

**ORANGE COUNTY EMPLOYEES
RETIREMENT SYSTEM**

**Review of Economic Actuarial Assumptions
for the December 31, 2011 Actuarial Valuation**

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September 7, 2011

Board of Retirement
Orange County Employees Retirement System
2223 Wellington Avenue
Santa Ana, CA 92701

**Re: Review of Economic Actuarial Assumptions
for the December 31, 2011 Actuarial Valuation**

Dear Members of the Board:

We are pleased to submit this report of our review of the December 31, 2011 economic actuarial assumptions for the Orange County Employees Retirement System. This report includes our recommendations and the analysis supporting their development.

Please note that we have also reviewed the non-economic actuarial experience for the three-year period from January 1, 2008 to December 31, 2010. Based on that review, the results and associated assumptions recommended for the December 31, 2011 valuation are provided in a separate report.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

We look forward to reviewing this report with you and answering any questions you may have.

Sincerely,

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Senior Vice President and Actuary

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I. INTRODUCTION, SUMMARY, AND RECOMMENDATIONS

To project the cost and liabilities of the Pension Fund, assumptions are made about all future events that could affect the amount and timing of the benefits to be paid and the assets to be accumulated. Each year actual experience is compared against the projected experience, and to the extent there are differences, the future contribution requirement is adjusted.

If assumptions are changed, contribution requirements are adjusted to take into account a change in the projected experience in all future years. There is a great difference in both philosophy and cost impact between recognizing the actuarial deviations as they occur annually and changing the actuarial assumptions. Adjusting contributions as gains or losses occur without making a change in the assumptions is appropriate if the deviation from projections is considered temporary and if, over the long run, experience is expected to return to what was originally assumed. Changing assumptions reflects a basic change in thinking about the future, and it has a much greater effect on the current contribution requirements than the gain or loss for a single year.

The use of realistic actuarial assumptions is important to maintain adequate funding, while fulfilling benefit commitments to participants already retired and to those near retirement. The actuarial assumptions do not determine the “actual cost” of the plan. The actual cost is determined solely by the benefits and administrative expenses paid out, offset by investment income received. However, it is desirable to estimate as closely as possible what the actual cost will be so as to permit an orderly method for setting aside contributions today to provide benefits in the future, and to maintain equity among generations of participants and taxpayers.

This study was undertaken in order to review the economic actuarial assumptions. The study was performed in accordance with Actuarial Standard of Practice (ASOP) No. 27, “Selection of Economic Assumptions for Measuring Pension Obligations.” This Standard of Practice puts forth guidelines for the selection of the economic actuarial assumptions utilized in a pension plan actuarial valuation.

We are recommending a change in the economic assumptions currently used by the Board. Our recommendations for the economic actuarial assumptions for the December 31, 2011 Actuarial Valuation are as follows:

Investment Return - The estimated average future net rate of return on current and future assets of the System as of the valuation date. This rate is used to discount liabilities.

Recommendation: Reduce the rate from 7.75% per annum to 7.50%. As the 7.50% recommendation would provide no margin under the risk adjusted model used by Segal to evaluate this assumption, we are also making an alternative recommendation for a 7.25% assumption that is consistent with current practice in that it continues to provide at least some margin under that model.

Inflation – Future increases in the cost-of-living index which drives investment returns and active member salary increases, as well as COLA increases to retired employees.

Recommendation: Maintain the rate at 3.50% per annum.

Individual Salary Increases - Increases in the salary of a member between the date of the valuation and the date of separation from active service. This assumption has three components:

- Inflationary salary increases.
- Real “across the board” salary increases.
- Merit and promotion increases.

Recommendation: Maintain the current inflationary salary increase of 3.50%, but introduce a real “across the board” salary increase of 0.25%. Please note that we would recommend this assumption change even if no action is taken at this time regarding the investment return assumption.

The recommended merit and promotion increase assumptions are provided in our December 31, 2010 triennial experience study report.

Section II provides some background on basic principles and the methodology used for the review of the economic actuarial assumptions. A detailed discussion of each of the economic assumptions and reasons behind the recommendations is found in Section III.

II. BACKGROUND AND METHODOLOGY

In this report, we analyzed the “economic” assumptions only. Our analysis of the “non-economic” assumptions for the December 31, 2011 valuation is provided in a separate report. The primary economic assumptions reviewed are inflation, investment return, and salary increases.

