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Bonds 101
Rates are rising – how does this impact investors?

Morningstar Investment Management South Africa
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For Financial Advisors and their Clients

Whether it is via a credit card, personal loan, or a home loan, most investors have experience with interest rates. When it comes to bonds and the impact of interest rate increases on investment portfolios, investors are often left scratching their heads. Bonds are used within investment portfolios to provide income, reduce risk, for growth, or for diversification purposes. However, as most central banks globally prepare to raise interest rates to stave off increasing inflation, some worry about the effects of these interest rate hikes on their investment portfolio.

Global inflation was expected to ease as economies started their recovery from the pandemic, but rising energy and food prices due to supply disruptions in Russia and Ukraine combined with sanctions and boycotts against Russia have continued to drive inflation higher around the world. Given that adjusting interest rates is one of the few mechanisms to curb inflation, central banks globally may look to increase and/or continue increasing interest rates in the near term.

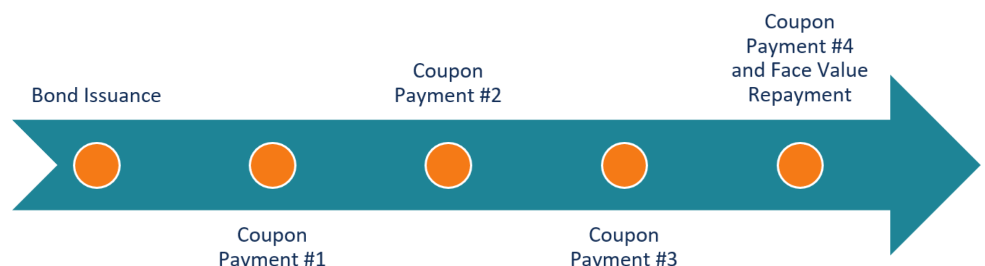
This may alarm investors that are invested in bonds, since market interest rates and bond prices typically have an inverse relationship and move in opposite directions, meaning that higher interest rates generally cause bond prices to fall.

Let us start by looking at the mechanics of bonds

One way a government or a company can acquire the capital they need to fund projects or initiatives is to sell bonds to the market. In essence, a bond is a loan sold or issued by an issuer and purchased by an investor. The issuer (i.e., the seller) in turn has two responsibilities:

1. to return the original face value amount at which the bond was bought (by the investor at issuance), at maturity; and
2. pay regular interest payments to the investor at a rate known as the coupon rate.

Exactly like you would have to pay a bank to loan you money to buy your house, the issuer of a bond needs to reward the investors for loaning them the funds.



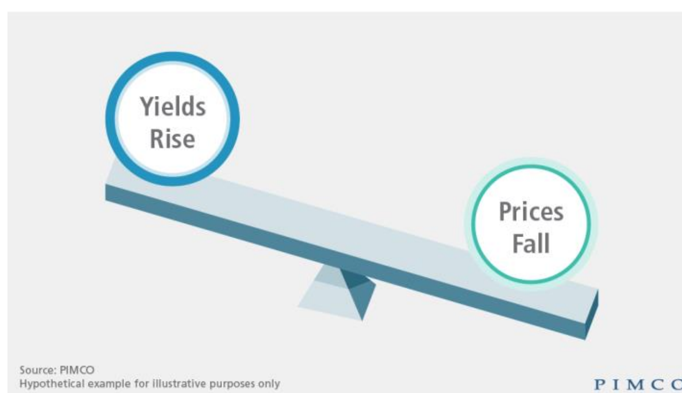
Source: The Corporate Finance Institute "What is a coupon bond". Data as at 22 April 2022. For illustrative purposes only.

Let us illustrate this using an example: "Company A" issues a new five-year bond with a face value of R1 000 and an annual coupon rate of 10% of the bond's face value. In this case:

- "Company A" will pay R100 (R1 000 x 10%) in annual interest to investors for every bond purchased at the face value of R1 000.
- After five years, on the bond's maturity date, "Company A" will make its last coupon payment. It will also pay the investor back the face value of the bond (which is the original price paid by the investor of R1 000).

The relationship between bond prices and interest rates

Bond prices and interest rates (also referred to as yields) have a seesaw-like relationship. In other words, when bond yields go up, prices go down, and when bond yields go down, prices go up. This happens mainly because the market for bonds is driven by supply and demand.



Source: Pimco Global "How do rates affect bond performance". Data as at 22 April 2022. For illustrative purposes only.

To illustrate how these supply and demand dynamics work, let us consider another example. In this example, a new bond issued by Company A becomes available (Bond A), with a fixed coupon (or interest rate) of 5%. Interest rates rise during the next year and one year later Company A issues another bond (Bond B) at a yield of 5,5%.

