

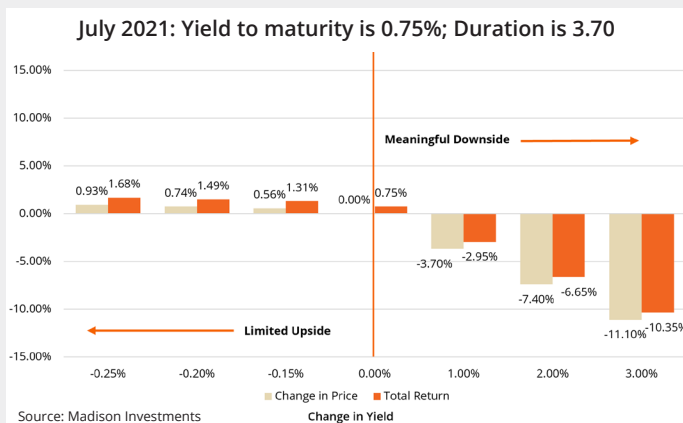


Bond Math Finally Looks Easy

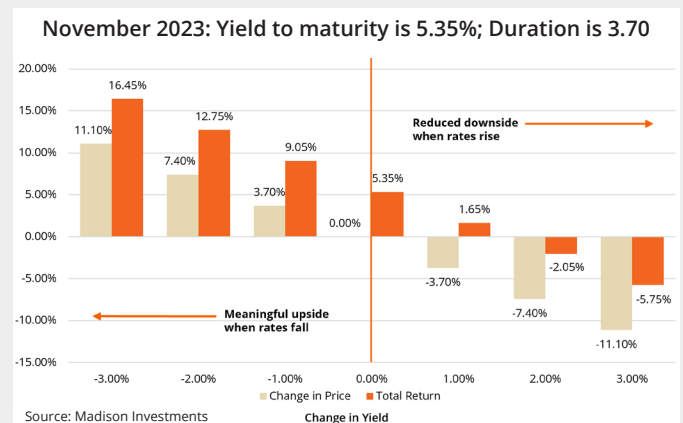
The past decade and a half have been challenging for bond investors. Bond math just didn't work. With yields at historically low levels due to the Federal Reserve's policy of keeping rates artificially low, it was difficult to earn an income that could keep up with inflation. Rates at or near zero also meant little potential for capital appreciation. And the math clearly showed that when rates normalized, bonds could lose money. When the Fed finally changed course, the largest repricing of fixed income assets in generations resulted in deep negative returns. Now, with the 10-year Treasury yield testing 5% and the Fed indicating that interest rates may be approaching their peak, investors are asking what returns in the bond markets might look like going forward. The math looks a lot better.

To demonstrate the total return potential of fixed income, let's analyze interest rate sensitivity. In simplistic terms, as yields rise, the price of a bond falls. As yields fall, the price of a bond rises. In today's yield environment, where typical high-quality intermediate bonds yield 5%, the return scenarios are greatly improved compared to just a short time ago.

Then vs. Now



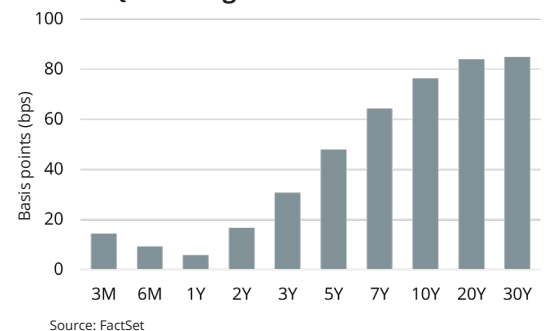
The low yield environment offered limited upside while still being exposed to meaningful negative returns in a rising rate environment.



Today, bond portfolios offer meaningful upside potential and should act as a hedge against potential equity underperformance. Should rates continue to rise, the higher starting yield will serve as a counter to negative price movements, reducing downside risk.

While the above analysis does a great job of showing how drastically the risk/reward relationship in bonds has swung in an investor's favor – reduced downside risk and dramatically improved upside potential, it has a drawback. It answers a simple question too simply. It assumes all bonds across all maturities change by the same amount. In reality, this rarely, if ever, occurs. As rates change, the yield curve twists, producing differing returns within different maturity ranges. Just look at the yield curve changes from the third quarter of 2023.

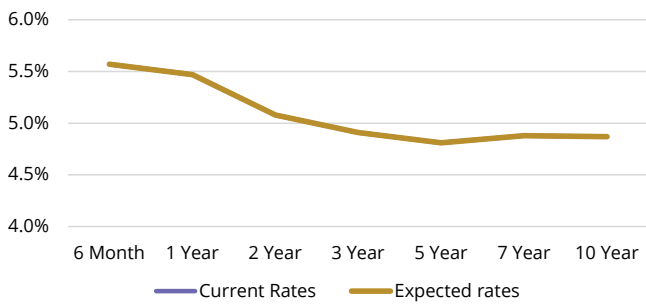
3Q23 Changes in the Yield Curve



A more realistic way to analyze the likely path of future returns is through scenario analysis. Come up with an economic scenario, develop a thesis on how the yield curve might react, and reprice your portfolio based on that new rate environment. In this analysis, we assume the yield curve changes were instantaneous, and we did not incorporate any spread changes between asset classes. But if asked what might happen to a portfolio if rates rise or fall, this analysis should represent a much better estimation than a simple up/down chart can provide.

