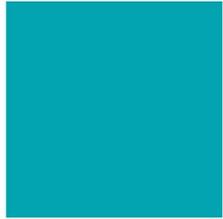
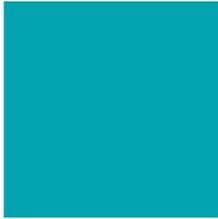




INVESTMENT

SECTION



INVESTMENT SECTION

OVERVIEW OF FISCAL YEAR 2019

NOTE: The investment section of the CAFR was compiled using information from the System's custodial bank, Bank of New York Mellon, our consultant, Callan Associates, and internally generated data. Unless otherwise noted, investment returns are based on investment fair market values and made on a time weighted return methodology, gross of investment fees and consistent with Global Investment Performance Standards.

Although PERSI has had higher return years, FY 2019 was one of the most satisfying. With a gross return of +8.4% and a net return of +8.1%, PERSI handily exceeded the actuarial net return assumption of +7.0%, where the median public fund gross return of +6.2% would have been materially below that goal. Hitting all-time highs as the fiscal year drew to a close, PERSI ended the fiscal year at \$18.519 billion. The sick leave fund returned +7.8% for the fiscal year at \$566 million.

This was quite a rebound from the -6.3% for the then fiscal year to date the fund was experiencing at Christmas of 2018. With the Fed signaling at least the end of rate hikes with the potential for lower rates in the near future, continued slow (and stumbling) growth in the US, a potential ease in the newly escalated trade tensions, a possible bottoming of a slow-down in China and Europe, and worldwide central bank support with inflation well contained, the markets generally continued their advance from late winter into the summer.

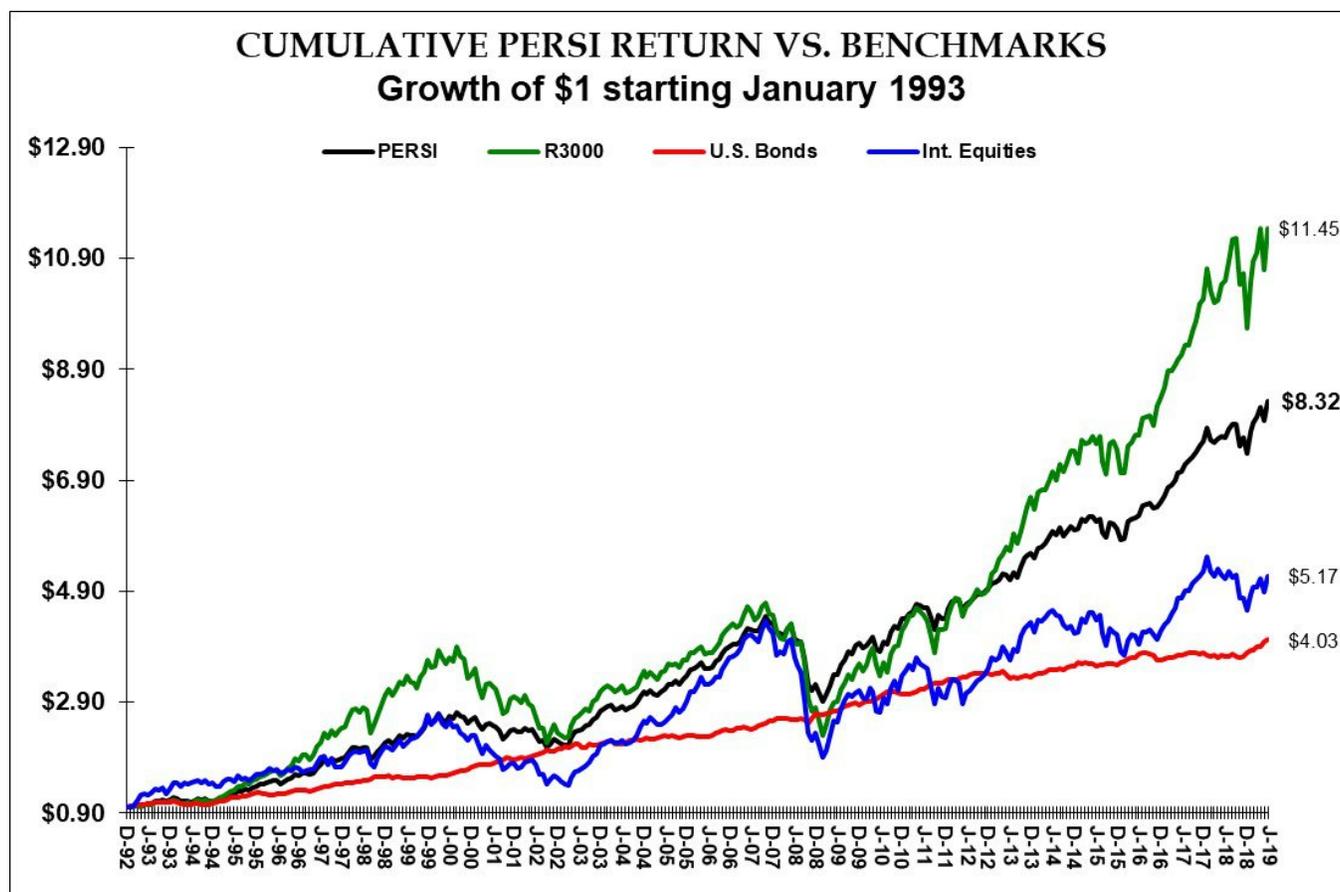
The fiscal year outperformance both to benchmark and to peers was due to long-standing PERSI policies and active manager selection. Avoiding "new wave" alternative investments like hedge funds and primarily relying on liquid, public markets - particularly the main US equity markets like the S&P 500 - PERSI avoided many of the underperforming strategies that have become popular with many institutional investors in recent years. Outstanding active manager performance was also a large driver of excess returns for the year.

It was a good, although not great, fiscal year for global and international equities. US equities (Russell 3000) returned +9.0%, world equities (MSCI World) returned +6.3% (with PERSI's global managers handily outperforming at +8.7%), international equities (MSCI EAFE returned only +1.1% and Emerging Markets returned +1.2%). Fixed income was the surprise, with investment grade bonds (Bloomberg Barclay's Aggregate) returning +7.9%. Private equity (+14.1%) and Private Real Estate (+10.9%) had very good years and substantially outperformed their benchmarks. After a couple of poor years, REITs rebounded to return +9.8% (with Adelante once again outperforming with a return of +14.3%).

The individual star of the year, however, was once again Peregrine, with the best absolute return of +19.5%. Fiera had the best relative return by outpacing their World benchmark by +11.3% with a return of +17.6%. Bernstein Global had the poorest relative returns to benchmark with a return of -6.1% being -12.4% behind their benchmark. The fund ended the fiscal year ahead of the 55% US equity, 15% EAFE, and 30% US Bond reference benchmark by +0.5%, due primarily to outperformance of real estate and private equity vs US public equity, and collective substantial outperformance by active managers.

Since 1993, \$1 invested in the PERSI fund has returned over eight-fold, surviving the worst market since the great depression in 2008, various crises around the world, and the "tech wreck" at the start of the new millennium:

INVESTMENT SECTION



PERSI's institutional peer returns for the fiscal year were excellent: handily above the median public fund. Long term returns (15 to 20 years) also continue to be significantly above average:

RANKINGS IN CALLAN PUBLIC FUND UNIVERSE

June 30, 2019

Percentile Rankings over Period
(1 is highest, 100 is lowest)

	1Yr	3Yrs	5Yrs	10Y	15Y	20Y	25Y
PERSI Return (%)	8.4	9.9	6.9	9.4	7.5	6.6	8.4
Callan Median Public	6.2	8.9	6.0	9.2	6.7	6.1	8.0
PERSI Rank (Percentile)							
Callan Public Funds	5	15	16	38	14	19	26

INVESTMENT SECTION

PERSI's simple, transparent, focused, and patient approach following conventional investment principles once again produced strong results, not only in absolute returns, but also in comparison to all other professionally managed institutional investors. It is a path we intend to travel for the foreseeable future.



