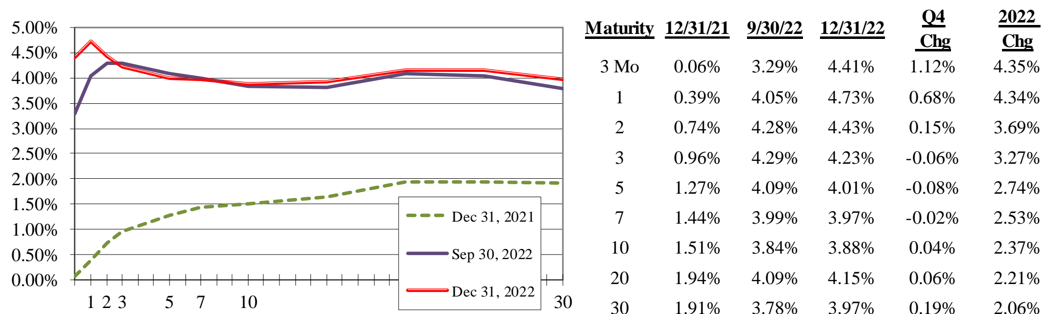
Baird Advisors
Fixed Income Market Commentary
2022 Review and 2023 Outlook

2022 Bond Market Review

The Fed viewed the inflation spike in 2021 as transitory (CPI rose from 1.4% to 7.0% on a YoY basis), but it continued to rise further and proved more persistent than expected in 2022, peaking in June at 9.1% YoY. By the Spring, the Fed's view on inflation had shifted and a very aggressive monetary policy ensued. Between March 2022 and year end, the Fed hiked rates seven times for a total increase of 425 bps (much more than the roughly 80 bps total the Fed and market had anticipated at the start of the year) designed to bring inflation back to its long-term target of 2%. Treasury yields reacted in historic fashion to both the inflation data and the aggressive policy changes by pushing up rates across the curve. The benchmark 10yr yield climbed 237 bps in 2022, its biggest annual move since the 1950s, and finished at 3.88%, down modestly from the October intra-year peak of 4.25%. Even greater, 2yr yields rose 369 bps to close the year at 4.43%, resulting in a persistently inverted yield curve from July through year end. The upward trajectory in inflation was exacerbated by global events, specifically the war in Ukraine and China's zero-Covid policy (concluded in December). Russia's invasion led to higher global food and energy prices while China's lockdowns allowed supply chain constraints to persist. For relief, President Biden released an estimated 165 million barrels of oil from the US Strategic Petroleum Reserve which, along with a slowing global economy, helped lower the price of WTI Crude from a peak of $124/bbl to $80/bbl at year end. In addition, the Inflation Reduction Act, named in a nod to voter concerns, was primarily focused on clean energy investments and an extension of Affordable Care Act subsidies. Negative fixed income returns driven by the sharp increase in rates in 2022 contributed to record redemptions from fixed income funds. Bond funds experienced $331B of net redemptions (following record *inflows* in 2021 of $592B), according to ICI data. Short maturity funds, the yields of which are most closely tied to the federal funds rate, bore the brunt of IG outflows as over 10% of category assets exited. The High Yield category also lost nearly 12% of total AUM.

Treasury Yields



Maturity	12/31/21	9/30/22	12/31/22	Q4 Chg	2022 Chg
3 Mo	0.06%	3.29%	4.41%	1.12%	4.35%
1	0.39%	4.05%	4.73%	0.68%	4.34%
2	0.74%	4.28%	4.43%	0.15%	3.69%
3	0.96%	4.29%	4.23%	-0.06%	3.27%
5	1.27%	4.09%	4.01%	-0.08%	2.74%
7	1.44%	3.99%	3.97%	-0.02%	2.53%
10	1.51%	3.84%	3.88%	0.04%	2.37%
20	1.94%	4.09%	4.15%	0.06%	2.21%
30	1.91%	3.78%	3.97%	0.19%	2.06%

