

Public Pension Funding 101: Key Terms and Concepts

To understand how public pensions are funded, it is helpful to understand the key terms and concepts described in this article, the first in a two-part series.

by | **Keith Brainard**

New terms and concepts are entering the public pension lexicon, and a growing number of institutions are making changes in the way they measure public pensions. This article introduces some terms and institutions relevant to the funding of public pension plans. A second article, in the May *Benefits Magazine*, will explain the processes used to calculate and implement the funding of public pensions.

Public pension funds hold and manage large sums of money—around \$3 trillion in total. These assets are held in trust for more than eight million retired public employees and their surviving family members, and for some 15 million working employees of state and local government. As with other large pools of money, public pension assets tend to draw attention—from the media, policy makers, employee groups and others.

Although their assets are the side of the public pension business that seems to get the most attention, the starting point for understanding pension plans is not the money—it's the liabilities. The reason the money is there, after all, is to finance the liabilities. Understanding how pension liabilities are financed is fundamental to understanding how public pensions work.

Key Terms and Concepts for Understanding Public Pension Funding Issues

Key terms and concepts are:

- The basic retirement funding equation
- Pension funding
- Actuarial valuation
- Normal cost
- Amortization payment
- Unfunded pension liability
- Actuarial value of assets
- Actuarial accrued liability
- Funding period
- Actuarial cost method
- Actuarial assumptions
- Pension funding policy.

Many readers are familiar with the following *basic retirement funding equation*:

$$C + I = B + E$$

That is, contributions plus investment earnings equals benefits plus expenses. Stated differently, over the long run, the money that is paid out of a retirement plan must equal the money taken in. This equation applies to any type of retirement plan.

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Education

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For more information, visit www.ifebp.org/cappp.

Public Fund Plan Sponsors: Valuable Insight Into Possible Solutions to Rising Pension Costs

Keith Brainard Webcast on CD-ROM. December 2010.

For more information, visit www.ifebp.org/books.asp?TW207.

Pension funding is how a pension benefit is paid for. Most pensions are funded when liabilities are being accrued, meaning that assets are accumulated during an employee's working life, typically through a combination of employer and employee contributions and investment earnings. Pensions also are normally funded on an actuarial basis, meaning that budgeting for the cost of the pension plan is determined through an actuarial valuation.

An *actuarial valuation* is the mathematical process of determining a pension plan's condition, required contributions and liabilities. Most public pension plans have an actuarial valuation conducted annually, by an actuary or firm of actuaries employed by the plan.

Under current accounting standards, the funding condition of a public pension plan is expressed by its actuarial funding level, determined by dividing the actuarial value of the plan's assets by its liabilities. For example, a pension plan with assets of \$90 million and liabilities of \$100 million would have a funding level of 90%. Beginning next year, revised public sector accounting standards will change the way public pension funding levels are calculated. (Public sector accounting standards are discussed further below and will be discussed in greater detail in the second part of this series.)

The annual contribution required to finance a public pension plan usually is expressed as a percentage of payroll. This contribution contains two components: the *normal cost* (the cost of benefits accrued in the current year) and the *amortization payment*, also known as the cost to amortize any unfunded pension liability (the amount needed to pay off any unfunded liability over the funding period).

The *unfunded pension liability* (or *unfunded actuarial accrued liability*) is the liability for benefits earned for which assets have not yet been accrued, the amount by which the actuarial value of assets is less than the actuarial accrued liability.

The *actuarial value of assets* is the market value as of the actuarial valuation date, usually adjusted for differences between the annual assumed rate of return and actual rate of return smoothed over a period of time (typically three to five years). This "smoothing" is intended to mitigate volatility in the contribution rate that would stem from short-term market value fluctuations. The *actuarial accrued liability* is generally the present value of benefits payable in the future to current retirees, beneficiaries and terminated vested members and the liability for future benefits to active employees based on their service to the date of the valuation.

A pension plan's *funding period*, also known as its *amortization period*, is the time frame over which an unfunded pension liability is retired, or paid off.

A pension plan's liabilities commonly are financed based on an *actuarial cost method*, which determines how pension costs are allocated over the course of a plan participant's working life. Current (outgoing) Governmental Accounting Standards Board (GASB) standards permit the use of six different methods. Most public pension plans use the *entry age method*, which is designed to produce an annual pension contribution that is a level percent of pay throughout the working life of a plan participant. New (incoming) GASB standards will require the use of only the entry age actuarial cost method.

An actuarial valuation relies on many *actuarial assumptions*, which are expectations about the plan's future experience. Actuarial assumptions fall into one of two broad categories: economic and demographic. *Economic assumptions* are those pertaining to financial events, particularly rates of inflation, investment return and salary growth. *Demographic assumptions* refer to participant experiences, such as the age at which workers will retire and how long they'll live after retiring.

