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Domestic Investment Grade Fixed Income Market Summary

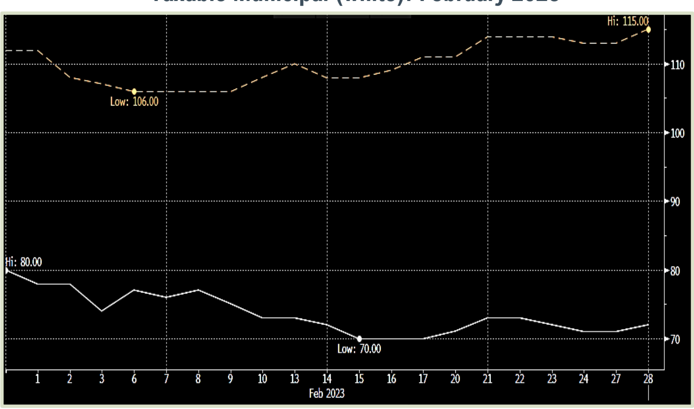
February 2023

Treasury Yields Moved Higher on Evolving Monetary Policy Expectations

- Treasuries weakened in February due to a shift in Fed policy expectations and renewed inflation concerns.
  - 2-10 year Treasury yields increased 41-62 basis points (bps) with more pronounced moves in shorter maturities.
  - The Treasury curve inversion deepened as the spread between the 2-year and 10-year maturities moved to -90 bps at month-end compared to -69 bps at the end of January.
  - Futures now project a nearly 5.5% peak for the funds rate later this year, a 50 bp increase from forecasts at the end of January.
- At the start of the month, the Fed decelerated the pace of tightening by increasing its benchmark rate 25 bps to a range of 4.5% and 4.75%, the second consecutive meeting in which the central bank reduced the size of the increase by a quarter point.
  - In the accompanying statement, the Fed noted that "inflation has eased somewhat," while maintaining its stance that rate hikes will continue.
- The U.S. labor market robustly added 517,000 nonfarm jobs in January, the most since July and easily exceeding the 189,000 expected. Further, the unemployment rate moved lower to 3.4% (expected: 3.6%), and average hourly earnings rose 4.4% on a year-over-year basis (expected: 4.3%).
- Overall and core Consumer Price Index (CPI) changes for January matched projections at 0.5% and 0.4%, respectively. Prices for services continued to outpace increases in the cost of goods.
- Retail sales surged 3% in January (expected: 2%) after declining the previous two months. A portion of the rise perhaps could be attributed to the nearly 9% cost of living adjustment made to social security benefits.

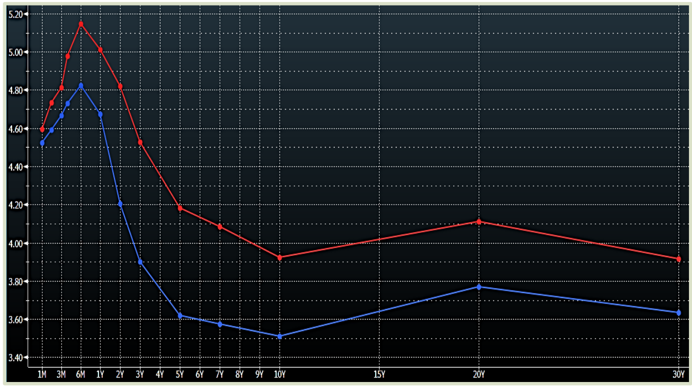
Segment	February Return	2023 Return
Bloomberg Barclays Intermediate Government Credit Index	-1.80%	0.04%
ICE BofA 1-10 Year US Treasury Index	-1.71%	-0.18%
ICE BofA 1-10 Year US Inflation-Linked Treasury Index	-1.15%	0.19%
ICE BofA 1-10 Year Corporate Index	-1.86%	0.61%
ICE BofA 1-10 Year Taxable Municipal Index	-1.41%	1.11%

1-10 Year IG Credit Spreads: Corporate (orange) and Taxable Municipal (white): February 2023



Maturity	1/31/23 Treasury	2/28/23 Treasury	Change
2-Year	4.20%	4.82%	+0.62%
5-Year	3.62%	4.18%	+0.56%
7-Year	3.57%	4.08%	+0.51%
10-Year	3.51%	3.92%	+0.41%
30-Year	3.63%	3.92%	+0.29%

