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LDI in Action: Enhancing Yield without Sacrificing the Hedge

A broader toolkit can be the key to realizing extra yield in the mature, shorter-duration world of modern corporate pension plans.

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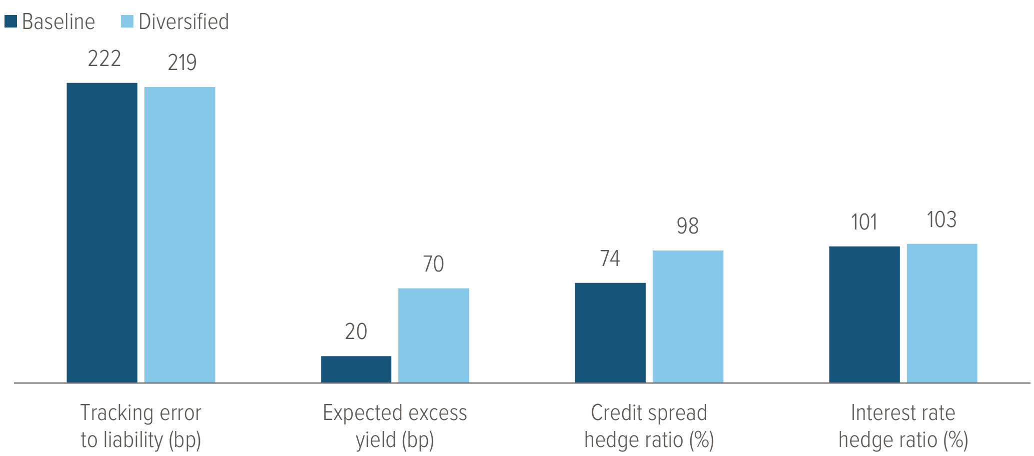
Executive summary

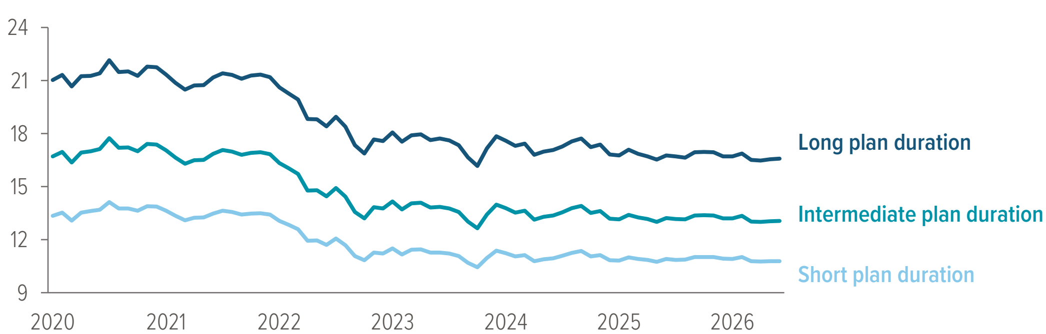
- **The LDI construction calculus is changing:** The natural runoff of closed and frozen plans, reinforced by higher rates since 2022, has shortened liability profiles by an average of 3.5 years since 2020.
- **For many sponsors, the next step is not just a closer hedge but a *better* hedge:** The goal is to be higher yielding, more diversified, and less dependent on crowded public corporate exposure.
- **Investment grade (IG) private credit is the natural complement to corporate bonds:** The opportunity is created by distinct borrowers, negotiated terms, and specialized underwriting, along with an attractive customization and complexity premium.
- **Commercial mortgage loans, securitized credit, and Treasury derivatives expand the toolkit:** Sponsors can add front-end income, different return drivers, and more precise rate hedge implementation.
- **Results from real-world plans:** The benefits of a more diversified fixed income allocation are not just hypothetical—see how other sponsors have embraced a more modern toolkit.

Exhibit 1: A modern, diversified LDI approach may have only minor impact on tracking error, but can significantly improve hedge ratios and excess yield



As of 04/30/26. Source: Voya IM. For illustrative purposes only; these are not investable strategies, they are hypothetical case studies based on model portfolios. **Past performance does not guarantee future results.**

Exhibit 2: Plan duration has fallen an average of 3.5 years since 2020



As of 07/10/26. Source: FTSE Pension Discount Curve, Voya IM.

