RENUMA
RISK MANAGEMENT

BEYOND LDI: MOVING TO A SOLVENCY-ORIENTATED FRAMEWORK

PERSPECTIVES

February 2022

Liability driven investment (LDI) strategies have been a critical tool to help Plan Sponsor´s manage company funded status volatility risk since the GFC. However, now that full funding in in sight for many, we believe that plans can look beyond LDI and accounting objectives and towards a solvency-orientated framework, thereby seeking to mitigate all sources of economic shortfall and contribution risk.

Overview of LDI strategies

The goal of an LDI strategy is to reduce the volatility of assets to liabilities i.e., funded status. It is typically achieved through an asset dedication strategy, implemented by allocating to "**return-seeking**" and "**liability matching**" asset buckets. Funded status risk is controlled by establishing and managing towards target hedge ratios, including for interest rate duration, key rates and credit spread sensitivities.

- The credit quality of the liability matching portfolio is driven by the spread sensitivity inherent in a Plan Sponsor´s discount curve for accounting purposes, typically falling between single A and double A rated on-average.
- The objective of the return seeking portfolio is to generate returns to close any deficit gap as well as to support any underperformance of the liability matching portfolio to actual liability returns.

Additionally, in a typical LDI framework:

- **Liability sensitivities** are typically measured by applying shocks to a projected cash flows (using a GAAP PBO basis) discounted on a credit sensitive curve. Thus, liability measures incorporate both an interest rate and credit spread sensitivity.
- **Liability matching portfolios** are created by mapping the risk characteristics of the PBO liabilities to a set of public benchmarks, structured in a way to best achieve the desired target hedge ratios. Hedges may also be supplemented with a derivative overlay component.

Now that full funding is finally in sight for many, we believe that plans can move beyond LDI & accounting objectives towards a solvency-orientated framework seeking to mitigate all sources of shortfall risk.

The key drawback of an LDI approach is that volatility can only be mitigated up to a certain point – addressing his requires a solvency-orientated framework.

The advantage this framework is that it is relatively simple to adopt for a Plan Sponsor starting out on a de-risking journey, particularly as the de-risking metric is aligned with the liability measure on the corporate balance sheet. However, the key drawback is that the LDI approach (as it is currently implemented) ultimately becomes limiting in managing economic shortfall risk, as volatility can only be mitigated up to a certain point. This is because of four key reasons, each of which is addressable in a solvency-orientated solution:

1. The LDI benchmark is not fully investable meaning that there are sources of liability cash flow risk which cannot be hedged or mitigated i.e., there is residual basis risk.
2. The LDI risk management strategy does not explicitly consider future cash flow timing risks, as it is primarily concerned with hedging the sensitivities of the liabilities on an NPV basis.
3. The objective to minimize the volatility of funded status as the key governance metric can lead a Plan Sponsor to adopt a sub-optimal investment allocation and risk management approach relative to the long-term goal of paying liabilities with the highest confidence. This inefficiency is not such a material concern when return-seeking allocations are high early in the de-risking journey, but it can lead to drag on risk-adjusted returns in later stages, thus increasing long-term costs of defeasance.
4. The LDI approach does not explicitly seek to optimize return as the framework (as commonly applied in the US) is largely silent on key investment design topics including such topics as: the optimal mix between return seeking and liability-matching assets, the best way to source of risk-premia and to incorporate diversification.

What is a solvency framework? Why is it different?

The goal of a solvency strategy is to go "beyond LDI" by seeking to mitigate the risk of a shortfall in the future funding of all liability cash flows. It is constructed by following an asset dedication strategy, seeking to reserve assets sufficient to meet projected liability cash flows and to protect against adverse outcomes.

By contrast to an LDI framework, the management of risk, return and cash flow is more holistic as it seeks to encompass all potential sources of economic shortfall risk. For example, cash flow "reinvestment" and "forced selling" risks are deliberately managed (or hedged) in addition to a focus on economic funded status volatility. The credit risk budget can also be better optimized relative to the long-term objective while the surplus buffer and target level can be fully customized and explicitly managed.

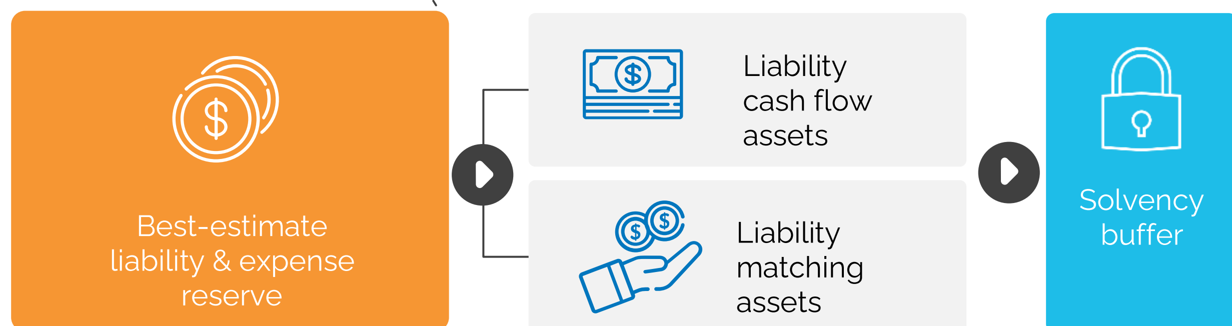
The goal of a solvency strategy is to go "beyond LDI" by seeking to mitigate the risk of a shortfall in the future funding of all liability cash flows.

