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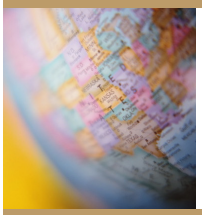

CENTER for RETIREMENT RESEARCH at BOSTON COLLEGE

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INVESTMENT UPDATE: HOW DO PUBLIC PLANS VALUE THEIR ASSETS?

*By Jean-Pierre Aubry and Kevin Wandrei**

Introduction

Public pension funding is the product of two key factors: required contributions and investment returns. Since higher returns reduce the burden of contributions (on plan sponsors, participants and, ultimately, taxpayers), achieving adequate returns is critical to funding future benefits. This *brief* provides an update on the investment performance of U.S. public pension plans since 2001 and introduces new Governmental Accounting Standards Board reporting on the fair value methods of pension plan assets.[1]

Update on Public Plan Returns

Public plans, in aggregate, fell short of their assumed return in fiscal year 2018 (the most recent reported annual data), with an average return of 6.2 percent compared to an average assumed return of 7.2 percent. But, based on the performance of broad stock indices from 2018 to 2019, public plan investment returns are likely to slightly exceed assumed returns in 2019 (see Figure 1 on the next page).[2] Because annual returns since 2001 have been above the assumed return about as often as they have been below, one might think that returns have met expectations on average. However, the year-by-year performance does not provide an accurate picture of plans' long-term performance relative to expectations.

Since 2001, plans have incrementally reduced their assumed return from 8.0 percent to 7.2 percent.[3] But, the average annualized return for public plans from 2001-2018 has been only 5.9 percent.[4] Virtually all plans underperformed their assumed return over

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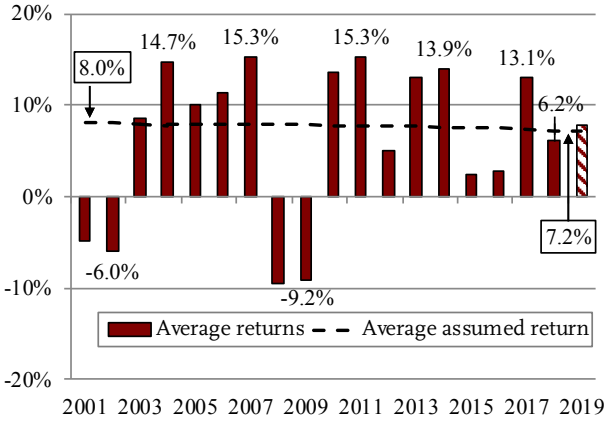
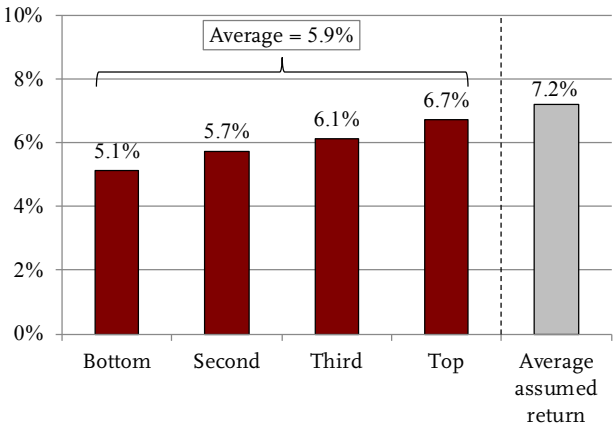
Figure 1. Average Net-of-Fee Investment Returns by Year, PPD Plans, FY 2001-2019



Note: See endnote 2 for information on 2018 and 2019 values.
Sources: Public Plans Database (PPD) (2001-2018); and authors' calculations.

the period, but some fared much worse than others. Plans in the top quartile of investment returns earned 6.7 percent on average compared to 5.1 percent for plans in the bottom quartile (see Figure 2).

Figure 2. Average Annualized Net-of-Fee Investment Returns, FY 2001-2018, by Quartile



Note: The average assumed returns in 2018 are very similar for each quartile.
Source: PPD (2001-2018).

