

Liability-Driven Investing for Small & Medium Size Plans

By the Loomis Sayles LDI Solutions Team

KEY TERMS

- **Return-Seeking Assets (RSA):** Charged with helping improve the funding ratio by generating return that exceeds that of the liabilities
- **Liability-Hedging Assets (LHA):** Intended to dampen the funding ratio volatility of the overall asset allocation relative to the liabilities
- **Interest Hedge Ratio (HR):** Asset duration divided by liability duration
- **Credit Hedge Ratio (CHR):** Asset credit exposure divided by liability credit exposure
- **Glide Path:** A framework that defines a pension plan's asset allocation split between LHA and RSA based on funded status or other plan- or market-related parameters. The glide path creates an asset allocation that becomes more conservative (i.e., includes more LHA and fewer RSA) the closer a plan gets to fully funded status.

Liability-driven investing (LDI) has become accepted and adopted as a best practice in pension plan management, but the small to midsize segment of the corporate pension market has traditionally had limited access to customized LDI solutions.

We believe in order to offer customization to plans with liability-hedging assets in the range of \$10 million to \$100 million, we need to utilize well-established investment processes to achieve economies of scale.

We believe using an LDI framework that relies on the use of only five building blocks, and is implemented using commingled vehicles, can provide scalable customized solutions for small and midsize plans.

This paper provides an overview of Loomis Sayles' LDI building block approach, how it can address client-specific needs, and implementation of this approach using commingled vehicles.

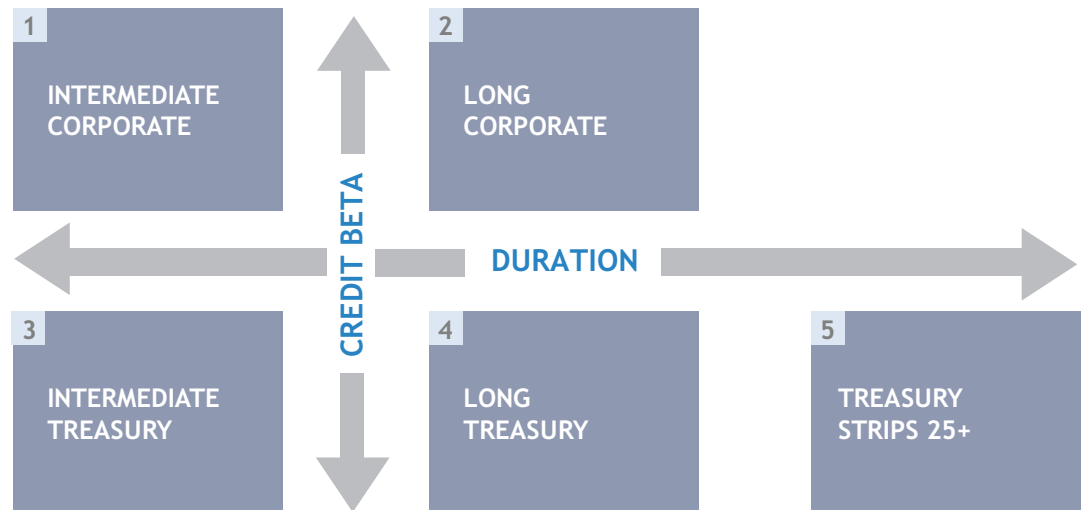


Our Building Block Approach

The modern LDI framework calls for dividing assets in two buckets, liability-hedging assets (LHA) and return-seeking assets (RSA). For most plans, regardless of size, we believe effective liability-hedging solutions can be constructed using only five types of assets, or “building blocks”: intermediate corporates, long corporates, intermediate Treasuries, long Treasuries, and Treasury STRIPS 25+, as discussed in our paper *LDI: Taking a Holistic, Practical Approach*.

FIVE BUILDING BLOCKS

Source: Loomis Sayles analysis, Barclays Intermediate US Corporate Index, Barclays Long US Corporate Index, Barclays US Treasury: Intermediate Index, Barclays US Treasury: Long Index, Barclays US Treasury STRIPS 25+ Year Index.



