

JUNE 2010

Risk Optimized LDI Solutions

Optimization As Part Of Asset Management Execution

CI / Nexus
Offers
Full Range Of
Risk
Optimized
Asset
Management
Solutions

Liability Driven Investing (“LDI”) is a risk management framework that, used effectively, can help pension funds better assess and reach their financial objectives. The industry has been adopting LDI strategies as traditional “asset-only” investment approaches neglected to account for a material mismatch of non-fixed income assets and fixed pension liabilities, resulting in the two recent pension crises. However, some other LDI strategies still retain significant risk. For example, LDI strategies such as duration pooled funds typically offer false economies and retain significant exposure to non-parallel and large changes in interest rates. Other LDI strategies effectively leverage the effective exposure to equities, and often, unknowingly, materially raise the risk profile of a plan.

Nexus Risk Management and CI Institutional Asset Management execute asset management services within a robust LDI framework enabling our clients to reach their financial objectives and maintain portfolio risks within set limits. Our risk optimization can add substantial value in many cases, on a default-free basis, while simultaneously reducing the exposure to the multiple dimensions of interest rate risk. Even if a pension plan maintains an asset mix that includes equities and/or does not wish to immunize when interest rates are low, effectively taking a large bet on the future direction of interest rates and equity markets, the pension plan should still ensure that the portfolio is risk efficient. Supported by an unparalleled reporting system, CI / Nexus can deliver Risk Optimized LDI solutions that increase returns and reduce risk.

Our Services

CI / Nexus provides a best-in-class solution to our insurance company and pension clients that increases the risk efficiency of their portfolios.

We have developed significant LDI / ALM expertise and technological capabilities, including our state of the art LDI / ALM software that drives our modelling.

Whether a client wants to execute a sophisticated risk optimized LDI strategy across multiple dimensions of interest rate risk or simply manage a traditional 60/40 asset mix, we add substantial value by managing the assets within a risk optimization framework.

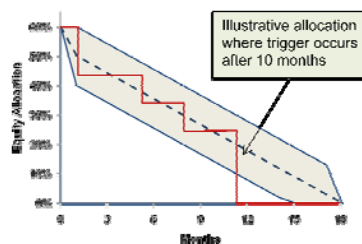
With our expertise we offer various Risk Optimized Asset Management Solutions depending on your needs. We are able to successfully reduce portfolio risks based on your needs, even in difficult financial times, by focusing our solutions on five crucial components:

- ✓ Implementation of de-risking strategies
- ✓ Execution of LDI - including the optimization of large implicit interest rate bets
- ✓ Execution of sophisticated immunization strategies
- ✓ Traditional asset management using low cost segmented bond fund solutions
- ✓ Overlay strategies

Risk
Optimized
LDI
Can Add
Significant
Value
Beyond
Current LDI
Approaches

Implementation of De-risking Strategies

De-risking strategies help clients avoid locking in losses over a defined transition period. By using a systematic de-risking approach that reduces the equity allocation within tactical asset allocation bands, the asset manager retains the flexibility to respond to changing market conditions. We also implement trigger points for accelerated de-risking based on threshold asset values when the plan achieves stated funding and solvency levels (see figure below). We can also incorporate trigger points based on pre-defined objectives.



Execution of LDI Strategies That Incorporate Market Views

We work closely with our clients to cater to their risk parameters and objectives. We manage against actual liabilities, eliminating basis risk, which yield an accurate measurement of risk and results. Risk optimization and transparency of performance are also key components to our approach. We are able to maximize upside / minimize downside based on market views in a clear and focused manner while respecting the client's portfolio objectives and risk appetite.

Execution of Sophisticated Immunization Strategies

CI / Nexus can manage the portfolio directly against liability cash flows and against multiple dimensions of interest rate risk – ensuring one is fully immunized with no equity exposure. Even in a basic cash flow matching strategy, our risk-optimized approach adds significant value as our process can enhance the portfolio yield beyond a straight immunization.

Traditional Asset Management

Many clients may wish to retain a traditional asset mix, for example 60% invested in equities and 40% invested in bonds. CI/Nexus can add significant value to the bond portion by offering a risk-optimized segmented fund. This approach has several advantages over a pooled bond fund.

- ✓ More effective at managing interest rate risk
- ✓ Implicit view on interest rates optimized
- ✓ Low cost makes this accessible for smaller pension funds

The equity allocation may remain invested in any asset manager though CI has historically delivered significant alpha on a range of equity solutions.