There are several ways to implement a solvency portfolio strategy.

There are several ways to implement a solvency portfolio strategy. The most conservative approach would be to fully immunize all future cash flows using risk-free assets. However, this would result in the solution with the highest expected funding cost for a Plan Sponsor, and potentially cost more than an insurance buy-out - it is understandably therefore not often desired. In practice, more realistic and affordable solutions seek to take advantage of available illiquidity premia by incorporating a significant proportion of high-quality credit-based liability matching and cash flow generating assets. These allocations involve more credit default risk but can result in higher default adjusted returns and equate to a much lower expected cost of funding the liability defeasance.

Components of a solvency-orientated framework

Under a solvency framework, liabilities and expenses are explicitly reserved for and may be fully allocated. The solution is implemented via a ***liability cash flow***, a ***liability matching*** and an explicit ***surplus buffer*** account.



From a risk-management perspective:

1. The **investment benchmark** is the undiscounted liability cash flows and is therefore fully investable.
2. The **cost of funding liabilities** can be managed by efficiently targeting the available illiquidity premium to generate higher risk-adjusted returns. The higher the level of illiquidity premia available, the lower the expected liability funding cost and the higher the available surplus buffer, all else equal.
3. The investment implementation approach and solution confidence level can be **tailored to the Sponsor´s risk appetite and affordability constraints.** The higher the required confidence the lower the required buffer for adverse experience.
4. The **credit downgrade/default risk budget** can be implemented at different collateral strengths, depending on the Sponsor´s risk capacity and appetite. The solution reserves for expected and unexpected defaults.

5. The **surplus buffer** account can be explicitly managed and optimized relative to the long-term objective of meeting liabilities with a high confidence level.

Summary: Why consider a solvency framework?

The reason to consider adopting a solvency solution is that it can represent a superior and lower-cost investment and risk management approach, particularly suitable for Plan Sponsor´s reaching the later stages of their de-risking journey plan. This is because the more direct and holistic approach to managing shortfall can address the inefficiencies of LDI strategies which become difficult to address, while providing greater comfort and certainty of achieving the long-term objective.

A solvency solution can represent a superior and lower-cost investment and risk management approach

Author: **Kevin McLaughlin**, Founder **Renuaa Risk Management Advisors LLC**
kevin.mclaughlin@renuaa.com | www.reunaa.com

How can RENUAA uniquely help you?

Renuaa´s mission is to help Plan Sponsor´s and Fiduciaries to address the long-term affordability and sustainability of pensions and savings programs. To meet this aim, we believe it is important to achieve an alignment among all stakeholders with a clear specification of the risk management objective. Our strategic advice and services are firmly grounded in the disciplines of corporate finance and financial economics. Importantly, this gives us an ability to distinguish between actuarial funding costs and true economic costs of capital, allowing us to design more efficient liability risk management programs. We have developed a unique solvency solution and set of tools to allow Plan Sponsor´s and fiduciaries of mature pension plans to optimize their approach to managing shortfall risk in the decumulation phase. History has shown us that holistically addressing governance, financial strategy and risk management practices are too important to ignore, as getting it wrong can have a detrimental impact on the long-term cost and viability of the pension program.

FOR INSTITUTIONAL INVESTORS ONLY

Disclaimer

"This article is not intended as investment advice and has been writing without taking into consideration the specific needs, objectives, constraints, or other considerations of any individual investor. Information regarding investment solutions and services are interned for institutional investors only and provided solely to include information about our investment philosophy, our strategies and to be able to contact us for further information. Individual investors are not to act upon information without seeking the service of a professional accountant, attorney and/or financial advisor. Presentation of this information is not intended to create, and receipt does not constitute, a client relationship. Renuaa does not accept any liability for any loss or damage arising out of the use of all or part the information presented including any inadequacy, inaccuracy or omission contained herein. Any U.S. federal (or other) tax information contained in this website is not intended as advice nor to be used for the purpose of avoiding penalties under U.S. federal tax law. The information in this paper is not available to be copied or disclosed, in whole or in part, without the prior written consent of Renuaa.