



CalPERS
CIO Performance Report

Period Ending June 30, 2018



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Section I
Total Fund & Affiliate
Investment Program Summary

Period Ending June 30, 2018

Section I: Total Fund and Affiliate Investment Program Summary
Total Fund Summary and Total Fund Plus Terminated Agency Pool (TAP) Summary

Asset Class	June 30, 2018			1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr		20-Yr	
	Ending Market Value (MM)	% of Total Fund Assets	Asset Allocation Target Range %	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	\$ Value Added (MM) ²	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps
Growth	198,977	56.6	50-64	N/M	N/M	0.94	4	12.11	(84)	(1,645)	12.11	(84)	9.08	(41)	10.45	(47)	6.99	(123)	6.33	(21)
Global Equity	171,826	48.8	42-56	(0.74)	(15)	0.58	(43)	11.47	(42)	(710)	11.47	(42)	8.82	3	10.19	4	6.67	(31)	5.87	0
Private Equity	27,151	7.7	4-12	N/M	N/M	3.14	311	16.08	(251)	(668)	16.08	(251)	10.38	(189)	11.94	(222)	9.01	(445)	10.51	137
Income	79,072	22.5	17-27	(0.17)	1	(0.80)	5	0.35	38	256	0.35	38	3.21	52	3.83	73	5.74	85	6.07	53
Real Assets	38,099	10.8	7-17	N/M	N/M	1.56	(35)	7.99	118	431	7.99	118	7.13	(117)	9.41	(23)	(0.52)	(686)	6.68	(272)
Real Estate	31,790	9.0	5-15	N/M	N/M	1.31	(66)	6.84	(27)	(83)	6.84	(27)	7.17	(184)	9.75	(66)	(0.95)	(808)	6.41	(344)
Infrastructure	4,333	1.2	0-2	N/M	N/M	4.07	185	20.59	1,414	553	20.59	1,414	13.04	711	14.97	952	14.43	853	-	-
Forestland	1,976	0.6	0-2	N/M	N/M	0.21	(71)	1.92	(187)	(37)	1.92	(187)	(2.37)	(581)	(0.99)	(709)	(1.07)	(513)	-	-
Inflation	20,814	5.9	3-9	0.31	(9)	0.77	(2)	9.26	36	93	9.26	36	0.82	30	(0.36)	53	(1.77)	(75)	-	-
Liquidity	11,766	3.3	(3)-9	0.18	5	0.55	15	1.67	36	54	1.67	36	0.93	27	0.87	(15)	1.01	(12)	2.52	9
TLPM	2,832	0.8		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other PERF³	248	0.1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Fund	351,807	100.0		(0.19)	3	0.60	(2)	8.58	(6)	(206)	8.58	(6)	6.70	(21)	8.06	(7)	5.56	(115)	6.10	(30)
<i>CalPERS Policy Index¹</i>				(0.22)		0.62		8.64			8.64		6.91		8.12		6.71		6.41	

Total Fund Inception Date Net Rate Of Return (07/01/1988)

8.44

Total Fund Plus TAP Summary	June 30, 2018		1-Mo		3-Mo		FYTD		1-Yr		3-Yr		5-Yr		10-Yr		20-Yr	
	Ending Market Value (MM)	% of Total Fund Plus TAP Assets	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps
Total Fund	351,807	99.96	(0.19)	3	0.60	(2)	8.58	(6)	8.58	(6)	6.70	(21)	8.06	(7)	5.56	(115)	6.10	(30)
Terminated Agency Pool ⁴	134	0.04	0.42	-	0.77	-	2.25	-	2.25	-	3.25	-	3.27	-	-	-	-	-
Total Fund Plus TAP	351,941	100.0	(0.19)		0.60		8.58		8.58		6.70		8.05		5.55		6.10	

¹ See Section XII for components of CalPERS Policy Index. Current Asset Class Policy Benchmark performance is linked to their respective prior Policy Benchmark.

² Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

³ "Other PERF" includes Absolute Return Strategies and Other Plan Level portfolios.

⁴ The Terminated Agency Pool (TAP) was funded in July 2013 and exists to provide benefit payments to members who are employees of agencies that have terminated their contract with CalPERS.

⁵ The notation "N/M" indicates that the return is not meaningful as Private Asset performance is measured on a quarterly cycle.

Section I: Total Fund and Affiliate Investment Program Summary
Affiliate Investment Programs Summary

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Fund Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Defined Benefit, Health, And OPEB Plans																	
Judges' Retirement Fund	40	0.2	0.17	0	0.49	4	1.49	12	0	1.49	12	0.85	17	0.54	12	0.47	11
Judges' Retirement System II Fund	1,522	9.2	(0.12)	2	1.12	0	7.49	14	2	7.49	14	6.21	23	7.25	23	6.34	4
Legislators' Retirement System Fund	114	0.7	0.07	(1)	0.98	(1)	4.82	15	0	4.82	15	4.42	21	5.19	29	5.77	31
Health Care Fund	443	2.7	(0.12)	(0)	(0.16)	0	(0.33)	7	0	(0.33)	7	1.75	3	2.55	28	4.04	32
Long-Term Care Fund	4,515	27.4	0.10	(3)	1.04	2	4.03	8	3	4.03	8	3.68	13	4.05	20	4.38	14
CERBT Strategy 1 Fund	6,801	41.3	(0.18)	1	1.02	2	7.96	29	18	7.96	29	6.43	42	7.38	42	5.94	15
CERBT Strategy 2 Fund	1,090	6.6	(0.06)	3	0.93	5	6.19	35	3	6.19	35	5.43	40	6.19	40	-	-
CERBT Strategy 3 Fund	395	2.4	0.06	(2)	0.89	1	4.67	27	1	4.67	27	4.31	33	5.07	42	-	-
SUPPLEMENTAL INCOME PLANS (457/SCP)																	
CalPERS Target Income Fund	96	0.6	(0.16)	1	0.12	(0)	2.41	4	0	2.41	4	2.88	10	3.48	13	-	-
CalPERS Target 2015 Fund	86	0.5	(0.16)	1	0.11	(1)	2.42	4	0	2.42	4	2.88	10	3.80	10	-	-
CalPERS Target 2020 Fund	144	0.9	(0.18)	2	0.13	(1)	2.96	3	0	2.96	3	3.13	10	4.36	12	-	-
CalPERS Target 2025 Fund	124	0.8	(0.27)	3	0.27	(2)	4.65	3	0	4.65	3	4.24	11	5.39	14	-	-
CalPERS Target 2030 Fund	118	0.7	(0.36)	3	0.31	(3)	5.86	3	0	5.86	3	4.96	11	6.17	14	-	-
CalPERS Target 2035 Fund	67	0.4	(0.43)	6	0.41	(2)	7.17	4	0	7.17	4	5.78	11	6.99	14	-	-
CalPERS Target 2040 Fund	60	0.4	(0.49)	6	0.52	(3)	8.53	6	0	8.53	6	6.58	12	7.76	17	-	-
CalPERS Target 2045 Fund	29	0.2	(0.58)	7	0.60	(3)	9.71	7	0	9.71	7	7.34	13	8.26	18	-	-
CalPERS Target 2050 Fund	14	0.1	(0.57)	7	0.61	(3)	9.75	12	0	9.75	12	7.34	13	8.26	18	-	-
CalPERS Target 2055 Fund	7	0.0	(0.55)	10	0.64	1	9.76	12	0	9.76	12	7.37	16	-	-	-	-
SSgA STIF	103	0.6	0.17	0	0.49	4	1.48	12	0	1.48	12	0.85	17	0.53	10	-	-
CalPERS SIP US Short Term Bond Core	34	0.2	0.00	(1)	0.27	(1)	0.08	(13)	(0)	0.08	(13)	0.58	(13)	-	-	-	-
CalPERS SIP US Bond Core	56	0.3	(0.12)	(0)	(0.16)	(0)	(0.40)	(0)	(0)	(0.40)	(0)	1.73	1	-	-	-	-
CalPERS SIP Real Asset Core	6	0.0	(0.15)	(0)	3.34	(12)	8.51	(27)	(0)	8.51	(27)	3.16	(14)	-	-	-	-
CalPERS SIP Russell All Cap Core	545	3.3	0.73	7	3.93	4	14.81	3	0	14.81	3	11.64	5	-	-	-	-
CalPERS SIP Global All Cap EX-US Core	71	0.4	(1.96)	4	(2.72)	(10)	7.99	24	0	7.99	24	5.69	23	-	-	-	-
Total Affiliate Investment Programs	16,478	100.0															

¹ Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

Section II
Public Equity

Period Ending June 30, 2018

Section II: Public Equity

Public Equity Summary

Public Equity Summary	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ²	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Internal Domestic Equity	69,622	40.5	0.53	(2)	3.80	(6)	15.13	(0)	(0)	15.13	(0)	11.60	12	13.24	7	10.36	28
Internal Int'l Developed Equity	59,555	34.7	(1.46)	1	(0.72)	13	8.55	9	45	8.55	9	6.33	24	7.57	33	3.65	15
Internal Emerging Market Equity	8,801	5.1	(3.95)	6	(8.10)	(14)	7.50	11	12	7.50	11	4.96	44	4.93	(12)	2.95	16
External Domestic Traditional Equity	6,658	3.9	(0.22)	(74)	2.02	(110)	11.92	(110)	(70)	11.92	(110)	9.28	(177)	12.18	(50)	9.19	(63)
External Int'l Developed Traditional Equity	21,313	12.4	(1.48)	(36)	(1.17)	(70)	9.51	(43)	(90)	9.51	(43)	7.04	(9)	8.35	74	4.28	65
External Emerging Market Equity	2,296	1.3	(3.72)	2	(12.79)	(459)	(0.60)	(792)	(203)	(0.60)	(792)	1.69	(277)	2.52	(240)	1.66	(72)
Emerging Manager Program	3,573	2.1	(1.21)	(44)	0.94	(129)	11.28	(173)	(60)	11.28	(173)	6.74	(153)	-	-	-	-
Other ³	8	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Global Equity¹	171,826	#N/A	(0.74)	(15)	0.58	(43)	11.47	(42)	(710)	11.47	(42)	8.82	3	10.19	4	6.67	(31)

¹Absolute Return Strategies performance history is included in Global Equity prior to July 1, 2011. Ending market value and returns includes Public Equity Transition, Venture, and Internal Holding accounts.

²Value Added is the Excess BPS converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

³Includes Global Equity Transition, Venture & Corporate Governance portfolios.