Economic Assumptions

Economic assumptions consist of:

Inflation - Increases in the price of goods and services. The inflation assumption reflects the basic return that investors expect from securities markets. It also reflects the expected basic salary increase for active employees and drives increases in the allowances of retired members.

Investment Return – Expected long-term rate of return on the System’s investments after expenses. This assumption has a significant impact on contribution rates.

Salary Increases – In addition to inflationary increases, it is assumed that salaries will also grow by “across the board” real pay increases in excess of price inflation. It is also assumed that employees will receive raises above these average increases as they advance in their careers. These are commonly referred to as promotional and merit increases. Payments to amortize any Unfunded Actuarial Accrued Liability (UAAL) are assumed to increase each year by the price inflation rate plus any “across the board” pay increases that are assumed.

The setting of these assumptions is described in Section III.

OCERS Investment Consultant Data

Please note that, for this report, whenever such information is required we have used the target asset allocation, capital market and inflation assumptions provided by OCERS’ prior investment consultant, Callan Associates, Inc. (CAI).

III. ECONOMIC ASSUMPTIONS

A. INFLATION

Unless an investment grows at least as fast as prices increase, investors will experience a reduction in the inflation-adjusted value of their investment. There may be times when “riskless” investments return more or less than inflation, but over the long term, investment market forces will require an issuer of securities to maintain a minimum return which protects investors from inflation.

The inflation assumption is long term in nature, so it is set using primarily historical information. Following is an analysis of 15-year and 30-year moving averages of historical inflation rates:

Historical Consumer Price Index – 1930 to 2010			
(U.S. City Average - All Urban Consumers)			
	<u>25th Percentile</u>	<u>Median</u>	<u>75th Percentile</u>
15-year moving averages	2.7%	3.5%	4.8%
30-year moving averages	3.3%	4.2%	5.0%

The average inflation rates have continued to decline gradually over the last several years due to the relatively low inflationary period over the past two decades. Also, the later of the 15-year averages during the period are lower as they do not include the high inflation years of the mid-1970s and early 1980s.

The current inflation assumption of 3.50% is comparable to most retirement systems, not only in California, but nationally. Here are some relevant comparisons:

System	Inflation Assumption
San Diego County Employees Retirement Association	3.50%
Los Angeles City Fire & Police Pensions	3.50%
Los Angeles County Employees’ Retirement Association	3.50%
CalPERS	3.00%
Median from NASRA 2010 Public Fund Survey	3.50%

Regarding the last entry, in a 2010 public fund survey published by the National Association of State Retirement Administrators (NASRA), the median inflation assumption used by 125 large

public retirement funds in their 2009 actuarial valuations was 3.50% and has remained unchanged from the 3.50% average from the 2008 valuations.

The System's prior investment consultant, CAI, anticipated an annual inflation rate of 2.50%, while the average inflation assumption provided to us by CAI and by eight other investment advisory firms retained by Segal's California public sector clients was 2.67%. Note that in general, the investment consultants' time horizon for this assumption is shorter than the time horizon we use for the actuarial valuation.

Based on this analysis, we recommend that the current 3.50% annual inflation assumption be continued for the December 31, 2011 valuation.

B. INVESTMENT RETURN

The investment return assumption is comprised of two primary components, inflation and real rate of investment return, with adjustments for expenses and risk.

Real Rate of Investment Return

This component represents the portfolio's incremental investment market returns over inflation. Theory has it that, as an investor takes a greater investment risk, the return on the investment is expected to also be greater, as least in the long run. This additional return is expected to vary by asset class and empirical data supports that expectation. For that reason, the real rate of return assumptions are developed by asset class. Therefore, the real rate of return assumption for a retirement system's portfolio will vary with the Board's asset allocation among asset classes.

Following is the System's target asset allocation as of May 31, 2011 and the average assumed real rate of return assumptions by asset class. The column of real rate of return assumptions represents the average of a sample that includes the expected annual real arithmetic rates of return provided to us by CAI and by eight other investment advisory firms retained by Segal's California public sector clients. We believe this sample average reflects a consensus forecast of long-term future market expectation that can be reasonably used to anticipate future long-term real market returns and to assess changes in that consensus forecast.

