Investment Committee

California Public Employees' Retirement System

May 13, 2013

ITEM NAME: 2013 Asset Liability Management Workshop: Review of Asset Class Roles and Introduction to Capital Market Assumptions

PROGRAM: Total Fund

ITEM TYPE: Investment Committee Workshop – Information

EXECUTIVE SUMMARY

This item is part of the 2013 Asset Liability Management (ALM) Process. This item provides information on:

1. A timeline for the 2013 ALM Process.
2. A review of changes to the strategic roles and benchmarks underlying the asset classes included in the ALM process.
3. An introduction to the framework for transforming asset classes into risk factors.
4. An introduction to the process and methodology used to estimate Capital Market Assumptions (CMAs), which are inputs to the eventual optimization process.

The chronology of key Investment Committee activities in the 2013 ALM Process is outlined in Attachment 1.

STRATEGIC PLAN

This item supports the CalPERS Strategic Plan goal of improving long-term pension and health benefit sustainability. CalPERS conducts an in-depth ALM Process every three years to review asset and liability management. These triennial 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.

BACKGROUND

The ALM Process is an important step to help ensure that contributions, plus investment returns, are sufficient to pay the benefits and expenses of the System. Every three years, staff presents potential 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.

The process to determine the appropriate asset class mix considers many asset and liability factors including:

- Asset class behavior in the forecasted market environment,
- Estimated benefit payments and operating expenses,
- Expected employer and member contributions, and
- CalPERS current funding level.

The strategic role and benchmark of each asset class is a key building block in the Total Fund Policy Portfolio construction process. In the 2010 ALM workshop, CalPERS adopted an alternative classification which categorized the asset classes into the following risk buckets: Growth, Income, Real, Inflation, and Liquidity. The rationale for this alternative classification was to better group assets according to fundamental macro risk and return drivers. This year, as part of the 2013 ALM Process, CalPERS will continue its progression toward a risk factor-based allocation.

In addition to asset class roles and benchmarks, CMAs for each asset class are critical inputs to the process that ultimately constructs the Total Fund 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

<u>Asset Class Roles and Benchmarks</u>

Key asset class role and benchmark changes being considered for 2013 include:

- Potential Change to Global Equity (GE) benchmark – Introducing a Minimum Volatility (Min Vol) Index as another GE benchmark option
- Adding Absolute Return Strategies (ARS) as a Strategic Asset Class – Including ARS in the ALM Process analysis as a strategic asset class
- Revisions to the GFI and ILB Benchmarks – Revising the international portion of the Global Fixed Income (GFI) and Inflation-linked Bond (ILB) benchmarks.

Additional information about key asset class role and benchmark changes is included in the sections below.

Potential Change to GE Benchmark

Equity returns currently dominate CalPERS Total Fund returns which can result in occasional large peak to trough declines in net asset value and a mismatch in the correlation to the growth rate of CalPERS liabilities. Most options for reducing equity risk are expensive in that they meaningfully lower expected returns of the Total Fund and would ultimately result in higher contributions. For example, transferring assets from equities to fixed income is very expensive in the current low-interest rate environment.

In contrast, retrospective analysis suggests the Min Vol Index would have been an efficient way to improve the Total Fund risk profile and preserve capital during equity market downturns. Min Vol Indices are based on historical evidence that lower volatility stocks earn superior risk adjusted returns. These indices are constructed by optimizing market capitalization weighted global equity indices to obtain the lowest total risk for a given set of investable constraints. By including the Min Vol Index, the Total Fund could have improved its historical risk-adjusted return with higher returns, lower volatility, and lower peak to trough declines in net asset value. Initial analysis implies that the Min Vol concept may offer improved fundamental qualities (e.g., dividend yield, profitability, leverage, etc.) than the current market capitalization weighted index.

A primary concern with adopting a Min Vol strategy is the historical underperformance in strong bull markets such as the technology bubble in the 1990s.

Adding ARS as Strategic Asset Class

Analysis on the ARS strategic role and parameters was presented to the IC in February 2013. The presentation included the ARS Strategic Plan and confirmed that ARS would be included in the 2013 ALM Process.

Revisions to GFI and ILB Benchmarks

Staff is proposing to change the current market capitalization weighted GFI international benchmark to a Gross Domestic Product (GDP) weighted benchmark and to change the current ILB international benchmark from five countries to sixteen countries. These benchmark changes would impact 2.6% of the Total Fund.

The rationale for the changes is a broadening of the opportunity set, reduced concentration risk, and increased exposure to countries whose economies are expected to contribute a greater percentage of future global GDP. May 2013 Investment Committee Agenda Item 7a, *Proposed Revision of the Total Fund Benchmarks Policy to Reflect Global Fixed Income Benchmark and Inflation Assets Benchmark Changes,* contains additional information on the proposed changes.

Capital Market Assumptions

Forecasting CMAs for asset classes entails a meaningful level of uncertainty, particularly for more volatile asset classes. Therefore, it is imperative that we understand the potential for forecasting errors when formulating CMAs and their impacts on the Policy Portfolio. Attachment 4, *Introduction to Capital Market Assumptions*, contains presentations prepared by staff, Pension Consulting Alliance Inc. (PCA), and Wilshire Associates.

ATTACHMENTS

Attachment 1 – 2013 ALM Process Overview
Attachment 2 – Review of Asset Class Roles and Risk Factors Framework
Attachment 3 – Introduction to Capital Market Assumptions Presenter Biographies
Attachment 4 – Introduction to Capital Market Assumptions

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