

Public Pension Plan Finance

Describing the financial management framework

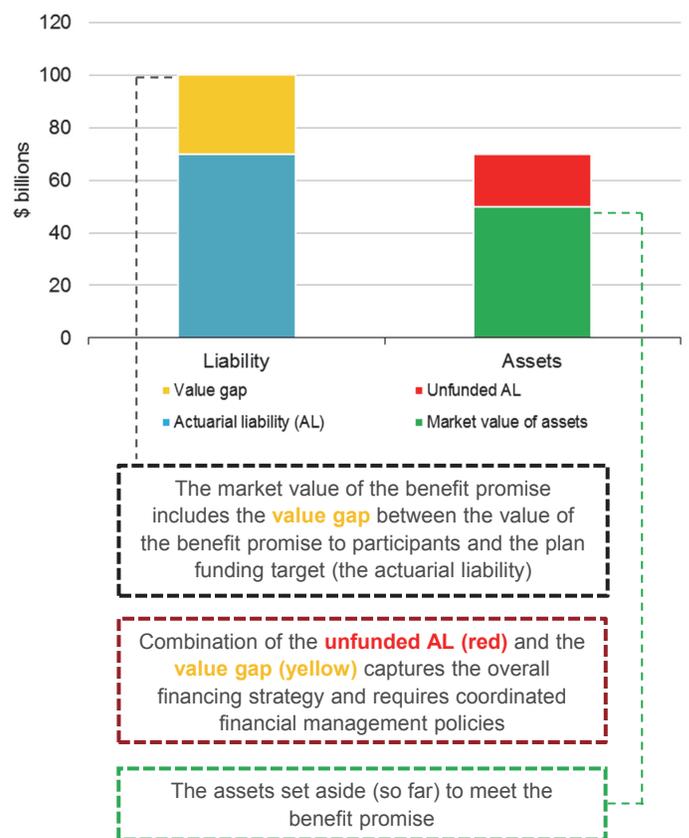
Introduction

In our previous papers – “How Do Public Plans Address Liability-Based Challenges?”¹ “Measuring and Monitoring Risk for Public Pension Plans,”² and “Assessing Financial Policies for Public Pension Plans”³ – we suggested that public plans should adopt a market-based monitoring approach for purposes of measuring, understanding and managing risk. We acknowledged that public plans face different liability-based challenges than corporate plans and proposed a framework for measuring and monitoring risk and for coordinating pension financial policies, including investment, funding and cost/liability management.

The framework is not intended to suggest that any changes need to be made to public plan financial management, but instead puts forth a practical way of enhancing how we assess the way various financial policies fit together. Having a complete picture of the implications and interactions of all financing decisions can facilitate informed financial management decisions and highlight potential opportunities to achieve improved outcomes.

In this paper, we walk through the rationale for the framework and describe more fully how the framework can be applied.

Figure 1: Pension plan financial management



Source: LGIMA. For illustrative purposes only.

1. LGIMA, “How Do Public Plans Address Liability-Based Challenges?” 2019.
2. LGIMA, “Measuring and Monitoring Risk for Public Pension Plans,” 2019.
3. LGIMA, “Assessing Financial Policies for Public Pension Plans,” 2020.

Why is public pension plan finance challenging?

There are multiple sets of financial policies that are determined or influenced by various groups – investment and benefits committees, investment, treasury and benefits staff, actuaries, investment advisors, public officials, etc. Figure 2 summarizes key financial policies. The challenge is that these policies are interrelated and need to be managed in a coordinated way in order to achieve the best outcomes.

