

# How Do Public Plans Address Liability-Based Challenges?

## Introduction

All defined benefit pension plan sponsors face liability-based challenges. This includes public pension plans. The key is designing financial management policies (funding, investment, and cost management) that recognize how liabilities grow and fluctuate over time.

Liability hedging in the form of liability-driven investing (LDI) has become widely accepted as best practice for corporate pension plans<sup>1,2</sup>—particularly frozen corporate plans with no future growth other than interest growth with the passage of time. Open plans<sup>3</sup>, like most public plans, face different liability-based challenges reflecting the growth aspect and long-term nature of their liability. Public plans also differ from corporate plans in terms of liability and cost-measurement approaches. These factors mean that financial management for public plans looks different from corporate LDI strategies. Yet the basic premise still applies: Designing investments to manage funded status outcomes can help plans meet their future obligations.

In this paper, we identify some of the liability-based challenges facing public plans and suggest a practical perspective for mapping current plan policies into a broader financial management context.

## The hurdle rate

The nature and pattern of public plan liabilities and funded status progression is driven by the interaction of funding/contribution policy, liability growth and investment policy. We find that a useful reference point for analyzing this interaction is to understand the plan's hurdle rate—or the return required for asset growth to keep pace with liability growth (thereby producing funded status stability). Measuring the hurdle rate can help define where the plan is heading, and how best to get there.

The hurdle rate is based on two key parameters:

1. The liability growth rate, which comprises the discount rate plus rate of benefit accrual, and;
2. The plan's funded status. Underfunded plans need assets to work harder to keep up with liabilities, and overfunded plans benefit from returns on excess funding.

Plan liabilities grow with the passage of time at the plan discount rate. The higher the discount rate, the lower the liability and therefore the higher the required asset growth rate to ultimately support the value of earned benefits.

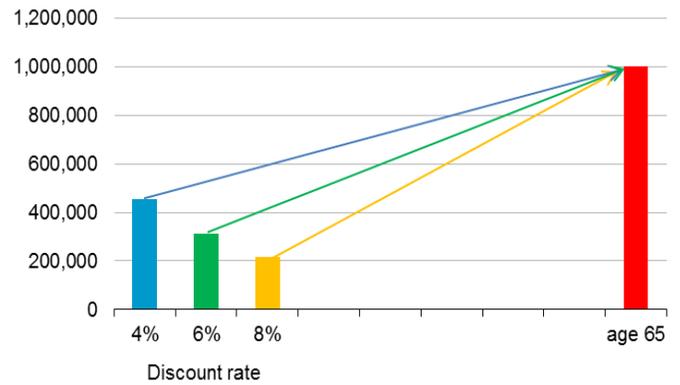
Figure 1 illustrates different liability values and discount/growth rates for a 45-year-old that is to receive a \$1 million lump sum payment at age 65.

The liability also increases as employees earn additional benefits for continued service to the plan sponsor (often referred to as the service cost). Many public plans use a discount rate of around 7% and have a service cost that adds 2-3 percentage points to the liability growth rate<sup>4</sup>. This results in growth rates of 9% to 10%. For purposes of comparison, frozen corporate plans will simply grow with the discount rate, which is based on corporate bond rates. Recently, this approach would result in discount rates of about 4%. Figure 2 illustrates the difference in liability growth rates between public plans and frozen corporate plans.

As previously stated, underfunded plans need additional asset growth to keep up with liability growth. We can calculate a grid showing hurdle rates at various levels of funding and service cost (SC) growth. Figure 3 displays hurdle rates assuming a liability growth rates of 7% to 12%, and funded status ranging from 60% to 100%.

