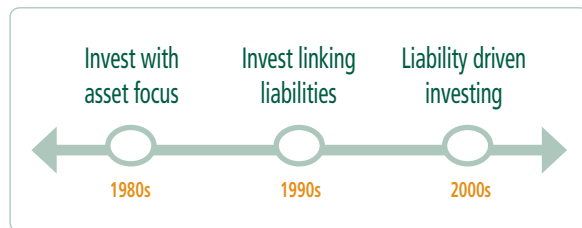


LIABILITY DRIVEN INVESTING

Good process, good outcomes: Liability driven investing (LDI) is often associated with reducing risk. The lower risk does not have to be at the expense of increased operating costs of a defined benefit (DB) plan. The key is to consider a range of risk management options and then determine the approach, or combination of approaches, that delivers the best risk/reward outcome for you. This note highlights the range of options for managing risk.

CHANGE IS SLOW

Changes in the defined benefit (DB) investment world are very slow. We have, however, seen a gradual shift from an asset focus when DB assets were generally small, to a greater link with the liabilities as some plan sponsors moved to better matching bond portfolios, to the current discussion and focus on LDI.



WHAT IS LDI?

LDI is a process and not an investment strategy. LDI means focusing on the liabilities as a starting point for developing investment strategy. At an extreme, this can involve establishing a portfolio that closely matches the expected cash flows arising from the liabilities. In most cases, however, it involves establishing a specific liability benchmark for a DB plan, and then assessing the risk/reward implications of departures from the liability benchmark to determine the asset mix.

LDI Characteristics

| | |
|-----------------------------|--|
| Focus on liabilities | Starting point to develop investment strategy |
| Using a liability benchmark | Based on either cash flow or combination of indices |
| To determine asset mix | Assess risk and reward preferences relative to the liability benchmark |

There is a lot of discussion on LDI, but not as much action. The barriers to plan sponsors' embracing LDI have been a combination of there being no incentive, not being ready to consider such approaches and not easily being able to grasp some of the concepts that often form part of LDI solutions.

Key Barriers

| | |
|--------------|---|
| No incentive | To reduce bias to more volatile equity assets |
| Not ready | To adopt as no formal plan for de-risking |
| Not able | Due to governance challenges with little or no committee expertise on derivatives |

FREE LUNCH?

Another plan sponsor concern with LDI is that with lower risk comes lower return, which will increase the cost in supporting a DB plan. This does not have to be the case so long as a plan sponsor can gain comfort with strategies that allow for an increase to the fixed income allocation through an overlay strategy.

Overlay strategies allow risk to be reduced by cutting back equity investment, but not sacrificing the long-term expected return due to the benefit of the higher fixed income allocation. The catch – overlay strategies are associated with derivative-based investments, which require the oversight committee for the DB plan to gain an understanding of and confidence in these types of investments.

Derivative-based solutions are associated with a "risk optimization" approach. However, there are a range of options available to plan sponsors that vary from both a governance and investment perspective in terms of how easy or hard they are to implement.

LIABILITY DRIVEN INVESTING

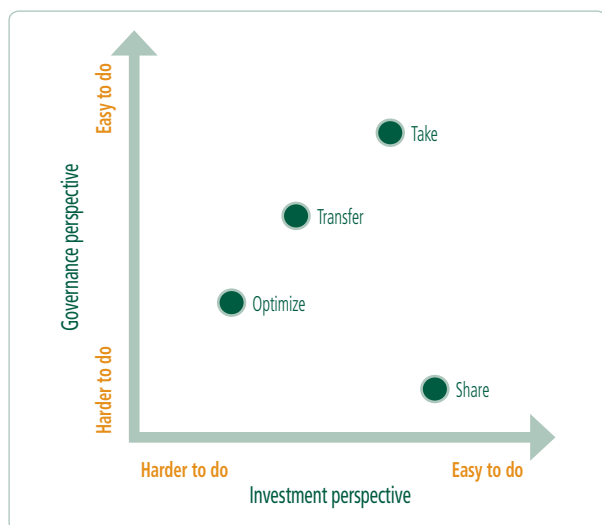
RISK MANAGEMENT OPTIONS

Four risk management options for plan sponsors are, take risk, share risk, optimize risk and transfer risk.

Key Options

| | |
|---------------|--|
| Take risk | Maintain pension fund equity bias |
| Share risk | Higher member contributions, or benefit reductions |
| Optimize risk | Use overlay strategies and non-traditional investments |
| Transfer risk | To a third party, such as an insurance company |

The chart below summarizes our view of how the four different options compare from a governance and investment perspective.



RISK OPTIMIZATION

Some of the approaches under the risk optimization category include extending duration and using overlay strategies. The benefits and challenges of these approaches are highlighted below.

| Approach | Benefits | Challenges |
|-------------------------------|---|---|
| Extend duration | Simplest to implement | Limited impact to risk profile? |
| Bond overlay | Can reduce risk without reducing return | Requires comfort with non-traditional investments |
| Alpha and bond overlay | Biggest potential impact to improving risk and return profile | Requires comfort with non-traditional investments |

RISK TRANSFER

The approaches under the risk transfer category include: buy-out, buy-in and longevity hedge.

Transfer Options

| | |
|------------------------|--|
| Buy-out | Annuity contract that transfers DB plan liabilities to an insurance company |
| Buy-in | Similar to buy-out, but annuity contract retained as a DB plan investment |
| Longevity hedge | Reduce the cost of plan members living longer by swapping a fixed payment stream for a variable stream |

The benefits and challenges of the risk transfer approaches are highlighted below.

| Approach | Benefits | Challenges |
|------------------------|--|---|
| Buy-out | Transfers pension obligation (except in Quebec) Reduces investment and longevity risk | Top up contribution if in deficit |
| Buy-in | No top up contribution since plan investment reduces investment and longevity risk | Partial risk transfer since the plan retains assets and liabilities |
| Longevity hedge | No large lump sum payment (that applies for an annuity) Reduces longevity risk | Likely limited capacity in Canada |

The need to better manage total pension fund risk is at the forefront of plan sponsors' minds. There is a range of risk management options to choose from. Be sure to assess each one.

For further discussion on how you can progress your risk management goals contact.

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