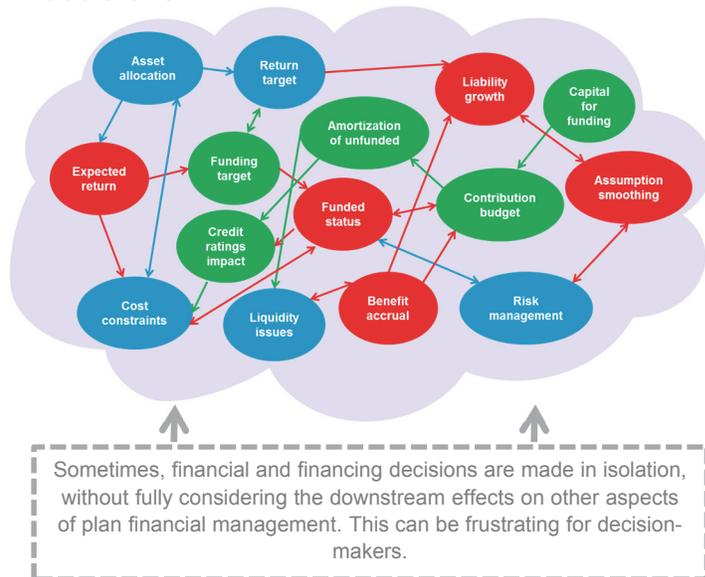
Figure 2: Key financial policies for public pension plans

Investment policy	Funding policy	Liability measurement
<ul style="list-style-type: none"> • Return target • Asset allocation • Liquidity needs • Risk management • Cost constraints 	<ul style="list-style-type: none"> • Contribution budget • Amortization of unfunded • Funding target • Credit ratings impact • Capital for funding 	<ul style="list-style-type: none"> • Expected return • Assumption smoothing • Benefit accrual • Liability growth • Funded status

There are many aspects to implementing these various policies, including determining investment objectives, contribution budgets, funding targets and assumptions about expected returns, reflecting liability growth rates, and so on. All of these interdependent financial decisions create a confusing haze of hard-to-predict interrelated effects (see Figure 3).

The advantage of the framework is to bring additional insight around the coordination of financial policies in order to produce better outcomes.

Figure 3: Interrelated pension financial decisions



Public pension plan finance – underlying principles

There are four key underlying principles that form the foundation of the framework:

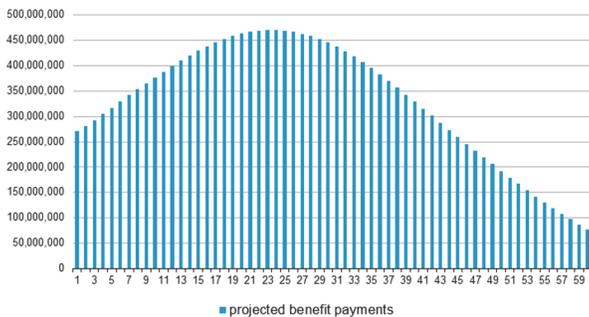
1. The benefit promise to employees has value. This value is independent of how plan assets are invested.
2. Benefit funding comes from contributions to the plan and investment earnings on plan assets. Pension plan committees and decision-makers have flexibility in balancing how to finance benefits – defining funding policy (how much capital to commit to pension funding) and investment policy (how much investment return to seek).

3. A key financing decision is to determine how much of expected future investment returns should be used as a source of financing. This is achieved through choices around setting the funding target (liability measurement policy). The difference between the funding target and the value of the benefit promise can be described as the value gap.
4. Financial management involves the coordination of all three financial policy areas: investment, funding and liability measurement.

Figure 4 illustrates principle # 1 – the benefit promise has value.

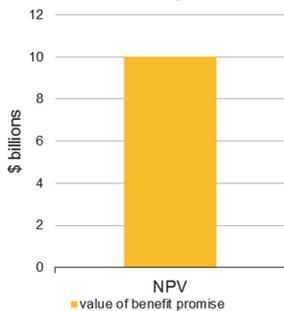
Figure 4: Principle No. 1 – the benefit promise has value

Projected benefit payments



Benefit payments for earned benefits can be estimates.

Value of benefit promise



We can determine the value (NPV) of those estimated benefits today.