Section II: Public Equity

Internal Equity

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Internal Domestic Equity																	
PERS Internal Holding Fund	0	0.0															
Domestic Fundamental	1,935	2.8	0.67	5	4.25	17	13.74	(163)	(81)	13.74	(163)	10.64	(88)	11.73	(151)	10.50	37
Int Dom FTSE 3000 PERF	47,813	68.7	0.61	(1)	4.03	(7)	15.36	(3)	(16)	15.36	(3)	11.59	6	13.30	5	10.26	14
Int VolAdj US TMI 3000	4,014	5.8	0.57	(5)	3.57	(51)	14.82	(55)	(21)	14.82	(55)	11.52	0	13.08	(16)	-	-
Synthetic Enhanced Equity	9,333	13.4	0.15	0	2.41	0	14.64	94	80	14.64	94	12.54	116	14.08	118	-	-
Int Quality US TMI 3000	1,452	2.1	0.10	(52)	3.59	(49)	16.23	85	12	16.23	85	-	-	-	-	-	-
Int Momentum US TMI 3000	3	0.0	(3.27)	(389)	10.43	635	26.04	1,066	141	26.04	1,066	14.32	280	-	-	-	-
Int US Enhanced	5,071	7.3	0.51	(10)	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Internal Domestic Equity	69,622	100.0	0.53	(2)	3.80	(6)	15.13	(0)	(0)	15.13	(0)	11.60	12	13.24	7	10.36	28

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Internal Int'l Developed Equity																	
CalPERS Dev ex US DBI	1,790	3.0	(1.33)	10	(0.45)	54	8.33	37	7	8.33	37	5.53	(29)	7.42	47	-	-
Fundamental Developed Int'l	1,238	2.1	(1.73)	(30)	(2.19)	(119)	6.51	(144)	(51)	6.51	(144)	6.17	35	8.20	125	3.88	67
Int GLBL Env Strategy HSBCCI	1	0.0	(0.32)	28	(4.45)	(546)	29.47	1,758	87	29.47	1,758	15.78	699	13.76	362	-	-
Int Developed Small Cap Index PERF	4,425	7.4	(2.02)	2	(0.58)	5	11.28	38	18	11.28	38	8.06	44	9.44	39	-	-
Int Int'l EQ PERF	27,839	46.7	(1.43)	(0)	(0.98)	2	8.06	11	31	8.06	11	5.93	12	7.06	11	3.28	7
Int Developed Int'l Volatility ADJ	2,673	4.5	(0.98)	52	0.11	107	8.82	54	14	8.82	54	6.33	32	-	-	-	-
Int Momentum Dev ex US All Cap	2	0.0	(1.63)	(13)	2.85	381	16.29	802	74	16.29	802	8.86	285	-	-	-	-
Int Quality Developed ex US	942	1.6	(1.48)	2	0.09	105	8.26	(2)	(0)	8.26	(2)	-	-	-	-	-	-
Int Global Maximum Diversification	1,149	1.9	0.13	73	0.07	(94)	-	-	-	-	-	-	-	-	-	-	-
GE Completion Fund (Physical)	903	1.5	(5.19)	(519)	(3.79)	(379)	-	-	-	-	-	-	-	-	-	-	-
Int Global All Cap AXA ESG	986	1.7	0.01	60	-	-	-	-	-	-	-	-	-	-	-	-	-
QSI Global ESG	984	1.7	(0.82)	(22)	(1.69)	(269)	-	-	-	-	-	-	-	-	-	-	-
Int Global All Cap Value	9,728	16.3	(1.35)	(75)	(0.49)	(150)	-	-	-	-	-	-	-	-	-	-	-
Int Min Vol Index Oriented	6,896	11.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Internal Int'l Developed Equity	59,555	100.0	(1.46)	1	(0.72)	13	8.55	9	45	8.55	9	6.33	24	7.57	33	3.65	15

¹ Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

Section II: Public Equity
Internal Equity (Continued)

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-YR	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Internal Emerging Market Equity																	
CalPERS Emerging Markets DBI	435	4.9	(3.35)	45	(7.99)	26	1.30	(593)	(27)	1.30	(593)	1.96	(246)	1.80	(325)	-	-
EM Small Cap PERF	653	7.4	(5.46)	4	(5.67)	8	9.45	86	8	9.45	86	6.65	105	6.04	91	-	-
Fundamental Emerging Markets	269	3.1	(4.89)	(109)	(11.70)	(346)	6.52	(72)	(6)	6.52	(72)	6.29	188	5.53	49	3.23	48
Int Emerging Market PERF	3,846	43.7	(3.79)	2	(8.20)	4	7.39	15	10	7.39	15	4.64	23	5.26	22	-	-
Int Emerging Market Volatility Adj	686	7.8	(2.45)	155	(6.43)	152	8.02	63	4	8.02	63	4.71	14	-	-	-	-
Emerging Markets Quality Fund	236	2.7	(3.92)	8	(9.84)	(190)	8.36	97	2	8.36	97	-	-	-	-	-	-
Int EM Lazard	906	10.3	(4.24)	(24)	(6.64)	130	-	-	-	-	-	-	-	-	-	-	-
Int EM QMA	881	10.0	(4.59)	(60)	(9.01)	(106)	-	-	-	-	-	-	-	-	-	-	-
Int EM AB Global	888	10.1	(3.84)	16	(9.41)	(147)	-	-	-	-	-	-	-	-	-	-	-
Total Internal Emerging Market Equity	8,801	100.0	(3.95)	6	(8.10)	(14)	7.50	11	12	7.50	11	4.96	44	4.93	(12)	2.95	16

¹ Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

Section II: Public Equity

External Equity and Emerging Manager Program

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
External Domestic Traditional Equity																	
Boston Company	1,196	18.0	(0.53)	(96)	2.07	(2)	11.92	298	34	11.92	298	9.74	10	12.13	111	9.43	54
First Quadrant Long/Short	2,206	33.1	(0.40)	(95)	1.60	(205)	10.98	(423)	(90)	10.98	(423)	9.57	(206)	12.53	(86)	9.55	(58)
JP Morgan Long/Short	2,268	34.1	0.13	(46)	3.91	27	14.59	(41)	(9)	14.59	(41)	11.01	(94)	14.00	54	11.63	154
Pzena Investment Management	988	14.8	(0.20)	(64)	(1.23)	(332)	8.24	(70)	(7)	8.24	(70)	9.58	(6)	11.55	53	10.68	179
Total External Domestic Traditional Equity	6,658	100.0	(0.22)	(74)	2.02	(110)	11.92	(110)	(70)	11.92	(110)	9.28	(177)	12.18	(50)	9.19	(63)

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
External Int'l Developed Traditional Equity																	
Arrowstreet Capital	4,422	20.7	(3.07)	(115)	(3.81)	(124)	8.82	109	49	8.82	109	6.61	104	8.39	179	6.73	360
Baillie Gifford	3,078	14.4	(1.29)	63	(1.43)	114	10.13	240	73	10.13	240	8.70	313	9.48	288	5.48	235
Pyramis Global	1,190	5.6	(1.90)	(50)	(1.38)	(34)	5.29	(227)	(27)	5.29	(227)	3.30	(243)	5.95	(96)	2.74	(50)
Hermes	829	3.9	(1.44)	(83)	(0.77)	42	5.31	(89)	(7)	5.31	(89)	5.27	23	-	-	-	-
Allianz - Global	2,546	11.9	(2.08)	(148)	(1.88)	(289)	10.43	(146)	(37)	10.43	(146)	-	-	-	-	-	-
Epoch Global	2,510	11.8	0.45	104	1.07	6	4.72	(717)	(180)	4.72	(717)	-	-	-	-	-	-
Wellington	2,784	13.1	(0.60)	(1)	0.79	(21)	10.64	(125)	(34)	10.64	(125)	-	-	-	-	-	-
Arrowstreet Global	3,955	18.6	(1.10)	(51)	(0.23)	(124)	14.78	289	108	14.78	289	-	-	-	-	-	-
Total External Int'l Developed Traditional Equity	21,313	#REF!	(1.48)	(36)	(1.17)	(70)	9.51	(43)	(90)	9.51	(43)	7.04	(9)	8.35	74	4.28	65

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
External Emerging Market Equity																	
Genesis Asset Managers	1	0.1	(1.92)	183	(3.35)	486	(20.83)	(2,814)	(8)	(20.83)	(2,814)	(4.95)	(941)	(2.24)	(716)	1.84	(54)
Lazard Emerging Markets	1,820	79.3	(3.94)	(20)	(14.10)	(590)	0.92	(640)	(129)	0.92	(640)	3.39	(107)	2.47	(245)	2.82	44
Cartica Capital Partners, LP	475	20.7	(2.88)	98	(7.42)	71	(5.75)	(1,340)	(70)	(5.75)	(1,340)	5.11	52	2.64	(243)	-	-
Total External Emerging Market Equity	2,296	100.0	(3.72)	2	(12.79)	(459)	(0.60)	(792)	(203)	(0.60)	(792)	1.69	(277)	2.52	(240)	1.66	(72)

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Emerging Manager Program																	
Progress Investment II	617	17.3	(1.75)	(39)	0.11	(111)	9.31	(78)	(5)	9.31	(78)	7.04	(78)	-	-	-	-
Legato Emerging Manager	877	24.6	(2.54)	(5)	(4.01)	(167)	4.79	(498)	(45)	4.79	(498)	7.08	78	-	-	-	-
Strategic Investments II	708	19.8	0.38	(53)	6.70	10	17.92	1	0	17.92	1	-	-	-	-	-	-
LEIA GEM Investments	703	19.7	(0.71)	(114)	3.78	(213)	16.44	100	7	16.44	100	-	-	-	-	-	-
FIS CalBear Fund	667	18.7	(1.15)	80	(0.10)	146	10.56	59	4	10.56	59	-	-	-	-	-	-
Total Emerging Manager Program	3,573	100.0	(1.21)	(44)	#N/A	(129)	11.28	(173)	(60)	11.28	(173)	6.74	(153)	-	-	-	-

