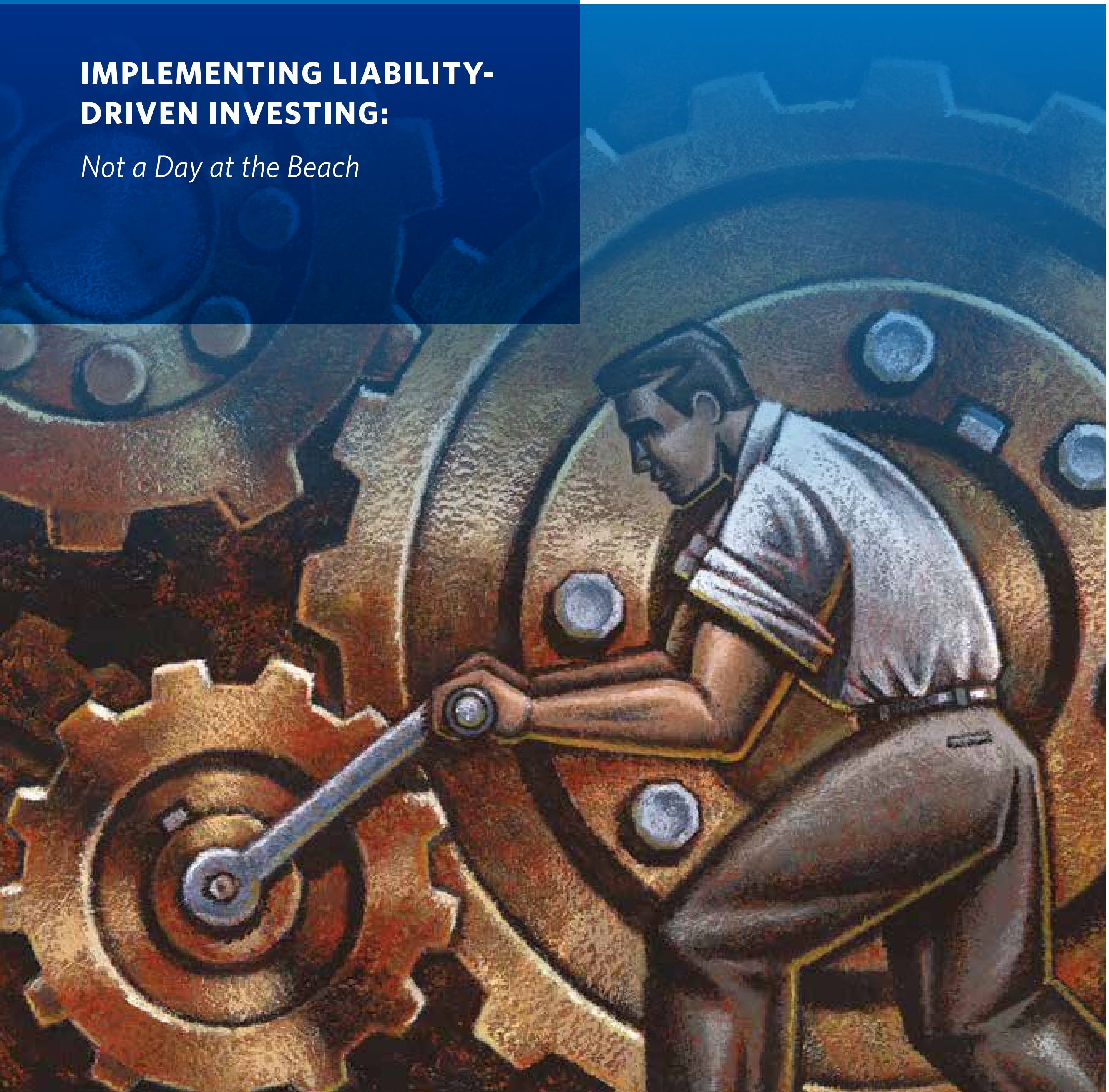
IMPLEMENTING LIABILITY-DRIVEN INVESTING:

Not a Day at the Beach



Strategic Investment Group®

Fiduciary Insights

THE THEORETICAL PROMISE OF LDI MUST BE MATCHED BY EXCELLENCE IN IMPLEMENTATION. Best practices in investment policy, active management, and performance evaluation require markedly different approaches from those in traditional plans.

