CalPERS

Investment Committee

Agenda Item 5a

June 13, 2016

Item Name: Interim Asset Allocation Targets Review (Including Capital Markets Outlook)

Program: Asset Allocation & Risk Management

Item Type: Action

Recommendation
Maintain the interim strategic asset allocation targets, as approved in 2015, with no change.

Executive Summary
This item provides the following:

1. An informational market-based valuation analysis at the mid-point of CalPERS' four-year Asset Liability Management (ALM) cycle.
2. A recommendation for continued use of CalPERS' existing interim asset allocation targets, for consideration and action by the Investment Committee.
3. An informational update on the capital markets outlook, including market trends since the 2013 adoption of CalPERS' capital market assumptions.

Opinion letters from Wilshire Associates and Pension Consulting Alliance (PCA) are provided as Attachments 1 and 2, respectively. A presentation including information on market outlooks from Wilshire Associates is provided as Attachment 3. Additionally, PCA's May 2016 Investment Market Risk Metrics package, containing additional insights into market valuations and outlooks, is provided as Attachment 4.

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

Investment Beliefs
This agenda item supports the following CalPERS Investment Beliefs:

- Investment Belief 2, that a long term investment horizon is a responsibility and an advantage.
- Investment Belief 3, that CalPERS investment decisions may reflect wider stakeholder views provided they are consistent with its fiduciary duty to members and beneficiaries.
- Investment Belief 6, that strategic asset allocation is the dominant determinant of portfolio risk and return.
- Investment Belief 8, that costs matter and need to be effectively managed.

Background

1. Market Valuation Analysis

In May of 2014, the Investment Committee (Committee) took action to revise the Total Fund Investment Policy (Total Fund Policy) to reflect the outcomes of the 2013-14 ALM process. Several changes were made, including:

1. Solidifying the linkage between the work of the Investment Office and Actuarial Office in the ALM process by aligning key ALM activities on the same four-year cycle.

2. Requiring a market valuation-based analysis be brought to the Committee at the midpoint of the four-year ALM cycle, or as warranted by changes in market conditions.

This agenda item represents the first instance of the market valuation-based analysis.

2. Interim Asset Allocation Target

In May of 2014, CalPERS established interim asset allocation targets for use during the process of implementing the approved strategic policy targets (as selected by the Board of Administration in February 2014). CalPERS' Total Fund Policy states that interim asset allocation targets will be reviewed annually while in use. The Committee last reviewed the interim asset allocation targets in 2015. The 2015 review culminated in actions to:

- Establish interim targets for the Liquidity and Global Fixed Income asset classes.

- Maintain the interim targets for Global Equity, Private Equity, and Real Assets classes, as established in 2014 with no change.

3. Capital Markets Outlook

This item makes reference to capital market assumptions and their role in CalPERS strategic asset allocation process. In 2013, capital market assumptions were developed by Staff and the Board's Investment Consultants. The process involved market surveys and collaborative discussion to arrive at a consensus set of expectations which were presented to the Committee and adopted as inputs to the ALM process.

In preview to the next ALM analysis taking place in 2017, this item reflects current capital market assumptions as collected from several market intermediaries and compares them to the estimates used in 2013.

Analysis

Additional information on the key components of this agenda items is available in the sections below:

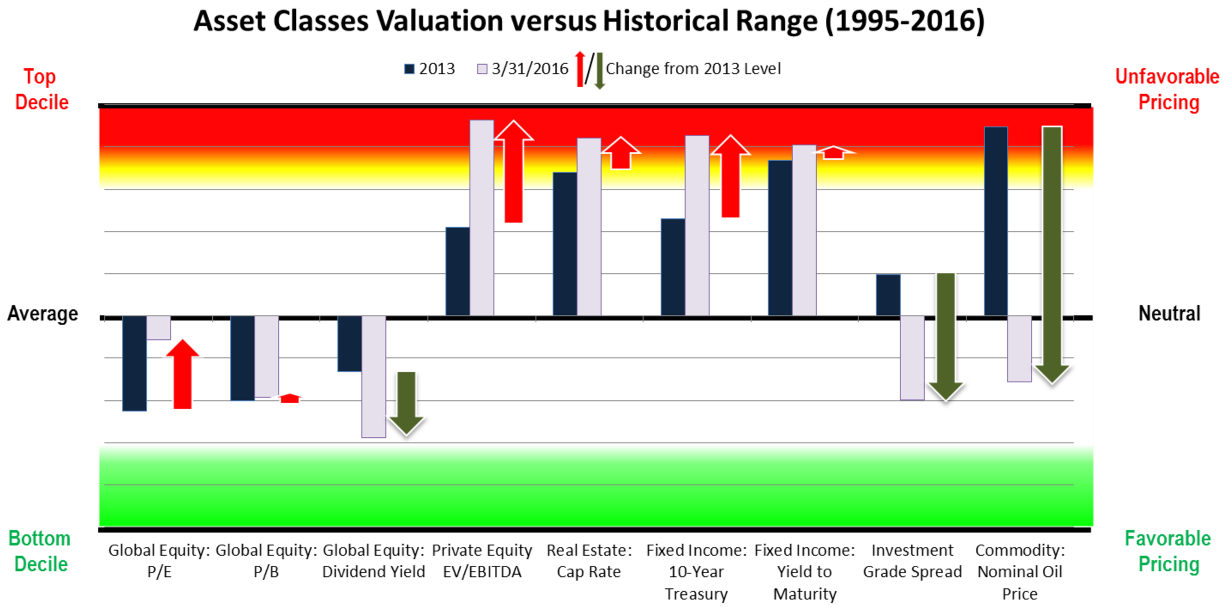
1. Market Valuation Analysis
2. Interim Asset Allocation Targets
3. Capital Markets Outlook

1. Market Valuation Analysis

The valuation metrics reflected in Figure 1 were selected based on their common usage within the financial markets, to understand asset class valuation. The base line or "average" shown in Figure 1 represents a 22 year period from 1995 through 2016. For each specific metric, the levels reflecting 2013 and 2016 are shown. In addition, arrows showing the direction and magnitude of change over the 3 year period are included. The breadth of the bands above and below the base line can be thought of as representing a percentile ranking of the deviation from the historical average.

Current valuation levels, when compared to 2013, suggest that the asset classes of private equity, real estate and government issued fixed income have become more fully valued. Global public equities, corporate credit, and commodities appear more fairly to somewhat under-valued.

Figure 1: Asset Classes Valuation versus Historical Ranges



Compared to 22-year historical data starting in 1995, global public equities appear to be fairly valued from a Price-to-Earnings (P/E) perspective and slightly under-valued based on the Price-to-Book (P/B) ratio. Dividend Yields also appear to have become more attractive over this time period. Dividend Yields are an important valuation metric because they have historically contributed between 35-40% of total returns in global public equity.

Valuation metrics for private equity, real estate, and U.S. Treasuries, are at all-time high levels for the 22 year period. The ratio of Enterprise Value (EV) to the Earnings before Interest Taxes Depreciation and Amortization (EBITDA) is a widely accepted valuation metric for company investments made by the private equity industry. EV/EBITDA considers the total capital of the company relative to EBITDA which more accurately reflects the cash flow generation of the company than net income. In real estate, capitalization rates (Cap rates) are an indication of the cash yield expected as they reflect the ratio of net operating income to the market value of the property. For fixed income, Yield-to-Maturity (YTM) is a very strong indicator of future fixed income returns. Investment Grade Spreads represent the incremental return that can be earned over U.S. Treasuries in high quality corporate credit and are an additional fixed income metric.

Oil prices are an important inflation indicators as the dominate CalPERS' commodities benchmark.

The current levels of each of these valuation metrics are closely tied to the Federal Reserve's monetary policy which has resulted in an extended period of low short-term and long-term interest rates. This monetary policy has had a number of implications across CalPERS asset classes, including:

- Inexpensive financing has led to higher P/E ratios, particularly in the United States, in private and public equity markets.

- Higher public market valuations have facilitated the exit/sales of domestic private equity deals, resulting in distributions to CalPERS.

