CalPERS Trust Level Monthly Update - Performance & Risk

CalPERS

Public Employees Retirement Fund (PERF)

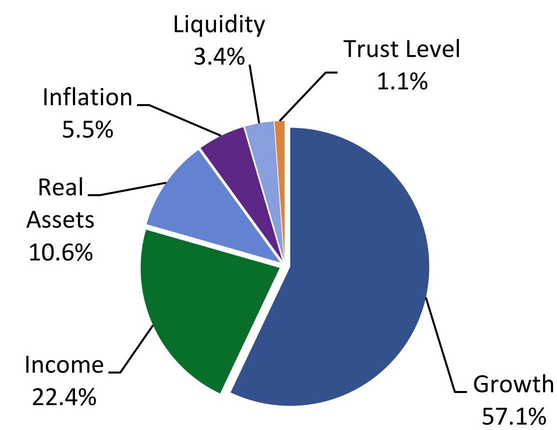
As of July 31, 2018

Asset Allocation

Asset Allocation	EMV (bil)	Current Allocation (%)	Interim Policy Weight (%)[1]	Variance (%)
Growth	**$ 204.0**	**57.1%**	**57.0%**	**0.1%**
Public Equity	$ 176.7	49.4%	49.0%	0.4%
Private Equity	$ 27.3	7.6%	8.0%	(0.4%)
Income	**$ 80.0**	**22.4%**	**22.0%**	**0.4%**
Real Assets	**$ 37.8**	**10.6%**	**12.0%**	**(1.4%)**
Real Estate	$ 31.9	8.9%	10.0%	(1.1%)
Infrastructure	$ 4.4	1.2%	1.0%	0.2%
Forestland	$ 1.5	0.4%	1.0%	(0.6%)
Inflation	**$ 19.6**	**5.5%**	**6.0%**	**(0.5%)**
Liquidity	**$ 12.1**	**3.4%**	**3.0%**	**0.4%**
Trust Level[2]	**$ 4.1**	**1.1%**	**-**	**1.1%**
Total Fund	**$ 357.7**	**100.0%**	**100.0%**	**0.0%**

TAP[3]	**$ 0.1**
TF Plus TAP	**$ 357.8**

Current Total Fund Allocation



Performance Summary

Performance Summary	FYTD Net Return	FYTD BM Return	FYTD Excess Bps	1-Yr Net Return	1-Yr BM Return	1-Yr Excess Bps	3-Yr Net Return	3-Yr BM Return	3-Yr Excess Bps	5-Yr Net Return	5-Yr BM Return	5-Yr Excess Bps	10-Yr Net Return	10-Yr BM Return	10-Yr Excess Bps	5-Yr Realized Infomation Ratio[4]
Growth	**2.6%**	**2.6%**	**(3)**	**12.2%**	**12.9%**	**(70)**	**9.8%**	**10.1%**	**(29)**	**10.1%**	**10.5%**	**(44)**	**7.5%**	**8.6%**	**(115)**	-
Public Equity	2.8%	2.8%	4	11.5%	11.9%	(38)	9.7%	9.6%	8	9.7%	9.7%	3	7.2%	7.5%	(26)	0.1
Private Equity	0.7%	1.2%	(52)	16.2%	18.0%	(178)	10.4%	11.9%	(151)	11.9%	13.8%	(196)	9.3%	13.5%	(425)	-
Income	**(0.0%)**	**-0.1%**	**4**	**(0.3%)**	**(0.7%)**	**43**	**2.9%**	**2.3%**	**54**	**3.8%**	**3.1%**	**74**	**5.9%**	**4.9%**	**95**	1.2
Real Assets	**0.1%**	**0.0%**	**7**	**8.1%**	**6.7%**	**137**	**7.2%**	**8.3%**	**(113)**	**9.4%**	**9.6%**	**(21)**	**(0.5%)**	**6.3%**	**(684)**	-
Real Estate	0.0%	0.0%	1	6.8%	7.1%	(29)	7.2%	9.0%	(183)	9.8%	10.4%	(66)	(1.0%)	7.1%	(806)	-
Infrastructure	0.6%	0.0%	57	22.1%	5.8%	1,636	13.3%	5.7%	751	15.1%	5.4%	970	14.5%	5.7%	875	-
Forestland	0.0%	0.0%	0	1.9%	3.8%	(187)	(2.4%)	3.4%	(581)	(1.0%)	6.1%	(709)	(1.1%)	4.1%	(513)	-
Inflation	**(1.0%)**	**-1.1%**	**7**	**5.9%**	**5.8%**	**11**	**1.7%**	**1.4%**	**30**	**(1.0%)**	**(1.5%)**	**54**	**(1.2%)**	**(0.8%)**	**(40)**	0.7
Liquidity	**0.2%**	**0.1%**	**5**	**1.8%**	**1.4%**	**39**	**1.0%**	**0.7%**	**28**	**0.9%**	**1.0%**	**(12)**	**1.0%**	**1.1%**	**(12)**	-
Trust Level[1]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Fund	**1.4%**	**1.4%**	**(0)**	**8.3%**	**8.3%**	**(3)**	**7.1%**	**7.2%**	**(14)**	**7.7%**	**7.8%**	**(7)**	**5.9%**	**7.0%**	**(109)**	-
TAP[2]	**(0.7%)**	-	-	**1.4%**	-	-	**2.4%**	-	-	**3.3%**	-	-	-	-	-	-

[1] Interim policy weight implemented as part of transition to strategic policy targets.

