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Public Sector Letter

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Planning a Successful Pension Funding Policy

With governmental budgets under strain across the country, officials are taking a careful look at what their pension plan costs are today and where those costs are likely to head in the future. Decision makers are busy crafting plans to ensure they will be able to meet their current and future obligations.

But how can stakeholders be assured that their plan's funding approach will result in adequate assets to pay benefits? Reviewing and, if necessary, updating the plan's funding policy is a good first step.

A pension plan funding policy determines how much should be contributed each year by the employer and the active participants to provide for the secure funding of benefits in a systematic fashion.[1] This *Public Sector Letter* explores important considerations that stakeholders should keep in mind when evaluating their plan's funding policy.

Goals of a Pension Plan Funding Policy

A comprehensive funding policy seeks to ensure that a pension plan is on track to achieve three key goals:

- ***Contribution and Budgetary Predictability*** This goal, which is so important to governmental employers, can be achieved if the funding policy is purposely designed to develop costs that are expected to bear a reasonable relationship to payroll. This includes designing a funding policy so as to manage and control contribution volatility. It is also essential that contributions be based upon actuarial assumptions — demographic and economic — that reflect best estimates of future experience. The process of setting assumptions generally involves policy considerations separate from setting funding policy. The text box on page 2 provides a brief discussion on setting assumptions.
- ***Benefit Payment*** The payment of benefits is the reason the plan exists. For that reason, funding policies are designed to accumulate assets over time to provide for all benefits to be earned by current participants in the plan. This includes benefits for current retirees and beneficiaries, benefits already earned by current active participants and future benefits to be earned by those current participants. Generally, this key goal is what is meant by having an actuarially determined funding policy, one that is based on actuarial principles.
- ***Intergenerational Equity*** This goal, which consists of ensuring a fair sharing of the costs of the plan across generations of taxpayers, will be achieved if the funding policy ensures a reasonable allocation of the cost of benefits provided by the plan to the years of service worked by employees. In particular, a funding policy can help ensure that the cost of benefit improvements is recognized and paid for during the working careers of those who will receive them.

To some extent, there may be trade-offs involved in meeting all three of these goals simultaneously, but a well-crafted funding policy will ensure that its various elements, working in combination, contribute to the achievement of these important objectives.

Elements of a Funding Policy

To achieve all three of the policy goals described above (management of contribution volatility, funding based on actuarial principles, and intergenerational equity), a comprehensive and well-designed funding policy will include the following three elements:

- An actuarial cost method,
- An asset-smoothing method, and
- An amortization policy.

IN THIS ISSUE:

"A pension plan funding policy determines how much should be contributed each year by the employer and the active participants to provide for the secure funding of benefits in a systematic fashion."

[1] Another timely reason for this discussion involves the Governmental Accounting Standards Board (GASB). GASB's proposed revisions to accounting standards for public plans and their sponsors include fundamental changes in guidance related to funding policy. The nature and consequences of GASB's changing role regarding funding policy are discussed on the last page of this *Public Sector Letter*.

Of course, any funding policy will only be as effective as **the sponsor's commitment to make plan contributions on time and in full.** Contributions are often made in accordance with a plan's funding policy. However, in some instances, plan sponsors' annual contribution rates are fixed in statute or determined in some other manner other than by strict adherence to a funding policy. Fixed contributions, in particular, can pose risks, especially when the plan has a limited ability to adjust benefits. Even in cases where the contribution rate, as originally established, was actuarially determined, if changes in the plan or plan experience occur (*e.g.*, benefit improvements, mortality improvements and/or asset losses), the fixed contribution rate may no longer be sufficient for the plan to achieve its goal of paying all benefits when due. The result could be a rapid escalation in actuarially required contributions, thereby adding to the sponsor's fiscal commitments.

The next three sections of this *Public Sector Letter* are devoted to each of the three elements of a funding policy.

The Role of Assumptions in Plan Funding

Aside from funding methods, assumptions are also critical to the funding of a plan. Forward-looking assumptions about plan demographics, wages, inflation, investment returns and more drive the measurement of pension liabilities and costs, and therefore affect funding. Unlike the selection of funding methods, which involves a fair degree of policy discretion, the selection of assumptions should be based solely on best estimates of actual future experience. While it may be tempting to set assumptions based on how they might affect current contribution requirements, such "results-based assumption setting" should be avoided. It is the plan's actual experience that ultimately determines the cost of the benefits, so the assumptions should try to anticipate actual experience.

