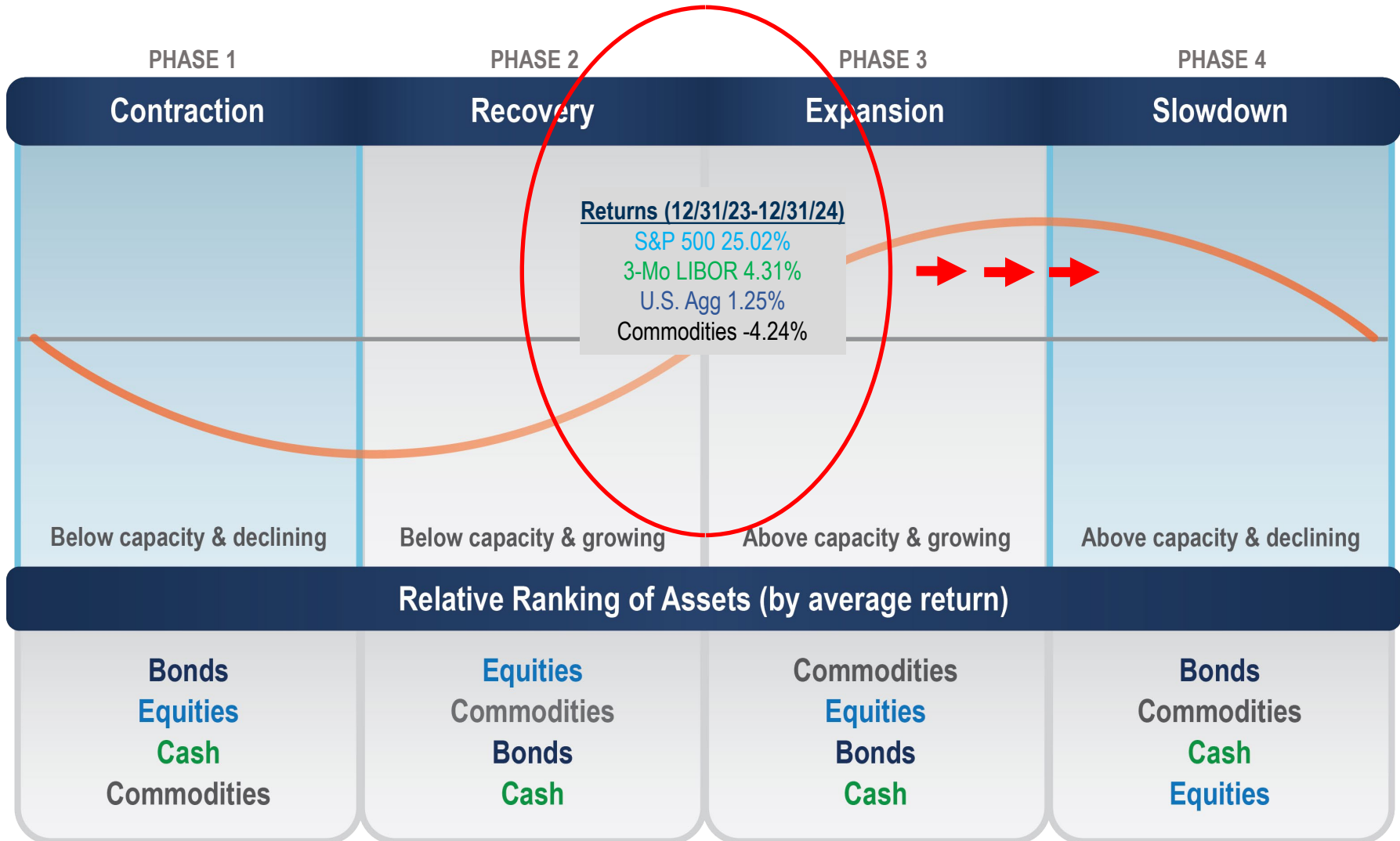
- Euro: 57.6%
- Japanese Yen: 13.6%
- British Pound: 11.9%
- Canadian Dollar: 9.1%
- Swedish Krona: 4.2%
- Swiss Franc: 3.6%

Sustained break of 107 in December. Upside targets are 110 then 114. Support levels are 107, 105, then 100.



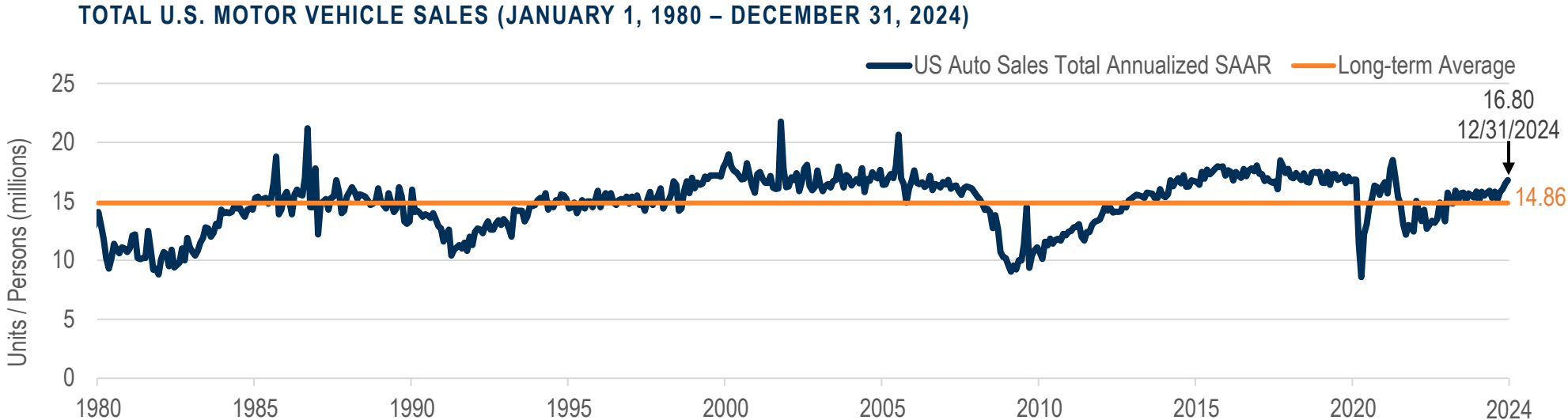
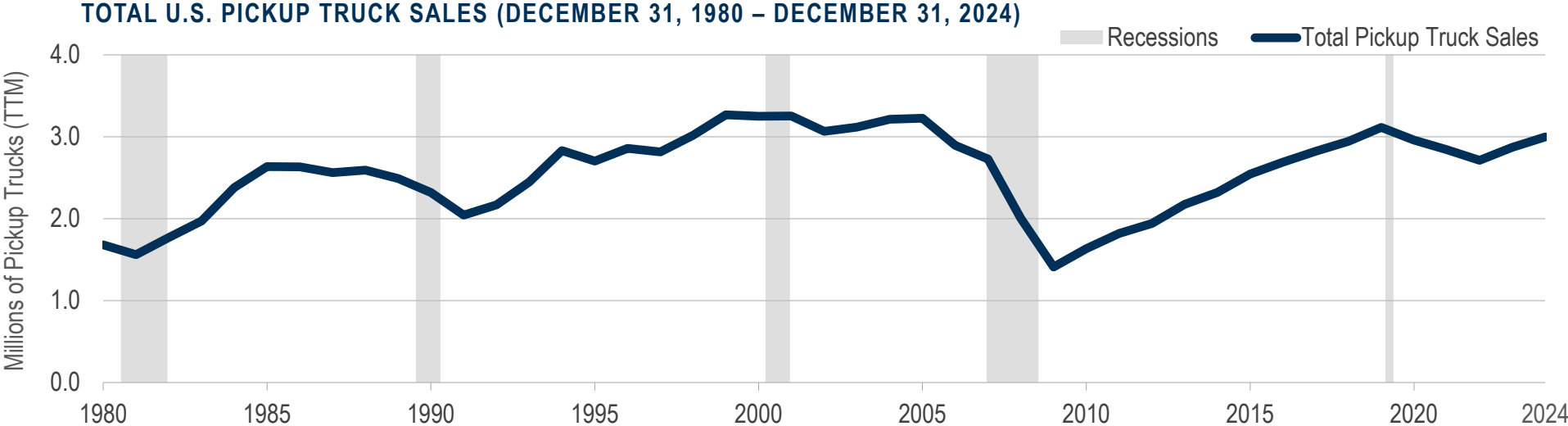
Source: Bloomberg. Past performance is no guarantee of future results. See Index Definitions.

LEADING INDICATORS



Source: Goldman Sachs Global Investment Research. Past performance is no guarantee of future results. This chart is for illustrative purposes only and not indicative of any actual investment. See Index Definitions.

LEADING INDICATORS

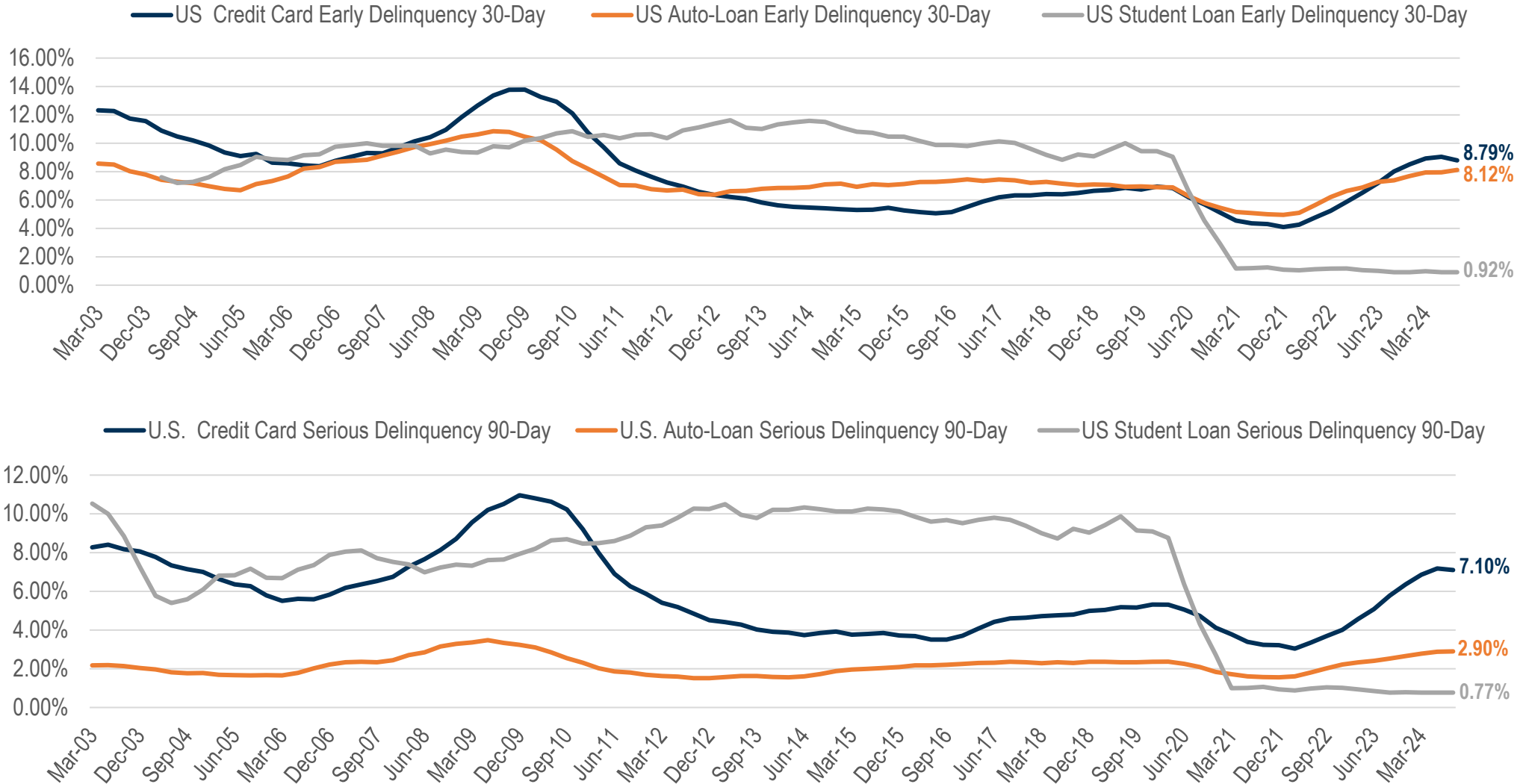


Source: Bloomberg, Citigroup Global Markets Inc., Motor Intelligence, GoodCarBadCar.
U.S. Motor Vehicle Sales reflect the seasonally adjusted annual rate (SAAR) where data has been adjusted for the effects of seasonal patterns.