[2] Trust Level includes Multi Asset Class, Completion Overlay, Risk Mitigation, Absolute Return Strategies, Plan Level Transition and other Total Fund level portfolios

[3] Terminated Agency Pool (TAP) funded in July 2013 and exists to provide benefit payments to members who are employees of agencies that have terminated their contract with CalPERS

[4] Information Ratio is excess return divided by realized tracking error. This presents a perspective on risk adjusted performance. The metric is not meaningful for illiquid assets where realized volatility tends to be muted by valuation based pricing and benchmark issues.

Public Employees Retirement Fund (PERF)

As of July 31, 2018

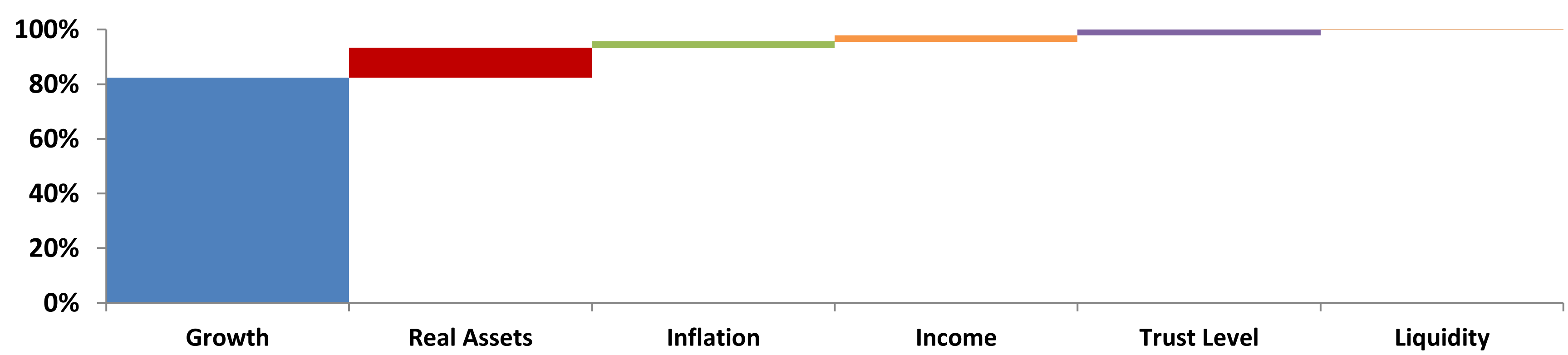
Total Fund Risk

Risk Measure	7/31/2018	6/30/2018	Explanation of Risk Measures:
Forecast Volatility			The total (absolute) volatility is the annualized standard deviation of the PERF's total return distribution and is indicative of the plan's short-term return dispersion given the current enviroment. The metric is model-based and could underestimate potential drawdowns.
Portfolio	7.4%	7.6%	
Benchmark	7.3%	7.4%	
Forecast Tracking Error			Forecast tracking error is the annualized standard deviation of the differential return between the portfolio and an equal investment in the benchmark.
Portfolio	0.5%	0.5%	

July 31, 2018	Portfolio Volatility		Tracking Error	
	Projected	Realized	Projected	Realized
Asset Class	Annualized Projected Volatility (%)	5-Year Realized Volatility (%)[1]	Annualized Projected Tracking Error (%)	5-Year Realized Tracking Error (%)[1]
Growth	**11.2%**	8.5%	**0.7%**	1.8%
Public Equity	11.0%	10.0%	0.2%	0.3%
Private Equity	14.4%	4.0%	4.6%	6.3%
Income	**5.2%**	**4.4%**	**0.2%**	**0.6%**
Real Assets	**10.3%**	**4.2%**	**3.3%**	**4.3%**
Real Estate	11.2%	4.7%	3.8%	4.9%
Infrastructure	7.3%	5.1%	6.3%	4.7%
Forestland	14.1%	4.4%	13.1%	4.3%
Inflation	**6.3%**	**5.7%**	**0.2%**	**0.8%**
Liquidity	**0.0%**	**0.9%**	**0.0%**	**0.5%**
Trust Level	**7.7%**	**-**	**7.7%**	**-**
Total Fund	**7.4%**	**5.6%**	**0.5%**	**1.2%**

[1]Realized Volatility and Tracking Error for private asset classes are computed from quarterly net returns

Contribution to Total Fund Volatility



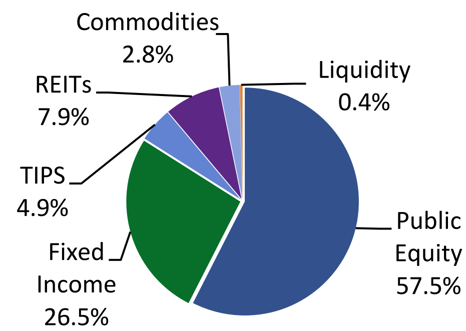
Affiliate Investment Program

CERBT Strategy 1 Fund (CERBT 1) & CERBT Strategy 2 Fund (CERBT 2)
As of July 31, 2018

