

GLOBAL BOND MARKET UPDATE: REACHING THE PEAK

Seeking clarity on interest rates, investors carefully watched economic data and closely followed the words of central bankers globally. With signs that inflation may have peaked, investors hoped central banks would downshift the pace of rate hikes. While several central banks slowed their pace some, they cautioned that tight labor markets justified further restrictive monetary policy. We think the push-pull between labor markets, consumer spending and inflation will continue to dictate central banks' responses. So we expect volatility to continue.

Following three quarters of negative returns, bonds rallied for positive results in the fourth quarter. Credit spreads broadly tightened, though not in a linear fashion. While interest rates generally increased in the quarter, rates declined in November to support returns. The Federal Reserve hiked rates by 0.75% in November and 0.50% in December to end up at a target range of 4.25-4.50%. While the magnitude of hikes in the quarter fell below that of the third quarter, central banks resolved to tame prices despite risks to economic growth. For our six-month yield estimates, we maintained our two-year Treasury yield range estimate of 4.25%-4.75% while we lowered our 10-year estimate by 0.25% to a range of 3.50%-4.00%, as we believe the U.S. economy will slow while the Fed continues to hike.

EXHIBIT 1: POSITIVE QUARTER IN A TOUGH YEAR

Fixed Income assets posted positive results as inflation cooled and investors hoped central banks would slow their pace of policy tightening.



Source: Northern Trust Asset Management, Bloomberg, data as of December 31, 2022

Key Takeaways

- Bonds rallied for positive performance in the fourth quarter, following three quarters of negative returns, while inflation moderated and the pace of central bank rate hikes slowed.
- We lowered our 10-year Treasury yield estimate by 0.25% to a range of 3.50%-4.00% over the next six months, as we believe the U.S. economy will slow while the Fed continues to hike.
- We expect rate volatility to continue with monetary policy and recession fears likely to dictate bond performance.

GLOBAL CENTRAL BANKS: PROGRESS MADE AND STAYING THE COURSE

Global central banks slowed the pace of rate hikes during the quarter on early signs of mildly cooling inflation. Hawkish rhetoric by major central banks reinforced the sentiment that inflation is much higher than their targets, and central banks have said they expect to continue to increase rates and keep them elevated for some time.

Through two rate hikes, the Fed increased the federal funds rate by 1.25% in the fourth quarter to a range of 4.25%-4.50%. Inflation fell below economists' estimates during the quarter, leading the Fed to slow its pace of rate hikes to 0.50% in December from 0.75% in November. Importantly, the Fed's economic projections and meeting minutes showed that they still view inflation as a risk. In December, the Fed increased its 2023 Core Personal Consumption Expenditures Price Index estimate to 3.5% from 3.1%. Accordingly, the Fed revised its peak projected rate to 5.1%, half a percentage point higher than September projections, signaling more hikes to come before a pause.

The market turmoil in the U.K. at the end of the third quarter, caused by a government proposal for unfunded tax cuts, spread into October and forced the Bank of England to focus on a return to financial stability. To shore up liquidity, the bank announced a new facility to support market function while expanding its bond purchases to include inflation-linked gilts to shore up liquidity. Former prime minister Liz Truss reversed the tax proposal and eventually resigned, with Rishi Sunak replacing her. The bank resumed its quest to quell inflation by initiating quantitative tightening and raising its policy rate by 0.75% in November, its largest hike ever, and 0.50% in December, despite growing concern for the housing sector in particular.

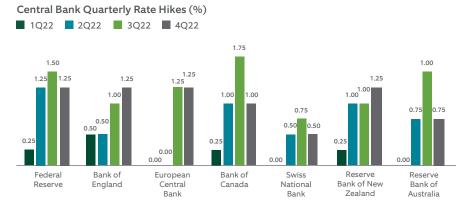
The European Central Bank (ECB) raised its deposit rate by 1.25% to 2% during the fourth quarter, with a 0.75% increase in October and a 0.50% hike in December. Even with financial instability and an energy crisis because of the war in Ukraine, ECB President Christine Lagarde reiterated the need for restrictive monetary policy. She and other ECB members seek to prevent inflation from entrenching in Europe, something which core inflation numbers across Europe appear increasingly to suggest. At its final press conference of the year, the ECB announced plans to reduce its balance sheet by an average of €15 billion per month, which we believe is much more than investors expected, to push yields higher.

The Bank of Japan (BoJ) surprised markets by announcing a change to its yield curve policy, widening the band of the 10-year Japanese government bond yield to plus/minus 0.5% from plus/minus 0.25%. The change means longer term yields may drift slightly higher. We think the move surprised investors by potentially representing the "beginning of the end" of yield curve control in the country, though bank Governor Haruhiko Kuroda stressed otherwise. Several other developed market central banks also maintained or slowed their pace of rate hikes as inflation and economic growth reflected nascent signs of slowing.

Even with financial instability and an energy crisis because of the war in Ukraine, ECB President Christine Lagarde reiterated the need for restrictive monetary policy.

