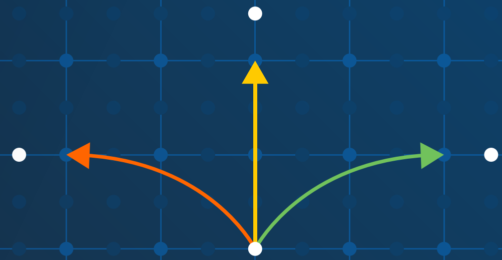
CASE STUDY

Maintaining a balanced asset allocation policy



The situation

A company with two underfunded defined benefit (DB) pension plans was considering terminating both plans within the next six to eight years. The two plans followed different asset allocation approaches. The company asked its Milliman consultant to advise it on a unified asset allocation policy that would support the company's desire to bring both plans to a fully funded status so that they could be terminated. The new policy needed to balance several competing objectives:

- **Protect the funded status from changes in interest rates.** When a plan is terminated, the benefits are distributed to participants in the form of either lump sum payments or annuities that are purchased from an insurance company. Both the lump sum payments and the cost of annuities are tied to prevailing interest rates on high-quality corporate bonds, so the amount of money a plan needs to be able to terminate is tied to where these interest rates stand when the termination takes place. Higher interest rates mean less money is needed to terminate and vice versa. At the same time, any fixed income investments in the plan's portfolio will rise or fall in value as interest rates fall and rise. In theory, a plan could invest entirely in high-quality corporate bonds with the same duration as the plan's benefits, so that the plan's assets and liabilities would rise and fall together. This tactic is often referred to as liability-driven investing (LDI).
- **Protect the funded status from changes in the equity market.** The company did not want to risk losing a significant amount of plan assets if a market correction occured within its time horizon to termination.
- **Generate investment income to help close the gap between assets and liabilities.** The company could not afford to write one big check to fully fund the pension plan and hoped that market returns could help foot the bill.

By investing only in LDI (high-quality, long-duration corporate bonds), the company could satisfy the first two objectives: because assets and liabilities would move in sync with one another, interest rate changes would not change the funded status and, with no exposure to equities, market corrections would likewise not change the funded status. But this approach would mean that changes in the external environment would not have any impact on the gap between assets and liabilities. In effect, the company would be locking in the plans' current underfunding and would have to close the gap entirely with their own funds.

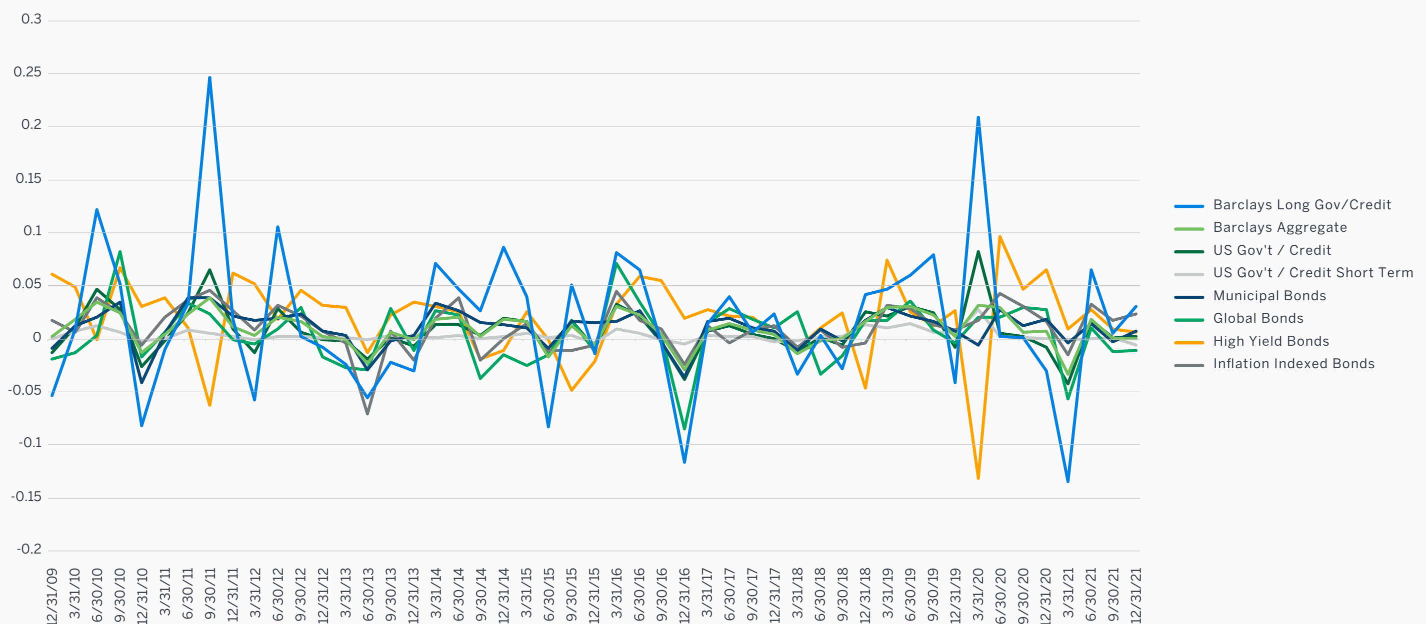
On the other hand, by putting some investments into non-LDI investments, the plans would be subject to both interest rate risk and equity risk. There would be a chance that market movements could help close the funding gap (for instance, if interest rates rose and stocks rose), but there would also be a chance that market movements could actually *widen* the gap!

The solution

Each plan sponsor must decide for themselves how to balance the competing objectives of risk and cost. The Milliman consultant built an interactive projection model to help the company understand the trade-offs inherent in trying to minimize interest rate risk, equity risk, and the contributions that would be needed to fully fund the plan.

The first step the company took was to restructure its fixed income investments. One plan had about 50% in fixed income, and the other was 100% in fixed income. For both plans, the fixed income investments were largely short-duration, of mixed credit quality, and a combination of government securities, U.S. corporate bonds, and international bonds. As a result, neither plan had good tracking between their fixed income investments and their liabilities. As Figure 1 illustrates, there are many different types of fixed income investments. Many pension plans benchmark their fixed income against the Bloomberg Barclays Aggregate Index, but pension liabilities often move more like the Bloomberg Barclays US Long Government / Credit Index.

Figure 1: Historical fixed income performance



The two plans had different liability characteristics, so the Milliman consultant worked with the investment advisor to craft separate portfolios of high-quality corporate bonds that were tailored to fit each plan's duration footprint.

The second step the company took was to move both plans to the same 75% fixed / 25% equity mix. This ratio felt comfortable to them in terms of minimizing risk to some degree while still having some ability to reap the rewards of positive market performance. As the plans move closer to fully funded, the company would adopt a glide path strategy to shift more investments into the fixed income portfolios to systematically take risk off of the table and protect the improvement in funded status.

The outcome

The Milliman consultant kept an eye on both assets and liabilities on a monthly basis and was able to demonstrate that the fixed income portfolios were tracking against plan liabilities much more closely than they had done in the past. Meanwhile, the equities performed very strongly during the 2020-21 bull market. The plan sponsor has already been able to ratchet the allocation up to 80% fixed / 20% equity, thereby locking those gains away and moving closer to the company's goal of terminating the plans.

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