Asset Allocation, Performance & Realized Risk Summary - CERBT 1

Asset Allocation	EMV (mil)	Current Allocation (%)	Policy Weight (%)[1]	Variance (%)	Policy Range
Public Equity	$ 4,036.4	57.5%	57%	0.5%	± 2%
Fixed Income	$ 1,858.6	26.5%	27%	(0.5%)	±2%
TIPS	$ 342.8	4.9%	5%	(0.1%)	± 2%
REITs	$ 556.1	7.9%	8%	(0.1%)	± 2%
Commodities	$ 199.4	2.8%	3%	(0.2%)	± 2%
Liquidity	$ 25.9	0.4%	0%	0.4%	+2%
Total CERBT 1	**$ 7,019.1**	**100.0%**	**100.0%**	**0.0%**	

Current Allocation



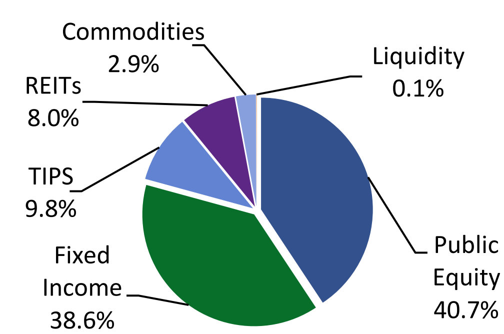
Performance Summary	FYTD Net Return	FYTD BM Return	FYTD Excess Bps	1-Yr Net Return	1-Yr BM Return	1-Yr Excess Bps	3-Yr Net Return	3-Yr BM Return	3-Yr Excess Bps	5-Yr Net Return	5-Yr BM Return	5-Yr Excess Bps	10-Yr Net Return	10-Yr BM Return	10-Yr Excess Bps
Public Equity	2.8%	2.8%	2	11.5%	11.2%	32	9.5%	9.1%	40	9.5%	9.1%	38	7.0%	6.9%	20
Fixed Income	(0.1%)	(0.1%)	(0)	(0.2%)	(0.7%)	50	2.9%	2.3%	61	4.2%	3.4%	78	6.1%	5.3%	84
TIPS	(0.5%)	(0.5%)	0	1.3%	1.2%	8	1.7%	1.7%	1	1.4%	1.4%	(6)	-	-	-
REITs	0.9%	0.9%	5	5.3%	4.6%	76	4.9%	4.1%	81	6.2%	5.4%	78	4.1%	3.5%	62
Commodities	(3.5%)	(3.5%)	4	20.2%	20.0%	26	(0.6%)	(0.6%)	(4)	(10.9%)	(10.9%)	(1)	-	-	-
Liquidity	0.2%	0.2%	5	2.8%	1.4%	140	1.4%	0.7%	70	0.9%	0.5%	42	0.6%	0.4%	25
Total CERBT 1	**1.5%**	**1.5%**	**(1)**	**7.5%**	**7.2%**	**29**	**6.8%**	**6.3%**	**43**	**7.0%**	**6.5%**	**43**	**6.2%**	**6.1%**	**12**

5-Yr Realized Volatility: **6.9%** **5-Yr Realized Tracking Error:** **0.2%**

Asset Allocation, Performance & Realized Risk Summary - CERBT 2

Asset Allocation	EMV (mil)	Current Allocation (%)	Policy Weight (%)[1]	Variance (%)	Policy Range
Public Equity	$ 455.0	40.7%	40%	0.7%	± 2%
Fixed Income	$ 431.2	38.6%	39%	(0.4%)	± 2%
TIPS	$ 110.1	9.8%	10%	(0.2%)	± 2%
REITs	$ 89.3	8.0%	8%	(0.0%)	± 2%
Commodities	$ 32.0	2.9%	3%	(0.1%)	± 2%
Liquidity	$ 0.7	0.1%	0%	0.1%	+2%
Total CERBT 2	**$ 1,118.3**	**100.0%**	**100.0%**	**0.0%**	

Current Allocation



Performance Summary	FYTD Net Return	FYTD BM Return	FYTD Excess Bps	1-Yr Net Return	1-Yr BM Return	1-Yr Excess Bps	3-Yr Net Return	3-Yr BM Return	3-Yr Excess Bps	5-Yr Net Return	5-Yr BM Return	5-Yr Excess Bps	10-Yr Net Return	10-Yr BM Return	10-Yr Excess Bps
Public Equity	2.8%	2.8%	2	11.5%	11.2%	34	9.5%	9.1%	38	9.5%	9.1%	35	-	-	-
Fixed Income	(0.1%)	(0.1%)	(0)	(0.2%)	(0.7%)	49	2.9%	2.3%	62	4.2%	3.4%	77	-	-	-
TIPS	(0.5%)	(0.5%)	(0)	1.2%	1.2%	7	1.7%	1.7%	0	1.3%	1.4%	(9)	-	-	-
REITs	0.9%	0.9%	5	5.3%	4.6%	76	4.9%	4.1%	81	6.1%	5.4%	75	-	-	-
Commodities	(3.5%)	(3.5%)	6	20.3%	20.0%	36	(0.6%)	(0.6%)	0	(10.9%)	(10.9%)	3	-	-	-
Liquidity	0.2%	0.2%	6	3.8%	1.4%	234	2.0%	0.7%	128	1.3%	0.5%	80	-	-	-
Total CERBT 2	**1.0%**	**1.0%**	**(1)**	**5.6%**	**5.2%**	**35**	**5.6%**	**5.2%**	**42**	**5.8%**	**5.4%**	**40**	**-**	**-**	**-**

