Article from

The Pension Forum

January 2017
Volume 21

Comments on

"Report on Communicating the Financial Health of Public Pension Plans"

By Daniel Moore

George (Sandy) Mackenzie's paper takes on the important topic of how to best communicate the financial health of public pension plans. The paper presents actual data from two public pension plans, with the names changed to Adams and Jackson, for anonymity. For each plan, the paper presents:

- Information in a dashboard format—a four-page set of standardized charts that facilitates comparison between plans
- Seven pages of written commentary describing basic facts about the plan's structure and history, plus investments, contributions and funded position. Although this section covers topics common to many pension plans, it is not in a standardized layout.

The challenges of communicating the financial health of public pension plans are several:

- The information is technical, and there are two sources of disclosures available—namely, the funding disclosures found in the plan's actuarial valuation report and new accounting disclosures under Governmental Accounting Standards Board Statements No. 67 and 68 (GASB 67 and 68) (covering the plan audit report and the sponsor audit report, respectively).
- Effective communication to a broad audience of stakeholders must strike a balance of providing meaningful information without overwhelming the readers.
- Ideally, the proposed report format could be used either to gather relevant information about a single pension plan or to assess where a pension plan ranks in comparison with other plans.

Possible ways to achieve a somewhat standardized approach to communicating the health of public pension plans include:

- The promulgation of a voluntary standard or exemplar format as a best practice, with the hope that the format, or an evolution of it, will become universally accepted
- Essentially mandatory compliance, as with GASB 67. Even then, there may be variations in how the information is disclosed.
- An independent party taking on the job of compiling the information for various plans in a standard or exemplar format

All of these approaches are compatible with Mackenzie's proposed report format, starting a discussion as to the best way to present information relevant to the health of public pension plans.

The remainder of this review presents an outline of the proposed dashboard layout and a set of suggested tweaks.

Proposed Dashboard Layout

The Adams and Jackson dashboards are four-page sets of charts showing:

- Demographic indicators—e.g., counts, ages, payroll and benefit rolls
- Investment allocation and policy
- Investment returns—one year, 10 years and benchmark return
- Funding indicators, including actuarial value of assets (AVA), market value of assets (MVA), actuarial accrued liability (AAL), unfunded actuarial accrued liability (UAAL), GASB 67 total pension liability (TPL), employee and sponsor contributions, and actuarially required contributions (ARC)
- Funding ratios
- Plan maturity indicators—mature plans have a lower ratio of active members to retired members
- Plan sensitivity indicators, including the effect of increasing or decreasing the discount rate
- Sponsor indicators, including sponsor contributions and ARC as a percentage of total budget expenditures
- Percentage of members covered by OASDI (Social Security)
- Actuarial methods and assumptions, including the discount rate, mortality assumption, salary increase assumption and inflation
- Benefits, including normal and early retirement eligibility, final average salary, replacement rate with 30 years of service, vesting requirement and cost-of-living adjustment (COLA)

GASB 67 Disclosures

GASB 67 disclosures have now arrived for fiscal year-ends of June 30, 2014, and later. A list of key disclosure items (some of them new) is found in GASB 67, paragraphs 30 and 31. Some new GASB 67 terminology is explained in the following table:

GASB 67 TERM	SIMILAR TO TRADITIONAL FUNDING TERM	DIFFERENCES
Total pension liability (TPL)	Actuarial accrued liability (AAL)	• TPL may use a blended discount rate. • TPL includes the present value of substantively automatic COLAs and other payments.
Net pension liability (NPL)	Unfunded actuarial accrued liability (UAAL)	NPL equals TPL minus fiduciary net position, while UAAL equals AAL minus actuarial value of assets (AVA).
Fiduciary net position	Market value of assets (MVA)	None

GASB 67 liability and funded status calculations differ from traditional funding indicators shown in the proposed dashboard:

- For plans that are projected to run out of assets due to an inadequate contribution arrangement, the GASB 67 discount rate is a blend of the traditional expected return on plan assets and a high-quality municipal borrowing rate.
- Some COLAs and supplemental payments (aka 13th checks) that are considered ad hoc for funding purposes may be considered substantively automatic for GASB 67; in this case, the expected value of future payments is included in the TPL, but not in the AAL.

The GASB 67 disclosures relating to how the liabilities are measured are a logical addition to the dashboard because their intended purpose is to provide a truer picture of those liabilities:

- For a plan that must use a blended discount rate, a relevant disclosure item for the dashboard is the projected fund exhaustion date—i.e., the date the pension plan is projected to run out of assets.
- GASB 67, paragraph 30a(5), (to be disclosed in the plan audit report) is a potential source of information about automatic and ad hoc COLAs and supplemental payments that may not be found in the actuarial valuation report.
- Another new GASB 67 disclosure that should be added to the dashboard is the total deferred retirement option program (DROP) balance; for plans that have this option, this balance is reflected in the AAL and the UAAL, but it is not broken out and it is not reflected elsewhere on the dashboard. Like DROPs, BackDROPs are hypothetical accounts in which eligible members are vested. However, in a BackDROP, a mix of monthly pension and hypothetical account balance is elected from an array of such mixes upon retirement. For completeness and consistency, total BackDROP balances should include the estimated accounts which would have been elected if all eligible active members had retired on the valuation date.

