Agenda Item 11a

February 18, 2014

ITEM NAME: Strategic Asset Allocation Alternatives

PROGRAM: Asset Allocation and Risk Management

ITEM TYPE: Asset Allocation, Performance & Risk – Action

RECOMMENDATION
Select Portfolio A which maintains the existing 7.5% discount rate while reducing expected volatility and the "growth" related risk concentration.

EXECUTIVE SUMMARY
Throughout 2013, the Investment Committee (IC) has provided feedback and direction on an array of parameters associated with the Asset Liability Management (ALM) process. This agenda item presents three possible strategic asset allocations (Table 1) resulting from the cumulative input and perspective of the IC. These three alternatives all represent a choice capable of maintaining the 7.5% discount rate, while having nuanced differences in expected return and risk levels. Staff believes that all of the alternatives constitute reasonable and implementable choices. Across the alternatives, the expected compound returns range from 7.15% to 7.35%, while the expected volatility of return varies from 11.76% to 12.52%. For reference, the existing strategic asset allocation reflects an expected compound return of 7.25% with an expected volatility of 12.45% using the current ALM capital market assumptions. The placement of these alternatives along the modeled efficient frontier, demonstrates an increase in expected volatility of about 4 basis points for each 1 basis point increase to expected return. The ALM process has reflected the sensitivity of the actuarial risk considerations (funded level, contribution level and contribution volatility) to the expected volatility of investment returns. In addition to expected compound return volatility, Investment Office (INVO) is also sensitive to the relative concentration of investment risk on "growth". The staff recommendation supports a reduction of this risk concentration to the extent possible.

STRATEGIC PLAN
This agenda item supports the CalPERS Strategic Plan goal of improving long-term pension and health benefit sustainability.

BACKGROUND
In a variety of venues, including the November 2013 ALM workshop, the IC has provided feedback and direction regarding their preferences on a number of parameters underlying the construction of possible strategic asset allocation mixes. These parameters include:

- Market segments to be included
- Capital market assumptions used in the modeling process
- Constraints applied to several of the included market segments to account for capacity or minimum diversification concerns
- Expected return and risk profile of potential asset allocation mixes
- Actuarial risk considerations which are sensitive to the asset allocation.

Significant discussion has taken place on the topics of Liquidity, Absolute Return Strategies (ARS), Global Equity market segments and currency. The conclusions derived from these discussions and embedded in the alternative asset allocations are:

1. Liquidity – A 2% constraint. This level of allocation to Liquidity is consistent with the recommendation from the Finance Office and INVO staff, as well as being consistent with the current state of evolution in Treasury management.

2. ARS – Continue to include ARS as an "active" program as it has been in the past with no target allocation at this time. The assessment of ARS relative to its program role (diversification of equity risk), shall continue with further information being presented to the IC over the next year.

3. Global Equity – Global Equity shall continue to be benchmarked to a global, market capitalization weighted benchmark without the inclusion of alternate benchmark definitions such as low volatility. The efficacy of a redefinition of the public equity benchmark is a topic that will be examined in greater depth as a component of a broader benchmark exploration beginning late in 2014.

4. Currency – The return and risk estimates used in the modeling process represent unhedged characteristics. This modeling structure is consistent with many years of ALM practice. As presented at the September 2013 IC Workshop, the INVO staff recommendation is to remove the passive currency hedge, thus bringing the implemented strategic asset allocation into alignment with the modeling process. Currency management would then move into an "active" program with INVO staff being accountable for determining an expectation regarding the potential movement of the U.S. dollar relative to foreign currencies. Unless directed otherwise, staff shall interpret the selection of the strategic asset allocation to include removal of the passive currency hedge.

ANALYSIS
Table 1 displays alternative strategic asset allocation combinations (Candidate Portfolios A, B and C) alongside the current policy portfolio which has been in place since the 2010 ALM process. The expected compound return and volatility characteristics of the current policy portfolio have been derived from the capital markets assumptions underlying the 2013 ALM process. The expected compound

return of the candidate portfolios range between 7.15% and 7.35%. Expected volatility of the candidates range between 11.76% and 12.52%. The area occupied by the candidate portfolios within the modeled efficient frontier demonstrates a tradeoff between return and risk where a 1 basis point increase to expected return, results in nearly a 4 basis point increase to expected risk.