This NPV is independent of how the assets are invested

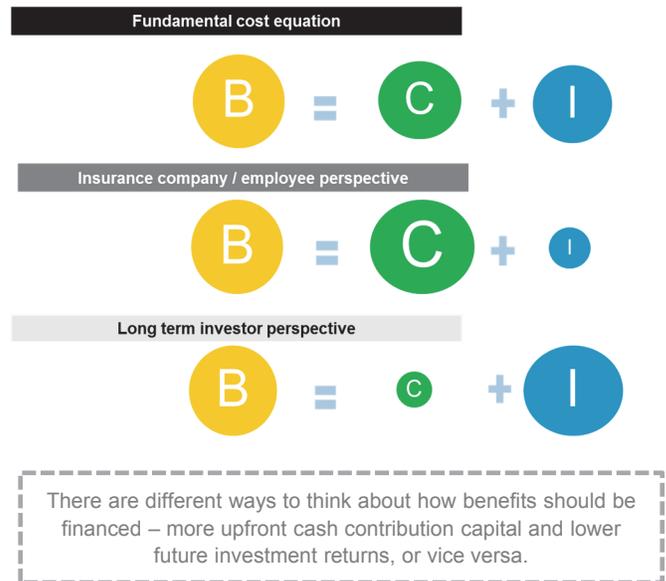


A pound of feathers weighs the same as a pound of bricks ... and a billion dollars of bonds is worth the same as a billion dollars of equities. How plan assets are invested does not affect the value of the benefit promise to employees.

Source: LGIMA. For illustrative purposes only.

As described in principle No. 2, plan funding must come from a combination of contributions to the plan and investment earnings on plan assets. Decision-makers have flexibility to balance how much should come from contributions and how much from investment earnings (see Figure 5).

Figure 5: Principle #2 – funding comes from contributions and investment earnings

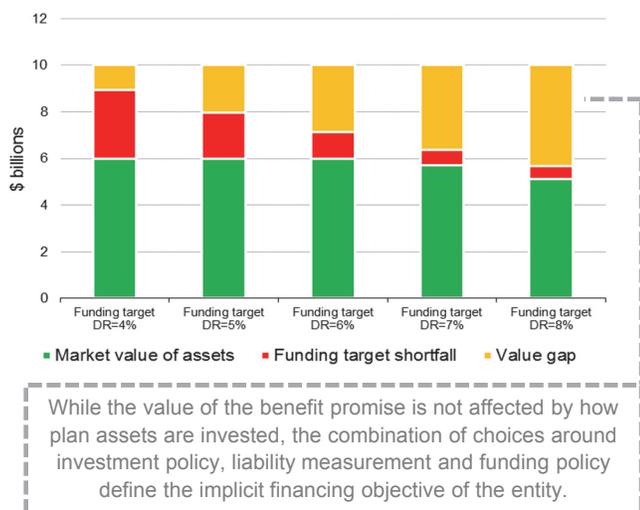


For illustrative purposes only.

Most public plans are managed in a way to focus on providing for benefits by achieving greater investment returns and therefore relying less on plan contributions (like the “long-term investor perspective” illustrated in Figure 5). This is achieved by investing assets to pursue high returns, using a high expected return assumption as the discount rate for measuring plan liabilities (resulting in a lower funding target). Many plans also choose to fund to a level that does not fully fund to the funding target (e.g., the funding policy targets 70% or 80% of the actuarial liability funding target in the near term).

These are financing decisions, as described in principle No. 3, and are made to best achieve the entity’s overall financing objectives. Plan decision-makers have flexibility regarding investment, liability measurement and funding policies managed together to achieve outcomes in line with the financing objective. Figure 6 illustrates how the financial picture for a plan might vary under various sets of policies, from low risk and low expected returns to higher risk and higher expected returns.

