

TEACHERS' RETIREMENT BOARD

INVESTMENT COMMITTEE

Item Number: 8

SUBJECT: Chief Investment Officer's Report – Open Session

CONSENT: _____

ATTACHMENT(S): 2

ACTION: _____

DATE OF MEETING: September 2, 2015 / 20 mins.

INFORMATION: X

PRESENTER(S): Christopher J. Ailman

POLICY

The Chief Investment Officer's Report – Open Session is covered under the reporting and monitoring requirements of the overall [CalSTRS Investment Policy and Management Plan](#), Teachers' Retirement Board Policy Manual, Section 1000, page A-16.

HISTORY OF THE ITEM

This item has been included in the Investment Committee agenda at each meeting to provide the Committee with critical market and asset allocation information to assist in their oversight of the CalSTRS Investment Portfolio.

The most current information on the CalSTRS Investment Portfolio can be found on the web at [CalSTRS.com](#) under Investments.

PURPOSE

The purpose of this report is to provide the committee key bits of information regarding the asset allocation and performance or activities of the Investment portfolio.

- Investment portfolio asset allocation as of July 31, 2015 (un-audited)
- Pension Consulting Alliance's August 2015 Risk Overview

REPORTS ON THE WEB

[Annual and Quarterly investment reports](#) are now available on CalSTRS.com web site in the "Investments" tab under "[Reports & Surveys.](#)"

CONCLUSION

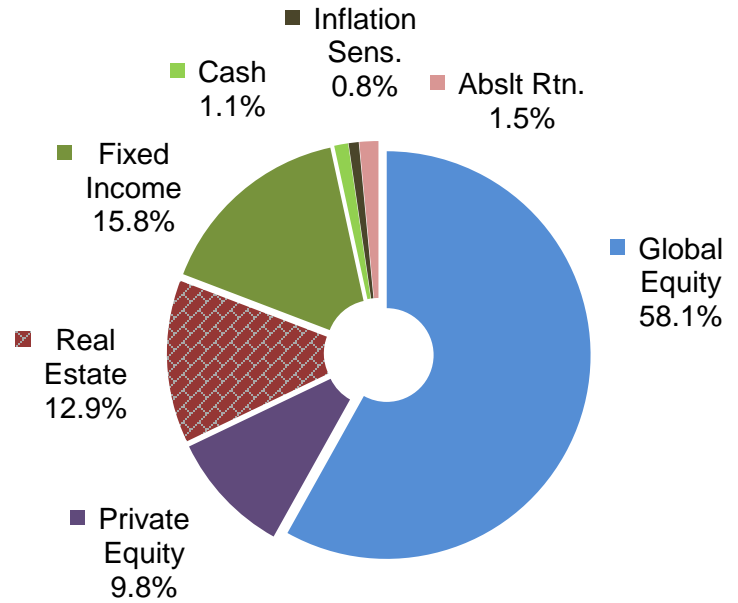
In addition to this information, at the Investment Committee meeting, the CIO will present a PowerPoint presentation on current market conditions and global risks on the horizon. Prior to the meeting, the PowerPoint presentation will be posted on the [CalSTRS.com](#) website.