The LDI Implementation Challenge

One of our clients – like many other companies facing the prospect of volatility in their financial statements – recently decided to turn to a liability-driven investment (LDI) policy. The objectives are to hedge expected liabilities and to manage potential repercussions on the solvency of their retirement plans more efficiently. Upon hearing our plan to phase in the new policy, our counterpart at the company expressed welcome surprise at the complexities of the comprehensive and nuanced approach. "I had thought," he continued only half-kidding, "that you folks would be spending a lot of time at the beach this summer."

Indeed not. Although LDI is a theoretically sensible solution, in practice there are a number of implementation challenges that must be met. The liabilities against which asset risks should be managed must be appropriately defined in a forward-looking fashion. Since the nature of plan risk is fundamentally different from that of a traditional plan structure designed to maximize the Sharpe ratio, liability-hedging investment policies have unique allocations that can change as funded status evolves. The shift to longer duration fixed income exposure must be done in a manner that is sensitive to the market environment and the availability and pricing of a variety of vehicles. And performance evaluation, which isolates the active decisions made relative to the new investment policy and the risk management implications of an LDI framework, requires sophistication and subtlety, not the use of popular but inappropriate peer comparisons.

To some, LDI solutions can appear to have low investment content, but implementation is not nearly as simple as buying an interest rate swap and heading to the beach. A thoughtful fiduciary approaches the transition and ongoing management in a sophisticated manner so that the full scope of relevant investment decisions can be dedicated to achieving the investment objective: defeasing liabilities with as little risk as possible while, in many cases, retaining the opportunity for investment gain.

Investment Policy Relative To Liabilities

Since LDI investment policies are built to hedge liabilities, how those liabilities are determined is crucial. For closed or frozen plans, the liability profile is explicitly tied to the actuarial assumptions used to calculate the accumulated or projected benefit obligation (ABO or PBO). The uncertainty that remains relates to the validity of the actuarial assumptions; mortality expectations, for instance, might shift over the estimation horizon. Open plans, however, are subject to significantly more uncertainty, because future company decisions can substantially change the beneficiary profile and the levels of benefits. In our opinion, a focus on economic liabilities, which incorporate forward-looking estimates of growth in enrollment (through the company's organic growth or acquisitions) along with growth in benefits, is most appropriate. These more dynamic estimates of future benefits are more difficult to determine and to hedge, but they are also more representative of the obligations the company is likely to face.