The actuarial assumption with the greatest effect on the contributions required to responsibly finance the plan is the *investment return assumption*, which projects the return the retirement fund's assets will generate over the next 20 to 50 years. The investment return assumption also plays a significant role in determining the present value of the plan's actuarial accrued liability.

A *pension funding policy* is the collection of laws, rules and practices that govern the financing of pension benefits. Many employers (such as states, cities, school districts, etc., in the public sector) that sponsor a pension benefit have a pension funding policy. Among states and local governments that do, these policies are commonly structured to try to achieve at least three core objectives:

- Accumulation of assets sufficient to pay promised benefits
- Stability and predictability of cost
- Intergenerational equity.

Public pension funding policies usually exist at least partly in statute and often are supplemented by policies maintained by the retirement system governing body that administers the pension plan. Many state funding policies require that pension benefits be funded by paying the normal cost and the amount required to amortize any unfunded liability over a period of future years. The changes discussed below regarding accounting standards will increase the importance of funding policies for all public pension plans.

Key Organizations Relevant to Understanding Public Pension Funding Issues

To understand public pension funding issues, it is important to understand the roles of these organizations:

- GASB
- Bond rating agencies
- Public retirement system
- Public pension plan
- Retirement fund.

GASB

GASB is responsible for establishing and maintaining standards for accounting and financial reporting by state and local governments in the United States. Although GASB does not have authority to enforce its guidelines, its standards largely define generally accepted accounting principles (GAAP), which establish the framework for accounting and financial reporting by state and local government in the United States. Importantly, compliance with GASB standards is required in order for an independent auditor to provide a favorable opinion on the propriety of the information included in state and local government financial statements.

GASB standards cover a wide range of accounting activity, and these standards are reviewed and updated periodically.

With regard to pension benefits, GASB maintains two sets of standards: one for public pension plans and one for public employers that sponsor pension plans.

Outgoing GASB Standards for Pension Accounting and Reporting

Until recently, the statements in effect for public pensions were GASB Statements No. 25 and 27, which define what most observers of public pension plans know about public pension accounting.

Most public sector entities sponsor one or more pension plans, and pension liabilities usually account for a material portion of these entities' financial obligations. As a result, the condition of the pension plans and the ability of the plan sponsor to fulfill its projected pension obligations is an important consideration in evaluating the credit quality of issuers.

One notable feature of these statements was that they conjoined public pension accounting and funding. That is, these statements permitted public pensions and the employer(s) that sponsor them to base accounting expense and disclosures on the results of actuarial valuations provided those valuations met certain parameters, with which funded plans had no trouble complying. Per the GASB statements, the selection of the actuarial assumptions and methods should comply with standards required to be observed by professional actuaries, known as *actuarial standards of practice*.

GASB maintained that the contribution to the plan was to be expressed as the *annual required contribution (ARC)*. The ARC is defined as the sum of the *normal cost*, which is the cost of benefits accrued each year, and the cost to amortize the plan's *unfunded liability*, which is the cost of obligations not funded. If the ARC is paid each year, and if other actuarial assumptions are reasonably correct, the plan

takeaways >>

- Understanding how pension liabilities are financed is fundamental to understanding how public pensions work.
- The money paid out of a retirement plan must equal the money that is taken in over the long run.
- When determining how pension costs are allocated over the course of a plan participant's working life, new GASB standards will require actuaries to use only the entry age cost method.
- The importance of having a pension funding policy is increasing because of changes in accounting standards.
- In evaluating a plan sponsor's creditworthiness, its ability to pay its projection pension obligations is an important consideration.

would become fully funded at the end of the unfunded liability amortization period.

The *amortization period* is the time frame over which an unfunded pension liability—or surplus—is retired, or paid off. GASB 25 and 27 established a maximum amortization period of 30 years.

GASB required employers that sponsor a pension plan to report their *net pension obligation (NPO)* in their basic financial statements. The *NPO* is the cumulative difference between the employer's ARC and actual contributions (plus interest on the previous year's NPO). Thus, under outgoing GASB standards, an employer's pension liability on the face of the financial statements is limited to any cumulative shortfall in its ARC payments (plus interest), and does not reflect the total unfunded liability accrued from other sources, such as shortfalls in the investment return or other unfavorable actuarial experiences such as participants living longer than expected.

Employers that had always paid their ARC had no pension obligation entry in their basic financial statements. Employers were required to disclose certain information pertain-

ing to their pension plan in the notes to their financial statements and required supplementary information, such as a description of the plan, funding policy and schedule of funding progress.

