

# Global Fixed Income Annual Review - Supplemental Report

Period Ending June 30, 2015

## Investment Objective

The role of Global Fixed Income is to serve as an economic diversifier to equity risk and be a reliable source of income.

- CalPERS ALM Workshop (2013)

The Fixed Income team actively manages CalPERS assets in various fixed income instruments, including commercial real estate mortgages, corporates, residential mortgages, sovereigns, non-dollar bonds, treasuries, agencies and others

The strategic objective of limited duration investments is to provide a mechanism to increase returns of other sectors or strategies by investing available cash in short-term fixed income instruments.

## Asset Class Characteristics

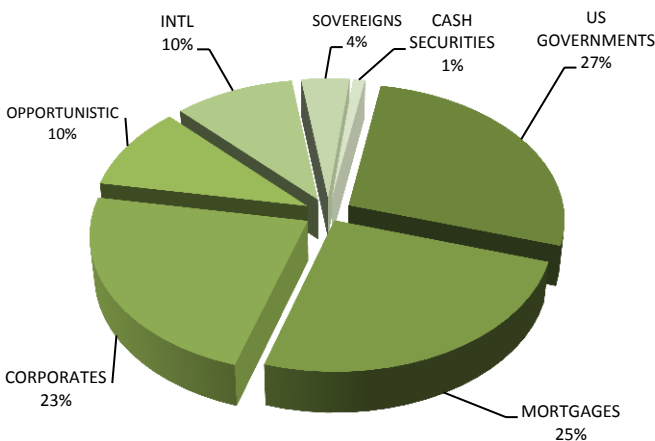
Managing Investment Director: Curtis D. Ishii

Assets: \$53.1 Billion

Benchmark: 90% Barclays Long Liabilities + 10% Barclays International Fixed Income Index GDP Weighted ex-U.S.

- The Investment Office staff manages over 88% internally, with a portion of the high yield and international fixed income allocation being managed externally.
- CalPERS long-term investment horizon allows staff to generate alpha by shifting sector risks during an economic cycle.

## Income Programs

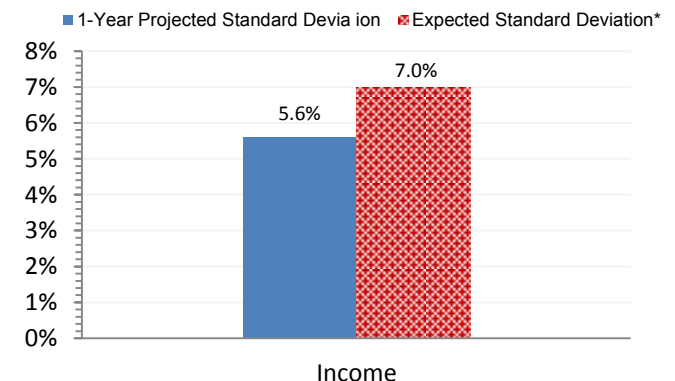
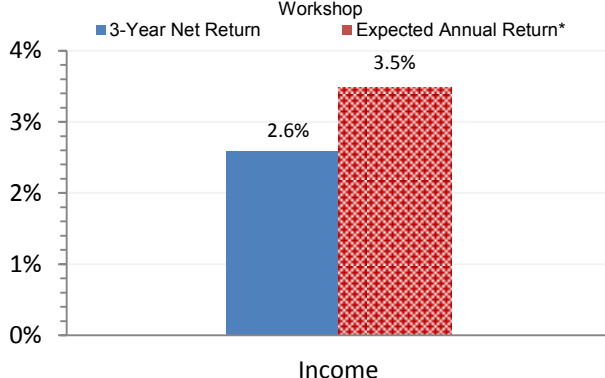


Class Allocation	Income
Strategic Target Range %	15-25%
Interim Strategic Target %	20%
Actual Investment %	18%
Variance % (Strategic vs. Actual)	(2%)
Interim Strategic Target	\$ 60.3 Billion
Actual Investment	\$ 53.1 Billion
Variance \$(Interim Strategic vs. Actual)	\$(7.3 Billion)