ROBERT M. MAYNARD
Chief Investment Officer

INVESTMENT SECTION

Investment Summary for the Year Ended June 30, 2019

Types of Investment	Fair Value	Percent of Total Fair Value
Short-term Investments	\$ 319,544,221	1.7%
Fixed Income		
Domestic	\$ 4,003,318,573	20.7%
International	14,488,135	0.1%
Commercial Mortgages	787,246,608	4.1%
Total Fixed Income	4,805,053,316	24.9%
Equity		
Domestic	7,726,057,708	40.0%
International	3,021,825,074	15.6%
Total Equity	10,747,882,782	55.6%
Private Equity	1,035,582,920	5.4%
Real Estate	811,205,407	4.2%
Total Base Plan Investments	\$ 17,719,268,646	91.8%
Other Funds:		
Sick Leave Insurance Reserve Fund	566,280,803	2.9%
Choice Plan 414(k)	58,248,753	0.3%
Choice Plan 401(k)	978,604,026	5.1%
Total Investments in All Funds	<u>\$ 19,322,402,228</u>	<u>100.0%</u>

INVESTMENT SECTION

Schedule of Investments by Account (including interest and dividends receivable) as of June 30, 2019

PERSI Base Plan, Firefighters' Retirement Fund, and Judges' Plan

Adelante Capital Management	\$ 584,193,842
Advent International, LP	62,905,901
Apollo Management, LP	44,436,090
Ascribe Capital LLC	20,082,126
Baring Asset Management-Global Equity	126,317
Bernstein-Emerging Markets	350,497,069
Bernstein-Global Equity	401,591,586
Blackstone Capital Partners, LP	133,377,001
BLS Capital	589,069,964
Mellon Investments Corp.-International Stock Index	714,603,753
Mellon Investments Corp.-Mid Cap Completion	271,235,927
Mellon Investments Corp.-R2000 Small Cap	192,538,444
Mellon Investments Corp.-S&P 500 Large Cap	2,320,191,671
Mellon Investments Corp.-REIT Index	255,333,004
Mellon Investments Corp.-Emerging Market Index	701,423,523
Brandes Investment Partners	424,046,309
Bridgepoint Cap LTD	50,816,831
Capital Guardian	384,225
Cerberus Investment Partners	6,530,159
Chisholm Management, LP	821,959
Clearwater Advisors, LLC-TBAs	208,148,092
CVC European Equity	42,576,425
D.B. Fitzpatrick & Co.-Fixed Income	61,582,976
D.B. Fitzpatrick & Co.-Idaho Mortgages	789,956,139
Donald Smith & Co.	435,386,151
Endeavour Capital	40,640,142
Epic Venture Fund	12,924,817
Fiera Capital	543,529,353
First Reserve Fund XI	7,466,878
Galen Associates, LP	22,246,518
Genesis Asset Managers	383,061,196
Gores Capital Partners, LLP	3,717,540
Green Equity Investors IV, LP	21,221,319
Hamilton Lane Co.- Investment Fund, LP	67,299,727
Hamilton Lane Secondary Fund, LP	35,176,689
Highway 12 Ventures, LP	14,871,660
Ida-West	3,130,265
IR + M	209,341,262
KKR 2006 Fund, LP	61,116,914
Kohlberg & Co.	55,039,980

continued on next page

INVESTMENT SECTION

Koll Partners, LLP	699,938,278	
Lindsay Goldberg & Bessemer	29,905,494	
Longview Partners	482,432,927	
Mellon Transition Management Services	307,431	
Mondrian Investment Partners	464,280,974	
Mountain Pacific Investment Advisors	617,946,205	
Newbridge Asia, LP	471,071	
Olympic IDA Fund II, LLC	44,962,234	
Peregrine Capital Management	664,124,491	
PERSI Cash in Short-Term Investment Pool	46,917,967	
Providence Equity Partners, LLP	48,677,752	
Prudential Investments	66,304,895	
Silverlake Partners	17,777,593	
State Street Global Advisors-Fixed Income	1,735,958,536	
State Street Global Advisors-TIPS	1,560,337,011	
T3 Partners, LP	149,045,152	
Veritas Capital Partners, LP	83,261,035	
Walter Scott LTD	540,705,476	
Western Asset Management	288,792,292	
Zesiger Capital Group-Private Equity	16,175,788	
Total Base Plan and Firefighters' Retirement Fund	\$ 17,700,962,346	

Choice Plan

Mellon Investment Corp. U.S. Bond Market Index Fund	12,626,448	
Mellon Invest. Corp. U.S. Small/Mid Cap Equity Index Fund	20,581,688	
Mellon Invest. Corp. U.S. Broad Market Equity Index Fund	13,230,927	
Mellon Investment Corp. N.A. Equity Index Fund	7,936,363	
Mellon Investment Corp. U.S. Large Cap Equity Index Fund	34,937,097	
Mellon Investment Corp. Emerging Market Equity Index Fund	2,219,734	
Mellon Investment Corp. U.S. (TIPS*) Index Fund	2,050,360	
Mellon Investment Corp. U.S. REIT Index Fund	3,808,471	
Brandes International Equity Fund	6,646,208	
Calvert SI Balance Fund	2,884,450	
Dodge and Cox Income Fund	14,502,908	
PERSI Choice Plan Contribution Holding Account	1,761,564	
PERSI Choice Plan Loan Fund	10,686,028	
Rowe Price Small Cap Fund	29,549,085	
Total Return Fund	818,445,736	
Vanguard Growth & Income Fund	32,838,070	
PERSI Short Term Investment Portfolio	26,836,123	
Total Choice Plan	1,041,541,260	

continued on next page

INVESTMENT SECTION

Sick Leave Insurance Reserve Fund

State Street Global Advisors-Domestic Equity	317,743,435	
State Street Global Advisors-International Equity	75,532,244	
State Street Global Advisors-Fixed Income	173,005,123	
Total Sick Leave Insurance Reserve Fund		<u>566,280,802</u>

Total Fair Value, Including Investment Receivables and Payables \$ 19,308,784,408

Add: Investments Purchased Payable 187,720,214
Less: Investments Sold Receivable (107,873,496)
Less: Interest and Dividends Receivable (66,228,898)

Total Fair Value, Net of Investment Receivables and Payables \$ 19,322,402,228
(Concluded)