- A large amount of unfunded private equity commitments have led to competitive pricing of private assets (high valuations).

- Low fixed income yield levels have led to high demand for other income producing assets such as real estate and infrastructure, resulting in high valuations for these assets.

While government-issued fixed income assets are at high valuation levels, Investment Grade Spreads have widened from their 2013 levels, leading to a more favorable valuation. This may reflect the market's expectation that the business cycle has matured and could be approaching a turning point, increasing the potential for a global economic slowdown. Finally, current oil price levels have fallen below the 22-year average, reflecting structural shifts in supply and demand in the industry.

Interim Asset Allocation Targets
Last discussed in 2015, the interim targets represent asset class exposure levels staff believe to be achievable given market conditions. The primary direction of adjustment between the strategic versus interim targets has been to reduce the level of exposure to private assets. These adjustments reflect market valuation and activity levels. In 2015, the Committee adopted an interim target of 1% for Liquidity (a decline from 2%) with the weight shifting to Global Fixed Income. Staff recommends that all current interim strategic asset allocation targets be maintained with no change at this time. Staff's recommendation is based on the following:

- The established asset class ranges, relative to the allocation targets, provide investment staff with sufficient ability to react to market conditions.

- CalPERS is a long term investor. Maintenance of systematic exposures in Fixed Income, Real Assets, and Private Equity provide important diversification benefits to the Total Fund.

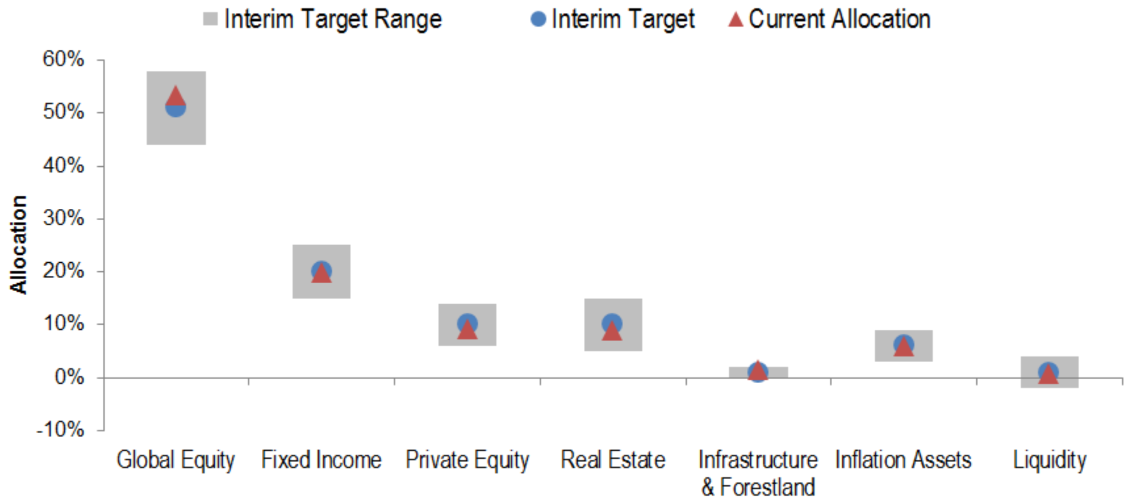
- Market conditions that drove the use of interim targets in 2014 for CalPERS' Real Assets and Private Equity asset classes remain materially unchanged.

- The interim asset allocation targets for Liquidity and Global Fixed Income support CalPERS' Borrowed Liquidity Process, providing an operational liquidity management tool.

- CalPERS' next four-year ALM process, which includes the review of capital market conditions and CalPERS' policy portfolio, is scheduled to formally commence in approximately one year (2017-18).

All asset classes, with the exception of Inflation Assets, are utilizing an interim allocation target as of July 1, 2015. Figure 2 below outlines CalPERS' current asset allocation (as of March 31, 2016), interim targets and ranges.

