

Preserving Financially Sound Defined Benefit Pensions in Challenging Market Environments

By Norm Jones and Paul Zorn¹

In 2008, the severe decline in the financial markets and subsequent downturn in the global economy resulted in investment declines for public pension plans averaging 25%.² This, in turn, affected the funded status of many public plans and produced substantial increases in contribution rates, which will likely continue over the next 3 to 5 years, at least. This puts additional budgetary pressures on state and local governments at a time when they face fiscal stress from declining revenues.

As a result, state and local governments are examining ways to mitigate the impact of the market decline on plan funded levels and contribution requirements. This article discusses the advantages and disadvantages of several approaches for defined benefit plans; however, it does not recommend any specific approach. The decision to make changes should only be made after careful analysis in light of the plan's circumstances and the related long-term impacts on the plan.

Changing Contributions

Employer (and often employee) contributions are made to pension plans to pay benefits and to accumulate investable assets. During a plan's initial start-up period, contributions are greater than paid benefits and there is a buildup of investable assets. When sufficient assets are accumulated, investment earnings become the largest contributor to most plans.³ However, when investment earnings are not sufficient to fund a large portion of promised benefits, either additional contributions must be made or the benefit program must be restructured.

Increasing Employer Contributions

Actuarially determined contribution rates are based on plan demographics and assumptions regarding the long-term expected investment returns on plan assets. If the actuarially determined contributions are not paid, investment returns will not be earned on the unpaid contributions. Unless future investment returns are

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² Standard & Poor's, "No Immediate Pension Hardship for State and Local Governments, But Plenty of Long-Term Worries," *RatingsDirect*, June 8, 2009.

³ According to U.S. Census Bureau data, public plan investment earnings constituted about 65% of the \$2.3 trillion in total public pension plan receipts over the period from 1978 to 2007.

In This Issue

The severe decline in the financial markets has resulted in significantly higher contribution rates for many public plans at a time when sponsoring governments are under substantial fiscal stress.

As a result, many governments are looking for strategies to mitigate this impact by managing contribution rates, changing benefits, or changing actuarial methods and assumptions.

This paper discusses the advantages and disadvantages of several approaches. However, care should be taken to understand the downside of these strategies and their likely long-term impact on plan funding.

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higher than assumed, the unpaid contributions will have to be made up by future contributions, with interest.

If actuarially determined contributions are repeatedly unpaid, future contributions will grow rapidly. Consequently, increasing plan contribution requirements to ensure the plan is actuarially funded will, over the long term, reduce the employer's costs of providing benefits. Doing so also helps to ensure benefits will be paid which, in turn, helps to attract and retain qualified employees.

Increasing Employee Contributions

In most cases, public employees contribute to their pension plans. These contributions are usually made at a fixed percent of pay (e.g., 5%) and so do not vary as a result of investment performance. In a few cases, employee contributions are set as a percentage of total required contributions (e.g., 40%) and, consequently, vary from year to year as a result of investment performance or other gains and losses.

Increasing employee contributions can help to offset increases in employer contributions. However, if this is done, care should also be taken to ensure the change does not violate collective bargaining or other contractual agreements.⁴ It is also important that employee contributions do not become so unaffordable or so volatile as to put an undue strain on employees. Otherwise, it could be difficult for the sponsoring government to retain them.

Setting Thresholds on Contribution Increases

Given the recent severe market downturn and the corresponding fiscal stress on state and local governments, it may be difficult for some employers to make their full actuarially determined contributions. In these situations, some jurisdictions gradually phase-in the higher contributions by setting limits on changes in contribution rates (e.g., limited to 1% of payroll annually). This has the advantage of allowing more predictable contributions. However, a disadvantage is that it results in higher contributions being made over a longer period of time during market downturns. It also delays plan funding.

In addition, under governmental accounting standards, if the full annual required contribution (ARC) is not paid to the plan, the government sponsoring the plan must show a "net pension obligation" (NPO) as a liability in its financial statements. The NPO is the accumulated difference between

⁴ For example, in 1984, the Supreme Court of Pennsylvania ruled that a statute requiring employees to contribute an additional 1.25% of earnings to their retirement plan without related benefit increases violated the contract clause of both the federal and state constitutions. See *Association of Pennsylvania State College and University Faculties v. State System of Higher Education*, 505 Pa. 369, 479 A.2d 962 (1984).

the ARC and actual employer contributions to the plan, with interest. If the NPO grows too large, it could affect the government's credit rating and its ability to issue debt.