*Treasury Inflation-Protection Securities

INVESTMENT SECTION

Investment Results for the Year Ended June 30, 2019

<u>MANAGERS</u>	TOTAL FAIR VALUE (MILLIONS)	% OF TOTAL FUND	Investment Performance for Periods Ending				
			FISCAL	1 YR	3 YRS *	5 YRS *	10YRS *
U.S. EQUITY							
MELLON INVESTMENTS CORP. - MID CAP	\$ 283.8	1.5%	7.1	7.1	14.1	8.5	15.2
MELLON INVESTMENTS CORP.- R2000 SM CAP	201.5	1.1%	(3.1)	(3.1)	12.4	7.2	13.6
MELLON INVESTMENTS CORP. - S&P 500 LC	2,427.5	13.2%	10.4	10.4	14.2	10.7	14.7
MOUNTAIN PACIFIC	646.5	3.5%	13.0	13.0	14.0	12.0	16.1
DONALD SMITH & CO.	455.5	2.5%	(1.7)	(1.7)	9.1	3.2	12.2
PEREGRINE	694.8	3.8%	19.6	19.6	25.9	19.9	18.1
TOTAL U.S. PUBLICLY TRADED EQUITY	\$ 4,709.6	25.6%	9.8	9.8	15.0	10.7	14.9
BENCHMARK - Russell 3000			9.0	9.0	14.0	10.2	14.7
PRIVATE EQUITY							
IDA-WEST	\$ 3.3	—%	—	—	6.4	3.8	11.5
GALEN III	23.3	0.1%	31.8	31.8	15.0	8.3	5.5
PROVIDENCE EQ PARTNERS	50.9	0.3%	1.7	1.7	13.1	12.1	12.5
CHISOLM PARTNERS	0.9	—%	4.7	4.7	(8.5)	0.2	17.4
HWY 12 FD VENTURE LP	15.6	0.1%	(12.2)	(12.2)	20.9	12.1	11.9
T3 PARTNERS II L.P.	155.9	0.8%	11.9	11.9	10.7	12.8	16.2
APOLLO MGMT LP	46.5	0.3%	(5.9)	(5.9)	5.2	2.7	17.1
GREEN EQUITY IV L.P.	22.2	0.1%	43.5	43.5	29.5	20.5	23.7
GORES CAPITAL AD LLC	3.9	—%	(4.7)	(4.7)	2.8	(1.5)	4.5
W CAPITAL PARTNERS	—	—%	—	—	—	—	—
FRAZIER TECH VENTURES II	—	—%	—	—	—	—	—
KOHLBERG & CO.	57.6	0.3%	16.7	16.7	16.4	17.9	15.0
HAMILTON SECONDARY	36.8	0.2%	8.0	8.0	11.9	10.0	10.8
CVC EUROPEAN EQUITY	44.5	0.2%	32.7	32.7	32.8	21.1	20.1
HAMILTON LANE CO-INVESTMENT FUND	70.4	0.3%	10.5	10.5	11.7	8.6	11.9
BRIDGEPOINT EUROPE III	53.2	0.3%	9.3	9.3	11.6	5.4	6.9
NEWBRIDGE ASIA LP	0.5	—%	55.6	55.6	28.8	10.5	20.4
JH WHITNEY EQUITY PARTNERS IV	—	—%	(95.5)	(95.5)	(68.1)	(51.2)	(27.6)
BLACKSTONE CAPITAL PARTNERS	139.5	0.8%	16.5	16.5	14.5	12.0	14.7
ENHANCED EQUITY FUND LP	—	—%	—	—	—	—	—
LINDSEY, GOLDBERG, BESSEMER	31.3	0.2%	1.4	1.4	14.1	9.4	10.8
KKR 2006 FUND	64.0	0.4%	17.1	17.1	20.0	16.8	18.1
FIRST RESERVE FUND XI	7.8	—%	(18.1)	(18.1)	(12.7)	(25.9)	(11.4)
CERBERUS INST PARTNERS	6.8	—%	12.4	12.4	35.0	24.1	19.9
EPIC VENTURE FUND	13.5	0.1%	20.7	20.7	19.2	14.6	12.9
ADVENT INTERNATIONAL	65.8	0.4%	9.1	9.1	14.3	13.5	17.0
ASCRIBE CAPITAL LLC	21.0	0.1%	(16.5)	(16.5)	7.5	3.9	
VERITAS CAPITAL PARTNERS	87.1	0.5%	40.3	40.3	27.5	20.8	
ENDEAVOUR CAPITAL PARTNERS	42.5	0.2%	14.1	14.1	10.0	11.0	
SILVER LAKE PARTNERS**	18.6	0.1%	(1.4)	(1.4)			
ZESIGER CAPITAL GROUP	16.9	0.1%	—	—	(4.8)	(5.0)	(2.2)
TOTAL PRIVATE EQUITY	\$ 1,100.3	5.9%	14.1	14.1	14.9	10.3	12.8

continue on next page

INVESTMENT SECTION

Investment Results for the Year Ended June 30, 2019

<u>MANAGERS</u>	TOTAL FAIR VALUE (MILLIONS)	% OF TOTAL FUND	Investment Performance for Periods Ending				
			FISCAL	1 YR	3 YRS *	5 YRS *	10YRS *
REAL ESTATE							
KOLL PARTNERS	\$ 732.3	3.8%	11.9	11.9	11.1	14.4	(1.7)
OLYMPIC IDA FUND II	47.0	0.3%	1.2	1.2	18.6	16.0	9.9
CASCADE	—	—%	—	—	—	—	—
ADELANTE - PUBLIC R/E1	611.2	3.3%	14.3	14.3	7.1	10.2	17.3
MELLON INVESTMENTS CORP. - REIT INDEX	267.1	1.4%	10.0	10.0	3.7	7.5	
PRUDENTIAL	69.4	0.4%	7.6	7.6	7.8	10.3	8.8
TOTAL R/E MANAGERS	\$ 1,727.0	9.2%	12.0	12.0	8.1	11.2	7.0
BENCHMARK - NCREIF			6.8	6.8	7.1	9.1	8.5
TOTAL U.S. EQUITY	7,536.9	40.7%	11.0	11.0	13.5	10.7	12.8
BENCHMARK - Russell 3000			9.0	9.0	14.0	10.2	14.7
GLOBAL EQUITY							
BARING ASSET MANAGEMENT ¹	\$ 0.1	—%	5.3	5.3	44.0	25.0	18.9
BRANDES INVST PARTNERS	443.7	2.4%	(1.2)	(1.2)	9.2	3.1	9.0
CAPITAL GUARDIAN ¹	0.4	—%	3.6	3.6	28.4	16.0	15.3
BERNSTEIN GLOBAL	420.2	2.3%	(6.1)	(6.1)	7.0	2.9	8.2
LONGVIEW PARTNERS	504.7	2.7%	8.1	8.1	12.7	9.7	
BLS CAPITAL	616.3	3.3%	15.6	15.6			
FIERA CAPITAL	568.7	3.0%	17.6	17.6			
WALTER SCOTT	565.7	3.1%	15.2	15.2			
TOTAL GLOBAL EQUITY	\$ 3,119.8	16.8%	8.7	8.7	14.7	8.1	11.1
TOTAL U.S./GLOBAL EQUITY	\$ 10,656.7	57.5%	10.3	10.3	13.8	10.0	12.3
BENCHMARK - Russell 3000			9.0	9.0	14.0	10.2	14.7

INVESTMENT SECTION

Investment Results for the Year Ended June 30, 2019

<u>MANAGERS</u>	TOTAL FAIR VALUE (MILLIONS)	% OF TOTAL FUND	Investment Performance for Periods Ending				
			FISCAL	1 YR	3 YRS *	5 YRS *	10YRS *
INTERNATIONAL EQUITY							
GENESIS INVESTMENTS	\$ 400.8	2.2%	7.4	7.4	11.7	2.8	8.1
MELLON INVESTMENTS CORP. - INTL STK INDX	747.6	4.0%	1.5	1.5	9.5	2.6	7.3
MONDRIAN	485.7	2.6%	2.2	2.2	7.8	2.0	7.3
BERNSTEIN EMERGING	366.7	2.0%	2.4	2.4	9.5	1.9	4.9
BNY MELLON DB NSL EMERGING STK INDX	733.9	4.0%	1.5	1.5	10.7	2.5	
TOTAL INTERNATIONAL EQUITY	2,734.7	14.8%	2.5	2.5	9.8	2.4	6.9
EAFE INDEX NET			1.1	1.1	9.1	2.3	6.9
TOTAL EQUITY	\$ 13,391.4	72.3%	8.7	8.7	12.9	8.5	11.2
BENCHMARK - Russell 3000			9.0	9.0	14.0	10.2	14.7
FIXED INCOME							
DBF & CO FIXED	\$ 64.5	0.3%	5.9	5.9	1.8	2.3	3.0
DBF & CO-IDAHO MTGS	826.5	4.5%	10.4	10.4	3.2	4.8	5.1
STATE ST ADV-FX	1,816.2	9.8%	8.7	8.7	2.4	3.2	4.2
SSGA-TIPS	1,632.5	8.8%	4.9	4.9	2.1	1.8	4.7
CLEARWATER-TBA	217.8	1.2%	8.0	8.0	2.7	3.2	3.5
WESTERN ASSET	302.1	1.6%	8.7	8.7	4.3	4.5	7.1
IR+M	219.0	1.2%	8.9	8.9			
TOTAL FIXED INCOME	\$ 5,078.6	27.4%	7.6	7.6	2.6	2.9	4.5
BENCHMARK - Bloomberg Barclays Aggregate Bonds			7.9	7.9	2.3	3.0	3.9
OTHER							
UNALLOCATED CASH	\$ 49.1	0.3%	2.9	2.9	2.1	3.4	2.9
MTMS TRANSITION ¹	0.3	0.0%	16.8	16.8	(6.3)	5.5	—
TOTAL OTHER	49.4	0.3%					
COMBINED TOTAL	\$ 18,519.4	100.0%	8.4	8.4	9.9	6.9	9.4
BENCHMARK - 55% Russell 3000 30% BB Aggregate Bonds 15% MSCI EAFE Index			7.9	7.9	9.9	7.0	10.4