Figure 2: Current Asset Allocation with Interim Target & Ranges



	Global Equity	Fixed Income	Private Equity	Real Estate	Infrastructure & Forestland	Inflation Assets	Liquidity
Max (%)	58	25	14	15	2	9	4
Min (%)	44	15	6	5	0	3	-2
Interim Target (%)	51	20	10	10	2	6	1
Strategic Target (%)	47	19	12	11	3	6	2

Implicit in staff's recommendation to maintain the current interim asset allocation targets is the continuation of investment commitments in Private Equity. Private Equity investment has been a topic of significant discussion by the Committee and various CalPERS' stakeholders.

As presented at the November 2015 Private Equity Workshop, CalPERS' Private Equity investments are primarily executed through capital commitments as a limited partner, into commingled funds managed by various general partners. CalPERS represents a small minority of private equity industry fundraising from limited partners; CalPERS annual commitments have ranged from 0.3%-2.8% of the industry's yearly commitments for the time period spanning 2002 to 2015. The supply of institutional private equity funds is significantly less than the demand for these funds from limited partners. Further, the capacity to commit to highly sought after, top performing private equity funds is limited. As a result of this market dynamic, CalPERS is largely a "term taker" with respect to most economic and governance terms. Table 1 is representative of current governance and transparency terms for typical private equity buyout funds.

Table 1: Typical Private Equity Buyout Fund Terms

Term Type	Commingled Funds Market Terms
Economic	
Management fee rate	1.5-2%
Management fee base	Committed capital
Carry fee	20%+
Waterfall type	Deal-by-deal
Hurdle rate	0-8%
Catch-up provision	80-100%
Clawback	Net of tax at end of fund
Fee offsets	50-100%
Accelerated monitoring fees	Allowed
Governance	
Investment period	Five years with limited ability to terminate
general partner removal	Limited to cause or non-existent
Indemnification	Broad; carve outs for gross negligence, fraud and willful malfeasance
Fiduciary obligation	Limited or waived; fiduciary to fund vs. limited partner
Role of Limited Partner Advisory Committee (LPAC)	Broad (extensions, other term changes, conflicts)
Transparency	Limited and not uniform

Despite the disadvantages highlighted above, CalPERS' Private Equity program plays a significant role in supporting one of CalPERS' Portfolio Priorities, to achieve the long-term required rate of return. Private Equity commands the highest expected returns, for example:

- Private Equity has out-performed the Global Equity benchmark (global public equity) in all periods.
- Without its contribution, expected annual returns for the Public Employees' Retirement Fund would be reduced by an estimated 30 to 70 basis points.

The annualized historical returns of the Private Equity portfolio versus the Global Equity benchmark over various horizons, as of March 31, 2016 are shown below in Table 2.

Table 2: Historical Private Equity vs. Global Equity Benchmark Returns

Returns	1-Year	3-Year	5-Year	10-Year	20-Year
Private Equity Portfolio (%)	6.0	11.6	11.1	10.7	11.5
Private Equity Policy Benchmark (%)	1.3	13.7	11.9	13.1	10.2
Global Equity Policy Benchmark (%)	-4.6	6.1	5.7	4.7	6.7

The lower observed volatility in private equity valuations further supports another Portfolio Priority, stabilizing employer contribution rates.

- Private Equity has experienced lower annual volatility than Global Equity during the past 10 years (17.5% for Private Equity versus 19.2% for Global Equity).

- However, it should be noted that the lack of frequent valuations in Private Equity results in more difficult performance and volatility measurement and attribution.

Recognizing the challenges inherent in the private equity industry, CalPERS has been engaged in efforts to increase transparency and seek improved economics where possible. CalPERS has worked with the Institutional Limited Partners Association (ILPA) and other limited partners to gain consistent, standardized disclosure around fees and expenses paid by private equity partnerships. ILPA has over 300 institutional investors as members and represents over $1 trillion of private equity assets. CalPERS has been working with ILPA since 2011 to set industry standards for a capital call and distribution reporting template, finalized in 2012. A recent success was the establishment of the ILPA Fee Reporting Template, finalized in January 2016, which captures greater detail on fees, expenses and profit sharing (carried interest) paid to private equity managers and their affiliates. This new quarterly template is now being evaluated and adopted by industry participants.

Staff continues work today on fee and expense disclosure issues.