Note: Strategic Target effective July 1, 2015

## Asset Liability Management Expectations

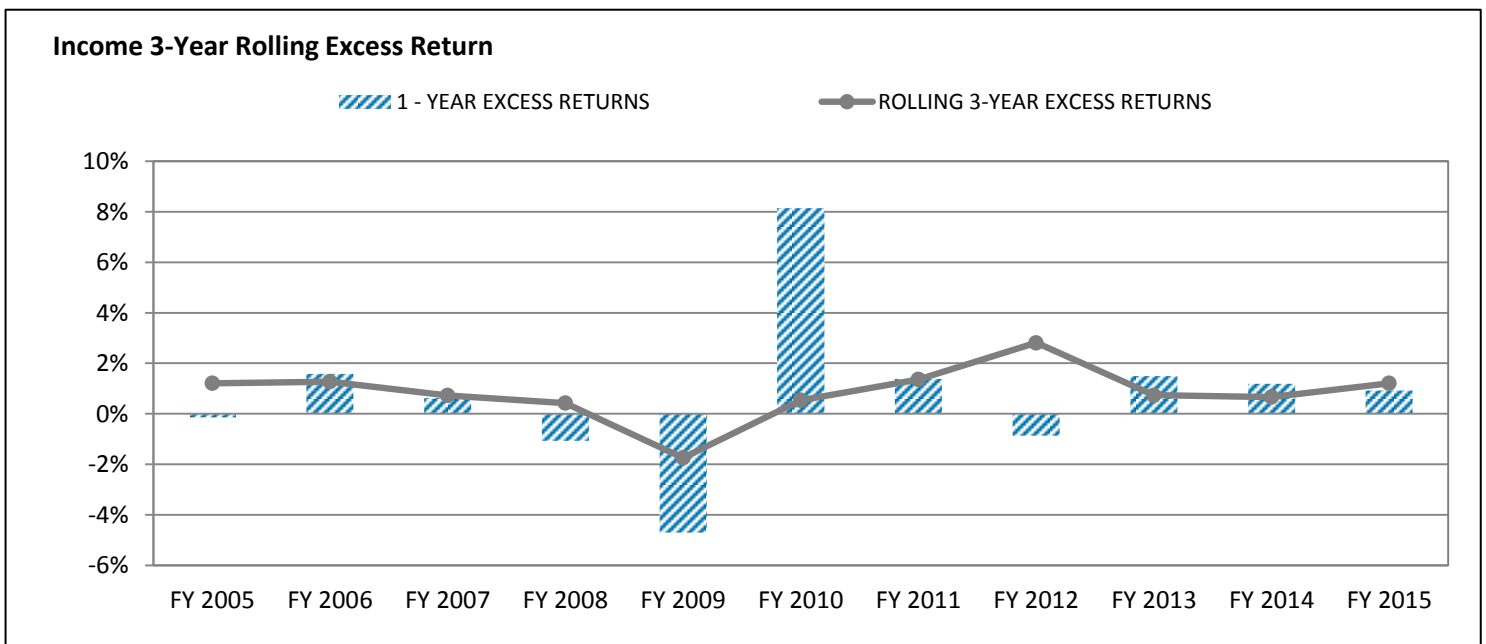
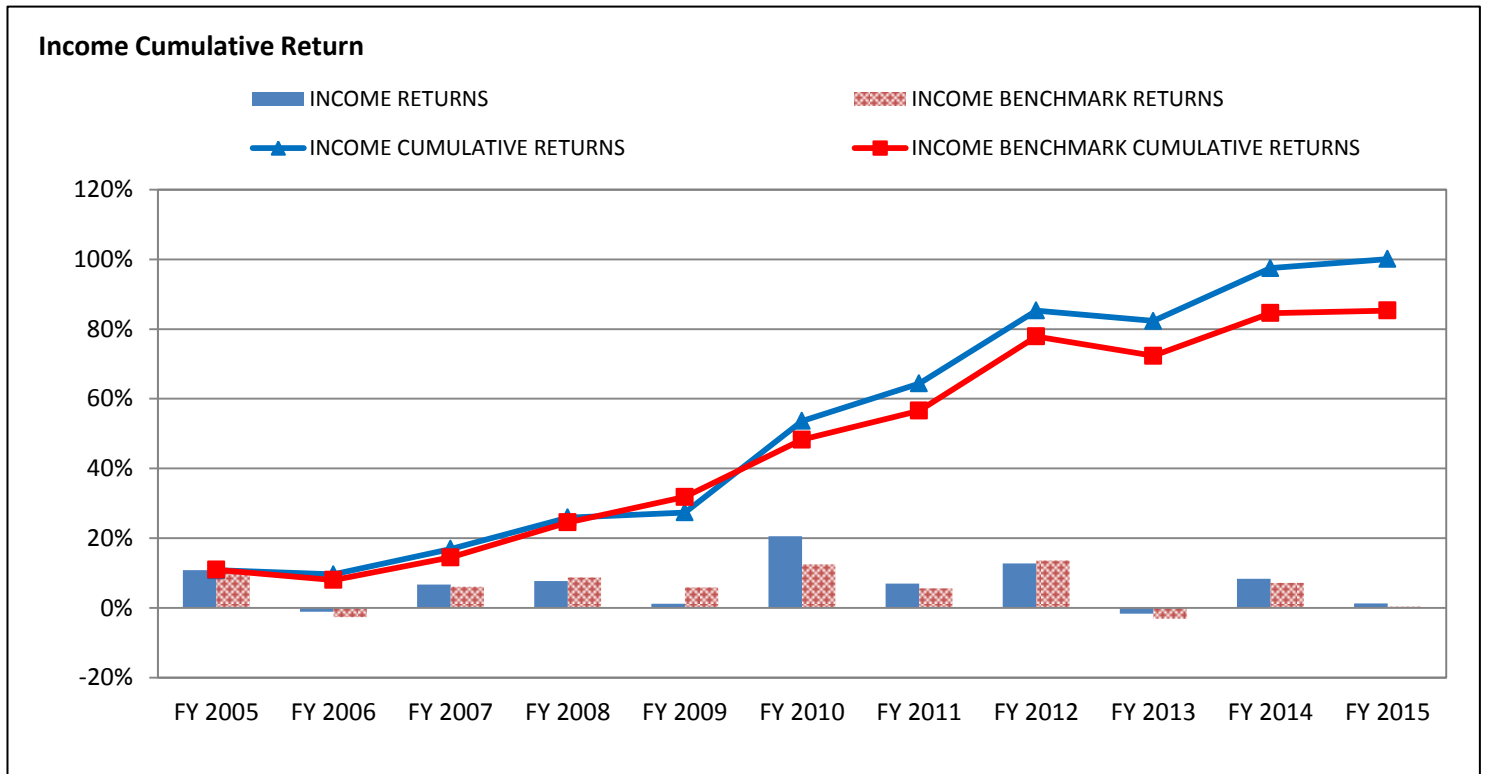
\*Capital markets assumptions used in the November 2013 ALM



**INCOME PERFORMANCE**

MONTH ENDING JUNE 30, 2015		FYTD		3-YR		5-YR		10-YR	
Asset Class*	Ending Market Value	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS
<b>INCOME</b>	<b>\$ 53.1 Billion</b>	<b>1.3%</b>	<b>93</b>	<b>2.6%</b>	<b>121</b>	<b>5.4%</b>	<b>86</b>	<b>6.1%</b>	<b>82</b>
DOMESTIC FIXED INCOME	\$ 47.9 Billion	3.1%	91	3.3%	126	5.9%	84	6.4%	84
INTERNATIONAL FIXED INCOME	\$ 5.2 Billion	(13.5%)	99	(3.7%)	67	1.2%	106	3.3%	82

\* Performance for the total asset class and top 2 strategies based on ending market value



# Inflation Annual Review - Supplemental Report

Period Ending June 30, 2015

## Investment Objective

The role of Inflation Assets is to provide liquid and strong protection against inflation.

- CalPERS ALM Workshop (2013)

The role of Inflation-Linked Bonds is to provide a direct hedge against inflation using liquid securities and to be a partial liability hedge with some income yield. Inflation-linked bonds are internally managed and represent approximately 75% of the program.

Commodities is also internally managed and represents approximately 25% of the program. Commodities is managed through an unlevered exposure to a diversified group of commodity futures or their investment equivalents.

