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November 14, 2012

VIA E-MAIL

Paul Cleary
Executive Director
Oregon PERS

Re: Request Number: 2012-008
Cost Allocation Concept: Effect of UAL Amortization Period

Dear Paul:

As requested, we have analyzed the actuarial impact and other considerations around the selection of an amortization policy for the Unfunded Accrued Liability (UAL) and the associated calculation of employer UAL Rates. This letter summarizes our analysis, including illustrating the current amortization policies used by PERS in comparison with longer amortization periods of either 25 or 30 years. In addition, a discussion of the current environment relevant to the selection of amortization periods, including recent changes in GASB reporting requirements, is included.

Background and Our Understanding

The current policy of the PERS Board is to amortize all actuarial gain or loss experience over a fixed period based upon the rate-setting actuarial valuation in which the gain or loss is first recognized. Gains or losses occur when investment or demographic experience differs from actuarial assumptions. Currently, the fixed amortization period is 20 years for Tier 1/Tier 2 experience, 16 years for OPSRP experience, and 10 years for RHIA and RHIPA experience. Since rates are set biennially, every two years a new gain or loss experience "amortization base" is established. A first year amortization payment is calculated based on the size of the amortization base, the associated amortization period, and the payroll growth and investment return assumptions. That payment is then combined with calculated payments for prior amortization bases to develop a total UAL amortization payment. That total payment divided by the applicable payroll is the uncollared UAL rate.

An amortization approach that uses fixed periods and establishes multiple amortization bases is referred to as a "fixed" or "closed" amortization method. This contrasts with an "open" or "rolling" amortization method, where a first year payment is recalculated each rate period for the entire UAL as of the calculation date. If the amortization period of an open method calculation is set too high, the UAL would never be eliminated in the event that all assumptions are met.

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For PERS, an amortization payment is calculated using a “level percent of payroll” amortization method based on the expected growth in annual system payroll, currently assumed to be 3.75% per year. Many large public pension systems use a level percent of payroll amortization approach. A budgeting advantage for employers of this approach is that if payroll grows as assumed the amortization payment associated with each amortization base remains level as a fixed percent of payroll throughout the amortization period. The actual dollar amount contributed to amortize the base grows each year over the period in line with payroll growth. This contrasts with a “level dollar” amortization method, in which the amortization payment remains constant in dollar terms over the amortization period. A level dollar amortization becomes smaller as a percentage of payroll as the payoff period progresses, assuming increasing payroll.

For Oregon PERS, any new amortization base established is set to the selected period for the given benefit program (Tier 1/Tier 2, OPSRP, Retiree Healthcare), regardless of the nature of the experience that gave rise to the base. This contrasts to the practice of some systems, which may vary the length of the amortization period according to the source or magnitude of the UAL. The UAL arising from a method or assumption change, for example, might be amortized over a different number of years than would be used for gains or losses from demographic or investment experience. Some systems selected to apply extended amortization periods to the large investment losses that occurred in 2008.

As part of its biennial review of actuarial methods and assumptions, the PERS Board could choose to change the current amortization policy. Alternatives could include lengthening or shortening the amortization period, employing a “rolling” amortization method rather than a “fixed” method, moving away from the level percent of payroll approach, or introducing varying amortization periods based on the source or magnitude of the gain or loss.

For this request, we have been asked to analyze the impact of increasing the UAL amortization period to either 25 or 30 years while retaining the level percent of payroll approach.

Illustration of Varying Amortization Periods

For comparison, we will consider the 25-year and 30-year amortization periods compared to the current 20-year period used to amortize new Tier 1/Tier 2 bases. Please note that while we are illustrating the current policy using a 20-year period, this is not to say that all UAL is currently amortized over 20 years. In the December 31, 2011 actuarial valuation, each Tier 1/Tier 2 rate pool or independent employer generally had three amortization bases, with remaining periods of 16, 18, and 20 years. In addition, the UALs associated with OPSRP and Retiree Healthcare are amortized over shorter periods, as described above. For comparison, however, it will be easiest to consider simply compare the 20-year period to the alternatives. Given that over 97% percent of current system-wide shortfall is Tier 1/Tier 2, comparison to the Tier 1/Tier 2 amortization period is appropriate.