Actuarial Assumptions and Methods

Certain assumptions used in valuing pension plans are vitally important because of the extreme sensitivity of the valuation of the liabilities to those assumptions. This sensitivity is due to the long-term nature of the benefits, which will be paid out over many decades. Also, it is important to understand precisely how the valuation methodology is (or is not) being used. The following issues relate to actuarial assumptions and methods as well as other parts of the proposed dashboard.

Discount rate: A spectrum of approaches is in use for valuing pension liabilities, with the public plan practice (i.e., using the expected return on plan assets) at the high end of the spectrum. Therefore, a sensitivity measure is needed—for example, the effects on the AAL if the discount rate is 1 percent higher or 1 percent lower than the discount rate being used. This sensitivity measure is provided in the proposed dashboard and also in the GASB 67 disclosures with respect to the GASB 67 discount rate.

Mortality tables: U.S. private sector pensioner mortality improvement is well-documented over the last half-century. The SOA Retirement Plans Experience Committee is currently conducting a public pension plan mortality study. Updating the mortality assumption can increase the AAL by several percentage points or more. Thus, identifying the mortality assumption is critical. However, simply naming the mortality table used is likely to not be meaningful to many users of the dashboard. Mortality expert Christopher Bone recommends that the mortality assumption be illustrated with the life expectancy at ages 40 and 65, for both male and female. Mortality assumptions can be either static or generational. In essence, a generational mortality table associates a static mortality table with each birth year, with the mortality gradually improving with each increasing birth year. If a generational mortality assumption is used, both current life expectancy and life expectancy 25 years hence can be shown.

Assumed constant future asset return: A key aspect of the traditional approach to valuing public pension plans is better termed a methodology, but it takes the form of an assumption: namely, using a discount rate that is the expected return on plan assets (assumed to remain constant). One aspect of this methodology is that it cannot be used to accurately measure the value of certain common public pension plan provisions, such as an interest guarantee on a hypothetical account (e.g., a DROP account), or gain-sharing provisions that increase benefits based on favorable experience (such as a high rate of return for a year) but do not decrease benefits for unfavorable experience. The result under the traditional approach is often that such difficult-to-value provisions are assigned a lower liability value than would be obtained using, for example, stochastic modeling. Actuarial Standard of Practice (ASOP) 4, Section 3.5.3, states that an actuary should consider using alternative valuation procedures (such as stochastic modeling) for difficult-to-measure plan provisions, but it does not require their use. Thus, a possible dashboard item (in the benefits section) is a yes/no question on whether the plan has gain-sharing or interest guarantee provisions that are not valued using alternative valuation procedures, as

described in ASOP 4, Section 3.5.3. A yes answer to this question is a qualitative indication that the AAL and UAAL may be understated (but not by how much).

Actuarially required contribution (ARC) and amortization method: The ARC should probably be footnoted to explain that it is similar or identical to the GASB 27 ARC (annual required contribution), which will soon no longer be a required disclosure. Despite the name, the actuarially required contribution (ARC) is not absolutely required, but it is the sponsor contribution necessary to meet a certain amortization period (after taking employee contributions into account and assuming that both sponsor and employee contributions will remain a level percentage of payroll in the future). The amortization method for both the Adams and Jackson pension plans is given as "Level percentage; 30-year open." Here, the amortization method is referring to the calculation of the annual required contribution (ARC) and not to the actual amortization of the UAAL via sponsor and employee contributions. Because the term "amortization method" is referring to the ARC contribution benchmark, and not to the contribution itself, it would be better called "ARC amortization method" and included in the funding indicators section with the actuarially required contribution (ARC).

Automatic vs. ad hoc COLAs: Ad hoc COLAs require pension board action to be paid, while automatic COLAs are defined in the plan and do not require board action. The distinction for financial health purposes is that the present value of future automatic COLAs is included in the AAL (for both retirees and active employees), whereas, even though future ad hoc COLAs may be paid, their present value is not included in the AAL. The term "ad hoc" and the exclusion of the present value of future COLAs from the AAL often is applied to COLAs defined by a formula that reflects gain sharing, for which routine board approval is made in accordance with the formula. As discussed earlier, under GASB 67 and 68, ad hoc COLAs that are deemed to be substantively automatic must have their frequency and amount of payment estimated, and the present value of such COLAs must be included in the plan's TPL. GASB does not define "substantively automatic"; this determination must rely on the professional judgment of either the plan actuary or the plan auditor.

Other Comments

The proposed demographic, investment, funding and sponsor indicators include a history shown at five-year intervals, presumably intended to provide a sense of a long history without a large number of columns. However, as illustrated by the contribution history on the Jackson dashboard, there is sometimes a great deal of year-over-year variation, so that information by five-year intervals may not be a reliable representation. For example, a plan sponsor may have issued a pension obligation bond and made a large pension contribution that year. It may be more informative to show the most recent five-year history and include graphs for longer historical series.

A final recommended addition to the dashboard investment allocation section is the disclosure of the beta of the pension asset portfolio. Beta is a well-understood scalar statistic measuring the riskiness of a portfolio—the higher the beta, the riskier the portfolio. Thus, it adds comparative information on asset risk represented by a single number. Also, as fiduciaries, the pension board should have this information available so it would not place a burden upon the plan.

Daniel Moore, FSA, EA, MAAA, MSPA, is an actuary with Pension Benefit Guaranty Corp. in Washington, D.C.