# **W** Wilshire

# **Executive Summary of Performance** Prepared For

California Public Employees' Retirement System Judges II Long-Term Care Legislators' Fund California Employers' Retiree Benefit Trust Supplemental Income Plans

Second Quarter 2015

Wilshire Associates Incorporated 1299 Ocean Avenue, Suite 700 Santa Monica, CA 90401 Phone: 310-451-3051 contactconsulting@wilshire.com

# TABLE OF CONTENTS

Section	Page
Capital Market Review	3
Summary of all Plans	6
PERF	7
Judges II/Long-Term Care	29
Legislators' Fund	36
California Employers' Retiree Benefit Trust	40
Supplemental Income Plans	45

### **Capital Market Overview**

The second quarter of 2015 provided a wild ride for global investors, with U.S. stock markets hitting record highs in May, then pulling back dramatically in June as the Eurozone grappled with Greece's default on its crippling debt and the possibility of Greece abandoning the euro. The U.S. economy dealt with the hangover left from an unusually punishing winter; real GDP was down slightly during the first quarter of 2015, contracting -0.2%. Economic growth slowed for two quarters in a row after a two quarter surge in 2014. Although personal consumption growth was positive, exports contracted as did state and local government spending. Private business spending dropped although inventories accumulated, which could dampen a second quarter rebound. However, consumer spending, which accounts for nearly 70% of overall GDP, showed signs of renewed activity during the second quarter. Home prices started to push higher after a downward trend, with the S&P Case-Schiller 20-city Home Price Index up 2.5% for the three months ending April 30, 2015. For the trailing 12 months ending April 30, the index is up 4.9%. Growth in consumer prices seems to be increasing after a very tame 2014. The Consumer Price Index—All Urban Consumers (CPI-U) rose 1.07% in the second quarter, following the 0.56% increase in the first quarter. Energy and food prices drove much of the increase in the second quarter; CPI-U less Food and Energy only rose 0.53%. The 10-year breakeven inflation rate closed the second quarter at 1.87%, little changed from 1.82% last quarter. Solid job growth continued into the second quarter as total nonfarm employment increased an average 221,000 jobs per month during the three months ending June 2015. The pace has definitely slowed this year versus 2014 (just under an average of 260,000 jobs per month for calendar 2014), but still remains encouraging. The unemployment rate has improved this year, ticking down to 5.3% in June. Commodities markets have struggled to find firm footing in 2015; although crude oil prices rose nearly 15% over the second quarter, ample inventory has prevented oil from rallying beyond \$60 per barrel. Despite the economic drama and political uncertainty playing out in Europe and elsewhere, gold contract prices actually fell 1% over the quarter.

### **U.S. Equity Market**

The U.S. stock market, represented by the Wilshire 5000 Total Market Index<sup>SM</sup>, was flat for the second quarter of 2015, up just 0.06%. It was enough to preserve the market's winning streak as the index has not had a negative quarter since the second quarter of 2012. Although news out of Europe concerning the fate of Greece dominated the headlines as the quarter ended, there is no evidence that the broad U.S. stock market is overly concerned as implied volatility measures remain within a normal range. The likely reason is that Greece does not pose the same threat to the global economy that it once did. Most of its debt is now held by other governments and the IMF, while potential contagion economies such as Spain have improved. Large capitalization stocks outperformed smaller shares with the Wilshire Large-Cap Index<sup>SM</sup> up 0.11% versus a loss of -0.46% for the Wilshire US Small-Cap Index<sup>SM</sup>. Larger shares led for the past twelve months as well, up 7.33% versus a gain of 5.11% for the small-cap index. The Wilshire US Micro-Cap Index<sup>SM</sup> was up 1.03% for the quarter and holds a one-year gain of 4.93%. Growth stocks led value during the second quarter in both large- and small-cap spaces and led for the past year as well. Perhaps not surprisingly, sector performance was mixed during the quarter, with five of the ten sectors finishing in positive territory. Health Care and Telecom Services were the leaders, up 3.37% and 2.59%, respectively. Consumer Discretionary also produced solid gains of 1.52%. Utilities were the primary

laggard, down -6.25% for the quarter, while Industrials and Energy stocks were down -2.43% and -1.98%, respectively.

### **Fixed Income Market**

Although the U.S. Federal Reserve refrained from raising short-term interest rates in the second quarter, investors still began selling bonds to lock in gains and prepare for higher rates by year-end. Rates pushed higher across most maturities during the quarter. Rates rose each month although June was particularly pronounced, with the ten-year yield jumping 23 basis points. U.S. Treasury yields rose over the quarter at all maturities beyond one year, with two-year Treasury yields ticking up 8 basis points to 0.64% at quarter-end and thirty-year Treasury yields jumping 57 bps to 3.11%. The bellwether ten-year Treasury yield ended the quarter up 41 basis points, finishing at 2.35%. Short-maturity bonds trimmed their losses relative to longer-term paper, unsurprisingly (Barclays U.S. Treasury 1-3 Years, 0.14%; Barclays U.S. Treasury Long, -8.30%). Sluggish corporate earnings growth and broad investor rotation out of bonds drove credit spreads somewhat wider over the second quarter (Barclays U.S. Corporate Investment Grade, -3.16%). The higher coupons of below investment-grade bonds offset wider spreads and higher market yields, resulting in flat performance for this fixed income sector (Barclays U.S. Aggregate, -1.68%).

#### Non-U.S. Markets

The European stock market rally that ushered in 2015 was brought to an abrupt end by the late-June breakdown in negotiations between the European Central Bank and beleaguered Greece, resulting in a second-quarter loss for European region stocks in local currency terms (MSCI Europe, net dividends, local currency terms, -3.91%). Pacific region stocks also lost ground in June, but returned positive performance for the second quarter (MSCI Pacific, net, local, 2.28%), adding to their strong first-quarter returns. The U.S. dollar fell against European currencies, however, improving performance for U.S.-based investors (MSCI Europe, net, USD terms, 0.36%), while Pacific region currencies weakened against the U.S. dollar (MSCI Pacific, net, USD terms, 1.14%). China's stock market suffered a deep correction in June, but year-to-date its run-up has been stunning, underpinning gains in emerging market equities as a whole (MSCI Emerging Markets, net: 0.70% local, 0.69% USD). Global bonds retreated in local-market terms over the second quarter (Barclays Global Aggregate ex-USD, U.S. dollar-hedged, -2.67%; Barclays Emerging Markets Local Currency Government Universal, U.S. dollar terms, -0.83%; Barclays Emerging Markets Local Currency Government Universal, U.S. dollar terms, 0.07%).

# **Summary of Index Returns** For Periods Ended June 30, 2015

	Quarter	One <u>Year</u>	Three <u>Years</u>	Five <u>Years</u>	Ten <u>Years</u>
Domestic Equity					
Standard & Poor's 500	0.28%	7.42%	17.31%	17.34%	7.89%
Wilshire 5000	0.06	7.09	17.45	17.33	8.16
Wilshire 4500	-0.56	6.14	19.26	18.11	9.56
Wilshire Large Cap	0.11	7.33	17.30	17.24	8.01
Wilshire Small Cap	-0.46	5.11	18.75	18.21	9.90
Wilshire Micro Cap	1.03	4.93	19.28	16.65	7.32
Domestic Equity					
Wilshire Large Value	-0.47%	3.66%	15.60%	15.95%	6.79%
Wilshire Large Growth	0.74	11.54	19.27	18.67	9.20
Wilshire Mid Value	-2.17	2.71	17.90	17.13	8.56
Wilshire Mid Growth	-0.41	6.48	21.07	19.06	11.03
Wilshire Small Value	-1.93	3.83	17.53	16.95	9.05
Wilshire Small Growth	1.10	6.47	20.04	19.42	10.72
International Equity					
MSCI All World ex U.S. (USD)	0.53%	-5.26%	9.44%	7.76%	5.54%
MSCI All World ex U.S. (local currency)	-1.02	9.89	16.06	12.24	5.87
MSCI EAFE	0.62	-4.22	11.97	9.54	5.12
MSCI Europe	0.36	-7.65	12.37	10.02	5.03
MSCI Pacific	1.14	2.69	11.22	8.80	5.39
MSCI Emerging Markets Index	0.69	-5.12	3.71	3.68	8.11
Domestic Fixed Income					
Barclays Aggregate Bond	-1.68%	1.86%	1.83%	3.35%	4.44%
Barclays Credit	-2.88	0.93	3.03	4.93	5.12
Barclays Mortgage	-0.74	2.28	1.92	2.89	4.56
Barclays Treasury	-1.58	2.31	0.89	2.74	4.06
Citigroup High Yield Cash Pay	0.18	-0.87	6.33	8.32	7.50
Barclays US TIPS	-1.06	-1.73	-0.76	3.29	4.13
91-Day Treasury Bill	0.01	0.02	0.06	0.08	1.41
International Fixed Income					
Citigroup Non-U.S. Gov. Bond	-1.54%	-13.49%	-3.88%	0.33%	2.63%
Citigroup World Gov. Bond	-1.55	-9.02	-2.45	1.05	3.07
Citigroup Hedged Non-U.S. Gov.	-3.19	4.02	4.32	3.84	4.14
Currency*					
Euro vs. \$	3.74%	-18.62%	-4.25%	-1.88%	-0.83%
Yen vs. \$	-1.99	-17.21	-13.28	-6.28	-0.99
Pound vs. \$	5.94	-8.02	0.09	1.00	-1.30
Real Estate					
Wilshire REIT Index	-9.93%	5.21%	9.00%	14.73%	6.92%
Wilshire RESI	-9.61	5.59	9.19	14.74	6.87

	Market Value	<u>Otr</u>	1-Year	3-Year	5-Year	10-Year
TOTAL FUND for PERF	\$301.9 bil	1.1%	2.4%	10.9%	10.7%	6.2%
Total Fund Policy Benchmark <sup>1</sup>		0.4%	2.5%	10.3%	10.4%	7.2%
Actuarial Rate		1.8%	7.5%	7.5%	7.6%	7.7%
Affiliate Fund						
Judges II	\$1,069.4 mil	-1.2%	-0.1%	9.9%	10.5%	6.3%
Weighted Policy Benchmark		-1.3%	-0.3%	9.6%	10.4%	6.4%
Long-Term Care ("LTC")	\$4,110.4 mil	-2.7%	-0.9%	4.2%	7.1%	5.1%
Weighted Policy Benchmark		-2.6%	-1.2%	3.9%	6.9%	5.0%
CERBT Strategy 1	\$3,626.2 mil	-0.9%	-0.1%	9.8%	10.6%	%
Weighted Policy Benchmark		-1.1%	-0.6%	9.4%	10.5%	%
CERBT Strategy 2	\$641.8 mil	-1.5%	-0.3%	7.8%	%	%
Weighted Policy Benchmark		-1.7%	-0.7%	7.5%	%	%
CERBT Strategy 3	\$167.3 mil	-1.8%	0.0%	5.9%	%	%
Weighted Policy Benchmark		-1.9%	-0.6%	5.4%	%	%
Legislators' Fund						
LRS	\$121.5 mil	-1.8%	0.0%	6.1%	8.1%	5.9%
Weighted Policy Benchmark		-1.9%	-0.4%	5.6%	7.8%	5.8%

# Summary Review of Plans Periods Ended 6/30/2015

<sup>66</sup> The Total Fund Policy Benchmark return equals the return for each asset class benchmark weighted at the current target asset allocation.

