

PERiSCOPE

Public Employee Retirement Systems

New accounting rules for public pension plans in the United States are set to take effect beginning in 2014. Successful implementation of the new rules will require an understanding of a variety of technical concepts regarding the various newly required calculations. In this multi-part PERiScope series, we explore these technical topics in detail. See sidebar for more information on upcoming technical articles in this series.

GASB 67/68: Calculation specifics on individual entry age normal and recognition of deferred inflows/outflows

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This *PERiScope* article in the Governmental Accounting Standards Board (GASB) Statements No. 67 and 68 miniseries discusses the *individual entry age* (IEA) actuarial cost method. The IEA cost method is specifically identified in the new standards as the only appropriate method for determining a plan's *total pension liability* (TPL), which is the portion of the present value of benefits attributable to past service. This article will also discuss the calculation of the amortization period to be utilized in recognizing gains or losses that are due to demographic experience or actuarial assumption changes in the annual expense under GASB 68.

Actuarial cost methods

The value in today's dollars for all plan benefits incorporating service and pay increases through a member's assumed exit age(s) is called the *present value of benefits* (PVB). Ideally, when a member retires, funds equal to the PVB have already been set aside to pay for his or her retirement benefits. Actuaries use actuarial cost methods to allocate the PVB to various time periods during the member's working lifetime. This provides plan sponsors with a cost accrual pattern that allows benefits to be funded in an even and orderly fashion while they are being earned.

The portion of the PVB allocated to service accrued as of the valuation date has traditionally been termed the *actuarial accrued liability* (AAL) and is now labeled "total pension liability" (TPL) under GASB 67/68. The amount allocated to the current year is traditionally called the normal cost, now termed "service cost" under the new standards. Note that some actuarial cost methods, such as the aggregate cost method, do not calculate an explicit AAL, and simply allocate the unfunded PVB over the future remaining service lives of the current active population. The chart in Figure 1 illustrates the distribution of PVB under the individual entry age cost method for a hypothetical pension plan.

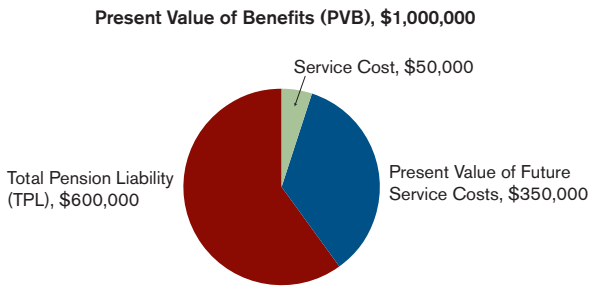
Did you know? Milliman's GASB 67/68 Task Force is releasing a miniseries on technical and implementation issues surrounding GASB 67 and 68. Each article will be released through PERiScope. Several articles have been published, with more articles to be published shortly. Look for the following articles in coming months:

- Substantively automatic plan provisions
- Balance sheet items and projections from valuation dates to measurement dates
- Calculation of pension expense
- Proportionate share calculations
- Special funding situations

Additionally, a Frequently Asked Questions document will be maintained, with links to relevant miniseries articles as they become available.

Visit www.milliman.com/GASB6768 for all the latest resources on the new statements.

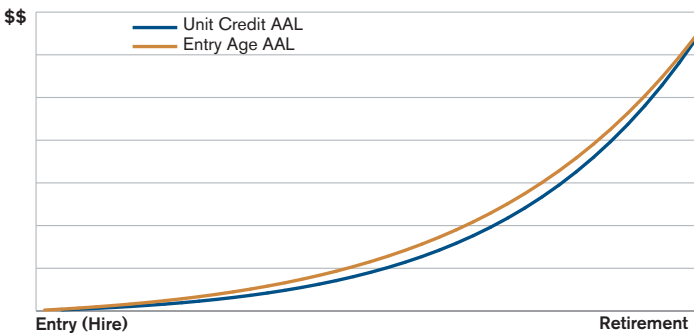
FIGURE 1: ALLOCATION USING INDIVIDUAL ENTRY AGE



For funding purposes, the two most common actuarial cost methods are *entry age* and *unit credit*. Entry age allocates the PVB of a member over the working lifetime of that member, from his or her “entry age,” or date of membership, through his or her assumed exit age(s). This allocation can be determined as either a level dollar amount or as a level percentage of pay, depending on whether the benefit is pay-related. There are also entry age variations related to how plan changes are reflected in the allocation process, and to whether allocation calculations are performed on an individual member basis or whether they are aggregated across groups of members. Limits on pensionable compensation could also impact how the entry age cost method is employed from a funding perspective. These variations may not comply with the specific *individual entry age* (IEA) variation specified in GASB 67/68. Unit credit allocates the PVB of a member based on benefits accrued as of the valuation date. If the benefit is pay-related, this allocation would reflect the impact of future pay increases and is referred to as *projected unit credit*.

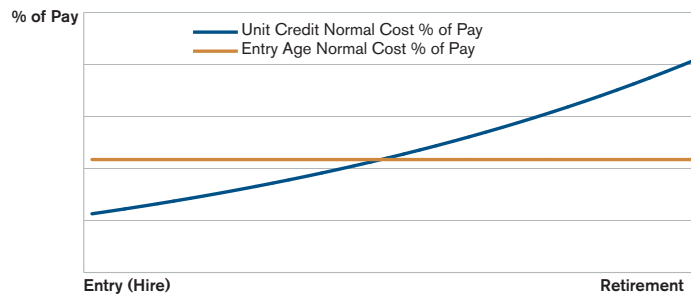
Because entry age allocates the PVB equally over a member’s working lifetime, typically it will produce a higher AAL and lower normal cost when compared to unit credit. Unit credit produces an increasing cost over the member’s working lifetime, because each additional year of service is one year closer to the commencement of benefits. The graph in Figure 2 compares the accrual pattern of the PVB under the entry age and unit credit cost methods. As shown in Figure 2, both methods will accumulate to the PVB at the member’s retirement age.