As the problem changes, so should the toolkit

Historically, pension liabilities were long, because plans were open, accruing, and dominated by long-dated benefit obligations. That structure naturally pulled portfolios toward long-duration assets, with public corporates serving as the anchor.

In the last few decades, there has been a significant increase in closed and frozen plans, with at least half of all corporate pension plans commonly assumed to be in "runoff." As retirees receive benefits and active populations shrink, liability cash flows move forward and duration declines.

The jump in rates in 2022 accelerated this trend, contributing to an average drop of 3.5 years in corporate pension plan duration since 2020 (Exhibit 2). These trends all serve to reduce plans' need to rely so heavily on long-duration corporates.

In the old regime, insufficient duration was often the main constraint. Today, most plans already have a rate hedge in place and are better funded than they were five years ago, when rates were near zero. **The challenge has shifted from simply matching liabilities to building a more efficient hedge.** A portfolio may be closely aligned with liabilities while still offering opportunities to improve yield, diversification, liquidity, and spread efficiency (Exhibit 3).

What makes a hedge inefficient? A hedge that earns too little income, holds too many of the same issuers, and depends too heavily on one public market segment is not the strongest version of the hedge. This isn't as noticeable a problem while markets are buoyant—as they have been for the past several years—but an inefficient hedge's combination of foregone income and concentration risk can have brutal consequences in down markets.

How can sponsors mitigate this risk? The answer lies in making the best use of plans' fixed income allocation, and that means using an expanded toolkit.

Exhibit 3: The modern LDI questions

Traditional framing	More useful framing today
How much long credit is needed to reduce tracking error?	How can the plan improve yield and credit spread efficiency while preserving the hedge?
Can the fixed income allocation match liability duration?	Can the fixed income allocation generate more income with less issuer concentration?
Are assets and liabilities moving together?	Is the hedge built from the best combination of duration, spread, liquidity, and diversification?

Source: Voya IM.

What should plan sponsors measure?

For many better-funded and mature plans, **tracking error should be a guardrail, not the primary measure of success.**

Once a portfolio is close to the liability, the more important questions become whether it earns sufficient yield, takes spread risk efficiently, avoids excessive concentration, and maintains an appropriate liquidity profile.

Instead of targeting a portfolio with the lowest tracking error, the smart analysis asks, **"Which portfolio creates the best liability-aware income stream for the risks being taken?"**

Finding the answer involves using a better scorecard that looks across the full fixed income allocation: yield, credit spread hedge ratio, interest rate hedge ratio, duration, spread duration, and volatility, in addition to tracking error (Exhibit 4).

Exhibit 4: The role of individual metrics in plan analysis

Metric	Role in the analysis
Yield	Primary economic benefit; helps support funded status and benefit obligations
Credit spread hedge ratio	Shows whether added income is connected to liability-relevant spread exposure
Tracking error	Risk control; validates that the hedge is not being sacrificed
Duration / IRHR	Confirms alignment with liability rate sensitivity
DTS / spread duration	Shows the amount of credit spread risk in the portfolio and how closely it aligns with liability spread exposure
Liquidity	Ensures private and structured exposures are sized appropriately for benefit payments and collateral needs

Source: Voya IM.

Case study: Building a more efficient hedge

To illustrate the impact of a broader toolkit on improving plans' liability hedge, we applied our LDI optimization framework to a representative plan that is 110% funded, has a liability duration of 7.6 years, and maintains a 15% allocation to return-generating assets. **The objective was to preserve hedge quality while improving yield and spread efficiency.**

The fully optimized portfolio does just that: Tracking error and volatility remain stable, expected excess yield increases from 20 bp to 70 bp, credit spread alignment strengthens from 74% to 98%, and reliance on public corporate credit declines significantly.

We get there by expanding the portfolio opportunity set in controlled steps (Exhibit 5).

Because tracking error to the liability improves only modestly as the portfolio evolves, the remaining mismatch is more likely driven by the 15% allocation to return-seeking assets (primarily equities). Still, each step delivers meaningful gains in expected yield and diversification while preserving overall hedge quality.

Portfolio A:
The baseline produces a stable hedge but remains concentrated in public corporates.

