DB SOLUTIONS InSights

JUNE 2018

LDI: making pensions boring again

Ups and downs may be great for roller coasters, but a boring flat line is what you want for your pension plan funding level

Over the last few decades, defined benefit (DB) pension plan sponsors have pursued excess returns in their pension plans by making bets on equity markets and interest rates. Unfortunately, most plan sponsors have failed to accurately predict these market movements and have seen their funding levels behave like a roller coaster.

Here's the issue: pension liabilities are bond-like in nature and grow and shrink based on interest rate movements. By investing in equities, plan sponsors are mismatching their assets and liabilities in the hope of generating excess returns.

The alternative is a liability driven investing (LDI) approach, where a plan sponsor invests the plan's assets to move like its liabilities. However, some Canadian plan sponsors dismiss this alternative as too expensive.

Our research shows a different story. Since January 1, 2010, a pension plan using an LDI approach or a traditional approach would have ended up at virtually the same funded level. The difference for the pension plan is that the LDI approach would have resulted in a stable funded level during that period versus the roller coaster-like funded level under the traditional approach.

How is this possible with the Canadian equity market up 66%[1] and the U.S. equity market up 175%[2] since January 1, 2010? The answer is that plan sponsors with equities are making a two-sided bet: they are betting that equity markets will rise and that interest rates will not fall. Unfortunately, since January 1, 2010, Canadian interest rates have fallen by 1.89%[3] wiping out most of the equity market gains.

It is time to get off the roller coaster

When we looked back at the past eight years of pension funding volatility, we concluded that betting on equity markets and interest rates has not paid off.

Our analysis shows that a custom LDI strategy would have gotten you off the funding level roller coaster with virtually no additional cost.

[1] S&P/TSX Composite total return from January 1, 2010, to March 31, 2018.
[2] S&P 500 CAD Hedged total return from January 1, 2010, to March 31, 2018.
[3] Change in CANSIM V39062 (Government of Canada Marketable Bonds – Average Yield – Over 10 years) from January 1, 2010, to March 31, 2018.

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You're at the top of the funding hill – which way will you go?

Good news. Recent rises in interest rates and strong equity market performance mean that many DB plans are above or close to fully funded on a solvency basis as of March 31, 2018[1].

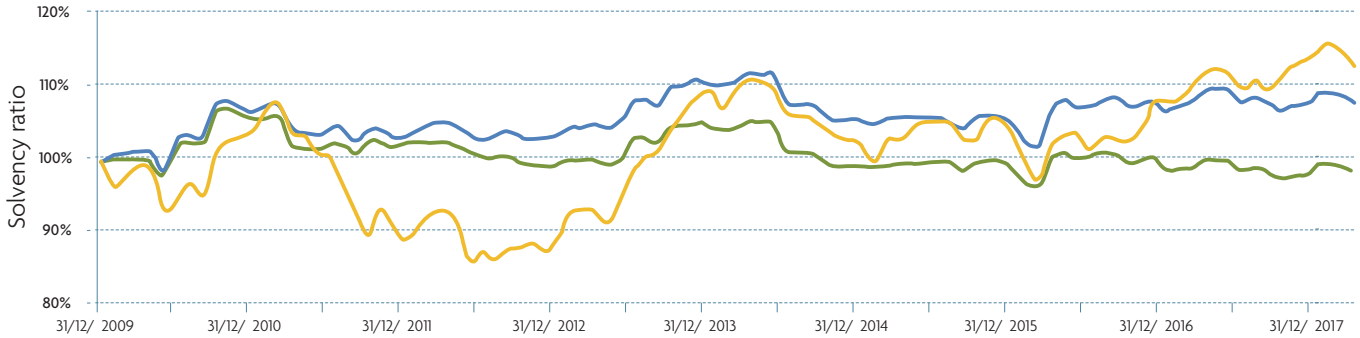
The next ride. You're at the crest of the hill – do you take another ride on the equity mismatch roller coaster or do you switch to a less volatile strategy to secure your funding level for the future? Our advice— let's take a moment to look behind us and reflect on whether the funding level volatility was worth it.

A closer look at the "pension" theme park

We devised three different investment strategies to see how they impacted funding levels for a hypothetical pension plan since January 1, 2010.

Traditional strategy "the matterhorn"	Passive LDI strategy "the log ride"	Custom LDI strategy "the carousel"
Plan invested 55% in equities and 45% in bonds and cash	Plan invested 100% in bond indices blended to match the plan's duration	Plan invested 100% in a custom LDI strategy chosen to match the plan's liabilities

Funding levels for a hypothetical pension plan



The above data is hypothetical and does not represent the asset mixes of actual client portfolios. Hypothetical performance data shown is back-tested and refers to performance results created by applying a particular investment strategy to historical data over a period of time. Do not place undue reliance upon such forward-looking statements. Please refer to page 4 for assumptions and details on the limitations and risks with relying on hypothetical data.

Traditional strategy

- There was significant funding level volatility, which would have translated into cash and accounting surprises.
- Despite the strong equity market performance over the last eight years, funding levels fell below 100% a few times and even stayed below 100% for about two years.
- Given the recent combination of rising interest rates and strong equity markets, there is a higher funded status today, but at the expense of much more volatility.

Passive LDI strategy

- This portfolio was less volatile and the funding level stayed very close to 100%.
- With a strategy relying on index funds with little credit exposure, the funding level sometimes fell below 100% when the returns did not keep up with the liabilities.

Custom LDI strategy

- This portfolio was less volatile and the funding level was almost always higher than the other two strategies.
- Because this portfolio was customized to the plan's liabilities and included a significant credit component, the portfolio generated excess returns and the funding level rarely fell below 100%.

