

# Investor's guide to pensions

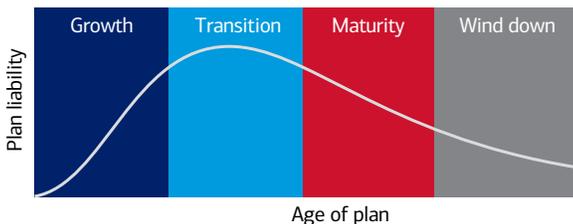
Pension investing should always be liability aware, if not liability driven.

The performance of the plan's investments and measures of risk should be viewed in terms of the funded status of the plan, including the liability in addition to the assets.

While retirement benefit offerings have largely shifted away from defined benefit pension plans to defined contribution plans, successfully managing an existing defined benefit plan is sometimes critical to a company's overall success. Sponsors of frozen plans are often looking for ways to terminate their plans or to immunize the liability on their balance sheets. For other employers that view the pension plan as a key piece of their employee benefit strategy, managing the costs and risks associated with the plan is a top priority. Defining the right investment strategy is important regardless of the goal. Before setting a strategy, it's important to understand why the investment strategies of pension plans differ from most common investment approaches.

We believe that investment policies for pension plans should be customized with an understanding of each plan's circumstances and situation, ideally after analyzing and comparing various alternatives through a robust asset-liability study. Many of the chief considerations are consistent with those that are relevant for other types of investment mandates: the time-horizon, risk tolerance, and return needs. However, when reviewing these considerations for a pension plan, we must consider its position within the lifecycle.

## Illustrative pension lifecycle



<b>Growth</b>	Early phase where plan is predominantly composed of employees earning benefits.
<b>Transition</b>	Phase defined by plan closures, benefit modifications, and participants retiring
<b>Maturity</b>	Later phase where participants continue to age and benefit accruals may be frozen
<b>Wind down</b>	Final phase for a plan where focus of strategy may shift to settling liabilities.

### For an open and ongoing plan early in the lifecycle:

- Investment time horizon is long
- Return needs are high with an aim to somewhat offset benefit accruals
- Generally a significant but well-diversified return-seeking asset allocation is appropriate
- Hedging interest rate risk may be a lesser priority

### For well-funded frozen plan further along in the lifecycle:

- Investment time horizon is shorter, especially as funded status improves.
- Plan termination is most often the end goal, but hibernation can be an effective alternative.
- Large investment gains may not provide much benefit beyond a point if the resulting surplus is trapped.
- Using a de-risking glide path will typically be appropriate

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This guide is focused on corporate pension plans, which are managed very differently from public pension plans. Public pension plans often take an endowment, return-seeking approach. Multi-employer plans are more similar to public plans and are, on average, grossly underfunded.

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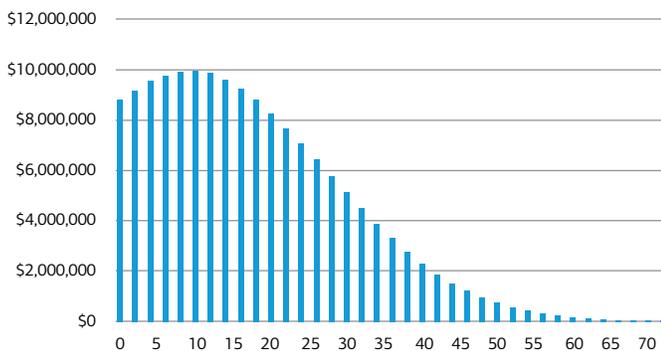
## The liability

A pension plan consists of two primary components: the assets and the liability. Understanding the liability is crucial to developing a strategy to meet the goal of the plan. So, what is the liability and how does it behave?