Portfolio B:
Adding IG private placements introduces differentiated investment grade collateral sources, structures, and borrowers—the improvement in credit spread hedge ratio is immediate.

Portfolio C:
Adding CML bridge loans brings floating-rate, collateral-backed income that may help support near-term benefit payments for plans in runoff.

Portfolio D:
Securitized credit adds return drivers tied to collateral, structure, and security selection.

Portfolio E:
Derivatives (in the form of Treasury futures) fine-tune the rate hedge so the broader spread allocation remains aligned to the liability.

The following sections examine each of these asset classes, highlighting their potential benefits and tradeoffs for liability-aware investors.

Exhibit 5: More yield and better spread alignment without sacrificing hedge quality

Voya LDI optimizer results		Portfolio A	Portfolio B	Portfolio C	Portfolio D	Portfolio E
		Base case	+IG private credit	+CMLs	+securitized	+derivatives
Return-generating assets (%)		**15**	**15**	**15**	**15**	**15**
Liability-matching assets (%)						
U.S. Treasury 5-10yr		–	–	–	–	–
U.S. Treasury 10-20yr		9	10	13	13	13
U.S. Treasury 20yr+		–	–	–	–	–
Intermediate corporate 1-10yr		26	13	–	–	–
Long corporate		50	43	43	50	45
IG private placements		–	19	22	11	16
CML bridge loans		–	–	7	7	7
Securitized credit		–	–	–	4	4
Total		**100**	**100**	**100**	**100**	**100**
Treasury futures (%)						
U.S. Treasury 5-10yr futures contracts						5
U.S. Treasury 10-20yr futures contracts						
U.S. 3-month SOFR						-5
Asset statistics						
a	**Duration (years)**	7.0	6.9	6.9	7.1	7.1
b	**Yield (%)**	5.4	5.5	5.6	5.7	5.9
c	**DTS**	4.9	6.5	6.8	6.2	6.5
d	**Volatility (%)**	6.0	6.1	5.9	5.9	6.1
Liability statistics						
e	**Duration (years)**	7.6	7.6	7.6	7.6	7.6
f	**Discount rate/yield (%)**	5.8	5.8	5.8	5.8	5.8
g	**DTS**	7.3	7.3	7.3	7.3	7.3
h	**Volatility (%)**	5.9	5.9	5.9	5.9	5.9
Asset vs. liability statistics						
i	**Funded ratio (%)**	110	110	110	110	110
j	**Expected excess yield = [b × i] − f (%)**	0.2	0.2	0.4	0.5	0.7
k	**Interest rate hedge ratio = [a / e] × i (%)**	101	99	99	103	103
l	**Credit spread hedge ratio = [c / g] × i (%)**	74	98	102	93	98
m	**Tracking error to liability (%)**	2.22	2.19	2.20	2.19	2.19
n	**5th percentile surplus VaR (%)**	**4.34**	**4.30**	**4.31**	**4.29**	**4.30**

As of 04/30/26. Source: Voya IM. For illustrative purposes only; these are not investable strategies, they are hypothetical case studies based on model portfolios. Past performance does not guarantee future results.

Public investment grade: Essential, but constrained

Public investment grade corporate bonds are still the backbone of many LDI programs: liquid, scalable, transparent, and directly connected to the corporate bond universe used in pension discount rate construction.

But as fixed income allocations rise, the limitations of the public corporate market become harder to ignore (Exhibit 6). Throwing more long credit managers at the problem doesn't help—**a pension portfolio can look diversified by manager and still be concentrated by issuer,** because the long corporate market is dominated by a relatively small group of issuers (Exhibit 7).

That concentration can increase risk, because public corporate credit brings downgrade asymmetry. Liability discount rates are built from high-quality corporate bond universes. If a bond held in the asset portfolio is downgraded, the portfolio can suffer spread widening and mark-to-market losses.

But once that bond falls out of the discount rate universe, the liability calculation does not carry forward the benefit of the downgraded bond's higher yield. The asset portfolio remembers the credit event. The liability calculation moves on.

This is a structural weakness, not a manager problem. Good managers can reduce downgrade exposure by improving security selection and avoiding obvious credit traps. But a public-corporate-only toolkit still works inside the same issuer universe and the same benchmark structure. As a result, concentration risk and downgrade asymmetry will persist.