GASB also permitted the use of one of six different actuarial cost methods. An *actuarial cost method* determines how pension costs are allocated during the portion of a plan participant's working life. The six methods permitted by GASB under 25 and 27 were entry age, frozen entry age, attained age, frozen attained age, projected unit credit and aggregate cost. Most public pension plans use the entry age method, one that is designed to produce a pension contribution that is a level percent of pay throughout the working life of a plan participant.

New GASB Standards for Pension Accounting and Reporting

After several years of review, discussion, deliberation, preliminary views and exposure drafts, GASB in June 2012 finally issued its new statements for pension plans and the employers that sponsor them. The new standards take effect for fiscal years beginning after June 15, 2013 for pension plans and

after June 15, 2014 for employers that sponsor pension plans.

Perhaps the most notable change in the new standards is the separation of pension accounting from pension funding. After years of serving as the de facto standard for how public pension plans are funded, namely via the ARC, why did GASB absolve itself from this role? The answer lies in the following language, contained in both Statements 67 and 68 (for pension plans themselves and the employers that sponsor them):

The Board concluded that it is not within the scope of its activities to set standards that establish a specific method of financing pensions (that being a policy decision for government officials or other responsible authorities to make).

This means that state and local governments will need to look elsewhere for guidance regarding how to fund their pension plans. Fortunately, groups of actuaries and public sector pension authorities are working to establish new guidelines for how public pensions should be funded.

GASB's decision to remove itself from the process of how pension plans are funded means the organization will no longer serve as the basis for how employers determine their pension contributions.

Bond Rating Agencies

Bond rating agencies are organizations, usually in the private sector, that assess the credit quality of issuers of debt. In the public sector, these issuers are states, cities, school districts, etc. Bond rating agencies typically assign debt issuers a grade that affects the entities' cost of borrowing.

Most public sector entities sponsor one or more pension plans, and pension liabilities usually account for a material portion of these entities' financial obligations. As a result, the condition of the pension plans and the ability of the plan sponsor to fulfill its projected pension obligations is an important consideration in evaluating the credit quality of issuers.

The largest bond rating agencies are Standard & Poor's, Moody's Investor Services and Fitch Ratings. These agencies publish the pension-related criteria they consider in establishing their ratings related to their effects on the credit quality of their sponsoring entities. The agencies consider certain factors to assess the credit quality of issuing governments.

For example, Standard & Poor's measures four indicators of a pension plan's health:

1. Funded ratio
2. Funding levels (pertaining to the plan sponsor's ARC effort)
3. Unfunded pension liabilities per capita
4. Unfunded pension liabilities relative to personal income.

In July 2012, Moody's solicited comments on four proposed adjustments to the way the agency measures pension obligations of public sector entities. These adjustments were:

1. Allocating liabilities of multiple employer cost-sharing plans to specific government employers based on proportionate shares of total plan contributions. (This is consistent with a change approved in the new GASB standards.)
2. Measuring liabilities using a discount rate (investment return assumption) based on a high-grade corporate bond discount rate (5.5% for 2010 and 2011)
3. Use of the market value of assets rather than a smoothed, or actuarial, value
4. Calculation of required pension contributions based on these changes and a common, 17-year amortization period.

Moody's subsequently announced that it had received more than 100 responses to this request for comments, from a wide range of perspectives, and that it would consider the responses and communicate further in the ensuing months.


In 2011, Fitch announced that it would apply a uniform 7% investment return assumption to calculate the required pension contribution of plan sponsors. Fitch also announced that, like Moody's, it would allocate costs to individual employers participating in cost-sharing multiple employer pen-

sion plans, and that it would reconsider its criteria after the new GASB statements have been issued.

Other Important Entities and Institutions

A *public retirement system* is the entity established by a state or local government to administer retirement benefits. Retirement systems typically are created by statute or legal code and governed by a board of trustees. This board is responsible for overseeing the collection of contributions and the payment of benefits; most retirement boards also are responsible for providing oversight of the investment of assets. Public retirement systems typically administer one or more pension plans.

A *public pension plan* is the legal structure of retirement benefits provided to employees, and administered by the retirement systems. A *pension plan design* refers to the framework of a pension plan, such as participation requirements, contributions, vesting requirements, benefit levels and methods of benefit distribution. Participation in pension plans often varies depending on an employee's job classification (teachers and firefighters, for example, usually participate in different plans).

The *retirement fund* holds the assets accumulated in trust to pay pension benefits. 

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He collects, prepares and distributes to NASRA members news, studies and reports pertinent to public retirement system administration and policy. Brainard is co-author of *The Governmental Plans Answer Book, Second Edition*. He created and maintains the Public Fund Survey, an online compendium of public pension data sponsored jointly by NASRA and the National Council on Teacher Retirement. He previously served as manager of budget and planning for the Arizona State Retirement System and provided fiscal research and analysis for the Texas and Arizona legislatures. Brainard has a master's degree from the University of Texas–Austin, LBJ School of Public Affairs.