

Certainty without death

"In this world nothing can be said to be certain, except death and taxes"
Benjamin Franklin

There's no doubt that Benjamin Franklin, one of the founding fathers of the United States of America, defined certainty in the bleakest of terms. In the world of Defined Benefit (DB) pension plans, the lack of financial and funding certainty is leading to a slow death, as more and more companies announce the closure of their DB plans.

Philosophers define certainty as being the highest form of knowledge. There is no end of knowledge with respect to DB plan issues, but the solutions are more elusive. There are, however, steps that sponsors can take to breathe new life into their DB plans and position them for a stronger future.

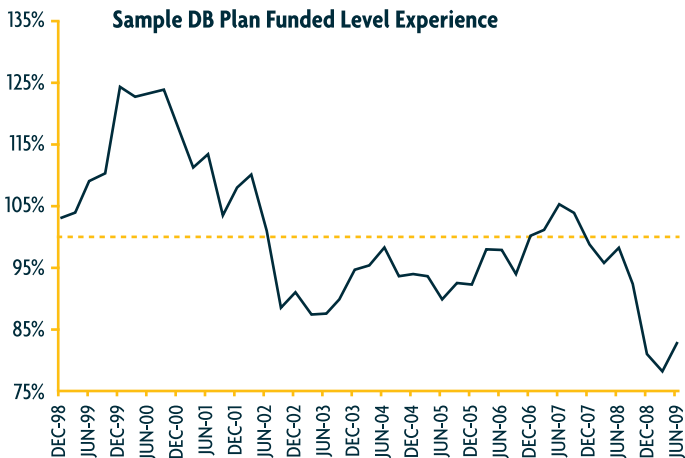
We look at four challenges that many DB plan sponsors face, and explore solutions that mitigate these challenges by balancing long-term goals with better managed short-term certainty.

The Challenge 1: Funded level volatility

- *Equities expected to provide longer-term cost management benefits*
- *Potential gain, but at expense of shorter-term funding pain*

A key risk measure considered by DB plan sponsors is the funded level, or ratio of assets to liabilities. Most pension plans have invested in an equity-biased portfolio that mismatches the liabilities in pursuit of the reward of higher longer-term returns – and lower financing costs.

The level of equity risk generally fuels the volatility in the funded level over time. The chart below shows the volatility of the funded level of a typical DB pension plan¹ invested 60% in equities and 40% in bonds.



At the end of 1998, the funded level was slightly better than 100%. The sharp rise, then subsequent decline was driven by the technology boom and then bust, which when combined with declining long-term interest rates, led to most plan sponsors falling into a deficit. It took almost five years for the funded level to break through fully funded status, only to significantly drop back into a deficit as a result of the 2008 financial crisis, and associated steep decline in equity markets around the world.

The Solutions

For plan sponsors seeking to better manage this funded-level volatility, there are two strategies in particular that can help:

1. Risk transfer solutions. While this approach doesn't affect the pattern of funded-level volatility of a DB plan, it reduces the dollar or financial impact of the plan.

Risk transfer occurs when a DB pension plan transfers retiree liabilities to an insurance company through the purchase of annuities. For example, consider a DB plan with a 60% equity and 40% bond

asset mix, where 30% of the liabilities are for retirees. If the plan transferred the retiree liabilities (and assets) to an insurance company, this would reduce the value of the pension fund assets (and liabilities). Maintaining an asset mix of 60% equity and 40% bonds – for a smaller-sized pension fund – will deliver the same pattern of results, but will have a smaller financial impact on the plan sponsor. This can be accomplished through a traditional annuity or Pensurance^{TMii}

2. Synthetic solutions. Derivative-based synthetic solutions can also help plan sponsors maintain their return objectives, but with less volatility in the funded level.

Many plan sponsors have lost confidence in derivative-based investments. Instead of ignoring derivative solutions, plan sponsors will benefit from regaining comfort with these investments, which have a range of risk profiles. A potential solution is to reduce the interest rate risk exposure through investment in interest rate swaps. The nature of an interest rate swap enables a pension plan to reduce risk and at the same time achieve additional return from the swap contract. The additional return provides the ability to reduce equity allocation while maintaining the same expected long-term return, reducing both the volatility of returns and the liability mismatch.