- CalPERS has endorsed the new Fee Reporting Template with respect to its Private Equity portfolio.

- Staff has been diligently engaging with our general partners to encourage adoption and compliance with the template.

- To date, staff has received ILPA Fee Reporting information for slightly over half of CalPERS' Private Equity portfolio.

It is also important to recognize the increased engagement of the Securities and Exchange Commission (SEC) with private equity funds as a result of the Dodd-Frank Act (the Act). The Act mandated that private equity fund managers become Registered Investment Advisors in 2012; previously, registration was voluntary for most private equity fund managers. SEC interaction with private equity managers over the last few years has led to much greater clarity surrounding the need for transparency with respect to fees charged to private equity funds and portfolio companies.

Both ILPA and the SEC are having important impacts on the private equity industry with respect to increased transparency and disclosure from private equity general partners. Andrew Ceresney, Director, SEC, Division of Enforcement was quoted, at the Securities Enforcement Forum West 2016 Keynote Address: Private Equity Enforcement, on May 12, 2016, as follows:

> "…it is my belief that awareness and transparency of fees generally will lead investors and advisors to reach an appropriate balance in terms of types and allocation of fees. In short, I think our private equity actions have led to significant change in the private equity industry, all to the benefit of investors."

Staff believes the above efforts will bring additional clarity and information symmetry to the private equity market place, however it is important to note that the underlying economics will largely still be driven by the supply and demand dynamics. We expect to dynamics to remain in favor of the general partners for some years to come.

3. Capital Markets Outlook

As discussed in the previous sections, CalPERS' strategic asset allocation decision is informed by market-based analysis. CalPERS utilizes a consensus-based approach to develop capital market assumptions.

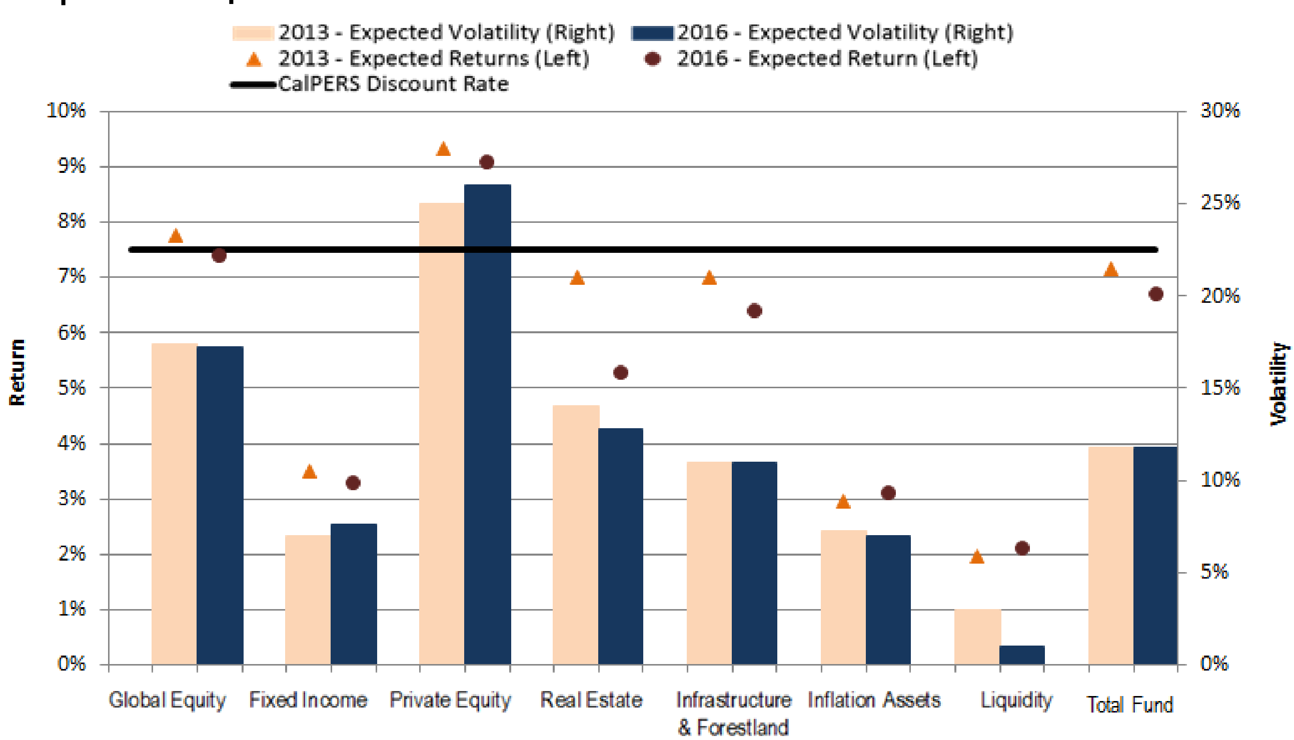
Consensus forecasts are a good starting point, as they establish a high hurdle for any institution to be reasonably confident that it has a unique insight or better accuracy in predicting asset class returns. As discussed in 2013, forecasting capital market assumptions for asset classes:

- Entails a meaningful level of uncertainty, particularly for more volatile asset classes.
- Requires the use of valuations (such as dividend yield, price to earnings ratio, yield to maturity, and capitalization rates) to inform projections about the future.

Staff conducted a survey of 2016 capital market assumptions from six sources utilized in CalPERS 2013 capital market assumption development process. These included Wilshire Associates, PCA, J.P. Morgan, Bank of New York Mellon, Callan, and Voya (known as ING U.S. prior to 2014).

Figure 3 below compares the median of the surveyed 2016 capital market assumptions to CalPERS' 2013 adopted capital market assumptions by the estimated range of volatility, and expected rates of return.

Figure 3: Expected Returns and Volatility Ranges - 2016 Survey Median vs. 2013 Adopted Assumptions



It is notable that current capital market expectations, when compared to three years ago, have been lowered across almost all asset classes, particularly for real assets. Further exploration of these topics and emerging trends will be taken up in the course of the 2017-18 ALM process, and the development of updated capital market assumptions.

Budget and Fiscal Impacts
Not applicable.

Benefits and Risks
Continued use of CalPERS' current interim asset allocation targets provides the following benefits:

- Enhanced risk and return characteristics of the Public Employees' Retirement Fund.

- Continued provision of a "time buffer" to facilitate the investment decision process and maximize CalPERS' economic interests through the use of CalPERS' Borrowed Liquidity Process.

- Continued sensitivity to current market conditions for CalPERS' investment strategies and support for the prudent deployment of capital while preserving pricing discipline.

- Making the highest use of Committee and staff resources considering the proximity of the next four-year ALM process, and the recent revision of the Total Fund Statement of Investment Policy (to include asset allocation targets for use in the instance of Funding Risk Mitigation Events based on the current interim targets).

Continued investment in CalPERS' Private Equity program will entail the ongoing exposure to the challenges of the industry, including issues related to transparency, cost, and governance, as well as pressure from stakeholder and advocacy groups. Recognizing Investment Belief 3, which further states that CalPERS' primary stakeholders are members/beneficiaries, employers and California taxpayers (as these stakeholders bear the economic consequences of CalPERS investment decisions), staff believes that investment in private equity remains prudent and necessary in consideration of CalPERS' Portfolio Priorities and current circumstances.

Adopting different asset allocation targets at this time would pose the following risks:

- Compromised pricing discipline if goals for capital deployment are incongruous with asset class strategies and current market conditions.

- Redirection of staff resources away from preparation for the upcoming ALM process.

- Reducing the utility of recent work to establish the Borrowed Liquidity Process, an operational liquidity management tool for the Investment Office.

- Potential impairment of the risk and return characteristics of the Public Employees' Retirement Fund.

Attachments
Attachment 1 – Wilshire Associates Opinion Letter
Attachment 2 – PCA Opinion Letter
Attachment 3 – Interim Asset Allocation Targets Review (Including Capital Markets Outlook)
Attachment 4 – PCA May 2016 Investment Market Risk Metrics Package

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Eric Baggesen
Managing Investment Director
Asset Allocation and Risk Management

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Theodore Eliopoulos
Chief Investment Officer