Investment Strategies: A Case Study

Liability-Driven Investment (LDI) Strategy: Capturing the Right Dollar Duration and Amount of Risk to Both Fully Protect the Pension Promise and Allow for Possible Benefit Improvements

Background

As pension plans that are invested in traditional 60/40 equity/bond structures mature, investment results become a key driver of success or failure. While pension Trustees or decision makers have access to actuarial results and information about investment structures, they can struggle to appropriately define "risk" and feel confident acting to manage it prudently.

Investment Problem

The timeframe was the mid-2000s, after markets had rebounded from the tech bubble and 9/11 but before the 2008 financial crisis. We were asked to assess a multi-employer Plan's asset mix and recommend any changes for consideration. The Plan had an equity content in excess of 25%, which on the face of it looked conservative, given other Plans typically carried equity weightings above 50%. However, given the maturity of the Plan we recognized that a major equity market correction would be problematic. The Plan's demographic make-up was *very mature*, with two-thirds of the members retired and contributions coming in to the Plan from active membership hours at a rate of only 1% of assets. Expected annual investment returns were clearly a multiple of those contributions.

Our Assessment and Proposed Solution

We first considered the client's main objective: to protect benefits earned to date. A secondary objective was to earn greater returns so that benefit increases could be awarded in the future, but without compromising capital preservation.

Based on the size of the Plan's surplus, we determined the maximum equity allocation that could be tolerated in a significant bear market. We modeled a pessimistic scenario in which equities

underperformed the growth in liabilities by 35%, over a three-year period. Based on this scenario, we advised the Trustees to scale back the equity weight to 15%, as a 5% loss of surplus was the maximum that could be tolerated.

We proposed a liability-matched bond portfolio with an active credit weighting of up to 40% in corporate bonds, with the actual weight depending on credit spreads. Finally, to help with rebalancing, we recommended a “swing” equity portfolio inside the bond portfolio, with a 5% maximum weight. As equities became more or less attractive, there would be a 0% to 5% allocation to equities.

At all times, the dollar duration of the bond portfolio would match the dollar duration of the liabilities, to protect against a decline in interest rates. Key rate duration buckets would be used to minimize yield curve risk.

Throughout this process, we worked alongside the actuary and investment consultant in a team, as we refined the approach and solution.

Conclusion

Fortunately, the Trustees followed our advice and trimmed equities prior to the financial crisis. Dollar duration matching of the liabilities has also been successful, in a period of declining interest rates. With rates at much lower points, we are now working with the actuary and investment consultant to consider re-sizing and reconfiguring the risk portfolio. We are proud to continue to serve this client across several asset classes.

This article is not intended to provide advice, recommendations or offers to buy or sell any product or service. The information provided is compiled from our own research that we believe to be reasonable and accurate at the time of writing, but is subject to change without notice. Forward looking statements are based on our assumptions, results could differ materially.

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