<b>Total Fund Review PERF</b>
Periods Ended 6/30/2015

								5-Year	Ratios
<b>TOTAL FUND</b> Total Fund Policy Benchmark <sup>2</sup> Actuarial Rate	Market <u>Value</u> \$301.9 bil	<u>Qtr</u> 1.1% 0.4% 1.8%	<u>1-Year</u> 2.4% 2.5% 7.5%	<u>3-Year</u> 10.9% 10.3% 7.5%	<u>5-Year</u> 10.7% 10.4% 7.6%	<u>10-Year</u> 6.2% 7.2% 7.7%	<u>VaR<sup>12</sup></u> \$40.3 bil	<u>Sharpe<sup>13</sup></u> 1.6 1.5	<u>Info<sup>14</sup></u> 0.2 0.0
GROWTH	191.5	1.1%	2.2%	14.2%	13.1%	7.3%	\$39.7 bil	1.2	0.0
Growth Policy Benchmark <sup>3</sup>		1.0%	2.9%	14.7%	13.2%	8.3%		1.1	0.0
PUBLIC EQUITY	162.6	0.5%	1.0%	14.5%	12.9%	6.6%	\$32.8 bil	0.9	0.8
Public Equity Policy Benchmark <sup>4</sup>		0.6%	1.3%	14.2%	12.5%	6.9%		0.9	0.0
PRIVATE EQUITY	29.0	4.6%	8.9%	14.1%	14.4%	11.9%	\$9.5 bil	3.0	0.0
Private Equity Policy Benchmark <sup>5</sup>		3.2%	11.1%	16.7%	15.0%	14.9%		1.1	0.0
INCOME	53.1	-3.3%	1.3%	2.6%	5.4%	6.1%	\$6.3 bil	1.1	0.9
Income Policy Benchmark <sup>6</sup>		-3.3%	0.4%	1.4%	4.6%	5.3%		0.9	0.0
REAL ASSETS 7	31.8	8.5%	12.4%	12.3%	11.8%	2.2%	\$4.3 bil	1.6	-0.1
Real Assets Policy Benchmark <sup>8</sup>		2.9%	11.5%	11.0%	12.1%	8.7%		2.7	0.0
INFLATION	15.6	1.3%	-11.5%	-1.3%	3.2%	%	\$1.1 bil	0.4	0.4
Inflation Policy Benchmark <sup>9</sup>		2.0%	-13.0%	-2.3%	1.9%	%		0.3	0.0
LIQUIDITY	7.5	-0.5%	0.9%	0.2%	1.1%	2.1%	\$0.3 bil	0.7	-0.8
Liquidity Policy Benchmark <sup>10</sup>		-0.5%	1.7%	0.8%	1.5%	2.3%		0.8	0.0
ABSOLUTE RETURN STRATEGIES 11	1.2	2.4%	7.3%	7.2%	5.1%	4.6%		1.6	-0.1
Absolute Return Strategies Policy Benchmark <sup>11</sup>		1.3%	5.3%	5.3%	5.4%	7.0%		36.9	0.0
MULTI-ASSET CLASS COMPOSITE	1.2	-2.1%	6.0%	%	%	%		N/A	N/A
Absolute 7.5%		1.8%	7.5%	%	%	%		N/A	N/A
CURRENCY + ASSET ALLOCATION TRANSITION	0.0	%	%	%	%	%		N/A	N/A
TERMINATED AGENCY POOL	0.1	-4.4%	2.0%	%	%	%		N/A	N/A
TOTAL FUND PLUS TAP	302.0	1.1%	2.4%	10.9%	10.7%	6.2%		N/A	N/A

<sup>2</sup> The Total Fund Policy Benchmark return equals the return for each asset class benchmark weighted at the current target asset allocations.

<sup>3</sup>Growth Policy Benchmark equals the benchmark returns of public equity and private equity weighted at policy allocation target percentages.

<sup>4</sup> The Public Equity Policy Benchmark is a custom global benchmark maintained by FTSE.

<sup>5</sup> The Private Equity Policy Benchmark is currently 1-quarter lagged (67% FTSE US TMI + 33% FTSE AW x-US TMI) with a hurdle of + 3%.

<sup>o</sup> The Income Policy Benchmark equals the benchmark returns of domestic and international fixed income components weighted at policy allocation target percentages.

Real Assets include real estate, whose returns are net of investment management fees and all expenses, including property level operations expenses netted from property income. This method differs from GASB 31, which requires all investment expenses be identified for inclusion in the System's general purpose financial statements.

<sup>8</sup> The Real Assets Policy Benchmark equals the benchmark returns of real estate, timber, and infrastructure weighted at policy allocation target percentages.

<sup>9</sup> The Inflation Policy Benchmark equals the benchmark returns of commodities and TIPS weighted at policy allocation target percentages.

<sup>10</sup> The Liquidity Policy Benchmark is a custom index maintained by State Street Bank.

<sup>11</sup> The Absolute Return Strategies program was excluded from Public Equity on July 1, 2011. Public Equity history does not include Absolute Return Strategies performance. The Absolute Return Strategies Policy Benchmark is currently Merrill Lynch Treasury 1-Year Note + 5%.

<sup>12</sup> VaR (Value at Risk) measures how much the portfolio might decrease over a 12 month period in extreme cases. The VAR estimate shows how much the portfolio value might fall in the worst 5% of 12 month periods. VAR is calculated using total risk (standard deviation) and market value ((Expected Return – (1.65 X SD)) X MV).

<sup>13</sup> The Sharpe Ratio or reward-to-variability ratio is a measure of the mean excess return per unit of risk in an investment strategy. The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the total risk taken. The 5-year period was selected to provide sufficient data points for a meaningful calculation, but is still short enough to reflect the changes to the investment programs over the last few years.

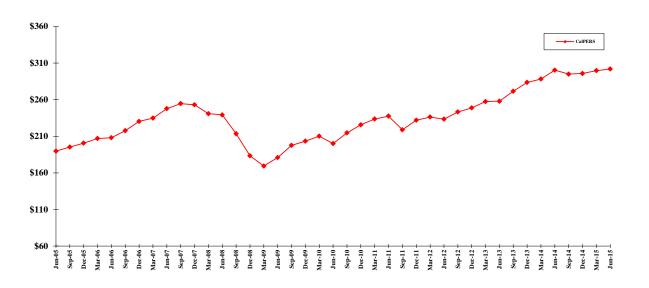
<sup>14</sup> The "Information Ratio" calculates the amount of excess performance earned per unit of excess risk, as measured by tracking error. Higher information ratios imply a greater return per unit of excess risk ventured.

# Total Fund Review for PERF (continued) Periods Ended 6/30/2015

# **Total Fund Flow**

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>1Q15</u>	<u>2Q15</u>
Market Value (\$bil)	182.8	200.6	230.3	252.9	183.3	203.3	225.7	225.0	248.8	283.6	295.8	299.6	301.9

### **Total Fund Market Value**

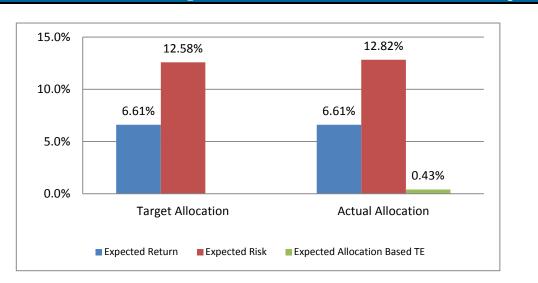


# **Asset Allocation**

### Asset Allocation: Actual versus Target Weights\*

Asset Class	Actual Asset Allocation	Target Asset Allocation	Difference
Growth	63.4%	61.0%	2.4%
Income	17.6%	19.0%	-1.4%
Real Assets	10.6%	12.0%	-1.4%
Inflation	5.2%	6.0%	-0.8%
ARS	0.4%	0.0%	0.4%
Liquidity	2.5%	2.0%	0.5%
Multi-Asset	0.4%	0.0%	0.4%

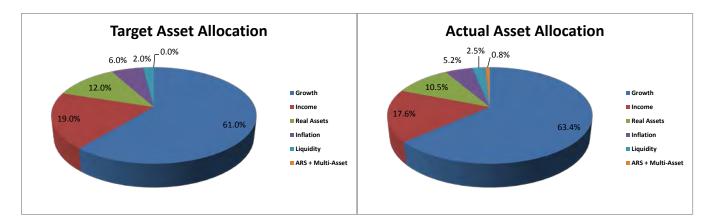
\* Asset allocation targets are in the process of shifting to the new targets adopted by the Investment Committee in May 2014. Transitions accounts are included with their respective asset classes.

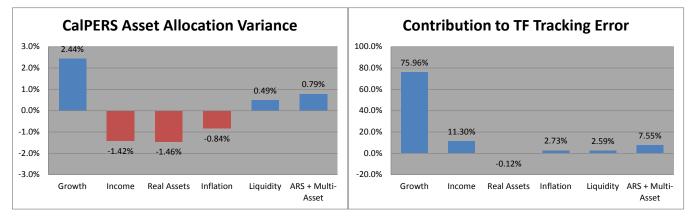


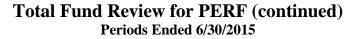
# Total Fund Review for PERF (continued) Periods Ended 6/30/2015

Expected Return/Risk and Tracking Error based on Wilshire's Asset Class Assumptions

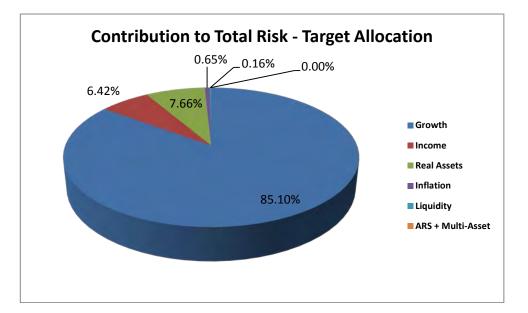
### **Total Fund Asset Allocation**

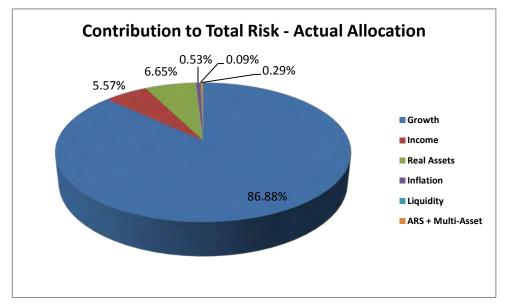






Contribution to Total Risk based on Wilshire's Asset Class Assumptions





# California Public Employees' Retirement System Total Fund Attribution - Quarter As of 6/30/2015

	Actua	l (%)	Polic	y (%)	Differe	nce (%)	Т	Total Fund Return Contribution (%)		
Asset Class	Weight	Return	Weight	Return	Weight	Return	Actual Allocation	Interaction	Active Management	Total
Growth	63.65	1.13	61.00	1.01	2.65	0.12	-0.03	0.00	0.11	0.08
Public Equity	54.12	0.55	51.00	0.56	3.12	-0.01	-0.01	0.00	-0.01	-0.01
Private Equity	9.53	4.59	10.00	3.20	-0.47	1.38	-0.02	0.00	0.12	0.10
Income	18.12	-3.27	19.00	-3.35	-0.88	0.07	0.03	0.00	0.01	0.04
Real Assets	9.88	8.45	12.00	2.90	-2.12	5.55	-0.06	-0.12	0.68	0.50
Inflation	5.18	1.25	6.00	2.03	-0.82	-0.78	-0.02	0.01	-0.05	-0.06
Absolute Return	0.90	2.40	0.00	1.33	0.90	1.07	0.00	0.01	0.00	0.02
Liquidity	2.27	-0.53	2.00	-0.51	0.27	-0.02	0.00	0.00	0.00	0.00
Monthly Linked Return	100.00	1.03	100.00	0.45		0.59	-0.07	-0.10	0.76	0.59
Trading/Hedging/Other		0.03		0.00		0.03				0.03
Total		1.07		0.44		0.62				0.62

The Total Fund Attribution displays the return contribution of each asset class to the total fund. This is done by monthly linking each program's allocation at the beginning of the month with each month's returns to determine if tactical allocation and active management within asset classes helped or hurt performance. The interaction effect is a cross-factor, used to help further explain the combined impact of a portfolio's selection and allocation decisions within a segment.

# California Public Employees' Retirement System Total Fund Attribution - Calendar Year-to-Date As of 6/30/2015

	Actua	d (%)	Policy	y (%)	Differe	nce (%)	Т	Total Fund Return Contri		
Asset Class	Weight	Return	Weight	Return	Weight	Return	Actual Allocation	Interaction	Active Management	Total
Growth	63.50	3.23	61.00	3.75	2.50	-0.51	-0.03	-0.02	-0.27	-0.33
Public Equity	53.71	3.06	51.00	3.26	2.71	-0.20	-0.02	0.00	-0.10	-0.12
Private Equity	9.80	4.39	10.00	6.03	-0.20	-1.63	-0.02	-0.01	-0.17	-0.20
Income	18.26	-1.04	19.00	-1.60	-0.74	0.55	0.00	0.00	0.10	0.10
Real Assets	9.93	9.94	12.00	5.98	-2.07	3.96	-0.08	-0.09	0.49	0.32
Inflation	5.08	-0.45	6.00	-0.44	-0.92	-0.01	0.03	0.00	0.00	0.03
Absolute Return	1.06	5.17	0.00	2.69	1.06	2.48	-0.01	0.03	0.00	0.02
Liquidity	2.17	0.39	2.00	0.70	0.17	-0.32	0.00	0.00	-0.01	-0.01
Monthly Linked Return	100.00	2.90	100.00	2.75		0.15	-0.09	-0.09	0.31	0.15
Trading/Hedging/Other		0.06		0.00		0.06				0.06
Total		2.96		2.75		0.21				0.21

The Total Fund Attribution displays the return contribution of each asset class to the total fund. This is done by monthly linking each program's allocation at the beginning of the month with each month's returns to determine if tactical allocation and active management within asset classes helped or hurt performance. The interaction effect is a cross-factor, used to help further explain the combined impact of a portfolio's selection and allocation decisions within a segment.