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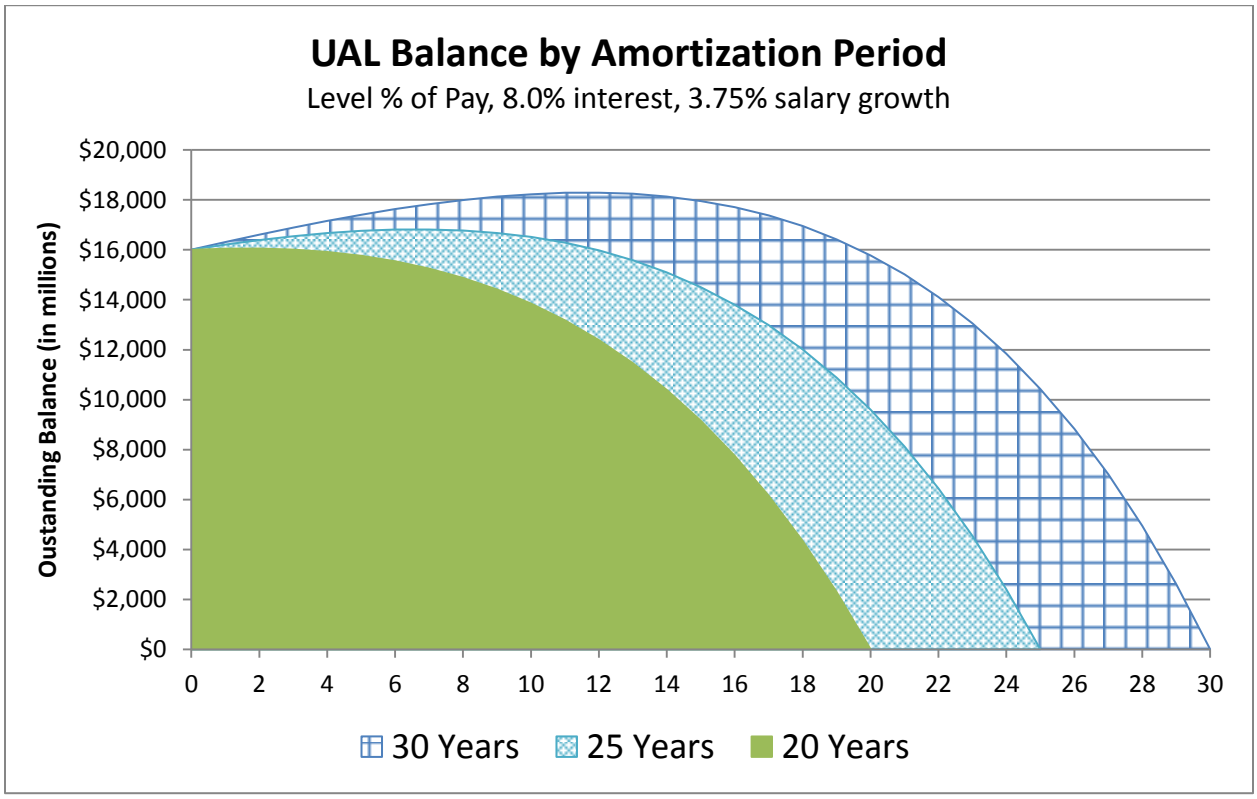
The graphs below illustrate the impact of the alternative periods on a single amortization base calculated as a level percentage of payroll using the current valuation assumptions of 8.0% interest and 3.75% payroll growth. For this purpose, we have illustrated a beginning UAL balance of $16 billion, approximately equal to the system-wide UAL excluding side accounts as of the December 31, 2011 actuarial valuation, and a projected first year system-wide payroll amount of approximately $8.55 billion from the same valuation.