¹ Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

Section III
Private Equity

Period Ending June 30, 2018

Section III: Private Equity

Private Equity Summary and Performance by Strategy

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return ⁴	Excess bps ⁴	Net Return ⁴	Excess bps ⁴	Net Return	Excess bps	\$ Value Added (MM) ²	Net Return ⁴	Excess bps ⁴	Net Return ⁴	Excess bps ⁴	Net Return ⁴	Excess bps ⁴	Net Return ⁴	Excess bps ⁴
Total Private Equity Summary¹																	
PE Partnership Investments	27,138	100.0	N/M	N/M	3.16	313	16.10	(249)	(661)	16.10	(249)	10.46	(181)	12.00	(216)	9.06	(439)
Private Equity Distribution Stock ³	13	0.0	N/M	N/M	3.38	336	45.63	2,704	12	45.63	2,704	(9.40)	(2,166)	(12.14)	(2,630)	(5.26)	(1,871)
Total Private Equity	27,151	100.0	N/M	N/M	3.14	311	16.08	(251)	(668)	16.08	(251)	10.38	(189)	11.94	(222)	9.01	(445)

	June 30, 2018		3-Months	FYTD	1-Yr	3-Yr	5-Yr	10-Yr
	Ending Market Value (MM)	% of Total Assets	Net Return	Net Return	Net Return	Net Return	Net Return	Net Return
Private Equity Strategy¹								
Buyout	17,390	64.1	3.49	19.76	19.76	12.83	13.48	9.77
Growth Expansion	4,511	16.6	3.47	16.90	16.90	12.44	13.85	6.03
Credit Related	2,608	9.6	1.96	5.89	5.89	2.01	5.32	9.35
Venture Capital	783	2.9	(1.25)	4.98	4.98	(3.04)	4.28	3.34
Opportunistic	1,872	6.9	3.08	7.21	7.21	11.09	12.83	7.35
Other ⁵	(13)	(0.0)	-	-	-	-	-	-
Total Private Equity Strategy	27,151	100.0	3.14	16.08	16.08	10.38	11.94	9.01

¹ Private Equity time weighted rate of returns are computed by State Street Bank and are based on General Partners' most recent received financial statements and any cash adjustments received prior to two business days before the end of the quarter.

² Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

³ Private Equity Stock Distribution Portfolio is highly concentrated and significant tracking errors are expected due to its use of the Global Equity based Private Equity Policy Benchmark.

⁴ The notation "N/M" indicates that the return is not meaningful as Private Asset performance is measured on a quarterly cycle.

⁵ Other includes Cash, Unclassified & Distributed Stock

Section III: Private Equity

Private Equity Top 20 General Partner by Exposure

	June 30, 2018	
	Ending Market Value (MM)	% of Total Private Equity
Top 20 Private Equity Partners Exposure¹		
Blackstone Group	2,778	10.2%
Apollo Management	2,045	7.5%
CVC Capital Partners	1,540	5.7%
Carlyle Group	1,362	5.0%
Cerberus	1,136	4.2%
Advent International	1,121	4.1%
Hellman and Friedman Capital Partners	1,003	3.7%
Silver Lake	864	3.2%
Bridgepoint Capital	861	3.2%
TPG Capital	840	3.1%
KKR and Co.	808	3.0%
Insight Capital	695	2.6%
Permira	661	2.4%
57 STARS	639	2.4%
Yucaipa	622	2.3%
Asia Alternative Assets	608	2.2%
GCM Grosvenor	591	2.2%
Ares Management LLC	543	2.0%
Riverstone LLC	516	1.9%
Stonepoint Capital	400	1.5%
Top 20 Private Equity Partners Exposure	19,632	72.3%
Exposure From All Other Partners	7,519	27.7%
Total Private Equity Partners Exposure	27,151	100%

¹ Private Equity Partners exposure data is based on General Partners' most recent received financial statements and any cash adjustments received prior to two business days before the end of the quarter.

Section III: Private Equity

Private Equity Performance by General Partner

Private Equity General Partners ¹	June 30, 2018		3-Mo	FYTD	1-Yr	3-Yr	5-Yr	10-Yr
	Ending Market Value (MM)	% of Total Assets	Net Return	Net Return	Net Return	Net Return	Net Return	Net Return
57 Stars	639	2.4	7.02	19.58	19.58	8.30	8.24	7.71
Aberdare	38	0.1	(22.00)	(12.27)	(12.27)	(3.69)	7.49	1.06
Advent International	1,121	4.1	1.14	13.07	13.07	14.47	14.31	13.66
Affinity Equity Partners	42	0.2	(0.93)	3.13	3.13	(11.87)	(2.44)	0.56
Aisling Capital	76	0.3	19.42	48.92	48.92	14.95	24.75	9.64
Alta Communications	0	0.0	(19.53)	(30.46)	(30.46)	(58.62)	(41.46)	(24.85)
Apollo Management	2,045	7.5	(2.48)	7.67	7.67	7.41	10.62	12.22
ArcLight	19	0.1	(1.63)	(3.60)	(3.60)	30.48	27.28	17.48
Ares Management LLC	543	2.0	10.07	42.40	42.40	22.77	20.23	17.84
Asia Alternative Assets	608	2.2	10.59	12.32	12.32	6.21	27.16	16.92
Avenue Capital Partners	12	0.0	2.17	17.10	17.10	(7.11)	(2.30)	1.69
Baring	50	0.2	1.65	16.40	16.40	20.30	2.48	(3.71)
Birch Hill Equity Partners	137	0.5	(0.83)	23.03	23.03	17.73	18.79	11.63
Blackstone Group	2,778	10.2	6.42	18.95	18.95	10.96	13.91	10.23
Bridgepoint Capital	861	3.2	1.63	31.66	31.66	20.45	14.70	6.30
California Emerging Ventures	368	1.4	0.34	3.97	3.97	2.84	8.98	5.81
Capital Dynamics	157	0.6	(9.05)	(13.76)	(13.76)	(11.13)	(8.68)	(9.18)
Carlyle Group	1,362	5.0	(0.20)	15.70	15.70	10.63	12.93	8.07
Castlelake Partners	15	0.1	(9.68)	(29.27)	(29.27)	(14.53)	(5.65)	(0.38)
CDH Fund	200	0.7	0.69	33.44	33.44	19.85		
Cerberus	1,136	4.2	(1.27)	(2.56)	(2.56)	9.56	14.44	

¹ Private Equity time weighted rate of returns are computed by State Street Bank and are based on General Partners' most recent received financial statements and any cash adjustments received prior to two business days before the end of the quarter.

Section III: Private Equity

Private Equity Performance by General Partner

Private Equity General Partners ¹	June 30, 2018		3-Mo	FYTD	1-Yr	3-Yr	5-Yr	10-Yr
	Ending Market Value (MM)	% of Total Assets	Net Return	Net Return	Net Return	Net Return	Net Return	Net Return
Centerbridge Partners	80	0.3	(0.03)	7.95	7.95	10.37		
Centinela Investment Partners	2	0.0	12.95	12.95	12.95			
Clarus Ventures	51	0.2	(13.96)	(17.52)	(17.52)	1.46	14.92	9.21
Clearlake Capital	163	0.6	22.50	42.83	42.83	41.35	34.16	
Clearwater Capital	48	0.2	(5.06)	(21.20)	(21.20)	(11.28)	(5.79)	(2.30)
Coller Capital	43	0.2	(1.67)	(13.50)	(13.50)	(6.21)	3.28	3.36
Craton Equity Partners	1	0.0	(88.65)	(90.00)	(90.00)	(61.30)	(51.50)	(34.50)
CVC Capital Partners	1,540	5.7	2.05	44.52	44.52	25.56	21.09	11.99
EM Alternatives	56	0.2	0.00	15.07	15.07	7.20	7.95	3.61
Essex Woodlands Health Ventures	71	0.3	(7.63)	(9.44)	(9.44)	(8.27)	(0.77)	
First Reserve	298	1.1	8.68	(0.59)	(0.59)	(20.13)	(19.19)	(8.50)
Foundation Radiology	15	0.1						
Francisco Partners	109	0.4	9.99	28.02	28.02	18.54	17.86	13.42
GCM Grosvenor	591	2.2	3.45	11.52	11.52	5.37	11.18	8.03
Gael Partners, LLC	9	0.0	6.06	9.78	9.78	12.92	3.39	10.78
Generation Partners	0	0.0	28.68	26.14	26.14	5.59	2.70	(7.06)
Green Equity Investors	245	0.9	2.64	22.38	22.38	18.14	18.98	25.01
GSO Capital Partners	158	0.6	3.94	7.14	7.14			
Hamilton Lane	146	0.5	0.81	4.32	4.32	7.86	12.83	8.37
HarbourVest Partners, LLC	14	0.1	0.35	0.54	0.54	(7.23)	(0.49)	(0.47)
Hellman and Friedman Capital Partners	1,003	3.7	4.32	41.96	41.96	33.11	34.02	21.68
Inner City Venture	6	0.0	(13.18)	(9.26)	(9.26)	30.21	25.12	22.27
Insight Capital	695	2.6	17.72	52.78	52.78	24.48	26.03	23.15
Jasper Ridge Partners	173	0.6	(0.00)	20.71	20.71	11.68	17.36	8.17

¹ Private Equity time weighted rate of returns are computed by State Street Bank and are based on General Partners' most recent received financial statements and any cash adjustments received prior to two business days before the end of the quarter.

Section III: Private Equity

Private Equity Performance by General Partner

Private Equity General Partners ¹	June 30, 2018		3-Mo	FYTD	1-Yr	3-Yr	5-Yr	10-Yr
	Ending Market Value (MM)	% of Total Assets	Net Return	Net Return	Net Return	Net Return	Net Return	Net Return
Khosla Ventures	102	0.4	11.35	71.82	71.82	(3.63)	1.56	
KKR and Co.	808	3.0	3.22	15.09	15.09	12.47	12.01	7.37
Kline Hawkes California	11	0.0	(0.39)	(7.18)	(7.18)	(2.90)	(0.01)	(8.60)
KMCP	129	0.5	1.20	3.68	3.68	5.13	10.67	10.25
KPS	36	0.1	15.46	19.55	19.55	16.88	22.43	26.13
Lime Rock	126	0.5	(1.64)	8.77	8.77	17.91	10.03	3.56
Lindsay Goldberg	139	0.5	21.83	99.61	99.61			
Lion Capital	29	0.1	3.04	9.08	9.08	7.72	(2.57)	(3.08)
Madison Dearborn Partners	11	0.0	2.05	(0.46)	(0.46)	3.22	8.26	6.59
Magnum Capital	0	0.0						
MHR	177	0.7	1.60	6.48	6.48	(1.81)	0.24	4.34
New Mountain Capital LLC	274	1.0	2.37	24.36	24.36	29.43	21.69	14.78
Nogales	0	0.0	(99.61)	(99.64)	(99.64)	(85.99)	(68.09)	(50.48)
Oak Hill Capital Partners	152	0.6	(2.04)	4.95	4.95	10.71	14.71	9.00
Oaktree Capital Management	106	0.4	4.49	21.81	21.81	5.91	6.26	
Onex	388	1.4	3.81	15.50	15.50	10.39		
PAG	176	0.6	10.85	32.44	32.44	23.40	19.82	
Palladium	35	0.1	(9.14)	(4.93)	(4.93)	(3.67)	7.90	14.13
Patria Brazilian	34	0.1	3.84	13.54	13.54			
Permira	661	2.4	9.91	37.31	37.31	18.32	14.41	4.41
Polish Enterprise	18	0.1	(0.53)	76.41	76.41	71.02	47.93	17.16
Providence Equity Partners	126	0.5	(4.69)	(2.72)	(2.72)	5.21	6.92	4.31
Richardson Financial Group	5	0.0	(4.87)	2.09	2.09	(0.43)	(1.07)	(0.06)
Riverstone Global Energy	353	1.3	1.09	4.04	4.04			

¹ Private Equity time weighted rate of returns are computed by State Street Bank and are based on General Partners' most recent received financial statements and any cash adjustments received prior to two business days before the end of the quarter.