5-Yr Realized Volatility: **5.7%** **5-Yr Realized Tracking Error:** **0.2%**

[1] Allocations approved by the Board at the October 2014 IC Meeting

Affiliate Investment Program

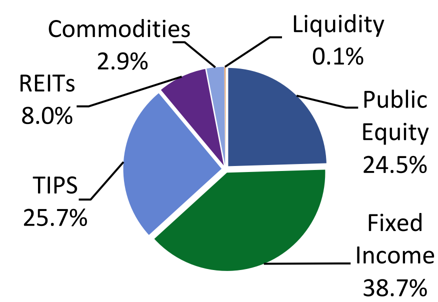
CERBT Strategy 3 Fund (CERBT 3) & Legislators' Retirement System Fund (LRF)

As of July 31, 2018

Asset Allocation, Performance & Realized Risk Summary - CERBT 3

Asset Allocation	EMV (mil)	Current Allocation (%)	Policy Weight (%)[1]	Variance (%)	Policy Range
Public Equity	$ 100.8	24.5%	24%	0.5%	± 2%
Fixed Income	$ 159.2	38.7%	39%	(0.3%)	± 2%
TIPS	$ 105.8	25.7%	26%	(0.3%)	± 2%
REITs	$ 33.0	8.0%	8%	0.0%	± 2%
Commodities	$ 11.8	2.9%	3%	(0.1%)	± 2%
Liquidity	$ 0.6	0.1%	0%	0.1%	+2%
Total CERBT 3	**$ 411.2**	**100.0%**	**100.0%**	**0.0%**	

Current Allocation



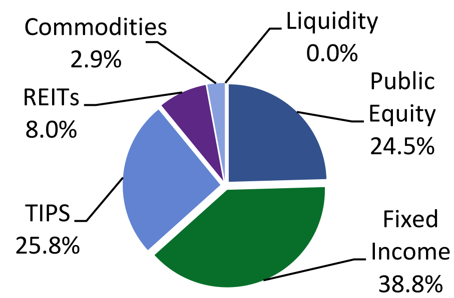
Performance Summary	FYTD Net Return	FYTD BM Return	FYTD Excess Bps	1-Yr Net Return	1-Yr BM Return	1-Yr Excess Bps	3-Yr Net Return	3-Yr BM Return	3-Yr Excess Bps	5-Yr Net Return	5-Yr BM Return	5-Yr Excess Bps	10-Yr Net Return	10-Yr BM Return	10-Yr Excess Bps
Public Equity	2.8%	2.8%	2	11.5%	11.2%	31	9.5%	9.1%	37	9.5%	9.1%	36	-	-	-
Fixed Income	(0.1%)	(0.1%)	(0)	(0.2%)	(0.7%)	50	2.8%	2.3%	58	4.1%	3.4%	73	-	-	-
TIPS	(0.5%)	(0.5%)	(0)	1.3%	1.2%	8	1.7%	1.7%	0	1.4%	1.4%	(5)	-	-	-
REITs	0.9%	0.9%	6	5.4%	4.6%	76	4.8%	4.1%	72	6.1%	5.4%	73	-	-	-
Commodities	(3.5%)	(3.5%)	6	20.3%	20.0%	37	(0.4%)	(0.6%)	15	(10.8%)	(10.9%)	16	-	-	-
Liquidity	0.2%	0.2%	3	3.6%	1.4%	213	1.7%	0.7%	98	1.1%	0.5%	70	-	-	-
Total CERBT 3	**0.5%**	**0.5%**	**(1)**	**3.9%**	**3.6%**	**26**	**4.3%**	**4.0%**	**34**	**4.8%**	**4.4%**	**43**	**-**	**-**	**-**

5-Yr Realized Volatility: 4.7% **5-Yr Realized Tracking Error:** 0.3%

Asset Allocation, Performance & Realized Risk Summary - LRF

Asset Allocation	EMV (mil)	Current Allocation (%)	Policy Weight (%)[1]	Variance (%)	Policy Range
Public Equity	$ 28.0	24.5%	24%	0.5%	± 5%
Fixed Income	$ 44.2	38.8%	39%	(0.2%)	± 5%
TIPS	$ 29.3	25.8%	26%	(0.2%)	± 3%
REITs	$ 9.2	8.0%	8%	0.0%	± 5%
Commodities	$ 3.3	2.9%	3%	(0.1%)	± 3%
Liquidity	$ 0.0	0.0%	0%	0.0%	+2%
Total LRF	**$ 114.0**	**100.0%**	**100.0%**	**0.0%**	

Current Allocation



Performance Summary	FYTD Net Return	FYTD BM Return	FYTD Excess Bps	1-Yr Net Return	1-Yr BM Return	1-Yr Excess Bps	3-Yr Net Return	3-Yr BM Return	3-Yr Excess Bps	5-Yr Net Return	5-Yr BM Return	5-Yr Excess Bps	10-Yr Net Return	10-Yr BM Return	10-Yr Excess Bps
Public Equity	2.8%	2.8%	2	11.9%	11.9%	4	9.8%	9.6%	16	9.8%	9.7%	11	7.4%	7.3%	7
Fixed Income	(0.1%)	(0.1%)	0	(0.2%)	(0.7%)	50	2.9%	2.3%	61	4.2%	3.4%	77	6.1%	5.3%	84
TIPS	(0.5%)	(0.5%)	0	1.2%	1.2%	7	1.7%	1.7%	1	1.4%	1.4%	(6)	3.1%	3.0%	7
REITs	0.9%	0.9%	3	5.6%	5.6%	(1)	5.8%	5.8%	2	6.8%	6.8%	3	-	-	-
Commodities	(3.6%)	(3.5%)	(6)	20.1%	20.0%	17	(0.2%)	(0.6%)	41	(10.8%)	(10.9%)	16	-	-	-
Liquidity	0.2%	0.2%	2	9.3%	1.4%	788	3.6%	0.7%	283	2.2%	0.5%	170	1.3%	0.4%	90
Total LRF	**0.5%**	**0.5%**	**0**	**4.0%**	**3.9%**	**15**	**4.4%**	**4.2%**	**22**	**4.9%**	**4.6%**	**30**	**6.0%**	**5.6%**	**37**