Changing Benefits

Under most state laws, accrued benefits may not be reduced once vested. As a result, efforts to control costs by changing benefits usually involves: changing ad hoc cost-of-living adjustments (i.e., non-guaranteed COLAs); changing benefits for newly hired employees; or changing benefits for current employees in some manner.

Delaying or Reducing Ad Hoc COLAs

Most public plans provide a COLA in order to protect retirees' purchasing power from inflation. In many cases, the COLA is automatic and set at some fixed rate (e.g., 3% annually) or based on the Consumer Price Index (e.g., 80% of the annual CPI increase). In other cases, the COLAs are ad hoc and granted by a decision of the plan's board of trustees. Because ad hoc COLAs are not part of the guaranteed benefit, they may be reduced or eliminated as circumstances warrant.

A disadvantage is that unless the ad hoc COLAs are granted consistently, retiree income may not keep pace with inflation. Consequently, if the COLAs are repeatedly delayed or discontinued, retirees will lose purchasing power.

Changing Benefits for Newly Hired Employees

Because public plans have evolved over time, many provide different levels of benefits (referred to as "tiers") for members hired at different dates. Generally this is done to help keep overall benefits affordable, especially during difficult market environments. Usually, a new tier is based on an older tier, with some or all of the following changes: (1) reductions in the benefit multiplier; (2) longer periods for determining final average earnings; (3) longer vesting periods; (4) increases in the age and service requirements for unreduced benefits; (5) increases in member contributions; and (6) reductions in retiree COLAs.

In some cases, new tiers are created that reflect an overall change in plan design which incorporates some form of gain and loss sharing. For example, hybrid plans combine features of defined benefit (DB) and defined contribution (DC) plans, usually in a way that provides members with a lifetime benefit from the DB plan based on a low benefit multiplier (e.g., 1%), combined with accumulated assets from the DC plan based on invested employee contributions.

Establishing a new tier gives governments some ability to control the cost of future benefits. However, a downside is that it may take many years before material reductions in

employer contributions emerge. In addition, a DC plan is not a retirement plan as much as it is a severance pay plan. As a result, it is much less likely that employees will be able to convert a DC account into meaningful lifetime income.

Adding Incentives to Delay Retirement

Rather than reducing benefits, another way to control plan costs is to encourage employees to delay retirement. Delaying retirement not only reduces the period over which the benefits are paid, it also allows more time over which plan contributions are made and investment income is earned. There are several ways to provide incentives for delayed retirement, including:

- Providing higher multipliers for longer service (e.g., service over 30 years);
- Offering deferred retirement option (DROP) plans with long DROP periods (e.g., 10 years); or
- Increasing the eligibility age for retiree health benefits.

Since these changes would not reduce accrued pension benefits for current employees, they could be applied to current as well as future employees. However, delaying retirement could work against employer efforts to control costs through workforce reductions. Moreover, cost savings from these measures could take a number of years to realize.

Changing Benefits for Current Employees

One way in which cost savings could be immediately realized is by changing benefits for current employees. However, to the extent accrued benefits are lowered, in some jurisdictions it would violate state statutory or constitutional provisions that protect members' benefits. To the extent benefit changes do not reduce accrued benefits, or are applied to non-vested members, in many plans it may be possible to make certain changes, including:

- Lowering or eliminating interest paid on refunds of employee contributions;
- Increasing the averaging period for determining final average earnings;
- Limiting items of compensation that may be used in determining final average earnings;
- Freezing benefit accruals so they are not affected by future pay increases; and,
- Lowering the benefit multiplier for future service.

However, such changes may be subject to court challenge. Moreover, it is possible the changes could affect the employer's ability to attract and retain qualified employees.