CONSUMER CREDIT

March 31, 2003 – September 30, 2024

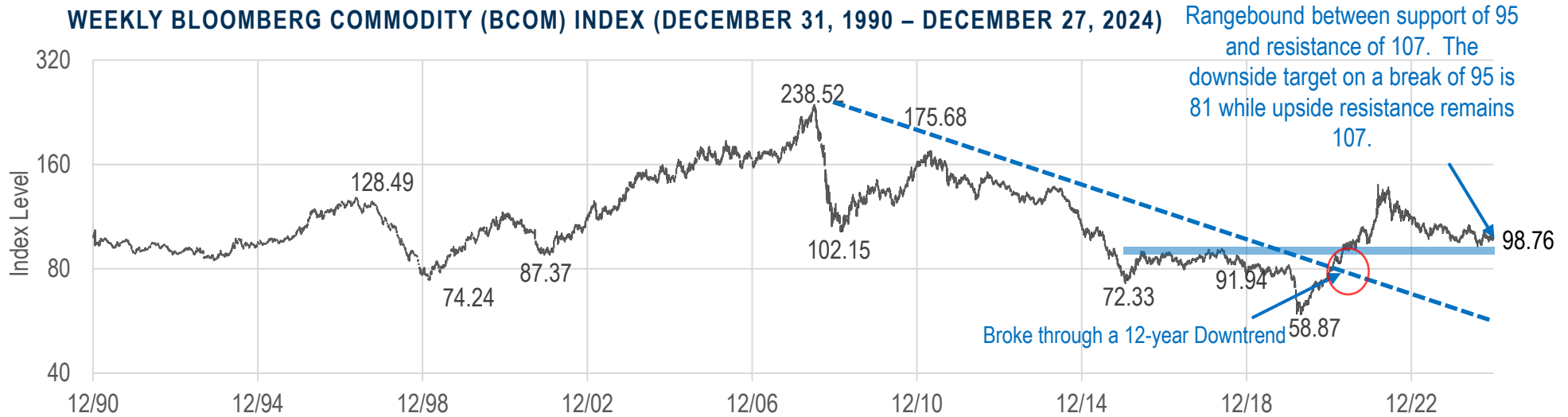
LEADING INDICATORS



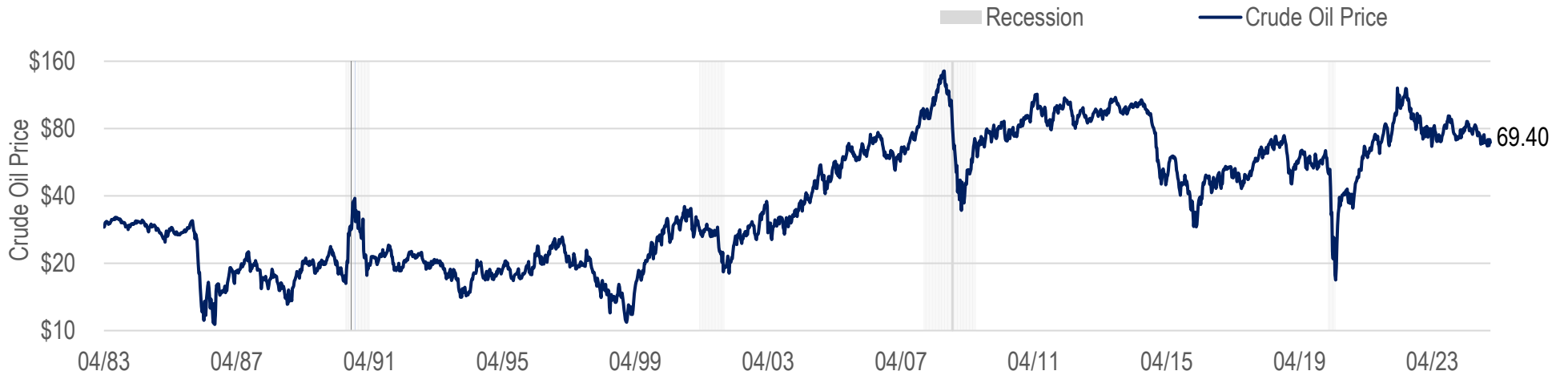
Source: Bloomberg. The Federal Reserve Bank of New York's Center for Microeconomic Data: Quarterly Report on Household Debt and Credit. Data as of 9/30/24 (Most recent available data).

LEADING INDICATORS

WEEKLY BLOOMBERG COMMODITY (BCOM) INDEX (DECEMBER 31, 1990 – DECEMBER 27, 2024)



WEEKLY CRUDE OIL PRICE (APRIL 1, 1983 – DECEMBER 27, 2024)

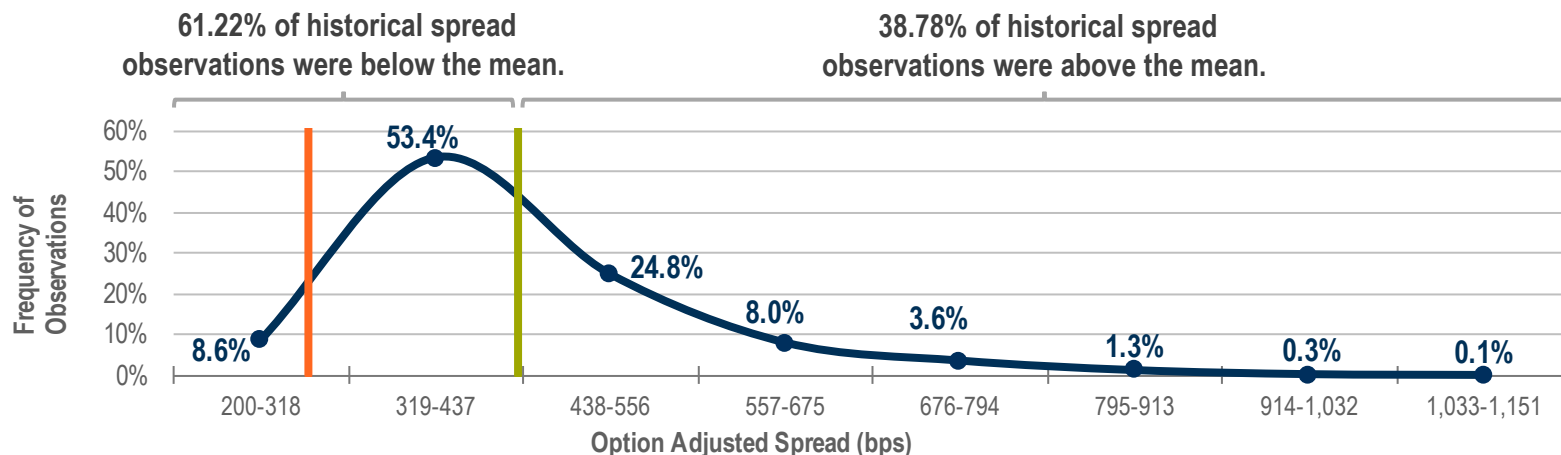


Source: Bloomberg. Past performance is no guarantee of future results. See Index Definitions.

FIXED INCOME OPPORTUNITY SET

High Yield Bonds Spreads over U.S. Treasuries

● The frequency in which observations fell within Option Adjusted Spread range.

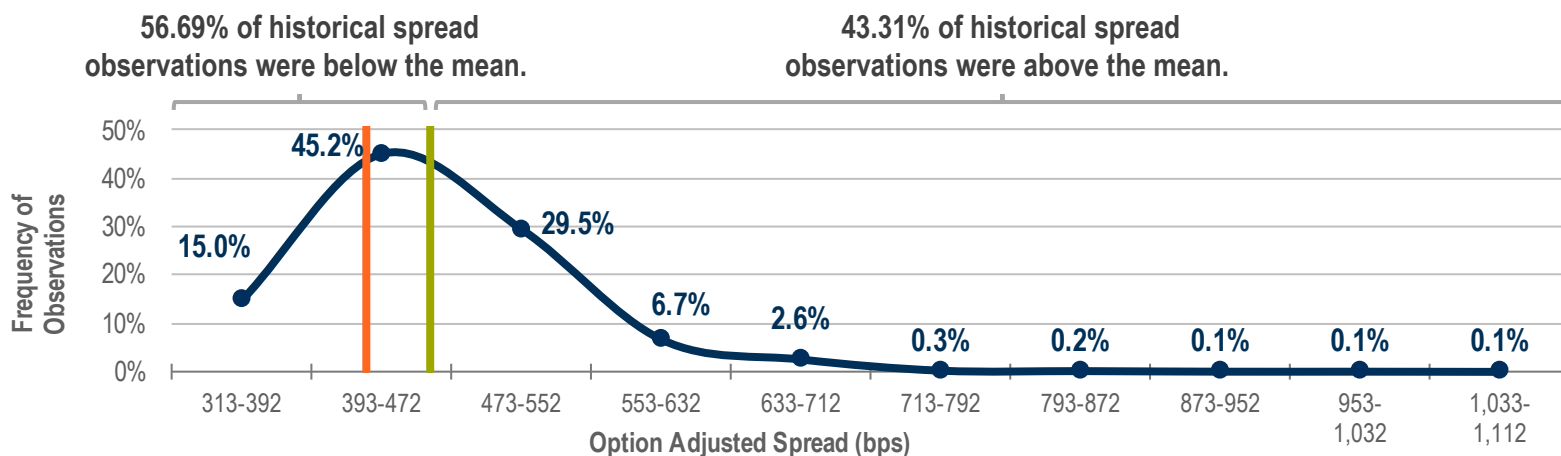


Current OAS: 292

Mean OAS: 435

Mode OAS: 399

Senior Loans Spreads over the Secured Overnight Financing Rate (SOFR)



Discounted OAS*: 424

Mean OAS: 461

Mode OAS: 399

*3-Year Life. Data excludes defaults.

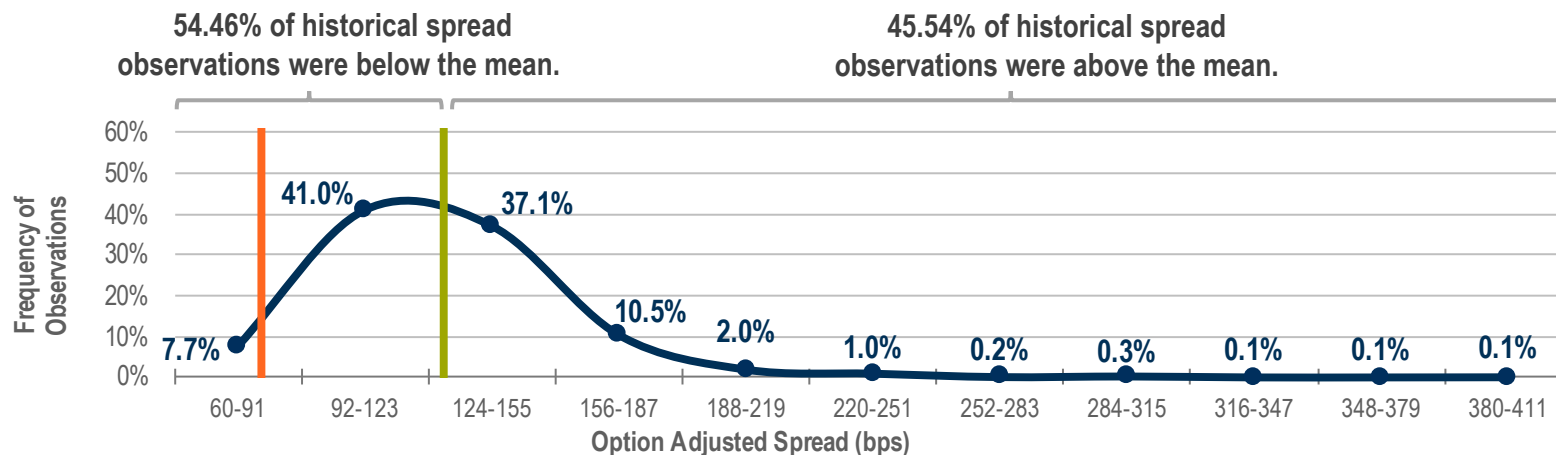
Source: Bloomberg, Standard & Poor's Leveraged Loan Commentary and Data. Data is from 12/31/2014 through 12/31/2024. For illustrative purposes only and not indicative of any actual investment. See index definitions at the end of the presentation. **Past performance is no guarantee of future results.**

10-year daily historical spread distribution

FIXED INCOME OPPORTUNITY SET

Investment-Grade Corporate Bonds Spreads over U.S. Treasuries

● The frequency in which observations fell within Option Adjusted Spread range.