Would an investor purchase Bond A with a coupon rate of 5% if they could buy Bond B with a higher coupon rate of 5,5%? Probably not – which means that the price of Bond A now needs to fall to attract buyers when compared to other bonds with higher coupon rates/yields.

If Bond A had an original price/face value of R1 000 with a coupon payment of 5% it means it would pay out R50 of interest/coupons each year. Important to note is given that the coupon or interest rate is fixed in this example, Bond A's price needs to fall to keep its yield the same as Bond B.

By how much will the price need to fall? Bond A's price will need to fall to about R900. Why? If the coupon amount stays the same at R50 and the price falls to R900, the yield will be 5,5% (50 ÷ 900). For this reason, to have the same yield the price will need to drop to R900.

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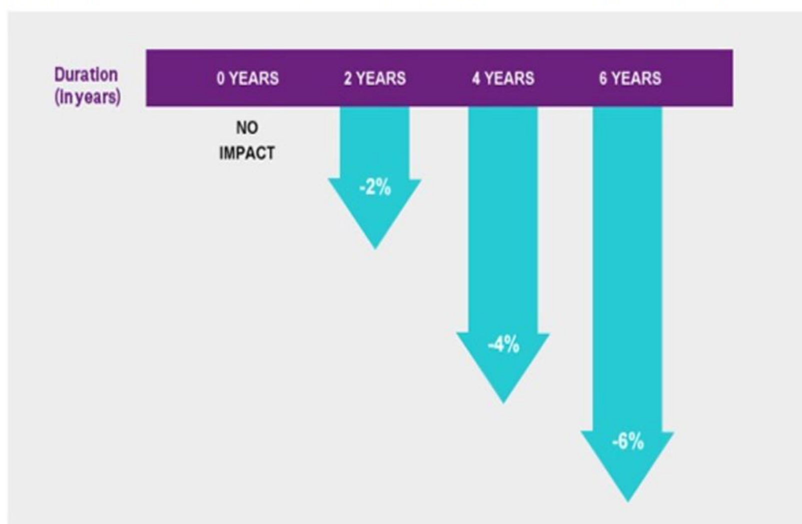
How can we know how much a bond's price will change in response to a move in interest rates?

This is where duration comes in. Duration expresses the sensitivity of a bond's price to changes in interest rates and tells us about the approximate change in the price of a bond in the event of a 1% change in interest rates. Duration is stated in years.

The general rule of thumb is that the longer the maturity and the longer the duration, the more sensitive bonds are to interest rate movements. This means longer-term bonds tend to see their prices rise more when interest rates are down and fall more when interest rates go higher.

The below graph illustrates simply how duration works – with an interest rate spike of 1%, a bond with 0 years duration will have no drop in price, whereas a bond with four years duration will see a 4% drop in price.



Source: Schroders Investments "Understanding Fixed Income"; Data as at 22 April 2022. For illustrative purposes only.

Are we still holding bonds in the Morningstar Portfolios?

In the words of Peter Lynch, "More money has been lost trying to anticipate and protect from corrections than actually in them."

Let's first look at why bonds are held in portfolios in the first place. Although bonds may not necessarily be a return booster, over time, bonds offer diversification in portfolios and act as a dampener to volatility. Bonds can fluctuate in value over the short term but when compared to other asset classes (like equities) they are not nearly as volatile.

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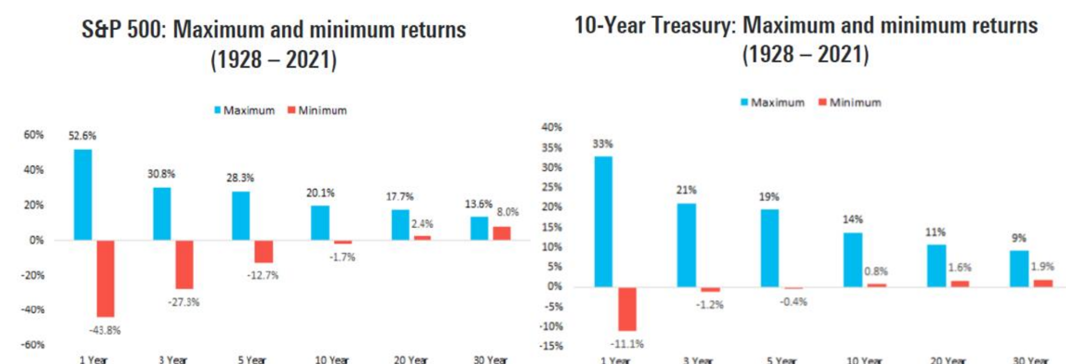
The graphs below illustrate the aforementioned point by showing the maximum and minimum returns of US equities (S&P 500) and the US 10-year treasury bond since 1928. The range of returns of equities is very wide over one year and ranges from a minimum of -43,8% to a maximum of 52,6%.