The first chart illustrates the progression of the unamortized UAL balance over the amortization period. Both the 25 and 30-year amortization periods lead to several years of negative amortization – wherein the UAL balance actually grows, even if expected payments are made and all assumptions are met – before contribution amounts increase enough to reduce the balance and ultimately draw it down to zero. For a 30-year amortization period, the balance begins at $16 billion, increases to over $18 billion, and does not drop below the initial level of $16 billion again until about 20 years of payments have been made. A 25-year period also has negative amortization, though of a less significant magnitude than the 30-year period. The current amortization period of 20 years has a very slight negative amortization in the first few years, and more rapidly pays down the balance than either of the longer periods.



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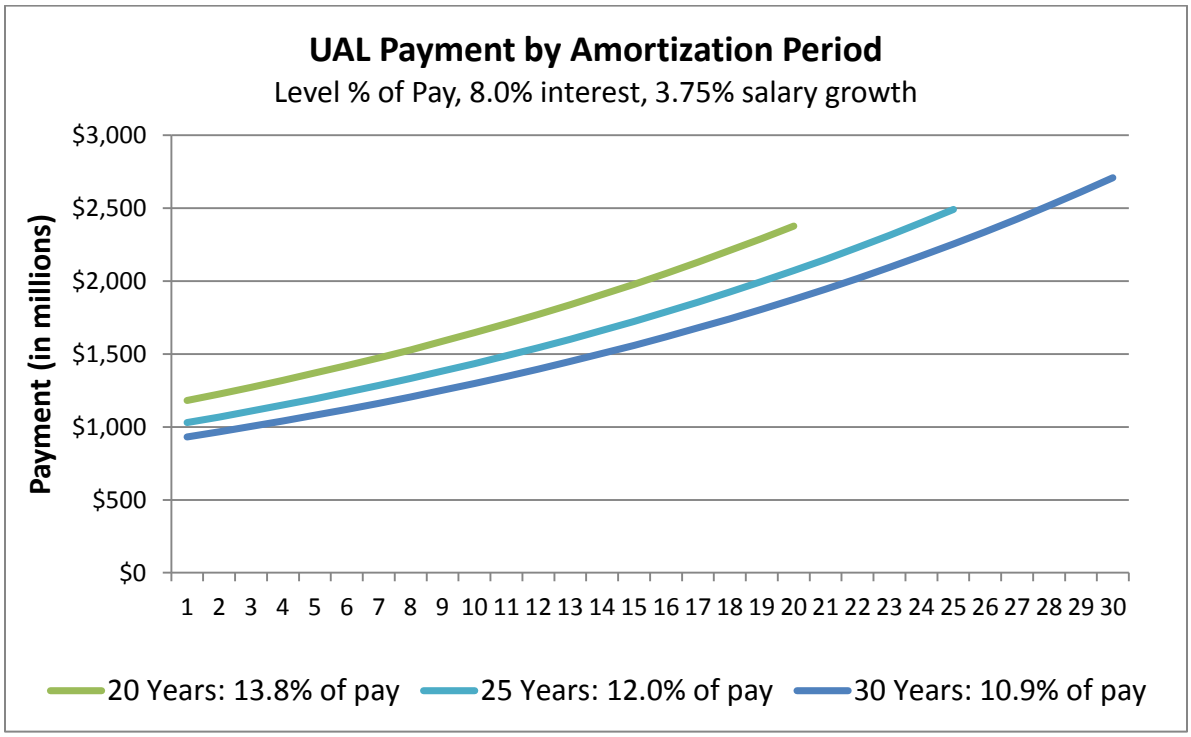
As can be seen above, the 20-year amortization is effectively an "interest only" amortization for the first four years followed by a payoff of the shortfall in the last sixteen years of the amortization. On the other hand, the 30-year amortization is markedly less than interest only in the initial years and the associated shortfall has grown to more than $18 billion at the halfway point of the amortization period. The original $16 billion shortfall does not start to be paid off until 20 years after the first amortization payment. This extended period with no progress in decreasing the shortfall is concerning when viewed from the perspective of intergenerational equity.