# California Public Employees' Retirement System Total Fund Attribution - Fiscal Year-to-Date As of 6/30/2015

	Actua	l (%)	Policy	y (%)	Differe	nce (%)	Total Fund Return Contri		n Contribution (%)	
Asset Class	Weight	Return	Weight	Return	Weight	Return	Actual Allocation	Interaction	Active Management	Total
Growth	63.51	2.23	61.00	2.92	2.51	-0.68	-0.05	-0.02	-0.39	-0.47
Public Equity	53.38	1.01	51.00	1.32	2.38	-0.31	-0.06	-0.01	-0.16	-0.23
Private Equity	10.13	8.92	10.00	11.14	0.13	-2.21	0.01	-0.02	-0.23	-0.24
Income	18.05	1.32	19.00	0.40	-0.95	0.93	-0.02	-0.01	0.17	0.15
Real Assets	9.99	12.42	12.00	11.52	-2.01	0.90	-0.20	-0.03	0.13	-0.10
Inflation	5.02	-11.49	6.00	-12.96	-0.98	1.47	0.14	-0.01	0.10	0.23
Absolute Return	1.34	7.25	0.00	5.26	1.34	2.00	0.04	0.01	0.00	0.06
Liquidity	2.08	0.91	2.00	1.68	0.08	-0.77	0.00	0.00	-0.02	-0.02
Monthly Linked Return	100.00	2.36	100.00	2.50		-0.14	-0.10	-0.06	-0.01	-0.14
Trading/Hedging/Other		0.05		0.00		0.05				0.05
Total		2.41		2.50		-0.09				-0.09

The Total Fund Attribution displays the return contribution of each asset class to the total fund. This is done by monthly linking each program's allocation at the beginning of the month with each month's returns to determine if tactical allocation and active management within asset classes helped or hurt performance. The interaction effect is a cross-factor, used to help further explain the combined impact of a portfolio's selection and allocation decisions within a segment.

### Total Fund Review for PERF (continued) Periods Ended 6/30/2015

• The California Public Employees' Retirement System ("CalPERS, the System") generated a total fund return of 1.1%, for the quarter ended June 30, 2015. CalPERS' return can be attributed as follows:

0.44%	Strategic Policy Allocation
-0.07%	Actual/Tactical Asset Allocation
0.76%	Active Management
-0.10%	Interaction
0.03%	Trading/Currency Hedging
1.07%	Total Return

- The total fund attribution table on the previous page displays the return contribution of each asset class to the total fund. This table will allow the Board to see if tactical allocation and active management within asset classes helped or hurt performance during the quarter.
  - Strategic Policy: The contribution to total return from each asset class, calculated as the percentage allocated to each asset class multiplied by the benchmark for that asset class.
  - Actual Allocation: The return contribution during the quarter due to differences in the actual allocation from the policy allocation (i.e. the actual allocation to total equity was higher than the policy allocation). A positive number would indicate an overweight benefited performance and vice versa.
  - Active Management: The return contribution from active management. The number would be positive
    if the asset class outperformed the designated policy index and vice versa (i.e. the US fixed income
    segment outperformed its custom benchmark during the quarter and contributed positively to active
    management.
  - Interaction: Captures the interaction of managers' performance and asset class weighting differences.
  - Actual Return: The actual return of the asset classes if allocations to them were static during the quarter. These returns will not match exactly with the actual segment returns since asset class allocations change during the quarter due to market movement, cash flows, etc.
- Despite Greece's worsening debt woes that took center stage and rattled many markets late in the quarter, CalPERS investments held up well and ended the quarter on a small but positive note. The System earned a total return of 1.1% as most of its non-fixed income major asset classes recorded various degrees of gains; this overall performance compared favorably to the strategic policy benchmark, outpacing it by a margin of 62 bps. From the attribution breakdown, the System's asset allocation variances came out to be a small detractor in Q2 primarily due to the sizable underweight in Real Assets, the best performing PERS segment in both absolute and relative terms. However, strong active management contribution more than made up for the negative asset allocation impact. Among the major asset classes, Real Assets and Private Equity were the standout and primary positive performance driver, as they posted outperformance of 555 bps and 138 bps, respectively.
- With CalPERS performance having stayed in the low single-digit over the past several quarters, the Total Fund composite's 1.1% Q2 return and 2.4% one-year return trailed against the stated 7.5% actuarial rate of return. Over the mid-term horizon, the System's double-digit three- and five-year returns do sit comfortably above the actuarial rate. The ten-year track record, which remained at 6.2%, currently trails by a modest amount.

### Total Fund Review for PERF (continued) Periods Ended 6/30/2015

### Relative to the Total Fund Policy Benchmark:

- Growth Exposure: The Growth composite remains CalPERS' largest asset class exposure, accounting for 63% of the plan assets as of June 30. Given its size, the composite also continues to exhibit a high degree of correlation with Total Fund's performance and this pattern once again held true in the second quarter of 2015: for the quarter, Growth generated a total net return of 1.1% that was on par with Total Fund. This performance was better than both the Growth policy benchmark as well as the total fund policy benchmark, which were up 1.0% and 0.4%, respectively. Within Growth, the composite saw opposite-sized contribution from its two main components, with the larger sized public equity piece rising 0.6% that was on par with the global equity benchmark's pace, and the smaller private equity portfolio turning in a 4.6% gain that represented a 138 bps outperformance versus its own allocation benchmark.
- Income Exposure: After more than a year of falling yields, the fixed income market saw a sharp reversal in the second quarter. Based on the continued strengthening of economic data and released Fed minutes from recent meetings, the anticipation of the first rate hike since 2006 finally materializing before the end of 2015 had a notable impact on bond prices, driving the ten-year Treasury yield up 41 bps to 2.35% as of June 30. The sharply higher yields was a strong headwind for most fixed income investments, and sent the Income composite falling -3.3% this quarter. This performance mirrored the Income policy benchmark, but was obviously short of the total fund policy benchmark's pace. Within Income, the U.S. fixed income component led the way by tumbling -3.5%, while the international fixed income composite registered a smaller drop of -1.2%.
- **Real Assets Exposure:** After posting three consecutive quarters of tepid returns, Real Assets surprised on the upside in Q2, gaining 8.5% that finished atop the leaderboard among PERS' major asset classes. This strong gain made Real Assets a major contributor to the System, as it considerably outpaced both its own asset class benchmark (by 555 bps) and the total fund policy benchmark (by 801 bps). Most of this quarter's outperformance was driven by the real estate component, whose private real estate investments logged strong appreciation that nearly netted a double-digit return after fees.
- Inflation Exposure: CalPERS' Inflation composite closed out Q2 in the black with a small gain of 1.3%. While this return was above the total fund policy benchmark (which was up 0.4%), it actually missed its own benchmark by a margin of 78 bps, therefore making Inflation a net detractor to Total Fund's overall performance. The composite's misses were solely attributed to its inflation-linked bond portfolios, which recorded losses for the second straight quarter due to the soft inflationary conditions in the U.S.
- Liquidity: The Liquidity composite's -0.5% return this quarter matched its own asset class benchmark, but came in below the total fund policy benchmark. Both of the composite's Treasury and cash components registered small losses amid Q2's rising yield condition, therefore ultimately making Liquidity a small detractor to Total Fund.
- Absolute Return Strategy: The Absolute Return Strategy (ARS) program generated a modest amount of gain of 2.4% that topped the total fund policy benchmark.

# Growth Review for PERF

Periods Ended 6/30/2015

**Growth Allocation** 

### Asset Allocation: Actual versus Target Weights

Asset Class	Actual Asset Allocation	Target Asset Allocation	Difference
Growth	<u>63.4%</u>	61.0%	+2.4%
Public Equity	53.9%	51.0%	+2.9%
Private Equity	9.6%	10.0%	-0.4%

### **Growth Segment Performance**

<b>GROWTH</b> Growth Policy Benchmark Value Added	Market <u>Value</u> 191.5	<b><u>Qtr</u></b> 1.1% 1.0% 0.1%	<b><u>1-Year</u></b> <b>2.2%</b> 2.9% -0.7%	<b><u>3-Year</u></b> <b>14.2%</b> 14.7% -0.5%	5-Year 13.1% 13.2% -0.1%	<u>10-Year</u> 7.3% 8.3% -1.0%	<u>VaR<sup>21</sup></u> \$39.7 bil	5-year Sharpe <u>Ratio<sup>22</sup></u> 1.2 1.1	5-year Info <u>Ratio<sup>23</sup></u> 0.0 0.0
PUBLIC EQUITY <sup>15</sup> Public Equity Policy Benchmark <sup>16</sup> Value Added	162.6	<b>0.5%</b> 0.6% -0.1%	<b>1.0%</b> 1.3% -0.3%	<b>14.5%</b> 14.2% 0.3%	<b>12.9%</b> 12.5% 0.4%	<b>6.6%</b> 6.9% -0.3%	\$32.8 bil	0.9 0.9	0.8 0.0
US Equity Composite Custom US Equity Benchmark <sup>17</sup> Value Added	86.5	<b>0.0%</b> 0.1% -0.1%	<b>6.4%</b> 6.7% -0.3%	<b>18.2%</b> 17.8% 0.4%	<b>17.5%</b> 17.4% 0.1%	<b>8.1%</b> 8.1% 0.0%		1.4 1.4	0.1 0.0
<b>Total Int'l Equity</b> Custom Int'l Equity Benchmark <sup>18</sup> Value Added	76.0	<b>1.1%</b> 1.2% -0.1%	<b>-4.4%</b> -3.6% -0.8%	<b>10.9%</b> 11.3% -0.4%	<b>8.7%</b> 9.0% -0.3%	<b>6.1%</b> 5.9% 0.2%		0.6 0.6	-0.2 0.0
PRIVATE EQUITY <sup>19</sup> PE Policy Benchmark <sup>20</sup> Value Added	29.0	<b>4.6%</b> 3.2% 1.4%	<b>8.9%</b> 11.1% -2.2%	<b>14.1%</b> 16.7% -2.6%	<b>14.4%</b> 15.0% -0.6%	<b>11.9%</b> 14.9% -3.0%	\$9.5 bil	3.0 1.1	0.0 0.0
Private Equity Partnership Investments Private Equity Distribution Stock	28.9 0.0	4.6% -3.6%	8.9% -19.8%	14.1% -19.7%	14.5% -15.5%	12.0% -4.1%			

<sup>15</sup> Includes domestic equity, international equity, corporate governance, and MDP ventures. It does not include asset allocation transition accounts; those accounts are reflected in total fund but are not included in any composite.

<sup>16</sup> The Public Equity Policy Benchmark is a custom global benchmark maintained by FTSE.

<sup>17</sup> The Custom US Equity Benchmark currently represents the FTSE Total Market Index. It is linked historically to its prior benchmarks.

<sup>18</sup> The Custom Int'l Equity Benchmark currently represents the FTSE All World ex US Index. It is linked historically to its prior benchmarks.

<sup>19</sup> The performance of CalPERS' private equity (AIM) investments is 1-quarter lagged.

<sup>20</sup> The AIM Policy Benchmark currently equals 3% + 1-quarter lagged (67% FTSE US TMI + 33% FTSE AW x-US TMI), and is linked historically to its prior benchmarks.

<sup>21</sup> VaR (Value at Risk) measures how much the portfolio might decrease over a 12 month period in extreme cases. The VAR estimate shows how much the portfolio value might fall in the worst 5% of 12 month periods. VAR is calculated using total risk (standard deviation) and market value.

<sup>22</sup> The Sharpe Ratio or reward-to-variability ratio is a measure of the mean excess return per unit of risk in an investment strategy. The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the risk taken.

<sup>23</sup> The "Information Ratio" calculates the amount of excess performance earned per unit of excess risk, as measured by tracking error. Higher information ratios imply a greater return per unit of excess risk ventured.