As liabilities shorten, portfolio construction needs to shift. The question is no longer how to source more duration but how to construct a more efficient spread allocation around an already well-aligned rate hedge.

If the answer uses only intermediate public corporates, the portfolio may improve its duration fit, but it's still relying on the same constrained public issuer universe. A broader toolkit can help fill the intermediate part of the hedge with more diversified sources of spread and income.

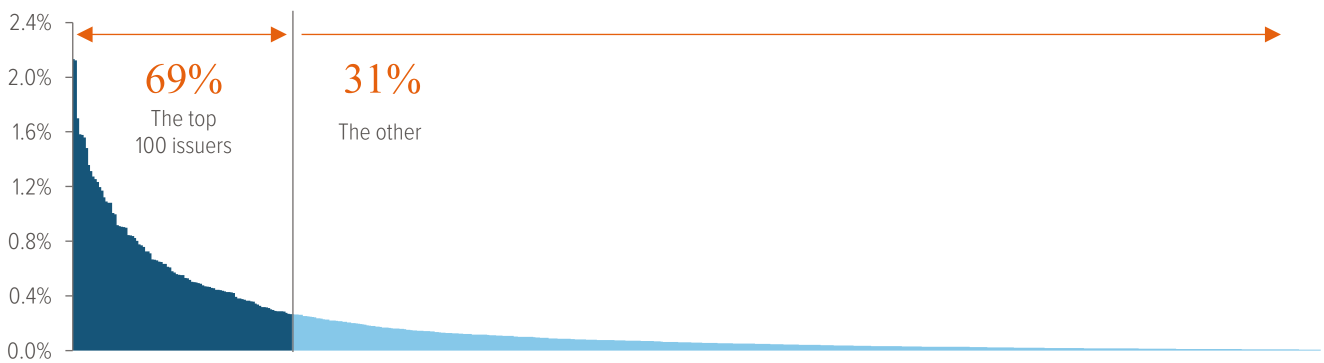
Exhibit 6: What public credit does well ... and where it needs help

Public corporates remain essential		But relying on them exclusively creates challenges		Broader credit sectors can help
Liquidity and scale	➡	Crowded issuer base and overlapping manager exposures	➡	Add private and collateral-based spread sectors that access different issuers and borrowers
Connection to liability discount rates	➡	Downgrade asymmetry can create asset/liability mismatch in credit events	➡	Use sectors with covenants, collateral, and structural protections to mitigate downside
Intermediate- and long-duration supply	➡	Public duration fit alone does not solve issuer concentration or spread source diversification	➡	Use private credit, CMLs, and securitized credit to broaden the spread allocation

Source: Voya IM.

Exhibit 7: There are 570 issuers in the long credit index, but you probably don't own 470 of them

Bloomberg Long U.S. Corporate Index constituents by % of index



As of 06/30/26. Source: Bloomberg. Chart represents constituents of the Bloomberg Barclays Long U.S. Corporate Index as a percentage of the entire index.

Investment grade private credit: A historically higher-yielding complement to corporate bonds

What the asset class is (and isn't)

Investment grade private credit is a natural extension of the public corporate universe for liability-aware investors, and it's the usual first step into an expanded toolkit. The rationale for investment grade private credit is straightforward. It can potentially improve yield, reduce issuer overlap, and offer more structural mitigations against loss, all while maintaining investment grade exposure that remains relevant to liability discount rates (Exhibit 8).

The asset class has **historically offered an average of 114 basis points of excess return versus comparable corporate bonds.** This additional yield is not simply an illiquidity premium; it reflects a customization and complexity premium earned through specialist sourcing and more intensive and detailed underwriting, documentation, and borrower engagement. Investment grade private placements have also exhibited historically lower losses and benefited from non-coupon income (Exhibit 9).

Investment grade private credit is a highly diverse asset class, and its breadth of placement types can help liability-aware investors diversify spread exposure, not only away from public corporates but also from corporate credit in general. Its most common subtypes are corporate private placements, infrastructure debt, and asset-backed finance (ABF).

Infrastructure debt borrows against non-cyclical essential assets with long-term contracted revenues, such as power plants, ports, and stadiums.