The contribution rates associated with each amortization period in our example are as follows:

Amortization Period	UAL Contribution Rate (level % pay; 8% interest & 3.75% payroll growth)
20 Year	13.8%
25 Year	12.0%
30 Year	10.9%

The chart below shows the expected UAL payments each year as a dollar amount. While a change from 20 year to 30 year would decrease the UAL rate by 2.9% of payroll, it adds ten additional years of payments. Also, as noted above, it would defer any reduction of the original $16 billion shortfall for 20 years.



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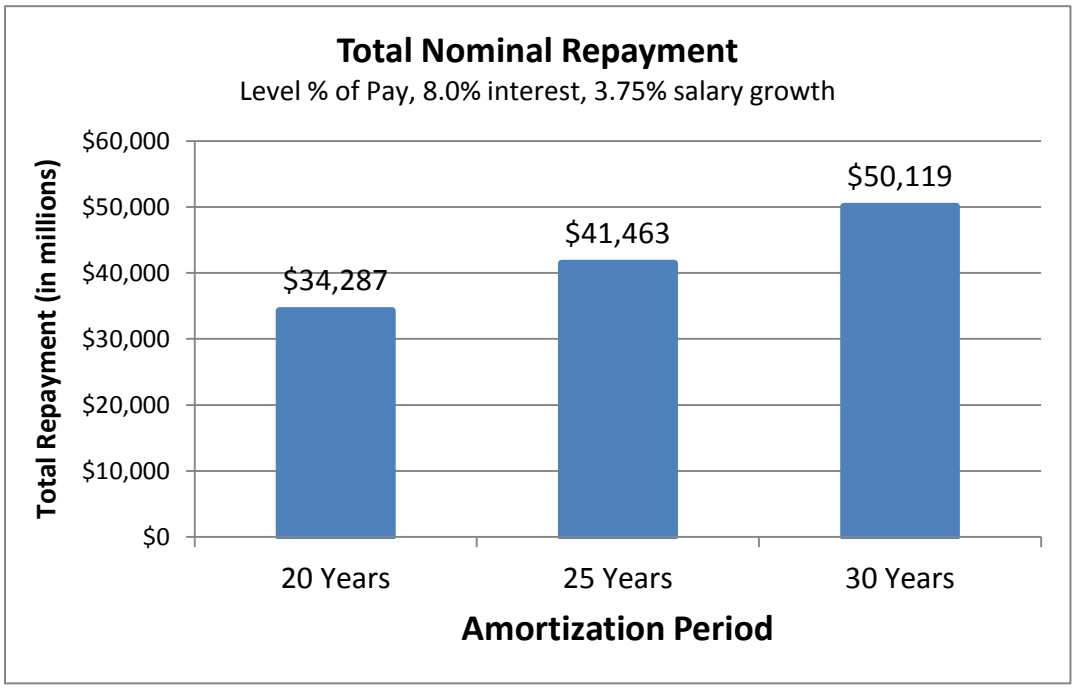
The final chart shows the total expected amount of repayments to be made over the course of the amortization period in nominal (non-inflation-adjusted) terms. While the 20-year amortization period requires the highest contribution rate of the three options, it produces a lower total repayment amount than the alternatives because it is paid over a shorter period. Of course, the net present value (discounted at 8%) of all three repayment patterns is the same, and is equal to the original $16 billion UAL.



Context for Amortization Policies

The selection of an appropriate amortization period is interwoven with two of the Oregon PERS Boards established principles: promoting intergenerational equity, and providing predictable and stable rates.

These principles are in tension with one another regarding the length of amortization period. While the concept of intergenerational equity may be interpreted differently by different parties, it commonly is viewed as calling for “demographic matching” of costs by having each generation of taxpayers fund the benefits of government employees who serve them, and to avoid leaving unpaid obligations for future generations to satisfy. In general, intergenerational equity argues for a relatively shorter amortization period. The goal of providing predictable and stable rates, however, argues for a longer amortization period to smooth out the effects of a given period’s gains or losses and avoid unnecessary volatility in the contribution rate.