OCERS Target Asset Allocation as of May 31, 2011 and Assumed Real Rate of Return Assumptions by Asset Class and for the Portfolio

Asset Class	Percentage of Portfolio	Average Assumed Real Rate of Return from a Sample of Consultants to Segal's Public Sector Clients ⁽¹⁾
Broad Domestic Equity		
Large Cap	14.4%	6.35%
Mid/Small Cap	1.6%	7.22%
Developed International Equity	16.0%	6.79%
Emerging Market Equity	5.0%	9.08%
Global Equity ^{(2) (3)}	4.0%	7.55%
Domestic Fixed Income	19.0%	1.20%
International Fixed Income	5.0%	1.39%
Real Return (TIPS)	13.0%	1.27%
Absolute Return ⁽³⁾	7.0%	3.75%
Real Estate	10.0%	5.26%
Alternative Investments ⁽³⁾	5.0%	9.85%
Total Portfolio	100.0%	4.62%

⁽¹⁾ *Including counties of Orange, Alameda, Sacramento, San Bernardino, Contra Costa, San Diego, Fresno, Imperial and Ventura, LA City Employees, City of Fresno and East Bay MUD Retirement Systems.*

⁽²⁾ *Global equity is a broad international category that includes both developed and emerging markets.*

⁽³⁾ *Rate of return taken only from OCERS' former investment advisor, CAI.*

Please note that the comparable real rate of return calculated by using the assumed return from CAI alone is 4.87%.

Please note that the above are representative of “indexed” returns and do not include any additional returns (“alpha”) from active management. This is consistent with the Actuarial Standard of Practice No. 27, Section 3.6.3.e, which states:

Investment Manager Performance – Anticipating superior (or inferior) investment manager performance may be unduly optimistic (pessimistic). Few investment managers consistently achieve significant above-market returns net of expenses over long periods.

The following are some observations and our conclusions from the above analysis:

1. The investment consultants to our California public clients have each provided us with their expected real rates of return for each asset class, over various future periods of time. However, in general, the future time period returns available from investment consultants are shorter than the durations of a retirement plan's liabilities.
2. Using an average of expected real rate of returns allows the System's investment return assumption to include a broader range of capital market information and should help reduce year to year volatility in the System's investment return assumption.
3. Therefore, we recommend that the 4.62% portfolio real rate of return be used to determine the System's investment return assumption. For comparison purposes, the expected portfolio real rate of return from the last review of the economic assumption for the December 31, 2007 valuation was 5.65%.
4. Over one-third of the System's investment is in fixed income type securities and the expected average real rate of return from that class of investment has dropped by 100 to 150 basis points since the last review of the economic assumptions. This reduction in expected return for fixed income investment explains about one half of the reduction in the portfolio real return in (3).
5. The other one half of the reduction in the portfolio real return in (3) can be explained by the 50 to 100 basis points reduction in the expected average real rate of return for the equity portfolios.

System Expenses

The real rate of return assumption for the portfolio needs to be adjusted for administrative and investment expenses to be paid from investment income.

The following table provides the available history of these expenses in relation to the actuarial value of assets.

**Administrative and Investment Expenses as a Percentage of Actuarial Value of Assets
(All dollars in 000's)**

Plan Year	Actuarial Value of Assets ⁽¹⁾ (a)	Administrative Expenses (b)	Investment Expenses ⁽²⁾ (c)	Administrative Expense Percent (b) ÷ (a) (d)	Investment Expense Percent (c) ÷ (a) (e)	Total (d) + (e)
2006	\$5,786,617	\$9,600	\$18,438	0.17%	0.32%	0.49%
2007	6,466,085	10,459	30,032	0.16	0.46	0.62
2008	7,288,900	10,928	30,435	0.15	0.42	0.57
2009	7,748,380	10,893	34,819	0.14	0.45	0.59
2010	8,154,687	12,448	68,027 ⁽³⁾	0.15	0.83	<u>0.98</u>
					Average	0.65%

⁽¹⁾ *As of beginning of plan year.*

⁽²⁾ *Net of securities lending expenses*

⁽³⁾ *We understand that the 2010 investment expenses include some one-time expenses such as foreign tax expense that is expected to be offset by a future tax reclaim.*

While the average for the five-year period is above the current assumption of 0.60%, this is heavily influenced by the investment expenses in 2010. The average excluding the final year is 0.57%. Based on our understanding that some of the expenses for 2010 are one-time only, we believe the continued use of a future expense assumption of 0.60% is reasonable, however, this assumption should be monitored closely to determine if the 2010 experience represents a trend in future expenses.

