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LIABILITY-DRIVEN INVESTING Adding Investment Return, Lowering Risk

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PENSIONS

Pension plan sponsors traditionally have invested plan assets, with varying degrees of success, by navigating the tradeoff between investment risk and reward, seeking maximum returns within acceptable volatility parameters. Now, however, prompted by equity market gyrations and changes in pension accounting and funding rules in recent years, portfolio strategists have been energetically talking up an alternative framework for defining investment "success" for pension plans: liability-driven investing (LDI).

So far, there appears to be somewhat more talk than action. Informal polls suggest that LDI strategies have been embraced by less than one-third of pension plan sponsors, although many more say they're giving it serious consideration. Indeed, the adoption rate is likely to rise as plan sponsors gain comfort with LDIs' merits and operation. The U.S. Department of Labor has sanctioned the approach as not contravening the plan sponsor's fiduciary duties by investing in a way that serves the best interests of participants.

Broadly speaking, LDI looks at the pension plan asset allocation decision through the wide lens of total plan risk and return. Specifically, LDI includes the plan's liability as a risk factor in the asset allocation-setting-process.

When one thinks about this view of total plan risk and return, it makes sense. After all, the financial impact of a pension plan on a plan sponsor's P&L, balance sheet and cash position is not simply driven by plan assets. Rather, the impact is driven by the plan's surplus or deficit — and surplus or deficit is the interplay of assets and liabilities.

Liability-driven investing does not prescribe a specific "solution." Instead, LDI focuses on the "excess return" of the plan's assets over its liabilities, and the volatility in that "excess return."

The Total Plan Picture

Since it's really the plan's actuarial surplus or deficit, not its assets alone, that drives the financial impact of the plan on the sponsor, that's what LDI looks at to con-

sset allocation strategy. As a ›lan sponsor's financial risk in the pension plan is reduced. Because of that perspective, LDI's proponents are working to persuade bond rating agencies that companies that stay on top of their pension liabilities should be rewarded with favorable grades on their debt offerings.

Analyzing pension liability risk — the first step in building a liability-based investing strategy — is driven by such factors as wage and consumer inflation, demographic risk and interest rate risk. By far the most significant component of liability risk is interest rate risk. This is a product of volatile interest rates and the term to maturity of the plan's cash flows, or duration.

(In practical terms, duration is a measure of the sensitivity of the price of a security or liability to a 100 basis-point change in discount rate. That is, a liability with a duration of 12 years will increase 12 percent when interest rates decrease by 100 basis points.)

Although the focus of LDI is on liability, the approach does not ignore asset risk. By reflecting both asset and liability risk, the plan sponsor optimizes the funded position and its impact on cash and P&L. And by looking at both asset and liability risk, a plan sponsor may utilize an asset class (for example, interest futures) that, by itself, actually increases asset risk. But, if this new asset risk offsets an existing liability risk, the plan is actually in a less risky financial picture.

The concept of "risk," or variability around the expected outcome, is an important consideration. We all take risks, but usually receive what we believe to be fair compensation for taking those risks. For example, we invest in equities rather than bonds because we believe the excess return (or risk premium) we get compensates us for the additional risk of investing in equities.

However, there are risks for which we are not compensated; in general, uncompensated risks should be avoided or mitigated to the extent possible. This is what LDI strives to do — mitigate the volatility of a plan's funded position due to interest rates fluctuations (an uncompensated risk).

LDI at Work

The importance of LDI can be illustrated with a simple example — let's consider a pension plan with assets nearly equal to liabilities (no longer an uncommon occurrence). Even if the plan sponsor achieves the desired asset return (for example, matching or exceeding a particular index relevant to each component asset class of the portfolio), it may still have a deficit that has doubled or even tripled in size if interest rates decline. And, as in the "perfect storm" earlier this decade, if stock prices and interest rates both decline, a financial train wreck results for the pension plan.

While still not wildly popular, so-called LDI strategies hold the promise of producing more optimal asset allocations for plan sponsors, resulting in lower plan cost, lower plan risk or a combination of the two.

But, the LDI framework is not just for the doom-and-gloom crowd. Similar to the traditional asset-only investing framework, LDI considers both reward as well as risk.