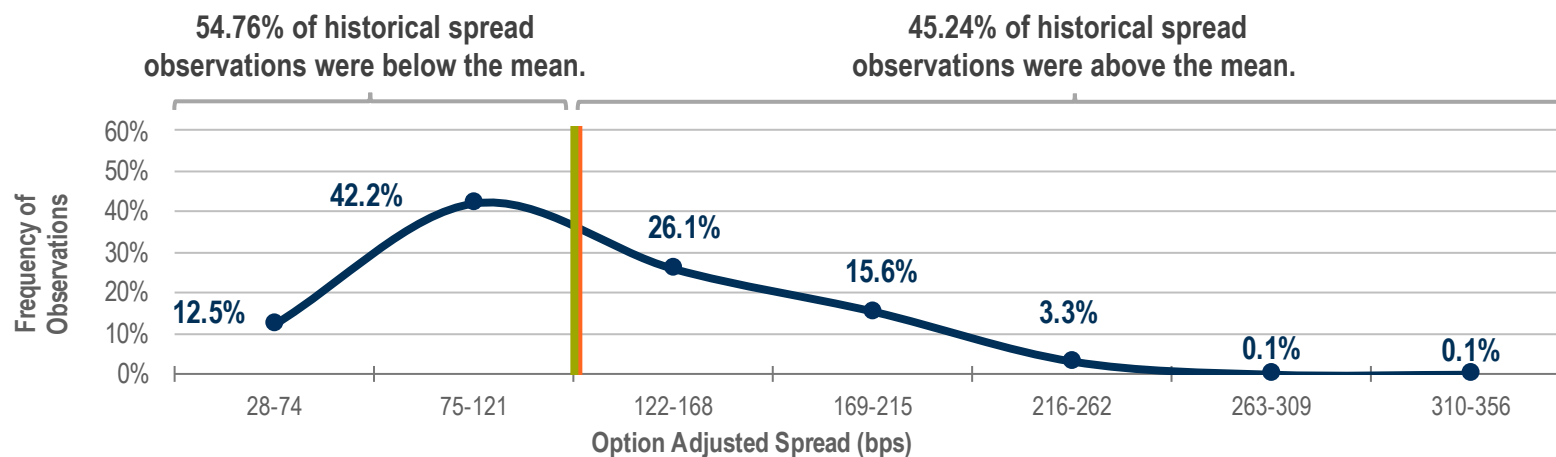


Current OAS: 82

Mean OAS: 128

Mode OAS: 138

Fixed Rate CMBS Bonds Spreads over U.S. Treasuries



Current OAS: 123

Mean OAS: 122

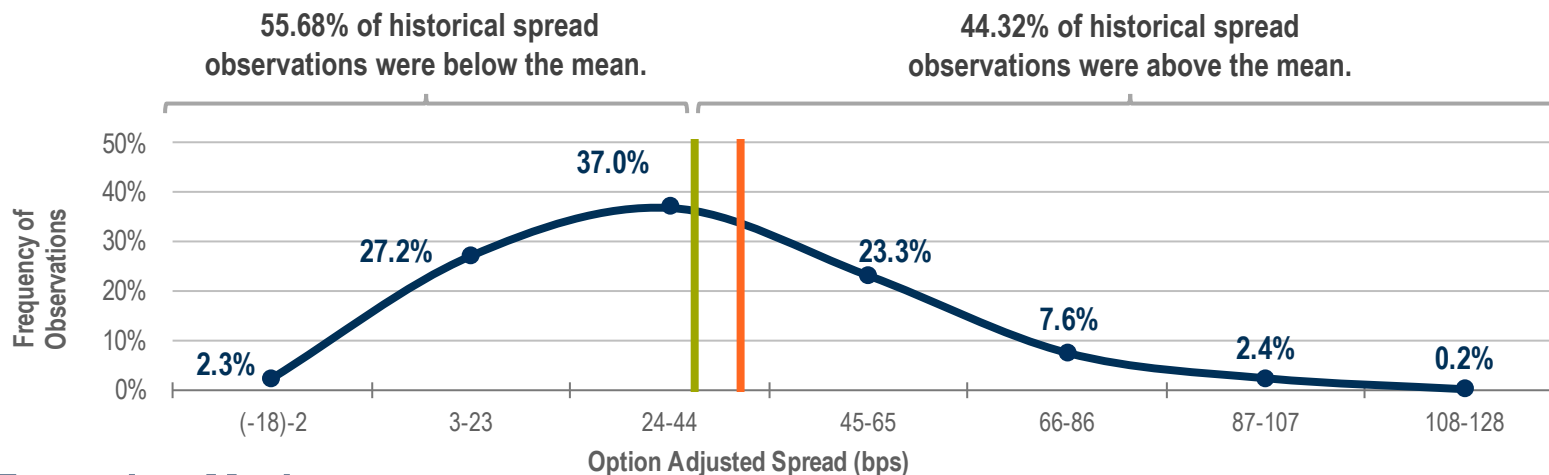
Mode OAS: 77

Source: Bloomberg. Data is from 12/31/2014 through 12/31/2024. For illustrative purposes only and not indicative of any actual investment. See index definitions at the end of the presentation. Past performance is no guarantee of future results.

FIXED INCOME OPPORTUNITY SET

Agency MBS Spreads over U.S. Treasuries

● The frequency in which observations fell within Option Adjusted Spread range.

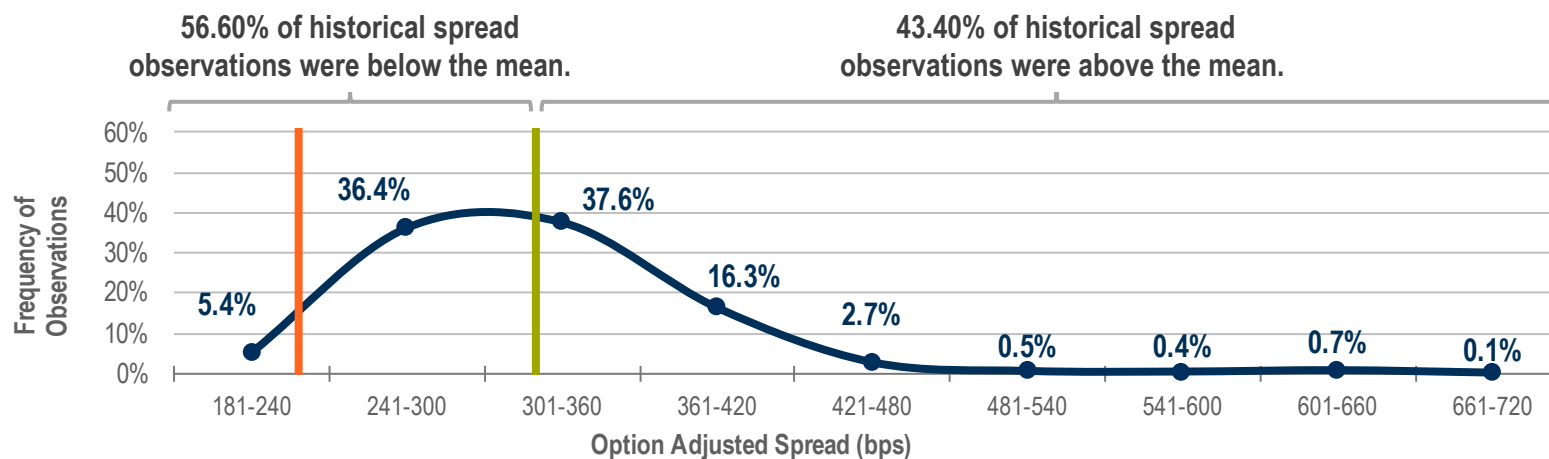


Current OAS: 42

Mean OAS: 37

Mode OAS: 24

Emerging Markets Spreads over U.S. Treasuries



Current OAS: 229

Mean OAS: 321

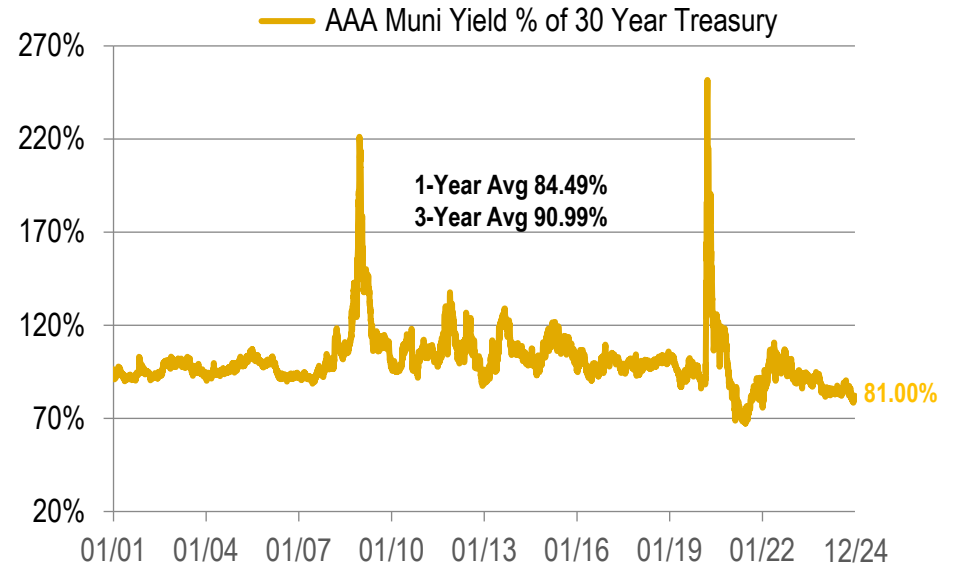
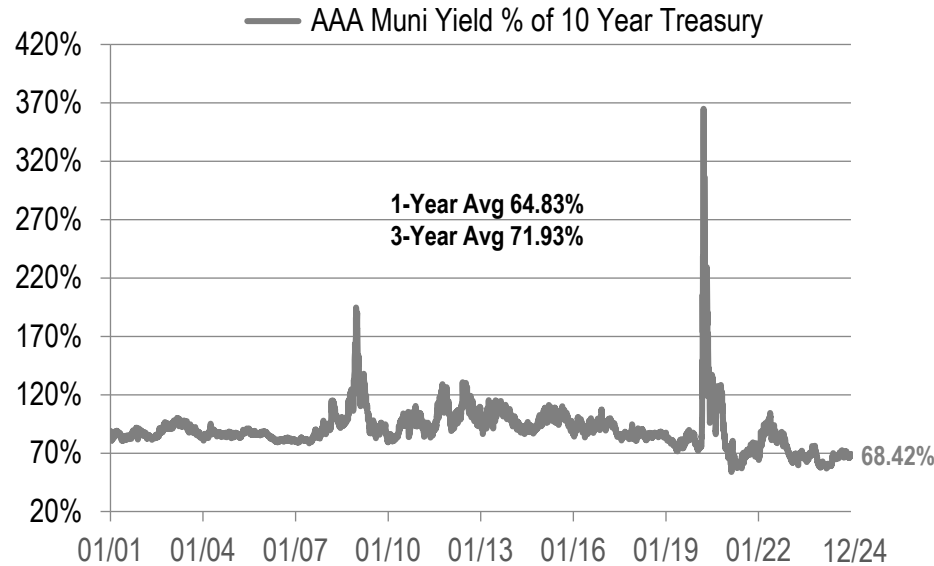
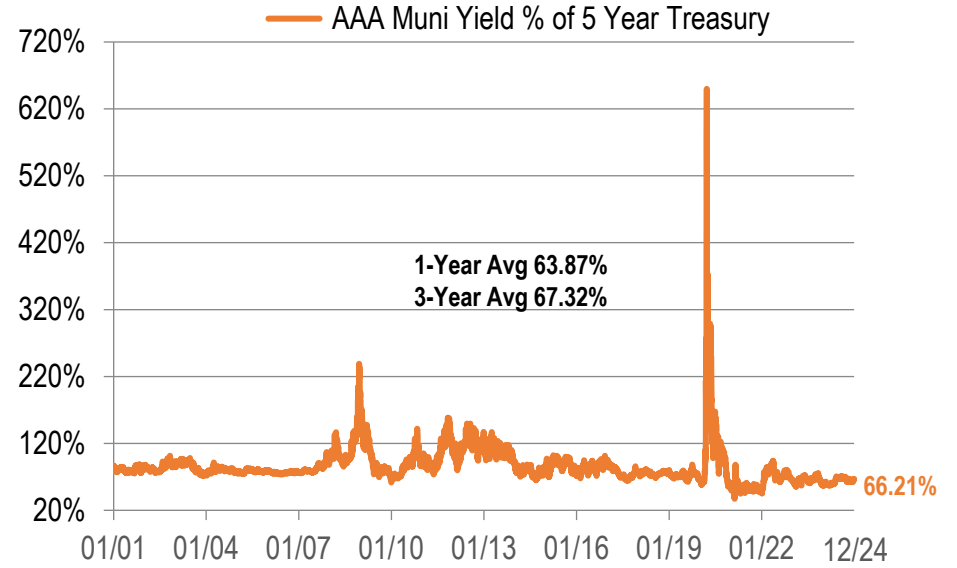
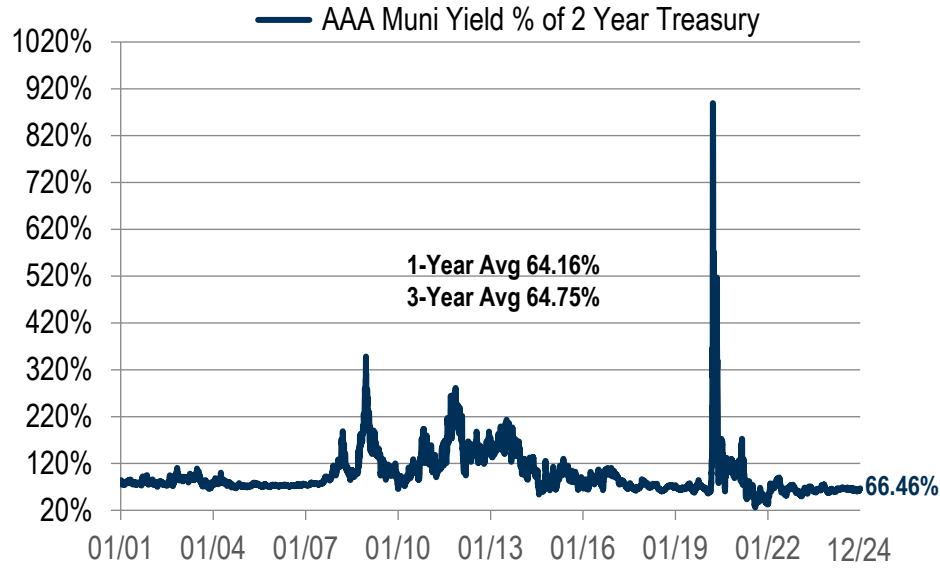
Mode OAS: 290