Interest Rate Swaps

Public investments, such as equities, trade on an open market (e.g., the Toronto Stock Exchange). In contrast, a swap is a private (over-the-counter) agreement between two parties to exchange cash flows over the life of the contract. The counterparty to a swap is generally a bank.

There is no upfront fee payable under a swap, except for a bid/ask spread. As interest rates change, one party experiences gains and the other party losses, which results in an increase, or decrease in the value of the swap contract.

However, if the swap is constructed to hedge a pension plan's liabilities, the gains or losses reflect the change in the pension liability value. Therefore, by overlaying a swap investment, the pension plan can reduce interest rate risk without the need to allocate actual assets.

The additional return expected from the swap overlay can improve the expected total pension fund return. Alternatively, the swap can be used to reduce exposure to more volatile assets, such as equities, and still achieve the same expected long-term return, but with lower volatility.



Challenge 2: Significant cash contributions

- *Pension liabilities have grown significantly*
- *Heavy reliance on peer comparisons in setting investment policy*
- *Peer comparisons overlook the balance sheet risk, and can lead to greater than expected cash contributions being required*

Twenty years ago, when DB plan assets and liabilities were relatively small in comparison to the value of the sponsoring company, an equity-bias investment focus was appropriate and rewarded.

Fast forward to today and pension liabilities have grown significantly. The issue? The emphasis has remained on managing the pension fund assets – often in regard to how peers are invested – with not enough emphasis placed on the unique ability of the plan sponsor to tolerate the financial impact of declining markets such as in 2008.

While peer comparison is natural, when so much is at stake what matters for a specific DB plan sponsor is the ability to tolerate risk in dollar terms, not returns and percentages.

A typical asset-liability review will assess the continued appropriateness of the expected return benefits of an equity-bias strategy and the associated risk, often defined as the percentage change in the funded and contribution levels. However, assessing risk in this way can lead to the impact on the balance sheet being overlooked. Yet, the balance sheet risk tolerance, or risk budget, is unique to each plan sponsor.

The much-publicized DB pension plan challenges at some organizations have come about because sponsors adopted an asset strategy similar to peers, but the size of pension assets dwarfed the ability of the sponsor to tolerate the balance sheet risk associated with such a strategy.

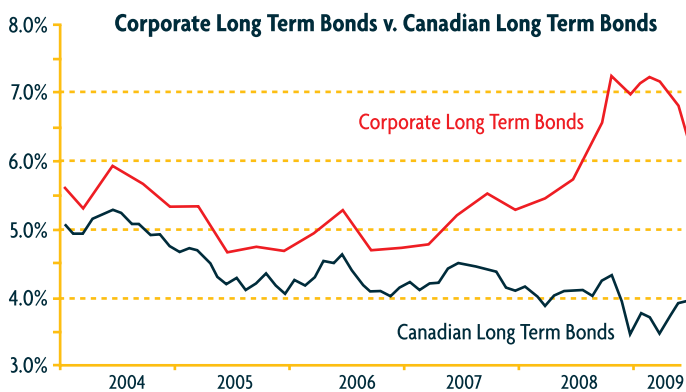
The Solutions

For managing contribution volatility, risk transfer and synthetic solutions can improve certainty for the same reasons as noted earlier for achieving greater certainty in the funded level volatility.

Challenge #3: Manage liability risk, but which measure?

- Accounting liabilities are linked to corporate bond yields
- Solvency liabilities are linked to:
 - government bond yields for members taking commuted values
 - corporate bond yields for members taking annuities
- Government and corporate bond yields can move in opposite directions

The chart below shows the change in the long corporate bond yields (red line) and the long Canada bond yields (blue line). The chart illustrates how the long corporate yields rose rapidly during the 2008 financial crisis, while the long Canada bond yields declined.



Source: DEX

For a DB plan, the management of both solvency (cash) and accounting (expense) volatility is important, but it's difficult for a plan sponsor to address both liability measures.

The large disparity in 2008 between the value of solvency and accounting liabilities was due to the different yields applied to the two liability valuations. Government bond yields declined, which resulted in the value of the solvency liabilities increasing for less mature plans. Corporate yields increased, which led to a decline in accounting liabilities, and in many cases, offset much of the declines from the DB plan assets.

The recent experience in the divergence of yields appears to support the notion that a plan sponsor needs to select one of the two liability measures to benchmark risk management. However, for DB plans where the retiree liabilities represent a significant component of the total liabilities, there is an opportunity to hedge risks for both measures.

