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AGENDA ITEM 14

TO: MEMBERS OF THE BOARD OF ADMINISTRATION

- I. SUBJECT:** Impact of Economic Environment on Employer Rates and Possible Smoothing Modifications (First Reading)
- II. PROGRAM:** Retirement
- III. RECOMMENDATION:**

That the full CalPERS Board approves as a first reading the following smoothing changes:

- Increase the corridor limits for the actuarial value of assets from 80%-120% of market value to 80%-140% of market value on June 30, 2009
- Reduce the corridor limits for the actuarial value of assets to 80%-130% of market value on June 30, 2010
- Return to the 80%-120% of market value corridor limits for the actuarial value of assets on June 30, 2011 and thereafter
- Isolate and amortize all gains and losses during fiscal year 2008-2009, 2009-2010 and 2010-2011 over fixed and declining 30 year periods (as oppose to the current rolling 30 year amortization)

IV. ANALYSIS:

This agenda item discusses the impact of the recent investment market decline on employer contribution rates and possible smoothing modifications.

On October 21, 2008, the Board was presented with an agenda item providing the impact of what various investment return scenarios for fiscal year 2008-2009 would have on both the funded status and the employer contribution rates. These scenarios had returns that ranged from -20% to +20%. Following that agenda item, a circular letter was mailed to all public agencies and school employers providing them with the same information.

After October 2008, investment markets declined further. The decline in assets has changed on a daily basis and for the last 2 months it has ranged from -25% to as low as -31%. As of April 27, 2009, the CalPERS fund had lost more than 25% of its value since July 1, 2008. While there are still 2 months left in the fiscal year, a significant market turn around does not appear to be imminent.

Such a decline will have a significant impact on the funded status of plans at CalPERS and on the contribution rates that employers will have to pay in the future.

In 2005, the CalPERS Board adopted rate stabilization methods to mitigate the impact of fluctuations in the investment return on employer rates. The smoothing methods adopted by the Board consisted of the following features:

- Rolling 15 year smoothing of investment gains and losses subject to a 80%-120% corridor around the market value of asset
- Rolling 30 year amortization of all unamortized gains or losses
- Minimum contribution rate computed by amortizing surplus, if any, over 30 years

The current method has done an excellent job for gains and losses that remain within the 20% corridor around the market value of assets. However, the current market declines moves the unrestricted actuarial value of assets about 44% away from the market value of assets and the current methods do not handle this unique market downturn very well.

Impact on Employer Rates Under the Current Method

Under the current method, the actuarial value of assets hits the 120% of market value of assets corridor with a return of about -13%. At that point the 15 year smoothing stops and all asset losses beyond the -13% are amortized over 30 years without further smoothing. The consequences are dramatically different increases in employer rates depending on each plan's ratio of market value of assets to covered payroll (the "Ratio"), also known as the Volatility Index.

Plans with relatively larger benefits and earlier retirement ages need to accumulate assets at a faster rate than their counterparts. Such plans tend to have a higher Ratio and are more susceptible to larger asset gains or losses. These asset gains or losses are amortized over 30 years and converted into a percentage of pay by dividing the payment by the projected payroll. Thus larger Ratios combined with large asset gains or losses translate into larger contribution changes relative to payroll.

The Actuarial Office calculates employer contribution rates for over 2000 plans each year. As of June 30, 2007, most public agency miscellaneous plans have ratios between 4 and 8 and public agency safety plans have ratios between 6 and 10. 49 public agency plans had an asset to payroll ratio greater than 10. From these 49 plans, 1 plan had a ratio of 20 and 4 plans had a ratio near 15. For the State plans, the ratios varied from 3 for the State Safety plan, 7 for the State Miscellaneous plan and to almost 10 for the California Highway Patrol plan. The ratio for the Schools pool on June 30, 2007 was about 5.

