

QUARTERLY PERFORMANCE REPORT

OKLAHOMA STATE PENSION COMMISSION



December 31, 2019

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BOSTON | ATLANTA | CHARLOTTE | CHICAGO | DETROIT | LAS VEGAS | PORTLAND | SAN FRANCISCO

MARKET ENVIRONMENT UPDATE & OUTLOOK

NEPC, LLC

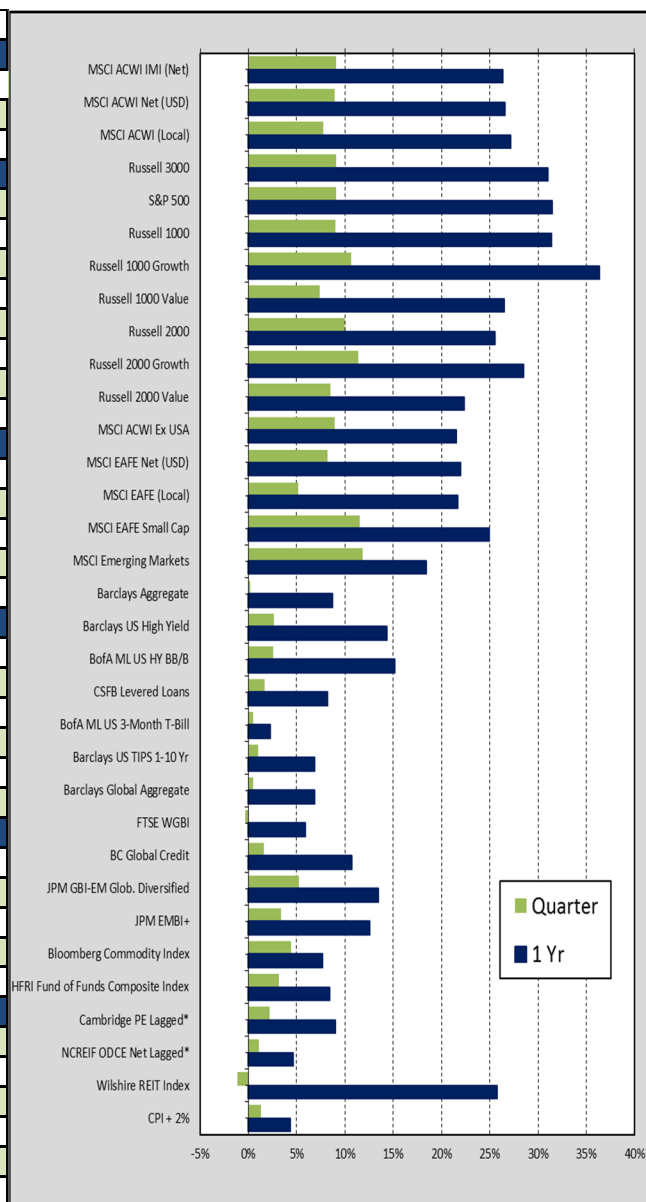
ECONOMIC ENVIRONMENT

- **Q4 Real GDP (advanced estimate) increased at an annual rate of 2.1%.**
 - Retail sales ended November at +5.7% on a YoY basis. In the same period last year the YoY growth rate was 3.5%.
 - Corporate profits (ended July) as a percent of GDP decreased to 8.5% from 8.8% (in September) and remain elevated relative to historical levels.
 - The inventory-to-sales ratio ended November flat at 1.4 from June levels and has remained relatively constant since early 2010.
 - The U.S. trade deficit fell sharply ended November (-5.4% vs. October) as imports decreased.
- **The unemployment rate remained flat at 3.5% in Q4; U-6, a broader measure of unemployment, decreased to 6.7% from 6.9% during Q4.**
- **The Case-Shiller Home Price Index (ended October) increased to 212.4 from 212.2 (in September) and remains at levels higher than that of pre-financial crisis levels of 150.9.**
- **Rolling 12-month seasonally-adjusted CPI saw an up-tick to 2.29% from 1.74% ended Q4; Capacity Utilization decreased to 77% from 77.5% in Q4.**
- **Fed Funds rate was decreased by 0.25% in Q4 to a targeted range of 1.50%-to-1.75%. The 10-year Treasury Yield (constant maturity) finished Q4 up to 1.9% from 1.7%.**
- **The Fed balance sheet increased in size ended Q4, and the European Central Bank balance sheet continues to grow.**
 - ECB held its benchmark refinance rate at 0%, deposit rates remain at -0.5%.
- **S&P valuations increased in Q4, remaining above the 10-year and long-term averages.**
 - Cyclically adjusted Shiller PE ratio (30.9x) is above the long-term average of 16.7x and above the 10-year average of 25.6x.