The Solution

The value of solvency retiree liabilities is based on an estimated cost of purchasing annuities for retirees. In general, annuity pricing follows corporate yields with adjustments for credit default, capital requirements, profit, expenses and margins for adverse deviation.

The relationship to corporate bond yields for retiree liabilities provides the opportunity to hedge both accounting and solvency liabilities through annuity-type investments. Sun Life Financial offers plan sponsors such an investment with Pensurance™.

Challenge 4: When does investment focus end and administration focus start?

- Majority of DB liabilities are met through the pension fund returns vs. contributions – so investment strategy is important
- Individual retiree pension payments are generally made from the pension fund
- The retiree administration focus can disguise the full investment risks

Over the life of a typical DB plan, the majority of liabilities are funded by pension fund returns rather than the contributions made to the planⁱⁱⁱ. This explains why so much attention is often placed on the importance of the pension fund investment strategy.

However, as a DB plan matures and retiree liabilities dominate, the process of managing and paying individual retiree payments becomes a more important function for the plan sponsor. The key question is whether this is a planned event, or an evolution that may be partly responsible for the financial burden facing many plan sponsors.

In a world where companies outsource operational functions to specialists, why hasn't this trend caught on for the DB pension market? Insurance companies have been administering pension payments for decades, with the infrastructure and support that retirees need.

Moreover, insurance companies have a full appreciation of the investment risks related to the retiree liabilities. Typically, only fixed income assets back the liabilities associated with annuity reserves. The cash flows of these fixed income assets are tightly matched to the cash flows and duration of the expected annuity payments. In addition, margins for adverse deviation are included when calculating the reserves. In contrast, a typical DB plan is heavily weighted to equities, and mismatched to the plan's underlying liabilities that are linked to long-term fixed income yields.

The decline in equities in 2008 cast a bright light on the need for a better balance between asset-liability matching and the desire to have a sustainable and predictable long-term cost structure for financing DB plans. This need for balance is especially important for DB plans where liabilities associated with retirees make up a significant proportion of the total liabilities.

The Solution

As retiree liabilities grow, there are both operational and investment benefits in transferring retiree liabilities to an insurer. Improved certainty can be achieved through retiree risk transfer to manage the size of the DB plan's assets and liabilities, which can help keep shorter-term financial volatility associated with the DB plan in line with an established risk budget.



New life, new thinking for DB plan risk management

Life can be put back into DB plans, but not without some new thinking about how to address risk. For many plans, retaining retiree liabilities has not been beneficial, since it has led to an under-appreciation of the true balance sheet risk. This has led to DB plans falling into deficit and requiring significant cash contributions, which have diverted cash from day-to-day business operations, debt repayments, dividend payments, and other important uses.

Plan sponsors can access new ways to address risk, which can reduce the DB plan's financial impact on the balance sheet. These risk management solutions can breathe new life into DB plans and significantly decrease the rate of plan closures or prevent the final nail in the DB plan coffin – the freezing of retirement benefit accruals for all plan members.

ⁱ For the typical DB plan the assets are assumed to be invested in a combination of domestic and global equities (unhedged) and universe bonds. The liabilities are assumed to be an equal combination of active and retirees. Results for actual DB plans will vary.

ⁱⁱ To learn more about traditional annuities and Pensurance™ visit www.sunlife.ca/dbsolutions.

ⁱⁱⁱ Source: Mercer School of Pension Investment Management

About our author

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Peter leads the DB Solutions team, providing a wide array of de-risking solutions for plan sponsors throughout North America. With 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 firms.



Annuity solutions are provided by Sun Life Assurance Company of Canada, a member of the Sun Life Financial group of companies.

About Sun Life Financial

Sun Life Financial is a leading international financial services organization providing a diverse range of protection and wealth accumulation products and services to individuals and corporate customers. Chartered in 1865, Sun Life Financial and its partners today have operations in key markets worldwide, including Canada, the United States, the United Kingdom, Ireland, Hong Kong, the Philippines, Japan, Indonesia, India, China and Bermuda. As of September 30, 2009, the Sun Life financial group of companies had total assets under management of \$412 billion.

Sun Life Financial Inc. trades on the Toronto (TSX), New York (NYSE) and Philippine (PSE) stock exchanges under ticker symbol SLF.