Source: Bloomberg. Data is from 12/31/2014 through 12/31/2024. For illustrative purposes only and not indicative of any actual investment. See index definitions at the end of the presentation. Past performance is no guarantee of future results.

MUNICIPAL / TREASURY YIELD RATIO

January 2, 2001 – December 31, 2024

FIXED INCOME OPPORTUNITY SET

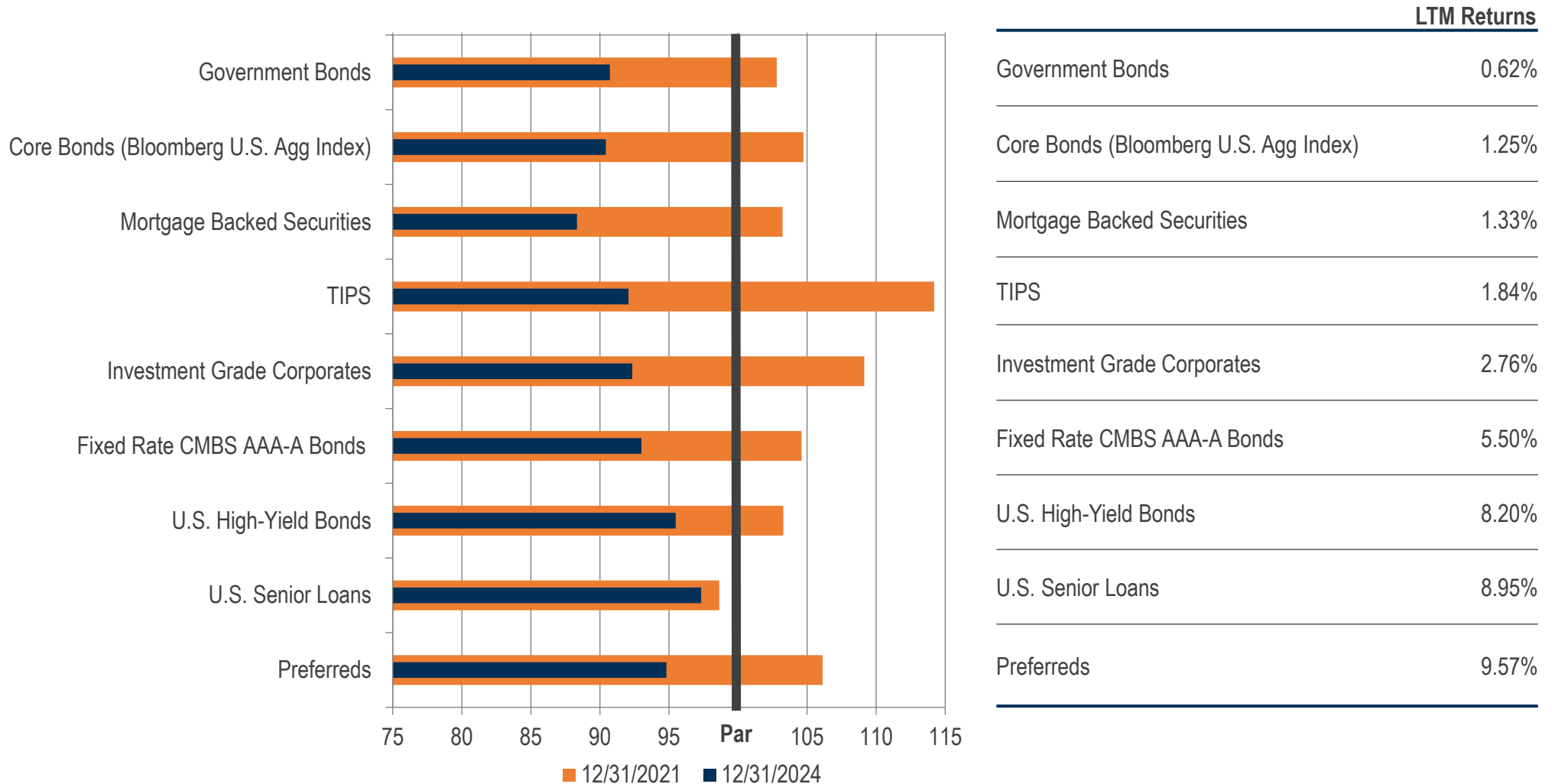


Source: Bloomberg. Past performance is no guarantee of future results. The Municipal/Treasury ratio is a percentage of municipal yields against equivalent Treasury yields.

FIXED INCOME ASSET CLASS PRICE ANALYSIS

As of December 31, 2024

FIXED INCOME OPPORTUNITY SET

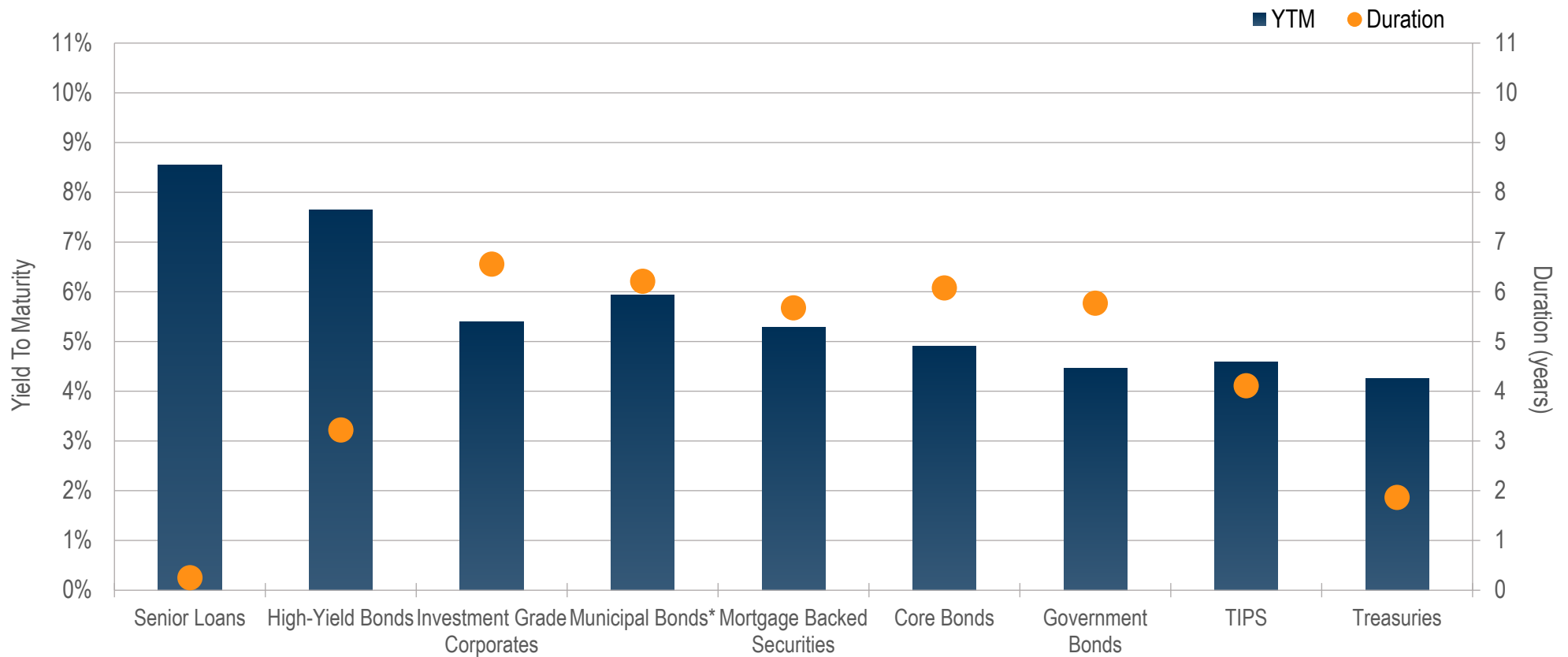


Source: S&P LCD and Bloomberg. **Past performance is no guarantee of future results.** U.S. High-Yield Bonds are represented by the ICE BofA U.S. High Yield Constrained Index. Preferred Securities are represented by a blended benchmark consisting of 30% ICE BofA Core Plus Fixed Rate Preferred Securities Index (P0P4) / 30% ICE BofA U.S. Investment Grade Institutional Capital Securities Index (CIPS) / 30% ICE BofA USD Contingent Capital Index (CDLR) / 10% ICE BofA U.S. High Yield Institutional Capital Securities Index (HIPS). U.S. Senior Loans are represented by the Morningstar® LSTA® US Leveraged Loan Index. Investment Grade Corporates are represented by the ICE BofA U.S. Corporate Index. Core Bonds are represented by the Bloomberg U.S. Aggregate Bond Index. Government Bonds are represented by the Bloomberg U.S. Government Index. TIPS are represented by the Bloomberg US Treasury Inflation-Linked Bond Index. Mortgage Backed Securities are represented by the ICE BofA U.S. Mortgage Backed Securities Index. CMBS is represented by ICE BofA AAA-A US Fixed Rate CMBS Index. See Index Definitions.