The following tests four potential economic scenarios that may play out over the next 12-18 months. We used the Bloomberg Intermediate Government/Credit Index and its current mix of maturities in our analysis.

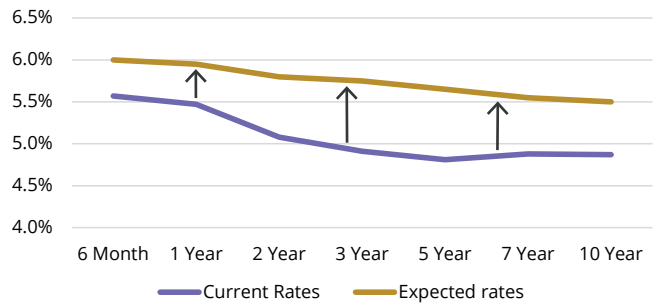
Scenario 1: Status quo



If interest rates remain at their current levels throughout the curve, a portfolio's return would roughly equal its yield to maturity.

Index Yield to Maturity: 5.35%
Expected Price Return: 0.00%
Expected Total Return: 5.35%

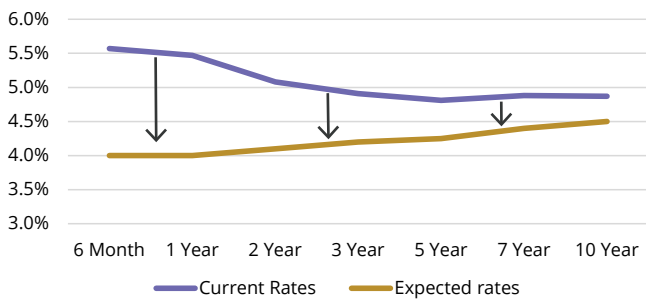
Scenario 2: Economy remains strong



If the economy remains strong and inflation remains elevated or even accelerates, the Fed may have to hike rates further. This would likely result in the entire yield curve shifting higher.

Index Yield to Maturity: 5.35%
Expected Price Return: -2.72%
Expected Total Return: 2.63%

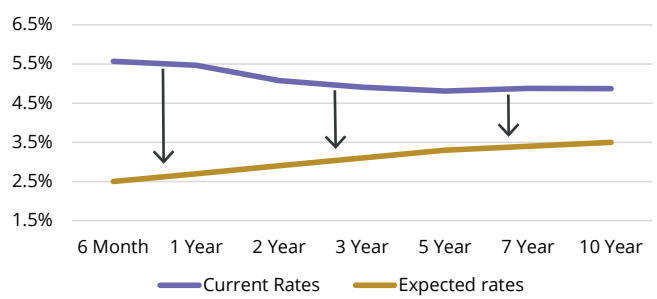
Scenario 3: Soft landing



In a soft landing scenario, where the economy and inflation decelerate gradually, the Fed would return to a more neutral interest rate policy and the yield curve would normalize. This follows the Fed's dot plots, with the Fed Funds rate at 4% and ten year at 4.5%.

Index Yield to Maturity: 5.35%
Expected Price Return: 2.34%
Expected Total Return: 7.69%

Scenario 4: Hard landing



In a hard landing scenario, the Fed would need to cut rates significantly to stabilize the economy, which would result in much lower rates and a steeper yield curve.

Index Yield to Maturity: 5.35%
Expected Price Return: 6.18%
Expected Total Return: 11.53%

Whether you are looking at a simple up/down rate change or analyzing a more realistic set of yield curve scenarios, the math is clear. The income that has returned to a fixed income portfolio provides investors with additional cushion should interest rates continue to rise but also offers the potential for price appreciation.



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In addition to the ongoing market risk applicable to portfolio securities, bonds are subject to interest rate risk, credit risk and inflation risk. When interest rates rise, bond prices fall; generally, the longer a bond's maturity, the more sensitive it is to this risk. Credit risk is the possibility that the issuer of a security will be unable to make interest payments and repay the principal on its debt. Bonds may also be subject to call risk, which allows the issuer to retain the right to redeem the debt, fully or partially, before the scheduled maturity date. Proceeds from sales prior to maturity may be more or less than originally invested due to changes in market conditions or changes in the credit quality of the issuer.

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Diversification does not assure a profit or protect against loss in a declining market.

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only, and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance.

The Bloomberg Intermediate Govt/Credit Bond Index tracks the performance of intermediate term US government and corporate bonds.

A basis point is one hundredth of a percent.

Bond Spread is the difference between yields on differing debt instruments of varying maturities, credit ratings, and risk, calculated by deducting the yield of one instrument from another.

Duration is a measure of the sensitivity of the price of a bond or other debt instrument to a change in interest rates. Duration measures how long it takes, in years, for an investor to be repaid the bond's price by the bond's total cash flows.

Yield to Maturity (YTM) measures the annual return an investor would receive if they held a particular bond until maturity as of the end of a report period. In order to make comparisons between instruments with different payment frequencies, a standard yield calculation basis is assumed. This yield is calculated assuming semiannual compounding.

