DB SOLUTIONS InSights

PENSION PLAN DE-RISKING – IS NOW THE WRONG TIME?

Many defined benefit (DB) plan sponsors have indicated a desire to de-risk their DB plans. However, a key barrier to de-risking is a "regret risk" that they won't benefit from a rise in interest rates. In a rising interest rate environment, liabilities will decline, and if there's not the same level of decline in the plan assets, it will improve the financial position of the DB plan.

Previous editions of DB Solutions InSights have highlighted the merits of de-risking through annuity solutions, where risk is transferred from the sponsor's balance sheet to an insurance company's balance sheet. This article challenges the prevailing wisdom that now is the wrong time to de-risk, due to low interest rates. Adopting annuity solutions to de-risk does not mean forgoing any positive impact on a DB plan's financial position if interest rates increase.

Sun Life Financial

ANNUITY APPROACH RECAP

In order to illustrate how annuity risk transfer solutions can help, consider a DB plan with $1,000 million of liabilities and $900 million of assets. There's an even split between retiree and active/deferred liabilities. The asset mix is 60% equities and 40% long bonds.

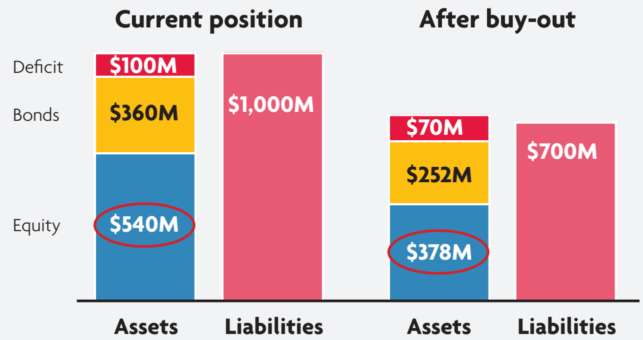
The table below provides an overview of two annuity solutions. The example in this article is based on a buy-out (traditional annuity) solution. The implications are similar for a buy-in solution.

Solution	Description
Buy-out	This is the purchase of an annuity contract that transfers the pension plan's liabilities to the insurance company. The insurance company makes pension payments directly to plan members and takes responsibility for all investment and longevity risk associated with them.
Buy-in	This is a newer development in Canada that shares many of the same characteristics of annuity buy-outs, including the transfer of longevity and investment risk to the insurance company. Under the buy-in, a plan sponsor purchases an annuity contract as an investment to match some or all of a pension plan's liabilities and reduce risk. The assets and liabilities remain on the sponsor's balance sheet.

If the DB plan sponsor chooses to transfer $300M of the $500M retiree liabilities through a buy-out, only $270M can be sourced from the plan assets and the plan sponsor makes a $30M contribution, due to the 90% funded position.

There will also be accounting settlement consequences as a result of the transaction.

The plan sponsor maintains the 60% equity/40% bond asset mix for the balance of assets.



The benefits of the buy-out de-risk approach are:

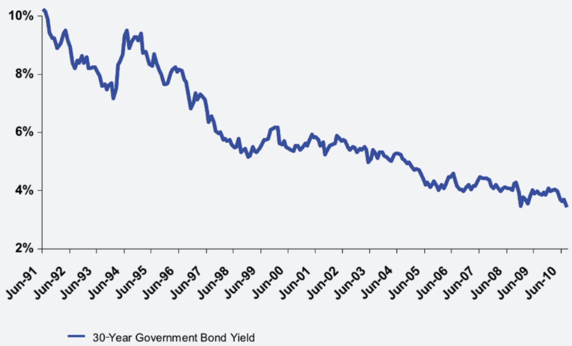
- the plan sponsor has a smaller DB plan asset and liability after the buy-out;
- the dollar equity exposure is reduced from $540M to $378M;
- the balance sheet will be affected less by future equity market volatility;
- there are $300M fewer assets exposed to the risk of longevity assumption changes; and
- the expected total DB asset return is unchanged (but for smaller dollars).