Risk Adjustment

The real rate of return assumption for the portfolio is adjusted to reflect the potential risk of shortfalls in the return assumptions. The System's asset allocation also determines this portfolio risk, since risk levels also are expected to vary by asset class. This portfolio risk is incorporated into the real rate of return assumption through a risk adjustment.

The Board adopted an investment return assumption of 7.75% for the December 21, 2007 valuation. In combination with the inflation, real return and expense components from three years ago, that return implied a risk adjustment of 0.80%, reflecting a confidence level of 61% that the actual average return over 15 years would not fall below the assumed return, assuming that the distribution of returns over that period follows the normal statistical distribution.¹

¹ Based on an annual portfolio return standard deviation of 10.95% provided by CAI for the December 31, 2007 assumption study. Strictly speaking, future compounded long-term investment returns will tend to follow a log-normal distribution. However, we believe the Normal distribution assumption is reasonable for purposes of setting this type of risk adjustment.

In our model, the confidence level associated with a particular risk adjustment represents the likelihood that the actual average return would equal or exceed the assumed value over a 15-year period. For example, if we set our real rate of return assumption using a risk adjustment that produces a confidence level of 60%, then we would expect a 60% chance (6 out of 10) that the average return over 15 years will be equal to or greater than the assumed value.

If we use the same 61% confidence level from three years ago to set this year's risk adjustment based on the current long-term portfolio standard deviation of 11.74%, provided by CAI, the result is a risk adjustment of 0.88%. Together with the other investment return components, this produces a net investment return assumption of 6.64%, which is substantially lower than the current assumption of 7.75%.

Consistent with our approach to all assumption changes, here we would typically recommend an incremental change in this assumption to 7.50%. This is a long-term assumption which indicates that only so much weight should be given to the current economic conditions. We also note that 7.50% is at the low end of the most common range for this assumption among other California public sector retirement systems. That range, with few exceptions, is from 7.50% to 8.00%.

However it is also important to note that for an assumption of 7.50%, there would be substantially no risk adjustment (only 0.02%) and so only a confidence level of 50% (a one-half chance) that the average return over 15 years will be equal to or greater than the assumed value. This would represent a substantial change in OCERS' risk position compared to prior years, as evaluated by our risk-adjusted model.

As the 7.50% recommendation would provide no margin under the risk adjusted model, we are also making an alternative recommendation for a 7.25% assumption that provides at least some margin under that model. A net investment return assumption of 7.25%, together with the other investment return components, would produce a risk adjustment of 0.27%, which corresponds to a confidence level of 53%.

We note that the risk adjustment model and associated confidence level is most useful as a means for comparing how the System has positioned itself over periods of time.² The use of a 53% confidence level should be considered in context with other factors, including:

1. As noted above, the confidence level is more of a relative measure than an absolute measure, and so can be reevaluated and reset for future comparisons. Note that Segal's other California public retirement system clients have risk adjustments corresponding to confidence levels in the range of 55% to 62%.
2. The confidence level is based on the standard deviation of the portfolio that is determined and provided to us by CAI. The standard deviation is a statistical measure of the future volatility of the portfolio and so is itself based on assumptions about future portfolio volatility and can be considered somewhat of a "soft" number.

² In particular, it would not be appropriate to use this type of risk adjustment as a measure of determining an investment return rate that is "risk-free."

- As with any model, the results of the risk adjustment model should be evaluated for reasonableness and consistency. This is discussed in the following “Test of Risk Adjustment” section, including (1) a discussion of the relationship between the inflation assumption and the risk adjustment and (2) a comparison with assumptions adopted by similarly situated public sector retirement systems.

Taking into account the factors above, we would not consider a change in the net investment return assumption from 7.75% to either 7.50% or 7.25% to be unreasonable. In terms of our “risk adjustment” methodology, these returns would imply a risk adjustment of either 0.02% or 0.27%, reflecting a confidence level of either 50% or 53% that the actual average return over 15 years would not fall below the assumed return.

Recommended Investment Return Assumption

The following table provides the calculated investment return assumptions that result from the previous discussion.

