Vanguard

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Rising rates beg the question: Bonds or bond funds?

Introduction

The swift move up in interest rates in 2022 triggered a flurry of questions for Michael Plink, a Vanguard senior investment strategist:

"Are individual bonds better than bond funds?"
"Shouldn't we just hold all our bonds to maturity to lock in returns?"
"Should we build a laddered bond portfolio to protect against principal losses?"

While Plink heard those questions and others during the first half of 2022, this isn't the first time Vanguard and bond investors have experienced a rising interest-rate environment. What's different, though, is a pace of change that we haven't seen in quite some time. The repricing in bond yields has caused the market values of bonds to tumble, and investors wonder whether bond funds or individual bonds make more sense in their portfolios.

According to Plink, investors need to consider four important factors when deciding whether to own individual bonds or a bond fund.

Holding an individual bond to maturity may provide no economic benefit to investors.

An investor with a laddered bond strategy can get their principal back at set maturity dates, while a bond fund does not have any specific maturity date. However, the return experience for both strategies should be very similar as long as the comparison is made properly. Since bond prices and yields have an inverse relationship, and since coupon payments are fixed at issuance, bond price is the only element that can change. This allows all comparable bonds to retain a competitive yield to maturity in the marketplace. In the context of a rising-rate environment, the perception is that holding an individual bond to maturity has a monetary benefit over a bond sold at less than par because investors receive par value back at maturity, assuming no default risk.

Whether a bond is sold before maturity and the proceeds are then reinvested or the proceeds from a bond held to maturity are received and then reinvested, the yield-to-maturity profile is similar. The table below illustrates a hypothetical scenario. New-issue bonds are generally issued around par, so let's assume an investor bought Bond A one year ago with an annual coupon and yield to maturity of 3%. To simplify, let's say that rates rise over the year and a comparable four-year bond (Bond B) is now issued at 3.5%. The price of Bond A, which now has four years to maturity, drops to $977.42. From that point forward, whether the investor sells Bond A, absent transaction costs, at $977.42 and buys Bond B at $1,000 or holds Bond A to maturity, the expected yield to maturity for both bonds is now 3.5%.

Two bonds, different coupons, similar yield

	ONE YEAR AGO	TODAY	
	Bond A	**Bond A**	**Bond B**
Price	$1,000	$977.42	$1,000
Par value	$1,000	$1,000	$1,000
Coupon	3.0%	3.0%	3.5%
Time to maturity	5 years	4 years	4 years
Yield to maturity	3%	3.5%	3.5%

Note: This hypothetical illustration does not represent the return on any particular investment.

Source: Vanguard.

When comparing a portfolio of individual bonds with that of a bond mutual fund, the risk characteristics of each strategy must be similar to make an equivalent comparison. On day one, a laddered bond portfolio may have the same characteristics as a comparable mutual fund, but if the investor does not maintain the same risk profile of the portfolio over time, that same mutual fund cannot be used to compare with the laddered bond strategy over the same time horizon. The benchmarking mutual fund needs to change as the profile of the portfolio changes.

Instead, an investor who wants to use the same bond mutual fund as a comparison over the investment time horizon must employ a laddered bond strategy, where they actively manage the portfolio to retain the same characteristics over time. In either case, the expected return outcome should be similar across strategies. The laddered bond strategy has similar characteristics to a mutual fund, and the resulting portfolio is functionally similar to a mutual fund. However, there are additional considerations that investors need to take into account when employing this type of strategy.

Bond funds provide greater diversification.

As of August 31, 2022, Vanguard Total Bond Market Index Fund held approximately 10,000 bonds ranging in investment-grade credit quality across the fixed income sector and maturity spectrum. The effect of a bond default or downgrade in a portfolio made up of 10,000 bonds is relatively insignificant. A laddered bond portfolio with 100 different bonds may also be considered diversified, but the impact of a downgrade or default is 100 times greater relative to a bond fund made up of 10,000 bonds.