Overlay Strategies

Interest Rate Swap / Bond Future Overlay

- ✓ Retain existing asset mix
- ✓ Potential to add alpha
- ✓ Execute sophisticated immunization strategies & perform risk optimization

Equity Swap Overlay

- ✓ LDI achieved through 100% bond portfolio
- ✓ Recognizes dislocation of swap curve
- ✓ Execute sophisticated immunization strategies & perform risk optimization

Why should Pension Funds Care?

Most pension portfolios are risk inefficient, ignoring higher potential returns or taking on uncompensated risks. Many pension plans take on unnecessary large interest rate bets with lower upside if rates rise or are poorly positioned with greater downside risk than necessary. Other pension plans are trying to time the markets, which inevitably expose the pension plan to significant downside risk in the process as well as raise potential governance issues.

Even the term LDI has become confusing defining a variety of risk and asset management approaches, some strikingly different from each other. One interpretation includes immunization strategies such as duration targeting or cash flow matching. This approach seeks to minimize and eliminate mismatch risks, including interest and equity exposure, irrespective of foregone returns. At the other end of the spectrum, some LDI strategies were developed to incorporate significant leverage and effectively increase the exposure to certain asset classes such as equities - often performed in order to increase the expected return of the assets backing the liabilities. It is important to be aware that these latter strategies would not have protected pension plans against the perfect storm of 2001-2003 or the financial crisis of 2008-2009. This has led to some confusion over what constitutes "LDI" and can lead to the false belief that all LDI strategies eliminate mismatch risk.

Only a comprehensive asset management strategy delivered within a robust LDI framework can best enable pension plans to reach their financial objectives and maintain appropriate risk limits.

Our Value Proposition

- ✓ Significant value added over non-optimized solutions
- ✓ Higher returns for less risk
- ✓ More effective management of interest rates than duration pooled funds
- ✓ Can be implemented for small plans (>10M)
- ✓ Increase upside potential if rates rise while reducing downside risk
- ✓ Partner with pension consultants to execute sophisticated risk management strategies
- ✓ Customized risk reporting and attribution analysis
- ✓ Transparency of value added from ALM and additional value added from active asset management

Why CI / Nexus

- ✓ Proven track record implementing Risk Optimized LDI solutions for both insurance and pension portfolios
- ✓ Over \$20 billion assets managed using our proprietary risk solutions and over \$65 billion of assets under management
- ✓ Proven experts in risk management
 - Recognized as thought leaders in ALM, LDI, dynamic hedging and ERM
 - Trained over 1,000 risk professionals worldwide
 - Leadership roles in industry committees and task forces
 - Pioneers in dynamic hedging and risk optimization
- ✓ Leading Asset Manager
 - Superior credit decision process
 - Track-record of delivering equity outperformance
 - Economic forecasting expertise
 - Tactical Asset Allocation

Most Pension
Portfolios
Are Risk
Inefficient

CI INSTITUTIONAL ASSET MANAGEMENT

CI Institutional Asset Management (CIAM) is a division of CI Investments Inc., one of Canada's largest and most respected money managers, with over \$64B in assets under management. CIAM has over \$10 billion in assets, and offers a full suite of investment management solutions for institutional clients, including leading financial intermediaries, pension funds, endowments, foundations and corporations. CIAM operates as a multi-boutique firm, providing clients with access to a range of CI's 13 individual sub-advisors. Institutional clients have access to bulk purchase arrangements, pooled fund strategies and segregated account management. CIAM also offers risk management capabilities through liability driven investment solutions in partnership with Nexus Risk Management.

In addition, CIAM has a dedicated team of 9 institutional investment professionals focused on sales, superior client servicing and ensuring effective portfolio management.

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Nexus Risk Management provides a clear focus for managing risk to maximize value. As a company, we focus exclusively on risk. We deliver tools, training, expertise and execution to enable our clients to have the sharp focus needed to achieve their financial objectives.

Worldwide we work closely with insurance companies and pension plans, rating agencies and regulators, leading experts from academia and the investment industry as well as reinsurers and other counterparties to bring together deep industry knowledge, leading edge techniques and best practices from around the world. Using robust ALM and LDI frameworks that are fully integrated within ERM we deliver state of the art dynamic hedging programs, asset management within a risk framework and risk optimization.

Through our offices in Toronto and Seoul we provide highly specialized services to our clients globally.

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