Calculation of Investment Return Assumption			
<u>Assumption Component</u>	<u>Recommended Value</u>	<u>Alternative Recommendation</u>	<u>December 31, 2007 Recommendation</u>
Inflation	3.50%	3.50%	3.50%
Plus Portfolio Real Rate of Return	4.62%	4.62%	5.65%
Minus Expense Adjustment	(0.60%)	(0.60%)	(0.60%)
Minus Risk Adjustment	<u>(0.02%)</u>	<u>(0.27%)</u>	<u>(0.80%)</u>
Total	7.50%	7.25%	7.75%

Based on this analysis, we recommend that the investment return assumption be reduced from 7.75% per annum to 7.50%. As the 7.50% recommendation would provide no margin under the risk adjusted model used by Segal in evaluating this assumption, we are also making an alternative recommendation for a 7.25% assumption that is consistent with current practice in that it continues to provide at least some margin under that model.

Test of Risk Adjustment

The original development of the risk adjustment component of our investment earnings assumption model arose from our experience with many retirement boards over many years. Quite simply, combining the boards’ inflation assumption with the real return and expense components produced – and produces – a substantially higher assumed return than what the boards actually adopt, regardless of the consulting actuary or the methods involved in the process. This led to the development of a risk adjustment component for our model.

There is a range of risk adjustment methodologies that may be incorporated in the development of an earnings assumption. Ideally, the particular risk adjustment selected should reflect the “downside” risk tolerance of the boards making the decision. This is similar to the volatility risk that boards consider when selecting an appropriate asset allocation.

In addition to the generally risk adverse attitude of retirement boards noted above, we believe another reason for this adjustment may involve the inflation assumption. As noted earlier, the inflation assumption for actuarial valuations is generally longer term than that used by investment consultants. For many years, that has lead to higher actuarial valuation inflation assumptions. A higher inflation assumption has a conservative effect - higher current cost - on the wage increase and COLA assumption, but is less conservative as part of the investment earnings assumption. In effect, the risk adjustment compensates for this by offsetting the effect of the higher inflation assumption on assumed investment earnings.

One way to test the reasonableness of the risk adjustment incorporated in our recommendation is to compare our recommended risk adjusted investment return (i.e. 7.50%) against the expected net investment return that would result from using the average of all the capital market assumptions -- including the lower inflation assumption -- of the investment consultants in our sample.

The following table shows that comparison. This table shows how the difference between our recommended return and that derived using the average of all the capital market assumptions of the investment consultants in our sample can be attributed to the relationship between the two different inflation assumptions and the risk adjustment.

<u>Assumption Element:</u>	<u>Risk Adjusted Method</u>	<u>Average of Investment Consultant Sample</u>	<u>Difference</u>
Inflation	3.50%	2.67%	0.83%
Risk Adjustment	(0.02%)	0.00%	(0.02%)
Real Rate of Return	4.62%	4.62%	0.00%
Expenses	<u>(0.60%)</u>	<u>(0.60%)</u>	<u>0.00%</u>
Total	7.50%	6.69%	(0.81%)

The 0.81% (81 basis points) difference between the two calculations represents about a 10% lower confidence level under the higher inflation, risk adjusted method, as compared to the lower inflation result without the risk adjustment. Note that for our alternative recommendation of 7.25%, the difference would be 0.56% (56 basis points), which would represent about a 7% lower confidence level.

Comparing with Other Public Retirement Systems

One final test of the recommended investment return assumption is to compare it against those used by other public retirement systems, both in California and nationwide. That range, with few exceptions, is from 7.75% to 8.00%. In particular two of the largest California systems, CalPERS and LACERA, use a 7.75% earnings assumption. Note that CalPERS uses a lower inflation assumption of 3.00% while LACERA uses a comparable inflation assumption of 3.50%. Also note that the asset allocations at CalPERS and LACERS may not be comparable to OCERS.

The following table compares the OCERS recommended net investment return assumption against those of the nationwide public retirement systems that participated in the National Association of State Retirement Administrators (NASRA) 2010 Public Fund Survey:

Assumption	OCERS	NASRA 2010 Public Fund Survey		
		Low*	Median	High*
Net Investment Return	7.50%	7.25%	8.00%	8.50%
* After eliminating the very lowest as an outlier.				

As you can see, the recommended return assumption is below the median. The detailed survey results show 58 systems at 8.00%, 33 at 7.50% or 7.75%, and 31 at 8.25% or 8.50%. The survey also notes that several plans have reduced their investment return assumption during the last year, and others are considering doing so. Here again OCERS’ asset allocation may not be comparable to that used by these other systems.