## Asset Class Characteristics

Managing Investment Director: Curtis D. Ishii

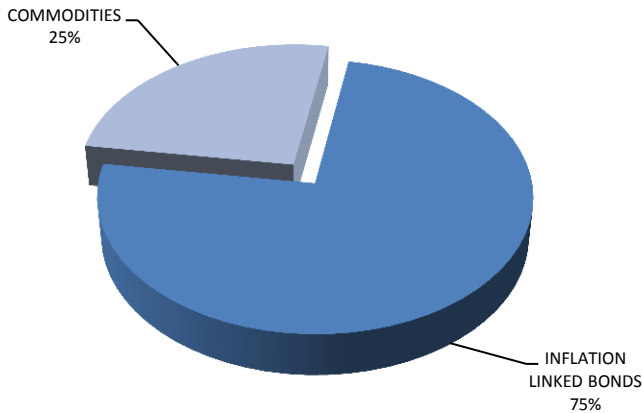
Assets: \$15.6 Billion

Benchmark: 75% Global ILB Custom Index + 25% Standard & Poor's GSCI Total Return Index

\*Global ILB Custom Index : Blend of 67% Barclays Global Inflation-Linked U.S. and 33% Barclays Universal Government Inflation Linked Bond Index ex-US

- The Inflation Program was initiated in 2007 and is comprised of 2 main components
  - Inflation-Linked Bonds
  - Commodities
- Inflation assets provide strong liquid inflation protection
  - Liquidity
  - Moderate growth risks
  - Low Cash yield

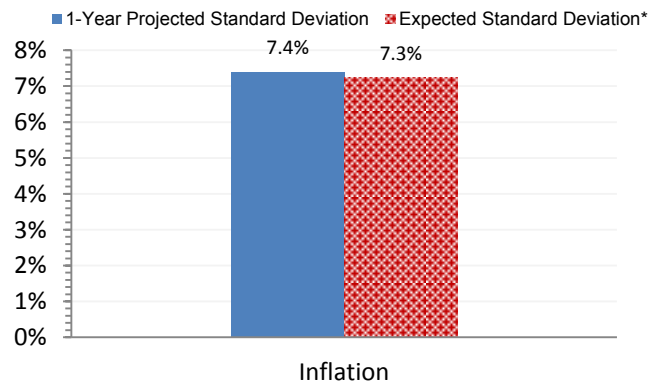
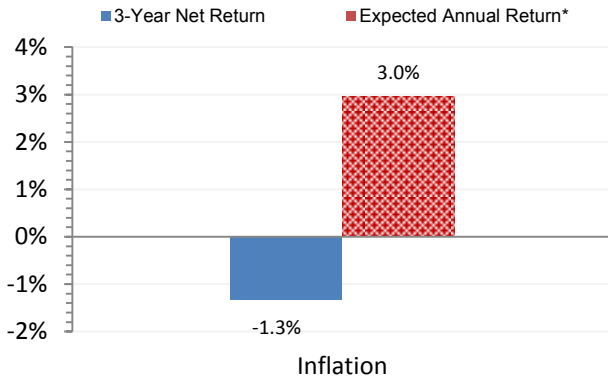
## Inflation Programs



Class Allocation	Inflation
Strategic Target Range %	3-9%
Interim Strategic Target %	6%
Actual Investment %	5%
Variance % (Strategic vs. Actual)	(1%)
Interim Strategic Target	\$ 18.1 Billion
Actual Investment	\$ 15.6 Billion
Variance \$(Interim Strategic vs. Actual)	\$(2.5 Billion)

## Asset Liability Management Expectations

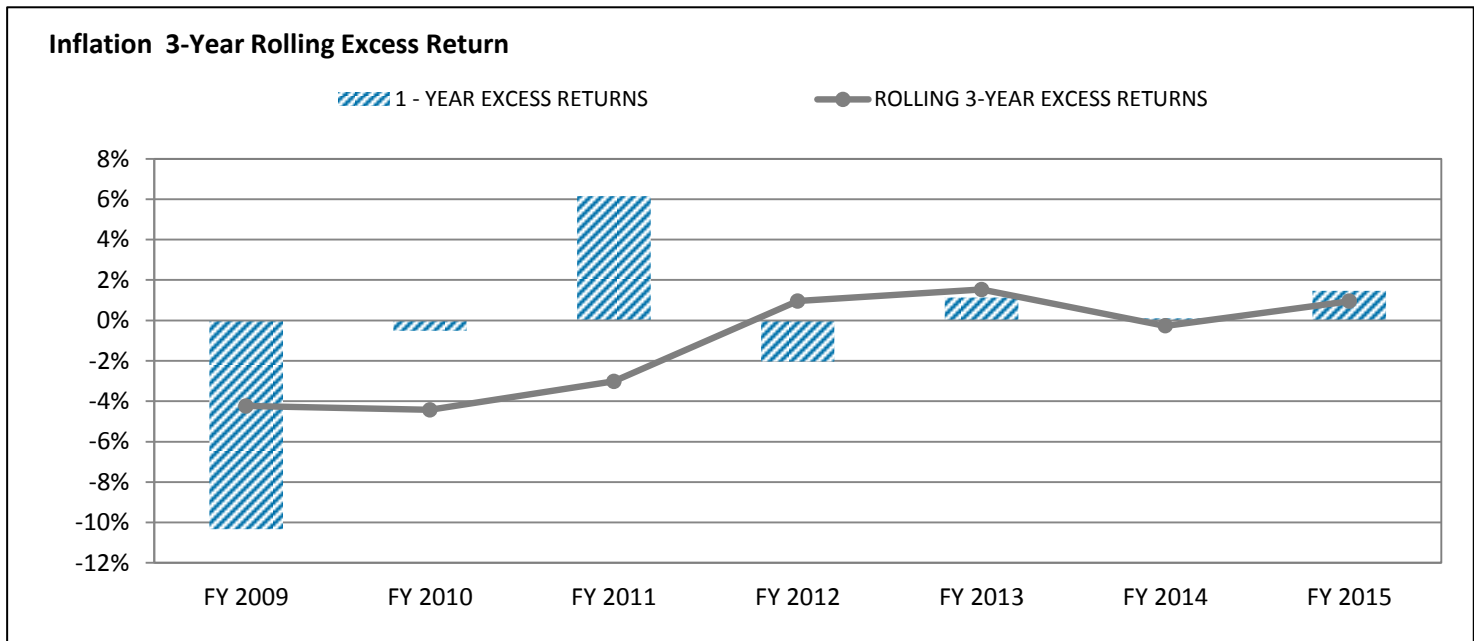
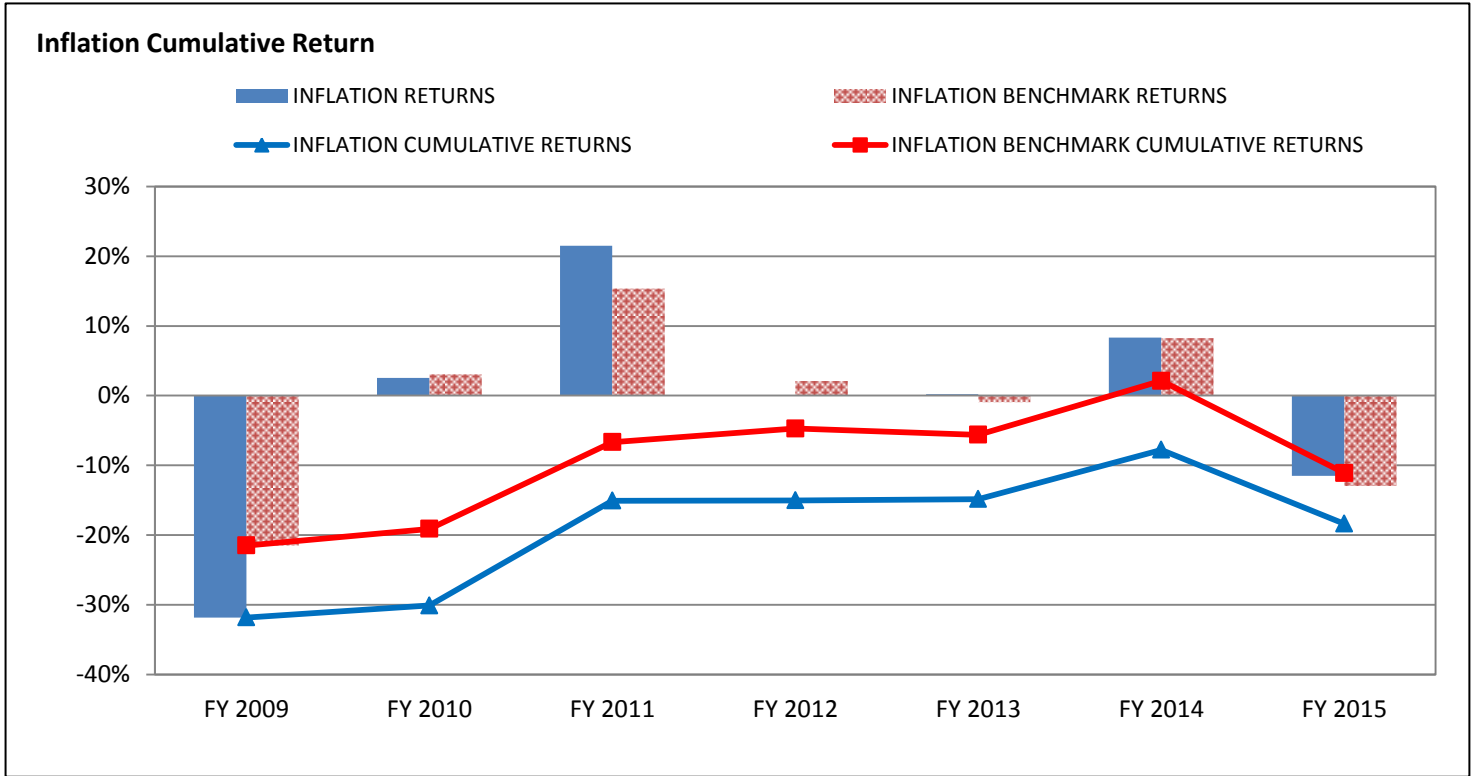
\*Capital markets assumptions used in the 2013 ALM Workshop