The table below shows the estimated impact of several 2008-2009 investment returns on employer rates combined with varying asset to payroll ratios under the current smoothing method. These employer contribution rate changes (as a percentage of payroll) would occur in fiscal year 2010-2011 for the State and Schools plans and for fiscal year 2011-2012 for local public agency employers. Because safety plans tend to have higher asset to payroll ratios, safety plans will be impacted more severely by the economic downturn.

Current Method

Projected Change in Rates (as a Percentage of Payroll) in 2010-2011 for the State and Schools and in 2011-2012 for Public Agencies

Asset/Payroll Ratio On June 30, 2007	2008-2009 Investment Return		
	-30%	-25%	-20%
4	4.6%	3.3%	2.0%
6	6.9%	5.0%	3.0%
8	9.3%	6.6%	4.0%
10	11.6%	8.3%	5.0%
15	17.4%	12.5%	7.6%
20	23.1%	16.6%	10.1%

As said previously, staff feels that the global market decline that has taken place in fiscal year 2008-2009 is a unique event. For this reason, we believe that this year should be handled differently. Staff has studied alternative smoothing approaches that could be used in a way to help mitigate some of the impact of this unique and catastrophic event.

The Proposed Approach and Its Impact

The approach that we recommend to respond to this unique event is as follows:

- Increase the corridor to 140% of market value of assets on June 30, 2009
- Reduce the corridor to 130% of market value of assets on June 30, 2010
- Return to the 80%-120% corridor on June 30, 2011 and thereafter
- Isolate and amortize all gains and losses during fiscal years 2008-2009, 2009-2010 and 2010-2011 over fixed and declining 30 year period (as oppose to the current rolling 30 year amortization)

Such a change in method would phase in the impact of the investment loss in 2008-2009 over 3 fiscal years. Below is a table showing the estimated impact of the same 2008-2009 investment return scenarios on employer rates for varying asset to payroll ratios under the proposed smoothing method change. These employer contribution rate changes (as a percentage of payroll) would occur in fiscal year 2010-2011 for the State and Schools plans and for fiscal year 2011-2012 for local public agency employers.

Proposed Approach

Projected Change in Rates (as a Percentage of Payroll) in 2010-2011 for the State and Schools and in 2011-2012 for Public Agencies

Asset/Payroll Ratio On June 30, 2007	2008-2009 Investment Return		
	-30%	-25%	-20%
4	1.6%	0.4%	0.4%
6	2.4%	0.7%	0.5%
8	3.2%	0.9%	0.7%
10	4.0%	1.1%	0.9%
15	5.9%	1.6%	1.4%
20	7.9%	2.2%	1.8%

An important aspect of this proposed change in the smoothing method is that it will prevent employer rates from increasing dramatically in subsequent fiscal years if the investment markets were to rebound in 2009-2010 or 2010-2011. To the extent CalPERS earns its assumed 7.75% investment return in the next two years, the employer rates are going to increase to levels we would see under the current methods but two years later. It is important to note that unless the investment markets recover, delaying increases in contribution rates only means that more money will have to be collected in the future.

This can be illustrated by looking at the two tables below showing the potential increases in employer rates under the current method and the proposed change for various returns in 2008-2009 and assuming a return of 7.75% for fiscal years 2009-2010 and 2010-2011.

Projected Change in Rates (as a Percentage of Payroll) in 2011-2012 for the State and Schools and in 2012-2013 for Public Agencies						
Asset/Payroll Ratio On June 30, 2007	-30% in FY 08-09 and 7.75% in FY09-10		-25% in FY 08-09 and 7.75% in FY09-10		-20% in FY 08-09 and 7.75% in FY09-10	
	Current	Proposed	Current	Proposed	Current	Proposed
4	0.2%	1.6%	0.2%	1.3%	0.2%	0.4%
6	0.3%	2.4%	0.3%	2.0%	0.4%	0.5%
8	0.4%	3.2%	0.5%	2.6%	0.5%	0.7%
10	0.5%	4.0%	0.6%	3.3%	0.6%	0.9%
15	0.8%	6.0%	0.9%	4.9%	0.9%	1.3%
20	1.1%	7.9%	1.1%	6.5%	1.2%	1.8%