FIXED INCOME OPPORTUNITY SET – DURATION VS YTM

As of December 31, 2024

FIXED INCOME OPPORTUNITY SET

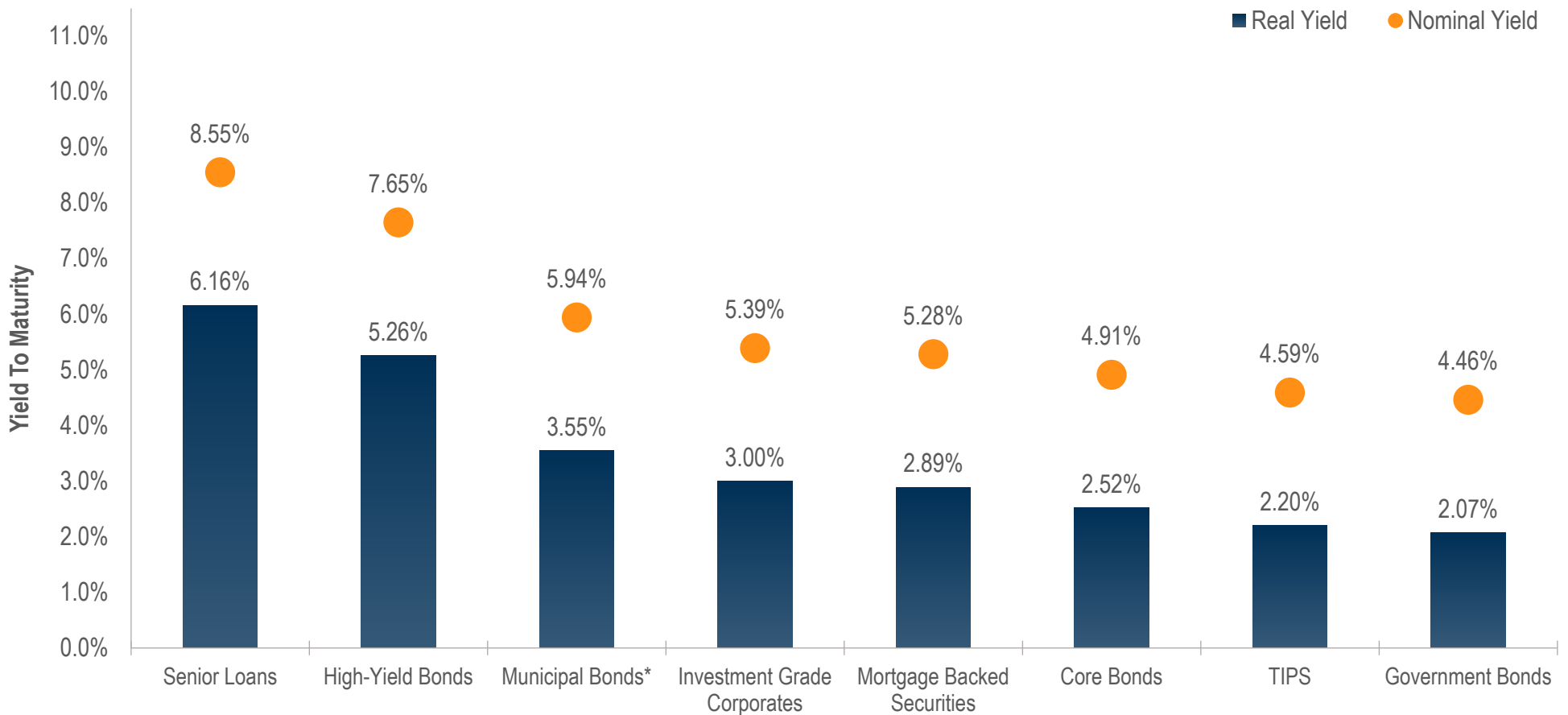


Source: S&P LCD, and Bloomberg. **Past performance is no guarantee of future results.** *YTM represents the Tax-Equivalent Yield (TEY) for the highest tax bracket of 37% plus a Medicare tax rate of 3.8% for a total tax rate of 40.8%. U.S. Senior Loans are represented by the Morningstar[®] LSTA[®] US Leveraged Loan Index. High-Yield Bonds are represented by the ICE BofA U.S. High Yield Constrained Index. Investment Grade Corporates are represented by the ICE BofA U.S. Corporate Index. Municipal Bonds are represented by the Bloomberg U.S. Municipal Index. Mortgage Backed Securities are represented by the ICE BofA U.S. Mortgage Backed Securities Index. Core Bonds are represented by the Bloomberg U.S. Aggregate Bond Index. Government Bonds are represented by the Bloomberg U.S. Government Index. TIPS are represented by the Bloomberg US Treasury Inflation-Linked Bond Index. See Index Definitions.

FIXED INCOME OPPORTUNITY SET – NOMINAL & REAL YIELDS

As of December 31, 2024

FIXED INCOME OPPORTUNITY SET

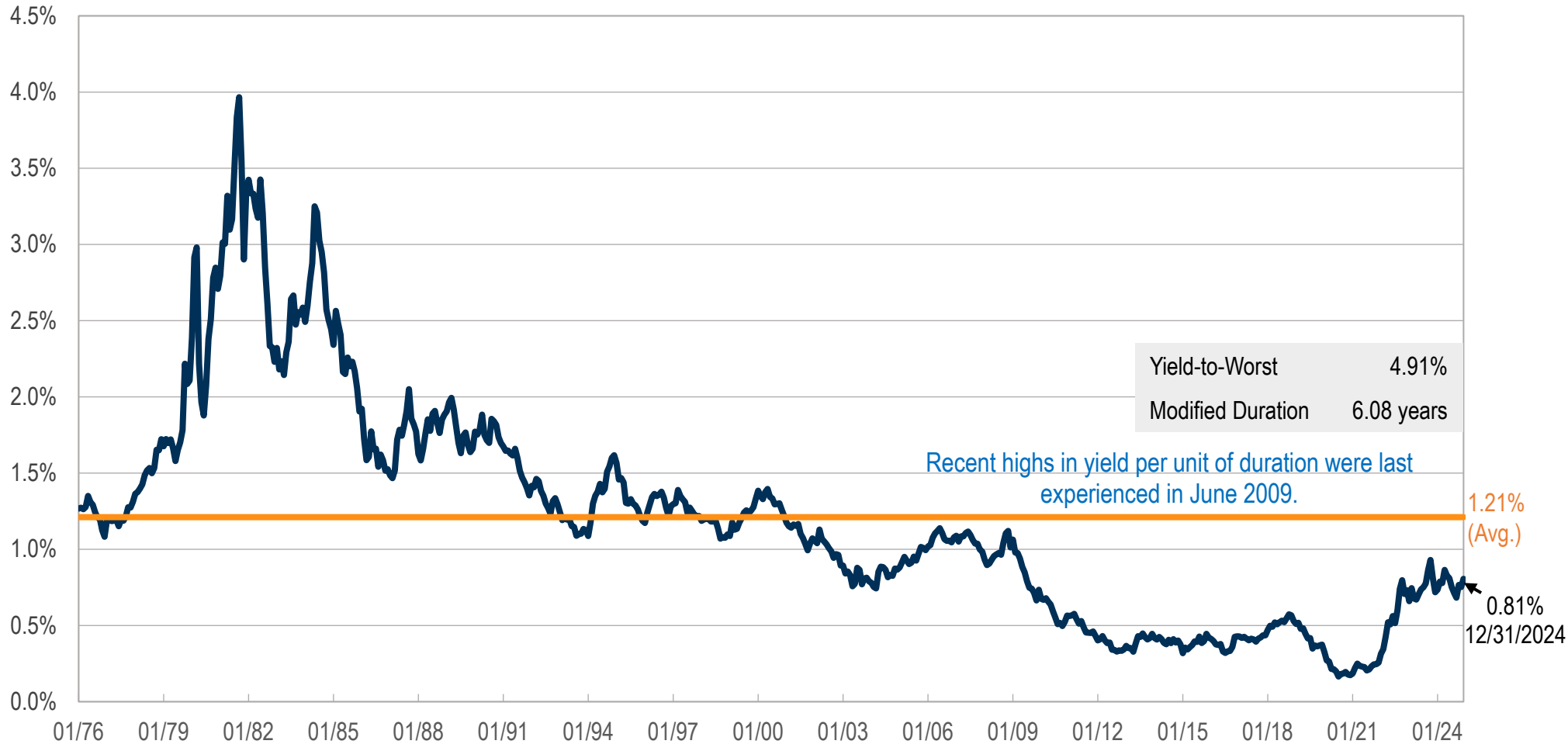


Source: S&P LCD, and Bloomberg. **Past performance is no guarantee of future results.** *YTM represents the Tax-Equivalent Yield (TEY) for the highest tax bracket of 37% plus a Medicare tax rate of 3.8% for a total tax rate of 40.8%. Real yield is represented by nominal yield-to-maturity minus the 5-yr inflation breakeven rate of 2.91%, which is calculated as the difference in yields between U.S Treasury bonds and Treasury Inflation-Protected Securities (TIPS). Senior Loans are represented by the Morningstar® LSTA® US Leveraged Loan Index. High-Yield Bonds are represented by the ICE BofA U.S. High Yield Constrained Index. Investment Grade Corporates are represented by the ICE BofA U.S. Corporate Index. Municipal Bonds are represented by the Bloomberg U.S. Municipal Index. Mortgage Backed Securities are represented by the ICE BofA U.S. Mortgage Backed Securities Index. Core Bonds are represented by the Bloomberg U.S. Aggregate Bond Index. Government Bonds are represented by the Bloomberg U.S. Government Index. TIPS are represented by the Bloomberg US Treasury Inflation-Linked Bond Index. See Index Definitions.

YIELD PER UNIT OF DURATION

Bloomberg U.S. Aggregate Bond Index (January 30, 1976 – December 31, 2024)

FIXED INCOME OPPORTUNITY SET

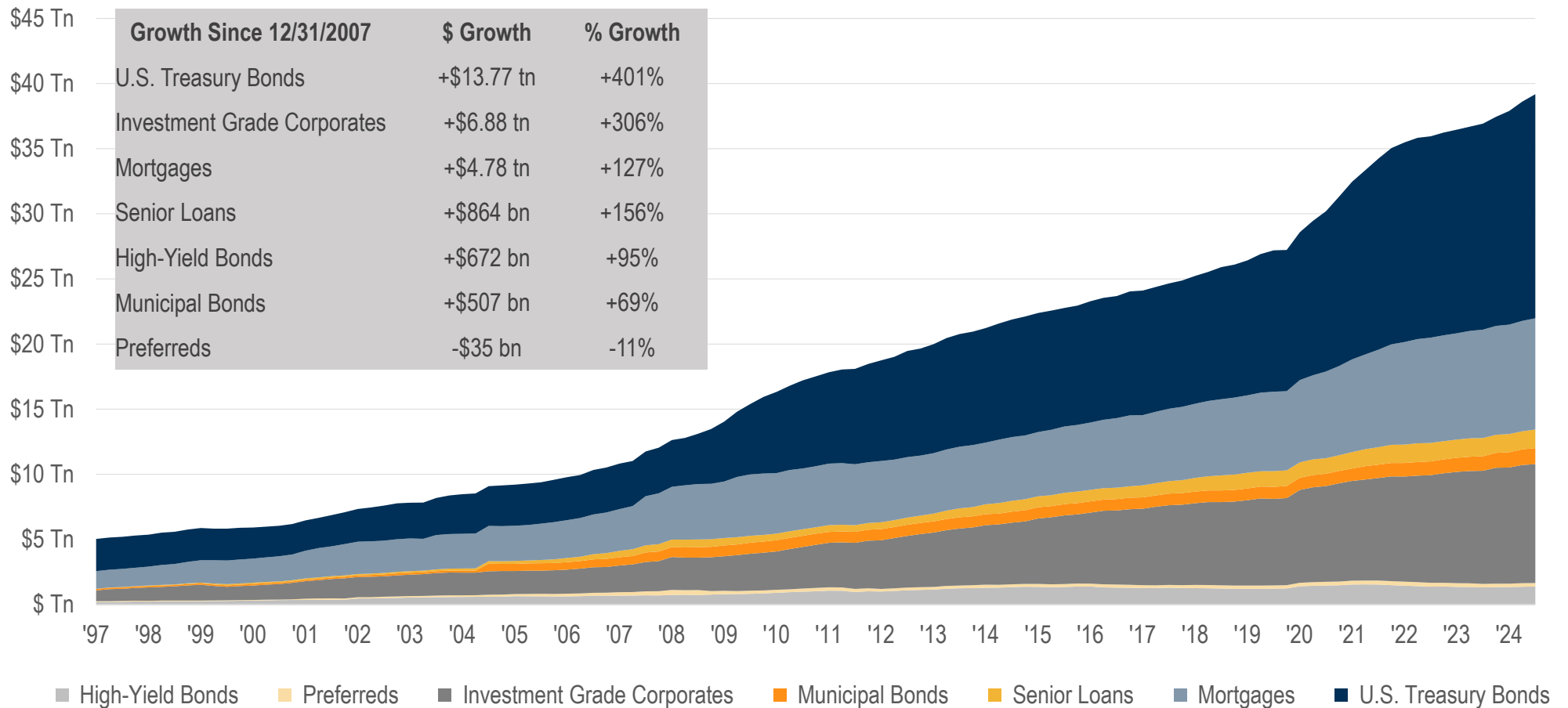


Source: Bloomberg. **Past performance is no guarantee of future results.** Duration is a measure of a bond's sensitivity to interest rate changes that reflects the change in a bond's price given a change in yield. See Index Definitions.