MARKET ENVIRONMENT – Q4 2019 OVERVIEW

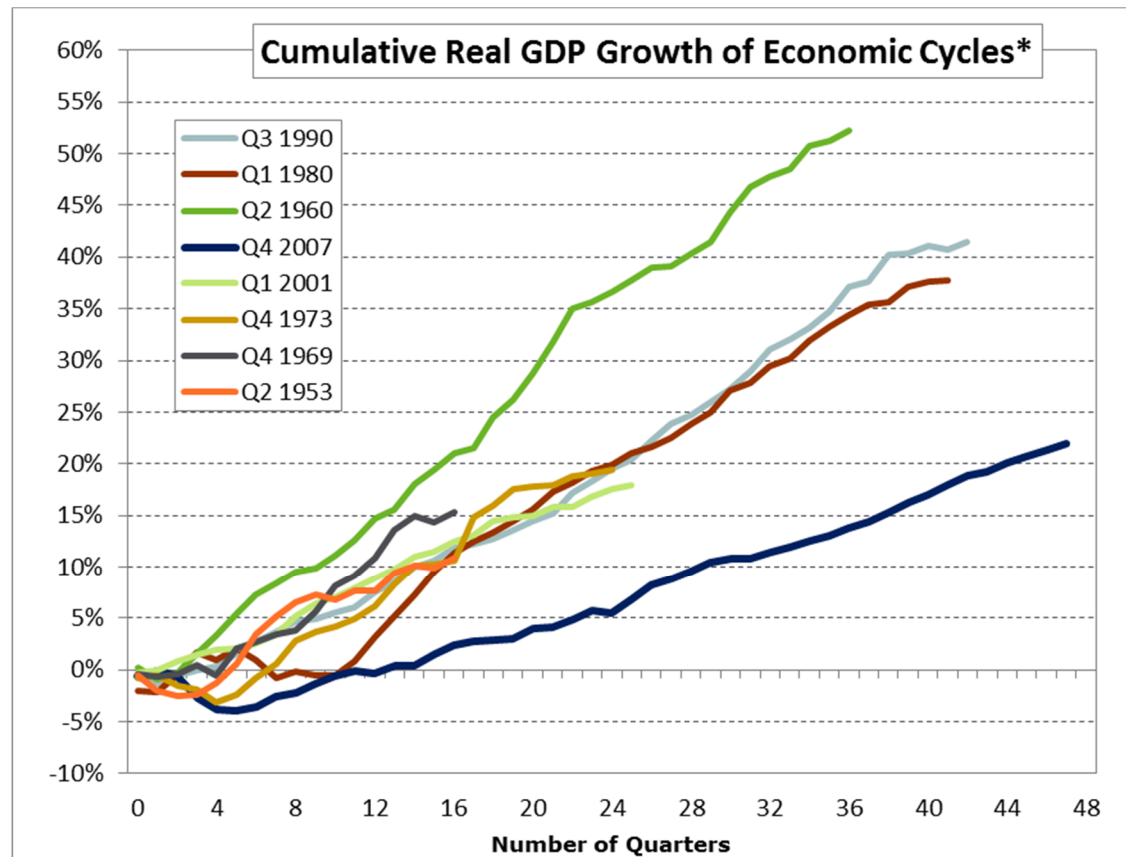
		Qtr.	1 Yr.	3 Yr.	5 Yr.	10 Yr.
World Equity Benchmarks						
MSCI ACWI IMI (Net)	World with Small Cap	9.05%	26.35%	12.09%	8.34%	8.91%
MSCI ACWI Net (USD)	World W/O Small Cap	8.95%	26.60%	12.44%	8.41%	8.79%
MSCI ACWI (Local)	World (Local Currency)	7.73%	27.18%	11.56%	8.87%	9.66%
Domestic Equity Benchmarks						
Russell 3000	Domestic All Cap	9.10%	31.02%	14.57%	11.24%	13.42%
S&P 500	Large Core	9.07%	31.49%	15.27%	11.70%	13.56%
Russell 1000	Large Core	9.04%	31.43%	15.05%	11.48%	13.54%
Russell 1000 Growth	Large Growth	10.62%	36.39%	20.49%	14.63%	15.22%
Russell 1000 Value	Large Value	7.41%	26.54%	9.68%	8.29%	11.80%
Russell 2000	Small Core	9.94%	25.52%	8.59%	8.23%	11.83%
Russell 2000 Growth	Small Growth	11.39%	28.48%	12.49%	9.34%	13.01%
Russell 2000 Value	Small Value	8.49%	22.39%	4.77%	6.99%	10.56%
International Equity Benchmarks						
MSCI ACWI Ex USA	World ex-US	8.92%	21.51%	9.87%	5.51%	4.97%
MSCI EAFE Net (USD)	Int'l Developed	8.17%	22.01%	9.56%	5.67%	5.50%
MSCI EAFE (Local)	Int'l Developed (Local Currency)	5.19%	21.67%	7.66%	6.73%	7.24%
MSCI EAFE Small Cap	Small Cap Int'l	11.52%	24.96%	10.92%	8.85%	8.74%
MSCI Emerging Markets	Emerging Equity	11.84%	18.44%	11.57%	5.61%	3.68%
