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**University of California**

***GASB Statement No. 45, Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions***

**Issues Resolution Memo No. 45.4**

*Issued: January 31, 2007*

*Updated: November 7, 2008*

**Determining the Appropriate Investment Return Assumption (Discount Rate)**

**Define Issues**

Other Postemployment Benefits (OPEB) includes postemployment healthcare, as well as other forms of postemployment benefits (for example, life insurance) when provided separately from a pension plan. The University currently provides medical and dental benefits to its retirees.

The OPEB liability is calculated using actuarial standards and represents the estimated present value of future benefits. Certain economic assumptions must be used in developing this liability, including an investment return assumption (discount rate). This Issues Resolution Memo (IRM) addresses the approach that will be used for the investment return assumption.

**Background**

The GASB has published Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. The Statement outlines the information the University will be required to record in its financial statements and report in its footnotes regarding post employment benefits other than pensions. OPEB generally includes medical, dental, and vision insurance and other healthcare benefits. These changes are required for fiscal years 2007-08 and later.

The GASB believes that pension benefits, including OPEB, are a part of the compensation that employees earn each year; even though these benefits are not received until after employment has ended. Therefore, the cost of these future benefits is a part of the cost of providing public services today. Among other matters, the Statement requires the University to record as an operating expense the actuarially determined, accrued annual cost of providing OPEB to its

employees. It also requires the University to record and report the accrued net liability of its OPEB program.

## **Authoritative Guidance**

Paragraph 13c of GASB Statement No. 45 states the following:

“Economic assumptions – In addition to complying with the guidance in subparagraph b of this paragraph, the investment return assumption (discount rate) should be the estimated long-term investment yield on the investments that are expected to be used to finance the payment of benefits, with consideration given to the nature and mix of current and expected investments and the basis used to determine the actuarial value of assets (subparagraph e). The investments expected to be used to finance the payment of benefits would be *plan assets* for plans for which the employer’s funding policy is to contribute consistently an amount at least equal to the ARC (Annual Required Contribution), *assets of the employer* for plans that have no plan assets, or *a combination of the two* for plans that are being partially funded. The discount rate for a partially funded plan should be a blended rate that reflects the proportionate amounts of plan and employer assets expected to be used. The investment return assumption and other economic assumptions should include the same assumption with respect to inflation.”

Paragraph 120 of GASB Statement No. 45 states the following:

“The pension standards require that the discount rate used in discounting projected pension benefits to their present value should be the long-term expected yield rate on current and expected future plan assets. Because most OPEB plans currently are not funded and therefore have few or no plan assets, the Board considered a number of potential approaches to the selection of a discount rate for OPEB benefits. Approaches considered but rejected include the use of the following:

- a. A current yield rate on high-quality, low-risk bonds – rejected as inconsistent with the long-term focus adopted in the GASB pension Statements and in this Statement.
- b. A long-term expected yield rate on a surrogate portfolio, such as the employer’s pension plan or a similar employer’s funded OPEB plan – rejected as hypothetical and irrelevant to the employer’s choice of a financing method for the OPEB plan.
- c. A settlement rate – rejected as not feasible because of the improbability that insurers would assume the risk of postemployment healthcare benefit commitments, given the highly uncertain dollar amounts.

The Board concluded that, for consistency, the same principle applied in the pension standards with regard to selection of a discount rate also should be applied to OPEB. However, the principle should be more broadly stated in order to fit an OPEB environment in which plans could potentially be unfunded

(no assets), partially funded, or funded on a full actuarially determined basis. Accordingly, this Statement requires the use of the long-term expected yield on the investments that are expected to be used to pay benefits as they come due. These would be plan investments for a funded plan, the employer's investments for a pay-as-you-go plan, or a weighted average of expected plan and employer investments for a plan that is partially funded."

Paragraph 121 of GASB Statement No. 45 states the following:

"The Board recognizes that permissible investment options and yield opportunities for an employer's general investments may be more limited than those for a pension or employee benefit trust fund. As a result, discount rates for unfunded plans generally may be lower. The Board concluded that in either case the discount rate should reflect the expected yield on the assets expected to be used to finance the payment of benefits, and that pay-as-you-go employers generally could in fact expect to receive less help from asset earnings in financing the total cost of benefits."