Resilient Labor Market Boosts GDP but Impacts of Higher Rates are Emerging

The pace of Fed hikes has been faster and greater than any other tightening in the last 30 years, even without factoring in the reduction of the Fed's balance sheet (QT). Strong labor conditions provided cover for aggressive tightening as the unemployment rate fell in 2022 from 3.9% to 3.7% and roughly five million people were hired. For many industries, labor was in short supply, particularly in the service sector. Reasons for the labor shortage included: early retirements, long-Covid health challenges, immigration policies and the personal choice of workers. Wage inflation stayed above 5% as employers sought to attract and retain employees. Although US economic growth was sluggish in the first half of the year, contracting in Q1 (-1.6%) and Q2 (-0.6%) without a recession declaration, growth improved in the second half with 3.2% in Q3 and Q4 expected to be above 2.0%. Nonetheless, even with improving growth and a strong labor market, consumer sentiment, as measured by the University of Michigan survey, slipped from 70.6 to 59.7 over the course of the year. Housing contributed to consumer concerns as elevated property prices paired with rising mortgage rates (Freddie Mac 30yr rates rose from 3.11% to 6.41%) negatively impacted housing affordability. The duration of the Agency RMBS sector ended the year at 5.81 years, extending 1.8 years in 2022 when excluding impacts from prepayment model changes, as refinancing opportunities disappeared and prepayments slowed.

Wider Spreads and Elevated Volatility

Spreads widened for all major sectors during 2022. The widening was greatest in HY Corporates (+186 bps) and EM Debt (+106 bps), indicative of risk-asset repricing. IG corporate debt ended the year +38 bps wider. Corporate issuance declined 17% YoY and was the lightest total since 2019. The Financials sector experienced the largest spread

Option-Adjusted Spreads (in bps)

	12/31/21	9/30/22	12/31/22	Q4 Chg	YTD Chg
U.S. Aggregate Index	36	62	51	-11	15
U.S. Agency (non-mortgage)	8	15	26	11	18
Mortgage and ABS Sectors					
U.S. Agency RMBS (Pass-throughs)	31	69	51	-18	20
U.S. Agency CMBS	34	48	52	4	18
U.S. Non-Agency CMBS	95	154	179	25	84
Asset-Backed Securities	38	53	76	23	38
Corporate Sectors					
U.S. Investment Grade	92	159	130	-29	38
Industrial	95	155	125	-30	30
Utility	107	158	129	-29	22
Financial Institutions	83	166	140	-26	57
Non-Corporate Credit	55	73	66	-7	11
U.S. High Yield Corporates	283	552	469	-83	186
Emerging Market Debt	581	824	687	-137	106

Source: Bloomberg Indices

widening (+57 bps), driven by a heavy $273B of issuance from US banks (+11% YoY), the highest since the Global Financial Crisis. Agency RMBS widened 20 bps for the year (and was roughly 40 bps factoring in index prepayment model changes), a notable move for a government-sponsored sector, as the Fed transitioned from QE to QT, eliminating an enormous buyer from the market. Non-Agency CMBS widened 84 bps for the year due to elevated selling pressure with larger underperformance down the capital structure (AAA CMBS index 58 wider on the year). US sectors, aside from HY Corporates, moved to the widest spreads of 2022 in early Q4, before tightening into year end. For example, early October IG Corporate spreads reached their 2022 high of +164 before rallying -34 bps tighter to finish the year at +130. Agency RMBS spreads reached +88 in mid-October before tightening to +51 bps, -29 bps for the full quarter. Non-Agency CMBS and ABS spreads also rallied into year-end but were wider for Q4 (+25 and +23 bps, respectively).

Worst Annual Return for Aggregate Index on Record

Even with solid returns in Q4, the Aggregate Index declined -13.01% for 2022 to cement the worst annual decline since its inception in 1977. It far exceeded the prior record of -2.92% set in 1994. All major bond sectors declined for the year. Agency RMBS, impacted by historically tight spreads to start the year, a sunset of Fed purchases and less demand from banks, significantly underperformed with -2.23% of excess return, second only to 2008's decline of -2.32% for the sector. Excess returns for Agency RMBS swung wildly with the sector producing both its worst (September) and best (November) monthly excess returns since data inception in 1988. Although Q4 returns were strong for the IG Corporate sector (+3.63%), nominal YTD returns were the most negative of all at -15.76%, driven in part by the longer average duration of the sector. Adjusted for duration, the lowest excess returns occurred in HY Corporates (-3.71%) in spite of 3.05% of excess returns in Q4. TIPs, a top-performing sector in 2020 and 2021, declined 11.85% in 2022 underscoring the interest rate risk of these issues despite having an imbedded inflation adjustment to principal.