**INFLATION PERFORMANCE**

MONTH ENDING JUNE 30, 2015		FYTD		3-YR		5-YR		10-YR	
Asset Class*	Ending Market Value	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS
<b>INFLATION</b>	<b>\$ 15.6 Billion</b>	<b>(11.5%)</b>	<b>147</b>	<b>(1.3%)</b>	<b>95</b>	<b>3.2%</b>	<b>125</b>	<b>N/A</b>	<b>N/A</b>
CORE INFLATION LINKED BONDS	\$ 10.5 Billion	(3.5%)	77	0.9%	49	4.4%	43	N/A	N/A
INTERNAL COMMODITIES	\$ 2.8 Billion	(36.5%)	29	(11.1%)	(39)	(4.5%)	(17)	N/A	N/A
TACTICAL COMMODITIES	\$ 1.1 Billion	(36.8%)	4	N/A	N/A	N/A	N/A	N/A	N/A
TACTICAL TIPS	\$ 1.1 Billion	(1.8%)	(9)	N/A	N/A	N/A	N/A	N/A	N/A

\* Performance for the total asset class and top 4 strategies based on ending market value



# Liquidity Annual Review - Supplemental Report

Period Ending June 30, 2015

## Investment Objective

The role of Liquidity is to exhibit safety and capital preservation properties as well as to provide effective risk protection during a financial crisis.

- CalPERS ALM Workshop (2013)

The liquidity program is composed of two sub-programs: U.S. Treasury 2-10 year portfolio and a short-term portfolio. The U.S. Treasury portfolio is internally managed and represents approximately 75% of the program.

The short-term portfolio is also internally managed and represents approximately 25% of the program. The strategic objective of both programs is to achieve the highest total rate of return with a prudent level of risk.

## Asset Class Characteristics

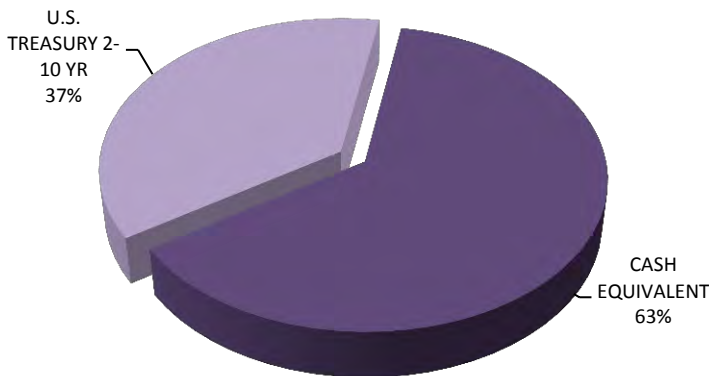
Managing Investment Director: Curtis D. Ishii

Assets: \$7.5 Billion

Benchmark: 75% Barclays Treasury 2-10 yr + 25% 1-mo T-bill

- The Liquidity Program was initiated in 2011 and is comprised of two components
  - U.S. Treasury 2-10 Year Portfolio
  - Short-Term Liquidity Portfolio