The conflict between these two competing principles calls for seeking an appropriate balance in the selection of an amortization policy.

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Historically, another factor that has influenced the choice of amortization period for public plan sponsors has been the parameters set forth by the Governmental Accounting Standards Board (GASB) in their Statement 27 providing financial reporting standards for governmental employers who sponsor pension plans. While GASB standards cover plan accounting for sponsoring employers and there was never a requirement that a system fund in accordance with GASB 27, the standard was built with enough flexibility that a wide variety of funding policies could be chosen that also complied with GASB's requirements. For many sponsors, the GASB rules became a de-facto funding standard. Because the GASB standard allowed amortization approaches with extended or even permanent periods of negative amortization such as rolling 30 year level percent of pay, sponsors could select such a method and be considered "GASB compliant".

With the publication of GASB 68 this year, which replaces GASB 27 effective beginning in 2015, GASB has significantly changed the required plan accounting for sponsoring employers. In making the change, GASB has made it very clear that the new standard is not intended to be used as a funding method. The amortization periods required under the new standard are significantly shorter: plan amendments are recognized immediately, differences between expected and actual investment returns are amortized over five years, and most other experience is amortized over the expected remaining service period of plan participants.

The change in GASB standards, and particularly the clear distinction drawn in the new standard between policies for accounting and funding purposes, may lead some systems to take a fresh look at their amortization policies. Such an evaluation could aim to ensure policies are consistent with underlying system dynamics and objectives, and not simply chosen to comply with the historical GASB standard. The severing of the tie between contribution policy and financial reporting policy means that in future years the GASB standard can no longer serve as a de facto guideline for a contribution policy by sponsors, auditors or actuaries. As such, it is likely that organizations representing those entities may step into the void and publish model contribution policies. Based on our knowledge of those deliberations, it is likely model standards will emphasize the need for intergenerational equity and an associated goal of avoiding amortization approaches with prolonged periods of negative amortization. It is possible that an organization such as GFOA could condition the award of excellence in financial reporting certificates on compliance with model standards.

Other Considerations

In considering any potential change to contribution rate policy, it is important to keep in mind that actual system experience will deviate from the long-term assumptions. If the system has significant near-term negative experience in the future (for example, a year with a negative investment return) the amortization policy in place would impact the ability of the system to recover from such a negative event. This is because a shorter amortization period increases system funded status in the near and mid-term. Higher funded status prior to a negative event, all else equal, increases the ability of the system to recover from the event and ensure benefit security for members.

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Data, Methods, Assumptions, and Provisions

Other than the exceptions and additions noted above, the data, methods, assumptions, and plan provisions used to calculate employer contribution rates are the same as those used in the December 31, 2011 system-wide actuarial valuation report.

Actuarial Basis and Qualifications

In preparing this letter, and the valuation report on which it is based, we relied, without audit, on information (some oral and some in writing) supplied by Oregon PERS. This information includes, but is not limited to, statutory provisions, employee data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The updated estimates depend on the integrity of this information. If any of this information is inaccurate or incomplete our results may be different and our calculations may need to be revised.

All costs, liabilities, rates of interest, and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer a reasonable estimate of anticipated experience affecting the System.

Future actuarial measurements may differ significantly from the current measurements presented in this estimate due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of this estimate, we did not perform an analysis of the potential range of future measurements. The Board has the final decision regarding the valuation assumptions and adopted the assumptions used in the December 31, 2011 valuation in July 2011.

Actuarial computations presented in this estimate are for purposes of illustrating the effect of different UAL amortization policies. As such, they cannot be relied upon for financial reporting or other purposes, and calculations for purposes other than this use may be significantly different from the estimates contained in this letter. Accordingly, additional determinations may be needed for other purposes.

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The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, I hereby certify that, to the best of my knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. I am a member of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

If you have any questions about our response or need any additional information, please let us know.

Sincerely,

Matthew R. Larrabee, FSA, EA
Consulting Actuary

MRL:sdp
encl.

cc: Steve Rodeman
Debra Hembree
Scott Preppernau

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