In our approach, each building block is represented by a standard third-party benchmark and, by assigning weights to each block, the liability-hedging assets can be structured to meet client-specific needs. Our research has shown that for plans with an allocation of 20% or more to return-seeking assets, it is possible to achieve performance similar to highly customized approaches; additionally, we believe focusing on a specific set of standard third-party benchmarks helps deliver more sustained and process-driven alpha generation by enabling portfolio manager to focus on their process.

IMPLEMENTATION FOR SMALLER PLANS

We recommend following a four-step process to implement our building block approach:

DEVELOP SOLUTION	SHARE SOLUTION PARAMETERS	MANAGE LHA SOLUTION	REPORT ON LHA AND PLAN STATUS
Evaluate client situation and develop solution: <ul style="list-style-type: none"> Analyze plan status Understand client objectives Design glide path (LHS vs. RSA) Other considerations 	Loomis Sayles (LS) receives solution parameters: <ul style="list-style-type: none"> Liabilities Discount curve Asset allocation Preferred LHA design structure (i.e., isolated, hybrid, holistic) 	LS creates and maintains solution based on selected LHA design structure (i.e., determine block weights) LS manages underlying blocks	LS provides reporting on: <ul style="list-style-type: none"> Overall solution positioning and performance (i.e., hedge ratios and attribution) Underlying block performance attribution

Team views as of publication date. Subject to change.



Step 1: Develop Solution

The overall plan and objectives will be evaluated to develop a framework for the most appropriate solution. Among other things, this generally includes constructing a glide path that dictates the allocation split between liability-hedging and return-seeking assets based on funding ratio and other parameters important to the plan (for example: plan size, view on interest rates, cyclical nature of the plan's underlying business, etc.).

Step 2: Share Solution Parameters

Once an overall solution has been developed, the parameters will be shared so that Loomis Sayles is able to structure and maintain the LHA allocation. These include the liabilities (cash flow schedule and methodology for rolling forward cash flow schedule), the discount curve, the current asset allocation and a preferred LHA design.

We believe the LHA should be designed to target specific interest hedge ratios (HR) and credit hedge ratios (CHR). These ratios can be targeted using three approaches: isolated design, holistic design, and hybrid design.

	ISOLATED DESIGN	HYBRID DESIGN	HOLISTIC DESIGN
DESCRIPTION	LHA mirrors the liabilities independent of the LHA/RSA split. HR and CHR are equal to LHA allocation.	LHA is constructed by taking element of both isolated and holistic design. HR and CHR targets can be tailored to suit plans view.	LHA is constructed in context of overall asset allocation. LHA aims to maintain 100% HR, and CHR equal to LHA allocation.
WHO SHOULD CONSIDER IT?	<ul style="list-style-type: none"> Plans that have recently adopted an LDI framework Plans with a capacity and wherewithal to tolerate funding ratio volatility Plans with a high-conviction view that rates will increase 	<ul style="list-style-type: none"> Plans looking for a custom, tailored approach Plans with some concerns about rates increasing 	<ul style="list-style-type: none"> Commonly, plans with high funding ratios Plans with primary focus on reducing plan-level volatility Plans with no view on interest rates

Team views as of publication date. Subject to change.

We believe the plan and their consultant are often best positioned to determine which design structure to employ for the LHA solution.



Step 3: Managing LHA Solution

Loomis Sayles will design an LHA solution that seeks to achieve the desired hedge ratios by assigning weights to each of the five building blocks. Below, we present a hypothetical glide path for each design.

LHA ALLOCATION	1. ISOLATED		2. HYBRID DESIGN		3. HOLISTIC	
	HR	CHR	HR	CHR	HR	CHR
15-25%	20%	20%	60%	10%	100%	0%
25-35%	30%	30%	65%	25%	100%	20%
35-45%	40%	40%	70%	35%	100%	30%
45-55%	50%	50%	75%	45%	100%	40%
55-65%	60%	60%	80%	55%	100%	50%
65-75%	70%	70%	85%	65%	100%	60%
75-85%	80%	80%	90%	75%	100%	70%

The sample allocations above are for illustrative purposes only. Actual portfolios will differ.

