

Pension Buyout Reality Check

How Actuarial Assumptions Cloud Perceptions of Annuity Buyout Pricing

Recent annuity purchases highlight the need to examine what drives their pricing. Plan sponsor announcements that allude to “par” settlements relative to accounting values warrant a closer look at the plan’s actuarial assumptions before reaching any conclusions about the attractiveness of a buyout’s economics.

Introduction

“We’re settling the retiree obligation with Prudential approximately at par, which is unprecedented.” - Robert O’Keef, Motorola Solutions’ treasurer, 9/25/2014¹

“We’re very pleased with the returns on the [annuity buyout] business we’ve written this year. Those returns are thoroughly consistent with our corporate return objectives... of 13% to 14%.” – Stephen Pelletier, head of Prudential Insurance’s U.S. businesses, 11/06/2014²

On the face of it, these two statements may seem irreconcilable. Yet they reference the same annuity buyout, announced in September 2014, in which Prudential Insurance agreed to take on \$3.1 billion of liabilities from Motorola Solutions, on an accounting basis, for \$3.1 billion worth of assets. This news caught the attention of the industry because Motorola did not appear to pay any premium over its accounting liability. Insurers have historically, and by their own admission, demanded at least a 3% premium in excess of plan liabilities to compensate for investment, regulatory, and longevity risk as well as a profit margin.³ A transaction at par relative to accounting valuations would make it challenging (at best) for Prudential to meet its stated return on capital objective.

Should plan sponsors now expect to find annuity buyouts available at par, without any apparent compensation to insurers for taking on risk? Or is there actually an embedded premium that is not evident from the headline numbers? We think the latter is more likely, and in this paper we explore a potential explanation for the seemingly contradictory quotes above: mortality assumptions.

Sponsors, in valuing their liability for accounting purposes, make many assumptions about the longevity of their participant population. When those assumptions are refined by the insurer in a buyout, they can have a big impact on the projection of future payouts and, by extension, on liability valuation. As those refinements push the liability value up or down, it becomes harder to draw conclusions about the true economic buyout premium by simply comparing the initial accounting liability and the ending buyout price.

Buyout Process and Premium

*“The statements that you’re referencing about par... are all in relation to a plan sponsor’s GAAP valuation of its pension liability... We ... arrive at our customized view, from the ground up, of the economic risks that we’re taking on in a given transaction ... **based on information that ranges far beyond the Society of Actuaries mortality tables.** It includes industry data, it*

¹From Motorola Solutions’ conference call with analysts on September 25, 2014.

²From Prudential Insurance’s Q3 earnings call on November 6, 2014.

³Prudential’s The Five Myths Holding Back Plan Sponsors (September 19, 2014) explicitly targets a buyout valuation that is 103% of the liability using updated mortality tables.

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includes our own extensive experience in managing mortality risk, and it includes the—especially in the large case market—the extensive census data that a plan sponsor supplies us on their retirees. So we're very, very confident in the approach that we take in that regard. – Stephen Pelletier, head of Prudential Insurance's U.S. businesses, 11/06/2014⁴

As this quote reveals, the first order of business in pricing a buyout is for the insurer to reassess the liability's projections of future payouts. The insurer will likely use more detailed and more current data to replace some of the assumptions that the sponsor and their actuary have made when projecting the liability for accounting or funding purposes.