Projected Change in Rates (as a Percentage of Payroll) in 2012-2013 for the State and Schools and in 2013-2014 for Public Agencies						
Asset/Payroll Ratio On June 30, 2007	-30% in FY 08-09, 7.75% in FY09-10, and 7.75% in FY10-11		-25% in FY 08-09, 7.75% in FY09-10, and 7.75% in FY10-11		-20% in FY 08-09, 7.75% in FY09-10, and 7.75% in FY10-11	
	Current	Proposed	Current	Proposed	Current	Proposed
4	0.2%	1.7%	0.2%	1.8%	0.2%	1.4%
6	0.3%	2.5%	0.3%	2.7%	0.4%	2.1%
8	0.4%	3.3%	0.4%	3.6%	0.5%	2.9%
10	0.5%	4.1%	0.6%	4.4%	0.6%	3.6%
15	0.8%	6.2%	0.8%	6.7%	0.9%	5.3%
20	1.0%	8.3%	1.1%	8.9%	1.2%	7.1%

Beyond fiscal years 2012-2013 for the State and Schools and 2014-2015 for public agencies, under both the current and proposed method employer rates will continue to rise slowly over time at a pace of less than 1% of payroll even if CalPERS continues to earn its anticipated 7.75% return. It would take returns well in excess of 7.75% to prevent a steady rise in employer rates.

A projection of future employer contribution rates under the -25% scenario shown above can be found in Attachments 1 thru 4. These attachments compare the future rates for the current and proposed method as well as two other methods later described in the agenda item for a plan with an asset to payroll ratio of 7.

Impact on Funded Status

Whenever changes to smoothing are considered, one of the most important risk measures to look at is the funded status of the plan. As was done back in 2005, the proposed change in the smoothing method was tested by developing the probability that the funded status will drop below certain levels and or increase above certain levels.

Other than the temporary change in method, staff looked at other alternatives. As a starting point, staff looked at what other Retirement Systems in California were currently doing to smooth employer rates.

Staff gathered information related to smoothing methods implemented by other retirement systems within California. There are 58 counties in California of which 36 contract with CalPERS. The other 22 counties operate under the '37 Act Counties Retirement Law. All but 2 systems utilize 5 year smoothing while the other two use 3 and 10 year smoothing. About half use an 80% to 120% corridor, while the others use no corridor. The amortization period of the unfunded liability ranged from 15 to 30 years.

Based on this information, staff first looked at eliminating the use of a corridor but keeping the current 15 year smoothing. This method was quickly dropped since