C. SALARY INCREASE ASSUMPTION

Salary increases impact plan costs in two ways: (i) by increasing members’ benefits (since benefits are a function of the members’ highest average pay) and future normal cost collections; and (ii) by increasing total active member payroll which in turn generates higher UAAL amortization payments (or greater rate credit demands if the UAAL is negative). These two impacts are discussed separately below.

As an employee progresses through his or her career, increases in pay are expected to come from three sources:

1. Price Inflation – Unless pay grows at least as fast as consumer prices grow, employees will experience a reduction in their standard of living. There may be times when pay increases lag or exceed inflation, but over the long term, labor market forces will require an employer to maintain its employees’ standards of living.

As discussed earlier in this report, we are recommending an inflation rate of 3.50%. This inflation component will be used as part of the salary increase assumption.

2. Real “Across the Board” Pay Increases – These increases are typically termed productivity increases since they are considered to be derived from the ability of an organization or an economy to produce goods and services in a more efficient manner. As that occurs, some portion of the value of these improvements can provide a source for pay increases. These increases are typically assumed to extend to all employees “across the board.” The State and Local Government Workers Employment Cost Index produced by the Department of Labor provides evidence that real “across the board” pay increases have averaged about 0.7% - 1.0% annually during the last 10 - 20 years.

We also referred to the annual report on the financial status of the Social Security program published in August 2010. In that report, real “across the board” pay increases are forecast to be 1.2% per year under the intermediate assumptions.

Like price inflation, this component of the salary increase assumption is usually considered more of a “macroeconomic assumption”, rather than one based on experience specific to OCERS. However, if we do review OCERS experience in particular, the most recent salary increase experience indicates that actual average salary increases were higher than the actual change in CPI for most years:

<u>Valuation Date</u>	<u>Actual Average Increase⁽¹⁾</u>	<u>Actual Change in CPI⁽²⁾</u>
December 31, 2007	5.48%	3.30%
December 31, 2008	7.31%	3.53%
December 31, 2009	4.83%	-0.80%
December 31, 2010	<u>1.78%</u>	<u>1.20%</u>
Average	4.85%	1.81%

⁽¹⁾ *Reflects the increase in average salary for members at the beginning of the year versus those at the end of the year. It does not reflect the average salary increases received by members who worked the full year.*

⁽²⁾ *Based on the change in the annual average CPI for the Los Angeles-Riverside-Orange County Area compared to the prior year.*

Consistent with our recommendation from the last review of the economic assumptions, we are recommending an introduction of a real “across the board” salary increase assumption of 0.25% for the December 31, 2011 actuarial valuation, so that the combined inflation and “across the board” salary increase assumption increases from 3.50% to 3.75%. Please note that we would recommend this assumption change even if no action is taken at this time regarding the investment return assumption.

As noted above, the real pay increase assumption is generally considered a more macroeconomic assumption, which is not based on individual plan experience. While our preference is still for an “across the board” assumption that is higher than 0.25% based on the indicators presented above, we are comfortable in recommending a 0.25% assumption for the December 31, 2011 valuation. This is because, at least in the short term, it is not likely that average salary increases will exceed the combined inflation plus “across the board” assumption of 3.75% due to budgetary issues in California.

3. Merit and Promotion Increases – As the name implies, these increases come from an employee’s career advances. This form of pay increase differs from the previous two, since it is specific to the individual. OCERS has adopted age-specific merit and promotion assumptions. The recommended merit and promotion increase assumptions are provided in our December 31, 2010 triennial experience study report.

All three of these forces are incorporated into a salary increase assumption that is applied in the actuarial valuation to project future benefits and future normal cost contribution collections.

Active Member Payroll

Projected active member payrolls are used to develop the UAAL contribution rate. Future values are determined as a product of the number of employees in the workforce and the average pay for all employees. The average pay for all employees is assumed to increase only by inflation and real “across the board” pay increases. The merit and promotional increases are not an influence, because this average pay is not specific to an individual.

For the December 31, 2011 valuation, we recommend that the active member payroll increase assumption be increased from 3.50% to 3.75% annually, consistent with the combined inflation and “across the board” salary increase assumptions recommended in this report. Please note that we would recommend this assumption change even if no action is taken at this time regarding the investment return assumption.

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