# **Growth Review for PERF (continued)**

### **Comments Regarding Growth Segment Performance**

### Impeded Performance:

- U.S. Equity Exposure: CalPERS' total U.S. equity composite was on track for another solid positive quarter until the sharp deterioration in the debt negotiation between Greece and its creditors disrupted investor sentiment at the end of June. With a late June selloff that essentially wiped out gains accumulated from April and May, the composite closed out the second quarter flat, up just 0.04%. This performance paled compare to the Growth policy benchmark's 1.0% gain. Both of the System's internal and external U.S. equity composites turned in soft results, with the former posting a small 0.1% gain while the latter lost -0.2%.
- **Corporate Governance:** Similar to the U.S. equity composite, the total Corporate Governance program was also flat for Q2. This performance came in below the Growth policy benchmark, as well as the program's own policy benchmark.
- ◆ **MDP:** After gaining 3.0% in the first quarter of 2015, the Manager Development Program could not extend the positive momentum further as it finished Q2 on a small, but down note. Its -0.2% return trailed both the Growth policy benchmark and its own policy benchmark.

#### Helped Performance:

- International Equity Exposure: Similar to what was witnessed by the U.S. market, the international equity rally that ushered in 2015 was brought to an abrupt end by mid quarter as growing concerns with Greece's debt negotiation weighed on investors' mind. However, PERS' international equity portfolios was able to held on to minor gains to finish the quarter just ahead of the Growth policy benchmark, with the internally managed international equity composite up 1.2% and the externally managed composite up 1.1%.
- **Private Equity Exposure:** After experiencing a brief slowdown during the first quarter of the year where it saw return dipping -0.2%, the CalPERS private equity program regained its momentum in Q2, reporting a decisively positive return of 4.6%. This level of performance made private equity the best performing Growth component this quarter as it was markedly better than what public equities generated, and helped contribute to the overall asset class' relative success.
- FoF: The Total Fund of Funds composite did well, as it followed up a healthy Q1 gain of 2.7% with another round of positive return of 2.8% for Q2. This compared favorably to the overall Growth policy benchmark.

					-		
LIC Forsity Commonito (or ADC)	<u>Market</u> <u>Value</u> 86.5	<u>Qtr</u> 0.0%	<u>1-Year</u> 6.4%	<u>3-Year</u> 18.2%	<u>5-Year</u> 17.5%	<u>10-Year</u> 8.1%	<u>Date</u> 12/79
US Equity Composite (ex ARS)	80.5						12/19
Custom US Equity Benchmark <sup>24</sup>		0.1%	6.7%	17.8%	17.4%	8.1%	
Value Added		-0.1%	-0.3%	0.4%	0.1%	0.0%	
Total Internal US Equity	78.0	0.1%	6.6%	18.1%	17.6%	8.4%	6/88
Custom Internal US Equity Benchmark <sup>25</sup>		0.0%	6.7%	17.8%	17.3%	8.1%	
Value Added		0.1%	-0.1%	0.3%	0.3%	0.3%	
Total External US Equity	8.4	-0.2%	5.6%	19.0%	16.6%	7.3%	12/98
Custom External US Equity Benchmark <sup>26</sup>		-0.3%	5.5%	17.2%	16.8%	8.1%	
Value Added		0.1%	0.1%	1.8%	-0.2%	-0.8%	

# Public Equity Review for PERF - U.S. Equity

# **Public Equity Review for PERF - International Equity**

<b>Total Int'l Equity (ex ARS)</b> Custom Int'l Equity Benchmark <sup>27</sup> Value Added	<u>Market</u> <u>Value</u> 76.0	<u>Qtr</u> 1.1% 1.2% -0.1%	<u>1-Year</u> -4.4% -3.6% -0.8%	<u>3-Year</u> 10.9% 11.3% -0.4%	<u>5-Year</u> 8.7% 9.0% -0.3%	<u>10-Year</u> 6.1% 5.9% 0.2%	<u>Date</u> 12/02
<b>Total Internal Int'l Equity</b> Custom Internal Int'l Equity Benchmark <sup>28</sup> Value Added	61.4	<b>1.2%</b> 1.1% 0.1%	<b>-4.6%</b> -4.4% -0.2%	<b>11.1%</b> 10.8% 0.3%	<b>8.8%</b> 8.7% 0.1%	<b>5.7%</b> 5.8% %	3/05
<b>Total External Int'l Equity</b> Custom External Int'l Equity Benchmark <sup>29</sup> Value Added	15.7	<b>1.1%</b> 1.5% -0.4%	<b>-3.7%</b> -1.0% -2.7%	<b>10.1%</b> 10.0% 0.1%	<b>8.3%</b> 7.6% 0.7%	<b>6.7%</b> 6.4% 0.3%	6/89

# Public Equity Review for PERF - Corporate Governance/MDP/FoF

	<u>Market</u> <u>Value</u>	<u>Qtr</u>	<u>1-Year</u>	<u>3-Year</u>	<u>5-Year</u>	<u> 10-Year</u>	<u>Date</u>
Total Corporate Governance	2.7	0.1%	-0.6%	16.6%	12.1%	5.3%	12/98
Policy Benchmark		2.7%	12.7%	18.3%	14.4%	6.9%	
Value Added		-2.6%	-13.3%	-1.7%	-2.3%	-1.6%	
Total MDP	0.5	-0.2%	1.5%	14.8%	13.6%	6.6%	6/00
Policy Benchmark		0.5%	2.7%	15.2%	13.6%	7.6%	
Value Added		-0.7%	-1.2%	-0.4%	0.0%	-1.0%	
Total FoF	0.2	2.8%	3.8%	14.7%	14.4%	%	3/08
Policy Benchmark		1.6%	2.9%	14.4%	14.0%	%	
Value Added		1.2%	0.9%	0.3%	0.4%	%	

<sup>24</sup> The Custom US Equity Benchmark currently represents the FTSE Total Market Index. It is linked historically to its prior benchmarks.

<sup>25</sup> The Custom Internal US Equity Benchmark currently represents the FTSE Total Market Index. It is linked historically to its prior benchmarks.
<sup>26</sup> The Custom External US Equity Benchmark return equals the return for each manager's benchmark weighted at the current target asset allocation.

<sup>27</sup> The Custom Int'l Equity Benchmark currently represents the FTSE All World ex US Index. It is linked historically to its prior benchmarks.

<sup>28</sup> The Custom Internal Int'l Equity Benchmark currently represents the FTSE Developed World ex US/Tobacco Index. This benchmark is linked historically to its prior benchmarks.

<sup>29</sup> The Custom External Int'l Equity Benchmark return equals the return for each manager's benchmark weighted at the current target asset allocation.

### Absolute Return Strategies Review for PERF Period Ended 6/30/2015

### **ARS** Allocation

	Asset Alloc	ation:	Actual	versus	Target V	Weigh	ts			
Asset Class		Actual Alloc			arget Asset Allocation	t	Di			
ARS		0.4%			0.0%			+0.4%		
<b>ARS Segment Perform</b>	nance									
	<u>Market</u> <u>Value</u>	Qtr	1-Year	3-Year	5-Year	10-Year	Info	5-Year Up Capture <u>Ratio</u>	Sharpe	5-Year Sortino Ratio <sup>33</sup>
Absolute Return Strategies	1.2	2.4%	7.3%	7.2%	5.1%	4.6%	-0.1	1.0	1.6	2.2
ARS Policy Benchmark <sup>30</sup>		1.3%	5.3%	5.3%	5.4%	7.0%				
Value Added		1.1%	2.0%	1.9%	-0.3%	-2.4%				
Total Direct Investments	1.1	1.9%	7.8%	7.2%	5.6%	5.1%				
Total Funds of Funds	0.0	8.5%	5.8%	7.5%	4.1%					
HFRI Fund of Funds Index		0.1%	3.8%	6.2%	4.1%	3.2%				

### **ARS Characteristics**

			<b>Rolling Corre</b>	elations vs. Inc	lex
Percentage				Domestic	
of positive	Beta vs.		MSCI AW	<b>Fixed</b>	Real Estate
Months	<u>S&amp;P 500</u>	<u>W5000</u>	<u>x-US</u>	<u>Benchmark</u>	<b>Benchmark</b>
66%	0.1	0.3	0.3	-0.1	0.1

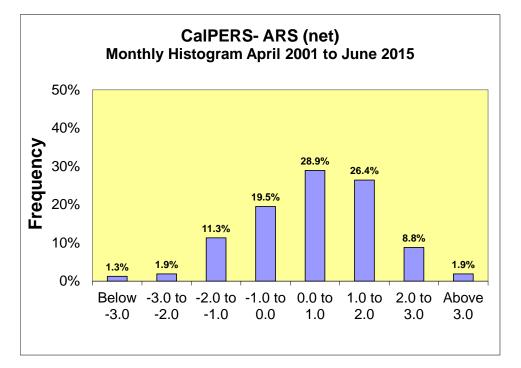
- Beta vs. S&P 500: This measures the amount of stock market risk in the portfolio. A beta of 1.0 would indicate that the portfolio's performance should closely track the stock market, while a beta higher than 1.0 implies greater-than-market risk and possibly leverage. The portfolio's beta is 0.1 which implies a weak relationship to stock market return, which is appropriate for this program.
- Correlation vs. various indices: We have calculated the historical correlation between the ARS and CalPERS' other main asset classes. Over a market cycle, the ARS has shown positive correlation to the equity markets while exhibiting a weak negative correlation with fixed income markets.

<sup>&</sup>lt;sup>30</sup> The ARS Policy Benchmark consists of the Merrill Lynch 1-Year Treasury Note + 5% and is linked historically to its prior benchmark.

<sup>&</sup>lt;sup>31</sup> The "Information Ratio" calculates the amount of excess performance earned per unit of excess risk, as measured by tracking error. Higher information ratios imply a greater return per risk ventured.

<sup>&</sup>lt;sup>32</sup> The Sharpe Ratio or reward-to-variability ratio is a measure of the mean excess return per unit of risk in an investment strategy. The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the risk taken.

<sup>&</sup>lt;sup>33</sup> The Sortino Ratio is measure of a risk-adjusted return of an investment asset. It is an extension of the Sharpe Ratio. While the Sharpe ratio takes into account any volatility, in return of an asset, Sortino ratio differentiates volatility due to up and down movements. The up movements are considered desirable and not accounted in the volatility.



# Absolute Return Strategies Review for PERF (Continued) Period Ended 6/30/2015

• Histogram: The ARS is designed to generate small amounts of return on a consistent basis. This chart shows the frequency of monthly performance results. A significant number of outlying monthly performance returns would indicate insufficient risk controls. We believe that the distribution of monthly returns is as expected.

# Income Review for PERF

Periods Ended 6/30/2015

### **Income Allocation**

Asset Class		Actual AssetTarget AssetAllocationAllocation					Differe	nce	
Income	17.0		17.6%		19.0%		-1.4%		
income Segment Perform	nance								
NGOME	Market <u>Value</u>	<u>Qtr</u>	<u>1-Year</u>	<u>3-Year</u>	<u>5-Year</u>	<u>10-Year</u>	$\underline{\text{VaR}^{37}}$	5-year Sharpe <u>Ratio<sup>38</sup></u>	5-year Info <u>Ratio<sup>39</sup></u>
<b>NCOME</b> Income Policy Benchmark <sup>34</sup> Value Added	53.1	<b>-3.3%</b> -3.3% 0.0%	<b>1.3%</b> 0.4% 0.9%	<b>2.6%</b> 1.4% 1.2%	<b>5.4%</b> 4.6% 0.8%	<b>6.1%</b> 5.3% 0.8%	\$6.3 bil	1.1 0.9	0.9 0.0
J <b>.S. Income</b> U.S. Income Policy Benchmark <sup>35</sup> Value Added	47.9	<b>-3.5%</b> -3.7% 0.2%	<b>3.1%</b> 2.1% 1.0%	<b>3.3%</b> 2.0% 1.3%	<b>5.9%</b> 5.1% 0.8%	<b>6.4%</b> 5.5% 0.9%		1.2 0.9	0.8 0.0
<b>Von-U.S. Income</b> Non-US Income Policy Benchmark <sup>36</sup> Value Added	5.2	<b>-1.2%</b> -0.1% -1.1%	<b>-13.5%</b> -14.5% 1.0%	<b>-3.7%</b> -4.3% 0.6%	<b>1.2%</b> 0.1% 1.1%	<b>3.3%</b> 2.5% 0.8%		0.2 0.0	1.3 0.0

### **Comments Regarding Income Segment Performance**

#### Helped Performance:

- Mortgage Bonds: Relatively speaking, mortgage-based securities held up well in Q2's choppy fixed income market condition, with the \$10.2 billion CalPERS mortgage portfolio settling with a small dip of -0.6%. Supported by continued demand, this relatively calm performance by the MBS was ahead of the Barclays Treasury Index (-1.6%), while also notably better than the Income policy benchmark.
- High Yield Bonds: Although the rising yields did serve as a form of headwind for nearly all fixed income types, U.S. high yield bonds actually did not lose much ground as fundamentals remain stable, particularly after market expectations pegged there would be minimal effect from a potential Greek debt fallout. Both of PERS' internal and external high yield portfolios held steady for the quarter, with returns of -0.3% and 0.6% respectively, and outperformed relative to the Income policy benchmark.