Figure 6: Principle #3 – financial picture under various policies

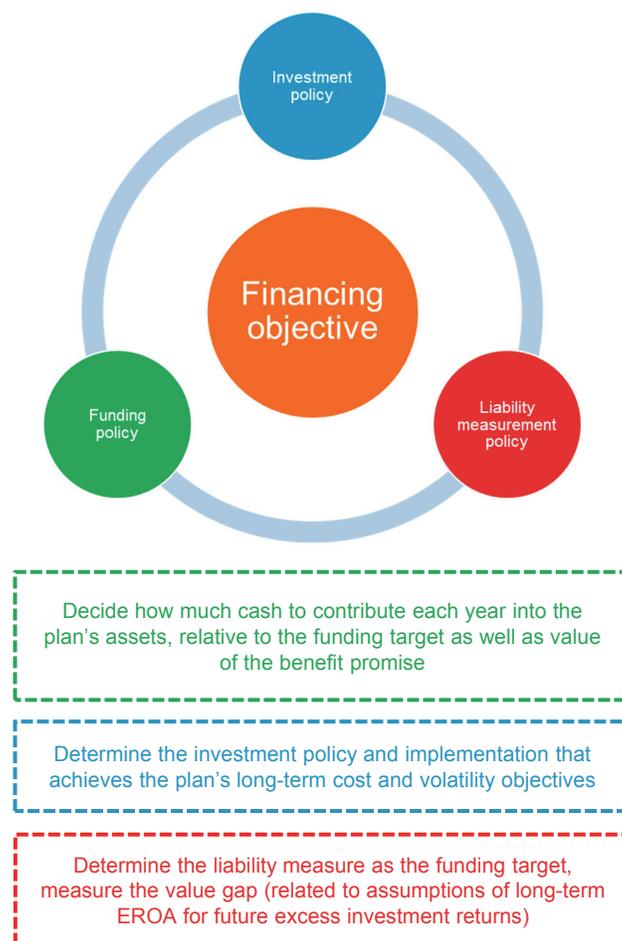


Source: LGIMA. For illustrative purposes only.

Most public plans have operated like the right three columns of Figure 6 – with an expected return discount rate (DR) of 6% to 8%, and funding to less than 100% of the funding target. There is not a right or wrong answer on where across the spectrum to be, although understanding the implications of various choices is critically important.

The final underlying principle of the framework is that financial policies need to be coordinated. Figure 7 summarizes the three key policy areas to consider.

Figure 7: Principle #4 – coordinating policies



When policies are managed in a deliberate and systematic way, including understanding market risks, the haze of unanticipated effects illustrated in Figure 3 can be avoided (or at least kept manageable).

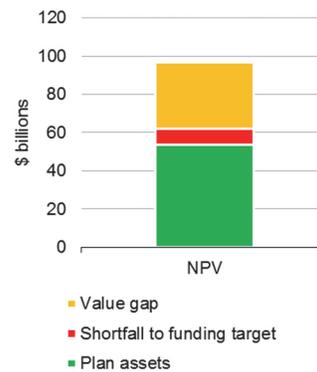
Public pension plan finance – a coordinated approach

We can apply the financial framework previously mentioned (and in our previous papers) by following a straightforward process:

1. Understand the plan's financial picture.
2. Evaluate the impact of investment policy on the overall financing objective, including whether any changes could be made to how the funding target is measured and/or how the budget for future cash contributions is set.
3. Affirm or adjust the investment and funding policy that meets the overall financing objective. Long-term asset growth should be balanced with long-term liability growth.
4. Monitor policies to ensure that they continue to be sustainable and modify and adjust policies as needed over time.

We can summarize the plan's financial picture by determining the funding target (the actuarial liability), the value of plan assets, and the value of the benefit promise (and therefore the value gap). Figure 8 shows an example that highlights some important strategic questions for discussion: Is the size of the value gap a concern and if so, what can be done? Do we want to revisit the implied financing benefit that we experience today by pursuing high expected investment returns (that we will hope to earn in the future) and therefore bearing the commensurate investment risks? Should we consider reducing the size of this value gap over time as the financial picture improves? How big is the shortfall to the funding target? Should we consider increasing the funding contributions to reduce this faster than we currently have in our budget? How much actuarial smoothing should we use in setting the funding target each year? Has our risk posture (aggressiveness or conservatism in assumptions) changed over the past year? The past five years?

