California Public Employees' Retirement System

Parallel Valuation and Certification of the Actuarial Valuation of the Judges' Retirement System As Of June 30, 2004

Report Completed In Satisfaction of Task 3 of Contract 2003-3236

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Overview

EFI Actuaries has completed a parallel valuation of the Judges' Retirement System (JRS, the System) as of June 30, 2004. As a result of our analysis, we are able to certify that the liabilities and costs computed in this Valuation are reasonable and were computed in accordance with generally accepted actuarial principles.

However, recent statements from the Governmental Accounting Standards Board (GASB) concerning certain unfunded non-pension plans raise some concern that the discount rate of 7% used to compute Plan liabilities could at some point in the future be deemed too high from an accounting viewpoint. Developments in this area will have to be monitored. This issue is discussed in detail below.

Background

The Judges Retirement System provides pensions and ancillary benefits to judges who were elected or appointed before November 9, 1994. Judges elected or appointed on or after that date are covered under Judges Retirement System II (JRS II). JRS and JRS II are separate retirement plans with separate memberships, separate asset pools, and no financial interrelationship.

Annual valuations of JRS are completed using the Aggregate Actuarial Cost Method. Each year total employer and member contributions are computed so that member pensions are funded as a level or increasing dollar amount for the next 30 years. The pricing process is based on certain assumptions regarding the rate of investment return on System assets, annual pay increases, inflation, turnover and retirement rates, and longevity of members.

A judge who has reached 60 and is credited with 20 or more years of service under the System will be awarded a lifetime pension of 75% of pay in the last judicial office held. Death, disability, and termination benefits are also paid from the System.

Participants contribute 8% of pay. The System is financed by employer and employee contributions and the investment return on System assets.

The actuarial valuation date is June 30, 2004. Employer contributions were in the past determined by law to be 8% of payroll, regardless of the results of the annual valuation. However, the CalPERS Board has adopted a resolution which provides that the recommended contributions shall be actuarially determined. Current and recent valuations recommend contributions based on two alternative funding patterns.

Actuarial assumptions used to compute System liabilities and employer costs include:

- A 7.0% annual rate of investment return, net of all expenses;
- Annual salary increases of 3.25%;
- Annual inflation of 3.0%;
- Retirement between the ages of 60 and 80 after ten years of service;

- Termination rates from 0.3% to 2.5% per year, depending on age and service; and
- Active and retired mortality rates from the 1994 Group Annuity Mortality Tables for Males and Females published by the Society of Actuaries.

Methodology

Parallel valuation and certification involves two steps:

- Review of Methods and Assumptions

  The actuarial assumptions and methods employed in the JRS Valuation were reviewed by EFI in order to establish that they meet acceptable standards of actuarial practice.

- Independent Parallel Valuation

  In order to verify the correctness of calculations in the JRS Valuation, EFI conducted an independent, parallel valuation using its own actuarial model. This independent valuation determines whether actuarial assumptions and methods are applied properly and yield the reported results. When significant differences are observed, test lives and other special computations may be employed to determine their source.

Review of Methods and Assumptions

Overall, the actuarial methods and assumptions adopted by CalPERS to compute JRS liabilities and costs are reasonable and in accordance with generally accepted actuarial principles. However, it is possible – but by no means certain – that the discount rate used for JRS accounting disclosures may be changed in the future.

The JRS I System is unfunded; benefits are paid as they come due, and no significant assets have been accumulated. Disclosures under GASB Statements 25 and 27 – including liabilities and the annual required contribution (ARC) – are computed using a 7% discount rate.

The GASB recently released Statements 43 and 45 to define generally accepted accounting principles as they apply to "Other Post-Employment Benefits." Such benefits are non-pension benefits, mainly retiree health insurance. Although Statement 45 deals with non-pension related benefits, the language used is similar (and in many cases identical) to the language used in GASB 25, which applies to pension benefits. The new Statement comments that the approach followed "... generally is consistent ..." between the two, "... with modifications to reflect differences between pension benefits and OPEB".