Add: Other PERSI DC Choice Plan Investments ²	\$ 223.1
Sick Leave Fixed Income Investments	173.0
Sick Leave Equity Securities	393.3
Investments Purchased	187.7
Less: Interest and Dividends Receivable	(66.2)
Investments Sold	(107.9)

Total Pension Fund Investments

Net of Receivables \$ 19,322.4

*Rates of Return are annualized

**Accounts opened less than two years

¹Large inflows/outflows/dividends receivable in this account results in widely variable results

²Total Return Fund/Judges' Retirement Fund included in investment results

Performance is gross of fees

Prepared using a time weighted rate of return per
BNY Mellon Global Risk Solutions, a division of BNY Mellon Asset Servicing

INVESTMENT SECTION

Schedule of Investment Income for the Last Six Years

Year		Interest		Dividends		Gains & Losses*		Total
2014	\$	110,329,885	\$	180,373,163	\$	817,663,490	\$	1,108,366,538
2015		105,237,909		220,530,606		1,907,625,265		2,233,393,780
2016		114,333,491		198,258,329		153,584,037		466,175,857
2017		106,500,811		224,510,654		(65,219,864)		265,791,601
2018		119,967,098		220,630,874		1,538,645,824		1,879,243,796
2019		127,684,540		235,997,226		1,081,844,372		1,445,526,137

*Includes realized and unrealized gains and losses and other investment income.

Largest Stock Holdings (by Fair Value) June 30, 2019

	Shares	Stock		Fair Value
1	72,308	AMAZON.COM INC	\$	136,924,598
2	490,232	MASTERCARD INC		129,681,071
3	914,819	MICROSOFT CORP		122,549,153
4	433,757	APPLE INC		85,849,185
5	425,591	FACEBOOK INC		82,139,063
6	454,214	VISA INC		78,828,840
7	975,491	PROLOGIS INC		78,136,829
8	1,268,254	ORACLE CORP		72,252,430
9	241,295	ADOBE INC		71,097,572
10	444,737	SIMON PROPERTY GROUP INC		71,051,183

A complete list of portfolio holdings is available upon request.

Largest Bond Holdings (by Fair Value) June 30, 2019

	Par	Bonds	Description		Fair Value
1	56,465,763	US TREASURY INFLATION INDEX SECURITY	0.625% 04/15/2023 DD 04/15/18	\$	57,500,074
2	56,981,893	US TREASURY INFLATION INDEX SECURITY	0.125% 04/15/2022 DD 04/15/17		56,503,436
3	55,997,506	US TREASURY INFLATION INDEX SECURITY	0.625% 01/15/2026 DD 01/15/16		55,983,041
4	56,165,034	US TREASURY INFLATION INDEX SECURITY	0.125% 01/15/2022 DD 01/15/12		54,404,881
5	53,582,809	US TREASURY INFLATION INDEX SECURITY	0.625% 01/15/2024 DD 01/15/14		53,662,630
6	54,913,321	US TREASURY INFLATION INDEX SECURITY	0.125% 07/15/2022 DD 07/15/12		53,354,584
7	52,656,083	US TREASURY INFLATION INDEX SECURITY	0.375% 07/15/2023 DD 07/15/13		53,309,074
8	54,018,975	US TREASURY INFLATION INDEX SECURITY	0.125% 01/15/2023 DD 01/15/13		53,015,660
9	51,383,643	US TREASURY INFLATION INDEX SECURITY	0.375% 07/15/2025 DD 07/15/15		52,462,576
10	52,083,093	US TREASURY INFLATION INDEX SECURITY	0.250% 01/15/2025 DD 01/15/15		52,016,591

A complete list of portfolio holdings is available upon request

INVESTMENT SECTION

Schedule of Fees and Commissions for the Year Ended June 30, 2019

Broker Name	Base Commission	Total Shares	Commission per Share
UBS SECURITIES LLC, STAMFORD	\$ 196,060	1,165,618	\$ 0.16820
ICBC FINCL SVCS, NEW YORK	98,095	2,503,043	0.03919
WEEDEN & CO, NEW YORK	91,315	2,735,693	0.03338
MERRILL LYNCH INTL LONDON EQUITIES	88,770	59,261,712	0.00150
ISI GROUP INC, NEW YORK	81,185	2,402,601	0.03379
GOLDMAN SACHS & CO, NY	64,114	39,174,758	0.00164
J.P MORGAN SECURITIES INC, NEW YORK	61,832	2,059,335	0.03003
MERRILL LYNCH PIERCE FENNER SMITH INC NY	59,261	3,501,109	0.01693
UBS EQUITIES, LONDON	57,007	14,212,578	0.00401
CANTOR FITZGERALD & CO INC, NEW YORK	56,032	2,218,962	0.02525
MORGAN STANLEY & CO INC, NY	53,216	50,249,737	0.00106
J P MORGAN SECS LTD, LONDON	52,507	9,602,186	0.00547
CLSA SINGAPORE PTE LTD (CHV), SINGAPORE	45,265	17,594,076	0.00257
WELLS FARGO SECURITIES, LLC, NEW YORK	42,279	1,056,986	0.04000
ITG AUSTRALIA LTD, MELBOURNE	39,959	50,449,825	0.00079
JONESTRADING INST SVCS LLC, NEW YORK	36,162	941,637	0.03840
RBC CAPITAL MARKETS LLC, NEW YORK	36,043	1,015,043	0.03551
Other Brokers under \$35,000	1,214,500	278,971,130	0.00435
TOTAL BROKER COMMISSIONS	\$ 2,373,603	539,116,029	0.00440

A complete list of broker commissions is available from PERSI upon request. PERSI does not require that investment managers use specific brokers

Schedule of Fees and Commissions for the Year Ended June 30, 2019

PRIVATE EQUITY COSTS BY ACCOUNT

*Ascribe Capital LLC	\$	539,331
Advent International GPE, L.P.		404,923
Apollo Investment Fund, L.P.		711,992
Blackstone Capital Partners, L.P.		1,457,045
CVC European Equity Partners, L.P.		1,068,699
Endeavour Capital Fund, L.P.		464,938
Epic Ventures Fund LLC		114,495
Hamilton Lane Co-Investment Fund, L.P.		570,371
Hamilton Lane Secondary Funds, L.P.		443,654
KKR, L.P.		537,108
Kohlberg Investors, L.P.		412,247
Lindsay Goldberg, L.P.		1,356,777
Nautic (Navis) Partners LP		(2,049)
Providence Equity Partners III, L.P.		97,094
Silver Lake Partners V, L.P.		709,509
TPG, L.P.		162,334
Veritas Capital Partners, LLC		149,874
TOTAL	\$	9,198,343

* formerly American Securities Opportunities

INVESTMENT SECTION

Schedule of Fees and Commissions for the Year Ended June 30, 2019

Investment Fees	Average Assets Under Management	Fees	Basis Points
Investment Manager Fees			
Equity Managers	\$ 9,306,155,867	\$ 33,271,016	36
Fixed Income Managers	4,690,552,662	5,471,785	12
Real Estate Managers	845,934,254	9,121,354	108
Total Average Assets	\$ 14,842,642,783		
Total Investment Manager Fees		47,864,154	32
Other Investment Service Fees			
Custodian/Record Keeping Fees		3,066,297	
Investment Consultant Fees		1,006,222	
Legal Fees		321,257	
Actuary/Audit Service Fees		491,796	
Total Investment Service Fees		4,885,572	3
Total Defined Benefit Plans/Defined Contribution Plans' Fees		\$ 52,749,726	35
Total Other Trust Funds' Fees		489,555	
Total Fees		\$ 53,188,434	

Note: Broker Fees and Private Equity Costs are included on a separate schedule

INVESTMENT SECTION

STATEMENT OF INVESTMENT POLICY AND GUIDELINES

I. Introduction

The Retirement Board (“Board”) of the Public Employee Retirement System of Idaho (“PERSI”, “System”) hereby establishes its Statement of Investment Policy for the investment of the trust funds (“Trust”) in accord with Idaho Code Chapter 13, Title 59.