- A pension liability is the present value of a stream of income promised to the participants of the plan until each participant dies.
- Based on actuarial assumptions, we can estimate how long the plan sponsor would expect to pay these streams of income (see Exhibit 1).
- Discounting these future streams using current high-quality corporate bond rates determines the liability value that will sit on the balance sheet.
  - With the liability on the balance sheet, one can view the liability as a short position in a portfolio of AA long-term corporate bonds. As interest rates go down, the liability goes up and vice versa.
- The balance sheet valuation differs from the ERISA calculation required to file the IRS 5500 and to calculate PBGC premiums. ERISA mandates different interest rates for different purposes, which can lead to drastically different liability valuations.

### Exhibit 1: Future expected plan disbursements by year

*Plan disbursement figure is hypothetical and for illustrative purposes only*



## The assets

In the most general terms, pension assets are funds set aside to satisfy future benefit payments. Because the assets are intended to satisfy the liability, traditional investment strategies often don't align with or are not appropriate in pension plans. Traditionally, an investment manager's goal is to maximize return while minimizing performance volatility. This approach ignores the liability component and is too narrow a view in most cases, which is why most pension investment strategies take a different approach. When we

look at the various approaches a plan sponsor can take with the assets, it's important to understand that the sponsor can have varying degrees of risk tolerance and return requirements. This will ultimately drive the percentage of assets that will not be dedicated to behaving like the liability.

## Risk and return

Understanding the risk appetite for the plan will help the plan sponsor develop an investment program that they will be able to stick with through market cycles. The drivers of risk appetite are plan funding status, free cash flow generation and cyclical of business earnings.

Risk appetite	
High	Plan sponsor willing to let market work and takes a longer-term view on managing the plan.
Low	Plan sponsor wants to minimize funded status and pension expense volatility and is willing to offset future asset growth with additional contributions.

It's also important to note that the risk appetite of the pension plan's investment strategy may not necessarily reflect the risk appetite of the broader organization. Management may be risk-on in other areas of the company and offset by being risk-off in the pension plan, or the converse could also be true under unique circumstances.

## Asset categories

A traditional investor's portfolio is frequently made up of equities to drive growth and short-duration bonds to reduce risk exposure, and occasionally alternative investments to provide additional diversification. The assets within pension plans are viewed in two separate categories: those that will track in-line with the liability and those that are expected to outperform the liability (return-seeking assets).

Liability-matching assets	Return-seeking assets
Long-duration corp bonds	Equities
Long-duration Treasuries	Fixed income
STRIPS	Alternatives (hedge, PE)

Liability-matching assets are generally constructed from long and intermediate corporate bonds as well as some extended-duration Treasury instruments. Return-seeking assets are made up of equities, short-duration bonds and alternative investments.

Plans with a lower risk appetite will have a higher allocation to liability-matching assets. This will reduce the fund status volatility and allow the plan to track more closely to the liabilities. This is achieved through liability-driven investing.

**LDI**

Liability-driven investing, or LDI, is an asset management technique of mirroring the liabilities. Knowing that the balance sheet obligation is like a hypothetical short position in a structured portfolio of AA corporate bonds, an offsetting portfolio can be constructed to match that liability — in this case, the long position in the “same” portfolio of structured AA corporate bonds used to value the liabilities. *Any allocation outside of this can be viewed as active share in the portfolio and can lead to active risk.*

**ALM study**

In determining an appropriate strategy for the plan, an asset liability modeling, or ALM, study is often the best starting point. An ALM study benchmarks the assets to the liabilities and is able to examine the risks within the plan more accurately by considering how different portfolios behave relative to pension metrics like contributions, expenses and funded status. This will allow the plan sponsor to evaluate various strategies with respect to their plan-specific risks and goals.

**De-risking**

As a plan makes positive steps toward its goal, it is important to protect the progress achieved. A de-risking glide path is the dynamic and rule-based asset allocation strategy by which a pension plan’s strategic asset allocation becomes more conservative as the funded status of the plan improves.

