

Addendum to Report on *Communicating the Financial Health of Public Pension Plans* by George (Sandy) Mackenzie

Glossary of Terms

The list of terms that follows is taken almost entirely from the set of indicators in the dashboards that were prepared for the report titled *Communicating the Financial Health of Public Pension Plans*. The list includes some terms that are unique to pension plans, as well as a few with a more general application that might not be familiar to all readers of the reports. This glossary has been prepared by members of the SOA's Social Insurance and Public Finance section to supplement the report and as an aid to readers.¹

Definitions

Actuarial accrued liabilities (AAL)

The portion of the actuarial present value of future benefits attributed to prior service by the chosen actuarial cost method.

Actuarial asset valuation method

An asset valuation method designed to recognize investment gains and losses over a given period of time rather than immediately, in order to dampen the volatility that those gains and losses could have on the Actuarial Value of Assets, and therefore on the determination of the recommended funding level. Also known as an "asset smoothing method."

Actuarial valuation of assets (AVA) – also Actuarial Value of Assets

The value of assets used to determine the recommended funding level. The AVA may be the true market value or an adjusted market value, designed to smooth the volatility that the true market value could impose on funding levels in the event of unexpected investment gains and losses.

Actuarially Determined Contribution (ADC)

As defined by Government Accounting Standard (GASB) No. 67: A target or recommended contribution to a defined benefit pension plan for the reporting period, determined in conformity with Actuarial Standards of Practice based on the most recent measurement available when the contribution for the reporting period was adopted. This term, together with

¹ The definitions provided have been prepared by members of the Social Insurance and Public Finance section. They do not constitute an official position or opinion of the Society of Actuaries or its members. The Society of Actuaries makes no representation or warranty to the accuracy of the information.

Contractually Required Contributions, replaced Annual Required Contribution (ARC) as defined by GASB No. 25.

Alternative investment

Investments other than the traditional asset classes of stocks, bonds and cash; for example, hedge funds, private equities, commodities, or derivatives. Note that views differ on which asset classes constitute “alternative” investments.

Amortization method

The method used to amortize the UAAL in the development of the ARC or the annual contribution rate. Typically level dollar or level percent of payroll over a fixed number of years (may not exceed 30 years for the ARC under GASB accounting standards).

Annual Required Contribution (ARC)

As defined by Government Accounting Standard (GASB) No. 25, this is the sum of the Normal Cost and the chosen amortization of the UAAL, adjusted with interest to the end of the reporting year. Note that the newer GASB No. 67 does not use this term, instead using Actuarially Determined Contribution (ADC).

ARC deficiency

The excess of the ARC over the actual employer contribution.

Asset allocation

The percentage of invested assets allocated to different investment classes; for example, equities, fixed income, cash equivalents, real estate, etc.

Assets at market valuation (MVA) - also Market Value of Assets

The value of plan assets at true market value as of a given date; the price at which the assets would be traded by a willing buyer and seller.

Average final salary

The measure of average salary specified by the plan document that is used to compute the accrued benefit. For example, highest three or five year period prior to retirement.

Benchmark rate of return

An external standard of investment performance used to compare against a plan’s actual investment performance. Based on a feasible alternative to a plan’s established asset allocation,

typically it uses recognized and published investment options (for example, the Standard and Poor's 500 stock index and bond indices).

Cost of Living Adjustment (COLA)

A recurring or ad hoc increase to a member's retirement income intended to preserve purchasing power to the retired member. Often based upon a cost of living or purchasing index, for example, the Consumer Price Index. COLAs may be a percentage of the index and are often capped; for example, 50% of CPI but not greater than 2%.

Discount rate

The reduction to the value of a future benefit payment to reflect the time value of money, expressed as an annualized percentage. There are two differing rationales for the development of the discount rate: expected rate of return and market-based. The former is derived as the expected investment return on the assets available to pay benefits, and typically is determined based on the expected distribution of those assets by investment class. This approach is typically used for determining contribution rates, but may also be used to disclose the plan's accrued liabilities. The latter is usually based on a yield curve of observable rates derived from fixed-income securities (typically bonds) available in the capital markets that have similar risk and payment characteristics to the future pension payments. For public pension plans, this is typically used not to determine contributions, but may be used to disclose the plan's accrued liabilities.²

Duration of MVABO at market assumptions

The average period of time, measured from the valuation date to the benefit payment date, for all accrued benefits expected to be paid, weighted by the market assumption present value factors.³

Duration of total liabilities at funding assumptions

The average period of time, measured from the valuation date to the benefit payment date, for all plan benefits expected to be paid, weighted by the funding assumption present value factors.³

Entry age actuarial accrued liability

The AAL determined by the Entry Age Cost Method. Equals the present value of future benefits less the present value of future entry age normal costs.

² See "Measuring Pension Obligations" issue brief from the American Academy of Actuaries for additional perspective on these differences: http://www.actuary.org/files/IB_Measuring-Pension-Obligations_Nov-21-2013.pdf

³ Duration is also a measure of the sensitivity of the liability measure to changes in the interest rate (or discount rate). The greater the duration of a liability, the greater the change in the liability for a given change in the underlying interest or discount rate.

Entry age normal (EAN) cost method – also Entry Age Cost Method

An actuarial cost method under which the actuarial present value of future benefits and expenses of each individual included in the valuation is allocated on a level basis over the earnings or service of the individual between entry age (the date of hire or the date of plan entry) and the assumed exit or retirement age(s).

Funding ratio

The value of assets divided by the AAL, under various measures of both (see illustrative dashboards).

GASB 67 actuarial accrued liability

The AAL determined by the Entry Age Cost Method.

Market value of accumulated benefit obligation (MVABO)

The present value of accrued benefits on the measurement date, determined using a market-related discount rate.

Market value of benefits earned during the year

The portion of the MVABO attributable to benefits accrued during the measurement period.

Mortality assumptions

Estimated or projected rates of death among plan participants, usually differentiated by gender and attained age, sometimes by employment class (e.g., blue collar or white collar), and sometimes with an expectation of improvement (i.e., a reduction in the rate of death) between the experience period and the expected date of benefit payment.

Normal cost

The portion of the actuarial present value of future benefits and expenses allocated to the current valuation year by the chosen applicable cost method.

Replacement rate – also Replacement ratio

The retirement income under the plan's benefit formula, expressed as a percentage of some measure of the member's pre-retirement earnings.

Service requirements (for normal and early retirement eligibility)

The minimum number of years of service with the employer and/or the retirement system required to be eligible for retirement benefits. Sometimes called "eligibility service."

Unfunded AAL (UAAL)

The portion of the AAL (measured in dollars) not covered by the plan assets, usually based on a comparison with the AVA.

Vesting requirement

The plan provision that indicates the percentage of the member's accrued benefit that is non-forfeitable in the event of employment termination prior to the earliest retirement eligibility. For example, 0% for less than three years of service and 100% thereafter. The vested benefit is typically payable at the plan's normal retirement age, usually without any subsidy that might be available to members who work until the earliest retirement eligibility date.