Figure 8: Understanding the plan financial picture

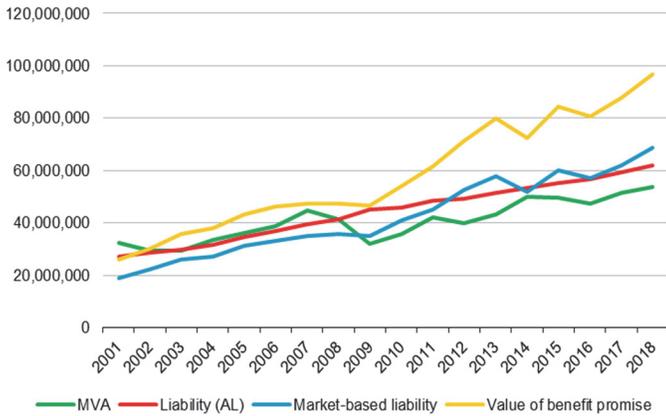


Source: LGIMA. For illustrative purposes only.

It can also be interesting to understand how the plan financial picture has evolved over time. Figure 9 shows the value of the benefit promise, the funding target or actuarial liability (AL) and the market value of plan assets (MVA) from 2001 through 2018 for a sample plan. We have also included a hypothetical market-based liability measurement that illustrates how the actuarial liability would have varied if the expected return assumption was derived from basic principles each year (expected return = market interest rate + investment risk premium – see the blue line in Figure 9). We have recommended monitoring this measure on an ongoing basis in order to best understand the plan's risk exposure.²

One of the key observations from the past several years is to notice how the hypothetical market-based liability measurement has grown faster than the AL. This is caused by the changing tide of lower interest rates over the past several years which underpin all future investment returns, as we have discussed in earlier papers. A key question for every plan is how to measure and manage this investment risk going forward.

Figure 9: Historical perspective on key measures



Measuring and tracking all four components of the plan financial picture depicted in Figures 8 and 9 gives decision-makers valuable information regarding market risks and how plan financial policy choices relate to the underlying economics of the plan.

Source: LGIMA, the Public Plans Data website.⁴ For illustrative purposes only.

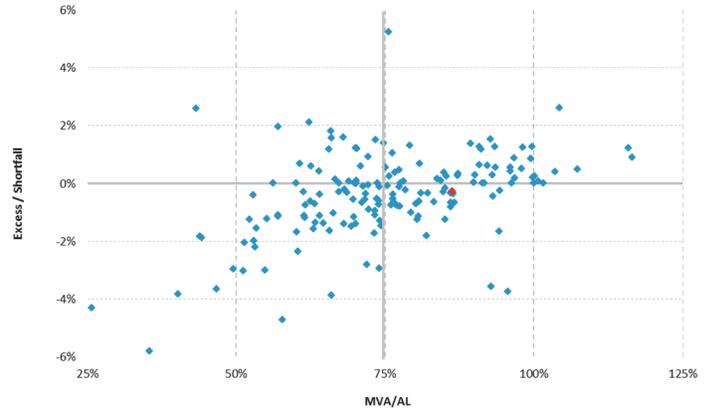
Once we have a solid understanding of the overall financial picture for the plan, we can determine the liability growth rate and the plan’s pension hurdle rate,⁵ and see whether current policies are working together to successfully achieve objectives.

For example, for this sample plan:

- The expected return assumption (used as the discount rate) is 7.3%.
- The benefit accrual growth rate is 1.1% of plan liabilities, resulting in a liability growth rate of 8.4%.
- The plan is 87% funded, so the pension hurdle rate is 9.7% (8.4% / 87%).
- Plan contributions are 2.2% of assets, so the policy asset growth rate⁶ is 9.5% (7.3% + 2.2%), which is close to meeting the hurdle rate of 9.7% (see Figure 10).

4. The Public Plans Data website 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.
 5. Government Accounting Standards Board (GASB) Statements 67 and 68, 2012.
 6. For the estimated asset growth, we used the plan expected return discount rate for 2018 plus actual plan contributions for 2018 expressed as a percentage of plan assets.

Figure 10: Policy assessment map – sustainability of current policies



Source: LGIMA, the Public Plans Data website.⁴ For illustrative purposes only.