II. Statutory Requirements

The investment of the Trust will be in accord with all applicable laws of the state of Idaho.

A. Sole Interest of Beneficiaries

Investments will be solely in the interest of the participants and beneficiaries and for the exclusive purpose of providing benefits to the participants and their beneficiaries and defraying reasonable expenses of administration.

B. Prudent Investments

Investments will be made with the judgment and care under the circumstances then prevailing, which people of prudence, discretion and intelligence exercise in the management of their own affairs, not in regard to speculation but in regard to the permanent disposition of their funds, considering the probable outcome as well as the probable safety of their capital. Investments will be diversified so as to minimize the risk of loss and to maximize the rate of return, unless under the circumstances it is clearly prudent not to do so.

C. Fiduciary Duties

The Board and its agents, including staff, consultants, and investment managers, will discharge their duties with respect to the Trust assets solely in the interest of the members and retired employees, and with the care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.

III. Investment Goals

A. General Objective

1. Purpose

The purpose of the investment of Trust assets is to provide funds to meet the obligations of the Public Employee Retirement System of Idaho (PERSI) while incurring the appropriate amount of risk consistent with attaining that goal. The Board will invest the assets of the Trust and will reduce risk through diversification of the assets of the Trust.

2. Considerations

In determining the returns needed by the System, the acceptable risk levels, and the allowable investments, the Board will consider:

- the purpose of the plan,
- the projected return of the portfolio as it relates to the funding objectives of the plan,
- the effect of particular investments on the total portfolio,
- the diversification of the portfolio, and
- the liquidity needs and the current return relative to the anticipated cash flow requirements.

B. Specific PERSI return and risk objectives

1. Investment Returns

(a) Actuarial Assumptions

In projecting obligations and the returns needed to meet those obligations, the Board will consider studies performed by actuaries hired by the Board. The actuary uses an investment return assumption of 7.50% before fees and expenses in balancing projected obligations, projected contributions, and projected returns on assets. The return assumption after fees of administering the system and its investments is 7.00%.

INVESTMENT SECTION

Assuming all of the actuarial assumptions are accurate, this 7.0% net return will suffice to: (1) assure the payment of statutorily required benefits, which includes a 1.0% Cost of Living Adjustment (COLA); and (2) maintain the reduction of the level of the unfunded liability (if any) on the scheduled amortization (one year at a time). The assumed 7.0% net return will not be sufficient to fund either discretionary COLAs (2-6%), retroactive COLAs, accelerate the amortization of the unfunded liability, build a stabilization reserve, or allow for gain-sharing distributions.

(b) Inflation and Salary Assumptions

This 7.50% rate before fees and 7.00% rate net of fees assume an inflation rate of 3.25% and an annual general state salary growth rate of 3.75%. To the extent that either inflation or salary growth are higher or lower than these rates, then the investment returns needed will also be higher or lower than the assumed 7.00% net, although not on a 1:1 ratio.

(c) Relation to Funding Policy

As set out in the Board's funding guidelines, to the extent investment markets allow, it is the desire of the Board to provide discretionary COLAs, accelerate the amortization of any unfunded liability, and provide for gain-sharing. It is also the goal of the Board to maintain a reasonable amortization of any unfunded liability, and not to exceed the 25 year amortization period set by statute. Therefore, it is the goal of the Board to set an expected rate of return above the actuarially assumed return so that (1) discretionary COLAs will have a reasonable chance of being consistently funded and (2) the scheduled amortization of any unfunded liability is not unreasonably jeopardized. Returns above that amount will be used to build a stabilization reserve and to distribute to the System participants through gain-sharing.

(d) Periodic Specific Return Goals

Because of the inflation sensitivity of both the returns needed by the System and the size of annual COLAs, an exact target return (either real or nominal) cannot be set in advance. Nonetheless, under most reasonable actuarial assumptions, PERSI has a relatively stable real return goal of between 4.75% - 5.25% if consistent funding of discretionary COLAs and providing for gain sharing is included as an objective. Consequently, specific return goals for upcoming periods will be set out in the strategic asset allocations periodically adopted by the Board.

2. Investment Risk and Asset Allocations

(a) Diversification Among Asset Classes

In controlling the risk level that is appropriate for the Trust, the Board will diversify the assets of the Trust among various asset classes as the Board may from time to time adopt as appropriate asset classes. The specific asset classes to be used will be set in conjunction with the asset allocation adopted from time to time by the Board.

(b) Review of Asset Classes and Asset Allocation

In setting allocations, the Board will focus on assuring that the expected long-term returns of the System will meet expected long-term obligations with the appropriate level of risk sufficient to meet those objectives. Unless circumstances materially change, the Board will at least once every five years determine the appropriate asset classes for the investment of Trust assets and conduct asset allocation studies to help determine the long term strategic allocations among desired asset classes so as to meet long-term return objectives with the appropriate level of risk.

(c) Content of Asset Allocations

The asset allocation will set out:

- the asset classes to be used,
- the long-term "normal" percentage of assets to be invested in each asset class,
- the short to intermediate term ranges that will be considered allowable temporary deviations from the normal allocation,

INVESTMENT SECTION

- the investment risk and return expectations for each asset class,
- the numerical investment return and risk expected to be realized, and
- the relation of the expected investment return to the real and actuarially assumed investment return.

(d) Strategic Policies

In addition to asset allocation, the Board may from time to time authorize or adopt strategic policies. “Strategic policies” are actions by the Board to allow investment in asset types that have not been singled out as “asset classes” in the asset allocation process, to overweight particular sectors within an asset class, or to employ particular strategies in the investment of Trust assets. The purposes of these actions are either to increase the return above the expected return or to reduce risk.

IV. Investment Structure

A. Overall Structure

In making specific investment policy decisions, the Board will have as an overall goal a flexible, simplified structure with clear roles and accountability.

1. Board Ultimately Responsible

The Board is ultimately responsible for all investment activities. In exercising this responsibility, the Board will hire investment personnel and agents and delegate various investment functions to those personnel and agents. Where the Board does not delegate investment powers or duties, the Board will either satisfy itself that it is familiar with such matters, or will retain persons who are familiar with such matters to consult or assist the Board in the exercise of those responsibilities. Where the Board delegates a responsibility, it will be delegated to a person who is familiar with such matters, and the Board will monitor and review the actions of those to whom responsibilities are delegated.

2. General Roles and Responsibilities of Board and Agents

The Board will favor a structure that accommodates a citizen Board and a small staff. The Board and staff will concentrate their activities on:

- making strategic decisions, primarily concerning asset allocation and strategic policies;
- adjusting the mix between passive and active managers depending on, among other considerations, near-term concerns regarding the U.S. and other capital markets;
- delegating and monitoring all other activities, including hiring and monitoring investment managers; and
- maintaining a reporting system that provides a clear picture of the status of the fund on a reasonably concurrent basis to both the Board and PERSI’s constituencies.

The Board will rely on outside agents, and primarily investment managers, to be responsible for non-strategic decisions. This responsibility includes those investment decisions with shorter-term consequences such as the best near-term securities, regions, asset types, or asset classes.

B. Direct (Non-Delegated) Responsibilities of the Board

1. Specific Responsibilities

The Board will be directly responsible for

- Setting investment policy,
- Determining the investment structure of the Trust,
- Determining the asset classes to be utilized,
- Setting the asset allocation,
- Determining or authorizing strategic policies;
- Hiring agents to implement the asset allocation;
- Hiring agents to implement strategic policies; and

INVESTMENT SECTION

- Monitoring the compliance of those agents with the investment policies and allocations determined by the Board.

2. Delegation and Monitoring of Specific Investment Activities

The Board will normally delegate investment decisions concerning specific securities or assets, or the tactical allocations of assets among asset types, to outside agents. The Board will retain direct responsibility for the monitoring of the activities of those agents through periodic reports from its staff or consultants. The Board may choose to exercise direct investment responsibility if unusual market conditions or other circumstances so indicate.