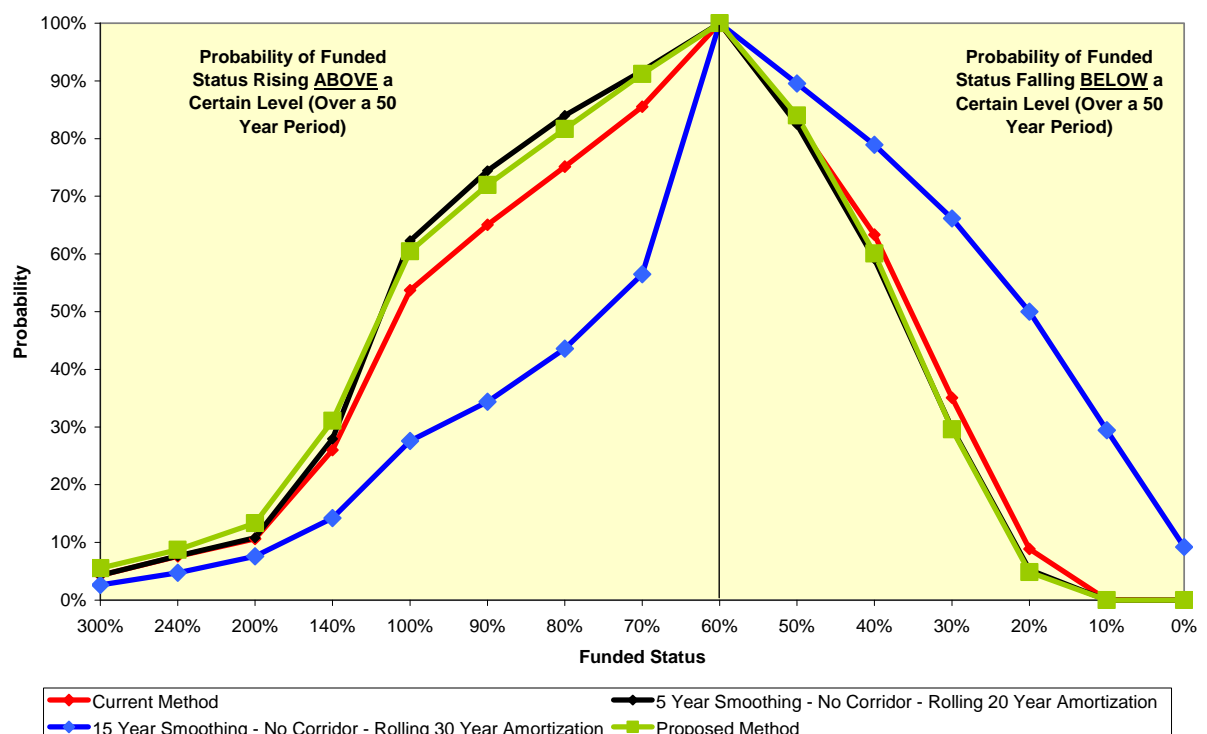
it led to a probability of about 10% of the fund running out of money at some point over the next 50 years.

The method used by almost half of the 1937 County Act system consists of a 5 year smoothing period without the use of a corridor. Such method would produce greater fluctuation in rates than our method except in years when the corridor comes into play like this fiscal year.

We compared the risk to the funded status of using such method in combination with our existing practice of amortizing gains and losses over a rolling 30 year period. Under such method, the risk of seeing the funded status dropping to low levels was greater than our existing methods. Only by amortizing the gains and losses over a 20 year period instead of 30 did the risk become lower. However, the risk was not lower than the risk associated with the proposed temporary change in smoothing primarily due to the use of the fixed 30 year amortization. Having a fixed 30 year declining amortization of gains and losses for the next three year adds conservatism to the proposed method over the existing method.

Below is a graph showing the probability of the funding status either falling below or increasing above the current level. Note that this graph was prepared assuming a -28% return for 2008-2009 which would result in CalPERS having a funded status slightly below 60% on June 30, 2009.

Impact of Revised Rate Stabilization Methods on Funded Status



Actuarial Standards of Practice

Certain standards of practice apply to most professions. Actuaries are guided by the Actuarial Standards of Practice (ASOP). ASOP 44, Selection and Use of Asset Valuation Methods for Pension Valuations, gives guidance in regards to the actuarial value of assets.

There are two main requirements under ASOP 44. First, the asset values must fall within a reasonable range around the corresponding market values, i.e. the corridor. Second, any differences between the actuarial value and the market value are recognized within a reasonable period of time, i.e. the smoothing period.

ASOP 44 does not specify what would fall outside the standard of practice but based on our professional opinion, the proposed change in method would continue to meet the standard of practice based on the risk shown on the graph on the previous page.

V. STRATEGIC PLAN:

This item is not a specific product of the Strategic or Annual Plans but is part of the regular and ongoing workload of the Actuarial & Employer Services Division.

VI. RESULTS/COSTS:

See Above.

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