Bottom line – boring is better

The best way to minimize pension risk and avoid roller coaster-like funding levels is to invest your pension assets in a custom LDI strategy that matches the profile of your liabilities.

[1] At March 31, 2018, the Mercer Pension Health Index was at 106% and Aon's Median Solvency Ratio was 98.7%.

What is holding some plans back?

LDI is fast becoming the preferred investment strategy for DB plans in the U.K. and the U.S. so why aren't more plans in Canada embracing LDI solutions? For many, it comes down to a belief in a number of long-held myths.

Myths vs. reality	
LDI is costly, because returns are expected to be lower	There has been little opportunity cost (as measured by funding level) to being in an LDI strategy over the last eight years. The **custom LDI strategy** and the **traditional strategy** ended up in almost the same place. Compared to a traditional strategy, LDI strategies avoid cash and accounting surprises resulting from volatile funding levels. Finally, the investment management fees paid for a custom LDI strategy are generally much lower than for a traditional strategy.
LDI means investing all assets in bonds – with no ability to generate excess returns	LDI offers the opportunity to generate excess returns. For example, LDI strategies can leverage the strategies that insurance companies have used for decades and add private assets, smart credit and overlays to enhance yield. There are even strategies to combine the best elements of both worlds – maintaining equity exposure while still getting the risk management benefits of LDI.
LDI is only appropriate once the plan is fully funded	LDI can be a powerful strategy to help get your plan to a fully funded level. It can be used to lock in excess returns as they're generated and reduce the chance that the plan's funded level will slide backwards.

Leave the roller coasters for thrill seekers – embrace funding consistency

In today's environment of high geopolitical uncertainty, making bets on equity market and interest rate directions is a high-risk strategy, especially for plans close to or at fully funded levels. We believe that this risk is better deployed in your core business, where you have a competitive advantage.

Rather than question the potential cost of adopting an LDI strategy, ask yourself what is the cost of NOT embracing LDI.

Get off the roller coaster – make your pension plan boring again with a custom LDI strategy.

Work with your consultant and your investment manager to plan your path to a boring flat funded level.

LDI 1.0	LDI 2.0	LDI 3.0
• Invest more assets in bonds • Lengthen the duration of the bonds	• Use simple duration matching using FTSE® TMX indices	• Use a custom portfolio of fixed income investments • Consider using overlays and private income assets to further enhance yield and reduce risk

About Sun Life Investment Management

The Sun Life Investment Management group of institutional investment management companies comprises Bentall Kennedy Group in North America, Prime Advisors, Inc. and Ryan Labs Asset Management Inc. in the United States, and Sun Life Institutional Investments (Canada) Inc. in Canada. These operations have combined third-party assets under management of $60 billion, as of March 31, 2018. Sun Life Investment Management is supported by the investment division of Sun Life Assurance Company of Canada that manages $146 billion in assets under management for the Sun Life Financial group of companies as of March 31, 2018.

Sun Life Institutional Investments (Canada) Inc. collaborates with Sun Life Assurance Company of Canada's Defined Benefit Solutions team to provide liability driven investing solutions. Sun Life Institutional Investments (Canada) Inc. manages the underlying investments that constitute the LDI mandates and partners with DB Solutions to develop customized strategies, grow new business and provide ongoing client servicing.

About the authors

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Brent leads Sun Life Financial's Defined Benefit Solutions team, which helps some of Canada's largest employers manage the risks in their defined benefit pension plans with innovative, customized solutions that address the specific challenges of each plan sponsor.

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Emmet leads a team that is responsible for developing innovative portfolios, leading analytics, reporting and research for our current and prospective liability driven investment (LDI) clients.

Assumptions

Liabilities: The plan's cash flow profile is based on the Canadian Institute's of Actuaries medium duration annuity proxy group. Cash flows have been adjusted for longevity and duration differences prior to September 2015. Pension payments are assumed to be paid out and the liability of new pensioners is assumed to be fully funded by contributions. In each of the strategies, we have assumed that no deficit funding contributions were made to the pension plan.

Custom LDI strategy assets: This asset mix represents a typical mix we would suggest to clients for backing annuity purchase liabilities. The portfolio is duration matched to the liability profile and allocations are rebalanced at each month-end to keep the allocation and the duration contribution of each asset class constant. Each asset class is constructed using a blend of the maturity bands (short, medium, long) of the relevant FTSE® TMX Canada indices (corporate AAA/AA, corporate A, corporate BBB, provincial, federal), which matches the target duration in each case. The asset mix is 8% Corporate AAA/AA; 57% Corporate A, 10% Corporate BBB; 15% provincial; 10% federal.

Passive LDI strategy assets: The duration matched blend of the FTSE® TMX Universe Index and the FTSE® TMX Long Universe Index is duration matched to the liabilities, and the allocations to each index are rebalanced at each month end. The mix is 50% FTSE® TMX Universe /50% FTSE® TMX Long Universe as at March 29, 2018.

Traditional strategy assets: The asset mix mirrors the one used in the Mercer Pension Health Index. This asset mix up to December 31, 2016, is 42.5% FTSE® TMX Uni TRI; 25% S&P/TSX Composite; 15% S&P 500 (CAD); 15% MSCI EAFE (CAD); 2.5% FTSE® TMX 91 day T-Bills. After January 1, 2017, the asset mix is 42.5% FTSE® TMX Long Uni TRI; 15% S&P/TSX Composite; 40% MSCI World (CAD); 2.5% FTSE® TMX 91 day T-Bills.

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