<sup>&</sup>lt;sup>34</sup> The Income Policy Benchmark return equals the benchmark returns for domestic and international fixed income components weighted at policy allocation target percentages.

<sup>&</sup>lt;sup>35</sup> The US Fixed Income Policy Benchmark consists of the Barclays Long Liability Index and is linked historically to its prior benchmark.

<sup>&</sup>lt;sup>36</sup> The Non-US Fixed Income Policy Benchmark consists of the Barclays International Fixed Income and is linked historically to its prior benchmark.

<sup>&</sup>lt;sup>37</sup> VaR (Value at Risk) measures how much the portfolio might decrease over a 12 month period in extreme cases. The VAR estimate shows how much the portfolio value might fall in the worst 5% of 12 month periods. VAR is calculated using total risk (standard deviation) and market value.

<sup>&</sup>lt;sup>38</sup> The Sharpe Ratio or reward-to-variability ratio is a measure of the mean excess return per unit of risk in an investment strategy. The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the risk taken.

<sup>&</sup>lt;sup>39</sup> The "Information Ratio" calculates the amount of excess performance earned per unit of excess risk, as measured by tracking error. Higher information ratios imply a greater return per risk ventured.

 International Fixed Income: With the U.S. Dollar weakening against most major currencies during the second quarter, international fixed income's losses in Dollar terms were limited compared to core U.S. bonds: the CalPERS international fixed income portfolio was down -1.2%, and fared better than the Income policy benchmark's -3.3% slide.

### Impeded Performance:

- Government Bonds: The second quarter of 2015 saw bond yields rising across most maturities, with 2-year Treasury yields ticking up 8 bps, 10-year Treasury yields up 41 bps, and 30-year Treasury yields jumping 57 bps. As a result, government bonds performance were weak; the PERS government bond portfolio lost -5.2% during the quarter, essentially erasing its gain for the year, and finished 183 bps below the Income policy benchmark.
- Corporate Bonds: Sluggish corporate earnings growth and broad investor rotation out of bonds drove to a credit spread widening. With the soft technical persisting throughout the quarter, corporate bonds were among the worst performing fixed income segment in Q2. Both of CalPERS' \$10.2 billion internal corporate bond portfolio and \$1.5 billion long duration corporate portfolio fell sharply for the quarter, losing -5.1% and -8.9% respectively, and underperformed relative to the Income policy benchmark.
- Sovereign Bonds: After logging gains for five straight quarters, the sovereign bonds portfolio regressed in Q2, shedding -4.0% and underperformed the Income policy benchmark.

	Market Value	Qtr	<u>1-Year</u>	3-Year	5-Year	<u>10-Year</u>	Date
INCOME	53.1	-3.3%	1.3%	2.6%	5.4%	6.1%	6/88
Income Policy Benchmark 40		-3.3%	0.4%	1.4%	4.6%	5.3%	
Value Added		0.0%	0.9%	1.2%	0.8%	0.8%	
Internal US Income + Opportunistic	47.9	-3.5%	3.1%	3.3%	5.9%	6.4%	12/95
Mortgage Bonds	10.2	-0.6%	5.3%	4.1%	4.5%	5.4%	12/82
Long Duration Mortgages*	3.9	-1.2%	3.9%	2.7%	5.8%	6.3%	6/05
Corporate Bonds*	11.4	-5.1%	0.2%	5.5%	7.8%	6.9%	3/02
U.S. Government*	15.5	-5.2%	3.3%	0.4%	4.9%	5.4%	12/99
Sovereign Bonds* 41	2.1	-4.0%	2.4%	2.8%	6.5%	6.1%	6/96
Long Duration Corporates*	1.5	-8.9%	-6.1%	5.1%	9.5%	%	9/05
Custom Benchmark <sup>42</sup>		-3.7%	2.1%	2.0%	5.1%	5.5%	
Opportunistic 43	5.5	0.2%	4.1%	7.9%	7.6%	6.9%	6/00
Internal High Yield Bonds*	0.9	-0.3%	8.8%	9.3%	7.8%	12.0%	9/99
External High Yield*	1.9	0.6%	0.7%	8.2%	9.7%	6.2%	3/02
High Yield Mortgage*	0.3	1.1%	6.7%	15.5%	12.0%	%	3/08
Citigroup High Yield Cash Pay		0.1%	-1.0%	6.4%	8.3%	7.5%	
Special Investments	3.3	2.3%	8.4%	9.4%	6.2%	6.5%	3/91
Total International Fixed Income	5.2	-1.2%	-13.5%	-3.7%	1.2%	3.3%	3/89
Custom Benchmark <sup>44</sup>		-0.1%	-14.5%	-4.3%	0.1%	2.5%	
Value Added		-1.1%	1.0%	0.6%	1.1%	0.8%	
Securities Lending 45	10.7	0.2%	0.4%	0.7%	1.0%	1.7%	8/00
Custom Benchmark		0.0%	0.1%	0.1%	0.1%	1.4%	
Value Added		0.2%	0.3%	0.6%	0.9%	0.3%	
Internal Active Short Term**	2.7	0.1%	0.3%	0.2%	%	%	3/11
Custom Benchmark		0.0%	0.1%	0.0%	%	%	
Value Added		0.1%	0.2%	0.2%	%	%	
CalPERS ESEC Cash Collateral**	8.0	0.3%	0.4%	0.2%	0.2%	%	6/10
Custom Benchmark		0.0%	0.1%	0.1%	0.1%	%	
Value Added		0.3%	0.3%	0.1%	0.1%	%	

### **Income Review for PERF (Continued)**

<sup>40</sup> The Income Policy Benchmark return equals the benchmark returns for domestic and international fixed income components weighted at policy allocation target percentages.

<sup>41</sup> The Internal Sovereign Bond market value is also included in the Internal Treasury Bond market value.

<sup>42</sup> The custom benchmark consists of the Barclays Long Liability Index. Prior of 3Q 2004 the benchmark was Citigroup LPF.

<sup>43</sup> Opportunistic includes internal and external high yield. Internal High Yield's market value is included in both the Total Internal Bonds and the Opportunistic Market Values.

<sup>44</sup> The custom benchmark consists of the Barclays International Fixed Income Index and is linked historically to its prior benchmark.

<sup>45</sup> The Securities Lending composite is a non-PERF composite. The composite includes the Structure Investment Vehicles performance.

\* These portfolios and/or composites are unitized and are included across multiple plans.

\*\* These portfolios hold the collateral for the security lending program.

### Inflation Performance for PERF Period Ended 6/30/2015

### **Inflation Allocation**

Asset Class	Asset Allo	Actual Alloca	Asset	Targ	get Asset ocation	-	Difference		
Inflation		5	.2%		6.0%		-0.8	%	
<b>INFLATION</b> Inflation Policy Benchmark <sup>46</sup> Value Added	Market <u>Value</u> 15.6	<u>Qtr</u> 1.3% 2.0% -0.7%	<u>1-Year</u> -11.5% -13.0% 1.5%	<u>3-Year</u> -1.3% -2.3% 1.0%	<u>5-Year</u> 3.2% 1.9% 1.3%	<u>10-Year</u> % %	<u>VaR<sup>48</sup></u> \$1.1 bil	5-year Sharpe <u>Ratio<sup>49</sup></u> 0.4 0.3	5-year Info <u>Ratio<sup>50</sup></u> 0.4 0.0
<b>Internal Commodities <sup>47</sup></b> GSCI Total Return Index Value Added	2.8	<b>8.6%</b> 8.7% -0.1%	<b>-36.5%</b> -36.8% 0.3%	<b>-11.1%</b> -10.7% -0.4%	<b>-4.5%</b> -4.3% -0.2%	<b>%</b> %			
<b>Core Inflation Linked Bonds</b> <i>Custom Benchmark</i> Value Added	10.5	<b>-0.8%</b> -0.1% -0.7%	<b>-3.5%</b> -4.2% 0.7%	<b>0.9%</b> 0.4% 0.5%	<b>4.4%</b> 4.0% 0.4%	<b>%</b> %			
<b>Tactical Commodities</b> GSCI Total Return Index Value Added	1.1	<b>8.1%</b> 8.7% -0.6%	<b>-36.8%</b> -36.8% 0.0%	<b>%</b> %	<b>%</b> %	<b>%</b> %			
<b>Tactical TIPS</b> CalPERS TIPS Value Added	1.1	<b>-1.4%</b> -1.1% -0.3%	<b>-1.8%</b> -1.7% -0.1%	<b>%</b> %	<b>%</b> %	<b>%</b> %			

After posting three straight quarters of losses, the Inflation asset class saw its performance returned to the black in Q2 thanks to strong gains reported by the commodities investments. Due in large part to favorable technicals in the energy market, PERS' commodities portfolios rode the sharp rebound of crude oil prices and generated returns in excess of 8% on average this quarter, making key contribution to lifting Inflation's overall return. However, in relative terms, Inflation's Q2 return of 1.3% actually missed its asset class policy benchmark by a modest margin of 78 bps. This relative weakness was solely attributed to PERS' inflation-linked bonds portfolios, as these investments (which combined represent approximately 74.5% of the Inflation assets) did not do well amid Q2's soft inflationary conditions and recorded losses that also underperformed their assigned benchmarks. The Inflation asset class currently holds a three-year return of -1.3% and a five-year return of 3.2%, both rank near the bottom of leaderboard among PERS' major asset classes, but they do compare favorably to its own custom policy benchmark.

<sup>&</sup>lt;sup>46</sup> The Inflation Policy Benchmark equals the benchmark returns of commodities and TIPS weighted at policy allocation target percentages.

<sup>&</sup>lt;sup>47</sup> The internal commodities overlay portfolio is a derivatives portfolio which has no market value but a notional value approximately equal to the size of the commodities collateral.

<sup>&</sup>lt;sup>48</sup> VaR (Value at Risk) measures how much the portfolio might decrease over a 12 month period in extreme cases. The VAR estimate shows how much the portfolio value might fall in the worst 5% of 12 month periods. VAR is calculated using total risk (standard deviation) and market value.

<sup>&</sup>lt;sup>49</sup> The Sharpe Ratio or reward-to-variability ratio is a measure of the mean excess return per unit of risk in an investment strategy. The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the risk taken.

<sup>&</sup>lt;sup>50</sup> The "Information Ratio" calculates the amount of excess performance earned per unit of excess risk, as measured by tracking error. Higher information ratios imply a greater return per unit of excess risk ventured.

### Real Assets Review for PERF Period Ended 6/30/2015

### **Real Assets Allocation**

A Asset Class Real Assets	sset Allo	Actual Alloca	Asset	Targ All	arget W get Asset location 12.0%	C	Differer -1.4	:	
Real Assets Segment Pe	erforman		.070		12.070		1.1	70	
	Market Value	Qtr	1-Year	<u>3-Year</u>	5-Year	10-Year	VaR <sup>55</sup>	5-year Sharpe Ratio <sup>56</sup>	5-year Info <u>Ratio<sup>57</sup></u>
REAL ASSETS	31.8	8.5%	12.4%	12.3%	11.8%	2.2%	\$4.3 bil	1.6	-0.1
Real Assets Policy Benchmark <sup>51</sup> Value Added		2.9% 5.6%	11.5% 0.9%	11.0% 1.3%	12.1% -0.3%	8.7% -6.5%		2.7	0.0
Real Estate <sup>52</sup>	27.5	9.9%	13.5%	13.1%	13.1%	1.7%	\$4.4 bil	1.6	-0.1
Real Estate Policy Benchmark <sup>53</sup> Value Added		3.2% 6.7%	12.4% 1.1%	11.8% 1.3%	13.6% -0.5%	9.4% -7.7%		2.7	0.0
Forestland <sup>54</sup> NCREIF Timberland Index Value Added	2.2	<b>-3.3%</b> 1.7% -5.0%	<b>-0.3%</b> 10.6% -10.9%	<b>2.9%</b> 9.8% -6.9%	<b>-1.1%</b> 6.2% -7.3%	<b>%</b> %			
<b>Infrastructure</b> <sup>54</sup> CPI + 400 BPS 1Qtr Lag Value Added	2.2	<b>4.0%</b> 1.5% 2.5%	<b>13.2%</b> 3.9% 9.3%	<b>13.7%</b> 5.0% 8.7%	<b>17.8%</b> 6.1% 11.7%	<b>%</b> %			

Real Assets finished atop the leaderboard among PERS' major asset classes during Q2, with its 8.5% return not only outstripping the next closest asset class (private equity) return by 386 bps, but it also handily outpaced its own policy benchmark by a margin of 555 bps. Most of this quarter's sizable outperformance was driven by the real estate component, which consists solely of private real estate investments now, as it generated very strong absolute and relative returns (9.9% real estate composite vs. 3.2% benchmark). Additionally, the System being overweight here (86% of total Real Assets vs. 83% goal set by AA target) also further magnified real estate's performance contribution. As for Real Assets' two similar-sized, smaller components, their performance contribution largely offset one another, with the forestland portfolio posting modest losses while the infrastructure piece saw steady rise of 4.0%. This quarter's favorable performance added to Real Assets' already strong near-term track record, however, the asset class remains behind its policy benchmark over the long-term.