Section III: Private Equity

Private Equity Performance by General Partner

	June 30, 2018		3-Mo	FYTD	1-Yr	3-Yr	5-Yr	10-Yr
	Ending Market Value (MM)	% of Total Assets	Net Return	Net Return	Net Return	Net Return	Net Return	Net Return
Private Equity General Partners¹								
Riverstone LLC	516	1.9	1.09	(4.92)	(4.92)	(5.26)	(2.70)	3.07
Riverwood Capital LLC	51	0.2	4.88	11.78	11.78	9.05	16.29	
SAIF Partners	334	1.2	0.99	13.72	13.72	15.84	12.74	10.72
Sageview Capital LLC	83	0.3	6.50	85.02	85.02	29.72	19.07	
Sankaty Advisors	362	1.3	2.08	9.95	9.95	6.28		
Silver Lake	864	3.2	8.35	23.92	23.92	19.98	22.72	13.48
Siris Capital	57	0.2	14.33	18.35	18.35	(24.59)		
Stonepoint Capital	400	1.5	9.47	25.16	25.16	16.43		
Tailwind	249	0.9	8.54	15.98	15.98	16.43	16.40	15.92
The Jordon Company	91	0.3	10.11	13.00	13.00	7.80	9.42	6.17
THL Equity Advisors	85	0.3	(3.99)	(3.06)	(3.06)	2.27	11.10	6.41
TowerBrook Capital Partners	379	1.4	3.43	7.21	7.21	10.60	11.20	11.47
TPG Capital	840	3.1	1.24	6.40	6.40	6.15	10.24	7.46
Triton Partners	62	0.2	0.05	43.07	43.07	12.57	5.88	
Valor Equity Partners	25	0.1	10.18					
VantagePoint Venture Partners	32	0.1	(31.32)	(33.70)	(33.70)	(16.59)	(17.92)	(11.33)
Vicente Capital Partners	35	0.1	(0.37)	4.69	4.69	0.17	4.80	
W Capital Partners	11	0.0	(5.79)	10.92	10.92	0.73	(0.37)	4.83
Wellspring Capital Management	79	0.3	(2.18)	1.24	1.24	29.83	19.27	
Welsh and Carson and Anderson and Stowe	298	1.1	6.07	23.42	23.42	15.96	17.23	10.26
WLR Recovery	44	0.2	(27.64)	(29.28)	(29.28)	(13.53)	(5.15)	(2.47)
Yucaipa	622	2.3	1.17	2.95	2.95	(6.25)	(2.49)	(0.95)
Other ²	(13)	(0.0)	N/M	N/M	N/M	N/M	N/M	N/M
Private Equity Partnership Investments²	27,151	100.0	3.14	16.08	16.08	10.38	11.94	9.01

¹ Private Equity time weighted rate of returns are computed by State Street Bank and are based on General Partners' most recent received financial statements and any cash adjustments received prior to two business days before the end of the quarter.

² Other includes Cash, Unclassified & Distributed Stock



Section IV
Income



Period Ending June 30, 2018



Section IV: Income

Global Income Summary

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Total Income Summary																	
Total Domestic Income	72,435	91.6	(0.10)	3	(0.26)	6	0.27	51	311	0.27	51	3.31	60	4.22	80	6.14	88
Total International Income	6,637	8.4	(0.80)	(9)	(6.01)	(44)	1.49	(22)	(13)	1.49	(22)	2.73	34	0.63	59	2.30	98
Total Income	79,072	100.0	(0.17)	1	(0.80)	5	0.35	38	256	0.35	38	3.21	52	3.83	73	5.74	85

¹ Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

Section IV: Income

Domestic Income

Domestic Income	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
BB High Yield Fund of Fund	3,495	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Passive Fallen Angels	71	0.1	0.97	53	1.72	67	5.39	246	2	5.39	246	6.29	97	8.17	295	-	-
Duration Management	3,208	4.4	0.29	6	0.60	29	0.74	74	88	0.74	74	3.40	97	3.44	24	4.81	(19)
Equitable CCMF	1	0.0	0.68	64	2.04	182	8.45	832	0	8.45	832	8.28	681	8.26	601	8.15	457
Governments	25,874	35.7	0.22	(1)	0.28	(3)	0.04	4	7	0.04	4	2.50	7	3.26	6	-	-
High Yield Bond Accounting Managers	1,853	2.6	0.20	(24)	1.20	15	4.16	122	14	4.16	122	6.10	78	6.26	104	8.59	88
High Yield Mortgage	336	0.5	0.79	35	1.52	47	8.78	585	21	8.78	585	7.21	190	7.71	249	8.41	71
High Yield	61	0.1	1.08	65	13.16	1,210	27.70	2,477	13	27.70	2,477	17.73	1,241	13.88	865	13.83	613
Highland CLN - Longhorn A	15	0.0	1.86	176	1.34	56	(0.58)	(525)	(1)	(0.58)	(525)	(1.35)	(568)	0.48	(376)	3.37	(163)
Highland CLN - Longhorn B	62	0.1	0.50	6	(6.35)	(740)	6.60	367	3	6.60	367	5.63	31	7.34	212	6.74	(96)
Internal Inv-Grade Corp	13,087	18.1	(0.87)	12	(1.89)	14	(1.07)	42	51	(1.07)	42	4.64	35	5.42	63	7.56	50
Long Duration Corporates	2,707	3.7	(1.37)	(125)	(2.02)	(170)	(2.08)	(184)	(56)	(2.08)	(184)	3.94	123	3.31	(11)	8.28	233
Long Duration MTG	3,994	5.5	(0.23)	(11)	(0.02)	30	0.59	84	17	0.59	84	2.90	19	3.59	17	6.13	100
MHLP-BRS	41	0.1	0.54	50	1.51	128	8.14	801	4	8.14	801	7.33	586	8.24	599	7.30	372
Non-Traditional High Yield	100	0.1	0.28	(16)	(5.18)	(624)	5.55	262	3	5.55	262	12.41	709	19.21	1,399	-	-
Opportunistic	253	0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Agency Mortgage	8,900	12.3	0.05	0	0.23	(1)	0.25	11	7	0.25	11	1.62	16	2.48	23	-	-
Internal MTG Structure	5,997	8.3	0.10	7	0.36	13	1.20	107	51	1.20	107	2.60	113	5.50	326	5.62	204
PERS Internal Bonds Sovereign	2,376	3.3	0.12	2	(2.12)	(25)	(0.69)	26	5	(0.69)	26	2.91	32	4.43	28	5.43	(30)
Tactical High Yield Corporates	2	0.0	(0.11)	(55)	0.46	(59)	3.95	102	0	3.95	102	5.39	7	-	-	-	-
Total Domestic Income	72,435	100.0	(0.10)	3	(0.26)	6	0.27	51	311	0.27	51	3.31	60	4.22	80	6.14	88

¹ Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

Section IV: Income

FI Total International and External High Yield

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ²	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
International Income																	
Alliance Bernstein Institutional Investment	503	7.6	(0.61)	9	(5.86)	(28)	0.90	(80)	(5)	0.90	(80)	2.43	4	0.26	23	1.76	44
Baring Asset Management	301	4.5	(0.54)	(4)	(4.33)	15	3.60	83	3	3.60	83	1.89	8	0.08	39	1.59	44
Int'l Int'l Fixed Income	2,753	41.5	(0.74)	(3)	(5.74)	(16)	2.18	48	10	2.18	48	2.76	37	0.78	74	-	-
PIMCO	1,103	16.6	(0.71)	(0)	(5.69)	(12)	2.08	38	4	2.08	38	3.02	62	0.98	94	3.15	183
Int'l Emerging Markets Fixed Income	194	2.9	(1.32)	27	(10.36)	(36)	(2.33)	30	1	(2.33)	30	1.35	51	-	-	-	-
Int'l Developed Markets Fixed Income	1,313	19.8	(0.58)	(8)	(4.66)	(18)	2.48	(30)	(4)	2.48	(30)	3.19	16	-	-	-	-
Bluebay Asset Management	1	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Investec Asset Management EM	172	2.6	(1.56)	3	(10.26)	(26)	(2.51)	12	0	(2.51)	12	-	-	-	-	-	-
Neuberger Berman EM	191	2.9	(1.97)	(39)	(10.98)	(97)	(3.18)	(55)	-	(3.18)	(55)	-	-	-	-	-	-
IFI Completion Fund	106	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total International Income	6,637	100.0	(0.80)	(9)	(6.01)	(44)	1.49	(22)	(13)	1.49	(22)	2.73	34	0.63	59	2.30	98

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)		Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ²	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
External High Yield Income																	
Columbia High Yield ¹	1		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
High Yield Nomura ¹	1,119		0.25	(18)	1.48	43	4.79	186	13	4.79	186	6.76	144	6.74	152	9.93	222
Voya High Yield ¹	310		-0.11	(21)	0.41	(37)	3.90	(77)	(2)	3.90	(77)	3.95	(38)	4.04	(20)	-	-

¹ Unitized portfolios owned by multiple retirement plans. Portfolios roll up to the PERF High Yield Bond Managers portfolio.

² Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

Section V
Real Assets

Period Ending June 30, 2018

Section V: Real Assets

Real Assets Summary

Real Assets ¹	June 30, 2018		1- Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return ³	Excess bps ³	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ²	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Real Estate	31,790	83.4	N/M	N/M	1.31	(66)	6.84	(27)	(83)	6.84	(27)	7.17	(184)	9.75	(66)	(0.95)	(808)
Infrastructure	4,333	11.4	N/M	N/M	4.07	185	20.59	1,414	553	20.59	1,414	13.04	711	14.97	952	14.43	853
Forestland	1,976	5.2	N/M	N/M	0.21	(71)	1.92	(187)	(37)	1.92	(187)	(2.37)	(581)	(0.99)	(709)	(1.07)	(513)
Total Real Assets	38,099	100.0	N/M	N/M	1.56	(35)	7.99	118	431	7.99	118	7.13	(117)	9.41	(23)	(0.52)	(686)

¹ Partnership Market Values and Returns are based on the General Partners' March 31, 2018 financial statements and any cash adjustments received prior to two business days before the end of the quarter.

² Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

³ The notation "N/M" indicates that the return is not meaningful as Private Asset performance is measured on a quarterly cycle.

Section V: Real Assets

Real Estate Top 20 Partners by Exposure

Top 20 Real Estate Partners Exposure ¹	As of June 30, 2018	
	Ending Market Value (MM)	% of Total Private Real Estate
Miller Capital Advisory	6,346	20.0
GI Partners	5,570	17.5
CommonWealth Partners	4,916	15.5
GID Investment Advisors, LLC	4,325	13.6
First Washington	2,203	6.9
Hines	1,151	3.6
ARA Management	1,094	3.4
Pacific Urban Residential	1,015	3.2
CIM	1,007	3.2
Institutional Housing Partners	898	2.8
Blackstone Real Estate	664	2.1
Invesco	612	1.9
Bentall Kennedy	585	1.8
Resmark Equity Partners	321	1.0
Canyon Capital Realty Advisors	290	0.9
JP Morgan Asset Management	272	0.9
Klein Financial Corporation	187	0.6
Stockbridge Capital	104	0.3
AGI Resmark Partners, LLC	104	0.3
Prudential	2	0.0
Top 20 Real Estate Partners Exposure	31,666	99.6
Exposure From All Other Partners	124	0.4
Total Real Estate Partners Exposure	31,790	100.0

¹ Partnership Market Values and Returns are based on the General Partners' March 31, 2018 financial statements.

Section V: Real Assets

Real Estate Partnerships Performance

Real Estate Partnerships ¹	As of June 30, 2018		QTR	FYTD	1-Yr	3-Yr	5-Yr
	Ending Market Value (MM)	% of Total Assets	Net Return	Net Return	Net Return	Net Return	Net Return
AGI Resmark Housing Fund, LLC	-	0.0%	1.44	13.34	13.30	22.80	N/AP
ARA Asia Dragon Fund II	1,035	3.3%	1.58	7.51	7.50	17.40	8.40
ARA China Long Term Hold	272	0.9%	5.94	19.76	19.80	13.60	9.60
Asia Pacific Property Fund SCSP	-	0.0%	(0.34)	7.50	7.50	N/AP	N/AP
BlackRock Europe Parallel Property Fund II L.P.	(15)	0.0%	0.40	(0.52)	(0.50)	N/M	N/M
Blackstone Property Partners Europe, L.P.	667	2.1%	0.07	0.02	N/AP	N/AP	N/AP
CalEast Canada Limited Partnership	16	0.0%	(1.74)	(16.00)	(16.00)	(7.10)	(5.20)
CalEast Industrial Investors, LLC	2,908	9.1%	2.39	3.37	3.40	5.60	3.00
CalEast Solstice - Base	288	0.9%	3.91	12.09	12.10	N/AP	N/AP
CalEast Solstice - DT Land	1,052	3.3%	(3.01)	(17.06)	(17.10)	N/AP	N/AP
CalEast Solstice - DT Other	(3)	0.0%	(1.26)	10.84	10.80	N/AP	N/AP
CalEast Solstice, LLC	0	0.0%	N/M	N/M	N/M	N/M	N/M
CalSmart LLC (Canyon)	10	0.0%	N/M	N/M	N/M	N/M	N/M
CalWest - CalPERS	302	1.0%	(0.62)	4.97	5.00	(5.40)	(4.40)
Canyon Catalyst Fund II, LLC	(13)	0.0%	2.93	6.37	N/AP	N/AP	N/AP
Canyon Catalyst Fund, LLC	0	0.0%	N/M	N/M	N/M	N/M	N/M
Canyon Johnson Urban Fund, III	-	0.0%	(0.97)	40.53	40.50	(19.70)	(6.00)
CIM Fund III, LP	330	1.0%	2.27	7.32	7.30	5.70	7.50
CIM Urban Real Estate Fund, LP	251	0.8%	(2.23)	(5.79)	(5.80)	(7.20)	(2.50)
CIM Urban REIT LLC	4,113	12.9%	1.23	2.63	2.60	3.80	5.00
FSP - Base	802	2.5%	0.98	3.96	4.00	10.20	15.00
FSP - DT 2012 and Beyond	2,203	6.9%	3.47	0.67	0.70	5.40	N/AP
GRI - Base	200	0.6%	2.42	6.88	6.90	10.40	11.50
HC Green Development Fund LP	1	0.0%	(1.56)	(5.02)	(5.00)	(2.20)	14.40
HC NOP Holdings L.P.	94	0.3%	N/M	N/M	N/M	N/M	N/M
HCB Interests II LP	488	1.5%	(6.19)	(9.17)	(9.20)	0.70	6.90
HCB LTH	6	0.0%	2.61	4.23	4.20	1.10	(7.60)
HCC Interests LP	1	0.0%	(0.46)	2.07	2.10	(26.40)	(17.40)
HCM Holdings II LP	354	1.1%	5.31	N/M	N/M	N/M	N/M
HCR LTH LLC	1	0.0%	0.87	(0.62)	(0.60)	(3.70)	N/AP
Hearthstone Housing Partners II, LLC	(0)	0.0%	N/M	N/M	N/M	N/M	N/M
Hearthstone Housing Partners, L.P.	0	0.0%	N/M	N/M	N/M	N/M	N/M
Hearthstone Path-of-Growth Fund, LLC	(0)	0.0%	N/M	N/M	N/M	N/M	N/M
Hearthstone-MSII Homebuilding Investors, LLC	8	0.0%	N/M	N/M	N/M	N/M	N/M
Hines European Development Fund LP	38	0.1%	1.14	(1.04)	(1.00)	(5.50)	N/M
IHP Investment Fund I, L.P.	4	0.0%	11.15	(13.11)	(13.10)	(13.90)	3.40
IHP Investment Fund II, L.P.	338	1.1%	(2.15)	(21.26)	(21.30)	10.80	11.10
IHP Investment Fund III, L.P.	6,346	20.0%	1.25	(2.07)	(2.10)	(2.60)	4.40
IMI - Base	6,346	20.0%	(1.63)	4.60	4.60	9.50	15.80

¹Partnership Market Values and Returns are based on the General Partners' March 31, 2018 financial statements.

² The notation "N/M" indicates that the return is not meaningful as Private Asset performance is measured on a quarterly cycle.

Section V: Real Assets

Real Estate Partnerships Performance

	As of June 30, 2018		QTR	FYTD	1-Yr	3-Yr	5-Yr
	Ending Market Value (MM)	% of Total Assets	Net Return	Net Return	Net Return	Net Return	Net Return
Real Estate Partnerships¹							
IMP - Base	3,978	12.5%	0.56	3.98	4.00	6.40	9.90
IMP - DT 2012 and Beyond	347	1.1%	1.96	17.45	17.50	19.70	N/AP
Institutional Core Multifamily Investors	3,978	12.5%	2.70	8.77	8.80	10.20	8.00
Institutional Logistics Partners, LLC	347	1.1%	3.26	13.71	13.70	12.20	13.00
KAREC California Development Program, LLC	612	1.9%	N/M	N/M	N/M	N/M	N/M
KC 2011, LLC	585	1.8%	30.00	28.09	28.10	19.00	10.00
KSC Affordable Housing Investment Fund, LLC	0	0.0%	0.77	0.57	0.60	1.80	4.70
Land Management Company, LLC	118	0.4%	(0.96)	10.80	10.80	(2.40)	N/AP
LaSalle Japan Logistics Fund II LP	69	-	N/M	N/M	N/M	N/M	N/M
National Office Partners, LLC (CWP)	470	1.5%	N/M	N/M	N/M	N/M	N/M
ORA Multifamily Investments I, LLC	0	0.0%	3.15	17.82	17.80	17.70	20.50
ORA Residential Investments I, L.P.	0	0.0%	(4.72)	7.79	7.80	12.20	19.80
Pacific Multifamily Investors, LLC	143	0.5%	2.50	11.79	11.80	10.90	N/AP
PERS-400 R STREET	178	0.6%	6.37	175.11	175.10	50.40	37.10
PLA Residential Fund I, LLC	1,015	3.2%	N/M	N/M	N/M	N/M	N/M
PLA Retail Fund I, LP	1	0.0%	(1.14)	(4.42)	(4.40)	(19.80)	(7.90)
Sacramento Venture - Base	0	0.0%	0.49	0.49	N/AP	N/AP	N/AP
Sacramento Venture - DT	2	0.0%	(2.17)	(2.17)	N/AP	N/AP	N/AP
Stockbridge Hollywood Park Co-Investors, LP	43	0.1%	(0.12)	2.81	2.80	8.60	18.20
Stockbridge Real Estate Fund II -B, LP	47	0.1%	(0.13)	9.65	9.60	5.10	16.00
TechCore, LLC	78	0.2%	1.13	10.36	10.40	11.90	12.80
TPG Hospitality Investments IV, LLC	27	0.1%	N/M	N/M	N/M	N/M	N/M
Whitney Ranch Venture, LLC	1,304	4.1%	2.84	73.66	73.70	11.10	N/AP
Xander Co-Investment	(4)	0.0%	0.35	(31.17)	(31.20)	(13.80)	(21.40)
Total Real Estate	31,790	100.0%	1.31	6.84	6.84	7.17	9.75

¹ Partnership Market Values and Returns are based on the General Partners' March 31, 2018 financial statements.