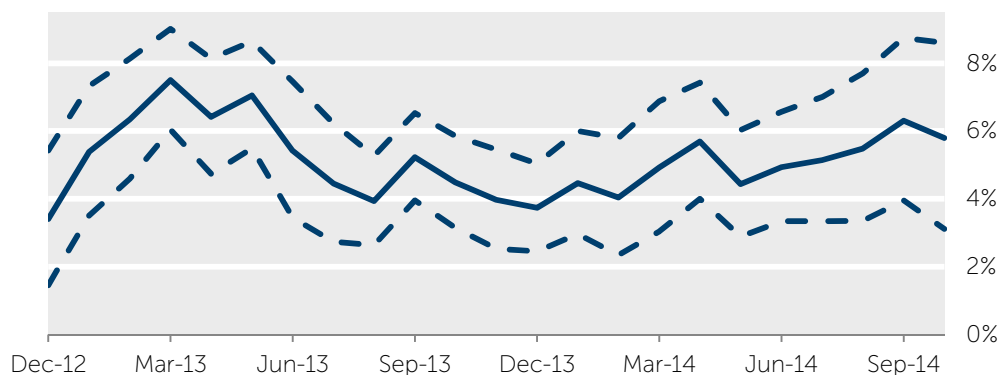
For example, the liability on the sponsor's books may reflect a simplified assumption about the blend of white collar and blue collar workforce, whereas the insurer can obtain better longevity estimates by applying the actual "collar blend" of the participants. Or, the sponsor may have offered participants a lump sum that could mean the remaining participants are healthier than average, the result of selection bias. The sponsor's line of business is another; coal miners may have different life expectancies than school teachers. Sponsors might not take that level of detail into account when projecting the liability for accounting or contribution purposes, but an insurer certainly will before assuming that liability.

Once the projections of the future payouts are refined, the insurer turns to the discount rate and the resulting premium. Most sponsors discount their accounting liability using investment grade corporate bond yields, which include some spread above risk-free Treasury rates to compensate for their risk (e.g., downgrade/default risk). Insurance companies, however, do not include much of this spread when valuing the liability in a buyout. This makes sense because if an insurance company chooses to bear default/downgrade risk in their investment portfolio held against the liability, they should keep the compensation for bearing that risk rather than give it away to the plan sponsor in the form of a lower buyout price.

This difference in discount rate is a primary driver for the "premium" in annuity buyouts above the corporate bond-based valuation.⁵ Exhibit I below shows how this premium has varied in recent years, but has always been positive by a few percentage points over the liability discounted at corporate bond yields.

Exhibit I: Buyout premium over corporate bond-discounted liability (retirees only)

Liability present value, average premium (solid line) and one standard deviation (dotted lines)



Data shown for an illustrative liability with a duration of 8 years based on the Citigroup Pension Discount Curve as of 10/31/14.

Source: NISA calculations based on data from Barclays, Citigroup, and Penbridge Advisors.

⁴ From Prudential Insurance's Q3 earnings call on November 6, 2014. Emphasis added.

⁵ Other factors besides the credit risk implied in a corporate-bond based liability can contribute to the size of an annuity buyout premium over that valuation.

While this annuity buyout would occur at par on paper, the savings to the sponsor would be more accounting optics than economic reality.

The average buyout premium *once the insurer has refined the future payout projections* is currently about 6% above the liability valued on corporate bond yields. Even relatively aggressive pricing, represented by one standard deviation below the average, still implies a sizeable premium over the liability valued with corporate bond yields. Furthermore, the average 6% premium is in comparison to a liability discounted using the Citigroup Pension Discount Curve. Many sponsors use more aggressive discount rates for their liability valuation and when we adjust for the discount rates reported in sponsors' 10-K filings, the estimated average premium rises to approximately 7-8%.⁶

Uncovering the Premium

If insurers charge a premium, how then could a transaction appear to be at par? The answer may lie in the process that comes before the premium discussion, when the initial liability is recalibrated to better data about the participant population and their longevity. The impact of changing these seemingly sleepy details may be surprising.

Let's explore how the liability changes when we refine just one of these assumptions – the blend of white and blue collar workers. Since white and blue collar workers have different longevity expectations, the liability value can shift significantly when the sponsor's assumptions are reconsidered and the participants' actual collar blend is refactored into the payout projections. Exhibit II shows this dynamic for the illustrative 8-year duration liability consisting of half male and half female participants.

Exhibit II: Refining assumptions impacts liability value

Change in liability present value when assumed blend is revised to actual blend, %

		Actual blend (blue/white collar)				
		100%/0%	75%/25%	50%/50%	25%/75%	0%/100%
Assumed blend (blue/white collar)	100%/0%	-	+1%	+3%	+5%	+7%
	75%/25%	-1%	-	+2%	+4%	+6%
	50%/50%	-3%	-2%	-	+2%	+4%
	25%/75%	-5%	-4%	-2%	-	+2%
	0%/100%	-7%	-6%	-4%	-2%	-

Data shown for an illustrative liability with a duration of 8.0 years.