Periodic reexamination of plan assumptions is an essential part of any plan's actuarial processes. As a general rule, many plans conduct an experience study every three to five years, an interval that should help ensure that assumptions remain appropriate in the face of evolving conditions and experience. In the current environment, certain assumptions may be worth extra scrutiny.

For example, when it comes to payroll growth, ask the question, "do changes in demographics of the workforce suggest future changes in payroll growth rate?" Typically, plans have an indefinite, open-ended assumption about payroll growth — for instance, that head count will remain stable and that payroll dollars will grow by 3 percent to 4 percent per year, indefinitely. However, during periods when the workforce contracts and/or when annual pay increases disappear because of fiscal strain, the payroll growth assumption may not prove accurate. This creates a risk that plan costs (as a percent of payroll) will escalate, especially in cases where a substantial unfunded actuarial accrued liability (UAAL)* exists.

Another assumption that might be ripe for reexamination is the expected investment return. Here the question is, "do changes in asset allocation or in financial markets suggest a reevaluation of the plan's long-term earnings prospects?" Here again, making an assumption change — and absorbing any cost increases up front — might head off an unwelcome upward trend in plan costs down the road.

A third example is mortality improvements. Does the plan proactively account for the costs that will be associated with the trend towards future increases in life expectancy? Factoring in these likely costs will avoid cost increases in the future and so help to ensure that costs will be more equitably allocated over time.

These are just a few examples of how careful consideration of plan assumptions can avoid unwelcome surprises down the road.

*** UAAL is discussed on pages 3 and 4.**

Actuarial Cost Method

The actuarial cost method is the means by which the total present value of all future benefits for current active and retired participants is allocated to each year of service (*i.e.*, the "normal cost" for each year) including past years (*i.e.*, the "actuarial accrued liability"). There are several available actuarial cost methods, but most governmental plans use the entry age normal (EAN) cost method while a significant minority use the projected unit credit (PUC) method.

Although the EAN and PUC cost methods are both considered reasonable under actuarial standards of practice and current GASB rules in most circumstances, it is important for plan stakeholders to understand the implications of either method. EAN tends to recognize actuarial liabilities sooner than PUC, and it also tends to result in a more stable normal cost pattern over time, even in the face of demographic shifts. The more stable normal cost pattern over time

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should help in reducing the risk of higher levels of future contributions.

Under the PUC method, the plan's normal cost is the present value of the benefits "earned" during the year, but based on projected pay levels at retirement. For an individual participant, the PUC normal costs increase each year because the present value increases as the participant gets a year closer to retirement. In contrast, under the EAN method, the normal cost is specifically determined to remain a level percentage of pay over each participant's career.

Because EAN normal cost rates are level for each participant, the normal cost pattern for the entire plan under EAN is more stable in the face of demographic shifts in the workforce. It is this normal cost stability that makes the EAN method the preferred funding method for public plans. Also, GASB has recently reaffirmed their tentative decision to require governmental plans to base their financial statement reporting on the EAN method. This requirement will occur when GASB's proposed changes to financial statement reporting are effective, which is currently scheduled for as early as 2012-2013 fiscal years.

Asset-Smoothing Method

The next element of a comprehensive funding policy is the asset-smoothing method. Because investment markets are volatile and because pension plans typically have long investment horizons, asset-smoothing techniques can be an effective tool to manage contribution volatility and to provide a more consistent measure of plan funding over time. Asset-smoothing methods reduce the effect of short-term market volatility on contributions while still tracking the overall movement of the market value of plan assets, by recognizing the effects of investment gains and losses over a period of years.

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Determining the ideal asset-smoothing policy involves balancing the two goals of ensuring fairness across generations of taxpayers and controlling contribution volatility for plan sponsors. A very long smoothing period will greatly reduce contribution volatility, but this may mean current taxpayers are deferring the cost of recent investment experience to future taxpayers. However, a very short smoothing period (or none at all) may result in contribution requirements that fluctuate dramatically from year to year.