ABF is structured around collateral pools of real assets such as airplane fleets, or financial assets such as receivables, and it can provide both floating-rate coupons and shorter tenors.

Corporate placements may sound like the closest private equivalent to IG corporate bonds, but in reality they actually have a much wider range of collateral and borrower type and can reach a level of structural complexity that makes them functionally indistinguishable from ABF.

Liability-aware investors have been actively adding investment grade private debt to their fixed income portfolios over the last few years. The market share of private debt in corporate plans' fixed income portfolios nearly doubled from 2023 to 2024 alone (1.9% to 3.9%).[1]

Sponsors surveyed by Cerulli Associates in 2025 remained more bullish on investment grade private credit than all other alternative asset classes, with 25% of corporate plans expected to increase allocations to private debt over the following 24 months.

Learn more:

A Guide to Investment Grade Private Credit

Exhibit 8: Investment grade private credit offers more flexible tenors, more diverse borrower types, and more covenant protections than public bonds

	Investment grade private credit	Investment grade public bonds
Income	Fixed or floating	Fixed
Security	Secured/unsecured	Unsecured
Ranking	Senior and cannot be subordinated	Can be subordinated
Covenants	Maintenance/comprehensive	None
Prepayment	Callable with Treasury +50 basis points make whole premium	Some callable at par
Tenor	Flexible 3–30 years	3, 5, 7, 10, 20 and 30 yrs
Liquidity	Actively traded private market	Actively traded public market
Recoveries	92%*	47%

As of 05/15/26. Source: Moody's Default Trends and Rating Transitions report, Voya IM. The investment grade public bond recovery rate is measured by the long-term average recovery rate from 1987 through 2020. Investment grade private credit recovery rate is based on Voya Private Credit Strategy.

[1] As of 12/31/25. Source: Cerulli Associates.

Liquidity in context

Most investment grade private placements can be sold within weeks at or close to par. However, the asset class is still less liquid than major public corporate bonds, and that should be reflected in portfolio construction.

It's worth bearing in mind, though, that attempts to diversify into less widely held public investment grade bonds can run into the same issues as private placements, since a meaningful portion of the public investment grade universe—particularly smaller or off-benchmark issues—can be thinly traded.

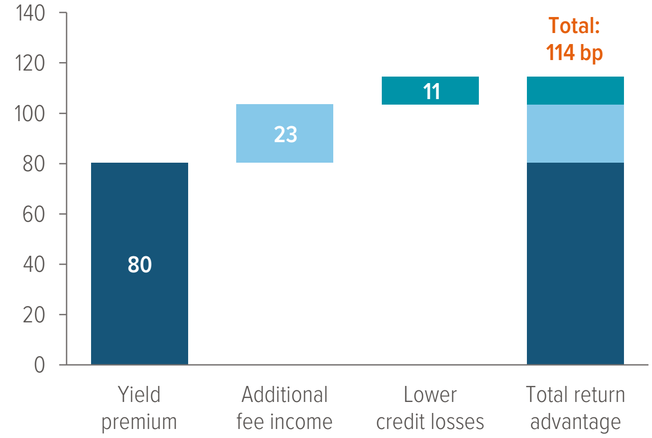
For long-term investors, **the historically greater incremental income from investment grade private placements tends to make up for any lost opportunity to engage in relative value trades** during the lifetime of the placement. On top of that, both non-coupon income and recovery rates have historically been higher in investment grade private credit, reflecting both greater structural mitigations and more active resolution strategies (Exhibit 10).

Intermediate duration and portfolio construction

As liability profiles shorten, the center of gravity for many LDI portfolios is moving toward intermediate duration. Intermediate public corporates help align duration and provide benchmark relevance and liquidity, but they do not address concentration or introduce new return sources.