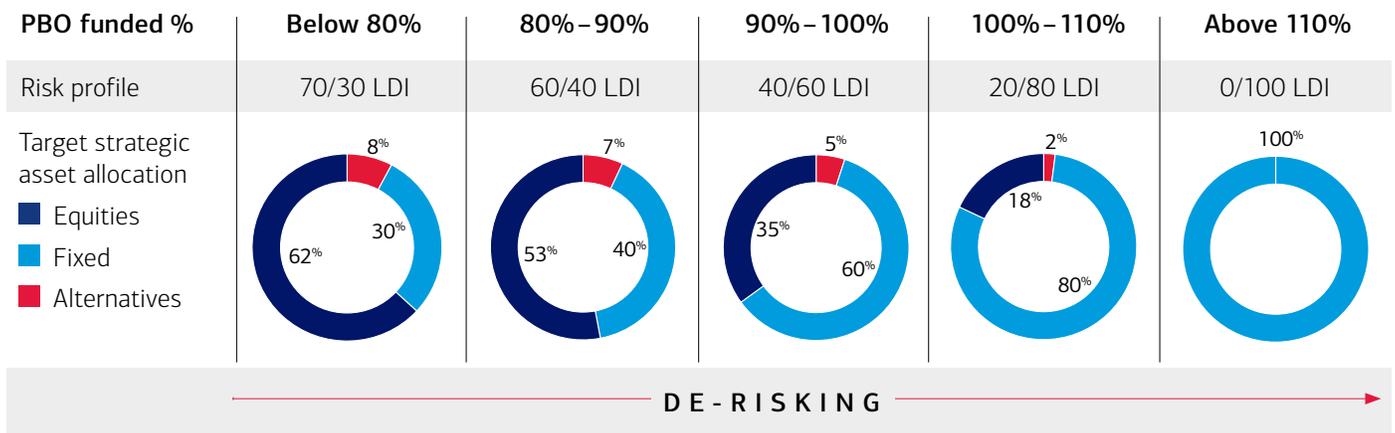
We believe de-risking glide paths are appropriate for most pension plans because:

- Plan investments must be managed in a fiduciary capacity focused on what’s best for plan participants. Those participants generally prefer a high likelihood of fully-funded benefits over risk-taking to potentially achieve over-funding.
- A plan’s hurdle rate (the annual investment return required to maintain the same funded status) declines as funded status improves.
- Funded status improvement likely shortens the remaining time-horizon for a plan, especially if it is frozen.
- The structure of the PBGC variable rate premium and restrictions on recovering surplus assets following a plan termination both create asymmetrical risk profiles which support the use of glide paths.

**Plan Termination**

Plan termination is a heavily regulated process by which all liabilities of a pension plan are settled via voluntary lump sums and annuities, culminating in the elimination of the plan. The process takes 1-2 years and includes several customized participant communications and regulatory filings. Annuities are purchased at the end of the overall termination process by a responsible fiduciary seeking out one of the safest available annuity providers.

**Exhibit 2: Example of a de-risking path**



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## Conclusion

Pension plans should follow an investment approach that differs from that of an individual, corporation, foundation, or endowment because of the need to consider the liability and its sensitivity to interest rates. Furthermore, pension plans operate in a heavily regulated environment, which can impose additional costs when funded statuses decline and provide limited upside should funded statuses improve significantly. For these reasons, most pension plans will benefit from utilizing a glide path strategy which dynamically de-risks the plan's asset allocation as funded status improves by shifting a greater portion of plan assets into liability-matching investments.

That said, each pension plan is unique, with its own set of goals and constraints. Therefore, we believe pension plan sponsors should develop investment strategies for their plans by carefully examining those plan-specific circumstances and by evaluating alternative approaches. Utilizing a robust asset-liability study centered on the stochastic modeling of all relevant plan financials is the best practice. Once a strategy is established, it should be regularly reevaluated, with performance measurements focused more on the plan's funded status than asset-only performance. This is the best way to ensure that the strategies are aligned with the plan sponsor's primary goals.

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