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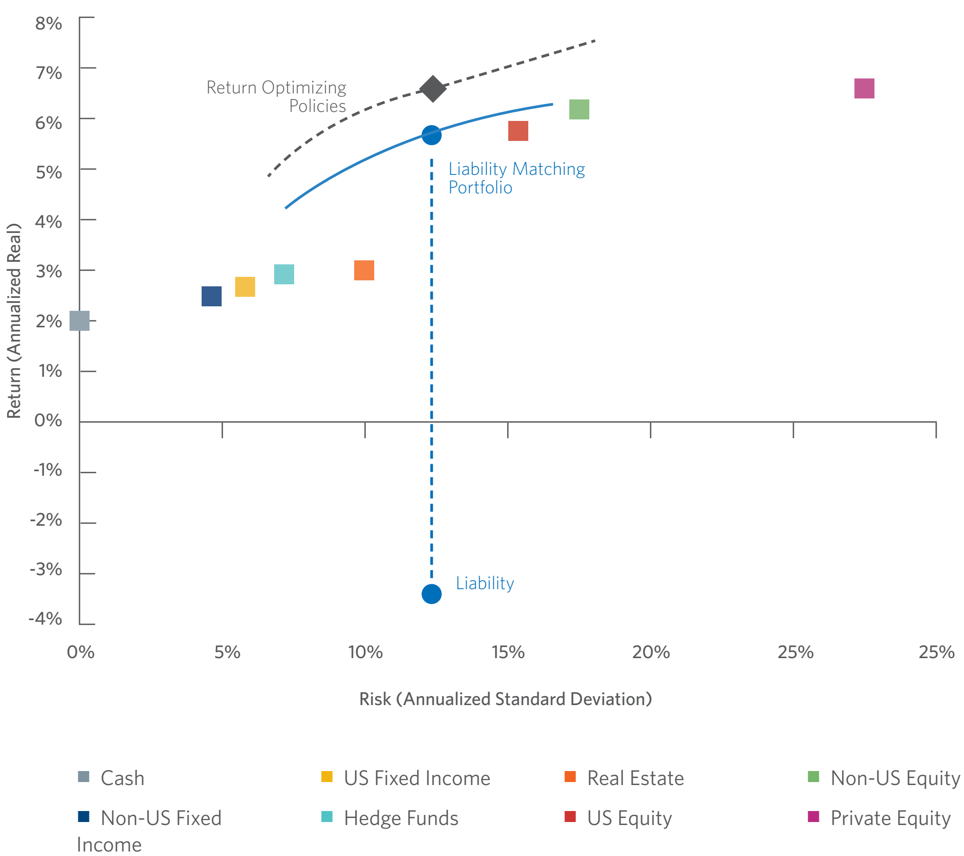
As the present value of promised future benefits is particularly sensitive to fluctuations in interest rates and expected inflation, fixed income and real return assets that more efficiently hedge those risks typically receive more consideration in LDI investment policies. Although the LDI definition of risk is different from that of a traditional plan (standard deviation of total returns), an examination of expected returns and volatilities for a variety of asset classes is illustrative of portfolio choices and necessary tradeoffs between risk and return.

Liabilities, as decreases to firm value, are represented as negative-returning assets. Ideal hedging instruments are those highly correlated with liabilities, which, like bonds, vary inversely with interest rates. The very characteristics that make equities so attractive to hold in concert with fixed income in total return portfolios – their diversification potential given low positive correlations and fundamentally different returns and risks – work against their inclusion in the liability-hedging portfolio. Nonetheless, equities can be held in LDI solutions so long as their contribution to marginal return more than offsets the associated increase in risk relative to liabilities.

Alternative investments can be incorporated in plans where liabilities are more sensitive to inflation and significant risks of funding shortfalls exist, such as open group plans or those with COLA features. Real estate and infrastructure in particular offer securitization of relatively stable, often contracted, inflation-sensitive cash flows that hedge inflation without incurring substantial relative risk. Hedge fund allocations largely uncorrelated with equity market risks and with lower volatility profiles are also effective. Portable alpha structures can be useful as well, as they can add more value than a traditional fixed income-heavy asset mix. An example is provided in Table 1.

FIGURE 1

The graph is a theoretical illustration. It does not represent actual trading. Actual portfolios and their performance may differ significantly from those shown here. Please see the end of the article for important disclosures.



Subject to these considerations, an LDI investment policy can then be identified that provides potentially less return but considerably less risk relative to liabilities than a traditional policy mix containing substantially more equities. The asset mix choices open to LDI investors can be thought of as a continuum, the 'pure' end of which would consist of high quality, long duration bonds or interest rate derivatives. Movement toward use of alternative, real return, and eventually equity assets is justified by liability sensitivity to inflation, higher rates of anticipated benefit growth, or funded status.

Fixed Income Should Be Actively Managed

Even a 'pure' LDI investment policy consisting entirely of fixed income investments carries risk relative to liabilities because of imperfect hedging instruments. Two different exposures – U.S. Treasury yields plus market-based spreads – are included in the calculation of pension liabilities, as stipulated by the Pension Protection Act of 2006. The simultaneous hedging of both exposures is impossible and generally leads to an active risk to liabilities of at least 2% in the best-designed fixed income-only LDI policy.

As a matter of ongoing management, the full spectrum of bond investments should be considered.