SIZE AND GROWTH OF THE U.S. DEBT MARKET

March 31, 1997 – December 31, 2024

FIXED INCOME OPPORTUNITY SET

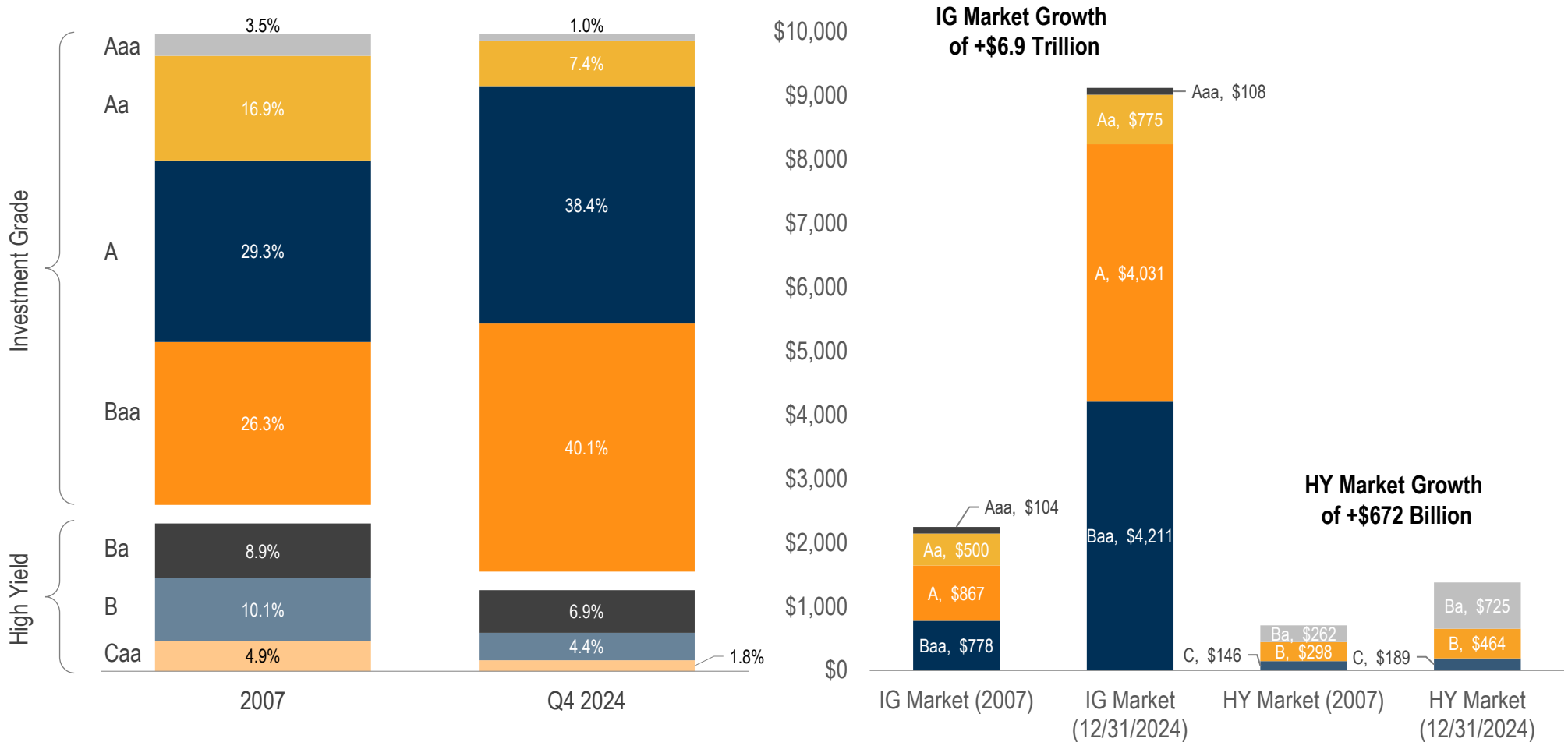


Source: ICE and Standard & Poor's Leveraged Loan Commentary and Data. Data as of 12/31/24. U.S. High-Yield Bonds are represented by the ICE BofA U.S. High Yield Constrained Index. Preferreds are represented by the sum of ICE BofA Fixed Rate Preferred Securities Index and the ICE BofA Investment Grade Institutional Capital Securities Index. Investment Grade Corporates are represented by the ICE BofA U.S. Corporate Index. Municipal Bonds are represented by the Bloomberg U.S. Municipal Index. Senior Loans are represented by the Morningstar® LSTA® US Leveraged Loan Index. Mortgages are represented by the ICE BofA U.S. Mortgage Backed Securities Index. U.S. Treasury Bonds are represented by the ICE BofA U.S. Treasury & Agency Index. See Index Definitions.

SIZE AND CREDIT QUALITY OF THE U.S. CORPORATE DEBT MARKET

December 31, 2007 vs. December 31, 2024

FIXED INCOME OPPORTUNITY SET



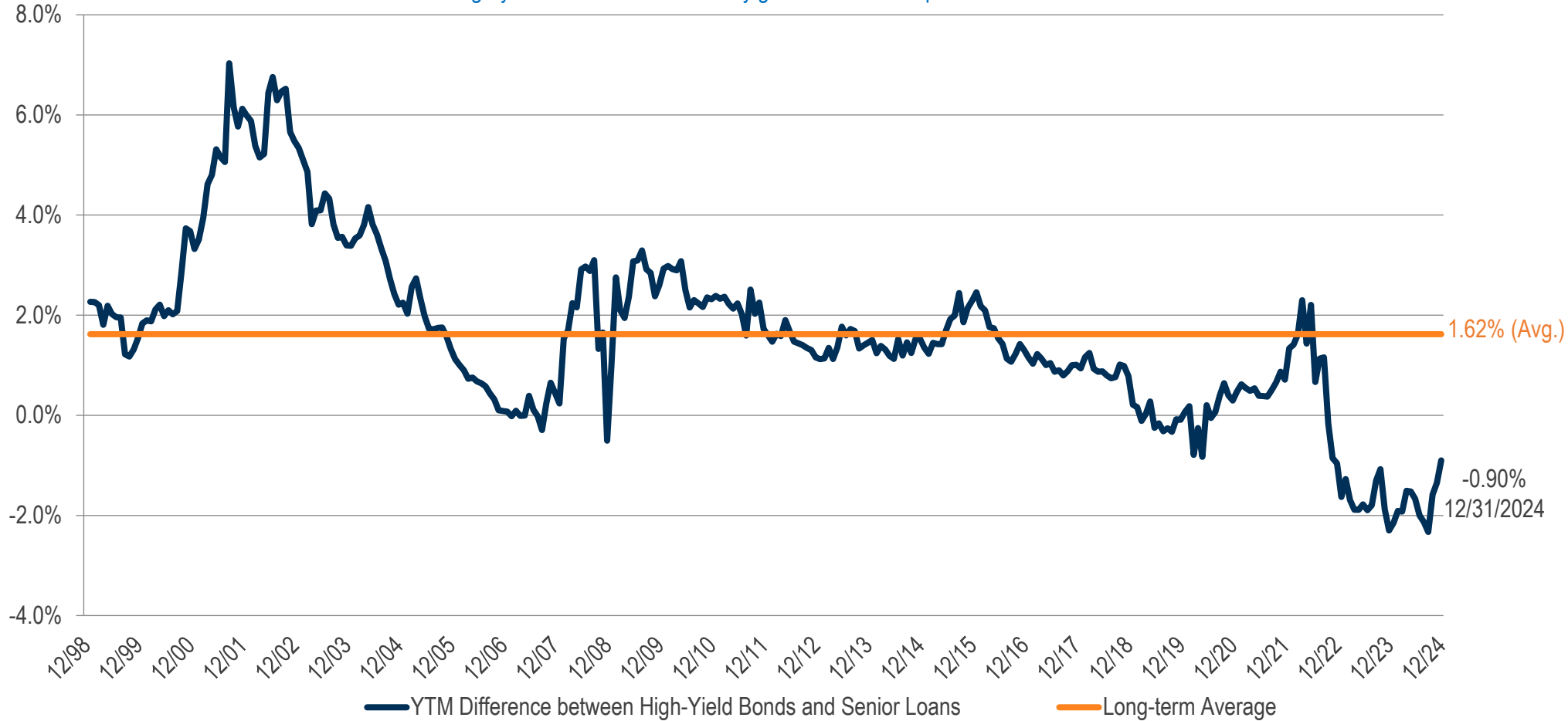
Source: Bloomberg. Investment Grade represented by the ICE BofA U.S. Corporate Index. High Yield represented by the ICE BofA U.S. High Yield Constrained Index. The Index composite rating is a derived value that is used to classify bonds by credit quality in Bloomberg Indices. It is set as the middle rating of Moody's, S&P and Fitch; when a rating from only two agencies is available, the lower is used; if only one agency rates a bond, that rating is taken. Investment grade bonds have a rating of at least Baa3 from Moody's or BBB- from S&P and Fitch. High-yield bonds have a rating below Baa3 from Moody's or BBB- from S&P and Fitch. Credit ratings are subject to change. See Index Definitions.

YTM DIFFERENCE OF HIGH-YIELD BONDS VS LOANS

December 31, 1998 – December 31, 2024

FIXED INCOME OPPORTUNITY SET

High-yield bonds are yielding 0.90% less than senior loans, which represents an inversion of the long-term average relationship where high-yield bonds have historically garnered a 1.62% premium to own.