Changing Actuarial Methods and Assumptions

Actuarial methods and assumptions play a key role in determining a plan's funded status and contribution rates, but do not affect the long-term cost of the plan. The long-term cost of the plan is determined by the benefits promised and ultimately paid, and by the plan's experience.

To maintain the long-term solvency of the plan, the actuarial assumptions must reflect the best estimate of the plan's future experience. To ensure that the actuarial methods and assumptions are properly applied and reflect realistic expectations, the Actuarial Standards Board (ASB) establishes actuarial standards of practice (ASOPs). If actuaries do not adhere to these standards, they may be subject to disciplinary procedures. Perhaps more importantly, inter-generational equity with respect to plan costs could be severely disrupted if overly optimistic assumptions are adopted.

Generally, it is recommended that changes in methods or assumptions be considered only in conjunction with a full experience study. However, in a rapidly changing environment, temporary changes are sometimes justified.

Changing Wage Inflation Assumptions

The wage inflation assumption is a key assumption used in plan valuations. Because public pension benefits are most often based on final average earnings, higher wage inflation assumptions result in higher projected benefits. This, in turn, results in higher accrued liabilities and contributions (although the impact on contribution rates as a percent of projected payroll is less clear).

Generally, actuarial standards of practice require that economic assumptions (including wage inflation, price inflation, and investment returns) be consistent with one another.⁵ To the extent the current economic downturn is likely to reduce upward pressure on prices and wages for some years, a temporary reduction in the wage inflation assumption may be warranted in some cases when it is known that a pay freeze or pay reduction is in effect.

This could help to slow the growth of accrued liabilities and contributions. However, the recent federal economic stimulus legislation and the growing federal deficit could create future inflationary pressures in the economy. Consequently, the long-term outlook is unclear.

Changing the UAL Amortization Period

The difference between the plan's actuarial accrued liability (AAL) and actuarial value of assets (AVA) is referred to as

⁵ Actuarial Standards Board, ASOP No. 27, *Selection of Economic Assumptions for Measuring Pension Obligations*, Section 3.10.

the plan's unfunded accrued liability (UAL). This represents the difference between the present value of accrued benefits and the amount of assets that have been accumulated to pay for the benefits. The UAL is amortized over a period of time and included in the contribution rate.

The UAL can be amortized as a level dollar amount or as a level percent of covered payroll. In addition, the amortization period can be "open" or "closed." A closed amortization period declines each year; whereas, an open period remains the same each year – that is, each year's UAL is re-amortized over the same number of years. Many public plans amortize the UAL as a level percent of payroll over an open 30-year period.

Longer amortization periods result in smaller payments toward the UAL each year. Consequently, lengthening the amortization period can result in lower contribution rates, at least initially. However, doing so also extends the period needed to fund the promised benefits. Additionally, if the amortization period is extended beyond 30 years, governmental accounting standards generally require the plan sponsor to show the net pension obligation as a liability in its annual financial statements.⁶

Changing the Asset Smoothing Period

In order to dampen the impact of short-term investment gains and losses, most public plans "smooth" these gains and losses into the value of plan assets over a period of time. While smoothing does not prevent the gains and losses from ultimately being reflected in the contribution rates, it does moderate their impact on plan funded levels and contribution rates in a given year. Consequently, smoothing is useful for dampening the short-term impact of market fluctuations. Most public plans use a 3 to 5 year smoothing period, although some use longer periods.⁷

Under actuarial standards of practice, the recognized value of assets must bear a reasonable relationship to the corresponding market values and must fall within a reasonable range around the market values.⁸ If, in the actuary's professional judgment, the asset value is outside a reasonable range, the actuary is required to disclose this in the valuation report.

Lengthening the smoothing period increases the time over which investment gains and losses are recognized, and so lessens their impact on contribution rates in a given year. This

⁶ Governmental Accounting Standards Board, Statement No. 27, *Accounting for Pensions by State and Local Governmental Employers*, paragraphs 11-13. This rule applies to governments in single-employer and agent multiple-employer plans, but not to governments in cost-sharing multiple-employer plans.

⁷ Keith Brainard, *Public Fund Survey Summary of Findings FY 07*, p. 3.