5-Yr Realized Volatility: 4.6% **5-Yr Realized Tracking Error:** 0.3%

[1] Allocations approved by the Board at the October 2014 IC Meeting

Affiliate Investment Program

Judges' Retirement Fund (JRF) & Judges Retirement System Fund II (JRF II)
As of July 31, 2018

Asset Allocation, Performance & Realized Risk Summary - JRF

Asset Allocation	EMV (mil)	Current Allocation (%)	Policy Weight (%)	Variance (%)	Policy Range
Cash	$ 38.8	100.0%	100%	0.0%	± 0%
Total JRF	**$ 38.8**	**100.0%**	**100%**	**0.0%**	

Current Allocation

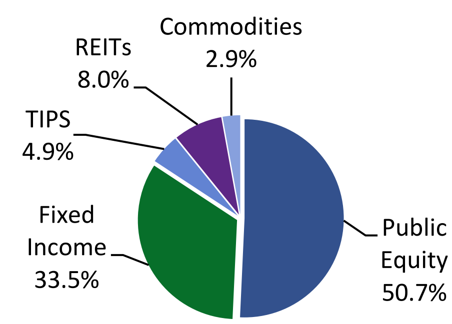
Performance Summary	FYTD			1-Yr			3-Yr			5-Yr			10-Yr		
	Net Return	BM Return	Excess Bps	Net Return	BM Return	Excess Bps	Net Return	BM Return	Excess Bps	Net Return	BM Return	Excess Bps	Net Return	BM Return	Excess Bps
Cash	0.2%	0.2%	2	1.6%	1.4%	14	0.9%	0.7%	18	0.6%	0.5%	12	0.5%	0.4%	11
Total JRF	**0.2%**	**0.2%**	**2**	**1.6%**	**1.4%**	**14**	**0.9%**	**0.7%**	**18**	**0.6%**	**0.5%**	**12**	**0.5%**	**0.4%**	**11**

5-Yr Realized Volatility: 0.2%   **5-Yr Realized Tracking Error:** 0.0%

Asset Allocation, Performance Realized Risk Summary - JRF II

Asset Allocation[1]	EMV (mil)	Current Allocation (%)	Policy Weight (%)[2]	Variance (%)	Policy Range
Public Equity	$ 782.3	50.7%	50%	0.7%	± 5%
Fixed Income	$ 517.2	33.5%	34%	(0.5%)	± 5%
TIPS	$ 75.8	4.9%	5%	(0.1%)	± 3%
REITs	$ 122.9	8.0%	8%	(0.0%)	± 5%
Commodities	$ 44.1	2.9%	3%	(0.1%)	± 3%
Total JRF II	**$ 1,542.3**	**100.0%**	**100.0%**	**0.0%**	

Current Allocation



Performance Summary[1]	FYTD			1-Yr			3-Yr			5-Yr			10-Yr		
	Net Return	BM Return	Excess Bps	Net Return	BM Return	Excess Bps	Net Return	BM Return	Excess Bps	Net Return	BM Return	Excess Bps	Net Return	BM Return	Excess Bps
Public Equity	2.8%	2.8%	1	11.9%	11.9%	3	9.8%	9.6%	13	9.8%	9.7%	10	7.2%	7.1%	6
Fixed Income	(0.1%)	(0.1%)	0	(0.2%)	(0.7%)	49	2.9%	2.3%	62	4.2%	3.4%	77	6.1%	5.3%	84
TIPS	(0.5%)	(0.5%)	0	1.2%	1.2%	7	1.7%	1.7%	1	1.4%	1.4%	(7)	-	-	-
REITs	0.9%	0.9%	4	5.6%	5.6%	(0)	5.8%	5.8%	1	6.8%	6.8%	3	4.4%	4.3%	18
Commodities	(3.5%)	(3.5%)	4	20.3%	20.0%	30	(0.2%)	(0.6%)	44	(10.7%)	(10.9%)	19	-	-	-
Total JRF II	**1.3%**	**1.3%**	**1**	**6.9%**	**6.8%**	**14**	**6.5%**	**6.3%**	**24**	**6.8%**	**6.6%**	**24**	**6.6%**	**6.5%**	**10**

5-Yr Realized Volatility: 6.5%   **5-Yr Realized Tracking Error:** 0.2%

[1] Liquidity is used for operational purposes. Frequent variation in the allocation of these assets makes calculated performance non-meaningful and the return impact on fund performance is negligible.