Initially, as long-term investors, public plans could refer to long-term market performance to support assumed returns that seemed high relative to recent performance and a shifting outlook for capital markets.[5] However, as the period of plan underperformance nears 20 years, pressure has increased for plans to use assumed returns that better align with the lower expectations for future market performance.[6]

New GASB Reporting Requirements for Public Pension Investments

Starting in 2017, the Governmental Accounting Standards Board (GASB) has required public plans to disclose how the value of their investments is determined. The new standard – GASB 72 – uses the same basic framework as the Financial Accounting Standards Board (FASB), which provides guidance for private sector accounting. FASB's standard – FASB 157 – was introduced in 2006 (and fully implemented by 2008) in response to the Enron scandal of the early 2000s. FASB 157 hoped to both standardize fair value methodologies to focus on exit price (i.e., the value one would receive if an asset were sold immediately) and to increase transparency regarding how assets are valued.

Both FASB and GASB use the same fair value hierarchy for disclosure purposes:

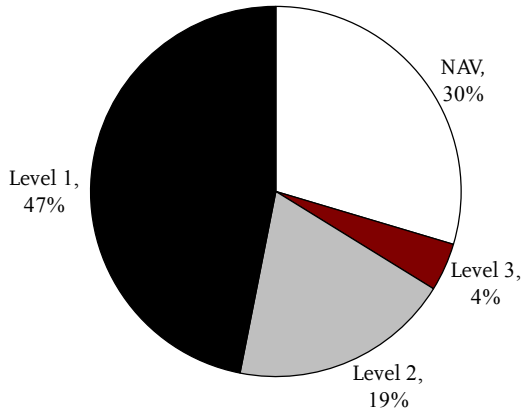
- *Level 1:* Assets with an immediately known, and quoted, market value of redemption (e.g., stocks and Treasury securities).
- *Level 2:* Assets without known quoted prices, where fair value is modelled using observed, direct or indirect, market values (e.g., corporate and municipal bonds).
- *Level 3:* Assets where fair value is determined using unobservable assumptions (e.g., real estate appraisals).

Assets for which a fair value cannot be readily determined by the plan sponsor are treated separately. While these assets could potentially be assigned to Levels 1, 2, or 3, the way in which they are packaged

often makes it difficult to do so. For example, such assets include external trusts or pools of which the pension fund owns a portion (e.g., private equity funds.) For these assets, the pension plan is allowed to use the net asset value (NAV) per share to determine the fair value. While GASB 72 requires plans to report the percentage of their assets in the NAV category, it does not require them to disclose a fair value hierarchy for these assets.

Based on newly disclosed information for 2017, just under half of public plan assets are valued at Level 1, about a fifth are valued at Level 2, only a fraction at Level 3, and nearly a third at NAV (see Figure 3).[7]

Figure 3. Share of Public Pension Assets by Fair Value Hierarchy, FY 2017

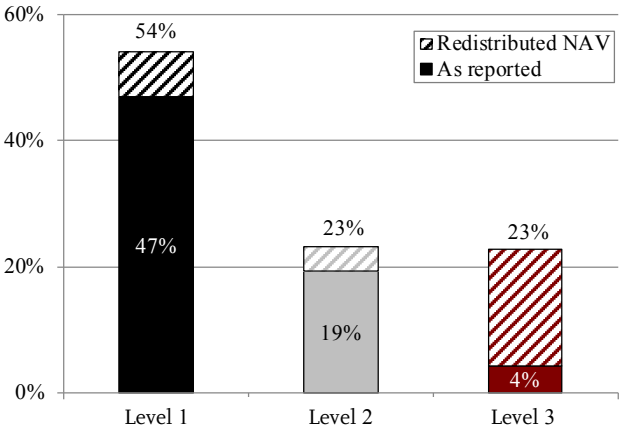


Sources: PPD (2017); and authors' calculations.

The range of asset classes that plans categorize as NAV cuts across the fair value hierarchy. Surprisingly, some plans report mutual funds with public equities as NAV, even though these funds are generally Level 1 because the values of the equity they hold are publicly reported. However, two thirds of assets categorized as NAV are alternatives such as private equity (generally Level 3).[8]

Redistributing NAV assets based on the fair value hierarchy of the underlying asset classes results in nearly a quarter of plan assets valued at Level 3 (i.e., appraisals) – a much higher proportion than the 4 percent that is directly reported under GASB 72 (see Figure 4).[9] Since valuation of Level 3 assets is the most subjective of the three levels, this finding suggests that the reported values for a significant portion of plan assets could vary more from the value that plans would receive if they were to liquidate their holdings.