C. Employees, Consultants, and Advisors to the Board

1. Investment Staff

(a) Duties of Chief Investment Officer and Other Staff

The Board will hire a Chief Investment Officer and such other staff as it considers appropriate who will be generally responsible for the oversight of the investment of Trust assets, and, as part of that overall responsibility, will: (1) supervise, monitor, and evaluate the performance of the investment managers hired by the Board to assure compliance with investment policy and individual guidelines; (2) assist the Board in developing and adjusting investment policy, including reviewing and modifying the asset allocation as conditions warrant; (3) research current market conditions, evaluate new products, and seek out new approaches to improve portfolio return, reduce risk, and reduce costs and fees; (4) work with the consultants, custodians, investment managers, and other agents in the performance of their assigned duties; and (5) assist the Board with education and other efforts to promote good decision making. Except in special circumstances, PERSI staff will not be responsible for the investment, purchase, or sale of specific assets.

(b) Allocation of New Net Contributions

The Chief Investment Officer shall allocate new net contributions to or withdraw net distributions from the system among investment managers in accordance with the strategic and tactical ranges established by the Board in the asset allocation. The Chief Investment Officer shall report to the Board regularly on the allocation of new net contributions or the withdrawal of net distributions.

(c) Tactical Asset Allocation and Rebalancing

With prior notice to the Board, the Chief Investment Officer may shift assets among managers (including between passive and active managers) as long as the asset allocation is maintained within the strategic ranges. If conditions do not permit giving prior Board notice, the Chief Investment Officer is authorized to move assets among investment managers within the ranges established by the Board. If such action is taken, the Chief Investment Officer shall notify the Chairman of the Board as soon as is practical either that action is contemplated or has been taken, as circumstances warrant.

(d) Minimum Qualifications of Chief Investment Officer

The Chief Investment Officer shall at least: (a) have a graduate degree in finance, law, or business administration or (b) be a Chartered Financial Analyst; or (c) have three or more years of experience in the investment of trust assets.

2. Actuaries

The Board will hire an actuary to provide studies that will: (1) determine the long term obligations faced by the System through annual actuarial valuations, (2) set out return objectives or assumptions that will be sufficient to meet those obligations; and (3) provide reviews at least once every four years of the actuarial valuation process, including updating the projections and assumptions in light of the experience of the System. The Board will set its long-term return objectives after considering information provided by those studies.

INVESTMENT SECTION

3. Investment Consultants

The Board will hire a qualified independent consultant, whose relationship does not impose a conflict of interest with the Board or staff, to provide investment performance measurement at least quarterly with the report available to the Board within two months of the quarter end. The report will at least compare actual investment returns of the System --in total, by each asset class, and for each managed portfolio-- with both the investment objectives of the System and a with an appropriate benchmark and peer group. The Board may hire other independent investment consultants as needed to assist the Board in the management of its investment responsibilities, including, but not limited to: (1) performing asset allocation studies, and reviewing and recommending modifications of the asset allocation as conditions warrant; (2) assisting in monitoring the investment managers to assure they are in compliance with the investment policy and their individual guidelines; (3) performing manager evaluations and searches as may be necessary; and (4) assisting in the development and adjustment of investment policy. Except for consultants retained solely for purposes of performance measurement, consultants will be fiduciaries of the Trust.

D. Managers or Agents with Delegated Responsibilities

1. Custodian

(a) Responsibilities

The Board will hire custodians and other agents who will be fiduciaries of the Trust and who will assume full responsibility for the safekeeping and accounting of all assets held on behalf of the Trust. Among other duties, as may be agreed to, the custodian will be responsible for: (a) the receipt, delivery, and safekeeping of securities; (b) the transfer, exchange, or redelivery of securities; (c) the claiming, receipt, and deposit of all dividend, interest, and other corporate actions due the Trust; (d) the daily sweep of all uninvested funds into a cash management account or accounts; and, (e) the provision of reports to PERSI upon agreed time intervals that will include all purchases and sales of securities, all dividend declarations on securities held by the Trust, a list of securities held by the Trust, a valuation of those securities, and a cash statement of all transactions for the account of the Trust. Unless the Board provides otherwise, the custodian will also be responsible for monitoring class action litigation, filing and collecting claims on PERSI's behalf, and reporting to PERSI on such activities.

(b) Authorization of Collective Investment Trusts

Assets of the Trust may be invested in any collective investment trust, which at the time of the investment provides for the pooling of the assets of plans described in Section 401(a) of the Internal Revenue Code of 1986, as amended, and which is exempt from Federal income tax. Assets of the Trust may be commingled with assets of other trusts if invested in any collective investment trust authorized by this policy. The provisions of the trust agreement, as amended by the trustee thereof from time to time, of each collective investment trust in which Trust assets are invested are by this reference incorporated as a part of the trust estate comprising the Trust. The provisions of the collective investment trust will govern any investment of Trust assets in that trust.

2. Investment Managers

The Board will hire investment managers who will be fiduciaries of the Trust and who will be responsible for the investment of Trust assets in specific securities or assets within or among the asset classes.

(a) Minimum Qualifications

Investment managers shall be registered with the Securities and Exchange Commission (unless they are banks, insurance companies, or other category exempted from such registration requirements), have been in the business of investment management at least two years (or the main personnel of the investment management firm have worked together in the business of investment management for at least two years), and, usually, have other United States pension fund assets under management.

INVESTMENT SECTION

(b) Guidelines

Investment Managers shall manage assets in accordance with additional guidelines established by contract and as may be added to or modified from time to time. The additional guidelines will contain minimum diversification requirements that must be followed by that manager. These guidelines will also set out the investment return expected to be achieved by that manager, and shall be linked to a benchmark that represents the passive index fund that would be used to replace the manager's assignment.

(c) Responsibilities and Discretion

Subject to the restrictions set out in this policy or as may be set out in individual contracts or guidelines, an investment manager shall have full discretionary power to direct the investment, exchange, and liquidation of the assets entrusted to that manager. The manager shall place orders to buy and sell securities and, by notice to the custodian, cause the custodian to deliver and receive securities on behalf of the Trust.

(d) Corporate Governance

The Board, unless otherwise stated, will delegate the voting of proxies to the investment manager or custodian. The Board will adopt and from time to time modify a proxy voting policy. The staff will forward PERSI's Proxy Voting Policy to investment managers; however the investment managers will normally have discretion to vote proxies according to their respective proxy voting policies, provided they vote those proxies in the best interest of the System. The Board may from time to time take any other action it deems appropriate in exercising PERSI's proxy voting powers, including but not limited to directing staff to vote individual proxies in a particular manner.

(e) Transactions and Brokerage

All securities transactions shall be executed by reputable broker/dealers or banks, and shall be on a best price and best execution basis.

3. Use of Passive and Active Managers

(a) Purpose and Use of Active Management

The Board recognizes that passive (index fund) investing has lower costs than active investing, with regard to both management fees and transaction costs. Further, the Board also recognizes that there is uncertainty concerning whether active investing can generally outperform passive investing, particularly in the large, liquid, and efficient portions of the capital markets. Also, the Board has great confidence that a passive investment of assets in an efficient asset allocation will likely meet long-term (20 year) obligations.

Contribution rates, COLAs, and the ability to provide for gain-sharing, however, are based on 1-5 year returns. The Board is concerned that over 1-5 year periods the ability to consistently fund COLAs and to keep contribution rates stable are in considerable jeopardy from two sources: (1) expected "normal" market fluctuations are such that annual returns will likely not meet hurdle rates approximately 40% of the time, with actual negative returns to be expected once every six years; and (2) that most of the Trust assets under the asset allocation will be invested in U.S. capital markets, and are thus vulnerable to poor U.S. returns.

One purpose of active management of Trust assets is to address these two concerns. Active managers will be hired for the purpose of providing greater stability of returns, and better returns, than would be achievable under purely passive management over rolling 3-5 year periods. Active managers will be responsible for timing of markets and the tactical allocation of assets among and within the capital markets (including between the U.S. and international markets).