<sup>&</sup>lt;sup>51</sup>The Real Assets Policy Benchmark equals the benchmark returns of real estate, timber, and infrastructure weighted at policy allocation target percentages.

<sup>&</sup>lt;sup>52</sup> The Real Estate performance is reported on a 1-quarter lagged basis. The Real Estate total returns are net of investment management fees and all expenses, including property level operations expenses netted from property income. This method differs from GASB 31, which requires all investment expenses be identified for inclusion in the System's general purpose financial statements.

<sup>&</sup>lt;sup>53</sup> The Real Estate Policy Benchmark consists of the NCREIF ODCE Index (1-quarter lagged) and the FTSE EPRA/NAREIT Developed Index weighted at their policy allocation target percentages. It is historically linked to its prior benchmarks.

<sup>&</sup>lt;sup>54</sup> These investments are reported on a 1-quarter lagged basis.

<sup>&</sup>lt;sup>55</sup> VaR (Value at Risk) measures how much the portfolio might decrease over a 12 month period in extreme cases. The VAR estimate shows how much the portfolio value might fall in the worst 5% of 12 month periods. VAR is calculated using total risk (standard deviation) and market value.

<sup>&</sup>lt;sup>56</sup> The Sharpe Ratio or reward-to-variability ratio is a measure of the mean excess return per unit of risk in an investment strategy. The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the risk taken.

<sup>&</sup>lt;sup>57</sup> The "Information Ratio" calculates the amount of excess performance earned per unit of excess risk, as measured by tracking error. Higher information ratios imply a greater return per unit of excess risk ventured.

### Real Assets Review for PERF (Continued) Period Ended 6/30/2015

### **Real Estate Segment Performance**

<b>Real Estate <sup>58</sup></b> Real Estate Policy Benchmark <sup>59</sup> Value Added	Market <u>Value</u> 27.5	<u>Qtr</u> 9.9% 3.2% 6.7%	<u>1-Year</u> 13.5% 12.4% 1.1%	<u>3-Year</u> 13.1% 11.8% 1.3%	<u>5-Year</u> 13.1% 13.6% -0.5%	<u>10-Year</u> 1.7% 9.4% -7.7%	<u>VaR<sup>60</sup></u> \$4.4 bil	5-year Sharpe <u>Ratio<sup>61</sup></u> 1.6 2.7	5-year Info <u>Ratio<sup>62</sup></u> -0.1 0.0
Strategic Real Estate Wt. NCREIF ODCE+FTSE EPRA NARE. Value Added	22.1 T	<b>12.1%</b> 3.2% 8.9%	<b>15.9%</b> 12.4% 3.5%	<b>14.4%</b> 11.8% 2.6%	<b>16.3%</b> 13.6% 2.7%	<b>14.8%</b> 9.4% 5.4%			
Legacy Real Estate ex Public Wt. NCREIF ODCE+FTSE EPRA NARE. Value Added	5.3 T	<b>1.9%</b> 3.2% -1.3%	<b>5.1%</b> 12.4% -7.3%	<b>8.5%</b> 11.8% -3.3%	<b>7.7%</b> 13.6% -5.9%	<b>-3.6%</b> 9.4% -13.0%			

<sup>58</sup> The Real Estate performance is reported on a 1-quarter lagged basis. The Real Estate total returns are net of investment management fees and all expenses, including property level operations expenses netted from property income. This method differs from GASB 31, which requires all investment expenses be identified for inclusion in the System's general purpose financial statements.

<sup>59</sup> The Real Estate Policy Benchmark consists of the NCREIF ODCE Index (1-quarter lagged) and the FTSE EPRA/NAREIT Developed Index weighted at their policy allocation target percentages. It is historically linked to its prior benchmarks.

<sup>60</sup> VaR (Value at Risk) measures how much the portfolio might decrease over a 12 month period in extreme cases. The VAR estimate shows how much the portfolio value might fall in the worst 5% of 12 month periods. VAR is calculated using total risk (standard deviation) and market value.

<sup>61</sup> The Sharpe Ratio or reward-to-variability ratio is a measure of the mean excess return per unit of risk in an investment strategy. The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the risk taken.

<sup>62</sup> The "Information Ratio" calculates the amount of excess performance earned per unit of excess risk, as measured by tracking error. Higher information ratios imply a greater return per unit of excess risk ventured.

# Liquidity Review for PERF Period Ended 6/30/2015

# Liquidity Allocation

Asset Class	Asset Allocation: Actual versus Target WeightsActual AssetTarget AssetAsset ClassAllocationAllocationDifference					nce			
Liquidity	2.5%			2.0%	+0.5%				
Liquidity Segment Perf	ormance	ç							
	Market							5-year Sharpe	5-year Info
	Value	<u>Qtr</u>	1-Year	3-Year	5-Year	10-Year	VaR <sup>65</sup>	Ratio <sup>66</sup>	Ratio <sup>67</sup>
LIQUIDITY	7.5	-0.5%	0.9%	0.2%	1.1%	2.1%	\$0.3 bil	N/A	N/A
Liquidity Policy Benchmark <sup>63</sup>		-0.5%	1.7%	0.8%	1.5%	2.3%			
Value Added		0.0%	-0.8%	-0.6%	-0.4%	-0.2%			
US 2-10 Year	2.7	-0.6%	2.2%	0.9%	%	%			
Barclays Gov Liquidity 2-10 Yr Idx		-0.7%	2.2%	1.0%	%	%			
Value Added		0.1%	0.0%	-0.1%	%	%			
Cash Composite	4.8	-0.4%	0.2%	0.2%	0.2%	1.7%			
Csutom STIF <sup>64</sup>		0.0%	0.1%	0.1%	0.1%	1.6%			
Value Added		-0.4%	0.1%	0.1%	0.1%	0.1%			

<sup>63</sup>The Liquidity Policy Benchmark is a custom index maintained by State Street Bank.

<sup>64</sup> The Custom STIF Policy Benchmark is a custom index maintained by State Street Bank.

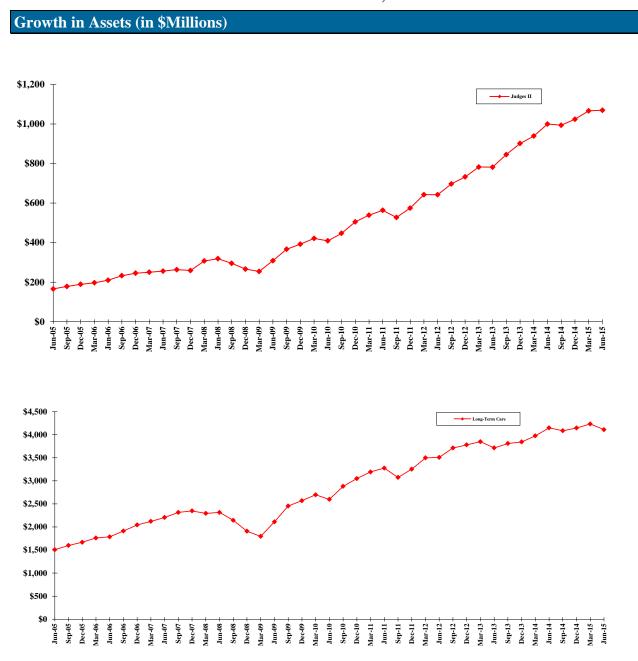
<sup>65</sup> VaR (Value at Risk) measures how much the portfolio might decrease over a 12 month period in extreme cases. The VAR estimate shows how much the portfolio value might fall in the worst 5% of 12 month periods. VAR is calculated using total risk (standard deviation) and market value.

<sup>66</sup> The Sharpe Ratio or reward-to-variability ratio is a measure of the mean excess return per unit of risk in an investment strategy. The Sharpe ratio is used to characterize how well the return of an asset compensates the investor for the risk taken.

<sup>67</sup> The "Information Ratio" calculates the amount of excess performance earned per unit of excess risk, as measured by tracking error. Higher information ratios imply a greater return per unit of excess risk ventured.

# **Affiliate Fund Information**

# Affiliate Fund Performance Period Ended June 30, 2015



# **Total Plan Performance Results**

### **Total Plan Performance** Periods Ended June 30, 2015

<b>Judges II</b> Weighted Policy Benchmark <sup>68</sup>	Market <u>Value</u> \$1,069.4 mil	<b><u>Qtr</u></b> -1.2% -1.3	One <u>Year</u> -0.1% -0.3	<b>Three</b> <u>Year</u> <b>9.9%</b> 9.6	<b>Five</b> <u>Year</u> <b>10.5%</b> 10.4	<b>Ten</b> <u>Year</u> 6.3% 6.4
Long-Term Care ("LTC") Weighted Policy Benchmark <sup>68</sup>	\$4,110.4 mil	<b>-2.7</b> -2.6	<b>-0.9</b> -1.2	<b>4.2</b> 3.9	<b>7.1</b> 6.9	<b>5.1</b> 5.0

# **Total Plan Asset Allocation**

### Judges II Asset Allocation: Actual versus Target Weights

	Actual Asset	Target Asset	
Asset Class	Allocation (%)	Allocation (%)	Difference
Global Equity	49.5	50.0	-0.5
US Fixed Income	34.4	34.0	0.4
TIPS	5.1	5.0	0.1
REITs	7.9	8.0	-0.1
Commodities	3.0	3.0	0.0
Total	100.0	100.0	0.0

### LTC Asset Allocation: Actual versus Target Weights

	Actual Asset	Target Asset	
Asset Class	Allocation (%)	Allocation (%)	Difference
Global Equity	15.6	15.0	0.6
US Fixed Income	60.8	61.0	-0.2
TIPS	6.0	6.0	0.0
REITs	11.8	12.0	-0.2
Commodities	5.8	6.0	-0.2
Total	100.0	100.0	0.0

<sup>68</sup> The weighted policy benchmark returns for Judges II and LTC are based on asset class index returns weighted by asset class policy targets.

### **Commentary – Total Plan**

- The Judges II's (JRS II) streak of generating steady rate of gains came to an end in the second quarter. With volatility dominating world markets, particularly towards the end of the quarter as headlined by the Greek debt crises and Chinese growth concerns, most of JRS II's asset classes finished Q2 either flat or in the red, resulting the Plan netting an overall loss of -1.2% and bringing its one-year return to -0.1%. However, both readings did still fare well against the weighted policy benchmark, and JRS II's long-term track record has stayed on par with the policy benchmark as well.
- The Long-Term Care Program (LTC) saw similar performance as JRS II did in Q2, but it netted slightly larger losses primarily due to its higher allocation to investment grade fixed income and REITs, both of which performed poorly in the quarter. Relative to its policy benchmark, the LTC's Q2 return met expectations while continuing to hold steady amount of outperformance over time.
- At the end of the quarter, Judges II's asset allocation showed a higher bias towards investment grade fixed income and TIPS while having small underweight in global equity and REITs.
- The LTC's asset allocation also did not deviate much from its adopted targets, with small overweight in global equity and marginal underweight in investment grade fixed income, TIPS, and commodities.

Judges II Asset Class Performance

Periods Ended June 30, 2015						
JRS II Global Equity	Market <u>Value</u> \$529.8 mil	<u>Qtr</u> 0.6%	One <u>Year</u> 1.3%	Three <u>Year</u> 14.3%	Five <u>Year</u> 12.9%	Ten <u>Year</u> 6.3%
Global Equity Benchmark <sup>69</sup>		0.6	1.3	14.2	12.8	6.3
<b>JRS II US Fixed Income</b> <i>Custom Benchmark</i> <sup>70</sup>	\$368.3 mil	<b>-3.5</b> -3.7	<b>3.0</b> 2.1	<b>3.2</b> 2.0	<b>5.9</b> 5.1	<b>5.7</b> 5.5
<b>JRS II TIPS</b> Custom Benchmark <sup>71</sup>	\$54.5 mil	<b>-1.1</b> -1.1	<b>-1.9</b> -1.7	<b>-0.8</b> -0.8	- <b>.</b> -	<b></b>
<b>JRS II REITs</b> Custom Benchmark <sup>72</sup>	\$84.6 mil	<b>-6.7</b> -6.7	<b>0.4</b> 0.4	<b>9.5</b> 9.5	<b>12.4</b> 12.4	<b>4.2</b> 3.9
JRS II Commodities	\$32.3 mil	8.4	-36.9	-11.3		

### **Asset Class Performance Results – Judges II**

<sup>50</sup> The JRS II Global Equity Benchmark is a custom global benchmark maintained by FTSE starting on 9/8/2011. Prior of that it is calculated as an asset weighted benchmark of its underlying domestic and international funds.