EXHIBIT 2: DECELERATING RATE HIKES

Developed global central banks generally maintained or slowed the pace of hikes as inflation cooled.



Following the dramatic British gilt selloff at the end of September, gilts recovered through mid-November as the U.K. government and the Bank of England stepped in to support markets as discussed previously.

Source: Northern Trust Asset Management, Bloomberg, data from January 1, 2022 to December 31, 2022

GLOBAL GOVERNMENT BONDS: SEARCHING FOR THE PEAK

Markets searched for any word or indicator to predict "peak inflation" and "peak hawkishness" during the quarter, leading to continued rate volatility. Though less volatile than earlier in the year, the two-year Treasury yield fluctuated during the quarter from a low 4.09% to a high of 4.72% before closing the quarter 14 basis points higher at 4.43%. The 10-year yield followed a similar pattern with an 82-basis-point range during the quarter, settling five basis points higher at 3.88% for the quarter. Yields surged early in the quarter after the October U.S. inflation report showed surprisingly high inflation, but yields fell in November and December when inflation fell below expectations. The yield curve inverted 10 basis points further during the quarter, with the 10-year yield 56 basis points lower than the two-year yield at the end of the quarter.

Following the dramatic British gilt selloff at the end of September, gilts recovered through mid-November as the U.K. government and the Bank of England stepped in to support markets as discussed previously. From September 30 to November 15, the two-year gilt yield fell 124 basis points to 3.03% and 10-year yield fell 94 basis points to 3.29%. Rates resumed their climb into quarter end, albeit at a relatively moderate pace as the Bank of England resumed rate hikes while growth in the region turned negative and a bleak economic picture settled over the market. During the quarter, two-year gilts fell 65 basis points to 3.49% and 10-year gilt yields declined 42 basis points to 3.66%.

In continental Europe, German bund yields, an indicator for the region's bond market, ended the quarter higher. Through early December, both the two- and 10year yields bounced around as markets sought to interpret the tone of European Central Bank speakers, which caught markets off guard at times. The two-year yield followed a relatively steady, yet steep path higher, ending the quarter up 98 basis points to 2.71%. The 10-year yield trended lower through earlier December and reversed course, rising 78 basis points to close the quarter at 2.57%. Despite facing continued headwinds from the Russia/Ukraine War and ongoing energy crisis, the ECB continued its path of rate hikes as inflation remained resilient.

EXHIBIT 3: YIELDS VOLATILE AS INVESTORS SOUGHT TO PREDICT PEAK FED RATE

Treasury yields and expected peak federal funds rate bounced around during the quarter, often at odds with the messaging of the Fed.

Debt ceiling negotiations could restrict Treasury bill supply further, extending the supply shortage.



Source: Northern Trust Asset Management, Bloomberg, data from September 30, 2022 to December 30, 2022

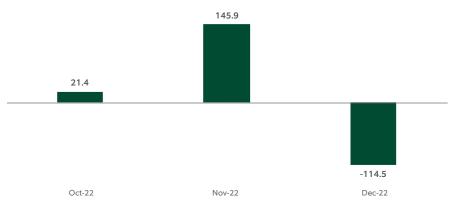
SHORT-TERM BONDS: LOW SUPPLY AND HIGH DEMAND

Short-term investors wrestled with the timing and level of the peak federal funds rate during the guarter as the Fed raised rates by 125 basis points and Chair Jerome Powell delivered a consistent message that the Fed would continue their efforts to restore inflation to their 2% target. Continued uncertainty and rate volatility led to investors and money market funds holding high overnight cash balances and preferred bank floating rate securities instead of fixed-rate securities. Net Treasury bill issuance fell in the quarter, creating a supply shortage that, paired with high demand, kept yields for Treasurys with maturities of two months or shorter below that of the Fed's overnight reverse repo facility. The shortage of securities and the facility's higher yields made the facility more attractive for investors, driving the facility's balance to an all-time high of \$2.5 trillion at year end. We expect the balance to drift down a bit from the high-water mark as year-end funding pressures abate, but we think it will remain elevated until the Fed's balance sheet normalization is well underway. Further, debt ceiling negotiations could restrict Treasury bill supply further, extending the supply shortage. basis points, from 59 to 93 basis points. The move in spreads can be attributed to macroeconomic factors such as growth, inflation and monetary policy.

EXHIBIT 4: FALLING T-BILL SUPPLY

Net Treasury bill issuance fell dramatically in December, fueling record usage of the Fed's overnight reverse repo facility.

Net Treasury Bill Issuance (\$ billions)



U.S. high yield bonds posted the best quarterly average return since 2020, as the average credit spread fell 83 basis points and issuance dropped dramatically to \$16 billion while investor demand returned.

Source: U.S. Department of the Treasury, Bureau of the Fiscal Service via Sifma. Net T-bill issuance means gross issuance less gross maturities.

CORPORATE BONDS: PIVOT POINTS

Following three challenging quarters, corporate bonds posted solid positive results in the fourth quarter with pivot points around inflation releases and the December Fed meeting. Credit spreads broadly fell during the quarter, supported by cooling inflation and constrained supply while demand increased.

