Investment Committee
Agenda Item 5a

June 19, 2017

Item Name: ALM: Adoption of Capital Market Assumptions

Program: Asset Allocation & Risk Management

Item Type: Action

Recommendation
Adopt the Capital Market Assumptions (CMAs), as presented by staff in Table 1 and the benchmarks as presented in Table 2, for use in the 2017 Asset Liability Management (ALM) process. In Attachment 1, we include more information on the methodology we used to develop the CMAs. Consultant opinion letters from Wilshire Associates, Pension Consulting Alliance, and Meketa Investment Group are provided as Attachments 2, 3, and 4, respectively.

Table 1

Asset Class	Compound Return	Volatility (Std. Dev)	Correlation					
			Global Equity	Private Equity	Fixed Income	Real Assets	Inflation	Liquidity
Global Equity	6.8%	17.0%	1.00					
Private Equity	8.3%	25.5%	0.81	1.00				
Fixed Income	3.0%	6.6%	0.01	0.00	1.00			
Real Assets	5.8%	12.6%	0.59	0.48	0.09	1.00		
Inflation	2.8%	8.0%	0.39	0.33	0.40	0.21	1.00	
Liquidity	2.0%	1.0%	0.00	0.00	0.31	0.00	0.08	1.00
U.S. Inflation Assumption: 2.00%								

Table 2

Asset Class / Segment	Benchmark Proxy
Public Equity Cap Weighted (inclusive of Private Equity)	Custom FTSE All World, All Capitalization + return hurdle (TBD)
Global Fixed Income	90% Bloomberg-Barclays Long Liabilities + 10% Bloomberg-Barclays International Fixed Income Index GDP weighted ex-U.S.
Real Assets (inclusive of Real Estate, Infra., Forest)	MSCI Investment Property Databank U.S. Core – Fund Level (MSCI IPD) benchmark
Inflation	75% Bloomberg-Barclays Global Inflation Linked Bonds + 25% S&P Goldman Sachs Commodity Index (GSCI)
Liquidity	3-Month U.S. Treasury Bills

Executive Summary

CMAs are essential inputs into the 2017 Asset Liability Management (ALM) process. The chronology of key activities for the 2017 ALM process is outlined in Attachment 5. The presented metrics represent the output of a comprehensive and prudent estimation approach that has been informed by multiple sources including outside consultants and internal senior Staff. Consensus was reached through an open and thorough discussion process. While return prospects have been declining for decades following the downward trend in interest rates, the capital market expectations being recommended for adoption do not represent a material change in expectations from our presentation to the Board in the 2016 Interim Asset Allocation Targets Review. Important to note, however, is an expected decline in inflation from the level used in 2013 of 2.75% to 2.00%.

Strategic Plan

This item supports California Public Employees' Retirement System (CalPERS) Strategic Plan goal of improving long-term pension and health benefit sustainability. CalPERS conducts an in-depth ALM process every four years to review asset and liability management. These processes culminate in the selection of a Policy Portfolio which is then used to guide and define the strategic asset allocation across the Total Fund.

Investment Beliefs

The Asset-Liability Management (ALM) process and associated Strategic Asset Allocation are primary activities underlying the exercise of fiduciary responsibility by the CalPERS Board and staff. Many of CalPERS' Investment Beliefs are associated with this activity and agenda item, including:

Investment Belief 1:
Liabilities must influence the asset structure.

Investment Belief 2:
A long time horizon is a responsibility and an advantage.

Investment Belief 5:
CalPERS must articulate its investment goals and performance measures and ensure clear accountability for their execution.

Investment Belief 6:
Strategic asset allocation is the dominant determinant of portfolio risk and return.

Investment Belief 7:
CalPERS will take risk only where we have a strong belief we will be rewarded for it.

Investment Belief 9:
Risk to CalPERS is multi-faceted and not fully captured through measures such as volatility or tracking error.

Background
The ALM process is an important step to help ensure that contributions, plus investment returns, are sufficient to pay CalPERS' benefits and expenses. Every four years, staff presents to the Investment Committee potential Strategic Asset Allocations to each asset class that are estimated to allow CalPERS to realize its long-term assumed rate of return while maintaining prudent levels of risk.

CMAs for each asset class are critical inputs to the process that ultimately constructs the Policy Portfolio. CMAs have a direct impact on the composition of the Policy Portfolio and therefore directly affect the risk and return profile of the Total Fund.

Analysis
Identifying CMAs is a critical step in the ALM process. Not only does it require knowledge and expertise of every asset class in our Policy Portfolio, but it also depends on CalPERS customized benchmarks and investment strategies. In addition, forecasting CMAs for asset classes entails a meaningful level of uncertainty, particularly for more volatile asset classes. An open and inclusive approach, including surveying all major investment banks and Board Consultants, was adopted to gain as much information as possible.

Consensus was reached through open and thorough discussions between consultants and internal staff. For every asset class, these discussions verified the theoretical justification for the underlying valuation models and assumptions used therein. We noted the legitimate dispersion of opinions regarding expectations about the future and made choices consistent with our best knowledge. For example, there is a limited range of dispersion regarding the expected returns of Global Equity because there is widely available information and more industry consensus on fundamental valuation models. On the other hand, expected returns for Private Equity and Real Assets have wider dispersion due to the various benchmarks, methodologies and leverage assumptions used. In that case, we had a deeper discussion and adopted assumptions that were most consistent with our investment strategy for Private Equity and Real Assets.

Budget and Fiscal Impacts
Not Applicable.

Benefits and Risks
CMAs are the essential inputs and starting points of the ALM process. All subsequent analyses depend on their identification making the timing of adoption important. Staff recommends adoption of the presented CMAs for the following reasons:

1. Our procedure is consistent with industry practice;
2. There are no pending issues nor unresolved concerns;
3. Our consensus was reached through open and thorough discussions;
4. Inherent uncertainty has been adequately noted and will be incorporated into our subsequent analyses.

The benefit of adoption of these metrics is that it allows staff to proceed with the ALM process and devote more time and effort to subsequent analyses which involve a conscious attempt to compensate for some of the uncertainty inherent in estimating CMAs. The risk of non-adoption would be more time and effort spent without a clear target for improvement.

Attachments
Attachment 1 – 2017 10-Year Capital Market Assumptions
Attachment 2 – Wilshire Associates Opinion Letter
Attachment 3 – Pension Consulting Alliance Opinion Letter
Attachment 4 – Meketa Investment Group Opinion Letter
Attachment 5 – Ensuring a Sound and Sustainable Pension Fund

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