Figure 10 compares plan asset growth rates (expected investment returns plus contributions) to the pension hurdle rate. If there is an excess, the plan is in an improving financial state. If there is a shortfall, financial status is slipping. Plan decision-makers should be aware of where they are on the policy assessment map. For policies to be sustainable, the excess or shortfall must be close to zero (or above). The sample plan described above and depicted by the red diamond in Figure 10 appears to be operating with a sustainable combination of financial policies. This plan is in a better position than many other plans. Key decision-makers could look to adjust investment policy to increase expected earnings, or seek to increase contributions in order to increase the asset growth rate to exceed the pension hurdle rate. Or they could take a wait-and-see approach and continue to monitor experience over time. The key first step is to be aware of whether current policies are sustainable and highlight where policy changes can improve financial outcomes.

Differently positioned plans on the policy assessment map might have different approaches to managing financial policies over time. For example:

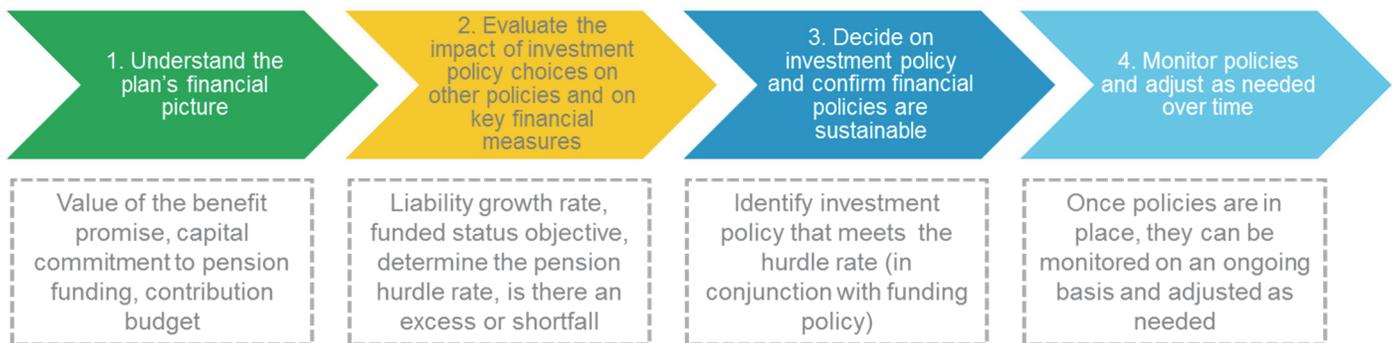
1. Plans operating with asset growth above the pension hurdle rate (the upper half of Figure 10) are expected to experience improving funded status over time. As funded status improves, these plans may be able to reduce contributions or reduce risk and still maintain a sustainable balance.
2. Those in the lower right-hand quadrant (asset growth below the hurdle rate and above-average funded status) may be content to let funded status settle back before working to increase asset growth. If decision-makers want to bring growth back into balance, they must decide whether the best approach is to increase contributions, pursue higher returns or try some combination of the two.
3. For those in the lower left-hand quadrant, there is usually a need to increase funding (either by increasing member or employer contributions). Some may even look to curb liability growth by reducing future benefit accruals. Enhanced investment returns can help, but are unlikely to be sufficient without other changes as well.

Regardless of the approach taken to improve and/or manage the financial picture over time, applying a straightforward approach to coordinating financial policies makes sense. We have summarized this approach in Figure 11.

Pension financial management of public funds can clearly be challenging. Fortunately, there are straightforward ways of measuring the underlying economics of plans, monitoring risks and financial policies, and identifying opportunities to achieve better outcomes. The framework presented in this paper offers one approach to supplementing the financial management process for public pension plans.

In future papers we will expand on investment ideas and strategies that can contribute to improved outcomes. These include fixed-income and liquidity management solutions, index and multi-asset solutions that enhance diversification and reduce risk, and evolving ESG⁷ approaches and strategies.

Figure 11: Pension financial management



7. ESG stands for environmental, social and governance.

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