TABLE 1

	Return Optimizing Policy	Liability Matching Policy
Equities	**57.0%**	**20.0%**
U.S. Equity	38.0%	10.0%
Non-U.S. Equity	19.0%	10.0%
Alternatives	**23.0%**	**20.0%**
Private Equity	8.0%	10.0%
Hedge Funds (net)	5.0%	0.0%
Hedge Funds (gross)	*25.0%*	*10.0%*
Asset Allocation Overlay	*-20.0%*	*-10.0%*
Real Estate	10.0%	10.0%
Fixed Income	**20.0%**	**60.0%**
U.S. Fixed Income	20.0%	60.0%
Non-U.S. Fixed Income	0.0%	0.0%
Cash	0.0%	0.0%
Expected Nominal Return	8.5%	7.5%
Expected Total Risk	**11.5%**	**11.5%**
Expected Risk to Liabilities	**14.0%**	**7.5%**

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It is appropriate to allocate to higher-yielding fixed income sectors and instruments.

Not only is some active risk to liabilities a given, numerous investment committees have deferred implementing LDI policies because of concern regarding the levels of sovereign yields. It is a great irony that just as many plans are looking to lock in full-funded status, the low attractiveness of sovereign nominal and real yields precludes them from executing. Meanwhile, credit spreads have widened to very attractive levels – and by definition more closely track liabilities. Both in terms of staging an original investment and as a matter of ongoing management, the full spectrum of bond investments should be considered. Even borrowing at the corporate level is an option when real rates are low, in order to fully fund defined-benefit liabilities while minimizing risk.

Historically the level of yields has varied considerably between nominal and real sovereign bonds and the so-called spread sectors, so there is opportunity in breadth. This opportunity is most important when yields on certain sectors are judged to be temporarily low. Furthermore, since returns across fixed income sectors are strongly positively correlated, the cost of active allocations between sectors comes at much lower relative risk to liabilities than activity between asset classes.

Fixed income allocations should be a mix of physical securities, futures, swaps and strips managed dynamically based on yield opportunities, costs, and the nature of liability risks. Physical securities are necessary to access credit markets and specialty fixed income managers, and also provide liquidity and collateral for derivative and portable alpha positions. Treasury futures offer duration management and quick, affordable interest rate exposure in lieu of cash or other holdings. Liabilities with longer duration sensitivity than can be effectively hedged using physicals and futures must use swaps and strips for those exposures.

FIGURE 2

Source: Lehman Bros.

Phasing Of Implementation Is Different For Open And Closed Plans

Adoption of an LDI asset mix, like any major change in investment policy, incurs trading costs; trades should be divided into smaller blocks to minimize. Trade frequency and size are also dependent on the size and liquidity of the asset pool, as well as volatility and valuation in the market environment. Complicating the LDI transition is the narrowness of the investment universe being traded into: long-duration credit is roughly 5% of the market value of U.S. broad fixed income indices and inflation-linked bonds comprise even less. Market impact is not trivial, especially for larger plans.

Open plans, which typically have higher non-fixed income policy allocations, can decide to tactically implement the entire asset mix or just engage in more market-sensitive implementation within the fixed income portion. Volatility in funded status makes tactical implementation of the total asset mix a very risky proposition, but it is appropriate to allocate to higher-yielding fixed income sectors and instruments while other sectors are expected to recover from lower yields than anticipated in equilibrium. For one client, we restrained the initial LDI duration given the low level of yields on inflation-linked bonds. More assets were also initially assigned to spread sectors because of yield opportunities; when real yields recover, we will increase tactical duration and shift from credit securities to real and nominal sovereign bonds.*

Closed or frozen plans can also incorporate dynamic fixed income implementation, but the benefits from a changing asset mix in plans still seeking return through diversification, due to the level of funded status or uncertainty as to future benefits, are more significant. Table 2 demonstrates planned changes in asset mix as funded status improves.

The adjustment of asset weights should be undertaken in response to evolving investor characteristics, just as with an investment policy for any risk-averse investor. Instead of changes in generalized risk tolerance, investment horizon, or return requirements, LDI policy characteristics are heavily influenced by the plan's funded status. The greater the level of funding, the less beneficial marginal returns from risk-taking become, thanks to the excise tax on liquidated pension assets.

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The greater the level of funding, the less beneficial marginal returns from risk-taking become.

TABLE 2*

Source: Lehman Bros.