Paragraph 122 of GASB Statement No. 45 states the following:

"Several Exposure Draft respondents commented that they believe the proposal to base the selection of a discount rate on the long-term expected rate of return on the assets expected to be available to pay or provide OPEB when due would be problematic in practice. Different respondents believe that this would be particularly true when an OPEB plan was partially funded, or when an employer had either no invested assets or two or more pools of invested assets. Others commented on the lack of relationship between employers' short-term investment objectives and OPEB funding considerations or on what they view as inconsistency in the discount plans for funded and unfunded plans. Suggestions from respondents included clarifying the definitions of *funded*, *partially funded* and *unfunded plans*; basing the discount rate on external benchmark securities; and requiring a discount rate that is "consistent for all entities" –at least to the extent that the discount rate for unfunded plans would be based on something other than short-term investment portfolios that many employers have. A number of other respondents recommended allowing employers that have OPEB plans that are initially unfunded, but that are in the process of establishing trust funds in anticipation of funding, to select a discount rate reflecting the expected long-term rate of earnings on the *anticipated* diversified investment mix of the trust."

Paragraph 123 of GASB Statement No. 45 states the following:

"After discussion, the Board reaffirmed its original decision that the selection of a discount rate should be based on the expected long-term rate of return on the assets expected to be available to pay or provide OPEB when due. Additional research indicated that actuaries would be able to develop an estimate of a blended discount rate based on the expected long-term rates of return on plan and employer investments, as required for partially funded plans. However, the Board concurred with a respondent suggestion to clarify the conditions under which the relevant rate of return would be based on:

- a. Plan assets – that is, *when the employer is contributing to the ARC on a regular basis* (previously referred to as funded plans).
- b. Employer assets – that is, *when no plan assets have been accumulated* (previously referred to as unfunded plans).
- c. A proportionate blend of plan and employer assets – that is, *when some plan assets have been accumulated, but the employer is contributing less than the ARC* (previously referred to as partially funded plans).

With regard to the *method* of developing a blended rate, the Board concluded that the rate should be proportional to the respective reliance expected to be placed on plan and employer assets to pay or provide OPEB when due. Research indicated that there are a number of reasonable approaches to determining a blended rate. These include what might be called a *funded ratio approach* (based on the extent to which a plan is funded) and an *ARC approach* (based on the percentage of the ARC actually being contributed). No single approach may be preferable in all circumstances. The Board concluded, therefore, that this Statement should not specify a particular approach to determining a blended rate; however, the approach used should be disclosed.”

## **Recommended Approach**

### *Conclusion*

The University will use the approach outlined in Alternative 2.

### *Discussion*

In the case of the University, there is currently a negligible amount of plan assets, and there is no plan to prefund the benefits; therefore, *assets of the employer* must represent the investments that are expected to be used to finance the payment of benefits. The general assets of the University are invested in the Short Term Investment Pool (STIP) and the Total Return Investment Pool (TRIP).

The investment return assumption (discount rate) should be based upon a) the estimated long-term investment yield on the STIP and TRIP since they are currently the investments that are expected to be used to finance the payment of benefits and b) a broad-based review of the future interest rates using a variety of other measures.

The estimated long-term investment yield on the STIP and TRIP is not the same as the current investment yield. The long-term investment yield must not only take into account the current nature and mix of investments, but also the cyclical nature of interest rates. By considering the long-term investment yield, there is an implied guideline that the discount rate used should not necessarily fluctuate from year-to-year potentially causing severe changes in the net OPEB liability and the ARC.

*Alternative 1 – Historical Average of STIP and TRIP Returns*

One method for considering the long-term investment yield of the STIP and TRIP is to look at the historical yield that takes into account many of the most recent interest rate cycles. This is also the most rigid method, which is why a broad based review of the future interest rates using a variety of other measures will also be considered.

The historical STIP yields are as follows (based upon Treasurer’s Office Annual Reports):

2008	4.8%	2007	4.8%	2006	4.1%
2005	3.8%	2004	3.4%	2003	3.9%
2002	5.0%	2001	6.2%	2000	6.0%
1999	6.0%	1998	6.3%	1997	6.2%
1996	6.5%	1995	6.5%	1994	5.9%
1993	6.4%	1992	7.2%	1991	7.9%
1990	8.3%	1989	8.2%		

Through June 30, 2008 the 20-year average STIP yield is 5.9 percent.

The TRIP was approved by the Regents in May 2008 and, therefore, currently has no historical yields.

Until such time as there are plan assets and a blended rate can be developed, the University’s policy could be to annually calculate the rolling 20-year investment yield for the STIP (and eventually the TRIP) as a basis for the OPEB discount rate assumption used by the University’s actuaries in their calculations. The assumption could be reviewed on an annual basis and modified, increased or decreased, when the average changes by approximately 25 basis points, or when a broad based review of the future interest rates using a variety of other measures warrants consideration.

*Alternative 2 – Building Block Method*

The following thoughts on the approach for establishing a discount rate for the University’s GASB 45 retiree health valuations were provided through discussions with Deloitte Consulting, the actuaries for the retiree health plan.