Domestic Fixed Income Benchmarks						
Barclays Aggregate	Core Bonds	0.18%	8.72%	4.03%	3.05%	3.75%
Barclays US High Yield	High Yield	2.61%	14.32%	6.37%	6.13%	7.57%
BofA ML US HY BB/B	High Yield	2.58%	15.14%	6.48%	6.12%	7.43%
CSFB Levered Loans	Bank Loans	1.68%	8.17%	4.48%	4.54%	5.18%
BofA ML US 3-Month T-Bill	Cash	0.46%	2.28%	1.67%	1.07%	0.58%
Barclays US TIPS 1-10 Yr	Inflation	1.00%	6.85%	2.79%	2.36%	2.57%
Global Fixed Income Benchmarks						
Barclays Global Aggregate	Global Core Bonds	0.48%	6.84%	4.27%	2.31%	2.48%
FTSE WGBI	World Gov. Bonds	-0.35%	5.90%	4.12%	2.03%	1.85%
BC Global Credit	Global Bonds	1.60%	10.74%	5.31%	3.15%	3.93%
JPM GBI-EM Glob. Diversified	Em. Mkt. Bonds (Local Currency)	5.20%	13.47%	7.03%	2.78%	2.71%
JPM EMBI+	Em. Mkt. Bonds	3.38%	12.60%	4.90%	5.20%	6.10%
Alternative Benchmarks						
Bloomberg Commodity Index	Commodities	4.42%	7.69%	-0.94%	-3.93%	-4.73%
HFRI Fund of Funds Composite Index	Fund of Hedge Funds	3.12%	8.42%	3.90%	2.37%	2.83%
Cambridge PE Lagged*	Private Equity	2.21%	9.02%	14.59%	11.64%	14.14%
NCREIF ODCE Net Lagged*	Real Estate	1.08%	4.65%	6.34%	8.36%	9.84%
Wilshire REIT Index	REIT	-1.14%	25.76%	7.63%	6.86%	11.94%
CPI + 2%	Inflation/Real Assets	1.33%	4.33%	4.15%	3.85%	3.78%