The decision around how much to de-risk is specific to each plan.

NOW IS THE WRONG TIME TO DE-RISK

A common reaction when meeting plan sponsors and consultants is that now is the wrong time to de-risk, due to low interest rates and a concern that interest rates will rise. In a rising interest rate environment, the value of the liabilities will reduce, improving the financial position of the DB plan, if there's no offsetting decline in the assets.

The chart below highlights the current dilemma, where the yield for the 30-year Government of Canada bond is at its lowest level in over 20 years.



It's a similar picture for other key bond yield measures.

Whether it is more likely that interest rates will rise rather than fall is not the point. De-risking through annuity solutions can still lead to a reduction in the DB plan deficit if long-term interest rates rise. The asset and liability durations (i.e., sensitivity to changes in interest rates) for the "current position" of 60% equity/40% bonds and the "after buy-out" scenario are shown in the table below.

	Current position		After buy-out	
	Assets	Liabilities	Assets	Liabilities
Duration (years)	12.5*	16.0**	12.5*	19.0

* Duration of bond assets invested in DEX Long Bond Index
** The breakdown for the duration of the current position liabilities is 9 for the retirees and 23 for the active/deferred members.

Changes in interest rates directly affect the bond component of the assets (40%) and 100% of the liabilities. Retiree liabilities are shorter in duration compared to active liabilities.

One implication of the buy-out is that by transferring some of the retiree liabilities, the duration of the remaining liabilities increases, becoming more sensitive to interest rate changes.

The next table highlights the decline in the assets and liabilities if there is a 1% rate increase (across the yield curve). The net impact is not materially different for the "after buy-out" scenario compared to the "current position" scenario with both implying over $100M improvement in the financial position of the DB plan.

	Current position		After buy-out	
	Assets	Liabilities	Assets	Liabilities
1% rate increase	$45M	$160M	$31M	$133M
Net improvement	$115M		$102M	

The financial position of the "after buy-out" scenario represents almost 90% of the improvement of the "current position" scenario. In addition, the buy-out reduces the DB plan's dollar equity exposure, as well as reducing the value of assets exposed to the risk of changes in longevity assumptions.

The sponsor could design the "after buy-out" scenario to experience broadly the same dollar impact from changes in interest rates as for the "current position". Buying-out the older retirees will further extend the duration of the remaining liabilities and reduce the shortfall in the dollar impact relative to the "current position".

Alternatively, the duration of the bond assets could be reduced. However, reducing the bond duration contradicts the underlying goal of a de-risking strategy, which aims to better match assets and liabilities, rather than increase any mismatch.

If the objective was to also reduce interest rate risk after the buy-out, it would imply increasing the duration of the bond assets to reduce the impact from interest rate changes (both the upside and downside).

DE-RISK BY REDUCING EQUITIES

An alternative de-risking strategy is to simply reduce equities and increase bonds. If equities are reduced by 20%, then the new asset mix is 40% equity and 60% bonds. The implications of a 1% interest rate increase are summarized in the table below.

40% equity/60% bonds

	Assets	Liabilities
1% rate increase	▼ $67M	▼ $160M
Net improvement	$93M	

The 40% equity and 60% bond mix benefits from a $93M improvement in the financial position. However, relative to the "after buy-out" transaction, there are a number of disadvantages, including:

- smaller dollar improvement from the interest rate increase;
- all of the liabilities ($1B) are exposed to the risk of longevity assumption changes vs. $700M after the buy-out; and
- lower expected total DB asset return, due to the lower equity allocation.

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DE-RISK RATHER THAN "DE-LAY"

It is easy to avoid change and jump on the bandwagon that says now is the wrong time to de-risk because of low interest rates. However, it's important to "do the math" and make sure that you are not delaying any de-risking for the wrong reasons. Annuity solutions can provide plan sponsors with a range of de-risking and hedging benefits.

About the author

Peter Muldowney has more than 20 years' experience in the pension and investment consulting industry as a consultant, marketer and strategist. Peter has held senior roles in leading Canadian and UK consulting and financial services firms.