- An approach often used in these situations is referred to as a “building-block” method, as outlined in the Actuarial Standards of Practice (ASOP) for "Selection of Economic Assumptions for Measuring Pension Obligations" (No. 27).
- Under the building-block method, the expected future investment of a portfolio (e.g., the STIP and TRIP) is estimated using the following information and estimates:
  1. The expected long-term inflation level;

2. The broad asset classes making up the portfolio and their proportion of total assets; and
  3. For each asset class, the expected long-term real return (excess above inflation) of that asset class.
- The expected future return of each asset class is then the sum of (1) and (3) above, and the expected future portfolio return is the weighted average of the asset class returns, where the weights are the proportions in (2) above.
  - For the STIP, the following provides an estimate or range for the above:

1. **Long-term inflation: 3.0%**. (25-Year and 85-Year CPI each average approximately 3%)
2. In a recent UC Treasurer's report (June 30, 2008), the following **asset classes and proportions** are noted:

<b>Bonds/Fixed Income up to 1 Year:</b>	<b>49.8%</b>
<b>Bonds/Fixed Income &gt; 1 Year (up to 5.5 Years):</b>	<b>50.2%</b>

3. We believe a reasonable range for each asset's **real-returns** are as follows, based on long-term historical real returns:

<b>Bonds/Fixed Income up to 1 Year (risk-free premium):</b>	<b>0.5% to 1.5%</b>
<b>Bonds/Fixed Income &gt; 1 Year (up to 5.5 Years):</b>	<b>2.0% to 4.0%</b>

The Treasurer's report also provides the investment grade of the fixed income assets in the STIP, noting:

P-1, A-1, F-1 (highest quality short-term bond < 1 Year):	33.7%
AAA:	28.2%
AA:	9.3%
A:	13.7%
BBB:	15.3%

4. Overall **STIP expected long-term return** would then range from:

<b>Low-End of Range:</b>	<b>4.3%</b>	= (49.8% x <b>3.5%</b> ) + (50.2% x <b>5.0%</b> )
<b>Upper-End of Range:</b>	<b>5.8%</b>	= (49.8% x <b>4.5%</b> ) + (50.2% x <b>7.0%</b> )

- For the TRIP, the following provides an estimate or range for the above:
1. **Long-term inflation: 3.0%**. (25-Year and 85-Year CPI each average approximately 3%)

2. According to the investment guidelines of the TRIP, the target allocation of the assets is broken down as follows:

<b>US Fixed Income – Government:</b>	<b>10%</b>
<b>US Fixed Income – Credit:</b>	<b>45%</b>
<b>US Fixed Income – Securitized:</b>	<b>10%</b>
<b>High Yield Debt:</b>	<b>10%</b>
<b>US Equity - Large Cap:</b>	<b>10%</b>
<b>US Equity - Small Cap:</b>	<b>5%</b>
<b>Non US Equity (hedged):</b>	<b>10%</b>

3. We believe a reasonable range for each asset's **real-returns** are as follows, based on long-term historical real returns:

<b>US Fixed Income – Government:</b>	<b>1.5% to 3.5%</b>
<b>US Fixed Income – Credit and Securitized:</b>	<b>2.0% to 4.5%</b>
<b>High Yield Debt:</b>	<b>2.5% to 5.0%</b>
<b>US Equity - Large Cap and Non US Equity (hedged):</b>	<b>5.0% to 9.5%</b>
<b>US Equity - Small Cap:</b>	<b>7.0% to 13.0%</b>

4. Overall **TRIP expected long-term return** would then range from:

**Low-End of Range:**      **5.9%** = (10% x **4.5%**) + (55% x **5.0%**) + (10% x **5.5%**) + (20% x **8.0%**) + (5% x **10.0%**)

**Upper-End of Range:**      **8.9%** = (10% x **6.5%**) + (55% x **7.5%**) + (10% x **8.0%**) + (20% x **12.5%**) + (5% x **16.0%**)

- As of September 30, 2008 (the end of the first quarter that included investments in the TRIP), 81.7% of the assts were held in the STIP and 18.3% were held in the TRIP. Combining the expected returns of the STIP and the TRIP along with the initial weights of investments creates the following range for the **total portfolio expected long-term return:**

**Low-End of Range:**      **4.6%** = (81.7% x **4.3%**) + (18.3% x **5.9%**)

**Upper-End of Range:**      **6.4%** = (81.7% x **5.8%**) + (18.3% x **8.9%**)

Targeting the middle of the range yields **5.5%**.

- The above approach implies an overall portfolio real return of 2.5% (5.5% minus 3.0% inflation). Using Alternative 1 above (the 20-year actual STIP history of returns) is in essence using the actual real return during that time, which was approximately 3.0%, and the actual inflation, which was approximately 3.0%.