Figure 4. Share of Public Pension Assets after Redistributing NAV, by Fair Value Hierarchy, FY 2017



Sources: PPD (2017); and authors' calculations.

Conclusion

Average investment returns fell short of assumed returns in fiscal year 2018. More troubling is the fact that annualized returns from 2001-2018 also fell short of current assumed returns for even the best performing plans. Even though plans have incrementally reduced their return expectations since 2001, the pressure to reduce the assumed returns further will likely intensify as the period of underperformance grows longer.

Additionally, fair value asset data from new GASB disclosures show that – after properly accounting for NAV assets – nearly a quarter of public plan assets are likely valued based on appraisals. The new standards are an important step towards greater investment transparency, but they could be improved with clearer disclosure of NAV assets. Such information would allow the public to better understand what portion of plans' reported assets are based on estimates that, by necessity, are more subjective.

Endnotes

1 The analysis in this *brief* is based on the *Public Plans Database* (PPD), which consists of 190 major pension plans (114 state and 76 local) that represent over 95 percent of total U.S. state and local pension assets and membership. The PPD contains actuarial, financial, investment, and member data for each plan from 2001-2018.

2 As of the release of this publication, not all plans with a December 31 fiscal-year end date (about 25 percent of PPD plans) had reported 2018 returns. Based on the Wilshire 5000 return of -5.30 percent from December 2017 to December 2018, and a historical 0.75 beta for public plans' overall portfolio returns, the analysis assumes these plans earned an average return of about -3.98 percent in 2018. For 2019, the analysis uses the same 0.75 beta against the Wilshire 5000, for an estimated June return of 6.3 percent and an estimated December return (to date) of 13.2 percent.

3 The decline in the assumed return has been mostly due to lower inflation and low interest rates. To offset the reduction in the assumed return that would be required if plans were to stay in only traditional stocks and bonds, they have shifted away from fixed income and into riskier asset classes. In fact, since 2001, most plans have actually increased their *real* return assumption (that is, the return net of inflation). For an analysis of these trends, see Aubry, Munnell, and Wandrei (2019).

4 Based on the PPD, the annualized net-of-fee return for the prior 10- and 15-year periods were 7.0 percent and 7.4 percent respectively (using the same method as described in Footnote 2 to impute 2018 values for plans reporting in December). Based on the U.S. Census Bureau, the annualized net-of-fee return over the prior 30-year period was 8.6 percent.

5 One reason that plans' assumed returns may deviate from recent performance or a shifting market outlook is that actuaries and plans are slow to move the long-term assumed return in any direction. A current example of this pattern is CalPERS. The plan has acknowledged a lower return expectation than it currently uses, but has chosen to implement a glide path toward that lower expectation over several years.

6 Aubry and Crawford (2019) find that – given their asset allocation – the assumed returns of public sector plans are on the optimistic end of the assumptions of investment experts.

7 To provide some context, the fair value hierarchy for public plans was compared to that of the 10 largest private sector pension plans in the Form 5500. Given that private plans are more heavily invested in fixed income than public plans, it is not surprising that the 10 largest private sector plans categorize a greater share of their assets as Level 2 (bonds) and a much smaller share as Level 1 (equities). Interestingly, the proportion of assets classified as Level 3 and as NAV were similar for public plans and the 10 largest private plans.

8 The 10 largest private sector pension plans in the Form 5500 also reported nearly two-thirds of NAV assets as alternative investments.

9 The analysis of public plans distributes the various asset types in NAV to Levels 1, 2, and 3 according to how the asset type is distributed outside of NAV. For example, let's assume that 90 percent of the (non-NAV) private equity assets held by public pensions are categorized as Level 3 and the remaining 10 percent are categorized as Level 2. Then, for each plan, we would use these categorizations in determining where to put the corresponding NAV assets. A similar analysis of the 10 largest private sector pension plans in the Form 5500 resulted in 35 percent of assets classified as Level 1, 46 percent as Level 2, and 19 percent as Level 3.

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