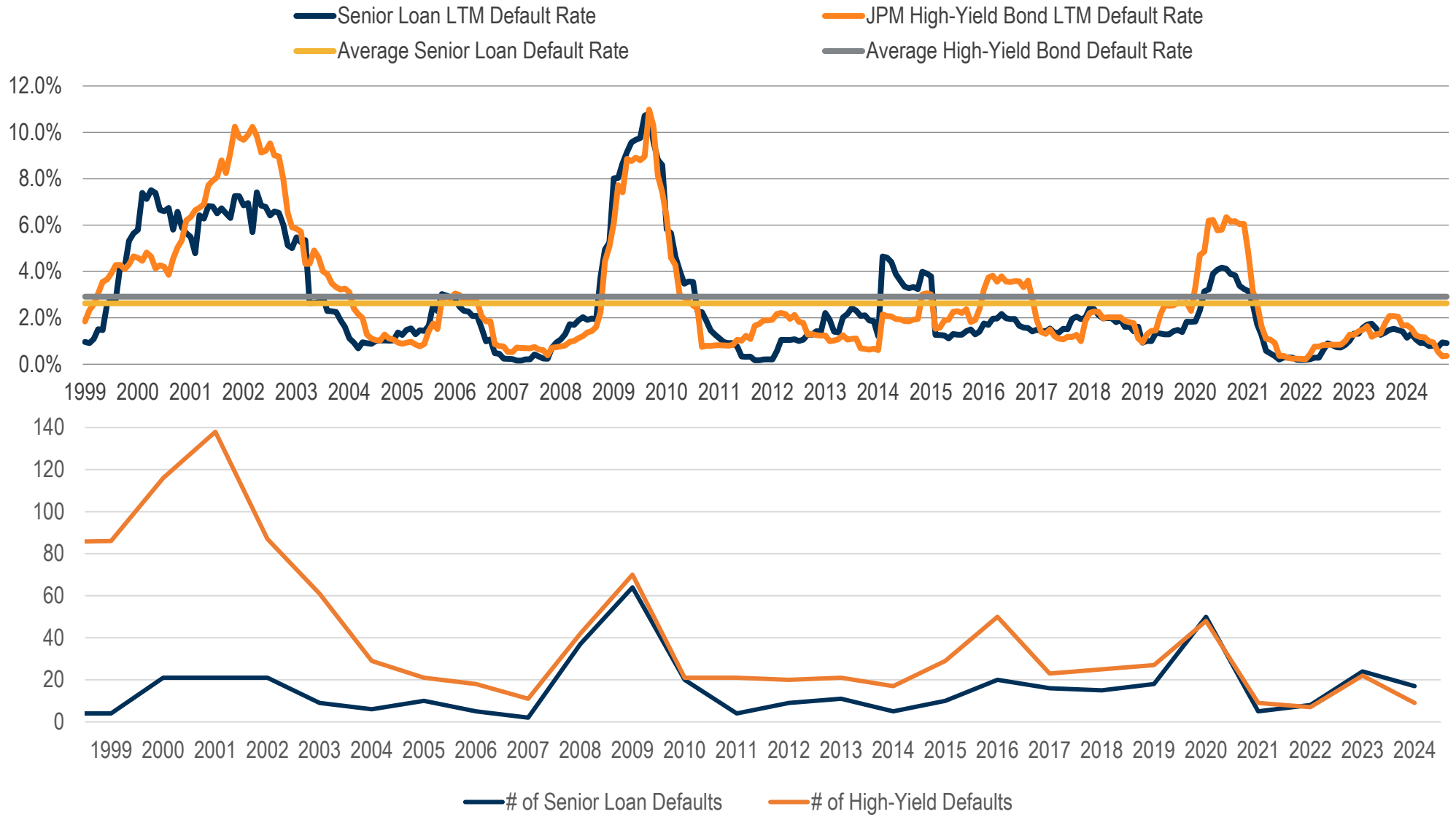


Source: Bloomberg, Standard & Poor's Leveraged Loan Commentary and Data. **Past performance is no guarantee of future results.** High-yield bonds are represented by the ICE BofA U.S. High-Yield Constrained Index (HUC0). Senior loans are represented by the Morningstar® LSTA® US Leveraged Loan Index (LLI). See Index Definitions.

SENIOR LOAN AND HIGH-YIELD BOND DEFAULT RATE

March 31, 1999 – December 31, 2024

FIXED INCOME OPPORTUNITY SET

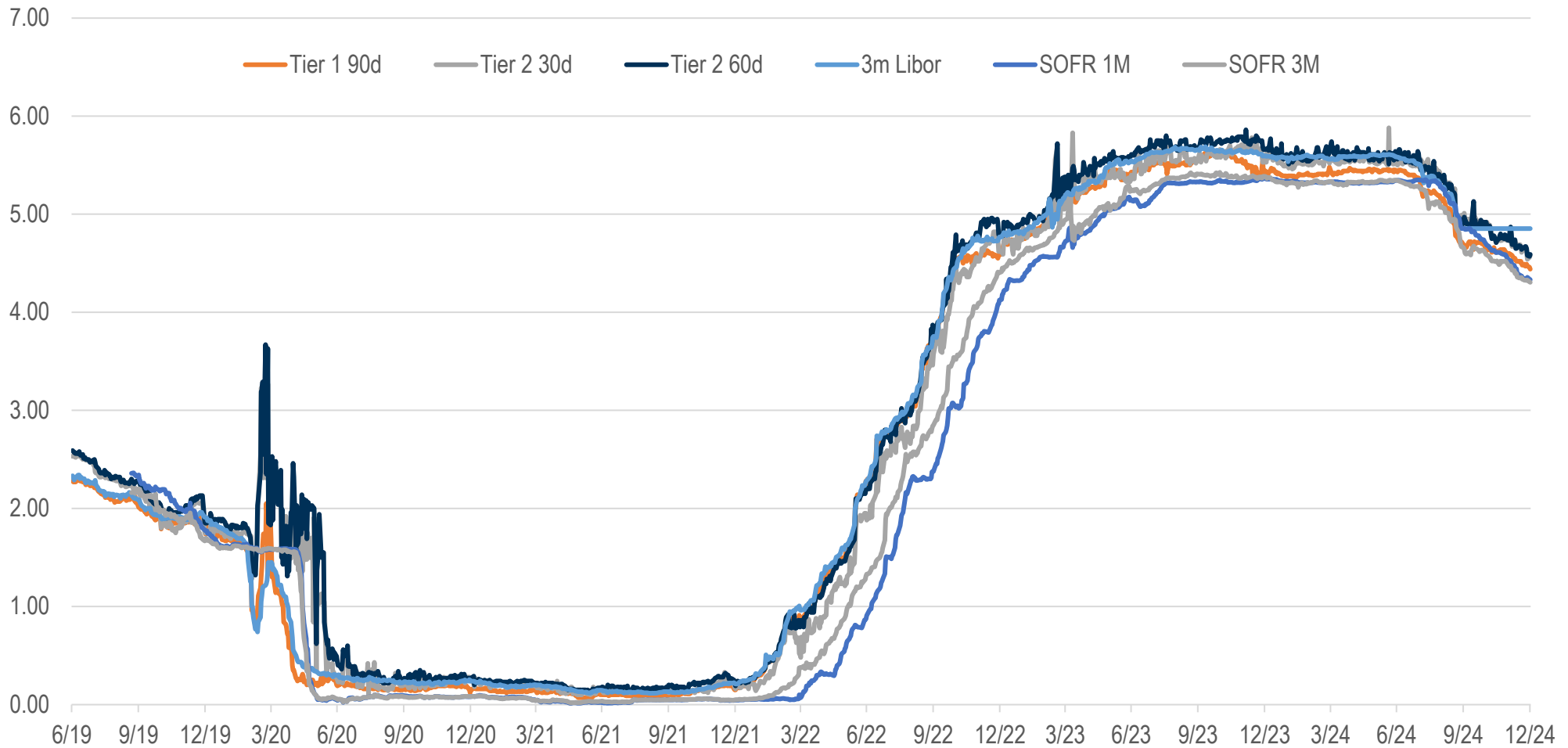


Source: Standard & Poor's LCD and JP Morgan high-yield research. **Past performance is no guarantee of future results.** High-yield bonds are represented by J.P. Morgan's high-yield bond universe based on the last twelve months (LTM). Senior loans are represented by the Morningstar® LSTA® US Leveraged Loan Index (LLI) and based on the LTM. See Index Definitions.

MONEY MARKET RATES

June 30, 2019 – December 31, 2024

FIXED INCOME OPPORTUNITY SET



Source: Bloomberg. **Past performance is no guarantee of future results.** Tier 1 90d - U.S. Commercial Paper Placed Top 90 Day Yield (DCPB090Y Index), Tier 2 30d - U.S. Commercial Paper Dealer Placed Second 30 Day Yield (DCPD030Y Index), Tier 2 60d - U.S. Commercial Paper Dealer Placed Second 60 Day Yield (DCPD060Y Index), 3m Libor- ICE LIBOR USD 3 Month (US0003M Index), 1m SOFR- CME Term SOFR 1 Month (TSFR1M Index), 3m SOFR- CME Term SOFR 3 Month (TSFR3M Index). For illustrative purposes only.

FIXED INCOME ASSET CLASS RETURNS (%)

2001 – December 31, 2024

| FIXED INCOME OPPORTUNITY SET | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|-------|-------|-------|-------|-------|--------|--------|--------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|
| 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| 12.16 | 19.59 | 28.97 | 11.13 | 6.50 | 11.85 | 10.57 | 24.03 | 58.21 | 15.12 | 29.93 | 15.81 | 7.44 | 25.07 | 7.58 | 17.13 | 12.21 | 1.41 | 23.26 | 18.10 | 5.40 | -1.06 | 13.44 | 9.05 |
| 9.84 | 16.79 | 14.78 | 10.33 | 5.69 | 8.10 | 9.81 | 11.35 | 44.87 | 13.66 | 17.13 | 13.59 | 6.15 | 16.39 | 3.30 | 10.22 | 10.58 | 1.40 | 17.71 | 13.32 | 5.28 | -4.11 | 13.04 | 8.19 |
| 9.77 | 11.92 | 11.01 | 9.38 | 3.76 | 7.33 | 8.83 | 10.23 | 20.07 | 10.69 | 10.70 | 12.73 | 0.30 | 15.44 | 1.39 | 9.88 | 8.53 | 1.28 | 15.11 | 9.50 | 2.24 | -7.77 | 10.73 | 7.06 |
| 8.22 | 10.14 | 10.43 | 7.70 | 3.51 | 6.44 | 7.41 | 7.87 | 16.80 | 9.97 | 7.90 | 9.43 | -0.17 | 9.05 | 1.18 | 3.68 | 7.50 | 1.14 | 14.32 | 7.47 | 1.52 | -8.53 | 10.21 | 4.22 |
| 8.16 | 9.60 | 9.43 | 5.60 | 3.20 | 4.84 | 6.98 | 7.62 | 15.93 | 9.38 | 6.57 | 8.10 | -1.34 | 5.97 | 0.90 | 2.32 | 7.29 | 1.02 | 10.14 | 7.11 | -0.57 | -9.40 | 7.29 | 3.79 |
| 8.15 | 9.28 | 6.91 | 5.11 | 2.74 | 4.61 | 5.60 | -2.47 | 12.91 | 7.76 | 6.33 | 6.78 | -2.12 | 4.16 | 0.41 | 1.65 | 5.45 | 0.01 | 8.17 | 6.95 | -1.00 | -10.77 | 6.40 | 2.42 |
| 5.28 | 8.69 | 5.31 | 4.48 | 1.56 | 4.49 | 3.60 | -2.76 | 5.37 | 6.67 | 5.37 | 3.56 | -2.55 | 2.57 | -0.38 | 1.56 | 4.25 | -0.38 | 7.54 | 5.77 | -1.18 | -11.19 | 5.40 | 1.05 |
| 5.13 | 7.66 | 2.85 | 4.35 | 1.42 | 3.71 | 3.36 | -3.92 | 2.63 | 5.90 | 4.98 | 2.42 | -3.65 | 2.45 | -1.21 | 1.33 | 3.67 | -1.84 | 5.86 | 5.21 | -1.46 | -14.60 | 4.28 | 0.95 |
| 4.21 | 6.46 | 2.48 | 4.08 | 1.36 | 3.51 | 1.88 | -25.24 | 1.29 | 5.29 | 4.11 | 1.83 | -4.30 | 2.06 | -3.29 | 1.06 | 1.86 | -2.08 | 5.59 | 3.68 | -1.72 | -17.47 | 4.18 | -2.01 |
| 2.65 | 1.12 | 2.20 | 2.02 | 0.96 | 3.47 | 1.87 | -26.16 | -1.41 | 2.38 | 1.82 | 1.71 | -6.62 | 0.66 | -4.47 | 0.64 | 1.14 | -4.34 | 5.22 | 3.07 | -4.37 | -25.29 | 3.65 | -3.58 |
| -1.37 | -1.41 | 2.11 | 0.89 | -6.66 | 1.85 | -11.31 | -28.75 | -12.92 | 2.35 | 1.53 | 0.31 | -12.66 | -0.79 | -4.56 | 0.25 | 0.25 | -6.76 | 3.31 | 2.78 | -6.60 | -31.09 | 2.66 | -7.98 |

■ Floating Rate
 ■ Global Treasury
 ■ GNMA
 ■ High Yield
 ■ Intermediate Corporate
 ■ Intermediate Treasury
 ■ Long Corporate
 ■ Long Treasury
 ■ Municipal
 ■ Preferred
 ■ Short Treasury

Source: Bloomberg. **Past performance is no guarantee of future results.** An index does not charge management fees or brokerage expenses, and no such fees or expenses were deducted from the performance shown. The asset classes shown here offer different characteristics in terms of income, tax treatment, capital appreciation and risk. High-yield securities, or “junk” bonds, are subject to greater market fluctuations and risk of loss than securities with higher ratings, and therefore, may be highly speculative. Fixed rate investment grade (IG) bonds are subject to fluctuations due to higher interest rates, economic recession, deterioration of the bond market or investors’ perception thereof, possible downgrades and defaults of interest and/or principal. Diversification does not guarantee a profit or protect against loss. Asset classes are represented by the following indices: **High Yield** - Bloomberg U.S. Corporate High-Yield Bond Index. **Intermediate Corporate** - Bloomberg U.S. Intermediate Credit Index. **Municipal** - Bloomberg U.S. Municipal Index. **Long Corporate** - Bloomberg U.S. Long Credit Index. **Intermediate Treasury** - Bloomberg U.S. Intermediate Treasury Index. **Long Treasury** - Bloomberg U.S. Long Treasury Index. **Global Treasury** - Bloomberg Global Treasury Index. **Floating Rate** - Credit Suisse Leveraged Loan Index **GNMA** - Bloomberg GNMA Index. **Short Treasury** - Bloomberg 2-Yr U.S. Treasury Bellwethers Index. **Preferred** - ICE BofA Fixed Rate Preferred Securities Index. See Index Definitions.