* As of 9/30/2019

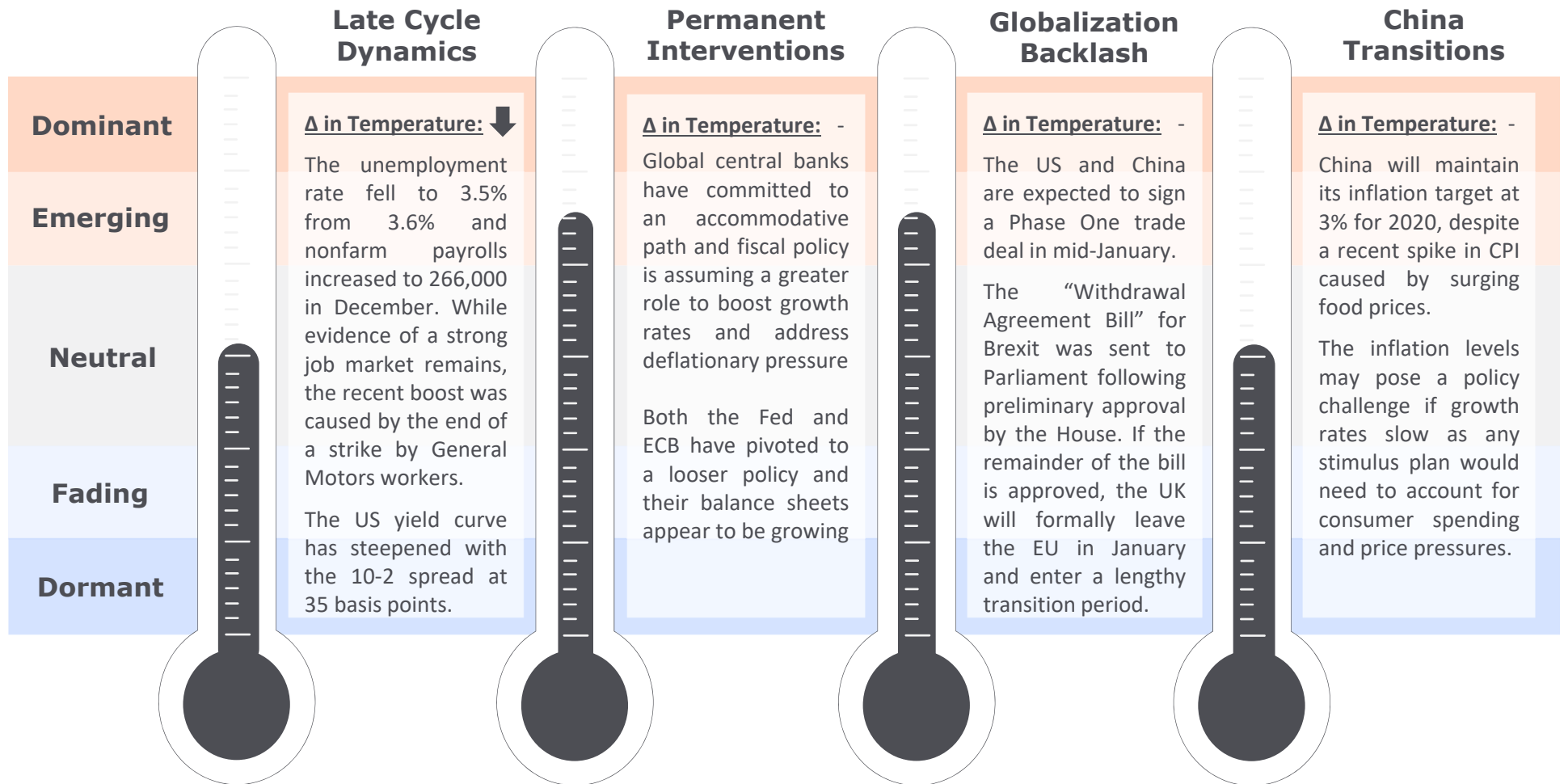


CURRENT ECONOMIC CYCLE IS THE LONGEST SINCE