## Liquidity Programs

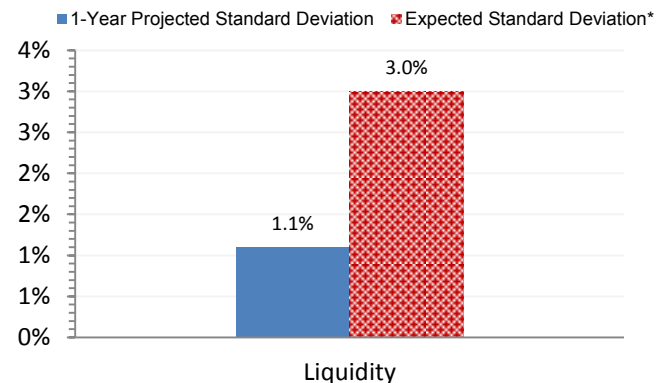
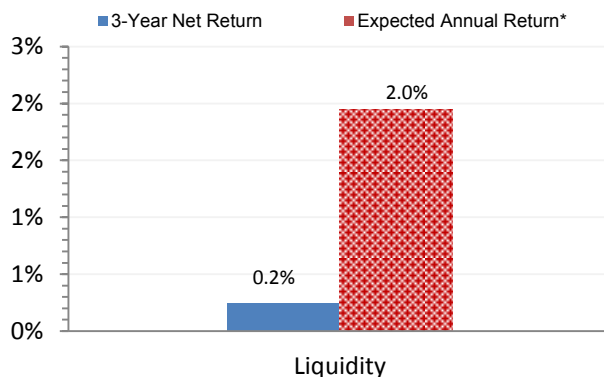


Class Allocation	Income
Strategic Target Range %	-2%-4%
Interim Strategic Target %	1%
Actual Investment %	3%
Variance % (Strategic vs. Actual)	2%
Interim Strategic Target	\$ 3.0 Billion
Actual Investment	\$ 7.5 Billion
Variance \$(Interim Strategic vs. Actual)	\$ 4.5 Billion

Note: Strategic Target effective July 1, 2015

## Asset Liability Management Expectations

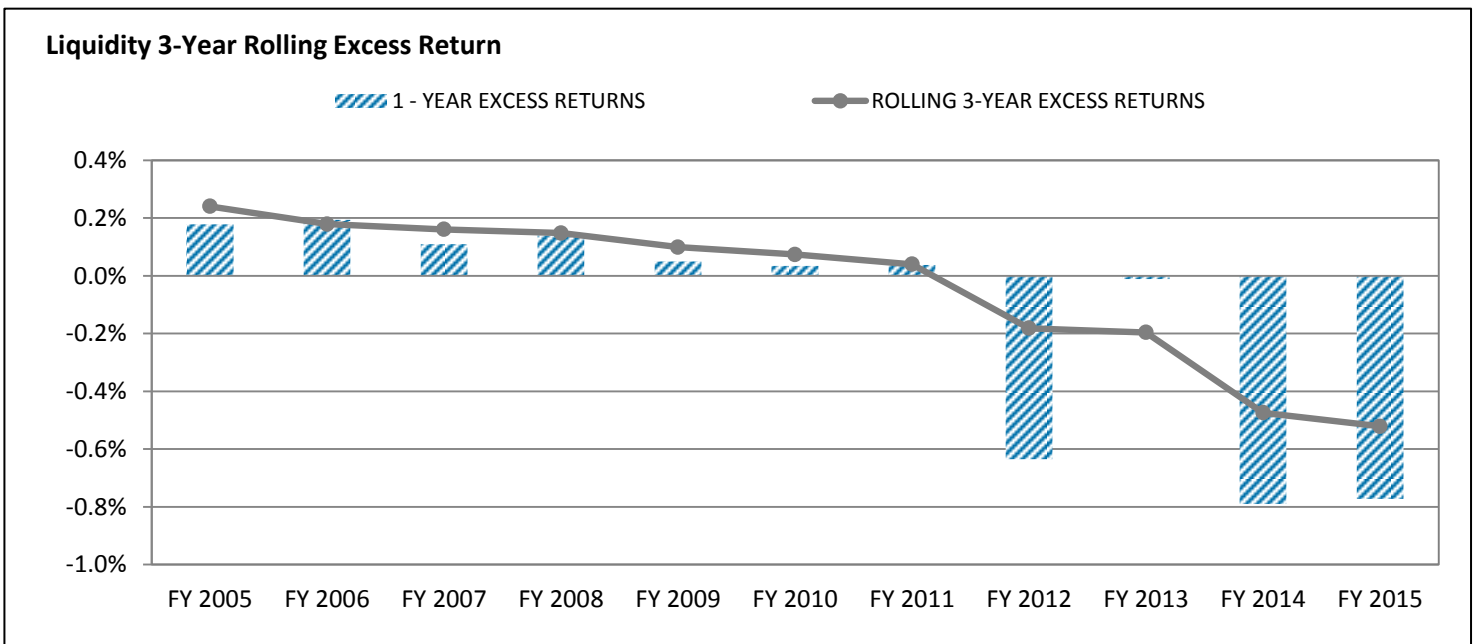
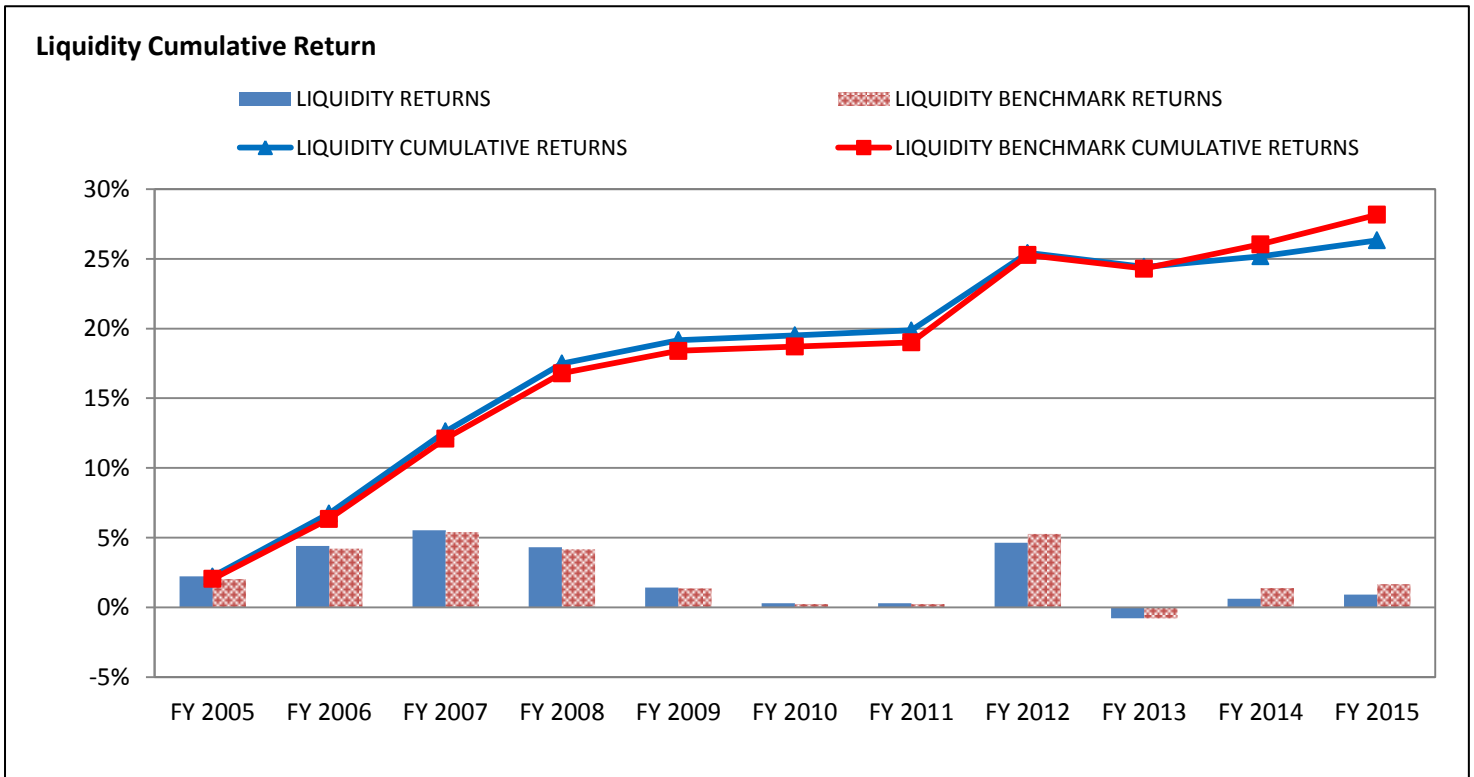
\*Capital markets assumptions used in the 2013 ALM Workshop