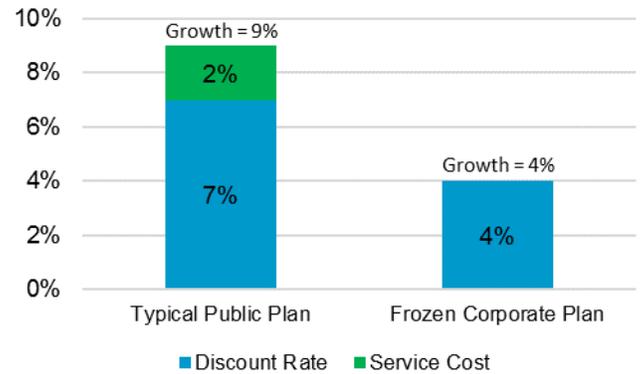
Many plans are 70% to 80% funded<sup>4</sup> and have liability growth of 8% to 10%<sup>4</sup>, suggesting a range for common hurdle rates of 10% to 14% (see highlighted portions of the grid). Plan assets need their sources of growth—contributions to the plan and investment income—to meet or exceed this hurdle rate in order to maintain or improve funded status. Typical budgets for contributions are 4% to 7% of assets<sup>4</sup>, suggesting that plans must target substantial investment returns. This has led many plan sponsors to adopt investment strategies with substantial allocations to return seeking assets (RSA) in order to pursue high returns. Most sponsors devote 70% to 80% to return seeking assets<sup>4</sup>.

Figure 1: Value today (age 45) versus ultimate payout



Source: LGIMA. For illustrative purposes only.

Figure 2: Difference in liability growth rates



Source: LGIMA. For illustrative purposes only.

Figure 3: Funded status versus liability growth

Liability growth %	Funded Status Relative to Liability								
	60%	65%	70%	75%	80%	85%	90%	95%	100%
7%	11.7%	10.8%	10.0%	9.3%	8.8%	8.2%	7.8%	7.4%	7.0%
8%	13.3%	12.3%	11.4%	10.7%	10.0%	9.4%	8.9%	8.4%	8.0%
9%	15.0%	13.8%	12.9%	12.0%	11.3%	10.6%	10.0%	9.5%	9.0%
10%	16.7%	15.4%	14.3%	13.3%	12.5%	11.8%	11.1%	10.5%	10.0%
11%	18.3%	16.9%	15.7%	14.7%	13.8%	12.9%	12.2%	11.6%	11.0%
12%	20.0%	18.5%	17.1%	16.0%	15.0%	14.1%	13.3%	12.6%	12.0%

Source: LGIMA. For illustrative purposes only.

## Implications for public plan risk management strategies

With continued growth expected for public pension liabilities, plans will have to aggressively pursue high returns to help assets keep pace—while also continuing to deal with budget constraints regarding affordable levels for plan contributions. In addition, persistently low interest rates are contributing to pressure on public plans to reduce expected return assumptions used to develop actuarial discount rates. This adds an additional growth factor to a plan's financial management equation. What's more, benefit payments continue to grow as plan participants age and enter retirement—with most plans making benefit payments that are greater than plan contributions<sup>4</sup>.

Taken together, these factors create liability-based challenges for the financial management of public pension programs. While the approach to risk management will differ from the LDI strategies used by frozen corporate plans, we believe there are financial management and liability hedging solutions that can help meet public pension plan challenges, including:

- Measurement and monitoring of market risks.
- Reducing downside risk associated with large allocations to equities and other return-seeking assets.
- Meeting liquidity demands, while also avoiding the need to sell equities during a downturn.
- Addressing interest rate risk and how this risk manifests itself over time.
- Putting the pieces together into a cohesive framework for financial decision-making that recognizes plan sponsors' growth goals and risk reduction objectives.

We will continue to expand on risk management for public plans in additional whitepapers, including stepping through the various elements of a sound risk management framework for public plans; detailing how common practice has evolved over time; summarizing the current state of public plan financing; and offering ideas to improve future outcomes.

### NOTES:

<sup>1</sup> LGIMA (2019), "Liability Driven Investing – Revisiting the client-led framework"

<sup>2</sup> Willis Towers Watson Insider (2019), "2017 asset allocations in Fortune 1000 Pension Plans"

<sup>3</sup> Open plans are plans that continue to be open to new hires entering the plan, and where active participants continue to earn additional benefits.

<sup>4</sup> The Public Plans Data website. This database is developed and maintained through a collaboration of the Center for Retirement Research at Boston College, the Center for State and Local Government Excellence, and the National Association of State Retirement Administrators.

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