CIVIL WAR IN 1857

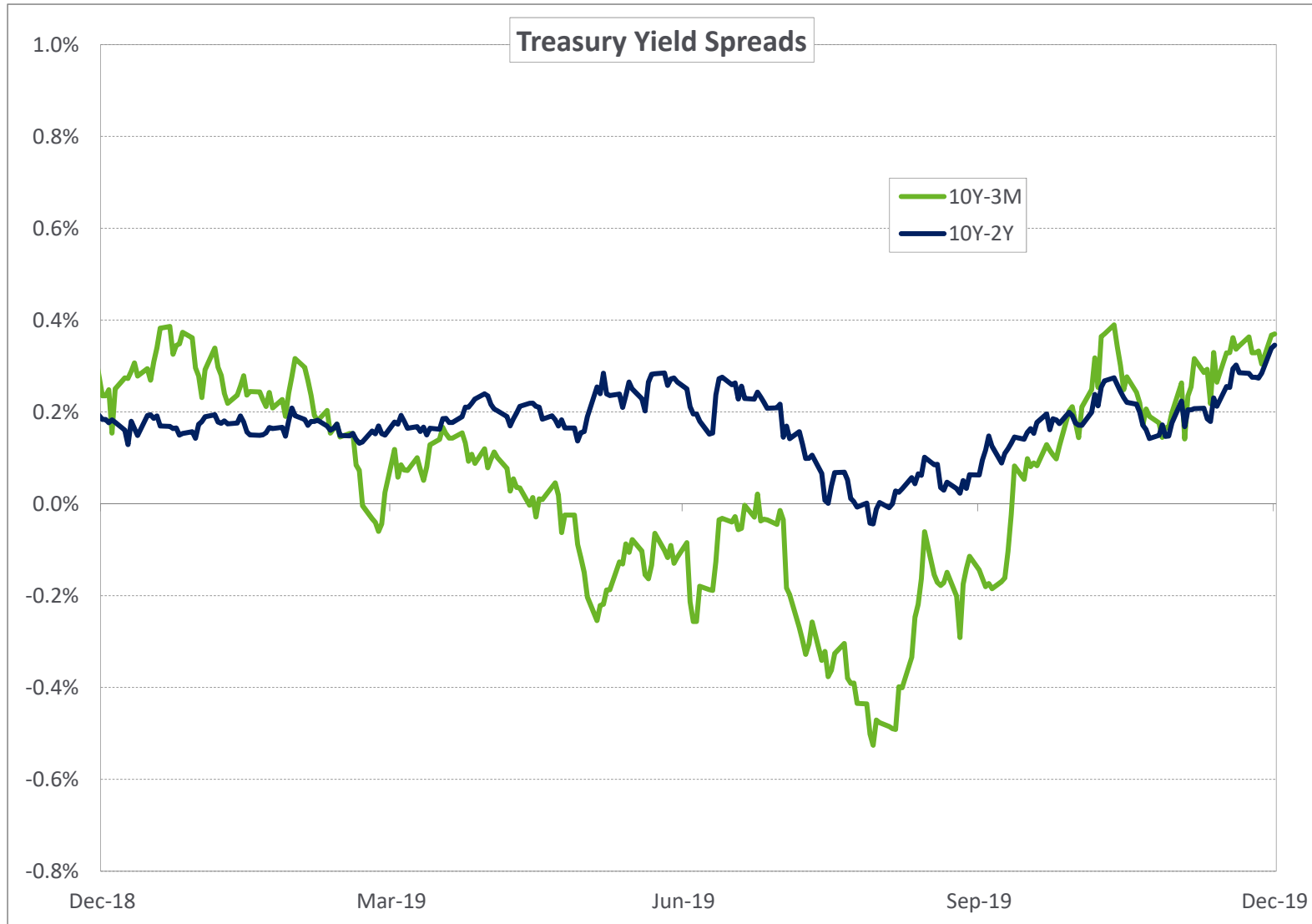


ASSESSING THE KEY MARKET THEMES