The most significant difference between asset-only investing and LDI is the recognition that in most pension plans, the pension plan's interest rate risk can significantly impact the financial health of the employer — sometimes more than the pension plan's asset risk. This generally results because when plan assets are acquired with traditional "asset-only" investing strategies they often have a shorter "duration" than the plan's total liability.

Typically, assets held by a pension plan have a duration of less than five years (and often much less than that) — whereas pension liabilities, even for frozen or closed plans, often have a duration in excess of 10 years. This creates both a significant mismatch and risk. And, unlike the risk one takes when one invests in equities, the plan gets nothing in return.

That is, it is an uncompensated risk that should be avoided — typically by increasing the duration of the assets to mitigate the mismatch with the duration of the liabilities.

Plan sponsors can increase the pension portfolio's duration by combining three tactics:

- increasing the duration of the existing bond portion of the portfolio;
- increasing the portion of the portfolio in bonds; and
- "buying" duration through an interest rate overlay or swap.

A powerful aspect of LDI is that a plan sponsor can utilize LDI to maintain expected asset return with less financial risk, or in the other extreme, maintain the current level of financial risk but increase the expected return on plan assets. This lowers future expected plan costs on a P&L and cash basis.

LDI Strategy Considerations

When thinking about developing an LDI strategy, there are many considerations that a pension plan sponsor needs to address. Among them are four key considerations:

1. As currently invested, is the plan sufficiently "compensated" through investment return for the risk entailed in being short duration? Frequently, the answer is "no." So, the typical result of looking at the pension plan via LDI is extending duration. Another approach is to make a tactical call on interest rates, but this requires a rare skill. Even those investors who are highly confident in interest rate forecasting must consider the wisdom of employing their "risk budget" that way.

2. In assessing whether there is a duration mismatch, how does the equity component of the pension portfolio fit into the duration picture? If we assume that equity has zero duration, hedging the liability can be accomplished solely by the fixed income exposures of the portfolio.

Historically, equity duration has varied from high levels in most of the 1980s and '90s, to negative levels in the '50s, '60s and parts of the current decade. While a low equity-duration assumption is conserva-

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tive, if one believes that the equity and fixed income markets have a positive link, then overall, the duration extension will be lower.

3. If a derivative (such as an interest swap) is utilized as part of the LDI strategy, should collateral requirements related to the overlay exposure be considered? A concern arises regarding the impact of collateral requirements when employing an "interest rate overlay" through swaps or futures. Having strict collateral requirements written into the swap agreement significantly reduces the exposure to counterparty risk.

4. Even if there is a duration mismatch, should the plan sponsor hedge the liability risk? With the ability to hedge the liability risk without altering the equity exposure of the plan's asset allocation (through, for example, an interest rate overlay), liability risk is never worthwhile. In environments where the plan is underfunded, liability volatility can immediately impact the plan sponsor's cash flow. Hedging the liability volatility frees up the risk budget for compensated risks and helps close any funding gaps.

As all these considerations suggest, pension sponsors have plenty to think about when they begin looking at investing from a total risk framework. LDI does not prescribe a single solution, but holds the promise of providing a way to produce more optimal asset allocations for plan sponsors, resulting in lower plan cost, lower plan risk or some combination of the two.

LDI's proponents are working to persuade bond rating agencies that companies that stay on top of their pension liabilities should be rewarded with favorable grades on their debt offerings.

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TakeAways

>> Recent equity market gyrations and changes in pension accounting and funding rules have spurred portfolio strategists to look into liability-driven investing, or LDI.

>> While LDI is in place at less than one-third of pension plan sponsors, many more say they're giving it serious consideration, and the U.S. Department of Labor has sanctioned the approach.

>> LDI looks at the pension plan asset allocation decision through the wide lens of total plan risk and return. Specifically, LDI includes the plan's liability as a risk factor in the asset allocation-setting process.

>> Liability-driven investing does not prescribe a specific "solution." Instead, it focuses on the "excess return" of the plan's assets over its liabilities, and the volatility in that "excess return."

>> LDI strives to mitigate the volatility of a plan's funded position due to interest rate fluctuations, which represent an uncompensated risk.

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