In addition to providing extra returns, active managers will also be employed to smooth returns, provide higher long-term returns, provide protection in adverse markets, and to add exposure and additional diversification to the portfolio than that achievable solely through investment in passive indices representing the strategic asset allocation and strategic policies.

INVESTMENT SECTION

(b) Structure

In using outside managers, the Board will favor a structure using a reasonable number of managers with broad mandates and benchmarks.

Passive managers will be favored for the core, liquid, efficient markets (such as S&P 500 stocks and U.S. Government/Credit bonds). Active managers will be favored for relatively inefficient markets.

Global managers will be used to provide flexibility in reacting to near-term concerns that may arise concerning any particular region or market, particularly the U.S. capital markets, and to provide an appropriate balance between efficient long-term asset allocations (which favor US assets) and near-term allocations (which have a greater preference for international assets) to meet the real (inflation adjusted) return needs of the System.

Assets under the management of global equity managers will be considered US equity assets for purposes of asset allocation. Consequently, actual allocations to international equities in the overall portfolio from time to time may be above that in the stated asset allocation due to the activities of the global equity managers.

(c) Balance between Passive and Active Management

The balance between active and passive management will be set from time to time with the following considerations in mind: concentration of active investment efforts where there is the most potential for excess returns, implementation of views concerning the state of the U.S. and international capital markets, and reduction of fees and other costs.

(d) Monitoring Standards

Active managers will be monitored under two standards: First, over rolling 3-5 year periods, managers will be expected to exceed, after fees, the benchmark index that represents the passive alternative to the mandate given the manager, and to rank in the top half of the universe of managers that best fits that manager's mandate. Second, over shorter periods of time, managers will be expected to maintain key personnel, a consistent style, and investment capability. Passive managers will be monitored on their ability to track their benchmark index over both short (1 quarter to one year) and long (3 to 5 year) periods. The Board may consider other information it considers relevant, including composite manager indices, in determining whether to retain or terminate managers.

V. Asset Class Policies

A. U.S. Equities

1. Objective

The overall objective of the U.S. equity or Broad Domestic Equity asset class is to obtain, over time, a return after fees that equals or exceeds the returns of the Russell 3000 Index, both absolutely and on a risk-adjusted basis. For assets under the management of global equity managers, the objective for near-term periods (approximately 5 years or sooner) will be to achieve a return after fees that is equal to or exceeds the returns of the MSCI World Index or MSCI All Country World Index, both absolutely and on a risk-adjusted basis.

2. Allowable Investments

Managers may invest in stocks that do not pay dividends. Managers may invest in equity securities outside of the Russell 3000 Index, and global equity managers may invest in equity securities outside of the MSCI World Index. Managers may use derivative securities for purposes of enhancing liquidity, reducing transaction or other costs, or partially hedging an existing exposure in the portfolio.

INVESTMENT SECTION

3. Manager Styles

Managers for the U.S. equity asset class may include index funds, style managers (such as value, growth, and capitalization), “core” managers, and global managers.

4. Benchmarks

The Russell 3000 index will be the benchmark for the passive index funds, core managers, and global managers. For near term periods (approximately 5 years or less), the MSCI World or MSCI ACWI indexes are the benchmarks for global equity managers. Other style or capitalization indices maintained by a qualified organization may be used as the benchmark for style managers. Active U.S. and global equity managers are expected to exceed, over rolling 3-5 year intervals, the applicable benchmark by 75 basis points annually after fees, and to rank in the top 50th percentile of active managers with similar mandates.

B. International Equities

1. Objective

The overall objective of the International Equity Asset Class is to obtain, over time, a return after fees that equals or exceeds the returns of the MSCI Europe, Australasia, and Far East (MSCI EAFE) Index (unhedged), or the FT Actuaries World ex U.S. Index, both absolutely and on a risk-adjusted basis.

2. Allowable Investments

Managers may invest in stocks that do not pay dividends. Managers may invest in American Depositary Receipts or American Depositary Shares. Managers may invest in equity securities of companies or in countries that are not included in the indices. Managers may use derivative securities for purposes of enhancing liquidity, reducing transaction or other costs, or partially hedging an existing exposure in the portfolio. Managers may, at their discretion, hedge the currency exposure of all or part of their portfolios. Managers may not overhedge their portfolio, although proxy hedging for purposes of liquidity and cost savings is allowed.

3. Manager Styles

Managers for the International Equity asset class may include index funds, general international managers, and regional or specialized managers (such as emerging markets). The Board may from time to time hire a currency overlay manager to hedge the currency exposure in those portfolios where managers do not actively or normally consider hedging their exposure.

4. Benchmarks

The MSCI EAFE Index (unhedged), will be the benchmark for the developed markets passive index fund. Active international developed markets managers may use as their benchmark either the MSCI EAFE index or the MSCI ACWI ex US index (unhedged). The MSCI Emerging Markets Free (MSCI EMF) index will be the benchmark for the emerging markets managers, both active and passive.

Regional or specialized indices (unhedged) maintained by a qualified organization may be used as the benchmark for other active managers. Active international equity managers are expected to exceed, over rolling 3-5 year intervals, the applicable benchmark by 75 basis points annually after fees, and to rank in the top 50th percentile of active managers with similar mandates.

C. Fixed Income

1. Objectives

The overall objective of the Fixed Income Asset Class is to obtain, over time, a return after fees that equals or exceeds the returns of the Barclays Capital Aggregate Bond Index (Aggregate Bond Index) both absolutely and on a risk-adjusted basis.

The Fixed Income Asset Class shall consist of investments in mortgages and in both dollar and non-dollar fixed income securities. Mortgages shall consist of investments in mortgage backed securities, and direct ownership of commercial mortgages through the Idaho Commercial Mortgage Program.

INVESTMENT SECTION

The objective of the non-mortgage fixed income securities other than real return portfolios is to obtain, over time, a return after fees that equals or exceeds the returns of the Barclays Capital Government/Credit Bond Index (Government/Credit Bond Index) on a risk-adjusted basis. The overall objective of the mortgage securities is to obtain, over time, a return after fees that equals or exceeds the returns of the Barclays Capital Mortgage Index (Mortgage Index) on a risk-adjusted basis. The overall objective of the real return fixed income is to obtain, over time, a return after fees that equals or exceeds the returns of the Barclays Capital TIPS Index on a risk-adjusted basis.

2. Allowable Investments

Managers may invest in debt securities that do not pay interest. Active managers may invest in securities in companies or countries that are not included in the indices. Managers may use derivative securities for purposes of enhancing liquidity, reducing transaction or other costs, or partially hedging an existing exposure in the portfolio. Fixed income managers may, at their discretion and to the extent allowed by their contracts and guidelines, use currency forward or futures markets as may be considered appropriate to implement fixed income strategies.

3. Manager Styles

Managers in the Fixed Income asset class may include index funds, domestic bond managers, specialized managers, and global managers.

4. Benchmarks

The Barclays Capital Government/Credit Index or Barclays Capital Aggregate Index will be the benchmark for all non-mortgage fixed income managers except real return fixed income managers. The Barclays Capital TIPS index will be the benchmark for real return fixed income managers. The Barclays Capital Mortgage Index will be the benchmark for all mortgage managers. The Barclays Capital Aggregate Index will be the benchmark for the asset class. Active fixed income managers are expected to exceed, over rolling 3-5 year intervals, the applicable benchmark by 25 basis points annually after fees, and to rank in the top 50th percentile of active managers with similar mandates.

D. Real Estate

1. Objectives

Private equity real estate investments will be considered part of the U.S. Equity asset class. The overall objective of private equity real estate investments is to attain a 5% real rate of return overall, over a long-term holding period, as long as this objective is consistent with maintaining the safety of principal. The 5% real rate of return includes both income and appreciation, is net of investment management fees, and is net of inflation as measured annually by the Consumer Price Index. Over a short term basis, the objective is to earn a nominal minimum income yield of 5% on each individual investment, or inflation plus 3%, whichever is greater.