Bonds on the other hand have a much narrower dispersion over a one-year period - while there is still a chance for negative returns, the range is much narrower, ranging from a minimum of -11,1% to a maximum of 33%.



Source: Compoundadvisors.com "When cash is king" by Charlie Bilello. Data as at 21 April 2022. Forecasts are not a reliable indicator of future performance. For illustrative purposes.

It is important to remember that in the shorter term, bonds can deliver negative returns – at times even when share markets are falling. As we entered 2022, inflation forecasts were lower than the actual inflation numbers that we are currently seeing.

There have been two unforeseen shocks to the market putting pressure on inflation: the Russian invasion of Ukraine and the hard lockdown implemented in China in response to a rise in Covid-19 cases. These shocks were not forecastable and have put upward pressure on inflation through supply disruptions. The market reacted, and when we look at what is priced into the market, the market has already priced in 10 interest rate increases in the US, assuming the interest rate will rise to 3% by the end of February 2023.

That means that bond prices have already moved on the expectation that US interest rates will increase to 3% by the end of February next year. In turn, given the relationship between interest rates and bond prices, this has caused a sell-off in bonds.

We believe bonds can continue to deliver the long-term outcomes we expect from them in a defensive portfolio. In the last couple of weeks, bond markets have begun to warn of a potential recession due to short-term yields rising above longer-term bond yields. Effectively, the market is saying that interest rates may rise in the short-term to combat inflation, but in the long-term, rising interest rates may actually slow economic growth. If these warnings are correct, then this could bode well for bonds, as they typically perform well in a recessionary environment.

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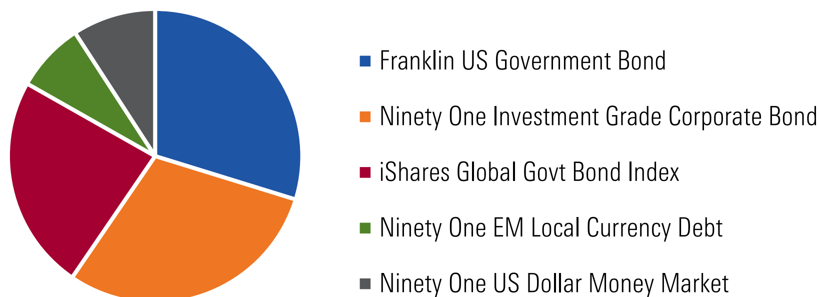
History has also shown that after a period of negative returns, as in 1994 and 1999 (the only two years of negative bond returns before 2021), bond markets have delivered excellent performance in the ensuing years.

In the Morningstar portfolios, we continue to allocate to bonds both locally and globally. As illustrated in the below chart, The Morningstar Global portfolios hold a range of underlying fixed income managers, each part of the overall allocation for a very specific reason.



Source: Morningstar Investment Management South Africa. Data as at 31 May 2022. Figures are for illustrative purposes only, based on target asset allocation, and are subject to change. Allocation of portfolios at the individual account level may vary.

Why have a variety of different bonds in a portfolio?

Government bonds are usually viewed as low-risk investments, because the risk of a government defaulting on its loan payments tends to be minimal. With shares, investors rely on profits and dividends that tend to move up and down quite sharply over time, thus an allocation to government bonds in the portfolios makes up the largest allocation in the fixed income and cash building block. There is also an allocation to Investment Grade corporate bonds to provide extra yield.

Emerging-market debt in local currency (which we still prefer over hard currency) is offering healthy relative yields, even when accounting for risk. Our view remains that many emerging market sovereigns, though with notable exceptions, have improved their fundamental strength compared to history. This includes improved current account balances, enhanced reserves, movement to orthodox monetary policy, and a build-out of local investor bases allowing for a shift to local currency funding. In addition, the aggregation of emerging-market currencies also looks undervalued overall and could offer a tailwind over time. There is also an allocation to cash as added firepower in the portfolio, to take advantage of opportunities as and when they arise.

In summary

As we enter a period of higher inflation and interest rates, investors should look beyond short-term movements and consider the longer-term rationale for having fixed income within a portfolio. With that being said - for bond investors, this is short-term pain for long-term gain. Higher yields generally mean higher future returns.

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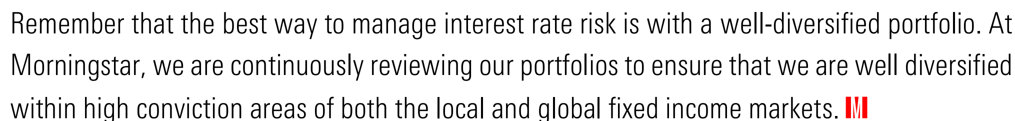

Remember that the best way to manage interest rate risk is with a well-diversified portfolio. At Morningstar, we are continuously reviewing our portfolios to ensure that we are well diversified within high conviction areas of both the local and global fixed income markets.

Risk Warnings

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