Section V: Real Assets

Real Estate Partnerships Performance

	June 30, 2018		QTR	FYTD	1-Yr	3-Yr	5-Yr
	Ending Market Value (MM)	% of Total Infrastructure Assets	Net Return	Net Return	Net Return	Net Return	Net Return
Infrastructure Partnerships¹							
Alinda Infrastructure Fund I, L.P.	4	0.1%	(6.81)	(2.06)	(2.10)	7.40	10.50
Alinda Infrastructure Fund II, L.P.	198	4.6%	(4.07)	(9.69)	(9.70)	(1.00)	4.20
Archmore International Infrastructure Fund II (B), L.P.	43	1.0%	0.95	9.51	9.50	N/M	N/AP
Archmore International Infrastructure Fund II (C), L.P.	92	2.1%	0.95	9.51	9.50	N/M	N/AP
Bear Republic Infrastructure, LLC	0	0.0%	N/M	N/M	N/M	N/AP	N/AP
CalPERS - Unitized Collateral Account	36	0.8%	0.37	1.40	N/AP	N/AP	N/AP
Carlyle Infrastructure Partners, L.P.	6	0.1%	1.81	59.55	59.50	16.40	14.30
CIM Infrastructure Fund, L.P.	421	9.7%	0.21	(0.45)	(0.50)	1.50	9.50
Concession Investment Holdings, LLC	459	10.6%	1.47	16.70	16.70	N/AP	N/AP
Global Infrastructure Partners II, L.P. (GIP II)	277	6.4%	2.91	16.63	16.60	16.90	20.40
Golden Reef Infrastructure Trust	464	10.7%	0.02	0.17	0.17	N/M	N/AP
Harbert Gulf Pacific Power, LLC (HGPP)	1065	24.6%	2.75	12.44	12.40	9.50	N/AP
Harbert Power Fund V, L.P. (HPF V)	84	1.9%	2.46	12.99	13.00	11.30	N/AP
Ivy Investment Vehicle LDC (SWPM)	761	17.6%	0.00	0.61	0.61	0.40	0.42
Neptune Regional Transmission System, LLC	249	5.7%	17.11	22.20	22.20	11.40	9.80
North Haven Infrastructure Partners II LP	139	3.2%	1.84	31.31	31.30	11.10	N/AP
Total Infrastructure	4,333	100%	4.07	20.59	20.59	13.04	14.97

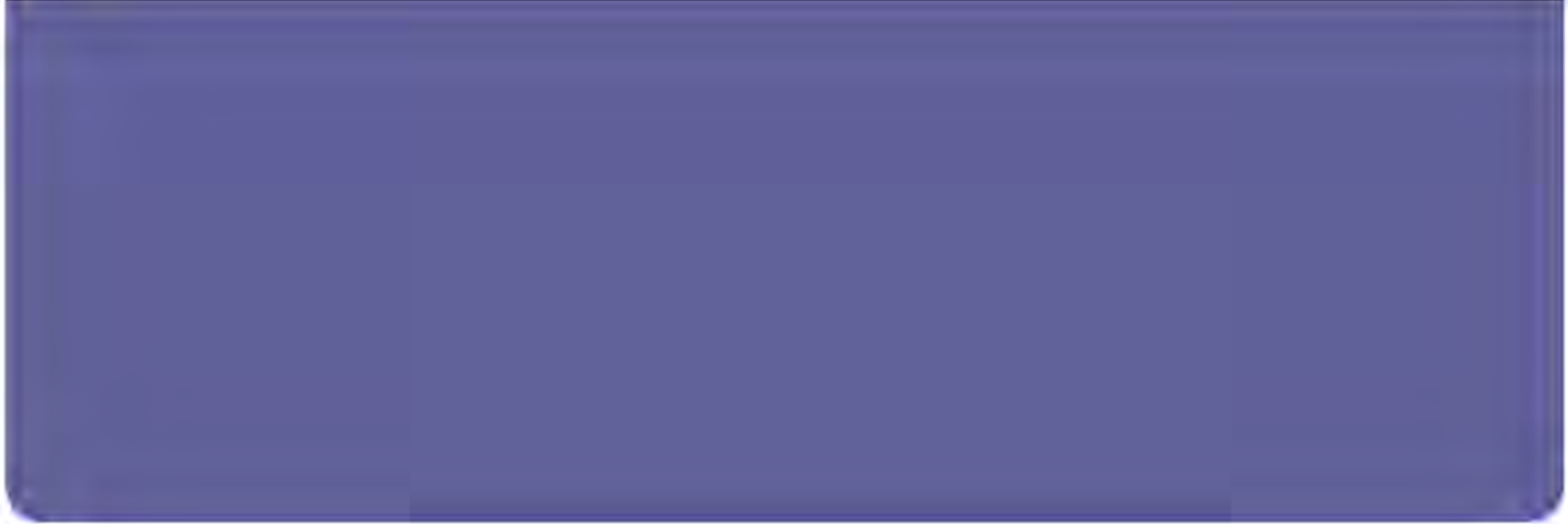
	June 30, 2018		QTR	FYTD	1-Yr	3-Yr	5-Yr
	Ending Market Value (MM)	% of Total Forestland Assets	Net Return	Net Return	Net Return	Net Return	Net Return
Forestland Partnerships¹							
Lincoln Timber L.P.	1,559	78.9%	0.14	3.86	3.90	(4.20)	(1.40)
Southern Diversified	2	0.1%	0.27	12.18	12.20	N/AP	N/AP
Sylvanus LLC	425	21.5%	0.51	(4.65)	(4.70)	5.00	0.50
Total Forestland	1,976	100%	0.21	1.92	1.92	(2.37)	(0.99)

¹ Partnership Market Values and Returns are based on the General Partners' March 31, 2018 financial statements.



Section VI
Inflation

Period Ending June 30, 2018



Section VI: Inflation

Inflation Summary

Inflation	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Core Inflation Linked Bonds	14,027	67.4	(0.01)	(5)	(1.99)	(12)	2.63	8	14	2.63	8	1.84	3	2.01	25	2.91	24
Internal Commodities PERF	3,652	17.5	1.39	4	8.18	18	30.33	29	13	30.33	29	(4.31)	5	(9.54)	(13)	(12.37)	1
Tactical Inflation Assets	3,135	15.1	0.51	(37)	4.73	38	16.64	124	49	16.64	124	0.05	94	(2.92)	68	-	-
Total Inflation	20,814	100.0	0.31	(9)	0.77	(2)	9.26	36	93	9.26	36	0.82	30	(0.36)	53	(1.77)	(75)

Tactical Inflation Assets	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Tactical Commodities	1,558	49.7	0.60	(75)	8.68	68	32.54	250	49	32.54	250	(4.81)	(44)	(9.74)	(33)	-	-
Tactical TIPS	1,576	50.3	0.41	1	0.78	1	2.11	0	0	2.11	0	1.81	(11)	1.53	(15)	-	-
Tactical Inflation	3,135	100.0	0.51	(37)	4.73	38	16.64	124	49	16.64	124	0.05	94	(2.92)	68	-	-

¹ Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

Section VII
Liquidity

Period Ending June 30, 2018

Section VII: Liquidity
Liquidity Summary

Liquidity	June 30, 2018		1-Month		3-Months		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
PERS Internal Short Term Portfolio	11,766	100.0	0.19	6	0.56	16	1.68	34	51	1.68	34	0.95	19	0.64	15	0.53	10
Total Liquidity	11,766	100.0	0.18	5	0.55	15	1.67	36	54	1.67	36	0.93	27	0.87	(15)	1.01	(12)

¹ Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.



Section VIII
TLPM



Period Ending June 30, 2018



Section VIII: TLPM

TLPM Summary

TLPM Summary	June 30, 2018		1-Mo		3-Mo		FYTD		1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
External MAC ¹	1,535	54.2	(2.16)	(277)	(2.95)	(478)	2.86	(464)	2.86	(464)	2.82	(468)	5.13	(237)	-	-
GE Volatility Capture Fund ²	71	2.5	0.86	24	6.23	280	11.90	(248)	11.90	(248)	-	-	-	-	-	-
TLPM Overlay	999	35.3	0.09	32	1.31	69	6.92	(172)	6.92	(172)	-	-	-	-	-	-
TLPM Investment Risk Mitigation	133	4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TLPM Transition	96	3.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total TLPM	2,832	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹The External MAC Partners were initially funded in December 2012.

²GE Volatility Capture Fund was initially funded in November 2015 within Global Equity asset class. This portfolio transferred to TLPM in November 2017.

Section IX
Other PERF

Period Ending June 30, 2018

Section IX: Other PERF
Other PERF Portfolios

Other PERF Summary	June 30, 2018		1-Mo		3-Mo		FYTD		1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Absolute Return Strategies ¹	241	97.2	(0.93)	(146)	(4.39)	(602)	(3.61)	(957)	(3.61)	(957)	(2.54)	(821)	1.23	(429)	1.32	(449)
Other Plan Level	7	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Other PERF	248	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Absolute Return Strategies Summary	June 30, 2018		1-Mo		3-Mo		FYTD		1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
Direct Investments	241	100.0	(0.93)	(146)	(4.54)	(617)	(3.82)	(978)	(3.82)	(978)	(2.77)	(843)	1.24	(427)	1.59	(422)
Fund of Hedge Funds	0	0.0	-	(53)	22.47	2,084	29.18	2,322	29.18	2,322	15.89	1,022	12.05	654	6.07	27
ARS Transition	0	0.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Absolute Return Strategies	241	100.0	(0.93)	(146)	(4.39)	(602)	(3.61)	(957)	(3.61)	(957)	(2.54)	(821)	1.23	(429)	1.32	(449)

Other Plan Level Summary	June 30, 2018		1-Mo		3-Mo		FYTD		1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
MHLP Personal Loans	6	87.5	0.44	40	0.93	71	4.15	402	4.15	402	4.52	304	4.38	214	-	-
PERS Internal Holding FI Fund	1	12.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Other Plan Level	7	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ Absolute Return Strategies performance history is included in Public Equity prior to July 1, 2011.