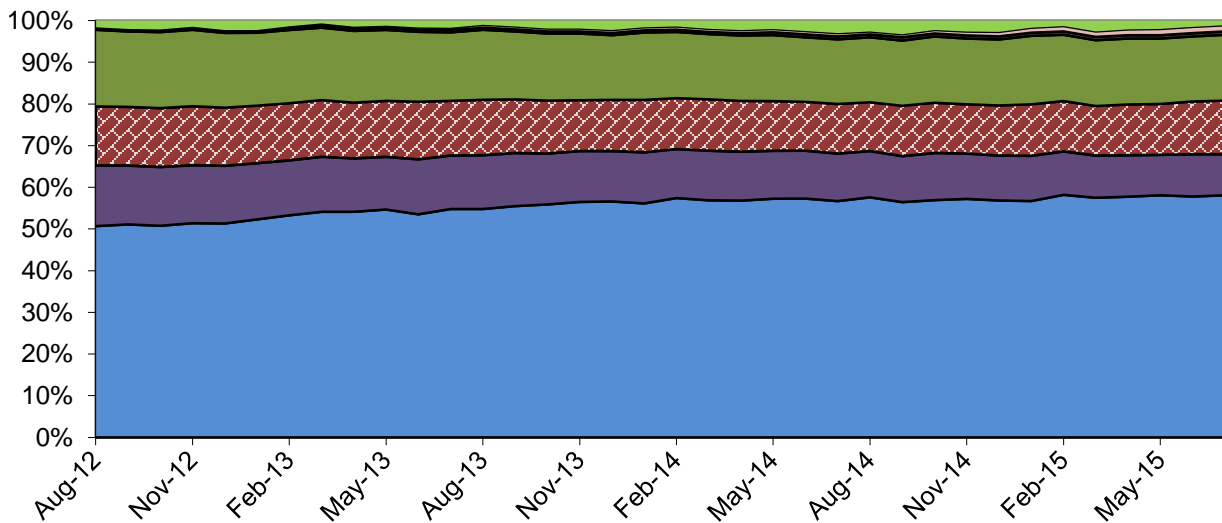
Investment Portfolio & Risk Dashboard
 Chief Investment Officer's Report

As of July 31, 2015

Assets of
\$191.46
 Billion

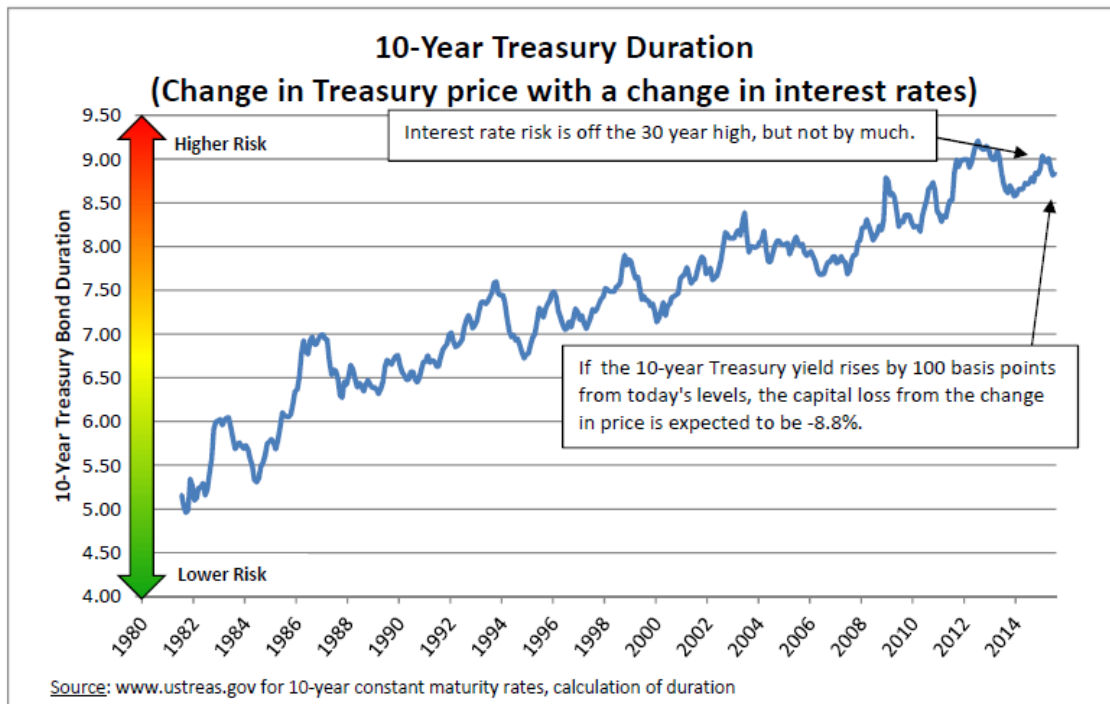


Asset Allocation over the past three years (Monthly data)