ASSET CLASS CORRELATION

December 31, 2014 – December 31, 2024

FIXED INCOME OPPORTUNITY SET

| | Equities | Core Bonds | Senior Loans | High-Yield Bonds | Preferreds | EM | U.S. Convertibles | U.S. MBS | Municipals | IG Corporates | Government Bonds | MLPs | Commodities | Ann. Volatility |
|-------------------|----------|------------|--------------|------------------|------------|------|-------------------|----------|------------|---------------|------------------|------|-------------|-----------------|
| Equities | 1.00 | | | | | | | | | | | | | 15.30 |
| Core Bonds | 0.37 | 1.00 | | | | | | | | | | | | 5.01 |
| Senior Loans | 0.60 | 0.15 | 1.00 | | | | | | | | | | | 5.43 |
| High-Yield Bonds | 0.80 | 0.49 | 0.80 | 1.00 | | | | | | | | | | 7.64 |
| Preferreds | 0.66 | 0.65 | 0.54 | 0.75 | 1.00 | | | | | | | | | 7.89 |
| EM | 0.66 | 0.69 | 0.63 | 0.83 | 0.74 | 1.00 | | | | | | | | 8.73 |
| U.S. Convertibles | 0.86 | 0.37 | 0.70 | 0.81 | 0.64 | 0.67 | 1.00 | | | | | | | 12.85 |
| U.S. MBS | 0.37 | 0.94 | 0.06 | 0.43 | 0.62 | 0.62 | 0.32 | 1.00 | | | | | | 4.94 |
| Municipals | 0.40 | 0.85 | 0.28 | 0.55 | 0.66 | 0.76 | 0.39 | 0.81 | 1.00 | | | | | 5.18 |
| IG Corporates | 0.57 | 0.90 | 0.50 | 0.73 | 0.78 | 0.86 | 0.60 | 0.78 | 0.83 | 1.00 | | | | 6.74 |
| Government Bonds | 0.13 | 0.94 | -0.13 | 0.21 | 0.44 | 0.46 | 0.13 | 0.88 | 0.74 | 0.73 | 1.00 | | | 4.82 |
| MLPs | 0.65 | 0.09 | 0.71 | 0.68 | 0.47 | 0.45 | 0.64 | 0.04 | 0.14 | 0.39 | -0.15 | 1.00 | | 30.92 |
| Commodities | 0.40 | -0.07 | 0.50 | 0.50 | 0.20 | 0.32 | 0.41 | -0.05 | 0.03 | 0.11 | -0.24 | 0.52 | 1.00 | 13.98 |

Source: Morningstar. **Past performance is no guarantee of future results.** Annual (Ann) Volatility is based on standard deviation which is a measure of price variability (risk). Equities are represented by the S&P 500 Index. Core Bonds are represented by the Bloomberg U.S. Aggregate Bond Index. Senior Loans are represented by the Morningstar® LSTA® US Leveraged Loan Index. High-Yield Bonds are represented by the ICE BofA U.S. High Yield Constrained Index. Preferreds are represented by the ICE BofA Fixed Rate Preferred Securities Index. EM is represented by the ICE BofA U.S. Emerging Markets External Sovereign Index. U.S. Convertibles are represented by the ICE BofA U.S. Convertible Index. U.S. MBS is represented by the ICE BofA U.S. Mortgage Backed Securities Index. Municipals are represented by the Bloomberg U.S. Municipal Index. IG Corporates are represented by the ICE BofA U.S. Investment Grade Corporate Index. Government Bonds are represented by the Bloomberg US Government Index. MLPs are represented by the Alerian MLP Index. Commodities are represented by the Bloomberg Commodity Index. See Index Definitions.

Bloomberg Commodity Index (BCOM) - A highly liquid and diversified benchmark for commodity investments including but not limited to energy, grains, industrial metals, precious metals, softs and livestock.

Bloomberg GNMA Index - Consists of 30-yr and 15-yr pass-through GNMA and GNMA Graduated Payment Mortgages.

Bloomberg Global Aggregate Index - Measures the global investment grade debt from 24 local currency markets which includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging market issuers.

Bloomberg Global Treasury Index - Tracks fixed-rate, local currency government debt of IG countries, including both developed and emerging markets.

Bloomberg High Yield Municipal Bond Index - Measures the performance of U.S. dollar-denominated high-yield municipal bonds.

Bloomberg Municipal Bond Index - Tracks the performance of the tax-exempt bond market.

Bloomberg Muni High Yield Index – A flagship measure of the non-investment grade and non-rated USD-denominated tax exempt bond market.

Bloomberg U.S. Aggregate Bond Index - Measures the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market, including Treasuries, government-related and corporate securities, MBS, ABS and CMBS.

Bloomberg U.S. Corporate Bond Index - Measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD-denominated securities publicly issued by U.S. and non-U.S. industrial, utility and financial issuers.

Bloomberg U.S. Corporate High Yield Index - Measures the USD-denominated, high yield, fixed-rate corporate bond market.

Bloomberg U.S. Corporate Investment Grade Index - Tracks publicly issued, SEC-registered, U.S. corporate and specified foreign debentures and secured notes that have a maturity greater than one year, at least \$250 M outstanding par balance, and rated Baa3/BBB- or higher.

Bloomberg U.S. Government Index - Consists of securities issued by the U.S. Government.

Bloomberg U.S. Intermediate Credit Index - Measures the Investment Grade (IG), U.S. dollar (USD)-denominated, fixed-rate, taxable corporate and gov't-related bond markets with a maturity greater than 1 yr. and less than 10 yrs.

Bloomberg U.S. Intermediate Treasury Index - Consists of public obligations of the U.S. Treasury with maturities from 1 and up to 10 yrs.

Bloomberg U.S. Long Credit Index - Measures the IG, USD-denominated, fixed-rate, taxable corporate and gov't-related bond markets with 10 or more years to maturity.

Bloomberg U.S. Long Treasury Index - Consists of public obligations of the U.S. Treasury with 10 or more years to maturity.

Bloomberg U.S. MBS Index - Tracks agency mortgage backed pass-through securities (both fixed-rate and hybrid ARM) guaranteed by Ginnie Mae, Fannie Mae, and Freddie Mac.

Bloomberg U.S. Municipal Index - Covers the USD-denominated long-term tax exempt bond market.

Bloomberg U.S. Treasury Index - Measures U.S. dollar-denominated, fixed-rate, nominal debt issued by the U.S. Treasury.

Bloomberg US Treasury Inflation-Linked Bond Index - Measures the performance of the US Treasury Inflation Protected Securities (TIPS) market.

Bloomberg 2-Yr U.S. Treasury Bellwethers Index - Consists of U.S. Treasury bonds with an average maturity of 2 years.

Credit Suisse Leveraged Loan Index - Tracks the investable market of the USD-denominated leveraged loan market. All loans are funded term loans with a maturity of at least 1 year and are made by issuers domiciled in developed.

Dow Jones Industrial Average® (The Dow®) - A price-weighted measure of 30 U.S. blue-chip companies. The index covers all industries except transportation and utilities.

Economic Surprise Index - Measures data surprises relative to market expectations and has historically exhibited a positive correlation with 10-Year U.S. Treasury Yields.

DEFINITIONS

ICE BofA AAA-A US Fixed Rate CMBS Index - Tracks the performance of fixed rate commercial mortgage backed securities (CMBS) that are publicly issued in the U.S.

ICE BofA Current 2-Year U.S. Treasury Index - A one-security index comprised of the most recently issued 2-year U.S. Treasury note.

ICE BofA Current 5-Year U.S. Treasury Index - A one-security index comprised of the most recently issued 5-year U.S. Treasury note.

ICE BofA Current 10-Year U.S. Treasury Index - A one-security index comprised of the most recently issued 10-year U.S. Treasury note.

ICE BofA Current 30-Year U.S. Treasury Index - A one-security index comprised of the most recently issued 30-year U.S. Treasury note.

ICE BofA Fixed Rate Preferred Securities Index (POP1) - Tracks the performance of fixed rate USD-denominated preferred securities issued in the domestic market.

ICE BofA MOVE Index - A yield curve weighted index of the normalized implied volatility on 1-month Treasury options. It is the weighted average of volatilities on the CT2, CT5, CT10, and CT30 (weighted average of 1m2y, 1m5y, 1m10y, 1m30y Treasury implied vols with weights 0.2/0.2/0.4/0.2, respectively).

ICE BofA U.S. Convertible Index - Tracks the performance of publicly issued U.S. dollar denominated convertible securities of U.S. companies.

ICE BofA U.S. Corporate Index - Tracks the performance of U.S. dollar denominated investment grade (BBB/Baa-rated or better) corporate debt publicly issued in the U.S. domestic market.

ICE BofA U.S. Emerging Markets External Sovereign Index - Tracks the performance of U.S. dollar emerging markets sovereign debt publicly issued in the U.S. and Eurobond markets.

ICE BofA U.S. High Yield Constrained Index - Tracks the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market but caps issuer exposure at 2%.

ICE BofA U.S. Investment Grade Institutional Capital Securities Index (CIPS) - Tracks the performance of U.S. dollar denominated investment grade hybrid capital corporate and preferred securities publicly issued in the U.S. domestic market.

ICE BofA U.S. Mortgage Backed Securities Index - Tracks the performance of U.S. dollar denominated fixed rate and hybrid residential mortgage pass-through securities publicly issued by U.S. agencies in the U.S. domestic market.

ICE BofA U.S. Municipal Securities Index - Tracks the performance of U.S. dollar denominated investment grade tax-exempt debt publicly issued by U.S. states and territories, and their political subdivisions, in the U.S. domestic market.

ICE BofA U.S. Treasury & Agency Index - Tracks the performance of U.S. dollar denominated U.S. Treasury and non-subordinated U.S. agency debt issued in the U.S. domestic market.

ICE LIBOR - A benchmark designed to produce an average rate that is representative of the rates at which large, leading, internationally active banks with access to the wholesale, unsecured funding market could fund themselves in the market in particular currencies for certain tenors.

J.P. Morgan's High-yield Bond Universe - Consists of fixed income securities of domestic and foreign issuers with a maximum credit rating of BB+ or Ba1.

Morningstar® LSTA® US Leveraged Loan Index - The Index, formerly the S&P/LSTA Leveraged Loan Index, is a leveraged loan index which covers the U.S. Loan market. The Index reflects the market-weighted performance of institutional leveraged loans in the U.S. loan market based upon real-time market weightings, spreads and interest payments.

Option Adjusted Spread (OAS) - The difference between the yield of a fixed income security and a US Treasury security of similar tenor.

S&P 500 Index - An unmanaged index of 500 companies used to measure large-cap U.S. stock market performance.

Secured Overnight Financing Rate (SOFR) - Is a broad measure of the cost of borrowing cash overnight collateralized by Treasury securities.

U.S. Dollar Index (DXY) - Indicates the general international value of the U.S. Dollar (USD). The index calculates this by averaging the exchange rates between the USD and major world currencies.

Indices are unmanaged and investors cannot invest directly in an index.



First Trust Portfolios L.P. | 1-800-621-1675 | www.ftportfolios.com