Section X
Affiliate Investment Programs

Period Ending June 30, 2018



Section IX: Affiliate Investment Programs

Judges' II Retirement Fund, Legislators' Retirement System Fund and Long-Term Care Fund

Judges' Retirement System II Fund	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Rate of Return	Excess Bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
JRS II Cash	0	0.0	5.32	515	6.85	640	9.34	798	0	9.34	798	3.48	280	2.34	192	1.36	101
JRS II Commodities	48	3.2	1.35	(0)	8.16	16	30.35	31	0	30.35	31	(3.94)	42	(9.42)	(1)	-	-
JRS II Domestic Income	524	34.4	(0.14)	(2)	(0.30)	2	0.22	46	2	0.22	46	3.30	59	4.19	77	5.98	72
JRS II Public Equity	749	49.2	(0.56)	0	1.02	(2)	11.97	4	0	11.97	4	8.93	13	10.26	10	6.67	6
JRS II REITs	124	8.2	1.53	(1)	5.33	(7)	6.62	(4)	(0)	6.62	(4)	6.67	(1)	6.90	2	4.53	5
JRS II TIPS	77	5.0	0.42	2	0.80	3	2.19	8	0	2.19	8	1.94	1	1.59	(8)	-	-
Total Judges' Retirement System II Fund	1,522	100.0	(0.12)	2	1.12	0	7.49	14	2	7.49	14	6.21	23	7.25	23	6.34	4

Legislators' Retirement System Fund	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Rate of Return	Excess Bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
LRS Cash	0	0.0	1.59	142	1.92	146	9.22	786	0	9.22	786	3.51	283	2.12	170	1.25	90
LRS Commodities	3	3.0	1.35	(0)	8.16	16	30.35	31	0	30.35	31	(3.94)	43	(9.43)	(2)	-	-
LRS Domestic Income	44	38.7	(0.14)	(2)	(0.30)	2	0.23	47	0	0.23	47	3.29	58	4.20	78	5.99	73
LRS Public Equity	27	24.1	(0.56)	0	1.02	(2)	11.97	4	0	11.97	4	8.96	15	10.27	11	6.90	7
LRS REITs	9	8.1	1.53	(1)	5.33	(7)	6.62	(4)	(0)	6.62	(4)	6.69	(0)	6.91	3	-	-
LRS TIPS	30	26.1	0.42	2	0.80	3	2.20	8	0	2.20	8	1.94	1	1.60	(8)	3.11	8
Total Legislators' Retirement System Fund	114	100.0	0.07	(1)	0.98	(1)	4.82	15	0	4.82	15	4.42	21	5.19	29	5.77	31

Long-Term Care Fund	June 30, 2018		1-Month		3-Months		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess Bps	Net Return	Excess Bps	Net Rate of Return	Excess Bps	\$ Value Added (MM) ¹	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps
LTC Cash	0	0.0	0.11	(6)	0.51	5	2.28	92	0	2.28	92	3.05	237	1.76	133	1.08	72
LTC Commodities	276	6.1	1.31	(4)	7.98	(2)	29.75	(29)	(1)	29.75	(29)	(4.43)	(6)	(9.44)	(3)	-	-
LTC Domestic Income	2,651	58.7	(0.17)	(5)	(0.34)	(2)	(0.23)	2	0	(0.23)	2	2.73	2	3.44	2	5.52	27
LTC Public Equity	768	17.0	(0.60)	0	0.76	4	11.43	29	2	11.43	29	8.67	34	9.91	31	6.64	15
LTC REITs	562	12.4	1.62	6	5.08	13	6.20	74	4	6.20	74	5.93	80	6.16	73	4.07	38
LTC TIPS	259	5.7	0.39	(1)	0.78	1	2.10	(1)	(0)	2.10	(1)	1.91	(1)	1.67	(1)	3.12	8
Total Long-Term Care Fund	4,515	100.0	0.10	(3)	1.04	2	4.03	8	3	4.03	8	3.68	13	4.05	20	4.38	14

¹ Value Added is the excess bps converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

Section IX: Affiliate Investment Programs
California Employers' Retirement Benefit Trust (CERBT) Fund

CERBT Strategy 1	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
CERBT S1 Cash	96	1.4	0.19	3	0.69	24	2.74	138	1	2.74	138	1.38	70	0.83	41	0.61	25
CERBT S1 Commodities	215	3.2	1.35	(0)	8.16	16	30.35	31	1	30.35	31	(4.40)	(3)	(9.63)	(22)	-	-
CERBT S1 Domestic Income	1,786	26.3	(0.13)	(1)	(0.30)	2	0.22	47	8	0.22	47	3.30	58	4.20	78	5.99	73
CERBT S1 Public Equity	3,811	56.0	(0.59)	1	0.77	5	11.48	34	13	11.48	34	8.74	40	9.97	38	6.53	19
CERBT S1 REITs	558	8.2	1.62	6	5.07	12	6.22	76	4	6.22	76	5.95	81	6.20	77	4.25	56
CERBT S1 TIPS	334	4.9	0.42	2	0.81	4	2.20	9	0	2.20	9	1.94	2	1.60	(8)	-	-
Total CERBT Strategy 1	6,801	100.0	(0.18)	1	1.02	2	7.96	29	20	7.96	29	6.43	42	7.38	42	5.94	15

CERBT Strategy 2	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
CERBT S2 Cash	6	0.5	0.20	3	0.71	25	3.73	236	0	3.73	236	1.94	126	1.21	79	-	-
CERBT S2 Commodities	35	3.2	1.34	(2)	8.15	15	30.37	33	0	30.37	33	(4.37)	(0)	(9.59)	(18)	-	-
CERBT S2 Domestic Income	418	38.3	(0.15)	(3)	(0.31)	1	0.22	46	2	0.22	46	3.30	59	4.20	78	-	-
CERBT S2 Public Equity	433	39.7	(0.58)	2	0.79	7	11.49	34	1	11.49	34	8.72	38	9.94	35	-	-
CERBT S2 REITs	90	8.3	1.62	6	5.07	12	6.20	74	1	6.20	74	5.95	81	6.16	73	-	-
CERBT S2 TIPS	108	9.9	0.42	2	0.80	3	2.19	8	0	2.19	8	1.93	1	1.57	(10)	-	-
Total CERBT Strategy 2	1090	100.0	(0.06)	3	0.93	5	6.19	35	4	6.19	35	5.43	40	6.19	40	-	-

CERBT Strategy 3	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps
CERBT S3 Cash	4	1.0	1.38	121	1.86	141	3.47	211	0	3.47	211	1.65	97	1.11	69	-	-
CERBT S3 Commodities	13	3.2	1.36	0	8.17	17	30.41	37	0	30.41	37	(4.23)	14	(9.46)	(5)	-	-
CERBT S3 Domestic Income	151	38.1	(0.13)	(1)	(0.30)	3	0.23	47	1	0.23	47	3.27	56	4.15	73	-	-
CERBT S3 Public Equity	94	23.7	(0.60)	0	0.77	5	11.45	31	0	11.45	31	8.71	37	9.95	35	-	-
CERBT S3 REITs	33	8.2	1.62	6	5.07	12	6.20	74	0	6.20	74	5.85	72	6.15	72	-	-
CERBT S3 TIPS	102	25.7	0.43	2	0.81	4	2.20	9	0	2.20	9	1.93	1	1.62	(6)	-	-
Total CERBT Strategy 3	395	100.0	0.06	(2)	0.89	1	4.67	27	1	4.67	27	4.31	33	5.07	42	-	-

¹ Value Added is the Excess BPS converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.



Section XI
Other Programs

PERIOD ENDING JUNE 30, 2018



Section XI: Other Programs

Securities Lending Program, Short Term Liquidity, and Terminated Agency Pool Performance Summary

	June 30, 2018		1-Mo		3-Mo		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)	% of Total Assets	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	\$ Value Added (MM) ¹	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess bps	Net Return	Excess Bps
Securities Lending Program																	
CalPERS ESec Cash Collateral	2,308	46.8	0.07	(8)	0.37	(6)	1.24	(15)	(5)	1.24	(15)	0.75	(0)	0.56	7	-	-
Internal Sec Lend Portfolio	2,619	53.2	0.17	1	0.50	3	1.61	19	6	1.61	19	0.97	19	0.67	20	-	-
Sec Lending Int & Ext Reinvest	4,927	100.0	0.34	19	0.66	21	1.63	22	16	1.63	22	0.81	4	0.73	23	0.78	41

	June 30, 2018		1-Month		3-Months		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)		Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	\$ Value Added (MM) ¹	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps
Short Term Liquidity																	
CalPERS STIF	28,746		0.19	6	-	-	-	-	-	-	-	-	-	-	-	-	-

	June 30, 2018		1-Month		3-Months		FYTD			1-Yr		3-Yr		5-Yr		10-Yr	
	Ending Market Value (MM)		Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps		Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps	Net Return	Excess Bps
Terminated Agency Pool																	
Terminated Agency Pool ²	134		0.42	-	0.77	-	2.25	-		2.25	-	3.25	-	3.27	-	-	-

¹ Value Added is the Excess BPS converted into a dollar value by multiplying the excess bps by the fiscal year-to-date average market value.

² Terminated Agency Pool funded July 2013

Section XI: Other Programs

Current Emerging Manager and Transition Manager Performance Summary

March 31, 2017		1-Month		3-Months		FYTD		1-Yr		3-Yr		5-Yr		10-YR		
Current Emerging Manager Summary ¹		Ending Market Value (MM)	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps	3-Yr	Excess Bps	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps
PUBLIC EQUITY 2																
Funds Held in Fund of Fund Structure		3,538	(0.48)	1	(0.64)	1	10.24	(30)	14.57	(52)	6.35	(98)	N/A	N/A	N/A	N/A
<i>International</i>		1,913	(1.00)	(51)	(1.00)	(35)	11.30	76	17.48	239	7.64	31	N/A	N/A	N/A	N/A
<i>Domestic</i>		1,625	0.19	68	(0.06)	59	9.09	(145)	10.56	(453)	4.86	(247)	N/A	N/A	N/A	N/A
PRIVATE EQUITY 3																
Non Fund of Fund Investments		3,597	N/A		(0.06)	(677)	6.62	(1,194)	5.85	(2,139)	4.30	(914)	7.26	(894)	5.50	(815)
<i>International</i>		1,433	N/A		0.33	(638)	6.92	(1,164)	7.05	(2,019)	12.42	(103)	12.18	(402)	7.20	(646)
<i>Domestic</i>		2,164	N/A		(0.31)	(702)	6.44	(1,212)	5.09	(2,215)	0.47	(1,297)	4.84	(1,135)	4.50	(916)
REAL ESTATE																
Non Fund of Fund Investments		287	N/A		20.03	1,806	(0.72)	(783)	17.99	1,088	7.88	(112)	4.53	(588)	N/M	
<i>International</i>		N/A	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
<i>Domestic</i>		287	N/A		20.03	1,806	(0.72)	(783)	17.99	1,088	7.88	(112)	4.53	(588)	N/M	
Funds Held in Fund of Fund Structure ⁴		289	N/A		3.09	112	6.79	(32)	8.51	140	13.83	483	15.39	498	N/A	
<i>International</i>		N/A	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
<i>Domestic</i>		289	N/A		3.09	112	6.79	(32)	8.51	140	13.83	483	15.39	498	N/A	

March 31, 2017		1-Month		3-Months		FYTD		1-Yr		3-Yr		5-Yr		10-YR		
Transition Manager Summary ¹		Ending Market Value (MM)	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps	Net Rate of Return	Excess Bps
PUBLIC EQUITY 2																
Non Fund of Fund Investments		836	(1.71)	(49)	0.35	206	6.14	(134)	14.13	(152)	N/A	N/A	N/A	N/A	N/A	N/A
<i>International</i>		836	(1.71)	(49)	0.35	206	6.14	(134)	14.13	(152)	N/A	N/A	N/A	N/A	N/A	N/A
<i>Domestic</i>			N/A		N/A		N/A		N/A		N/A		N/A		N/A	

¹ The data contained in this report reflects funds identified as current emerging managers or transition managers and their performance as of 03/31/17. This report does not include fund of fund advisors except for private equity. Excess basis points were calculated using the appropriate asset class policy benchmark (unless otherwise footnoted). Performance for this report is shown as Time-Weighted Returns.