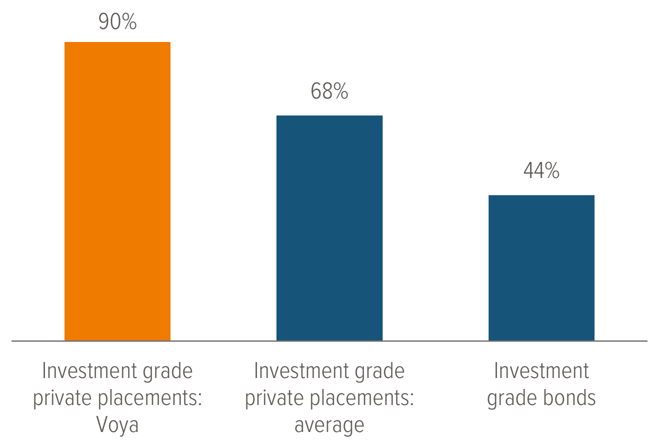
Private credit complements the intermediate part of the curve by providing similar duration exposure while adding higher yield, differentiated issuers, and negotiated structures that can help mitigate against loss. As seen in our case study, a combined public and private investment grade allocation can create a more efficient spread allocation within the liability hedge than public bonds alone (Exhibit 11).

Exhibit 9: Investment grade private credit has historically offered 114 bp of excess yield



As of 06/30/26. Source: Voya IM. Measured over the time period 01/01/04-06/30/26. Lower losses refers to lower credit losses compared to equivalent public corporate bonds.

Exhibit 10: Investment grade private credit has had high recovery rates over the past two decades



As of 12/31/25. Source: Voya IM, Society of Actuaries, S&P. Private placement industry statistics from "2003-2015 Credit Risk Loss Experience Study: Private Placement Bonds," published in April 2019 by the Society of Actuaries. There were 20 contributors of experience data to the study, who collectively held about 23% of life insurance industry general account invested private placements at year-end 2015. Bond recovery rates between 1998 and 2015. Voya Investment Management recovery rate is internally calculated (2003-2015).

Exhibit 11: IG private credit's role in modern LDI

Attribute	Potential benefit
Higher income / yield premium	Enhances portfolio income relative to public corporates while maintaining investment grade exposure
Intermediate-oriented duration profile	Fits shorter liability profiles while adding differentiated issuers and structures
Robust covenants	Negotiated terms, specialized underwriting, and thorough covenants can provide additional lender protections and earlier engagement if credit quality deteriorates
Low overlap with public indexes	Reduces public corporate concentration while preserving spread exposure

Source: Voya IM.

Commercial mortgage loans: Income, collateral, and cash flow alignment

Commercial mortgage loans (CMLs) can provide exposure to income-producing real estate through privately originated loans. In a diversified, liability-hedging allocation, that adds a collateral-based source of spread income that is different from corporate balance sheet risk. CMLs are a long-established form of asset-backed lending, sharing many of the collateral and cash-flow characteristics that have driven growing investor interest in asset-based finance (ABF). For plan sponsors, the appeal is thus a combination of yield, collateral, and cash flow profile.

The main subtypes of CMLs are core and bridge loans (Exhibit 12). Core loans are generally investment grade and tied to stabilized properties. Their portfolio role is to provide longer-term income, collateral-backed exposure, and diversification away from corporate issuers.

Bridge loans are typically shorter-duration, floating-rate instruments tied to transitional properties or financing situations, and they can be investment grade or below investment grade. As a result, **bridge loans can offer higher current income and a more front-loaded return profile than core loans, which can be appealing for plans in runoff.**

A closed or frozen plan may have near-term benefit payments that can impact the investment program. Bridge loans can help support that front end of the liability profile; they function less like traditional duration-matching assets and more like a high-income, floating-rate complement within the hedge, providing both diversification and timely cash flow.

Bridge loans should not be viewed as cash substitutes. They remain credit investments. But, when incorporated within a broader liquidity framework, they can play a useful role in supporting benefit payment needs while improving overall portfolio efficiency.

Exhibit 12: CML role by loan type

CML exposure	Typical profile	Potential LDI role
Bridge loans	Shorter duration, floating rate, front-end income, transitional property financing	May help support near-term benefit payment needs for plans in runoff while enhancing yield within a broader liquidity plan
Core loans	Stabilized properties, durable income, longer holding period	May provide collateral-backed income and diversification away from public corporate issuers

Source: Voya IM.

Securitized credit: Different return drivers, more opportunity for security selection

Securitized credit broadens the public market opportunity set available in fixed income allocations, offering different collateral pools, credit cycles, and risk drivers than standard corporate bonds. The sector's primary subtypes include asset-backed securities, residential mortgage-backed securities, commercial mortgage-backed securities, and collateralized loan obligations.