GASB 45 and its companion Statement GASB 43 were finalized and published in June of 2004. The required effective date for large government plans under the Statement is for periods beginning after December 15, 2006. For GASB 43, which applies to employers who maintain a trust fund for their OPEB plan and contains the same language regarding the determination of the discount rate, the effective date is one year earlier.

Unlike GASB 25, GASB 45 makes specific reference to the determination of the discount rate in

situations where the benefits are not completely prefunded – "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 120)

In the same paragraph, the Statement contains language considering the use of "A long-term expected-yield rate on a surrogate portfolio, such as the employers' pension plan or a similar employer's funded OPEB plan". However, this approach was "... rejected as hypothetical and irrelevant to the employer's choice of a financing method for the OPEB plan".

The arguments put forth by GASB in Statement 45 – if they were extended to pension plans – would appear to suggest that since the JRS is unfunded, a lower discount rate may be required, perhaps the rate being earned by the State Treasurer on short-term investments. While the current 7% assumed rate of return is acceptable from an actuarial perspective, its use in accounting disclosures could become questionable in the future.

Even though GASB Statements 43 and 45 do not apply to JRS, and are not yet effective, we recommend that developments in this area be monitored when the discount rate is set in future JRS actuarial reports.

Parallel Valuation

The JRS Valuation was performed using the CalPERS Actuarial Valuation System (AVS) to compute liabilities and costs. EFI validated the calculations by creating an *independent* actuarial model to develop the valuation results. The only data common to the two models was the participant data; the EFI model was developed separately, without reference to the system used for the staff Valuation.

Table 1 below shows the principal results of the parallel valuations using the 7.0% return assumption and two different funding patterns: Funding Pattern Alternative 1 is a 30-year level dollar amortization; Funding Pattern Alternative 2 is a 30-year increasing amortization, where the dollar contributions increase at 1% per year. We note in this table that the employer cost computed by EFI is very close to that computed by CalPERS staff. There was one measure, the Present Value of Future Employee Contributions, where EFI and CalPERS differed by more than 5%. However, this does not have a significant impact on the overall cost; therefore we do not believe this difference is material.

Table 1: Parallel Valuation Results

	JRS Valuation	EFI Parallel Valuation	EFI to JRS Difference
1. Present Value of Benefits for Active Members	$ 1,090,754,057	$ 1,116,604,782	2.37%
2. Liability for Vested Terminated Members and Alternate Payees with Deferred Benefits	73,748,316	73,729,816	(0.03)%
3. Liability for Members Receiving Benefits	1,297,402,150	1,305,951,038	0.66%
4. Total Fully Projected Liability (1) + (2) + (3)	2,461,904,523	2,496,285,636	1.40%
5. Present Value of Future Employee Contributions	47,978,078	51,535,105	7.41%
6. Assets	4,610,668	4,610,668	0.00%
7. Present Value of Employer Contributions (4) – (5) – (6)	$2,409,315,777	$2,440,139,863	1.28%
8. Employer Normal Cost For Benefits (Alt 1) (7) ÷ 13.27767	181,456,218	183,777,716	1.28%
9. Administrative Expenses	719,312	719,312	0.00%
10. Total Employer Normal Cost (8) + (9)	$182,175,530	$184,497,028	1.27%
11. Total Employer Contribution for FY 2005-06 (Alt 1) [(10) x 1.07]	$194,927,817	$197,411,820	1.27%
12. Employer Normal Cost For Benefits (Alt 2) (7) ÷ 14.67571	164,170,304	166,270,652	1.27%
13. Administrative Expenses	719,312	719,312	0.00%
14. Total Employer Normal Cost (12) + (13)	$164,889,616	$166,989,964	1.27%
15. Total Employer Contribution for FY 2005-06 [(14) x 1.07]	$176,431,889	$178,679,261	1.27%