⁸ Actuarial Standards Board, ASOP No. 44, *Selection and Use of Asset Valuation Methods for Pension Valuations*, Section 3.3.

also reduces the volatility in contribution rates. However, in declining markets, this has the disadvantage of extending the time needed to fund the plan. Another disadvantage is that excessive smoothing could result in an actuarial value of assets that is unrealistically different from the market value.

Adding or Changing Asset Value Corridors

In order to ensure asset smoothing does not result in unreasonable asset values, many plans have asset value corridors in addition to asset smoothing. Asset value corridors set an upper and lower limit on the extent to which the smoothed value of assets may differ from the market value. For example, a 20% corridor could be set so that the smoothed value of assets remains within 80% to 120% of the market value. Typically, when the smoothed value reaches the corridor limit, the portion in excess of the corridor is recognized immediately.

The key advantage to using asset value corridors is that the actuarial value of assets remains within a pre-determined range of the market value that is judged to be reasonable. A key disadvantage is that when the lower corridor boundary is reached in down markets, contribution rates may suddenly and substantially increase. In addition, during the period when the smoothed value of assets is outside of the corridor, it is subject to the same volatility as the market value and so may result in more volatile contribution requirements. In the current economic environment, some plans are temporarily widening their established corridor (e.g., from 20% to 30%).

Conclusions

The severe decline in the financial markets has resulted in significantly higher contribution rates for many public plans at a time when sponsoring governments are under substantial fiscal stress. As a result, many governments are examining strategies to mitigate this impact by managing contribution rates, changing benefits, or changing actuarial methods and assumptions. These efforts are useful to the extent they reduce short-term contribution rate volatility without jeopardizing the sustainability of the plans or the sufficiency of benefits.

However, care should be taken to understand the downside of these approaches and their likely long-term impact on plan funding. It is also essential to recognize that during difficult times there is often a divergence between the objectives of plan trustees and plan sponsors. In particular, while lowering the employer's contribution rate may be a short-term advantage to the employer, it is a disadvantage to the plan and potentially a long-term disadvantage to the employer as well. Unless future investment returns are higher than the expected return, the forgone contributions will have to be made up with interest. It is highly recommended that plans model the contribution patterns resulting from the mitigating strategies being considered, and test them under a variety of market conditions.

Table 1: Responding to Market Declines

These responses are presented for the purpose of discussion and are not intended as GRS recommendations.