Treasury Yield Curve: 1/31/23 (blue) vs. 2/28/23 (red)



TIPS Benefited from Inflation Concerns; Credit Markets Remained Firm

- Treasury Inflation Protected Securities (TIPS) outperformed nominal bonds on the backdrop of resurging inflation worries due to stronger than anticipated economic growth indicators.
  - While higher real yields resulted in negative total return performance, 1-10 year TIPS outperformed nominal Treasuries by 64 bps on a duration-adjusted basis in February.
  - After falling to as low as 2.13% in mid-January on tightening financial conditions, 10-year TIPS inflation expectations increased to 2.38% by the end of February.
  - Indicative of the concern over near-term pricing pressures, the 5-year and 10-year TIPS inflation break-even curve is inverted, as the former rose to 2.52% from a recent mid-January low of 2.10% when it basically equaled the 10-year level.
- Despite the uptick in rates and market volatility, credit markets held up well as spreads were generally unchanged within the corporate sector and even tightened in the taxable municipal market.
- On a duration-adjusted basis, intermediate investment grade corporate bonds outperformed Treasuries by a miniscule 2 bps, the fifth consecutive month of relative outperformance.
  - Spreads in the 1-10 year maturity range were largely unchanged across the credit spectrum as even lower rated BBB names held onto relative gains from the past few months.
- 1-10 year taxable municipal bonds outpaced comparable maturity corporate debt and provided 56 bps of alpha over Treasuries on a duration-adjusted basis.
  - After lagging the credit rally in 2022, this sector continues to make up ground this year with 138 bps of excess return over Treasuries versus 85 bps for its corporate counterpart.

Source: Bloomberg; Bureau of Economic Analysis; Federal Reserve; ICE BofA; Veritable, L.P.
All numbers are estimates. See Disclosures for index descriptions and additional information.

Municipals Yields Rose Sharply With Treasuries Led by Shorter Maturities

- Municipals yields followed Treasury rates higher in February with tax-exempt rates rising 36-78 bps for the month.
  - More hawkish Fed rate hike expectations coupled with rich relative valuations caused municipal underperformance in short-term maturities, as the 2-year AAA municipal yield jumped 78 bps in February to close at 2.95%
  - Meanwhile, 5-10 year rates rose by 40-59 bps, more in-line with the Treasury move.
- Municipal outperformance to start the month due to lack of supply gave way to relative underperformance over the second half of February as demand faded amid rising bond market volatility.
  - With the 10-year Treasury and AAA municipal yields both rising around 40 bps, the 10-year municipal-to-Treasury yield ratio increased to 66%, up from the January multi-year lows but well below the 5-year average of 88%.
  - The 10-year AAA municipal yield must rise around 86 bps to 3.45% to pierce an 88% relative valuation assuming an unchanged 10-year Treasury rate.
- For the month, the 10-year AAA municipal yield increased 40 bps to 2.59%, 86 bps above the 5-year average of 1.73%.
- With larger rate moves in shorter maturities, the municipal curve inverted in February, as the term premium between 2-year and 10-year AAA municipal debt declined to -36 bps, the lowest level on record.
  - Retail investors may now balk at the idea of locking-in longer-term bonds at lower yields given the curve inversion as short-term nominals approach 3% and relative valuations cross over from the sub-60% level.

Maturity	1/31/23 Muni	2/28/23 Muni	Change	% of U.S. Govt 2/28/23
2-Year	2.17%	2.95%	0.78%	61.20%
5-Year	2.05%	2.64%	0.59%	63.16%
7-Year	2.09%	2.55%	0.46%	62.50%
10-Year	2.19%	2.59%	0.40%	65.90%
15-Year	2.82%	3.21%	0.39%	81.06%
20-Year	2.99%	3.38%	0.39%	82.04%
30-Year	3.20%	3.56%	0.36%	90.82%

- The strong retail demand from January reversed in February, as net flows into municipal bond funds turned negative for the month.
  - After gaining $4.4 billion in January through the week ended February 1, municipal bond funds experienced losses of $1.9 billion through March 1 according to Refinitiv Lipper data.
  - With heightened rate uncertainty, retail investors may be content sitting on the sidelines in money market funds earning competitive rates given the inverted municipal curve.