Current Temperatures



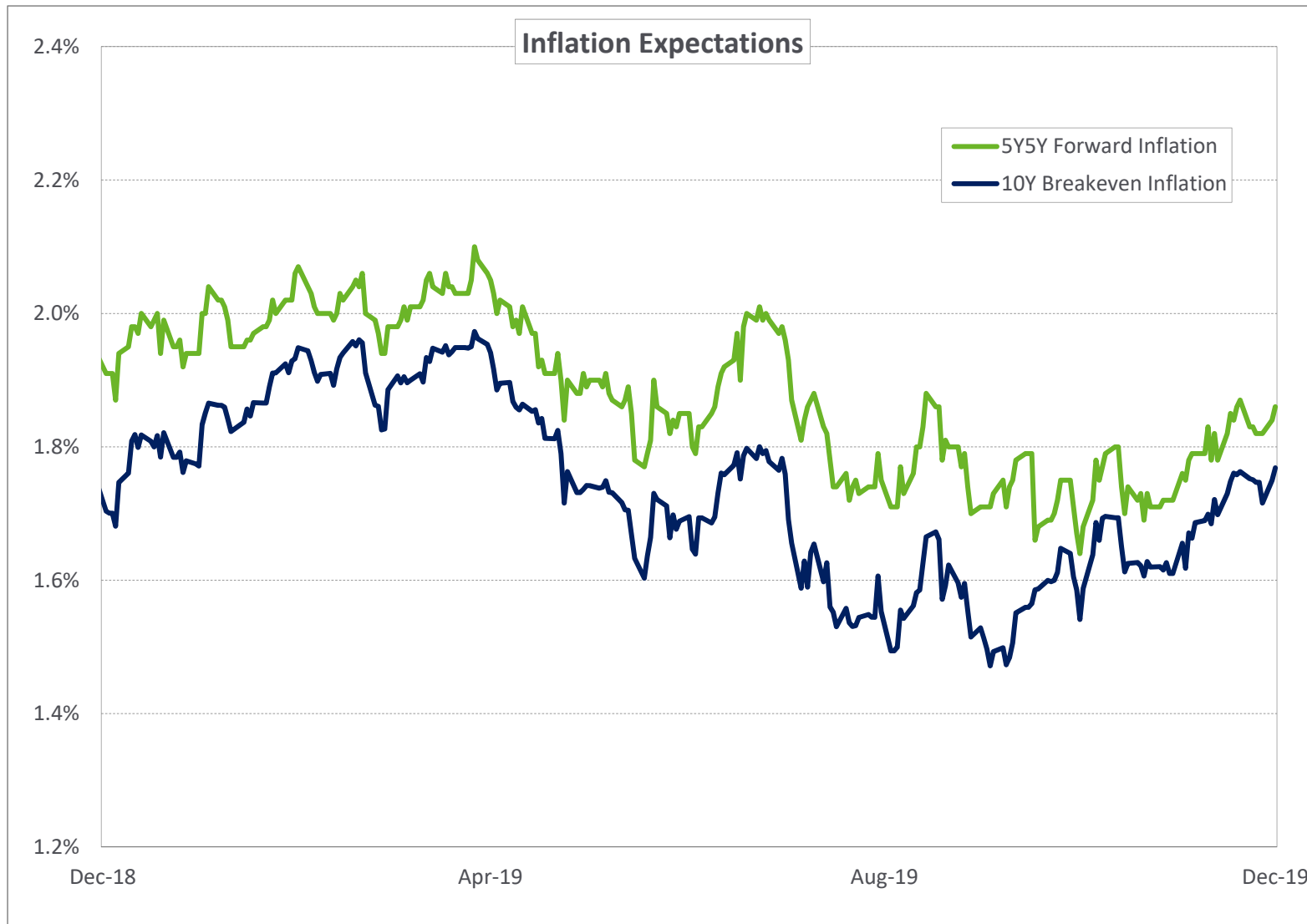
THE YIELD CURVE STEEPENED DURING Q4



Source: FactSet