Total Returns of Selected Bloomberg Indices and Subsectors

	Dec Total Return	Dec Excess Return	Q4 Total Return	Q4 Excess Return	2022 Total Return	2022 Excess Return	Effective Duration (years)
U.S. Aggregate Index	-0.45%	0.07%	1.87%	1.03%	-13.01%	-0.99%	6.17
U.S. Gov't/Credit Index	-0.48%	0.07%	1.80%	1.06%	-13.58%	-0.51%	6.38
U.S. Intermediate Gov't/Credit Index	-0.18%	0.06%	1.54%	0.50%	-8.23%	-0.29%	3.83
U.S. 1-3 Yr. Gov't/Credit Index	0.19%	0.00%	0.89%	0.13%	-3.69%	-0.05%	1.86
U.S. Treasury	-0.52%	0.00%	0.72%	0.00%	-12.46%	0.00%	6.09
U.S. Agency (Non-Mortgage)	-0.05%	0.02%	0.70%	-0.20%	-7.87%	-0.91%	3.37
U.S. Agency RMBS (Pass-Throughs)	-0.44%	0.02%	2.14%	1.06%	-11.81%	-2.23%	5.81
CMBS (Commercial Mortgage-Backed Sec.)	0.04%	0.41%	1.02%	-0.10%	-10.91%	-1.20%	4.61
ABS (Asset-Backed Securities)	0.66%	0.61%	0.81%	-0.20%	-4.30%	-0.30%	2.86
U.S. Corporate Investment Grade	-0.44%	0.20%	3.63%	2.89%	-15.76%	-1.25%	7.10
U.S. High Yield Corporates	-0.62%	-0.42%	4.17%	3.05%	-11.19%	-3.71%	3.88
Emerging Market Debt	1.54%	2.00%	10.68%	9.69%	-11.99%	-1.81%	4.97
Municipal Bond Index	0.29%	N/A	4.10%	N/A	-8.53%	N/A	6.19
TIPS (Treasury Inflation Protected Sec.)	-1.02%	0.00%	2.04%	0.00%	-11.85%	0.00%	6.60

*Excess return represents the return of a spread sector versus a like-duration U.S. Treasury.

2023 Outlook

As we enter the new year, we expect that the modest economic momentum from the second half of 2022 will carry into early-2023 but that growth will slow as the year progresses. We know that monetary policy acts with long and variable lags, but it is likely the aggressive Fed tightening of 2022, combined with that of other global central bank tightening measures, will lead to an economic slowdown, if not mild recession in 2023. At the same time, inflation should also slow, but to what level remains the key question. While modest additional rate hikes are anticipated in coming months, the Fed's focus going forward is less about "how high" the federal funds rate may go, but instead "how long" it may remain restrictive. Fed Chair Powell has been clear in seeking to avoid the mistakes of the 1970s when the Fed eased too soon only to see inflation reemerge and rise to new heights. A "higher for longer" federal funds rate should translate into a flatter (even inverted) Treasury curve for much of the year. However, with most of the Fed's rate hikes over we expect the extreme price volatility of the fixed income markets to moderate.

The massive repricing of the fixed income markets in 2022 provides for a much more favorable backdrop for investors in the new year. The rise in Treasury yields and wider credit spreads that produced negative returns last year now offer investors additional income for perhaps years to come. A diligent focus on valuations and risk remains critical to successfully managing through the still challenging waters ahead. To this point, a slowing economy will pressure corporate earnings, but credit fundamentals of the IG Corporate sector are solid, showcasing good relative value. If credit spreads come under additional pressure in 2023, expectations for moderate new supply combined with the additional yield the sector now offers should provide a beneficial offset. The Fed's cessation of Agency RMBS purchases offered buying opportunities in early Q4 2022 before a robust rally occurred into year end. Following that rally, investors should be patient in 2023 and require additional spread compensation given the Fed's absence.

Disclosures

This is not a complete analysis of every material fact regarding any company, industry or security. The information has been obtained from sources we consider to be reliable, but we cannot guarantee the accuracy.

Fixed income is generally considered to be a more conservative investment than stocks, but bonds and other fixed income investments still carry a variety of risks such as interest rate risk, credit risk, inflation risk, and liquidity risk. In a rising interest rate environment, the value of fixed-income securities generally decline and conversely, in a falling interest rate environment, the value of fixed-income securities generally increase. High yield securities may be subject to heightened market, interest rate or credit risk and should not be purchased solely because of the stated yield.