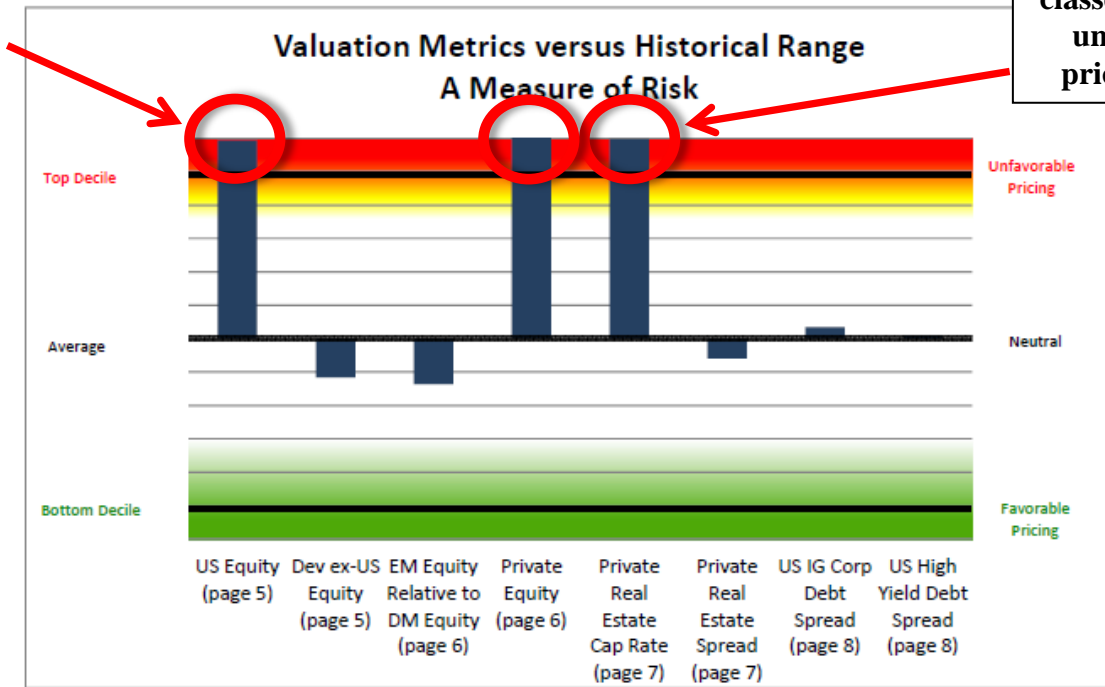


Takeaways

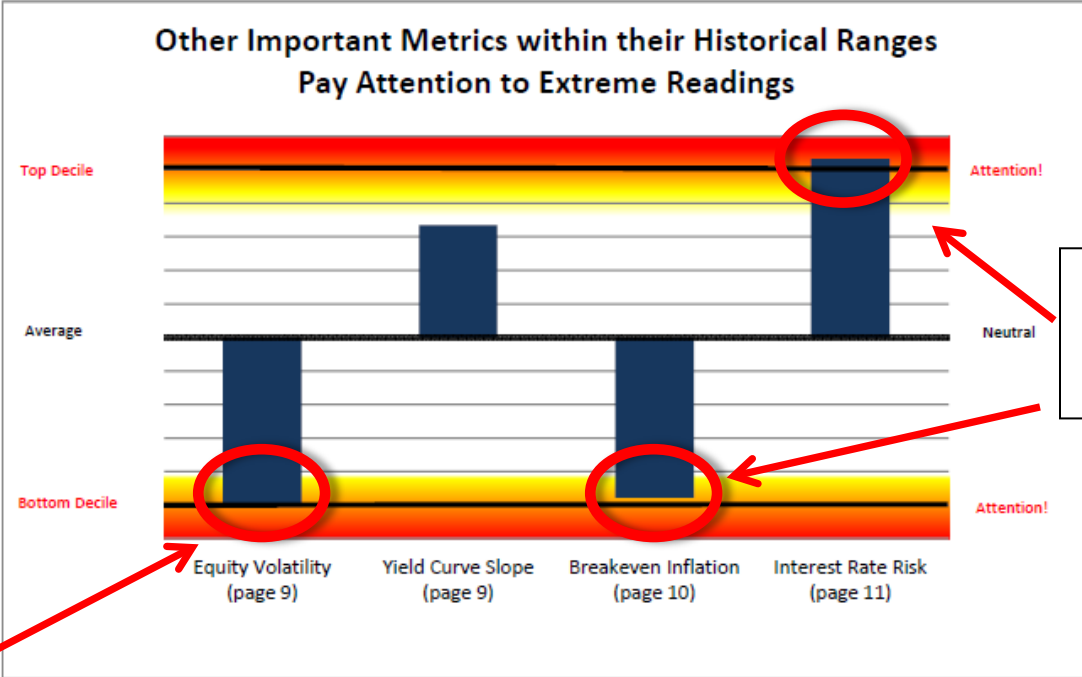
- Despite continuing drama in Europe over the Greek debt rollover, and precipitous Chinese stock market declines, U.S. growth oriented assets; equity, private equity, and private real estate, continue to register top decile valuation levels relative to their histories.
- U.S. equity volatility actually declined in July, ending the month near this year's lows of 12 (an average reading is 20).
- Consistent with lower levels of equity market volatility, the equity market has been range-bound, little changed since the beginning of 2015. Interest rate markets also seem to be trading in a narrow band
- U.S. credit spreads widened during July.
- International equity valuations remain below their historical average valuation levels, cheap relative to U.S. valuation levels.
- Commodity prices accelerated their five-year decline on news of China's slowing, and falling oil prices.
- Breakeven inflation levels dropped again, implying low levels of anticipated inflation.



Risk Overview



Three asset classes remain at unfavorable pricing levels.



These three readings demand attention.

Investment Committee Risk Report

As of June 30, 2015