2. Allowable Investments

Allowable private equity real estate investments include open-end and closed-end commingled real estate funds, direct real estate investments, publicly traded real estate investment trusts and other public real estate companies, private real estate companies and real estate operating venture entities. Allowable investments must be originated and managed by real estate advisors with substantial experience originating and managing similar investments with other institutional investors. The real estate asset sector is not intended to include solely debt investments; in particular, straight mortgage interests are considered part of the fixed income asset class. The real estate asset sector may include equity-oriented debt investments, including mezzanine loans, that conform with the return targets of the sector.

3. Need for Income Component of Return

Upon closing, each real estate investment must have as a goal the expectation of an annual income return and overall holding period return measured primarily by realized return rather than expected capital appreciation. Thus, a significant portion of real estate investments made should be in existing income

INVESTMENT SECTION

producing properties with measurable return expectations rather than purely development properties. However, existing properties with potential for physical enhancement, including development or redevelopment, are acceptable investments.

4. Protection of the Trust

Investment vehicles should be chosen that will protect the Trust, including provision for investments that do not contain debt or liability with recourse beyond the Trust commitment to the related business entity, provision for inspection and evaluation of environmental hazards prior to the purchase of any specific property, and the provision of insurance coverage to protect against environmental and natural hazards.

5. Reporting

A comprehensive reporting system for individual investments, entities and funds will be maintained so that primary operational and economic characteristics are continually defined, and underperforming investments can be identified and remediated. Active asset and portfolio management is required for the management of all non-publicly traded real estate investments. Investment managers shall be required to present periodic operational reports within approved formats, including statements of fair value, audited financial statements and annual business plans.

6. Benchmarks

The MSCI US REIT, Dow Jones Select REIT, NAREIT all Equity, or Wilshire REIT index will be the benchmark for the passive REIT index fund. The National Council of Real Estate Investment Fiduciaries (NCREIF) Property Index or the Open End Core Equity (NFI-ODCE) Value with net will be the benchmarks for the open-end and closed-end funds and private real estate. The asset class in total will be benchmarked against the Russell 3000 index.

7. Asset Allocation

For purposes of asset allocation, real estate investments will be treated as part of the U.S. equity asset class.

E. Alternative Investments

1. Definition and Board Approval

The Board may from time to time authorize the investment of Trust assets in entities or structures that do not fit the asset descriptions listed above. Examples of such investments are venture capital partnerships, private equity, leveraged buy-out funds, private debt, and direct ownership of individual assets such as oil and gas partnerships. These investments shall only be entered into upon the recommendation of a qualified consultant after due diligence and with approval by the Board or a subcommittee appointed by the Board to review the recommendation. Subsequent investments with a previously approved alternative investment manager do not require additional specific approvals by the Board or subcommittee.

2. Objectives and Benchmarks

If the alternative investment is an equity investment, the objective for the investment will be to exceed, over time and after fees, the return achieved by the Russell 3000 Index times 1.35. If the alternative investment is a debt investment, then the objective will be to exceed, over time and after fees, the returns achieved by the Barclays Capital Government/Credit Index plus 3%. It is recognized that these investments may experience greater volatility than the comparable publicly traded securities and indices.

3. Asset Allocation

For purposes of asset allocation, alternative equity investments will be treated as part of the U.S. equity asset class, and alternative debt investments will be treated as part of the fixed income asset class.

INVESTMENT SECTION

VI. Strategic Asset Allocation

The following tables summarize the strategic asset allocation of the Trust, including the expected net return and risk of each asset class, the strategic normal asset allocation and allowable ranges, and the expected risk and net return of the Trust as compared to the actuarial assumptions.

STRATEGIC ASSET ALLOCATION (Expected Returns are before fees and expenses)

Asset Class	Expected Return*	Expected Risk	Strategic Normal	Strategic Ranges
Equities			70%	66% - 77%
Broad Domestic Equity	9.15%	19.00%	55%	50% - 65%
International	9.25%	20.20%	15%	10% - 20%
Fixed Income	3.05%	3.75%	30%	23% - 33%
Cash	2.25%	0.9%	0%	0% - 5%

Total Fund	Expected Return*	Expected Inflation	Expected Real Return	Expected Risk
Actuary	7.00%	3.25%	3.75%	n/a
Portfolio	6.58%	2.25%	4.33%	12.67%

* Expected arithmetic return net of fees and expenses

Data provided by Callan Associates 2015

VII. Deposit and Investment Risk Policy - GASB 40

A. Purpose

The Governmental Accounting Standards Board has identified that state and local governments have deposits and investments which are exposed to risks that may result in losses. GASB Statement number 40 (GASB 40) is intended to inform users of the financial statements about the risks that could affect the ability of a government entity to meet its obligations. GASB 40 has identified general deposit and investment risks as credit risk, including concentration of credit risk and custodial credit risk, interest rate risk, and foreign currency risk and requires disclosures of these risks and of policies related to these risks. This portion of the Investment Policy addresses the monitoring and reporting of those risks.

In general, the risks identified in GASB 40, while present, are diminished when the entire portfolio is viewed as a whole. For example, interest rate risk experienced by fixed income instruments often react in the exact opposite direction as that experienced by equities. Thus, interest rate exposure as set out in GASB 40 will not reflect the cross-influences of impacts across the broad range of investments that make up the PERSI portfolio. And, in fact, the general underlying measures used in GASB 40 across most of the risks identified (credit, concentration, and interest rate risk in particular) were tools that were developed primarily for portfolios dominated by fixed income investments, and are often only poorly transferred, if at all, to portfolios, like PERSI's, that are dominated by equity interests.

Consequently, it is the policy of PERSI that the risks addressed in GASB 40 are to be monitored and addressed primarily through the guidelines agreed to by those managers, and by regular disclosures in reports by managers of levels of risks that may exceed expected limits for those portfolios.

INVESTMENT SECTION

B. Specific Areas of Risk

1. Credit Risk

Summary: Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to PERSI.

Policy: Managers will provide PERSI with expected credit risk exposures in their portfolio guidelines. If the actual credit risk exposure falls outside of these expectations, managers will be required to report these occurrences to Staff and these disclosures are to be made available to the Board.

2. Custodial Credit Risk

Summary: Custodial credit risk is the risk that in the event of a financial institution or bank failure, the System would not be able to recover the value of their deposits and investments that are in the possession of an outside party.

Policy: PERSI minimizes exposure to custodial credit risk by requiring that investments, to the extent possible, be clearly marked as to PERSI ownership and further to the extent possible, be held in the System's name.

3. Concentration of Credit Risk

Summary: Concentration of credit risk is the risk of loss that may be attributed to the magnitude of a government's investment in a single issue.

Policy: Managers will provide PERSI with expected concentration of credit risk exposures in their portfolio guidelines. If the concentration of credit risk exceeds expectations, managers are to be required to report these occurrences to Staff and these disclosures are to be made available to the Board. For the portfolio as a whole, staff will report to the Board at a regular Board meeting if the exposure to a non-US government guaranteed credit instrument exceeds 5% of the total PERSI portfolio.

4. Interest Rate Risk

Summary: Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Interest rate risk to PERSI's fixed income portfolio is monitored using the effective duration methodology. Effective duration measures the volatility of the price of a bond given a change in interest rates, taking into account the optionality on the underlying bond.

Policy: Managers will provide PERSI with the expected portfolio duration in their portfolio guidelines. If the duration of the portfolio differs from expectations, managers are to be required to report these occurrences to Staff and these disclosures are to be made available to the Board.

5. Foreign Currency Risk

Summary: Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. PERSI's currency risk exposures, or exchange rate risk, primarily reside within the international equity investment holdings.

Policy: The PERSI Board recognizes that international investments (equity or fixed income) will have a component of currency risk associated with it. Currency risk and hedging exposures are dependent on the underlying international exposure, which fluctuates over time. The individual manager guidelines will outline the expected currency exposures (either specifically or through ranges of security exposures to particular currency areas) of the underlying portfolio and if the actual currency exposure differs from the expected, managers are to be required to report these occurrences to Staff and these disclosures are to be made available to the Board.

INVESTMENT SECTION

THIS PAGE LEFT INTENTIONALLY BLANK