Indices are unmanaged, and are not available for direct investment. *Past performance is not a guarantee of future results.*

The Bloomberg U.S. Aggregate Bond Index is an index comprised of approximately 6000 publicly traded bonds including U.S. Government, mortgage-backed, corporate, and Yankee bonds with an average maturity of approximately 10 years.

The Bloomberg Government/Credit Index is a combination of the Government Index which measures government-bond general and Treasury funds, and the Credit Bond Index, which is a market value-weighted index which tracks the returns of all publicly issued, fixed-rate, nonconvertible, dollar-denominated, SEC registered, investment grade Corporate Debt.

The Bloomberg Intermediate U.S. Government/Credit Bond Index is a combination of the Government Index which measures government-bond general and Treasury funds, and the Credit Bond Index, which is a market value-weighted index which tracks the returns of all publicly issued, fixed-rate, nonconvertible, dollar-denominated, SEC registered, investment grade Corporate Debt with maturities between one and ten years.

The Bloomberg 1-3 Year U.S. Government/Credit Bond Index is a combination of the Government Index which measures government-bond general and Treasury funds, and the Credit Bond Index, which is a market value-weighted index which tracks the returns of all publicly issued, fixed-rate, nonconvertible, dollar-denominated, SEC registered, investment grade Corporate Debt with maturities between zero and three years.

The Bloomberg U.S. Treasury Index includes public obligations of the U.S. Treasury. Treasury bills are excluded by the maturity constraint of at least one year 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. Securities in the Index roll up to the U.S. Aggregate, U.S. Universal, and Global Aggregate Indices. The U.S. Treasury Index was launched on January 1, 1973.

U.S. Agency: This index is the U.S. Agency component of the U.S. Government/Credit index. Publicly issued debt of U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government (such as USAID securities). The largest issues are Fannie Mae, Freddie Mac, and the Federal Home Loan Bank System (FHLB). The index includes both callable and non-callable agency securities.

U.S Corporate – Investment Grade: This index is the Corporate component of the U.S. Credit index. It includes 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.

CMBS (Commercial Mortgage-Backed Securities): This index is the CMBS component of the U.S. Aggregate index. The Bloomberg CMBS ERISA-Eligible Index is the ERISA-eligible component of the Bloomberg CMBS Index. This index, which includes investment grade securities that are ERISA eligible under the underwriter's exemption, is the only CMBS sector that is included in the U.S. Aggregate Index.

MBS (Mortgage-Backed Securities): This index is the U.S. MBS component of the U.S. Aggregate index. The MBS Index covers the mortgage-backed pass-through securities of Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The MBS Index is formed by grouping the universe of over 600,000 individual fixed rate MBS pools into approximately 3,500 generic aggregates.

ABS (Asset-Backed Securities): This index is the ABS component of the U.S. Aggregate index. The ABS index has three subsectors: credit and charge cards, autos, and utility. The index includes pass-through, bullet, and controlled amortization structures. The ABS Index includes only the senior class of each ABS issue and the ERISA-eligible B and C tranche. The Manufactured Housing sector was removed as of January 1, 2008, and the Home Equity Loan sector was removed as of October 1, 2009.

Corporate High Yield: The Bloomberg U.S. High Yield Index covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, 144-As and pay-in-kind bonds (PIKs, as of October 1, 2009) are also included.

Emerging Market: Bloomberg uses a fixed list of countries defined as emerging markets countries for index inclusion purposes that is based on World Bank Income group definitions (Low/Middle), IMF country classifications (Non-Advanced Economies), and other advanced economies that may be less accessible or investable for global debt investors.

The Bloomberg Municipal Bond Index is a broad-based, total-return index. The bonds are all investment-grade, tax-exempt, and fixed-rate securities with long-term maturities (greater than 2 years). They are selected from issues larger than $50 million.

The Bloomberg TIPS Index consists of Treasury Inflation Protected Securities (TIPS). TIPS are securities whose principal is tied to the Consumer Price Index. TIPS pay interest semi-annually, based on the fixed rate applied to the adjusted principal.

Ratings are measured on a scale that ranges from AAA or Aaa (highest) to D or C (lowest). Investment grade investments are those rated from highest down to BBB- or Baa3.

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