INNOVATION & RISK

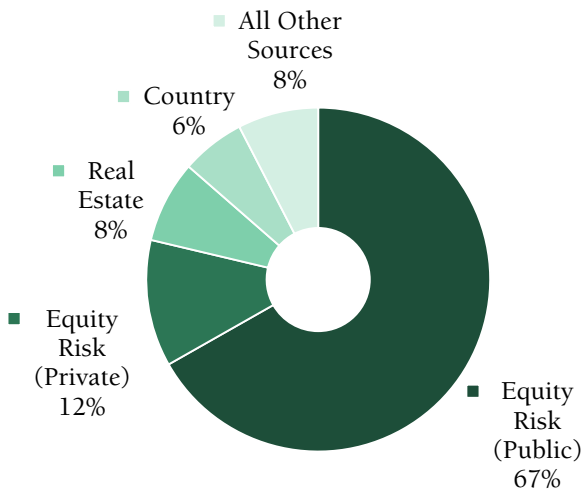
Overview

This report is the first version of what will become a regular attachment to the CIO Report. With a fully-staffed risk team and the implementation of a fund-level risk system, it's now possible to analyze risk, report on and ultimately manage risk in new ways. The purpose of this report is to provide the Investment Committee with useful information about the investment risk exposures in the total portfolio. To meet that goal, the content of this report will expand over time to include additional information, as well as adapting to feedback from the Investment Committee.

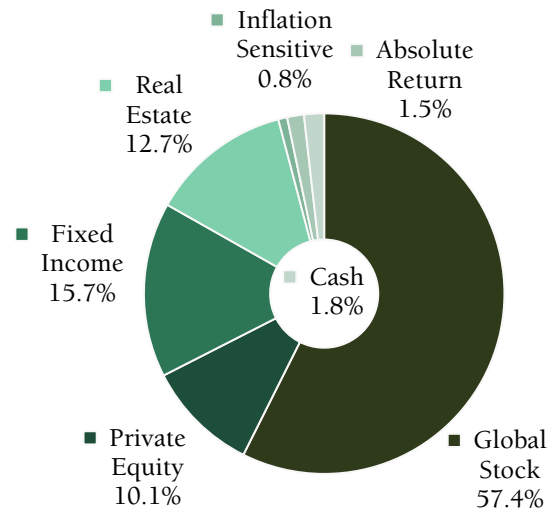
CalSTRS Total Fund Risk

The Innovation & Risk team utilizes the BlackRock Aladdin risk management system for the total plan portfolio. This comprehensive view makes it possible to view common risks across the portfolio, including traditional metrics like sector and geography, along with exposures to risk factors such as global equity markets and volatility. According to the BlackRock risk model, approximately 67 percent of the total risk in the portfolio comes from public equity market risk, versus an approximately 57 percent asset weight.