Corporate credit is driven by earnings, leverage, management choices, and the corporate cycle. Securitized credit is driven by collateral performance, cash flow waterfalls, prepayment behavior, structure, tranche position, and underwriting standards. Those forces are not identical, and securitized credit therefore has a low correlation to both the Agg and to corporate bonds.

That is why securitized credit can be useful in LDI portfolios: It can bring spread income from sources other than corporate balance sheets, and it has the potential to zig when traditional corporate credit zags (Exhibit 13).

Securitized markets are heterogeneous, and two bonds with similar ratings can perform very differently if the underlying collateral, structure, and tranche attachment points are different. Seasoning, prepayment assumptions, and structural protections all need to be taken into account—and, even within investment grade tranches, the difference between owning the right part of the capital structure and the wrong part can be significant.

Exhibit 13: Why securitized credit can matter in LDI

Feature	Implication for LDI portfolios
Different economic drivers	Performance can be influenced by collateral, prepayments, and structure rather than corporate earnings alone
Heterogeneous securities and structures	Security selection and tranche positioning can be major drivers of outcomes
Collateral-based spread exposure	Can diversify the spread allocation beyond public corporate issuers
Active relative value opportunity	Sector, structure, and collateral selection can create opportunities unavailable in plain vanilla public credit

Source: Voya IM.

For LDI investors, this makes securitized credit a research-driven opportunity, not a generic yield sleeve. It can diversify the spread allocation, reduce reliance on public corporate issuers, and create active relative value opportunities across collateral types and structures. But it requires specialist manager depth and discipline.

Derivatives: Preserving hedge precision while freeing spread allocation

Derivatives such as Treasury futures should not be presented as part of the return story for corporate pensions. Instead, they are tools whose job is to help sponsors manage interest rate exposure precisely while allowing cash allocation decisions to focus on yield, diversification, and credit quality.

This is important because rate exposure and spread exposure do not always come packaged in the same asset. The spread sectors with the best yield or diversification characteristics may not have the exact duration needed to match the liability.

Without derivatives, a sponsor may be compelled to hold assets primarily for their duration characteristics. With derivatives, the sponsor can separate the rate decision from the spread decision.

That separation allows the modern, intermediate-duration fixed income allocation to become a more intentional layering of tools (Exhibit 14). Public credit anchors the liability hedge. Private and structured sectors improve the spread allocation and diversify income drivers. Derivatives then connect the total portfolio back to the liability.

Exhibit 14: A more efficient LDI framework begins here

Layer	Components	Objective
01 Implementation layer	Futures, swaps, and cash management	Separate rate-hedge precision from spread sector selection
02 Spread efficiency layer	Investment grade private credit, CMLs, securitized credit	Improve yield, diversify issuer and collateral exposure, and reduce overreliance on public corporates
03 Core hedge	Treasuries, public corporates, rate overlays	Maintain disciplined alignment with liability, interest rate, and spread sensitivities

Source: Voya IM.

Conclusion: The future of LDI is built on blended credit

The concepts discussed throughout this paper are not theoretical. Voya's multi-sector fixed income team has been managing these sorts of blended credit portfolios for corporate pension plans for over 25 years—a rarity in a market cluttered with new entrants. We currently oversee $13 bn of corporate pension assets across both multi-sector and standalone private fixed income mandates.

Exhibit 15 represents several Voya-managed corporate pension plans which utilize our expanded fixed-income toolkit as part of a multi-sector mandate. While no two plans are identical, the common theme is the use of multiple investment grade spread sectors to build more diversified and efficient hedging portfolios that consistently outperform their benchmarks (Exhibit 16).

Exhibit 15: LDI in action—plans are using this expanded toolkit ...