Note the credit hedge ratio (CHR) indicated above can be further refined to the specifics of each plan, but the benefits are so small that we do not believe they justify the resulting increased communication complexity.

We advocate using commingled vehicles for the corporate blocks. In the corporate space, commingled vehicles can provide economies of scale and much needed diversification. Treasury and STRIPS exposure can be obtained either by purchasing individual securities or by using commingled vehicles.

We also recommend a monthly rebalancing process to align the weights with the desired exposures. The underlying holdings of the corporate blocks will be managed with the objective of generating alpha, while Treasuries and STRIPS will be managed passively.

Step 4: Reporting and Performance Measurement

Effectively evaluating performance of an overall LDI solution is complex since off-the-shelf benchmarks cannot perfectly measure a plan’s liabilities. We believe timely implementation of an agreed-upon glide path and attribution at the plan level combined with proactive communication between consultants and Loomis Sayles can bridge the measurement gap. Loomis Sayles’ monthly reporting includes elements of overall solution positioning and funding ratio attribution. More specifically, the report provides hedge ratio values and performance attribution at the plan level, which decomposes the liabilities and assets into Treasury return, spread return and other return. We provide standard reporting and attribution to help explain performance of the corporate blocks. In addition, we can provide a detailed attribution of the liabilities’ performance where we can decompose impact of credit exposure in credit term structure, industries and issuers.



Key Rate Duration

In addition to addressing the two primary risk factors of credit spreads and interest rates, alignment of a plan's risk exposure along the Treasury curve (key rate duration alignment) can potentially benefit the performance of any LDI solution. In most glide paths, perfect key rate duration alignment cannot be achieved using commingled vehicles. We believe taking a security-based approach within the Treasury allocation can improve key rate duration alignment in many cases. The typically low trading costs of Treasury securities can also make this approach economical.

Conclusion

Most small and midsize plans may shy away from customized LDI solutions because the cost of implementation and management fees can outweigh the benefits. We believe that for most plans, regardless of size, effective LDI solutions can be designed by using only five building blocks. We believe implementing a building block solution in a separate account using a combination of commingled vehicles and Treasury securities can provide an efficient and cost-effective way to deliver LDI solutions to small and midsize plans.

Disclosure

This material is for informational purposes only and should not be construed as an investment advice. Any opinions or forecasts contained herein reflect subjective judgments and assumptions of the authors and do not necessarily reflect the views of Loomis, Sayles & Company, L. P. Investment recommendations may be inconsistent with these opinions. There can be no assurance that developments will transpire as forecasted. Proposed solutions and related analysis does not represent the actual or expected future performance of any Loomis Sayles products. Accuracy of data is not guaranteed but represents our best judgment and can be derived from a variety of sources. Opinions are subject to change at any time without notice.

*Within a Liability Driven Investment managed strategy, the ability of an actual portfolio to deliver required cash flows is **not guaranteed** and is subject to a variety of factors including, but not limited to, the availability of bonds, transaction costs, default risk, rebalancing risk, liquidity risk and management risk.*

Analysis reflected in this presentation is limited to certain recent periods for which data is available. We make no representation that the experience of any other periods is comparable. It is not possible to invest directly in an index.

Past experience is not a guarantee of future performance.

LS Loomis | Sayles is a trademark of Loomis, Sayles & Company, L.P. registered in the US Patent and Trademark Office.

Definitions

Efficient Frontier: *The set of optimal portfolios that offers the highest expected return for a defined level of risk or the lowest risk for a given level of expected return.*

Empirical Duration: *Empirical duration is estimated statistically using historical market-based asset price movements and historical market-based Treasury yields. When the historical yields change, the historical asset prices may also change, forming the basis for empirical duration. Regression analysis is the statistical process used to estimate empirical duration.*

Glide Path: *A framework that defines a pension plan's asset allocation split between LHA and RSA based on funded status or other plan- or market-related parameters. The glide path creates an asset allocation that becomes more conservative (i.e., includes more LHA and fewer RSA) the closer a plan gets to fully funded status.*

Implied Duration: *As used in this paper, refers to flow-through model duration of equities. The flow-through model goes beyond a standard dividend discount model approach by also accounting for sensitivity to growth rates.*