[2] Allocations approved by the Board at the October 2014 IC Meeting

Affiliate Investment Program

Health Care Fund (HCF) & Long-Term Care Fund (LTCF)
As of July 31, 2018

Asset Allocation, Performance & Realized Risk Summary - HCF

Asset Allocation	EMV (mil)	Current Allocation (%)	Policy Weight (%)	Variance (%)	Policy Range
Fixed Income	$ 443.4	100.0%	100%	0.0%	± 0%
Total HCF	**$ 443.4**	**100.0%**	**100%**	**0.0%**	

Current Allocation

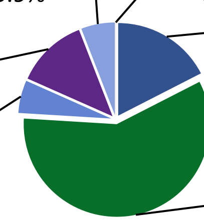
Performance Summary	FYTD Net Return	FYTD BM Return	FYTD Excess Bps	1-Yr Net Return	1-Yr BM Return	1-Yr Excess Bps	3-Yr Net Return	3-Yr BM Return	3-Yr Excess Bps	5-Yr Net Return	5-Yr BM Return	5-Yr Excess Bps	10-Yr Net Return	10-Yr BM Return	10-Yr Excess Bps
Fixed Income	0.0%	0.0%	(0)	(0.7%)	(0.8%)	7	1.5%	1.5%	3	2.5%	2.2%	26	4.1%	3.7%	39
Total HCF	**0.0%**	**0.0%**	**(0)**	**(0.7%)**	**(0.8%)**	**7**	**1.5%**	**1.5%**	**3**	**2.5%**	**2.2%**	**26**	**4.1%**	**3.7%**	**39**

5-Yr Realized Volatility: **2.7%** **5-Yr Realized Tracking Error:** **0.3%**

Asset Allocation, Performance & Realized Risk Summary - LTCF

Asset Allocation	EMV (mil)	Current Allocation (%)	Policy Weight (%)[2]	Variance (%)	Policy Range
Public Equity	$ 789.2	17.4%	15%	2.4%	± 4%
Fixed Income	$ 2,648.1	58.5%	61%	(2.5%)	± 5%
TIPS	$ 258.2	5.7%	6%	(0.3%)	± 2%
REITs	$ 563.2	12.4%	12%	0.4%	± 4%
Commodities	$ 265.9	5.9%	6%	(0.1%)	± 2%
Liquidity	$ 0.1	0.0%	0%	0.0%	+2%
Total LTCF	**$ 4,524.6**	**100.0%**	**100.0%**	**0.0%**	

Current Allocation



Performance Summary	FYTD Net Return	FYTD BM Return	FYTD Excess Bps	1-Yr Net Return	1-Yr BM Return	1-Yr Excess Bps	3-Yr Net Return	3-Yr BM Return	3-Yr Excess Bps	5-Yr Net Return	5-Yr BM Return	5-Yr Excess Bps	10-Yr Net Return	10-Yr BM Return	10-Yr Excess Bps
Public Equity	2.8%	2.8%	2	11.5%	11.2%	30	9.5%	9.1%	34	9.5%	9.1%	31	7.1%	7.0%	15
Fixed Income	(0.1%)	(0.1%)	(2)	(0.7%)	(0.7%)	1	2.3%	2.3%	(1)	3.4%	3.4%	2	5.7%	5.3%	38
TIPS	(0.5%)	(0.5%)	(0)	1.2%	1.2%	(2)	1.7%	1.7%	(1)	1.4%	1.4%	(0)	3.1%	3.0%	8
REITs	0.9%	0.9%	3	5.3%	4.6%	73	4.9%	4.1%	78	6.1%	5.4%	73	4.0%	3.5%	52
Commodities	(3.5%)	(3.5%)	(0)	19.7%	20.0%	(27)	(0.6%)	(0.6%)	(5)	(11.0%)	(10.9%)	(4)	-	-	-
Liquidity	0.2%	0.2%	2	2.4%	1.4%	93	3.1%	0.7%	238	1.8%	0.5%	134	1.1%	0.4%	72
Total LTCF	**0.3%**	**0.2%**	**5**	**3.1%**	**3.0%**	**14**	**3.6%**	**3.5%**	**12**	**3.9%**	**3.7%**	**20**	**4.6%**	**4.4%**	**19**