	105% Funded	110% Funded	115% Funded	120% Funded
Equities	10.0%	10.0%	0.0%	0.0%
Alternatives	20.0%	10.0%	10.0%	0.0%
Fixed Income	70.0%	80.0%	90.0%	100.0%
Expected Risk to Liabilities	5.0%	3.5%	2.7%	2.0%

*Policy information provided for illustrative purposes only and is subject to change at the sole discretion of Strategic.

Peers should never be considered an appropriate universe for comparison at the plan level.

Given the scarcity of long-term credit securities, liability-matching indices are simply not identifiable and investable.

Performance vs. Liabilities, Never vs. Peers

The fundamentally different investment perspective required for adopting an LDI policy, focusing on risk management relative to liabilities, requires an equally different perspective on performance measurement. Peers should never be considered an appropriate universe for comparison at the plan level, as it is highly unlikely that any peer group would have comparable liability characteristics. To the extent that the LDI policy uses several asset classes, performance of each asset class should be evaluated against asset class benchmarks chosen subject to appropriate criteria[1] peer comparison at the asset class level may be relevant, although that is unlikely to be the case for a fixed income portfolio with liability-matching characteristics.

The U.S. Pension Protection Act of 2006 mandated the replacement of the 30-year Treasury as a discount rate for liabilities with an evolving set of calculated credit market yields. Given the scarcity of long-term credit securities, liability-matching indices are simply not identifiable and investable – a serious evaluation problem. We therefore recommend a fixed income benchmark customized to unique liabilities as a blend of two principal risk exposures. Interest rate swap indices can match liability duration, convexity, and curve distribution characteristics, but are not completely responsive to changes in credit spreads. Credit indices, on the other hand, have yield levels similar to those of liabilities and can match liability duration, but provide a very different yield curve exposure. An a priori weighting of these indices that best matches plan liability characteristics (and is subsequently applied consistently) provides an appropriate comparison to active fixed income returns.

The end result is total plan performance net-of-fees measured against the performance of the LDI policy asset mix net of 'passive' fees, as approved by the relevant pension committee. Active management of the fixed income component should be evaluated in light of the performance of the desired duration target and credit exposure of liabilities. Thus, decisions to use a broader scope of fixed income opportunities and stage implementation based on market conditions can be appropriately evaluated alongside active decisions in other asset classes.

Conclusion

The decision to change perspective to LDI from more traditional investment policies is significant and has far-reaching implications for plan sponsors. The implementation of that decision, both in the dimensions of transition and ongoing management, should incorporate the full scope of investment tools available to achieve the investment objective. From selecting investment policy to managing the fixed income component and evaluating plan performance, implementing an LDI solution entails active decisions that can add significant value for plan beneficiaries. Unfortunately, none of those involve a day at the beach.

1 Benchmarks should be unambiguous, investable, measurable, descriptive, reflective of a universe, and specified in advance per Bailey, Jeffery V. 1992. "Evaluating Benchmark Quality." Financial Analysts Journal, vol. 48, no. 3 (May/June):33-39. These criteria are generally accepted.

Strategic Investment Group

Strategic, a pioneer in dedicated Outsourced CIO (OCIO) solutions since 1987, offers a comprehensive service platform for managing customized portfolios for institutional and private investors. Our proprietary process combines active portfolio management, rigorous risk management, and open architecture manager selection.

Strategic functions as our clients' investment partner and co-fiduciary, effectively becoming an extension of their resources. Clients are then free to focus on their core businesses, while we focus on providing the highly specialized portfolio management expertise that clients need to meet their investment goals. Depending on a client's needs and preferences, Strategic can orchestrate the management of an entire portfolio comprising multiple asset classes, focus on specific asset classes, such as alternatives (e.g., hedge funds, real estate, and/or private equity) or international investments, or manage strategies with high potential for adding value (e.g., portable alpha through investor-friendly turnkey structures). Customized liability-driven investing (LDI) solutions, whether through an integrated total portfolio approach or a targeted long-duration strategy, are also available, as are solutions that address mission-related investment objectives.

We strive to build enduring partnerships with our clients by strengthening their investment programs through a dynamic, value-enhancing investment process, sound governance framework, and world class client service. Our mission is to empower investors through experience, innovation, and excellence.

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