<sup>10</sup> The current US Fixed Income Custom Benchmark is the Barclays Long Liability Index. Barclays Long Liability ex TIPS was used as the benchmark between June 2005 and May 2007. Prior of that the benchmark was Citigroup LPF.

<sup>71</sup> The TIPS benchmark is the Barclays U.S. TIPS Index.

<sup>72</sup> The REIT Custom Benchmark is the FTSE EPRA/NAREIT Developed Index. Historically, it has been the Wilshire RESI and REIT Indices.

GSCI Total Return Index	8.7	-36.8	-10.7	 

### **Commentary – Judges II**

- After opening the year 2015 on a sound note, global stocks encountered strong headwinds during the latter part of the second quarter. With the uncertainty surrounding the potential impact of a Greece Euro exit and Chinese stock market's deep correction in June serving as the primary headline risks, both developed and emerging equity markets experienced selling pressure and gave back gains from early in the quarter. The net result of this late quarter pullback had the global equity portfolio nudging just a small 0.6% gain in Q2, and finishing up 1.3% for the trailing twelve-month period. While these figures don't look particularly strong, on a relative basis both measures did match the portfolio's custom benchmark pace, and the global equity fund continues to perform in line with expectations in the long run.
- Although the U.S. Federal Reserve refrained from raising short-term interest rates in the second quarter, solidifying macro economic data and released Fed meeting minutes had investors deducing that the first rate hike in nearly ten years is now more than likely to take place before the end of the year. This anticipation prompted investors to begin locking in gains before the eventual rate rise, driving yields higher across most maturities during the quarter (ten-year Treasury yield rose 41 bps to close out the April-June period at 2.35%). The Judges II domestic fixed income portfolio was not immune to this selling pressure and fell -3.5% this quarter. Q2's losses also erased the portfolio's 2015 gains, while bringing its one-year cumulative return down to 3.0%. Compared to the custom Barclays index, these numbers did still fare well as the benchmark measure was -3.7% for the quarter and +2.2% for the year; over longer time horizon, the fixed income portfolio's track record is continuing to do well, too.
- While the prospect of a Fed rate hike is inching closer, inflation pressure has remained muted with subdued wage growth and the latest CPI reading little changed from twelve months ago. With this soft condition, both JRS II's TIPS portfolio and the Barclays U.S. TIPS Index lost some ground in the second quarter, closing down -1.1%. The TIPS portfolio's one-year and three-year returns have also fell into the negative territory as of June 30, but they remain in lock-step with the index measure.
- Closely following the custom REIT Index, JRS II's REIT portfolio was among the worst performing investments this quarter (down -6.7%), as higher interest rates signaled an upcoming era of higher borrowing costs for property investors. With Q2's steep losses, the portfolio's longer-term annualized returns have come down, too, but they remain on par with the custom benchmark's pace.
- Most commodities' struggle to find firm footing continued well into 2015, but thanks largely to a 15% rebound of crude oil prices the GSCI Commodity Total Return Index was able to stem the losing tide and rallied 8.7% during Q2. The JRS II commodities portfolio followed closely behind and rose 8.4%. For the trailing twelve-month period, though, both the portfolio and the index measure were still deeply in the red and down -36.9%.

### Asset Class Performance Results – Long-Term Care

	Market		One	Three	Five	Ten
	Value	<u>Qtr</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>
LTC Global Equity	\$642.7 mil	0.6%	1.0%	13.5%	13.1%	6.4%
Custom Benchmark 73		0.5	0.8	13.4	13.0	6.4
LTC US Fixed Income	\$2,498.8mil	-3.7	2.1	2.3	5.4	5.5
Custom Benchmark <sup>74</sup>		-3.7	2.1	2.0	5.1	5.5
LTC TIPS	\$248.0 mil	-1.1	-1.7	-0.8	3.2	4.1
Barclays U.S. TIPS Index		-1.1	-1.7	-0.8	3.3	4.0
LTC REITs	\$483.0 mil	-6.9	0.0	8.8	11.9	3.8
Custom Benchmark <sup>75</sup>		-7.0	-0.6	8.3	11.7	3.6
LTC Commodities	\$237.9 mil	8.7	-36.7	-10.5		
GSCI Total Return Index		8.7	-36.8	-10.7		

### Long-Term Care Asset Class Performance Periods Ended June 30, 2015

### **Commentary – Long-Term Care**

- Global equities were unable to capitalize on favorable data coming out of the U.S. and Europe, which had shown steadily improving economic activities, as Greece's debt problems and China's stock market correction grabbed investor attention in June. Held back by these negative developments, the LTC global equity fund only registered a small gain of 0.6% in the second quarter. The fund's custom benchmark turned in similar muted results, returning 0.5%. Over the one-year and beyond time periods, the global equity fund's track record remains in fine shape and has stayed one step ahead of the benchmark.
- Under the backdrop of rising yields, the LTC domestic fixed income portfolio lost some ground in Q2, as both it and its custom benchmark fell -3.7%. While this quarter's sizable drop also brought down the fixed income portfolio's longer-term track record, its one-, three-, and five-year annualized returns of 2.1%, 2.3% and 5.4% were still very respectable and continued to compare favorably to the benchmark.

<sup>&</sup>lt;sup>15</sup> Effective 12/12/2012 the domestic and international equity asset classes were aggregated into a single global equity asset class, benchmarked against the MSCI ACWI IMI (net).

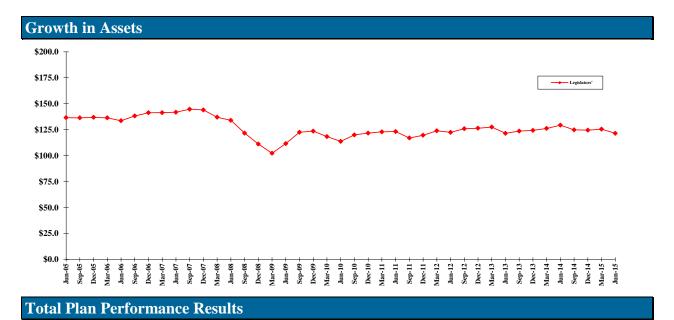
<sup>&</sup>lt;sup>47</sup> The LTC US Fixed Income Custom Benchmark is the Barclays Long Liability Index. Barclays Long Liability ex TIPS ex High Yield was the benchmark between June 2007 and July 2005. Prior of that the benchmark was the Barclays Aggregate Bond Index.

<sup>&</sup>lt;sup>75</sup> Effective 12/12/2012, the REIT Custom Benchmark changed to the FTSE EPRA/NAREIT Developed Liquid (net) Index.

### **Commentary – Long-Term Care**

- Same as the JRS II's TIPS investment, the LTC TIPS portfolio registered small amount of losses in the second quarter in large part due to the continued lack of inflationary pressure. With U.S. inflation readings staying tame over the past few years, the TIPS portfolio has generated negative returns over the last twelve-month and three-year periods, netting -1.7% and -0.8%, respectively, although both figures did mimic the custom benchmark, the Barclays U.S. TIPS Index.
- Rising Treasury yields does not bold well for real estate securities, and this impact was quite evident during the second quarter as the LTC REIT portfolio slumped -6.9%. While Q2's losses were sizable, they did not completely weigh down the REIT portfolio's longer-term track record, where its three-, five-, and ten-year returns remain solid and ahead of its custom benchmark, the FTSE EPRA/NAREIT Developed Liquid Index (net).
- The commodities portfolio participated in Q2's rebound and mirrored the GSCI Commodity Total Return Index. This quarter's 8.7% gain essentially offset Q1's losses, making the portfolio's calendar year-to-date return flat. Over the last one-year and three-year periods, the commodities portfolio has also closely followed its benchmark's pace, generating returns of -36.7% and -10.5%, respectively.

# **Legislators' Information**



# California Legislators' Retirement System

### **Total Plan Performance** Periods Ended June 30, 2015

	Market Value	Qtr	One Year	Three Year	Five Year	Ten <u>Year</u> 5.9%
LRS	\$1 <mark>21.5 m</mark> il	-1.8%	0.0%	6.1%	8.1%	
Weighted Policy Benchmark <sup>76</sup>		-1.9	-0.4	5.6	7.8	5.8

### **Asset Allocation**

Asset Class	Actual	Policy	Difference
Global Equity	23.6%	24.0%	-0.4%
US Fixed Income	39.2	39.0	+0.2
TIPS	26.3	26.0	+0.3
REITs	7.9	8.0	-0.1
Commodities	<u>3.0</u>	<u>3.0</u>	<u>0.0</u>
	100.0	100.0	0.0

<sup>76</sup> The weighted policy benchmark returns are calculated based on asset class index returns weighted by asset class policy targets.

### Commentary

- The California Legislators' Retirement System ("LRS, the System) ended the second quarter of 2015 on a losing note, down -1.8%. This return was sandwiched between what the Judges II and the Long-Term Care Program earned: it fared better than LTC's -2.7% total return as the System had smaller allocation to the poorer performing investment grade fixed income and REITs, but at the same time this was below JRS II's -1.2% total return as it did not have as much exposure to the better performing global equity as JRS II did. Relative to the weighted policy benchmark, this quarter's return represented a small outperformance of 8 bps, while the System's longer-term track record continues to stay a step ahead of the benchmark in all measured periods shown.
- As of June 30, the System was marginally overweight in investment grade fixed income and TIPS while underweight in global equity and REITs.

### **Asset Classes Performance Results**

LRS Global Equity	Market <u>Value</u> \$28.7 mil	<u>Qtr</u> 0.6%	One <u>Year</u> 1.3%	Three <u>Year</u> 14.3%	Five <u>Year</u> 13.0%	Ten <u>Year</u> 6.2%
Global Equity Benchmark <sup>77</sup>		0.6	1.3	14.2	13.0	6.2
LRS US Fixed Income	\$47.6 mil	-3.5	3.0	3.3	5.9	5.8
Custom Benchmark <sup>78</sup>		-3.7	2.1	2.0	5.1	5.5
LRS TIPS	\$32.0 mil	-1.1	-1.9	-0.8	3.2	3.8
Custom Benchmark <sup>79</sup>		-1.1	-1.7	-0.8	3.3	4.0
LRS REITs	<b>\$9.5</b> mil	-6.7	0.4	9.5		
Custom Benchmark <sup>80</sup>		-6.7	0.4	9.5		
LRS Commodities	\$3.6 mil	8.4	-36.9	-11.3		
GSCI Total Return Index		8.7	-36.8	-10.7		

### Asset Class Performance Periods Ended June 30, 2015

<sup>&</sup>lt;sup>11</sup> The LRS Global Equity Benchmark is a custom global benchmark maintained by FTSE starting on 9/8/2011. Prior of that it is calculated as an asset weighted benchmark of its underlying domestic and international funds.

<sup>&</sup>lt;sup>5</sup> The current benchmark is the Barclays Long Liability Index. Barclays Long Liability ex TIPS was used as the benchmark between June 2005 and May 2007. Prior of that the benchmark was Citigroup LPF.

<sup>&</sup>lt;sup>79</sup> The current benchmark is the Barclays U.S. TIPS Index. Prior of July 2007 the benchmark was the Barclays Long Liability TIPS Index.

<sup>&</sup>lt;sup>80</sup> The REIT Custom Benchmark is the FTSE EPRA/NAREIT Developed Index.