Such volatility may also result from an asset-smoothing method that constrains how far the smoothed value can get away from the market value by imposing a market value "corridor." A corridor is typically expressed as a ratio of the smoothed value of assets to the market value of assets.

Actuarial standards of practice and related actuarial studies seek to identify asset-smoothing methods that achieve a reasonable balance between how long it takes to recognize investment experience (the smoothing period) and how much smoothing is allowed in the meantime (the corridor). The resulting smoothing periods are in the range of three to 10 years (with five the most common) and a corridor wide enough to allow the smoothing method to function except in the most extreme conditions. Furthermore, the corridor generally should narrow as the smoothing period gets longer, so there is a trade-off between longer smoothing periods (which reduce volatility) and narrower corridors (which can increase volatility after a large investment loss or gain).[2]

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UAAL Amortization Policy

The third element of a funding policy concerns amortization of the unfunded actuarial accrued liability (UAAL). This policy element determines how current and future UAAL will be paid off or "amortized," and so includes how changes in benefits or actuarial assumptions that affect the actuarial accrued liability should be funded over time. Even more so than asset-smoothing methods, amortization policies involve a balance between controlling contribution volatility and ensuring a fair allocation of costs among generations. Longer amortization periods help keep contributions stable, but excessively long periods may inappropriately shift costs to future generations. In seeking to achieve a "sweet spot" between these two important policy

[2] Asset-smoothing methods, including the relationship between smoothing period and market value corridor, are governed by Actuarial Standard of Practice No. 44, Selection and Use of Asset Valuation Methods for Pension Valuations, which can be accessed from the following page of the Actuarial Standards Board's website: http://www.actuarialstandardsboard.org/asops.asp In particular, see Sections 3.3 and 3.4.

goals, a comprehensive amortization policy will involve the following distinct elements:

- Payment basis,
- Payment structure, and
- Amortization period.

Each of these elements is discussed individually in the following paragraphs.

Payment Basis: Level Dollar vs. Level Percent of Pay

One of the first considerations is whether amortization payments will be set at a level dollar amount (similar to a home mortgage) or as a level percent of pay. The great majority of public pension plans use level-percent-of-pay amortization where the payments toward the UAAL increase each year at the same rate as is assumed for payroll growth. Compared with the level-dollar approach, payments start at a lower dollar amount under the level percent approach, but then increase in proportion to payroll until they are higher.

The level-dollar method is more conservative in that it funds the UAAL faster in the early years. However, the level-percent-of-pay approach is consistent with the pay-related structure of benefits under most public plans. Moreover, because the normal cost is also determined as a level percent of pay, level percent amortization provides a total cost that remains level as a percentage of pay. In contrast, level-dollar amortization of UAAL will produce a total cost that decreases as a percentage of pay over the amortization period. A plan should balance these considerations in choosing between level-percent and level-dollar amortization.

Payment Structure

Amortization policy must also consider how amortization payments should be structured. For example, should the entire UAAL be aggregated and amortized as a single amount, or should the plan track multiple "layers" for each source of UAAL or surplus each year, and amortize these separately? Should the amortization period be fixed or should it be open or "rolling" (with the amortization period restarted each year)? For plans using amortization layers and fixed periods, is it ever appropriate to "restart" with a single amortization layer or otherwise combine the layers?[3]

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Although use of a single amortization layer provides simplicity, use of separate amortization layers for each source of UAAL has the advantage of tracking separately each new portion of underfunding. Under this approach, over time there will be a series of these layers, one for each year's gain or loss as well as for any other changes in UAAL. This is perfectly manageable and in fact provides useful information to stakeholders, as they can view the history of the sources of a plan's UAAL in any year. In practice, the number of layers will be limited by the length of the amortization period as eventually layers are fully amortized, and so are no longer part of the UAAL.

Fixed amortization periods identify a date certain by which each portion of the UAAL will be funded. This can be contrasted with open or rolling amortization, whereby the plan "resets" its amortization period every year. This is analogous to a homeowner who refinances his mortgage each year. Although both methods are common in current practice, fixed amortization periods have the advantage of providing stakeholders with a clearer understanding of the ultimate funding target (full funding) and the path to get there. It is the structure required for private sector pensions, and is increasingly common for public pension plans.