FIGURE 2: ENTRY AGE AND UNIT CREDIT



The graph in Figure 3 compares the normal cost allocation over a member’s working lifetime under the entry age and unit credit cost methods. The entry age normal cost is higher than under unit credit upon entry, but it remains level as a percentage of pay (or dollar amount if the benefit is not pay-related) throughout the member’s assumed working lifetime (the graph in Figure 3 illustrates the normal cost as a percentage of pay). Under unit credit, the normal cost increases dramatically as the member approaches retirement.

FIGURE 3: ENTRY AGE AND UNIT CREDIT: NORMAL COST ALLOCATION



Individual entry age actuarial cost method per GASB 67/68

The prior financial reporting standards (GASB 25/27) allowed the TPL to be determined using any one of six different actuarial cost methods. In an effort to harmonize and simplify the information reported, GASB 67/68 requires that the IEA cost method be used to determine the plan’s TPL.

GASB identified two main criteria in selecting the actuarial cost method to be used: (1) the cost method should allocate the PVB to past periods based on the services provided by the member during past periods, and (2) the cost method should utilize the same approach to allocating PVB to past periods as it does to current and future periods. GASB felt that the IEA actuarial cost method best fit these criteria, when considered as a level percentage of a member’s pay.

Furthermore, the standards identified the following specific features of the entry age method that should be included in the calculation of the TPL:

- The liability should be allocated to the various time periods (past, current year, and future) on a member-by-member basis rather than on an aggregate basis.
- The service cost should be determined as a level percentage of pay (regardless of whether or not the member’s actual benefits are based on compensation).
- Past service liability should be allocated retroactively to when the member first accrued a benefit in the plan.

- Future service costs should be allocated through all assumed exit ages through retirement. For plans with a Deferred Retirement Option Program (DROP), entry into the DROP should be considered the member's retirement age.
- Service costs should be calculated based on the same plan terms as those used to calculate the PVB.

Some plans provide benefits that are not related to compensation. GASB felt that even if the benefits themselves are not determined based on a member's amount of pay, the benefits provided are a form of compensation and should be allocated over the member's working lifetime as a level pattern relative to other compensation. In this instance, the level amount should be determined based on the rate of projected inflation, rather than on an assumed increase in future compensation amounts.

Funding versus financial reporting

The prior financial reporting standards included an expense item referred to as the "Annual Required Contribution," which was often utilized as a funding obligation as well. The new standards effectively separate funding from financial reporting, leaving sponsors to define their own appropriate levels of funding for their plans.

The required use of IEA by GASB is for financial reporting purposes only. Plan sponsors currently using a method other than the IEA specified by GASB 67/68 may continue to do so for purposes of determining the appropriate level of funding for the plan. For example, a plan that has implemented a "soft" freeze (meaning future new hires do not enter the plan) may wish to calculate their annual funding amount using the aggregate cost method, so that the PVB is fully funded when the last member terminates employment with the sponsor. In addition, some plans may be using a variation of entry age that differs from the specific variation mandated for GASB 67/68, which the plan sponsor may believe is more appropriate from a funding perspective. Still other sponsors may prefer the liability allocation and accrual pattern of projected unit credit, and will wish to continue using it to determine their future contributions to the plan.

Plans may continue using other actuarial cost methods to calculate their funding obligations; however, this will require the calculation of two separate liability figures, and perhaps education to trustees and other stakeholders to distinguish the differences and the purposes of each liability calculation.

Summary

In practice, there are several actuarial cost methods, including multiple variations of the entry age actuarial cost method, used to calculate the liabilities of plans for funding purposes. However, GASB 67/68 eliminated the option to choose from among these variations for financial reporting, specifying instead the IEA approach.

Plan sponsors will want to ensure that their actuaries are calculating the TPL for financial reporting purposes according to these new provisions. Actuaries preparing valuations for use in financial reporting may need to adjust their systems and/or current programming in order to conform to these new standards.

Amortization of gains and losses that are due to demographic experience or assumption changes

GASB Statement No. 68 requires that certain experience gains and losses be included in the annual pension expense. The difference between actual investment results and expected returns must be allocated to pension expense over a five-year period. In contrast, changes in the TPL arising from plan amendments are required to be fully recognized in a single year's pension expense.

Gains and losses arising from demographic experience and from changes in actuarial assumptions are also required to be included in the annual pension expense. The statement calls for these gains and losses to be spread "over a closed period equal to the average expected remaining service lives of all employees." GASB 68 further states that individual weighting of expected remaining service lives is neither necessary nor appropriate in calculating this average. Therefore the period over which gains and losses are spread is a simple average as shown below:

$$\frac{\text{Sum of the expected remaining service period for all active employees}}{\text{Number of total pension plan participants (active and inactive)}}$$

Note that this calculation does not include inactive participants in the numerator of this fraction. For purposes of this calculation, they are treated as having a "service life" of zero. One implication of this calculation is that a plan that only benefits terminated or retired members must recognize demographic gains and losses and changes in assumptions in their entirety each year. GASB's implementation guide for Statement 68 effectively ratified this position.

GASB does not specify what method of rounding (whole numbers, one digit, etc.) is appropriate for this calculation. Nor is GASB explicit on whether the gains and losses should be evenly spread throughout the period ("straight-line" amortization) or if some interest should be applied to amortize the gains and losses. GASB 68 calls for a "systematic and rational method" for spreading these items over current and future years' pension expense, so any rounding or amortization methods that are reasonable or within common actuarial practice are acceptable, so long as they are applied consistently.

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