**Total Portfolio – Risk Weights
as of June 30, 2015**



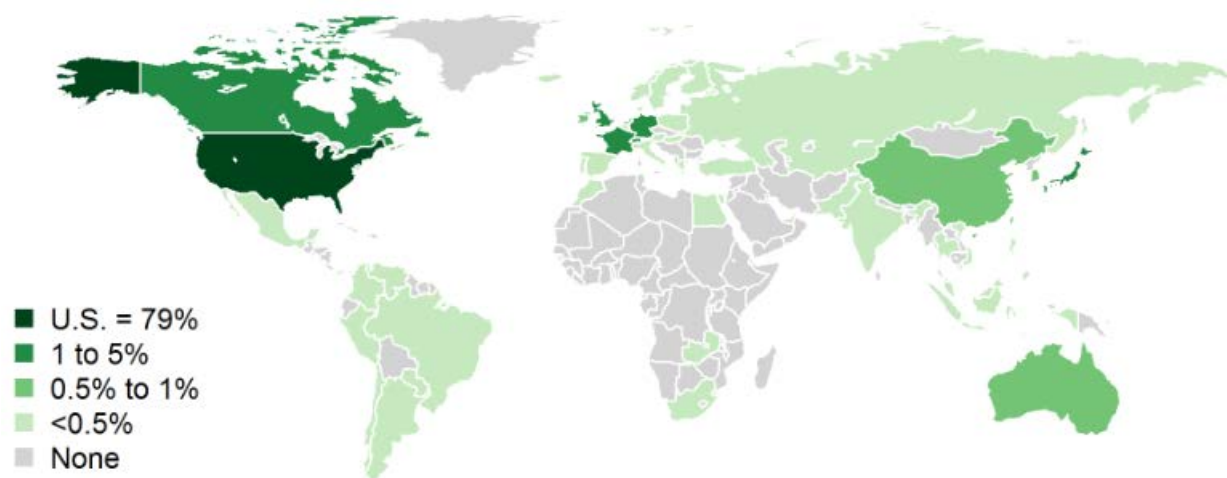
**Total Portfolio – Asset Weights
as of June 30, 2015**



CalSTRS Geographic Exposure

Across all asset classes, the fund has significant exposure to the U.S. with approximately 79 percent of the portfolio invested in the U.S. The next-largest exposure is 2.9 percent in the U.K. Economic growth and equity performance, particularly in the U.S., are the largest sources of risk in the portfolio.

**Total Portfolio – Geographic Exposure
as of June 30, 2015**



CalSTRS Top 10 Exposures

Exposure	Market Value (000s)	% Total Fund
U.S. Government*	17,416,582	8.74%
Apple	2,222,196	1.11%
Wells Fargo	1,123,885	0.56%
Microsoft	1,040,970	0.52%
Exxon Mobil	989,577	0.50%
Google	902,949	0.45%
General Electric	922,212	0.46%
JPMorgan Chase	877,260	0.44%
Johnson & Johnson	872,597	0.44%
Verizon	836,854	0.42%
Total Top 10	27,205,083	13.65%

**includes US Treasuries, Agency MBS and other government agency debt*

CALSTRS INVESTMENT COMMITTEE RISK REPORT

Global Equity

Exposure	Mkt Val (000s)	% GE
Apple	2,138,581	1.94%
Microsoft	1,024,800	0.93%
Exxon Mobil	979,604	0.89%
Google	898,212	0.82%
General Electric	874,205	0.79%
Johnson & Johnson	860,570	0.78%
Wells Fargo	743,598	0.68%
JP Morgan Chase	740,740	0.67%
Berkshire Hathaway	721,512	0.66%
Pfizer	656,486	0.60%
Total Top 10	9,638,306	8.76%