**LIQUIDITY PERFORMANCE**

MONTH ENDING JUNE 30, 2015		FYTD		3-YR		5-YR		10-YR	
Asset Class*	Ending Market Value	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS
<b>LIQUIDITY</b>	<b>\$ 7.5 Billion</b>	<b>0.9%</b>	<b>(77)</b>	<b>0.2%</b>	<b>(52)</b>	<b>1.1%</b>	<b>(43)</b>	<b>2.1%</b>	<b>(17)</b>
US 2-10 YR TREASURY	\$ 2.7 Billion	2.2%	(0)	0.9%	(8)	N/A	N/A	N/A	N/A
INTERNAL SHORT TERM PORTFOLIO	\$ 3.1 Billion	0.2%	11	0.1%	8	0.2%	7	1.6%	7

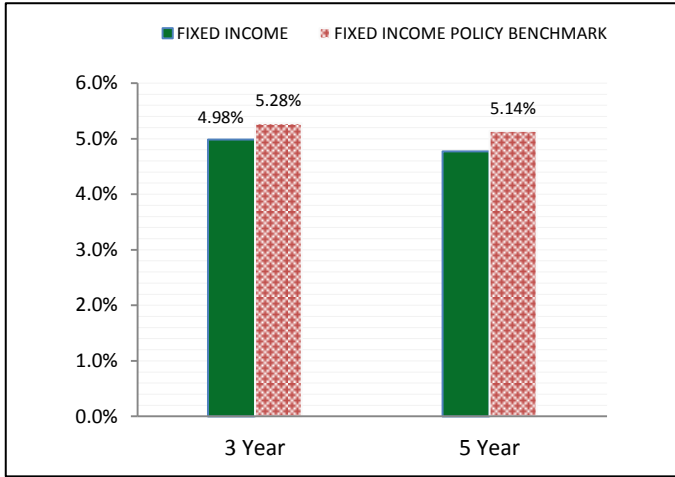
\* Performance for the total asset class and top 2 strategies based on ending market value



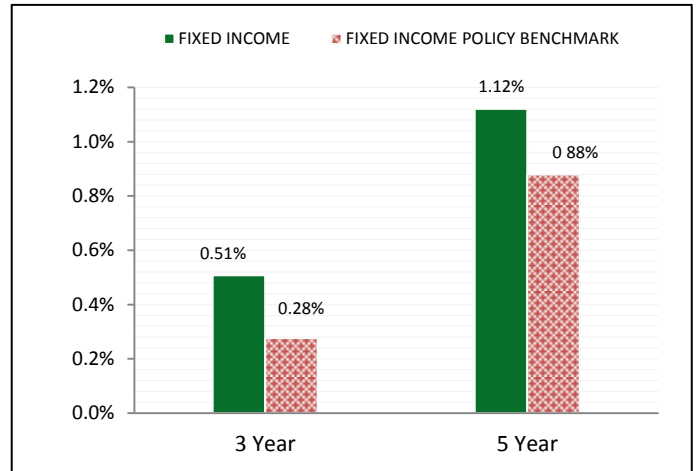
**INVESTMENT RISK**

Period Ending June 30, 2015

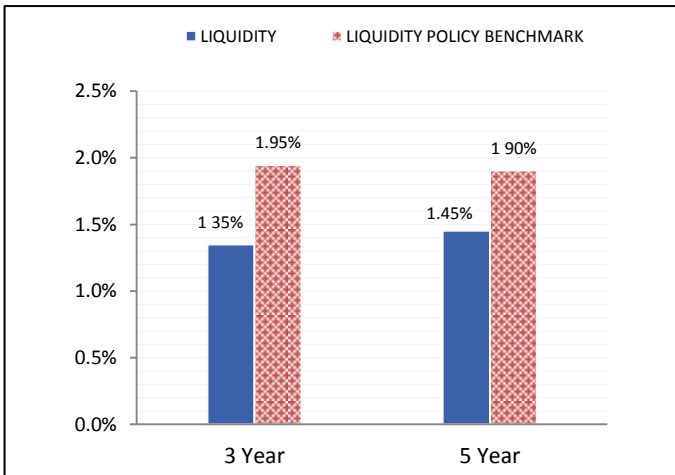
**Income - Annualized Standard Deviation**