### Commentary

- After opening the year 2015 on a sound note, global stocks encountered strong headwinds during the latter part of the second quarter. With the uncertainty surrounding the potential impact of a Greece Euro exit and Chinese stock market's deep correction in June occupying headline risks, both developed and emerging equity markets experienced selling pressure and gave back gains from early in the quarter. The net result of this late quarter pullback had the global equity portfolio nudging just a small 0.6% gain in Q2, and finishing up 1.3% for the trailing twelve-month period. On a relative basis, both measures did match the portfolio's custom benchmark pace, and the global equity fund continues to perform in line with expectations in the long run.
- Although the U.S. Federal Reserve refrained from raising short-term interest rates in the second quarter, solidifying macro economic data and released Fed meeting minutes had investors deducing that the first rate hike in nearly ten years is now more than likely to take place before the end of the year. This anticipation prompted investors to begin locking in gains before the eventual rate rise, driving yields higher across most maturities during the quarter (ten-year Treasury yield rose 41 bps to 2.35% as of June 30). The LRS domestic fixed income portfolio was not immune to this selling pressure and fell -3.5% this quarter. Q2's losses also erased the portfolio's 2015 gains, while bringing its one-year cumulative return down to 3.1%. Compared to the custom Barclays index, these numbers did still fare well as the benchmark measure was -3.7% for the quarter and +2.2% for the year; over longer time periods, the fixed income portfolio's track record is continuing to do well, too.
- While the prospect of a Fed rate hike is inching closer, inflation pressure has remained muted with subdued wage growth and the latest CPI reading little changed from twelve months ago. With this soft condition, both LRS' TIPS portfolio and the Barclays U.S. TIPS Index lost some ground in the second quarter, closing down -1.1%. The TIPS portfolio's one-year and three-year returns have also fell into the negative territory as of June 30, but they remain in lock-step with the index measure.
- Closely following the custom REIT index, LRS' REIT portfolio was among the worst performing investments this quarter (down -6.7%), as higher interest rates signaled an upcoming era of higher borrowing costs for property investors. With Q2's steep losses, the portfolio's longer-term annualized returns have come down, too, but they remain on par with the custom benchmark's pace.
- Most commodities' struggle to find firm footing continued well into 2015, but thanks largely to a 15% rebound of crude oil prices the GSCI Commodity Total Return Index was able to stem the losing tide and rallied 8.7% during Q2. The LRS commodities portfolio followed closely behind and rose 8.4%. For the trailing twelve-month period, though, both the portfolio and the index measure were still deeply in the red and down -36.9%.

# **California Employers' Retiree Benefit Trust**

Allocation			
Asset Class	Actual	Policy	Difference
Global Equity	56.1%	57.0%	-0.9%
US Bonds	27.5	27.0	+0.5
TIPS	5.1	5.0	+0.1
REITS	7.9	8.0	-0.1
Commodities	3.1	3.0	+0.1
Cash Equivalents	<u>0.3</u>	<u>0.0</u>	+0.3
-	100.0	100.0	0.0

# California Employers' Retiree Benefit Trust Strategy 1

# **Trust Performance Results**

# **Trust Performance** Periods Ended June 30, 2015

	Market <u>Value</u>	Qtr	One Year	Three <u>Year</u>	Five <u>Year</u>	Ten <u>Year</u> %
<b>Total CERBT Strategy 1</b>	\$3,626.2 mil	-0.9%	-0.1%	9.8%	10.6%	%
Benchmark		-1.1	-0.6	9.4	10.5	
Global Equity	2,034.6 mil	0.6	1.1	13.6	12.9	
Benchmark		0.5	0.8	13.4	12.8	
Domestic Fixed Income	997.3 mil	-3.5	3.1	3.3	5.9	
Benchmark		-3.7	2.1	2.0	5.1	
REITs	287.1 mil	-6.8	0.1	8.9	11.9	
Benchmark		-7.0	-0.6	8.3	11.7	
TIPS	184.5 mil	-1.2	-1.9	-0.8		
Benchmark		-1.1	-1.7	-0.8		
Commodities	111.4 mil	8.7	-36.7	-11.2		
Benchmark		8.7	-36.8	-10.7		
Cash±	11.4 mil	0.0	0.0	0.0	0.1	

 $\pm$  The cash component may contain residual trade balance that has yet to be settled during the periodic rebalancing process as of December 31.

Asset Allocation			
Asset Class	Actual	Policy	Difference
Global Equity	39.3%	40.0%	-0.7%
US Bonds	39.5	39.0	+0.5
TIPS	10.1	10.0	+0.1
REITS	7.9	8.0	-0.1
Commodities	3.1	3.0	+0.1
Cash Equivalents	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
-	100.0	100.0	0.0

# California Employers' Retiree Benefit Trust Strategy 2

# **Trust Performance Results**

# **Trust Performance** Periods Ended June 30, 2015

	Market		One	Three	Five	Ten
	Value	<u>Qtr</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>
Total CERBT Strategy 2	\$641.8 mil	-1.5%	-0.3%	7.8%	%	%
Benchmark		-1.7	-0.7	7.5		
Global Equity	252.5 mil	0.6	1.0	13.9		
Benchmark		0.5	0.8	13.7		
Domestic Fixed Income	253.4 mil	-3.5	3.0	3.3		
Benchmark		-3.7	2.1	2.0		
TIPS	65.0 mil	-1.1	-2.0	-0.9		
Benchmark		-1.1	-1.7	-0.8		
REITs	50.9 mil	-6.8	0.0	8.8		
Benchmark		-7.0	-0.6	8.3		
Commodities	19.7 mil	8.5	-36.6	-11.1		
Benchmark		8.7	-36.8	-10.7		
Cash±	0.3 mil	0.0	0.2	0.1		

 $\pm$  The cash component may contain residual trade balance that has yet to be settled during the periodic rebalancing process as of December 31.

set Allocation			
Asset Class	Actual	Policy	Difference
Global Equity	23.0%	24.0%	-1.0%
US Bonds	39.5	39.0	+0.5
TIPS	26.3	26.0	+0.3
REITS	7.7	8.0	-0.3
Commodities	3.0	3.0	0.0
Cash Equivalents	<u>0.5</u>	<u>0.0</u>	<u>+0.5</u>
_	100.0	100.0	0.0

# California Employers' Retiree Benefit Trust Strategy 3

# **Trust Performance Results**

# **Trust Performance** Periods Ended June 30, 2015

	Market <u>Value</u>	<u>Qtr</u>	One <u>Year</u>	Three <u>Year</u>	Five <u>Year</u>	Ten <u>Year</u> %
<b>Total CERBT Strategy 3</b>	\$167.3 mil	-1.8%	0.0%	5.9%	%	
Benchmark		-1.9	-0.6	5.4		
Global Equity	38.5 mil	0.5	1.1	13.9		
Benchmark		0.5	0.8	13.7		
Domestic Fixed Income	66.1 mil	-3.5	2.9	3.2		
Benchmark		-3.7	2.1	2.0		
TIPS	44.0 mil	-1.2	-1.8	-0.8		
Benchmark		-1.1	-1.7	-0.8		
REITs	12.9 mil	-6.8	0.1	8.8		
Benchmark		-7.0	-0.6	8.3		
Commodities	5.0 mil	8.6	-36.4	-11.0		
Benchmark		8.7	-36.8	-10.7		
Cash±	0.8 mil	0.0	4.0	1.5		

 $\pm$  The cash component may contain residual trade balance that has yet to be settled during the periodic rebalancing process as of December 31.

# **Health Care Bond Fund**

nd Performance Results						
	Fund Per Periods Ended					
	Market		One	Three	Five	Ten
	Value	<u>Qtr</u>	<u>Year</u>	Year	Year	<u>Year</u>
Health Care Bond Fund	\$420.8 mil	-1.7%	2.5%	2.7%	4.1%	4.9%
Benchmark		-1.7	1.9	1.8	3.3	4.4

# **Supplemental Income Plans**

# **Supplemental Income Plan Performance**

### **Net Fund Performance Results – Supplemental Contribution Plan**

#### Market One Three Five Value Year Year Year Qtr -0.8 0.7 6.0 7.4 CalPERS Target 2015 \$22.704 mil SIP 2015 Policy -0.7 1.0 8.2 6.4 CalPERS Target 2020 \$28.720 mil -0.6 0.4 7.2 8.3 SIP 2020 Policy -0.5 0.8 7.6 9.1 CalPERS Target 2025 -0.4 0.1 \$25.168 mil 8.4 -.-SIP 2025 Policy -0.3 0.5 8.9 -.--0.2 9.6 CalPERS Target 2030 \$17.112 mil -0.3 10.2 SIP 2030 Policy -0.1 0.2 10.1 11.0 \$7.997 mil -0.1 -0.4 CalPERS Target 2035 -.--.-SIP 2035 Policy 0.0 -0.1 -.--.-**CalPERS Target 2040** \$3.331 mil 0.1 -0.8 11.2 11.4 SIP 2040 Policy 0.2 -0.5 11.8 12.3 -0.7 CalPERS Target 2045 \$824.2 thous 0.1 -.--.-SIP 2045 Policy 0.2 -0.5 -.--.-CalPERS Target 2050 \$28.5 thous 0.1 -0.8 -.--.-SIP 2050 Policy 0.2 -0.5 -.--.-CalPERS Target 2055 \$6.5 thous -.--.--.--.-SIP 2055 Policy -.--.--.--.-4.2 5.5 **CalPERS** Target Income \$23.295 mil -0.8 0.8 SIP Income Policy -0.7 1.1 4.5 6.1 0.0 6.8 SSgA Russell All Cap Index SL \$2.813 mil -.--.-Russell 3000 0.1 7.3 -.--.-SSgA Global All Cap ex-US SL \$272.7 thous 0.9 -5.3 -.--.-MSCI ACWI ex-US IMI (N) 1.0 -5.0 -.--.-SSgA US Bond Index SL \$256.9 thous -1.8 1.6 -.--.-Barclays Aggregate Bond Index -1.7 1.9 -.--.-SSgA US Short Term Bond \$221.5 thous 0.0 0.3 -.--.-BarclaysUS Gov/Credit 0.1 0.9 -.--.-SSgA Real Asset NL \$57.6 thous -1.2 -12.2 -.--.-Real Assets Blended Index -1.1 -11.6 -.--.-SSgA STIF \$1.019 mil -0.1 -.--.--.-

0.0

-.-

-.-

-.-

BofAML 3-month US T-Bill

#### Periods Ended June 30, 2015

# Net Fund Performance Results – 457 Program

	Periods Ended June 30, 2015					
	Market <u>Value</u>	<u>Qtr</u>	One <u>Year</u>	Three <u>Year</u>	Five <u>Year</u>	Ten <u>Year</u>
CalPERS Target Income Fund	\$91.3 mil	-0.8	0.9	4.3	5.6	
SIP Income Policy		-0.7	1.1	4.5	6.1	
CalPERS Target 2015 Fund	\$82.2 mil	-0.8	0.8	6.1	7.4	
SIP 2015 Policy		-0.7	1.0	6.4	8.2	
CalPERS Target 2020 Fund	\$111.0 mil	-0.6	0.6	7.2	8.3	
SIP 2020 Policy		-0.5	0.8	7.6	9.1	
CalPERS Target 2025 Fund	\$75.0 mil	-0.4	0.2	8.5	9.3	
SIP 2025 Policy		-0.3	0.5	8.9	10.1	
CalPERS Target 2030 Fund	\$72.7 mil	-0.3	-0.1	9.6	10.3	
SIP 2030 Policy		-0.1	0.2	10.1	11.0	
CalPERS Target 2035 Fund	\$40.3 mil	-0.1	-0.3	10.6	11.0	-v-
SIP 2035 Policy		0.0	-0.1	11.1	11.9	-v-
CalPERS Target 2040 Fund	\$34.9 mil	0.1	-0.7	11.3	11.4	-v-
SIP 2040 Policy		0.2	-0.5	11.8	12.3	-v-
CalPERS Target 2045 Fund	\$10.5 mil	0.1	-0.7	11.4	11.4	-v-
SIP 2045 Policy		0.2	-0.5	11.9	12.3	-v-
CalPERS Target 2050 Fund	\$4.6 mil	0.1	-0.7	11.4	11.4	-v-
SIP 2050 Policy		0.2	-0.5	11.9	12.3	-v-
CalPERS Target 2055 Fund	\$2.7 mil	0.2	-0.6			-v-
SIP 2055 Policy		0.2	-0.5			-v-
SSgA Russell All Cap Index SL	\$494.2 mil	0.1	7.0			-v-
Russell 3000		0.1	7.3			-v-
SSgA Global All Cap ex-US SL	\$64.3 mil	1.0	-5.2			
MSCI ACWI ex-US IMI (N)		1.0	-5.0			
<b>SSgA US Bond Index SL</b>	\$59.8 mil	-1.8	1.7			
Barclays Aggregate Bond Index		-1.7	1.9			
SSgA US Short Term Bond	\$39.2 mil	0.0	0.4			
Barclays US Gov/Credit		0.1	0.9			
SSgA Real Asset NL	\$3.7 mil	-1.2	-12.0			-v-
Real Assets Blended Index		-1.1	-11.6			-v-
SSgA STIF	\$110.2 mil	-0.1				
BofAML 3 Month US TBill		0.0				