Fixed Income

Exposure	Mkt Val (000s)	% FI
U.S. Government*	16,597,726	55.19%
BofA	229,727	0.76%
Verizon	212,048	0.71%
Morgan Stanley	185,476	0.62%
General Electric	178,390	0.59%
Mexico Government**	177,810	0.59%
Citigroup	176,763	0.59%
Goldman Sachs	169,730	0.56%
JPMorgan	150,119	0.50%
Comcast	132,618	0.44%
Total Top 10	18,210,407	60.55%

*US Treasuries, Agency MBS and other govt Agency debt

** PEMEX and Mexico Govt debt

Private Equity

Fund	Mkt Val (000s)	% of PE
Blackstone Capital Partners V	1,181,299	5.81%
TPG Partners V	792,689	3.90%
Permira IV	570,528	2.81%
First Reserve Fund XII	499,365	2.46%
Providence Eqty Partners VI	453,420	2.23%
Apax Europe VII	442,255	2.17%
TPG Partners VI	400,303	1.97%
Carlyle Partners V	394,910	1.94%
Carlyle Europe Partners III	348,424	1.71%
The Resolute Fund II	326,801	1.61%
Total Top 10	5,409,995	26.60%

Real Estate

Manager	Mkt Val (000s)	% of RE
Principal	3,127,474	12.96%
CBRE	2,898,343	12.01%
BlackRock	1,639,924	6.80%
Fortress	1,616,652	6.70%
Fairfield	1,226,551	5.08%
GI Partners	1,171,853	4.86%
Clarion	869,125	3.60%
PCCP	794,673	3.29%
Lionstone	687,147	2.85%
Heitman	653,291	2.71%
Total Top 10	14,685,031	60.86%

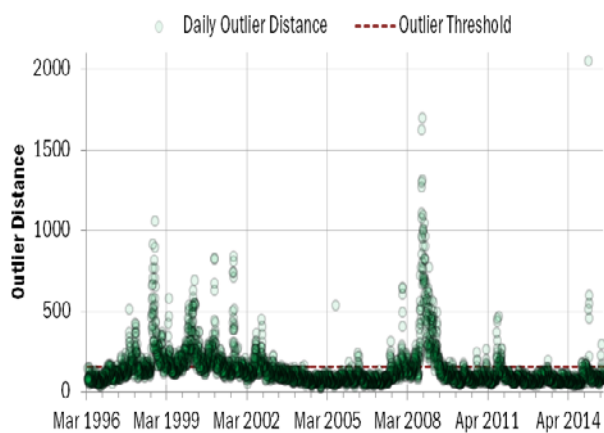
Market Volatility

There are many measures of market volatility, particularly for individual markets. The VIX index is an example of a volatility measure for U.S. equity markets. An increase in the VIX indicates that volatility is expected to pick up in U.S. equities. There are similar measures for Non-U.S. equity markets, oil prices and interest rates, to name a few. While these measures are good indicators of volatility in their respective markets, they don't provide information about broader market volatility or shifts in the relationships between assets. A change in the relationship between interest rates and equities, for example, has important risk management implications. This is due to the expectation that U.S. Treasury securities will provide protection against a large decline in equity markets.

The volatility index presented in the two charts below is an indicator of general market turbulence. The red lines provide a threshold by which to judge whether a day is an "outlier" or not. The longer-term chart shows that, historically, periods of higher turbulence tend to cluster in time. The clustering of turbulent periods means that if a particular day is an outlier, the following day is much more likely to be an outlier. Several days in a row of outliers are a strong indicator that market turbulence could persist for many weeks or months.

The past few months have seen very little turbulence, as seen in the second chart which shows only three outliers in the 90 trading days from April 1st to August 5th. During "normal" periods, we would expect to see about five or six such outliers in a 90 day period. Despite news headlines and volatility in specific markets such as China, broader financial markets have been relatively calm.

Market Turbulence - Long Term



Market Turbulence - Recent