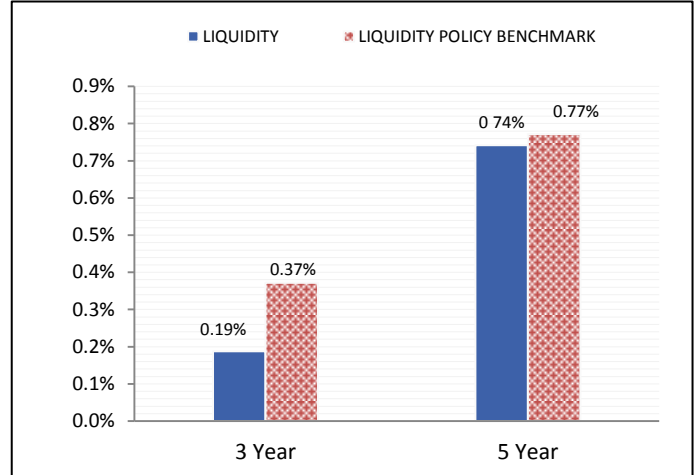
**Income - Sharpe Ratio**



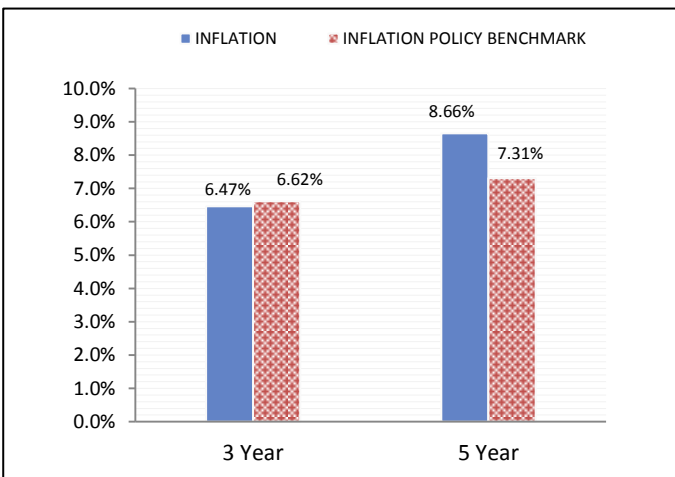
**Liquidity - Annualized Standard Deviation**



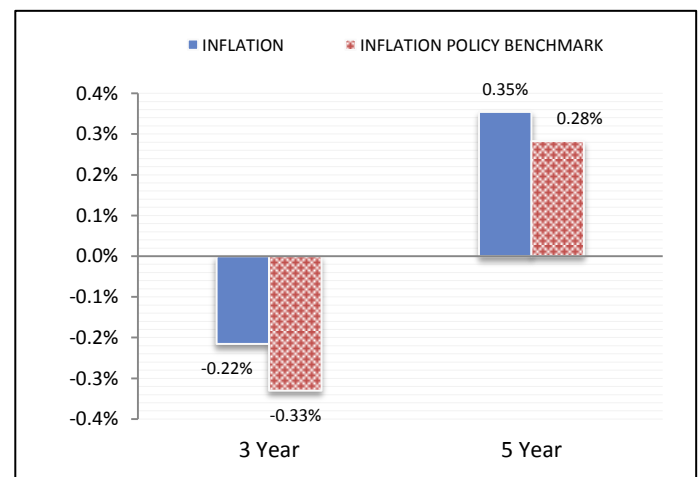
**Liquidity - Sharpe Ratio**



**Inflation - Annualized Standard Deviation**

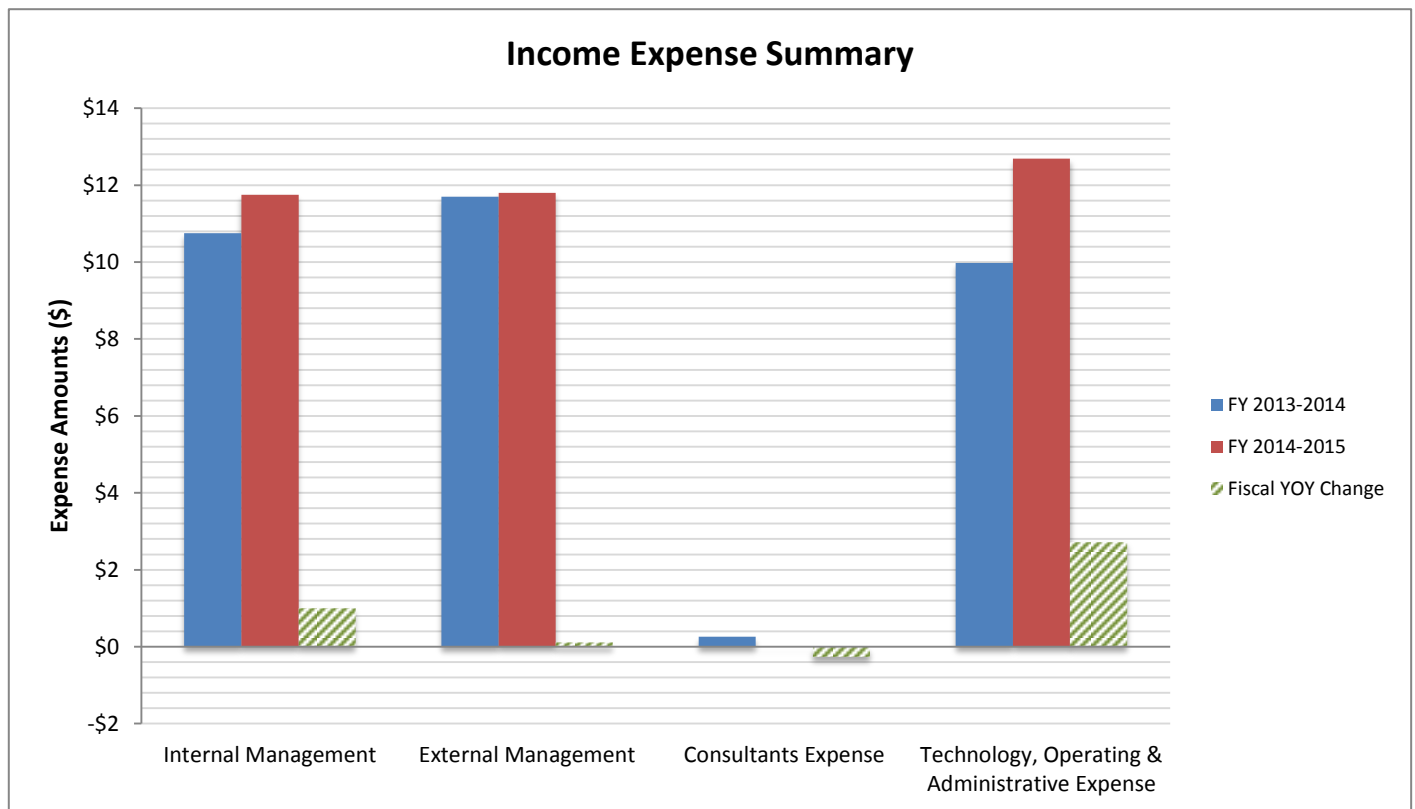


**Inflation - Sharpe Ratio**



**EXPENSES**

Income Expenses	FY 2013-2014	FY 2014-2015	Fiscal YOY Change
	(\$millions)	(\$millions)	(\$millions)
Internal Management	\$11	\$12	\$1
External Management	\$12	\$12	\$0
Consultants Expense	\$0	0	\$0
Technology, Operating & Administrative Expense	\$10	\$13	\$3