Changes to Contributions			
Response	Advantages	Disadvantages	Examples
Increase employer contributions	<ul style="list-style-type: none"> Helps ensure future benefits will be paid May make it easier for employer to attract and retain qualified employees 	<ul style="list-style-type: none"> Employer may not have the necessary funds Contributions may be set by statute 	<ul style="list-style-type: none"> Increase employer contributions to full ARC
Increase employee contributions	<ul style="list-style-type: none"> Offsets employer contribution increases (degree depends on extent employee contributions are increased) 	<ul style="list-style-type: none"> Employees may not be able to afford increased contributions Employee contributions may be set by statute or collective bargaining agreements May make it difficult for the employer to attract and retain qualified employees 	<ul style="list-style-type: none"> Increase employee contributions from 5% to 6% of pay Employer no longer “picks-up” employee contributions
Set thresholds on increases in employer contributions	<ul style="list-style-type: none"> Impact of sudden changes does not cause large increase in contribution rate 	<ul style="list-style-type: none"> The full ARC may not be contributed for many years, resulting in additional interest costs and NPO 	<ul style="list-style-type: none"> Limit employer contribution increases to 1% of pay each year until reaching full ARC
Changes to Benefits			
Response	Advantages	Disadvantages	Examples
Delay or reduce ad hoc COLAs	<ul style="list-style-type: none"> Lowers employer contributions 	<ul style="list-style-type: none"> Retirement benefits may not keep pace with inflation 	<ul style="list-style-type: none"> Postpone providing ad hoc COLA
Change benefits for new hires	<ul style="list-style-type: none"> Lowers employer contribution rate (degree depends on extent benefits are reduced for new hires) 	<ul style="list-style-type: none"> Reduced employer contributions may take years to materialize Lower benefits may make it difficult for the employer to attract and retain qualified employees 	<ul style="list-style-type: none"> Lower multiplier, extend normal retirement age, increase average earnings period
Establish hybrid plan for new hires	<ul style="list-style-type: none"> Lowers employer contribution rate (degree depends on extent benefits are reduced for new hires) Shifts some of the investment risk to members via the DC component 	<ul style="list-style-type: none"> Reduced employer contributions may take years to materialize Lower benefits and added employee investment risk may make it difficult for the employer to attract and retain qualified employees 	<ul style="list-style-type: none"> Establish a new tier for new hires with lower benefit multiplier combined with 401(a) DC plan
Add incentives to delay retirement	<ul style="list-style-type: none"> Lowers ARC by postponing retirement age (degree depends on how many members postpone retirement and for how long) 	<ul style="list-style-type: none"> Delayed retirement may conflict with employer efforts to reduce workforce in difficult economic times 	<ul style="list-style-type: none"> Provide a higher multiplier for 30+ years of service
Change benefits for current employees	<ul style="list-style-type: none"> Immediate reduction in liabilities and contributions (degree depends on specific plan changes) 	<ul style="list-style-type: none"> May be subject to legal challenge May conflict with state constitution or statutes 	<ul style="list-style-type: none"> Reduce interest on employee contribution refunds Lower future service multiplier from 2.0% to 1.5%
Changes to Actuarial Assumptions and Methods			
Response	Advantages	Disadvantages	Examples
Lower wage inflation assumption	<ul style="list-style-type: none"> Offsets impact of lower investment return Consistent with many economic forecasts over the foreseeable future 	<ul style="list-style-type: none"> With the economic stimulus, some think we are moving into an inflationary period 	<ul style="list-style-type: none"> Lower wage inflation from 4.5% to 4%
Lengthen amortization period	<ul style="list-style-type: none"> Lowers employer contribution rate (degree depends on how long amortization period is lengthened) 	<ul style="list-style-type: none"> Lengthens period needed to fund the plan Results in NPO if period is over 30 years 	<ul style="list-style-type: none"> Increase amortization period from 25 years to 30 years
Lengthen asset smoothing period	<ul style="list-style-type: none"> Lowers employer contribution rate (degree depends on how long smoothing period is extended) Increases extent to which investment gains and losses are smoothed into the ARC 	<ul style="list-style-type: none"> Lengthens period needed to fund the plan Could result in misaligned smoothed and market asset values Higher ultimate contribution rates 	<ul style="list-style-type: none"> Increase asset smoothing period from 3 years to 5 years
Widen asset value corridor	<ul style="list-style-type: none"> Lowers employer contribution rate (at least temporarily) 	<ul style="list-style-type: none"> Lengthens period needed to fund the plan Contributions could increase suddenly when new corridor is reached Higher ultimate contribution rates 	<ul style="list-style-type: none"> Widen asset value corridor from 90%-110% to 80%-120%

NCSL Updates Summary of State Pension and Retirement Legislation in 2009

The National Conference of State Legislatures (NCSL) recently updated its summary of state pension and retirement legislation in 2009. According to NCSL's Ron Snell, the principal legislative theme in 2009 was the need to make future pension costs manageable in the light of states' straitened fiscal circumstances and the enormous losses experienced by most retirement funds. Examples of legislative changes cited in the summary include:

- Nebraska and New Mexico increased state-sponsored retirement plan contribution rates for both employers and existing employees. New Hampshire and Texas increased contribution rates for newly hired employees. Texas also initiated employee contributions in a previously non-contributory plan.
- Nevada and Louisiana reduced post-retirement benefit increases for newly-hired employees. Louisiana also established an arrangement by which employees may, at their discretion, self-fund a 2.5% annual COLA through an actuarial reduction in benefits.
- New Mexico created new retirement plans for newly hired employees, with higher age and service requirements, and disincentives to retire before age 60. Rhode Island raised the retirement age from 60 to 62, provided a somewhat smaller benefit, reduced future annual benefit increases, and tightened disability eligibility requirements.

Many states are now in the process of studying their contribution rates and benefit structures. Consequently, more changes are likely.

The summary is available at: <http://www.ncsl.org/?tabid=17594>

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