10-Year AAA Municipal Yie ld: 2018-2023

- Municipal underperformance was mostly expressed in shorter maturities as 1-2 year rates jumped 70-78 bps given rich relative valuations and better opportunities in money market alternatives like variable rate demand notes (VRDNs).
  - 1-2 year AAA municipal-to-Treasury yield ratios rose above 60% after closing January in the low-50% range.
  - The short-end stabilized toward month-end as valuations improved.
- After dropping to an expensive 1.66% to end January, the SIFMA rate rose to as high as 3.98% by mid-February as investor demand cratered, and remarketers responded by offering attractive rates to lure back buyers.
  - According to Refinitiv Lipper data, tax-exempt money market funds shed nearly $8 billion during the first two weeks of February.
- With the potential for greater Fed-induced Treasury market volatility combined with more balanced municipal net supply, attractive entry points may emerge in the tax-exempt market in March.
- According to JP Morgan estimates, municipal net supply is expected to be in equilibrium levels in March through May before moving to negative territory during the summer reinvestment season.
  - 30-day visible supply rose to $10.5 billion at the end of February, the highest level thus far this year, perhaps indicating the end of the seasonal supply drought.
- A barbell structure combining short-term and long-term maturities allows investors to take advantage of emerging opportunities in the back-end of the curve while maintaining a more neutral blended duration to reduce overall portfolio interest rate risk.
- With municipal yields following Treasury rates higher, the ICE BofA 1-12 Year Municipal Securities Index produced a -1.83% return for the month, the worst February performance since 2008, pulling the year-to-date return down to just +0.15%.

Source: Bloomberg; ICE; JP Morgan; MRSB; Refinitiv; SIFMA; Veritable, L.P.
All numbers are estimates. See Disclosures for index descriptions and additional information.

Disclosures

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Index Descriptions *(Investors cannot invest directly in an index)*

Bloomberg Barclays Intermediate Government Credit Index is a total returns index of U.S. dollar denominated U.S. Treasuries, government-related securities, and investment grade U.S. corporate securities that have a remaining maturity of greater than or equal to 1 year and less than 10 years. Securities must have $250 million or more of outstanding face value and must be fixed rate and non-convertible.

Consumer Price Index (CPI) is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services. The yearly (or monthly) growth rates represent the inflation rate. The CPI is published by the US Bureau of Labor Statistics on a monthly basis.

ICE BofA 1-10 Year US Treasury Index is a subset of ICE BofA Treasury Index including all securities with a remaining term to final maturity greater than or equal to 1 year and less than 10 years.

ICE BofA 1-10 Year US Inflation-Linked Treasury Index is a subset of ICE BofA US Inflation-Linked Treasury Index including all securities with a remaining term to final maturity greater than or equal to 1 year and less than 10 years.

ICE BofA 1-10 Year Corporate Index measures the performance of investment grade corporate bonds of both U.S. and non-U.S. issuers that are U.S. dollar-denominated and publicly issued in the U.S. domestic market with a remaining term to final maturity greater than or equal to 1 year and less than 10 years.

ICE BofA 1-10 Year Taxable Municipal Index is designed to track the performance of U.S. dollar-denominated taxable municipal debt publicly issued by U.S. states and territories, and their political subdivisions, in the U.S. market with a remaining term to final maturity greater than or equal to 1 year and less than 10 years.

ICE BofA 1-12 Year Municipal Securities Ind*ex* is a subset of ICE BofA Municipal Securities Index including all securities with a remaining term to final maturity less than 12 years. The ICE BofA Municipal Securities Index is market capitalization weighted and 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. Qualifying securities must have at least one-year remaining term to final maturity, at least 18 months to final maturity at the time of issuance, a fixed coupon schedule and an investment grade rating (based on an average of Moody's, S&P and Fitch).

The Securities Industry and Financial Markets Association (SIFMA) Municipal Swap Index is a 7-day high-grade market index comprised of tax-exempt Variable Rate Demand Notes (VRDNs) with certain characteristics. The Index is calculated and published by Bloomberg. The Index is overseen by SIFMA's Municipal Swap Index Committee.