Source: NISA calculations based on data from the Society of Actuaries

We see from Exhibit II that liability value can change by several percent both up or down by simply refining one factor – the collar blend – from an initial assumption to a more accurate level. And as we mentioned earlier, there are other factors (e.g. lump sums, line of business, size of the benefits, etc.) which may not get much scrutiny in the accounting valuation yet could have a noticeable effect on overall longevity and liability size. While the sponsor's initial assumptions likely satisfy the "reasonableness" standard sought by their accountants and auditors, it should be no surprise that the insurer will apply much greater detail to refine those assumptions before taking on the liability.

Let's walk through an example of how this can influence perceptions about buyout pricing and premiums. Imagine a sponsor has a \$1 billion pension liability on its books that it wants to offload. For accounting purposes, the sponsor has made the assumption of 25% blue collar and 75% white collar workers when coming up with that \$1 billion valuation.

The insurer, however, looks closer and sees the actual collar blend is more like 50% blue collar and 50% white collar. As the highlighted cell in Exhibit II shows, this would imply a 2% lower liability value of \$980 million. However, this valuation is still using a corporate discount rate.

⁶ Based on data from NISA's Pension Surplus Risk Index (PSRX) reflecting the 100 largest US corporate defined benefit plans, as determined by NISA based on publicly available information.

The next step is for the insurer to apply a lower discount rate to achieve its risk/return objectives and provide for profits, which could bring the resulting buyout price back to \$1 billion. While this would be a coincidence, it would explain how the insurer would feel it had received a premium over the recalibrated \$980 million corporate-discounted liability, while the sponsor may view it as offloading its original \$1 billion liability at par.

Just this one mortality-related attribute could explain a good portion of the 3-7% buyout premium we have historically observed, as seen in Exhibit I. While this annuity buyout would occur at par on paper, the savings to the sponsor would be more accounting optics than economic reality.

Conclusion

The basic economics and tradeoffs of annuity buyouts have not changed. Plan sponsors know that insurance is not alchemy – insurers still must be compensated for risk and feel confident they will meet their corporate return objectives.

Plan demographics and characteristics materially impact the economic value of a liability. While plan sponsors can estimate their liability with more generic assumptions, insurers will incorporate as much information as possible into their pricing. If the difference between the accounting and economic valuations is large enough, a pension buyout can appear to occur at par while containing a significant economic premium.

As we have outlined in previous papers,⁷ there are points to be made on both sides of the de-risking debate. Yet headlines about deals priced at par should not obscure the fact that insurers' profit margins remain a key part of their annuity buyout pricing.

⁷See our earlier papers, *At the Crossroads*, *Defining the Pension De-Risking Spectrum*, and *Cash on the Barrelhead*, for a fuller discussion of the relative merits of hibernation and buyouts as de-risking strategies.

Selected NISA Papers

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- *The Beauty of the Bundle* (December 2014)
- *Long Live Longevity Annuities* (September 2014)
- *Refocusing on Retirement Income Risk* (April 2014)
- *Cash on the Barrelhead* (February 2014)
- *At the Crossroads* (August 2013)
- *Putting Longevity Risk in its Place* (April 2013)
- *Contribution Relief with a Catch* (March 2013)
- *Defining the Pension De-Risking Spectrum* (January 2013)
- *The Credit Rating Impact of Pension De-Risking* (January 2013)
- *Efficient Tax Management in Taxable VEBA Portfolios* (November 2012)
- *Funding Relief and Implications for Pension Investing* (October 2012)
- *PSRX Overview and PSRX Guide* (September 2012)
- *Corporate Bond Scarcity? The Case for Separating Interest Rate and Spread Risks* (August 2012)
- *Prospective Funded Status Volatility* (October 2011)
- *Break-even Yield Curve* (August 2011)
- *Dynamic Liability Driven Investing* (July 2011)
- *Interest Rate Hedges* (May 2009)
- *Considerations Surrounding Corporate Bonds in Pensions* (December 2008)

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