	Voya AUM (millions)	Mandate inception	IG public corporate	IG private credit	CML	Securitized credit	EMD	UST	Benchmark
Plan 1	$1,506	Feb-98	53%	21%	—	5%	1%	20%	Custom blended index*
Plan 2	$627	Oct-16	5%	66%	24%	—	—	5%	U.S. Corp. Int. 2% Capped
Plan 3	$477	Sep-17	30%	33%	12%	—	3%	22%	U.S. Long Gov/Credit
Plan 4	$719	Dec-19	3%	54%	34%	5%	—	4%	U.S. Corporate 5-10 Yr
Plan 5	$143	Jun-22	33%	64%	—	—	—	3%	U.S. Intermediate Corp.
Plan 6	$373	Jul-22	29%	21%	13%	8%	2%	27%	U.S. Long Gov/Credit
Plan 7	$433	Dec-22	66%	28%	—	4%	—	2%	U.S. Intermediate Corp.
Plan 8	$356	Feb-24	35%	43%	13%	—	2%	7%	U.S. Long Gov/Credit

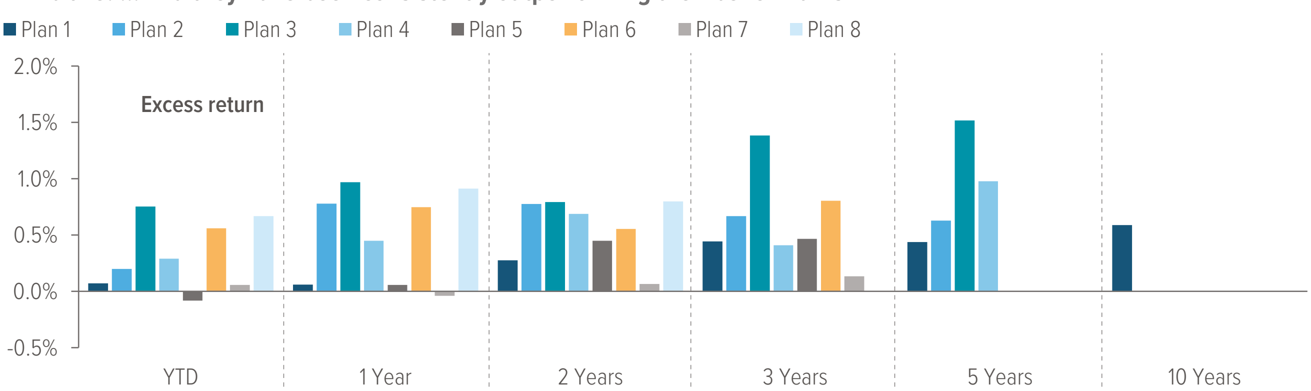
As of 06/30/26. Source: Voya IM. *Portfolio has transitioned three times since 1998. Custom blended liability-based benchmark began in 2023. Prior to that, the index was composed of a custom blend of long U.S. Treasuries and long U.S. corporate. Table shows asset allocation of individual client pension plans; these are not investable strategies. For illustrative purposes only. **Past performance does not guarantee future results.**

Working with large pension plans on these portfolios every day provides practical insight into how public and private spread sectors can be combined within an LDI framework. The result is not a model portfolio or a theoretical optimization exercise but a hedging approach that has already been implemented across a broad range of real-world client situations.

As reflected in the highly successful client portfolios shown in this section, many sponsors have already adopted a broader approach to fixed income portfolio construction. For many plans, the next evolution of LDI is not taking more risk but making better use of the fixed income allocation already at the center of the portfolio.

We would welcome the opportunity to discuss how Voya's modern approach to LDI could help you achieve your corporate pension goals.

Exhibit 16: ... And they have been consistently outperforming their benchmarks



As of 06/30/26. Source: Voya IM. Chart shows performance of plans from Exhibit 15 versus their stated benchmark and net of fees. For illustrative purposes only. These are not investable strategies; they are individual client pension plans. **Past performance does not guarantee future results.**

A note about risk

Please note that liability valuations can increase due to falling interest rates or credit spreads, among other things, as the present value of future obligations increases with falling rates and falling spreads. Liabilities can also increase due to actual demographic experience differing from expected future experience assumed by the plan's actuary. Please keep in mind that diversification or broad asset allocation, in and of itself, neither ensures nor guarantees better absolute performance or relative performance versus the pension plan's liabilities. In addition, investing in alternative investment products (e.g., derivatives) can increase the risk and volatility in an investment portfolio. Since investing involves risk to principal, positive results and the achievement of an investor's goals are not guaranteed.

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