**STAFFING (as of 9/1/15)**

Senior Management Team	Years with CalPERS	Years Experience
Curtis Ishii - MID	37	35
Lou Zahorak - ID	10	24
Kevin Winter - ID	27	27
Thomas McDonagh - ID	9	28
Michael Rosborough - ID	5	28
Arnie Phillips - ID	22	28
John Rothfield - ID	3	28
Investment Team	Number of Members	
Investment Managers	11	
Investment Officers	25	
Additional Resources	Number of Members	
Administrative Staff	7	

**Fixed Income Staffing Updates**

- Promoted 1 Investment Director
- Promoted 1 Investment Manager
- Promoted 7 Investment Officers
- Lost 1 Limited-Term Associate Government Program Analyst
- Lost 1 Investment Officer
- Transferred 1 Investment Officer Position to other INVO Program
- Current Vacancies
  - 1 Investment Manager
  - 5 Investment Officers



**POLICY**

REVIEWED	AMEND	POLICY/DELEGATION NAME	ACTION
✓	NO	CalPERS Total Fund Investment Policy	No changes required
✓	YES	Global Fixed Income Program	Program to propose revisions at October IC Meeting
✓	YES	Liquidity Program	Program to propose revisions at October IC Meeting
✓	YES	Inflation Assets	Program to propose revisions at October IC Meeting
✓	YES	Credit Enhancement Program	Program to propose revisions at October IC Meeting
✓	NO	Currency Overlay	Staff is presently reviewing potential to incorporate into TF Policy to be brought back to IC at a future date
✓	YES	Low Duration Fixed Income Program	Program to propose revisions at October IC Meeting
✓	YES	Securities Lending	Program to propose revisions at October IC Meeting
✓	NO	Treasury Inflation Protected Securities	Staff will be presenting changes to the IC in December 2015
	NO	Terminated Agency Pool	Consolidated into Total Fund Policy and repealed at March 2015 IC Meeting

**SECURITIES LENDING PROGRAM****Program Information as of 6/30/15:**

- FY 2014-15 Securities Lending net earnings was \$107.8 million
- Securities Lending Policy was changed to:
  - 1) Permit and establish max limits of a Line of Credit with a Systemically Important Financial Market Utility (SIFMU).

**CREDIT ENHANCEMENT PROGRAM****Program Information as of 6/30/15:**

- \$600 million in total commitments from 4 issuers.
- Based on current commitments the CEP portfolio generates \$3.6mm in fee income annually.
- 30-80 bps fee range.

**TREASURY INFLATION PROTECTED SECURITIES PROGRAM****Program Information as of 8/31/15**

Fund/Sector As of 8/31/15	MV (mm)	NAV			Duration		
		Port	Bench	Active	Port	Bench	Active
CALPERS TIPS	\$380.0	100.0%	100.0%		7.8	7.8	0.0
US Treasury TIPS	\$380.0	100.0	100.0	0.0	7.8	7.8	0.0

Month Ending June 30, 2015	FYTD		3 Year		5 Year		10 Year	
	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS	Net Return	Excess BPS
CALPERS TIPS	-1.9%	(18)	-0.8%	(8)	3.2%	(8)	4.0%	5

**DOLLAR-DENOMINATED FIXED INCOME LIMITED LIQUIDITY ENHANCED RETURN PROGRAM****Program Information as of 8/31/15**

<b>Sector as of 8/31/15</b>	<b>Sector Limits</b>	<b>Actual</b>
Floating Rate	No Restriction	100%
Fixed Rate	25%	0%
AA & AAA Rated Securities	No Restriction	100%
Less than AA Rated Securities	25%	0%

<b>Month Ending June 30, 2015</b>	<b>FYTD</b>	
	<b>Net Return</b>	<b>Excess BPS</b>
Enhanced Return	1.8%	156

## CalPERS INVESTMENT BELIEFS

### CalPERS Investment Beliefs

#### #1 Liabilities must influence the asset structure

Strong hedging characteristic to liabilities while providing income and liquidity. Benchmarks have incorporated a longer maturity bias to reflect the long liabilities.

#### #2 A long time investment horizon is a responsibility and an advantage

Manage risk through an economic cycle and by adding risk as premiums rise acknowledging that there can be short term underperformance but long term gain.

#### #3 CalPERS investment decisions may reflect wider stakeholder views, provided they are consistent with its fiduciary duty to members and beneficiaries

Engagement with Corporate Governance and have agreed to take the thought leadership on 3 issues: Derivatives, housing reform, and credit rating agencies reform.

#### #4 Long-term value creation requires effective management of three forms of capital: financial, physical and human

The corporate sector has the greatest applicability where internal research analyst access effects of governance and climate change on credit. This is being more formalized this fiscal year. Also, focus on internal human capital as key driver of excess return.

#### #5 CalPERS must articulate its investment goals and performance measures and ensure clear accountability for their execution

All internal staff compensation is aligned using 3 year rolling excess returns where staff does not get paid incentive compensation when returns fall below the index.

#### #6 Strategic asset allocation is the dominant determinant of portfolio risk and return

By changing allocations to sector and subsectors, staff manages risk through economic cycles. Analysis of historical returns validate high allocation to higher spread sectors versus U.S. Treasuries.

#### #7 CalPERS will take risk only where we have a strong belief we will be rewarded for it

For over 25 years, FI has managed the risk relative to the index by determining premiums and risks in markets using a long term focus on value creation.

#### #8 Costs matter and need to be effectively managed

Internally manage portfolios and sub-sectors when cost efficient. Have in-sourced a number of programs as opportunities to either use existing resources or acquire additional personnel expertise. 5% of programs are externally managed and there is a mix of fixed fees and rolling 3-year performance based fees.

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

Utilize and incorporate a number of risk measures both quantitative and qualitative to understand positioning of portfolio and risks and markets. Understanding and acknowledging new paradigms including the uncertainty and downside potential associated with unknowns is one of the key tenets of fixed income.

#### #10 Strong processes and teamwork and deep resources are needed to achieve CalPERS goals and objectives

Strong process and team has been developed over the 25 years. A clear process where teams are accountable through sub-sector portfolios with appropriate performance measurements. Senior Fixed Income Team evaluates the efficacy of sub-strategy and eliminates those that are not successful.