Rising Interest Rates – Friend or Foe for Pension Investors?

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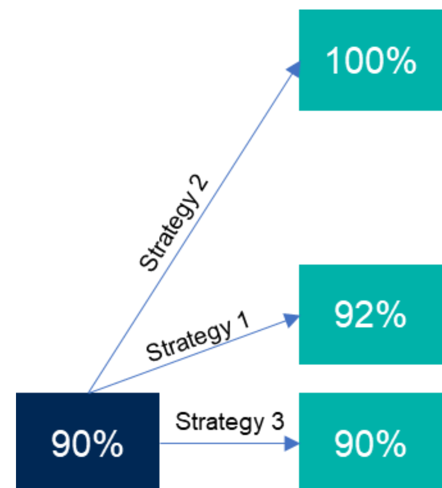
Interest rates increased dramatically this year, beginning with a simple turn of the calendar from 2021 to 2022. In just that one innocuous flip, the yield of 10-year Treasury bonds increased 11 basis points (0.11 percent) on the first trading day of the new year. And that was just the beginning…

Many financial experts as well as the general investing public have long viewed 10-year Treasury bonds as a reflection of the overall interest rate environment, balancing the pull of monetary policy that impacts short-term rates with the inflationary expectations that impact long-term rates.

However, since December 31, 2021, we have seen the yield of the 10-year Treasury more than double, from 1.52 percent to a high of 3.49 percent reached on June 14, 2022. Record high inflation and tightening monetary policies have lifted both short- and long-term interest rates, pushing the value of bonds drastically lower. In fact, through June 30, the Bloomberg US Aggregate Bond Index is down over 10 percent for the year while long duration investment grade bonds are down nearly 22 percent.[1]

As a bond investor, these returns are abysmal; however, as a pension investor, this higher interest rate environment may be a windfall when looking at assets and liabilities in tandem. Higher interest rates lower the present value of future benefit payments promised to plan participants, essentially shrinking the size of the pension liability “pie”. Higher rates benefit pension plan sponsors two-fold:



1. Higher rates can improve the overall funded position of the plan.
2. Higher rates can reduce the plan’s overall impact on the organization as the dollars at risk decline (i.e., the shrinking liability “pie”).

Let’s look at a plan that was 90 percent funded at the beginning of the year with a liability duration of 12 years and the impact of various investment strategies on the plan’s funded position:

Strategy 1: 50 Percent Liability Driven Investments / 50 Percent Return Seeking

For a plan that was 90 percent funded as of the beginning of the year (i.e., assets divided by liabilities) and 50 percent of the plan’s assets invested in a liability-driven investment (i.e., portfolio of bonds where its duration matches the liability duration), the overall funded status marginally improved to 92 percent through the first five months of the year. Importantly, the pension deficit (assets minus liabilities) shrunk by more than 27 percent.

Strategy 2: 50 Percent Cash / 50 Percent Return Seeking

For a similar plan that instead held 50 percent of the plan's assets in cash, the overall funded status would have jumped to 100 percent, benefiting from the rate increase on the liabilities but avoiding the negative returns of the bond market.

Strategy 3: 100 Percent Liability Driven Investments

For a plan that implemented a full liability-hedging investment strategy, the funded ratio would likely remain unchanged with the change in rates. However, since the pension liabilities are greater than the assets, the impact from a dollar perspective has been beneficial. In this case, although the funding ratio remained unchanged by design, the pension deficit (assets minus liabilities) would have likely improved by 15 percent.

While rising interest rates are like kryptonite for bond investors, they are a welcome development for many plan sponsors. However, how much the plan benefits from rising rates depends on the plan's *interest rate hedge ratio.*

Interest Rate Hedge Ratio: *the sensitivity of the pension assets to a change in interest rates relative to the sensitivity of the liabilities to the same rate change.*

The interest rate hedge ratio ("hedge ratio") measures how the assets move in response to movements in the liabilities due to interest rate changes. For instance, let's assume a 100 basis point (one percent) decrease in interest rates increases the pension liability by $10 million. A 75 percent hedge ratio suggests that the assets would increase by $7.5 million, thereby "hedging" much of the increase in liabilities.

Now let's flip the script and look at increasing rates and hedge ratios. Plans with higher hedge ratios have generally underperformed plans with lower hedge ratios in 2022. The significant move in interest rates this year has more than offset the negative returns of global equities, which tend to be a larger portion of portfolio allocation in plans with lower hedge ratios.

	Hedge Ratio
Strategy 1	45%
Strategy 2	0%
Strategy 3	90%

As we saw in the illustrative strategies above, all plans experienced some level of improvement in funded position as interest rates increased. The differences in the level of improvement can largely be explained by the hedge ratio.

Overall, **Strategy 2** had the lowest hedge ratio of 0 percent and was able to take full advantage of higher interest rates whereas **Strategy 3** had the highest hedge ratio of 90 percent and therefore saw nearly no change in its funded ratio; however, the plan did experience a reduction in its pension deficit.

Interest Rate Hedge Ratio Levers

The interest rate hedge ratio is determined by *Three Levers*:

1. Lever 1—Funded Status
2. Lever 2—The Allocation to Liability-Driven Investments (LDI)
3. Lever 3—The ratio of the Duration of the LDI assets to the Liability Duration.

It is important not only to understand how each of these levers contributes to the hedge ratio but also to acknowledge how each lever behaves in various market environments.

Lever 1: Funded Status | *Lever 2:* LDI Allocation | *Lever 3:* Duration Ratio

Interest Rate Hedge Ratio = Assets / Liabilities x LDI Assets / Assets x LDI Duration / Liability Duration

For instance, if you want to increase the hedge ratio but do not want to allocate any additional dollars to the LDI strategy (Lever 2), you can instead extend the LDI duration even beyond the liability duration to increase Lever 3, thereby increasing the overall hedge ratio.

However, the aforementioned strategy is akin to employing leverage to prop up the hedge ratio. In a declining rate environment, this can provide valuable protection. Despite this benefit, as rates increase, the “leveraged duration” position may cause more pain than originally anticipated.

The essential goal for any pension plan is to provide the benefits promised to plan participants. While higher interest rates may be viewed as an adversarial “foe” to many investors, to pension investors, higher rates can be viewed as much more “friendly,” maybe even your ‘best friend’ in some cases. Understanding each lever of the interest rate hedge ratio and the impact markets may have on its effectiveness is critical to all plan fiduciaries.

Pension plan management is fraught with nuances and requires having a partner who intimately understands these nuances and can help structure an investment strategy that acknowledges the changing dynamics of volatile markets. For more information on investment strategies with pension plans, please contact any of the professionals at Fiducient Advisors.

[1]U.S. Department of Treasury as of December 31, 2021 and June 14, 2022. Bloomberg U.S. Government/Credit Long Index, Bloomberg LP as of June 30, 2022.

***Bloomberg U.S. Aggregate Index** covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities*

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