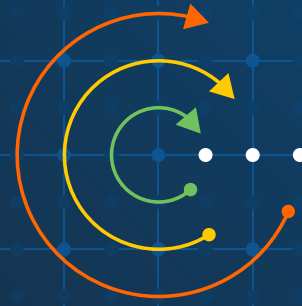


Using data for liability derisking



The situation

A company with a defined benefit (DB) pension plan wanted to shrink the size of the plan population to reduce future administrative expenses and premiums to the Pension Benefit Guaranty Corporation (PBGC). The company hoped that it would also be able to reduce the plan's risk profile, knowing there are two common "derisking" strategies that many plan sponsors have employed:

- **Lump sum windows:** Provide a segment of the terminated vested participant population with the ability to elect a lump sum payout of their pension benefit during a limited time window.
- **Annuity buyouts:** Purchase annuities from an insurance company for a segment of the retired participant population.

These activities reduce the plan's participant population, the plan's liabilities, and the plan's assets, which in turn reduce the magnitude of the risk from interest rate changes and equity market movements. But derisking programs typically aren't designed to address another key risk: longevity. Often lump sum windows are offered to all terminated vested participants with lump sum amounts that are below a fixed threshold, or annuities are purchased for every retiree with a monthly benefit below a certain level. These approaches treat all participants as if they have identical longevity characteristics. The company hoped that a thoughtful approach to a lump sum window would allow them to shed longevity risk along with the more traditional risks.

The solution

A typical approach to selecting the participants for a lump sum window is:

- Calculate the lump sum amount for each individual
- Sort the participants by the size of their lump sums
- Choose a threshold amount for the lump sum offer: for instance, offer lump sums to all terminated vested participants whose lump sum amount is below \$75,000

But this analysis fails to consider any characteristic of the population other than the size of the lump sum.

The company's Milliman consultant suggested leveraging Milliman's **Curv**[®] technology to study the longevity characteristics of the plan's terminated vested population. Plans sometimes cover employees who are located in multiple geographic areas or who are employed in different occupations. These factors may contribute to discernable differences in life expectancies across various subsets of the plan population.

Curv uses deidentified prescription drug data, coupled with Milliman's advanced healthcare predictive analytics, to identify at a fairly granular level which segments of a plan population are likely to live longer or shorter than others. This plan had participants in Locations A, B, and C, so the Milliman consultant used **Curv** to explore how longevity varied by location as well as size of benefit. The Milliman consultant concluded that longevity risk could be shed by offering a lump sum window to terminated vested participants in Location C, particularly those with larger benefits. Of course, with any lump sum window, it is important to ensure that the offer is based on some reasonable business classification, such as location, department, salaried versus hourly, etc., and does not discriminate in favor of highly compensated employees.

The outcome

The company went ahead with a lump sum window for all of the terminated vested participants in Location C. It plans to use this same approach in an upcoming year to study the longevity profile of the retired plan population and use this data to craft a targeted approach to an annuity buyout. When the time comes to terminate the plan, the company may also use **Curv** to demonstrate to insurance companies that its liability derisking activities have reduced the longevity risk of the plan, and thereby receive favorable annuity pricing.