The average U.S. investment grade credit spread bounced between 140 and 150 basis points (option adjusted) through early November until inflation data came in below expectations, a positive sign that marked a pivot point for investment grade bonds. Subsequently, credit spreads fell 19 basis points while the 10-year Treasury yield fell 62 basis points from November 9 through December 12, the day before the December Fed meeting. Though markets had a muted response to Chair Jerome Powell's hawkish statements after the meeting, investment grade bond yields drifted higher to reverse some earlier gains by year-end. Still, investment grade bonds posted positive returns, led by the lower end of the credit quality spectrum including BBB-rated and A-rated bonds.

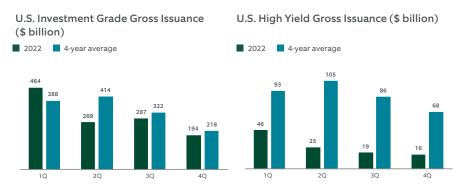
In Europe, corporate spreads were resilient despite mixed economic data and the rising risk of recession. Healthy demand returned to the market with the calm following the U.K. crisis. The option-adjusted spreads in the Sterling and Euro-Aggregate Corporate indexes fell for three straight months, ending the quarter 40 and 60 basis points lower, respectively, as bonds with lower credit quality rallied.

U.S. high yield bonds posted the best quarterly average return since 2020, as the average credit spread fell 83 basis points and issuance dropped dramatically to \$16 billion while investor demand returned. In 2022, companies sold a dismal \$106 billion in high yield bonds, 70% below the four-year average. This lower supply was a significant tailwind for performance as investors demand returned on hopes the economy may achieve a soft landing.

The European high yield market rallied though the quarter as the average spread tightened 118 basis points. As with investment grade bonds, investors looking to take on more risk favored lower quality bonds, while constrained new issuance also aided performance. Issuance in 2022 was €32 billion, the lowest since 2009.

EXHIBIT 5: SEVERE DROP IN NEW ISSUANCE

Investment grade and high yield issuance fell below the four-year average in 2022.



Positive quarterly results for structured products were driven by spreads, particularly in mortgages, which moved sharply tighter during November, benefitting from declining rates and overall lower rate volatility during the month.

Source: Northern Trust Asset Management, JPMorgan

STRUCTURED PRODUCTS: PIVOT POINTS

Mortgage-backed securities returned 2.14%, outperforming duration-neutral Treasurys by 106 basis points for the quarter as implied volatility decreased on more favorable economic data. High volatility caused asset-backed securities to slightly underperform duration-neutral Treasurys by 20 basis points with a 0.81% return. The index option-adjusted spread tightened by 17 basis points, driven by auto asset-backed securities, which tightened by nearly 25 basis points. Much of the tightening occurred in December as primary and secondary trade flow did not sufficiently meet investor demand. Commercial mortgage-backed securities returned 1.02%, underperforming duration neutral Treasurys by 10 basis points for the quarter. Although the quarter ended with spreads 15 basis points higher, November and December did bring a recovery from the 30 basis points of widening experienced during October. Much of the underperformance was driven by non-AAA or AA rated non-agency securities where spreads widened anywhere from 120 to 170 basis points.

EXHIBIT 6: LOWER INTEREST RATE VOLATILITY AIDS RETURNS FOR STRUCTURED PRODUCTS

Positive quarterly results were driven by spreads, particularly in mortgages, which moved sharply tighter during November, benefitting from declining rates and overall lower rate volatility during the month.



Source: Northern Trust Asset Management, Bloomberg, data from September 30, 2022 to December 30, 2022

MUNICIPAL BONDS: LOWER RATES DRIVE POSITIVE RESULTS

Municipal bonds returned 4.10% for the quarter and lost 8.53% in 2022, the worst annual return since 1981. Attractive yields, a positively sloped municipal yield curve, and slowing supply attracted demand for municipals into yearend. Longer duration municipal bonds outperformed their short duration counterparts during the quarter as yields for longer term maturities declined more. The municipal yield curve flattened and ended the quarter at 72 basis points. This was 46 basis points steeper than the Treasury curve, suggesting longer dated municipal bonds look relatively more attractive. Though the municipal yield curve remains steep versus the Treasury curve, it is flat by historical standards. At the end of the quarter, the one-year yield exceeded the 10-year yield by 23 basis points, the first time the curve has inverted with those maturities.

Municipal bond demand suffered in 2022 as fund outflows totaled more than \$122 billion, the most since at least 1981. Despite this, technicals largely improved into quarter end as issuance fell by 47% in December 2022 from a year earlier. This occurred because higher rates led to less refinancing opportunities and issuers generally hesitated to borrow. We believe the overall credit trend for state and local governments remains positive. However, evidence is growing that the slowing economy is starting to pressure revenues and budgets at the state level. Further, we think poor performance in investment portfolios will continue to affect overall pension funding levels, warranting caution heading into 2023.



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