² Public Equity performance is performance of the Global Equity - Emerging Manager composite. Managers' performance is compared to a composite benchmark consisting of asset-weighted individual benchmarks of the total current emerging manager or transition manager universe (i.e. at the asset class level each emerging manager is compared to their respective benchmark, not the Public Equity policy benchmark). International Transition returns do not equal total Transition returns as the Domestic fund was closed in February of 2017 and those 2 months of returns are included in the total.

³ Private Equity performance is the performance of the Private Equity - Emerging Manager composite/hierarchy.

⁴ N/M means that time weighted returns cannot be calculated because the partnership had negative net assets for at least one quarter during the time period.

Section XII

Asset Class Benchmarks and
Definitions

PERIOD ENDING JUNE 30, 2018

Section XII: Asset Class Benchmarks and Definitions

Asset Class Benchmarks

Benchmark	Benchmark Components As of April 1, 2018	Benchmark Components As of October 1, 2016 - March 30, 2018	Benchmark Components July 1, 2015 - September 30, 2016	Benchmark Components July 1, 2014 - June 30, 2015
Total Fund*	Growth 57% Income 22% Real Assets 12% Inflation 6% Liquidity 3%	Growth 54% Income 20% Real Assets 13% Inflation 9% Liquidity 4%	Growth 61% Income 20% Real Assets 12% Inflation 6% Liquidity 1%	Growth 61% Income 19% Real Assets 12% Inflation 6% Liquidity 2%
Growth Benchmark	Public Equity 86.0% FSTE CalPERS Global (All-World, All Capitalization) customized to exclude Board directed divestments Private Equity 14.0% (67% FTSE U.S. TMI + 33% FTSE AW ex US TMI) + 3% 1 Qtr Lag	Public Equity 85.2% FSTE CalPERS Global (All-World, All Capitalization) customized to exclude Board directed divestments Private Equity 14.8% (67% FTSE U.S. TMI + 33% FTSE AW ex US TMI) + 3% 1 Qtr Lag	Public Equity 83.6% FSTE CalPERS Global (All-World, All Capitalization) customized to exclude Board directed divestments Private Equity 16.4% (67% FTSE U.S. TMI + 33% FTSE AW ex US TMI) + 3% 1 Qtr Lag	Public Equity 84% FSTE CalPERS Global (All-World, All Capitalization) customized to exclude Board directed divestments Private Equity 16% (67% FTSE U.S. TMI + 33% FTSE AW ex US TMI) + 3% 1 Qtr Lag
Income Benchmark	90% Bloomberg Barclays Long Liability + 10% Bloomberg Barclays International Fixed Income	90% Bloomberg Barclays Long Liability + 10% Bloomberg Barclays International Fixed Income	90% Bloomberg Barclays Long Liability + 10% Bloomberg Barclays International Fixed Income Index GDP weighted ex-US	90% Bloomberg Barclays Long Liability + 10% Bloomberg Barclays International Fixed Income Index GDP weighted ex-US
Real Assets Benchmark	Real Estate 84.6% NCREIF ODCE (Net) 1 Qtr Lag Infrastructure 7.7% CPI + 4% 1 Qtr Lag Forestland 7.7% NCREIF Timberland (Gross) 1 Qtr Lag	Real Estate 84.6% NCREIF ODCE (Net) 1 Qtr Lag Infrastructure 7.7% CPI + 4% 1 Qtr Lag Forestland 7.7% NCREIF Timberland (Gross) 1 Qtr lag	Real Estate 83.4% NCREIF ODCE (Net) 1 Qtr Lag Infrastructure 8.3% CPI + 4% 1 Qtr Lag Forestland 8.3% NCREIF Timberland (Gross) 1 Qtr lag	Real Estate 83% NCREIF ODCE (Net) 1 Qtr Lag Infrastructure 8.5% CPI + 4% 1 Qtr Lag Forestland 8.5% NCREIF Timberland (Gross) 1 Qtr lag
Inflation Benchmark	Inflation Linked Bonds Portfolio 75% 67% Bloomberg Barclays Global Inflation US + 33% Bloomberg Barclays Universal Governmental Inflation Linked Bond Index ex-US Commodities Portfolio 25% S&P GSCI 500 Total Return Index	Inflation Linked Bonds Portfolio 75% 67% Bloomberg Barclays Capital Global Inflation US + 33% Bloomberg Barclays Capital Global Inflation Linked Bonds (U.K., France, Italy, Germany, Canada) Commodities Portfolio 25% S&P GSCI 500 Total Return Index	Inflation Linked Bonds Portfolio 75% 67% Bloomberg Barclays Capital Global Inflation US + 33% Bloomberg Barclays Capital Global Inflation Linked Bonds (U.K., France, Italy, Germany, Canada) Commodities Portfolio 25% S&P GSCI 500 Total Return Index	Inflation Linked Bonds Portfolio 75% 67% Bloomberg Barclays Capital Global Inflation US + 33% Bloomberg Barclays Capital Global Inflation Linked Bonds (U.K., France, Italy, Germany, Canada) Commodities Portfolio 25% S&P GSCI 500 Total Return Index
Liquidity Benchmark	Liquidity Portfolio 100% 30-Day Treasury Bills	Liquidity Portfolio 100% 91-Day Treasury Bills	Liquidity Portfolio 100% 91-Day Treasury Bills	Liquidity Portfolio 75% Barclays Treasury 2 - 10-Yr Cash 25% 1-Month T-Bill

*Benchmark linked to prior policy benchmarks from inception

Section XII: Asset Class Benchmarks and Definitions

Total Fund Policy Benchmark Target Weights Transition Schedule

Asset Class	Interim Targets¹	Policy Targets²
Public Equity	49%	50%
Private Equity	<u>8%</u>	<u>8%</u>
Growth	57%	58%
Income	22%	28%
Infrastructure/Forestland	2%	2%
Real Estate	<u>10%</u>	<u>11%</u>
Real Assets	12%	13%
Inflation	6%	0%
Liquidity	3%	1%
Total Fund	100%	100%

¹ Interim Strategic Targets were adopted by the Board and effective April 1, 2018.

² Policy Targets Strategic Asset Allocation is July 1, 2019.

Section XII: Asset Class Benchmarks and Definitions

Affiliate Investment Program Benchmarks

Program	Asset Class Benchmark	Policy Benchmark
Judges' Retirement System Fund	Cash	91-day Treasury Bill
Judges' Retirement System II Fund	Public Equity	SSGA MSCI ACWI IMI - DB
	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	SSGA Global REIT
Legislators' Retirement System Fund	Public Equity	SSGA MSCI ACWI IMI - DB
	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	SSGA Global REIT
Public Employees' Health Care Fund	U.S. Fixed Income	Bloomberg Barclays U.S. Aggregate Bond Index
Long-Term Care Fund	Public 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' Retirement Benefit Trust (CERBT) Funds 1, 2 & 3	Public 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)

Section XII: Asset Class Benchmarks and Definitions

Definitions

Cash In – The total contributions, net of temporary returns of capital, made by CalPERS towards investments.

Cash Out – The total distributions received by CalPERS from its investments.

Contributions – The total amount of cash that has been called from limited partners.

Distributions – The total amount of cash and stock that has been paid out to limited partners.

Excess Bps – Excess basis points (BPS) is the difference between the portfolio or composite return and the benchmark return multiplied by 100 to convert the Excess BPS to a whole number.

Excess BPS Calculation

Excess BPS = (Portfolio or Composite Return – Benchmark Return) x 100

Internal Rate of Return (IRR) – Dollar weighted rate of return that shows profitability as a percentage, showing the return on each dollar invested. IRR equates the present value of a partnership's estimated cash flows (CF) with the present value of the partnership's costs. Before fees (BF) IRR is calculated before all expensed fees such as Asset Management, Disposition, Incentive Fees, etc. After fees (AF) IRR is calculated after all expensed fees such as Asset Management, Disposition, Incentive Fees, etc.

IRR is the quarterly discount rate that makes the following relationship hold:

$$\text{Present Value (inflows)} = \text{Present Value (investment costs)}$$

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IRR is the quarterly discount rate that makes the following relationship hold:

Net Return – Performance is net of internal and external investment office management expenses.

Realized Gain or Loss – The gain or loss CalPERS realized from the disposition of an asset.

Rate of Returns - CalPERS performance uses a daily Modified-Dietz methodology which is geometrically linked to produce time-weighted returns for longer periods.

Daily Return Calculation

Rate of Return_{Daily} = 6/30/2016 & Prior - Dollar Value Added / Average Balance; 7/1/2016 to Present - Dollar Value Added / Beginning Market Value

Where:

Dollar Value Added = Gains/losses due to price appreciation and income

Average Balance = Beginning Market Value + Net Cash Flows

Daily returns are then geometrically linked to produce multi-period returns. The linking formula is as follows:

$$R_{Monthly} = \left((1 + R_1) \times (1 + R_2) \times \dots \times (1 + R_n) \right) - 1$$

Total Exposure – Total Exposure is the current reported value of investments plus remaining amount of unfunded commitments.

Unrealized Gain or Loss – The difference between an asset's cost and market value.

Value Added – Value Added is the excess BPS converted into a dollar value by multiplying the excess BPS multiplied by the fiscal year-to-date average market value. For clarity, this metric differs from Dollar Value Added calculation referenced above and used in the daily return calculation.

Value Added Calculation

Value Added = ((Portfolio or Composite Return – Benchmark Return) x 100) x fiscal year-to-date average market value

Disclaimer - Only actively traded portfolios are listed in CIO Report

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