It's generally more cost-efficient to buy certain bonds in larger rather than smaller lot sizes. This can require significant capital, and many self-directed bond portfolios exhibit a higher-quality bias to compensate for the lack of diversification. Although a higher-quality bias mitigates default risk, the trade-off is generally lower returns, according to Vanguard research.[1] Diversification also extends to interest rate risk.

An inverse relationship exists between yield and duration, or interest rate risk. In the case of a rising-rate environment, since mutual funds are making new bond purchases at higher coupons more often, interest rate risk is reduced on a more frequent basis.

[1] Source: Bennyhoff, Donald G., Scott J. Donaldson, and Ravi G. Tolani, 2012. A Topic of Current Interest: Bonds or Bond Funds? Vanguard, 2012.

It's difficult to retain the risk attributes of a portfolio made up of individual bonds.

Since bond funds generally invest in hundreds or thousands of underlying bonds, they tend to have more regular cash flows. This enables bond funds to more easily maintain the intended risk characteristics of a portfolio.

In a laddered bond portfolio with fewer bonds, the duration of the portfolio can oscillate. Investors receive coupon payments in cash, which can create cash drag from a performance perspective. Plus, cash has a duration of zero, thus lowering the portfolio's interest rate risk. Duration lengthens back to the portfolio target once cash flows are reinvested. The smaller the number of bonds in a portfolio, the more prominent this dynamic becomes. Getting back to a target risk profile is also based on the assumption that an investor is able to find the correct bonds at the right time, at a nonprohibitive cost level, and that achieve the desired results.

Investment costs of individual bonds add up.

To get a sense for trading costs, consider Vanguard Total Corporate Bond ETF, which had a median 30-day bid-ask spread around 6 basis points (bps, or 0.06%) over the last 500 trading days as of August 31, 2022. The average duration of this product—as well as the overall U.S. corporate bond market—over the same approximate time period was 8.3 years. Thus, the dollar impact is approximately 50 bps (market value/(market value x duration x bid)/ask). In this example, it costs approximately $5 per $1,000 of market value to trade this ETF.

This example uses just the bid-ask spread of the ETF, and generally, the basket spread trades at much higher spreads over the long term, meaning the 50 bps impact could be thought of as a generous minimum cost. Executing trades in this fixed income segment at these levels a few hundred times can add up and erode the overall return generated by the portfolio.

In contrast to buying individual bonds and actively managing a laddered bond portfolio, a $20 million client could get exposure to the U.S. credit market by allocating capital to Vanguard's short-, intermediate-, and long-term investment-grade mutual funds in a market-cap proportional manner for an all-in cost of 0.10%.[2] Investors should be able to obtain greater exposure and greater diversification at a fraction of the overall cost.

[2] The approximate allocation of this strategy would be 35% Vanguard Short-Term Investment-Grade Fund Institutional Shares (0.07%), 35% Vanguard Intermediate-Term Investment-Grade Fund Admiral TM Shares (0.10%), and 30% Vanguard Long-Term Investment-Grade Fund Admiral Shares (0.12%). The weighted expense ratio as of the funds' most recent prospectus is 0.10%.

Summary

"Most investors know that bonds generally provide stability over the long term. However, when interest rates move higher, investor anxiety tends to pick up as short-term performance turns negative," said Plink, who anticipates continuing to field questions as long as the Federal Reserve pursues tighter monetary policy. "Although this is not comforting as it is happening, higher interest rates are good for fixed income investors over the long term, as earned income drives the vast majority of a bond's total return."

When weighing a laddered bond strategy against investing in a bond mutual fund, it's important for investors to consider the crucial role that bond prices play. Repricing ensures that all comparable bonds remain competitive in the marketplace, which results in similar return experiences from the repricing point forward. In addition, investors who want to compare a laddered bond strategy with a mutual fund need to compare equivalent strategies for a proper apples-to-apples assessment. Even when the proper comparison is performed, investors still need to consider diversification, liquidity, and cost. Vanguard believes that a long-term strategic allocation focused on broad diversification, using products that cost investors less, can help investors achieve better investment outcomes.

Notes:

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