Table 1 - Strategic Asset Allocation Alternatives

Candidate Portfolios				Current Policy Portfolio
Asset Class Component	Portfolio A	Portfolio B	Portfolio C	
Global Equity	47%	50%	52%	50%
Global Fixed Income	19%	17%	16%	17%
Inflation Sensitive	6%	5%	4%	4%
Private Equity	12%	12%	12%	14%
Real Estate	11%	11%	11%	9%
Infrastructure and Forestland	3%	3%	3%	2%
Liquidity	2%	2%	2%	4%
Expected Compound Return (1-10 yrs.) :	7.15%	7.27%	7.35%	7.25%
Blended Return (1-60 yrs.)[1] :	7.56%	7.66%	7.72%	7.63%
Expected Volatility :	11.76%	12.22%	12.52%	12.45%
Potential Discount Rate:	7.50%	7.50%	7.50%	7.50%

The various alternative asset allocations have had the segment weightings rounded to the nearest whole percentage. Assigning target weights using fractional percentages is believed to convey more precision than is warranted by the modeling process. The expected return and risk characteristics have been calculated from the resulting rounded weights.
Within the modeling process, the weights to some of the asset classes have been fixed due to capacity or diversification considerations. Table 2 reflects the asset

classes where binding constraints have been used consistent with feedback from the November 2013 ALM workshop.

Table 2 - Binding Constraints

Asset Class	Binding	Constraint
Inflation Sensitive	Maximum	6%
Private Equity	Maximum	12%
Real Estate	Maximum	11%
Infrastructure & Forestland	Maximum	3%
Liquidity	Minimum	2%

The asset classes of Global Equity, Global Fixed Income and Inflation Assets have been allowed to vary in the modeling process. The analysis has been centered on maintaining an expected compound rate of return adequate to sustain the existing 7.5% discount rate used within the actuarial work. These expected return levels derive from the capital market assumptions which assume a 10 year horizon. The ability of these expected compound return levels to support the 7.5% discount rate derives from the long term blended return where the Actuarial Office extrapolates the market expectations for an additional 50 years.

BUDGET AND FISCAL IMPACTS
Not Applicable

BENEFITS/RISKS
The spectrum of expected compound return represented by the alternatives represents the breadth of choice that facilitates the retention of the existing discount rate for actuarial purposes, without the provision of a margin for adverse deviation. The maintenance of the discount rate is considered a benefit. The staff recommendation (Portfolio A) attempts to reduce expected volatility and “growth” related risk concentration to the extent possible while maintaining the existing discount rate.

A risk associated with this recommendation is that the actual long term market return eventually experienced may fall below the capital market expectations used in the modeling process. The blended expected compound return of Portfolio A from the capital market assumptions and actuarial extrapolation is 7.56%. This number provides a small margin for error.

ATTACHMENTS
Attachment 1 – Pension Consulting Alliance Inc. Opinion Letter
Attachment 2 – Wilshire Consulting Opinion Letter

____
ERIC BAGGESEN
Senior Investment Officer
Asset Allocation and Risk Management

____
THEODORE ELIOPOULOS
Acting Chief Investment Officer

15760 Ventura Blvd.. Suite 700
Encino, CA 91436
Phone: 818.995.8713
Fax: 818.990.7403

www.pensionconsulting.com

Los Angeles • Portland • New York

February 6, 2014

Mr. Henry Jones, Chairman
Investment Committee
California Public Employees' Retirement System
Sacramento, California 95814

Re: Strategic Asset Allocation Recommendation

Dear Mr. Jones,

The purpose of this letter is to provide the Investment Committee with Pension Consulting Alliance's (PCA's) opinion regarding Agenda Item 11 for the February Investment Committee meeting. In summary, PCA (1) supports the staff's recommendation to select the "Portfolio A" option, and (2) believes that the staff has presented a reasonable number of portfolio options that address the board's desire to see alternative allocations. The final set of candidate portfolios focuses on a subset of alternative allocations that fall within a tight range of expected risk and return. Given this caveat, PCA believes the Committee has been provided with a reasonable range of risk / return options over the course of the Asset Liability Management (ALM) process from which to make a decision.

Over the last year or so, CalPERS' staff and consultants have engaged in a rigorous process to assist the Investment Committee in the consideration of a new/alternative strategic investment policy. The ALM process has covered a wide array of topics, from risk allocation to liquidity management to sustainable investing and benchmarking. PCA supports the outcome of the ALM process and believes the staff has done a good job in framing the tradeoffs of the various strategic policy choices, presenting new areas of investment thinking, as well as responding to the input from the Board.