There may be conditions where a plan would want to consider action whereby all the amortization layers are wiped out ("considered fully amortized") and the series is restarted — for example, when the system goes from surplus to UAAL, or from UAAL to surplus. There are other situations when the amortization layers might be restarted or combined. One is when there are alternating years of gains and losses of relatively equal size. In general, plans should reserve the right to restart or otherwise combine the amortization layers whenever appropriate circumstances arise. However, plans using fixed amortization periods should avoid restarting the amortization periods so often that the policy in effect becomes rolling amortization.

Amortization Period

Once the amortization policy has determined the basic structure of payments (*e.g.*, level percent of pay, multiple closed layers), the question becomes, "What is the appropriate period of time over which amortization should occur?" The answer can depend on the source of the UAAL being amortized, as discussed below:

- ***UAAL Due to Actuarial Gains/Losses*** Actuarial gains and losses arise when there is a difference between the actuary's estimates (assumptions) and the actual experience of the plan. They can result

[3] Note that depending on plan experience there can be some contribution volatility when gain and loss layers are fully amortized. This can be avoided by selectively combining offsetting gain and loss layers, without affecting the overall amortization periods.

from demographic experience (*e.g.*, the number of new retirees is higher or lower than expected), investment experience (*e.g.*, returns that are higher or lower than expected), or other economic experience (*e.g.*, payroll growth that is higher or lower than expected). In determining the appropriate period for amortizing gains and losses, plan sponsors should strike a balance between reducing contribution volatility (which would lead to longer amortization periods) and maintaining a closer relationship between contributions and routine changes in the UAAL (which would lead to shorter amortization periods). For many plans, amortization periods in the range of 15 to 20 years for gains and losses would assist plans in achieving a balance between these objectives. This "sweet spot" would also reduce or avoid negative amortization, which is discussed in the accompanying text box.

- ***UAAL Due to Changes in Actuarial Assumptions*** Assumption changes (*e.g.*, a modification to the mortality assumption to anticipate future improvements in life expectancy) will result in an increase or decrease in the UAAL. Unlike gains and losses, which reflect actual past experience, assumptions are modified when future expectations about plan experience change. This amounts to taking the effect of future expected gains or losses and building it into the cost today. For that reason, and because of the long-term nature of assumption changes, a plan could be justified in using a longer amortization period than that used for actuarial gains or losses, perhaps in the range of 15 to 25 years.
- ***Amortization of UAAL Due to Plan Amendments*** Because plan amendments are under the control of the plan sponsor, managing contribution volatility is generally *not* a consideration for plan amendments. This means that the primary rationale in selecting the period is to support intergenerational equity by matching the amortization period to the demographics of the participants receiving the benefit. This leads to shorter, demographically based amortization periods. For active participants, this could be the average future working lifetime of the active participants receiving the benefit improvement, while for retirees, this could be the average life expectancy of the retired participants receiving the benefit improvement. This approach would usually result in no longer than a 15-year amortization period for benefit improvements. This is a change from past practice when many plans used a long (*e.g.*, 30-year) period for amortizing the effect of plan amendments.

  It is also advisable to consider any special circumstances that may apply to a specific benefit improvement in determining the appropriate amortization period. For example, early retirement incentives or "windows" generally call for much shorter amortization periods, to better match the period of the economic impact of the retirement incentive.
- ***Amortization of UAAL Due to Surplus*** Although today, with most plans underfunded, the thought of amortizing surpluses may seem irrelevant, the need for caution in treatment of such accumulated gains should be remembered, even if it may be many years before plans actually need to deal with this situation. One of the most significant changes in industry thinking and practice to come from the market experience around the turn of the 21st century is the way surplus is recognized in public pension funding policy. By the late 1990s, as many plans came close to being fully funded or even over-

Negative Amortization

An equitable amortization policy should ensure that the UAAL will be paid off in a reasonable period of time. Long amortization periods can make paying down the UAAL appear more affordable, but, because interest charges accrue and compound on the unpaid UAAL, it is prudent to set amortization periods that are not excessively long. This is especially important where level percent of pay amortization is being used.