5-Yr Realized Volatility: **4.6%** **5-Yr Realized Tracking Error:** **0.2%**

[1] Allocations approved by the Board at the April 2016 IC Meeting

[2] Allocations approved by the Board at the June 2015 IC Meeting

Affiliate Investment Program

Supplemental Income Plan (SIP)
As of July 31, 2018

Asset Allocation - SIP

Asset Allocation	EMV (mil)	U.S. Equities Actual	U.S. Equities Policy	U.S. Equities Policy Range	Int'l Equities Actual	Int'l Equities Policy	Int'l Equities Policy Range	US Fixed Income Actual	US Fixed Income Policy	US Fixed Income Policy Range	Real Assets Actual	Real Assets Policy	Real Assets Policy Range	Cash and Cash Equivalents Actual	Cash and Cash Equivalents Policy	Cash and Cash Equivalents Policy Range
Target Income Fund	$ 106.0	9.2%	9.0%	+/-2%	11.2%	11.0%	+/-2%	49.8%	50.0%	+/-4%	0.0%	0.0%	-	29.9%	30.0%	+/-4%
Target 2015 Fund	$ 94.6	9.2%	9.0%	+/-2%	11.2%	11.0%	+/-2%	49.8%	50.0%	+/-4%	0.0%	0.0%	-	29.9%	30.0%	+/-4%
Target 2020 Fund	$ 166.6	11.2%	11.0%	+/-2%	13.2%	13.0%	+/-2%	47.8%	48.0%	+/-4%	0.0%	0.0%	-	27.8%	28.0%	+/-4%
Target 2025 Fund	$ 165.9	18.2%	18.0%	+/-2%	20.2%	20.0%	+/-4%	37.7%	38.0%	+/-4%	2.0%	2.0%	+/-1%	21.8%	22.0%	+/-4%
Target 2030 Fund	$ 140.0	22.3%	22.0%	+/-4%	26.2%	26.0%	+/-4%	30.7%	31.0%	+/-4%	4.0%	4.0%	+/-1%	16.8%	17.0%	+/-2%
Target 2035 Fund	$ 79.7	27.3%	27.0%	+/-4%	32.2%	32.0%	+/-4%	23.7%	24.0%	+/-4%	6.0%	6.0%	+/-1%	10.9%	11.0%	+/-1%
Target 2040 Fund	$ 70.0	32.3%	32.0%	+/-4%	37.2%	37.0%	+/-4%	16.7%	17.0%	+/-2%	7.9%	8.0%	+/-1%	5.9%	6.0%	+/-1%
Target 2045 Fund	$ 33.3	37.2%	37.0%	+/-4%	43.1%	43.0%	+/-4%	9.8%	10.0%	+/-2%	9.9%	10.0%	+/-1%	0.0%	0.0%	-
Target 2050 Fund	$ 15.5	37.3%	37.0%	+/-4%	43.1%	43.0%	+/-4%	9.8%	10.0%	+/-2%	9.9%	10.0%	+/-1%	0.0%	0.0%	-
Target 2055 Fund	$ 7.8	37.3%	37.0%	+/-4%	43.1%	43.0%	+/-4%	9.8%	10.0%	+/-2%	9.9%	10.0%	+/-1%	0.0%	0.0%	-
SSgA STIF	$ 103.8	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	100.0%	100.0%	-
SIP US ST Bond Core	$ 34.0	0.0%	0.0%	-	0.0%	0.0%	-	100.0%	100.0%	-	0.0%	0.0%	-	0.0%	0.0%	-
SIP US Bond Core	$ 55.4	0.0%	0.0%	-	0.0%	0.0%	-	100.0%	100.0%	-	0.0%	0.0%	-	0.0%	0.0%	-
SIP Real Asset Core	$ 6.6	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	100.0%	100.0%	-	0.0%	0.0%	-
SIP Russell All Cap Core	$ 565.4	100.0%	100.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-
SIP Glbl All Cap EX-US	$ 72.6	0.0%	0.0%	-	100.0%	100.0%	-	0.0%	0.0%	-	0.0%	0.0%	-	0.0%	0.0%	-

Performance Summary - SIP

Performance Summary	FYTD Net Return	FYTD BM Return	FYTD Excess Bps	1-Yr Net Return	1-Yr BM Return	1-Yr Excess Bps	3-Yr Net Return	3-Yr BM Return	3-Yr Excess Bps	5-Yr Net Return	5-Yr BM Return	5-Yr Excess Bps	10-Yr Net Return	10-Yr BM Return	10-Yr Excess Bps
Target Income Fund	0.6%	0.6%	1	2.2%	2.2%	4	2.9%	2.8%	10	3.2%	3.1%	11	-	-	-
Target 2015 Fund	0.6%	0.6%	1	2.2%	2.2%	5	2.9%	2.8%	10	3.3%	3.2%	9	-	-	-
Target 2020 Fund	0.7%	0.7%	1	2.7%	2.6%	3	3.2%	3.1%	10	3.8%	3.7%	10	-	-	-
Target 2025 Fund	1.1%	1.1%	(1)	4.3%	4.3%	2	4.5%	4.4%	10	4.8%	4.7%	11	-	-	-
Target 2030 Fund	1.3%	1.3%	0	5.5%	5.4%	3	5.3%	5.2%	11	5.6%	5.5%	10	-	-	-
Target 2035 Fund	1.6%	1.6%	0	6.7%	6.7%	4	6.3%	6.2%	11	6.4%	6.3%	10	-	-	-
Target 2040 Fund	1.9%	1.9%	0	8.0%	7.9%	6	7.2%	7.1%	12	7.1%	7.0%	13	-	-	-
Target 2045 Fund	2.1%	2.1%	1	9.2%	9.1%	8	8.1%	7.9%	14	7.7%	7.6%	13	-	-	-
Target 2050 Fund	2.1%	2.1%	1	9.3%	9.1%	13	8.1%	7.9%	14	7.7%	7.6%	13	-	-	-
Target 2055 Fund	2.1%	2.1%	1	9.3%	9.1%	12	8.1%	7.9%	17	-	-	-	-	-	-
SSgA STIF	0.2%	0.2%	2	1.6%	1.4%	13	0.9%	0.7%	17	0.6%	0.5%	11	-	-	-
SIP US ST Bond Core	0.1%	0.1%	(0)	-0.1%	0.0%	(12)	0.6%	0.7%	(12)	-	-	-	-	-	-
SIP US Bond Core	0.0%	0.0%	1	-0.8%	-0.8%	1	1.5%	1.5%	1	-	-	-	-	-	-
SIP Real Asset Core	-0.2%	-0.2%	2	5.3%	5.5%	(16)	4.5%	4.6%	(9)	-	-	-	-	-	-
SIP Russell All Cap Core	3.3%	3.3%	2	16.4%	16.4%	4	12.2%	12.2%	5	-	-	-	-	-	-
SIP Glbl All Cap EX-US	2.2%	2.1%	4	6.4%	6.2%	25	6.6%	6.4%	24	-	-	-	-	-	-