The final array of choices presented in staff's January 13, 2014 memo to the Investment Committee is reasonable and prudent. There are minor differences among the alternative strategic allocations, driven by different allocations between growth (public equity), fixed income, and inflation-sensitive classifications. Viewed through a macroeconomic risk factor allocation prism, we note that both Current Policy and staff's recommended "Portfolio A" policy exhibit biases toward economic growth. In other words, regardless of the final choice selected, the success of the strategic policy will be dictated largely by global economic growth trends – if economic growth is generally favorable, the portfolio will likely perform well over time, if economic growth falters, the portfolio may underperform expectations, possibly by a material amount.

Given the above context and the various tradeoffs CalPERS faces, PCA believes that the Committee can make an informed decision on the basis of the information provided in the agenda item.

Regardless of the final selection of the Investment Committee, there should be recognition that the final approved choice represents a long-term strategy. Along those lines, actually shifting CalPERS' sizable actual portfolio to the long-term policy should take place in a deliberate and prudent manner. This concern is particularly important given CalPERS' large proportional allocation to the private markets and that these specific portfolios involve tens of billions of dollars of actual and committed assets that cannot be altered quickly. In this context, PCA believes steady, systematic dollar-cost-averaging approaches to new policy allocation levels among the classes warrant serious consideration.

We look forward to addressing any questions or clarifications on this matter at the Investment Committee meeting.

Respectfully,

Allan Emkin

Michael C. Schlachter, CFA
Managing Director & Principal

February 7, 2014

Mr. Henry Jones
Chairman of the Investment Committee
California Public Employees' Retirement System
400 P Street, Suite 3492
Sacramento, CA 95814

Re: Strategic Asset Allocation Alternatives

Dear Mr. Jones:

We have reviewed the asset allocation agenda item prepared by Staff for approval at the February Investment Committee meeting. Our recommendation regarding this item is below, as well as further discussion.

Recommendation

While we recognize that the asset allocation process is not an exact science, where precision in projected returns and risk is not possible, we note that mix "B" increases return slightly and decreases risk moderately from the current asset allocation mix, both of which are desirable outcomes, and is preferable to the current asset allocation mix. Mix "A", recommended by Staff, moderately reduces return from the current target allocation but disproportionately decreases risk, making this also an acceptable selection to us. As a result, we recommend the selection of either A or B, depending on the Investment Committee's level of risk tolerance. We do note, below, that we question whether the real estate targets are achievable. In addition, we do not fully agree with Staff's recommendation to eliminate the currency hedge.

Discussion

The alternative asset allocation options are a product of discussions held over the course of two investment committee meetings and the January offsite and are reflective of the discussion held by the Investment Committee. In particular, we note that the allocation to ARS investments as a quasi-asset class is 0% in any of the mixes, as directed by the Investment Committee, and the allocation to cash in all mixes is 2%, matching the recommendation from the CFO. The allocation to Private Equity at 12% across the board corresponds to direction from the Investment Committee to reduce the risk allocated to this asset class from its current level. There was not as clear a direction given by the Investment Committee regarding the allocation to Fixed Income and Global Equities, and the allocation to these asset classes was set at a level which delivers the best overall risk/return tradeoff for each alternative mix.

For Real Estate and Infrastructure, while we do not object to the target allocation contained in any of the mixes, we note that CalPERS has had difficulty over the last few years reaching any higher targets than the current level. In the 2010-2011 asset allocation process, the Real Estate target was originally set at 10% but later reduced to 9% when it was clear CalPERS would be unable to reach that 10% target. The annual plans from the Infrastructure team have routinely reported how expensive transactions have been and how difficult it has been to reach the target allocation level. Over the last three years, Real Estate and Infrastructure have remained expensive and, while Staff has provided us with an explanation of why they are confident these higher targets are now attainable, we continue to question whether CalPERS can actually reach these higher allocation targets in an expedient fashion.

Finally, we remain unconvinced that the currency hedge should be eliminated as this agenda item recommends. As Staff's analysis illustrated at a workshop last fall, the currency hedge has reduced risk slightly for CalPERS without decreasing return. While we understand that maintaining the hedge does lead to unpredictable cash flows, CalPERS has made great strides recently in the area of system-wide cash management that should decrease the uncertainty around this program and the burden of managing it in the future. Given the proven reduction in risk to CalPERS with no impact on return and a decreasing cash flow management problem going forward, we believe that this program should be given more consideration for continuation.

If you have any comments or questions, please let us know.

Sincerely,

Wilshire Associates
370 Interlocken Boulevard Suite 620 Broomfield, CO 80021 **TEL** 303.626.7447 **FAX** 303.466.1537
www.wilshire.com