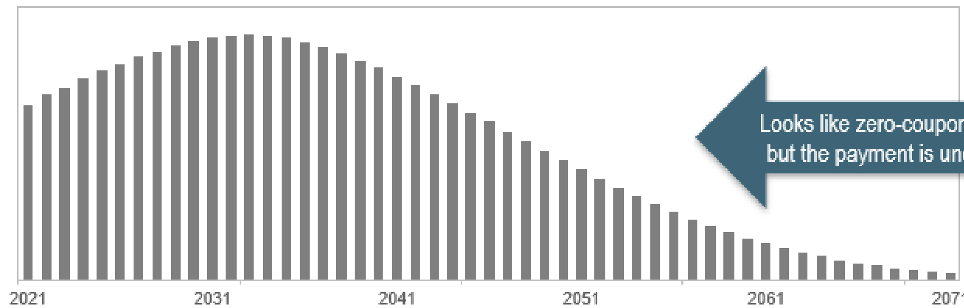
CONVERSATIONAL LDI

THE CASE FOR LDI

What is Liability Driven Investing?

Liability Driven Investing (LDI) is an investment strategy typically employed for corporate defined benefit plans. The goal of LDI is investing plan assets to meet all future payments to retirees with a focus on mitigating risk.

Liability Cash Flows



If interest rates rise, liability decreases

If interest rates fall, liability increases

In this video, I'll first explain how pension liabilities work. I'll then discuss the asymmetric nature of pensions' risk profiles. These concepts set the foundation for why sponsors would choose to adopt liability driven investing.

Each person in a pension plan is promised a benefit, typically in the form of monthly payments that last from retirement until death. Several assumptions are made that impact the amount and timing of these payments. This might include how long an employee will work at that company or anticipated future pay increases. If we aggregate all the annual payments across everyone in the plan, you end up with a stream of total expected benefit payments for the entire plan. The present value of these aggregate cash flows, discounted at a high-quality corporate bond rate per regulations, is what we call the liability.

Interestingly, the liability cash flows look like a series of zero-coupon bonds. And so they operate like a traditional bond in that their present values are also sensitive to changes in interest rates. In particular, if interest rates rise, the liability value decreases. Vice versa, if interest rates fall, the liability increases.

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LIABILITY DRIVEN INVESTING (LDI) GOALS

- Meet all future retiree payments
- Mitigate risk (e.g., from interest rates)
- Reach desired end stage within a certain time horizon

LDI SOLUTIONS

- Typically includes fixed income (for the high-quality corporate discount rate)
- Common first step is to address duration mismatch

Pensions have an asymmetric risk profile. Basically this is just a fancy way of saying the benefits from assets exceeding liabilities pale in comparison to the negative consequences of assets being insufficient to meet liabilities.

There is limited upside in being very overfunded. This is because at very high funded ratios, the plan is at risk of trapping surplus when it goes to terminate (or in the unlikely situation where it has paid out the last retiree). If the sponsor has money left over at the end, the sponsor can only re-claim the excess assets after paying significant excise and corporate taxes. These overpaid cash contributions would arguably have been better retained for the company's core operations.

Meanwhile, if funded statuses fall too much, the sponsor will be required to make cash contributions. These contributions may also be due at an inopportune time such as when overall corporate financials are stressed. In the very worst case scenario, the sponsor might be unable to shore up the pension, perhaps due to bankruptcy. In this case, the plan would suffer a distressed termination. The PBGC, a federal insurance agency, takes over the plan. The minimum benefits guaranteed by the PBGC may be less than the payments the retirees were originally promised.

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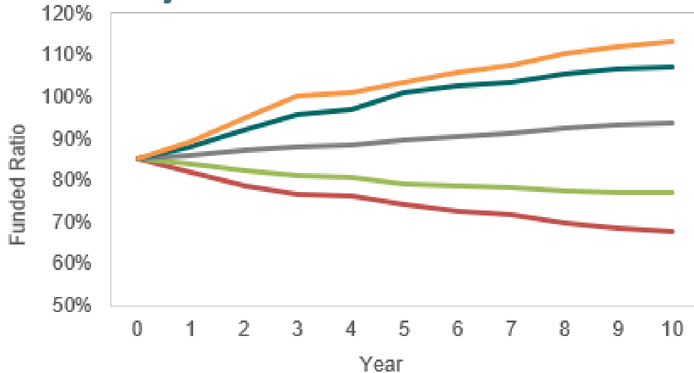

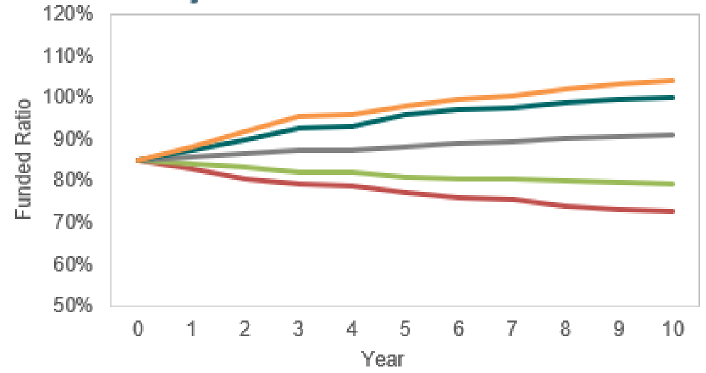

95th percentile 75th percentile 50th percentile 25th percentile 5th percentile

- LDI narrows the likely range of outcomes for contributions, funded status, and time horizon

LDI is investing plan assets with the goal of meeting all future payments to retirees with a focus on mitigating risk. This is different from how we may think of traditional investing which seeks to earn the most return or alpha possible. LDI instead seeks to have all or a portion of plan assets and liabilities move in tandem, regardless of how markets and interest rates evolve. LDI is typically employed to help sponsors reach a desired end stage, usually termination or hibernation, within a certain time horizon.

There are different ways to accomplish these objectives. Generally speaking though, the solution is usually fixed income in nature to mirror the high quality corporate discount rate used to calculate the liabilities. A first step in a sponsor's LDI journey is usually to align or extend the duration of plan assets versus liabilities to mitigate interest rate risk.

As we mentioned earlier, pensions have an asymmetric risk profile. LDI provides downside protection but typically at the expense of limiting upside potential. LDI reduces volatility and narrows the likely range of outcomes. Said another way, LDI makes outcomes more predictable. This includes required contributions, pension deficits which are reported on corporate balance sheets, and time horizon to reach a desired end stage. Most sponsors are not in the business of running pensions. By embracing LDI, they can reduce the risk from their pension plans and focus on their core business.

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