Affiliate Investment Program

Supplemental Income Plan (SIP)
As of July 31, 2018

Realized Risk - SIP

Realized Risk	Annualized 5-Yr Realized Volatility	Annualized 5-Yr Realized Tracking Error
Target Income Fund	2.5%	0.2%
Target 2015 Fund	2.7%	0.2%
Target 2020 Fund	3.5%	0.2%
Target 2025 Fund	4.7%	0.3%
Target 2030 Fund	5.8%	0.3%
Target 2035 Fund	6.9%	0.4%
Target 2040 Fund	8.0%	0.5%
Target 2045 Fund	8.6%	0.5%
Target 2050 Fund	8.6%	0.5%
Target 2055 Fund	-	-
SSgA STIF	0.2%	0.0%
SIP US ST Bond Core	-	-
SIP US Bond Core	-	-
SIP Real Asset Core	-	-
SIP Russell All Cap Core	-	-
SIP Glbl All Cap EX-US	-	-

CalPERS Trust Level

Trust Level Benchmarks
As of July 31, 2018

Public Employee's Retirement Fund and Affiliate Investment Program Policy Benchmarks

Trust	Asset Class Benchmark	Policy Benchmark
Public Employees Retirement Fund	**Growth Benchmark**	**Public Equity 86.2%:** CalPERS Custom Global Equity Benchmark **Private Equity 13.8%:** CalPERS Custom FTSE All World, All Cap Equity, +150 bps, 1 Qtr Lag
	Income Benchmark	CalPERS Custom Global Fixed Income Benchmark
	Real Assets Benchmark	MSCI Investment Property Databank US Core - Fund Level
	Inflation Benchmark	Custom Inflation Assets Benchmark
	Liquidity Benchmark	30-Day Treasury Bill
Judge's Retirement System Fund	**Cash**	91-day Treasury Bill
Judge's Retirement System II Fund	**Global Equity**	MSCI ACWI IMI - Net
	U.S. Fixed Income	Bloomberg Barclays Long Liability Index
	TIPS	Bloomberg Barclays U.S. TIPs Index, Series L
	Commodities	S&P GSCI Total Return Daily
	REITs	FTSE EPRA/NAREIT Developed Liquid (Net)
Legislators' Retirement System Fund	**Global Equity**	MSCI ACWI IMI - Net
	U.S. Fixed Income	Bloomberg Barclays Long Liability Index
	TIPS	Bloomberg Barclays U.S. TIPs Index, Series L
	Commodities	S&P GSCI Total Return Daily
	REITs	FTSE EPRA/NAREIT Developed Liquid (Net)
Public Employees' Health Care Fund	**U.S. Fixed Income**	Bloomberg Barclays U.S. Aggregate Bond Index
Long-Term Care Fund	**Global Equity**	MSCI ACWI IMI (Net)
	U.S. Fixed Income	Bloomberg Barclays Long Liability Index
	TIPS	Bloomberg Barclays U.S. Treasury Inflation Protected Securities (TIPS) Index
	Commodities	S&P GSCI Total Return Daily
	REITs	FTSE EPRA/NAREIT Developed Liquid (Net)
California Employers' Retiree Benefit Trust (CERBT) Funds 1, 2 & 3	**Global Equity**	MSCI ACWI IMI (Net)
	U.S. Fixed Income	Bloomberg Barclays Long Liability Index
	TIPS	Bloomberg Barclays U.S. TIPS Index, Series L
	Commodities	S&P GSCI Total Return Daily
	REITs	FTSE EPRA/NAREIT Developed Liquid (Net)

CalPERS Trust Level

Trust Level Benchmarks
As of July 31, 2018

Supplemental Income Plan Policy Benchmarks

Policy Weights					
Supplemental Income Plan	US Equities Russell 3000	In'l Equities MSCI ACWI ex US	US Income Bloomberg Barclays US Ag Bond	Real Assets SSGA Real Asset	Cash & Cash Equivalents BofA ML 3 mo T-bill
Target Income Fund	9.0%	11.0%	50.0%	0.0%	30.0%
Target 2015 Fund	9.0%	11.0%	50.0%	0.0%	30.0%
Target 2020 Fund	11.0%	13.0%	48.0%	0.0%	28.0%
Target 2025 Fund	18.0%	20.0%	38.0%	2.0%	22.0%
Target 2030 Fund	22.0%	26.0%	31.0%	4.0%	17.0%
Target 2035 Fund	27.0%	32.0%	24.0%	6.0%	11.0%
Target 2040 Fund	32.0%	37.0%	17.0%	8.0%	6.0%
Target 2045 Fund	37.0%	43.0%	10.0%	10.0%	0.0%
Target 2050 Fund	37.0%	43.0%	10.0%	10.0%	0.0%
Target 2055 Fund	37.0%	43.0%	10.0%	10.0%	0.0%
SSgA STIF	0.0%	0.0%	0.0%	0.0%	100.0%
SIP US ST Bond Core	0.0%	0.0%	100.0%	0.0%	0.0%
SIP US Bond Core	0.0%	0.0%	100.0%	0.0%	0.0%
SIP Real Asset Core	0.0%	0.0%	0.0%	100.0%	0.0%
SIP Russell All Cap Core	100.0%	0.0%	0.0%	0.0%	0.0%
SIP Global All Cap ex US	0.0%	100.0%	0.0%	0.0%	0.0%