With long amortization periods, the UAAL may increase during the early years of the amortization period, even though contributions are being made to amortize the UAAL. This phenomenon, known as "negative amortization," occurs only with level percent of pay amortization. This can happen because, under level percent of pay amortization, the lower early payments can actually be less than interest on the outstanding balance, so that the outstanding balance increases instead of decreases. For typical public plans, this happens whenever the average amortization period is longer than about 16 to 18 years.

While there is nothing inherently wrong with negative amortization in the context of a public plan, stakeholders should be aware of its consequences, especially for amortization periods substantially longer than 20 years.

Negative amortization is of particular concern for plans using open, or rolling, amortization periods. As described above, plans that use open/rolling amortization method "reset" to a new amortization period every year. By contrast, a plan using closed amortization commits to paying down the UAAL over a fixed period.

funded, there was a trend toward amortization periods as short as 10 or even five years. This led to rapid reductions in contributions (to levels even below normal cost) when the large investment gains from that period were recognized over such short periods. The investment losses in the early 2000s abruptly reversed this situation, leading to rapid cost increases. The general conclusion from this experience was that a contribution level less than the normal cost should always be viewed with caution, as ultimately the normal cost will reemerge as the basic cost of the plan. One possible response would be to require that contributions never fall below the normal cost level. However, that would be inconsistent with the actuarial principle that funding policy should target 100-percent funding, and not sustain a level that is either higher or lower than 100 percent. That leads to the general conclusion that surplus should be amortized, but over very long periods such as 30 years.

Each of these potential sources of UAAL deserves individual consideration in setting an amortization policy.

The GASB Effect: Funding Policy in the Spotlight

The Government Accounting Standards Board's proposed revisions to pension accounting standards are also bringing renewed attention to funding policy. First, GASB is proposing a separation of accounting from funding, so that the old rules for determining pension expense will no longer serve as a *de facto* standard for funding policy. Second, GASB is proposing that plans disclose the basis and amount for their "actuarially calculated employer contributions," along with a schedule showing whether those "ACEC" amounts were actually funded. In effect, GASB is leaving it to the plans to develop a funding policy but still requiring comprehensive disclosure of the operation of such a policy. Finally, a key technical point: GASB's new method for setting the discount rate involves a projection of plan assets, including employer contributions "based on current contribution policies and practices."[4] These GASB-related considerations make a review of a plan's funding policy all the more timely.

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Conclusion

A comprehensive funding policy is critical to navigating the rough waters surrounding pensions in the current environment. This *Public Sector Letter* identifies some goals and targets to aim for as well as some pitfalls to avoid. A careful review of the approach to funding will enable stakeholders to gain a clearer understanding of costs and to develop a realistic plan to pay these over time.

Funding policies can be modeled under alternative future circumstances that affect valuation results, such as investment returns, demographic changes, or liquidity requirements. Available tools range from a simple sensitivity analysis to a full asset and liability modeling. This latter type of review provides a range of outcomes as to how funding might be impacted under different economic circumstances and can assist in setting both investment strategies and funding policy.

Now is an appropriate time for a funding policy review. In many cases, stakeholders will be reassured about the path they have been following. In others, trustees and plan sponsors may discover that the commitments they have made in the past will require greater contributions. Still others may find that their commitments are no longer affordable and that benefits need to be reevaluated. In any of these scenarios, officials may also conclude that having a comprehensive statement of their funding policy in a single document is advantageous. A well-conceived funding policy can do more than ensure a well-funded plan; it can enlighten benefit policy, an issue that will be discussed in greater detail in a future *Public Sector Letter*.[5]

[4] For information about GASB's Exposure Draft, see The Segal Company's August 2011 *Bulletin*: http://www.segalco.com/publications/bulletins/aug2011GASB.pdf

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[5] Sponsors of public sector pension plans might also be interested in Segal's June 2011 *Public Sector Letter*, "Actual Cost vs. Market Price: Does Market Valuation of Pension Liabilities Fit the Public Sector?": http://www.segalco.com/publications/publicsectorletters/june2011.pdf