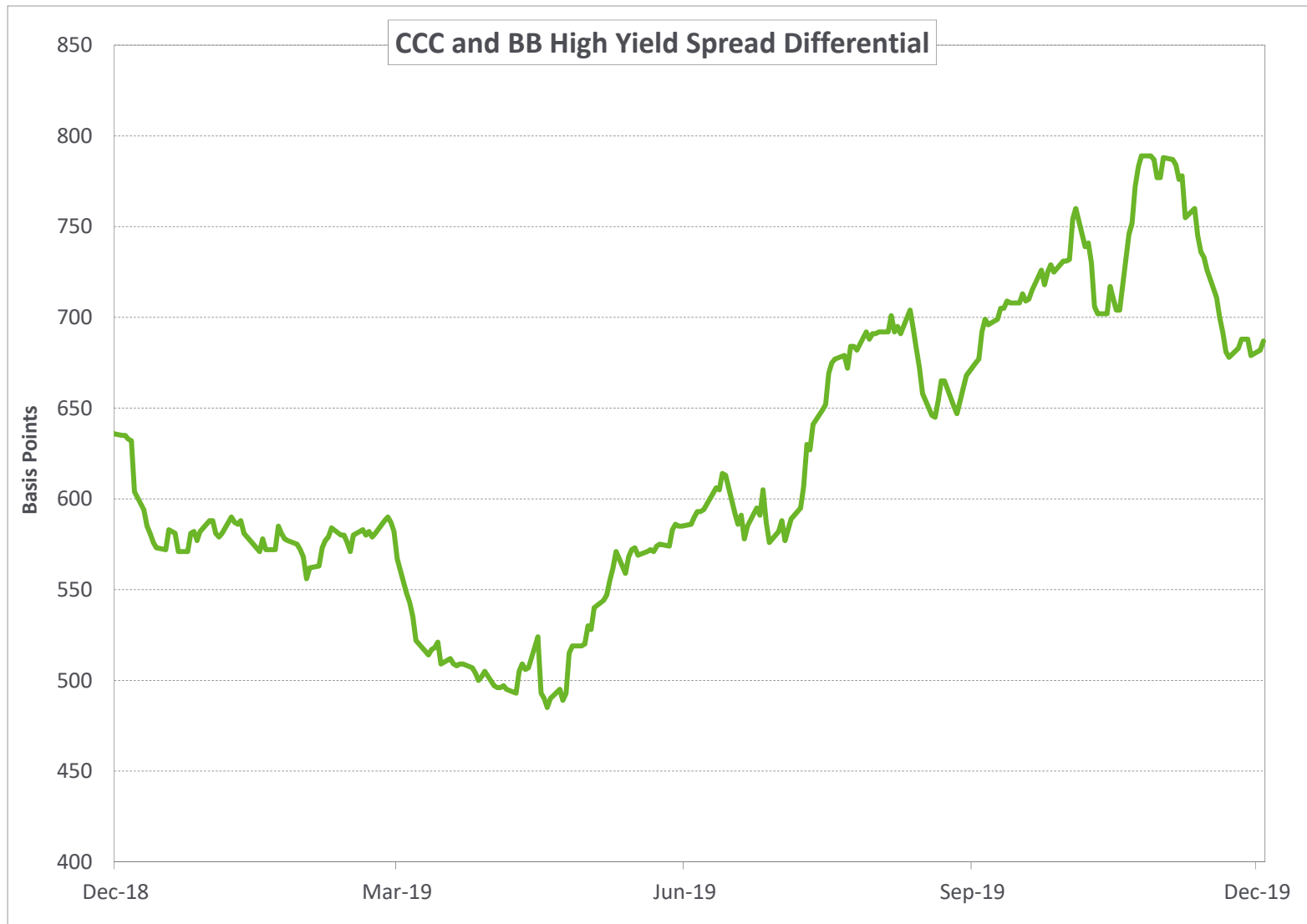
INFLATION EXPECTATIONS REMAIN LOW



Source: FactSet



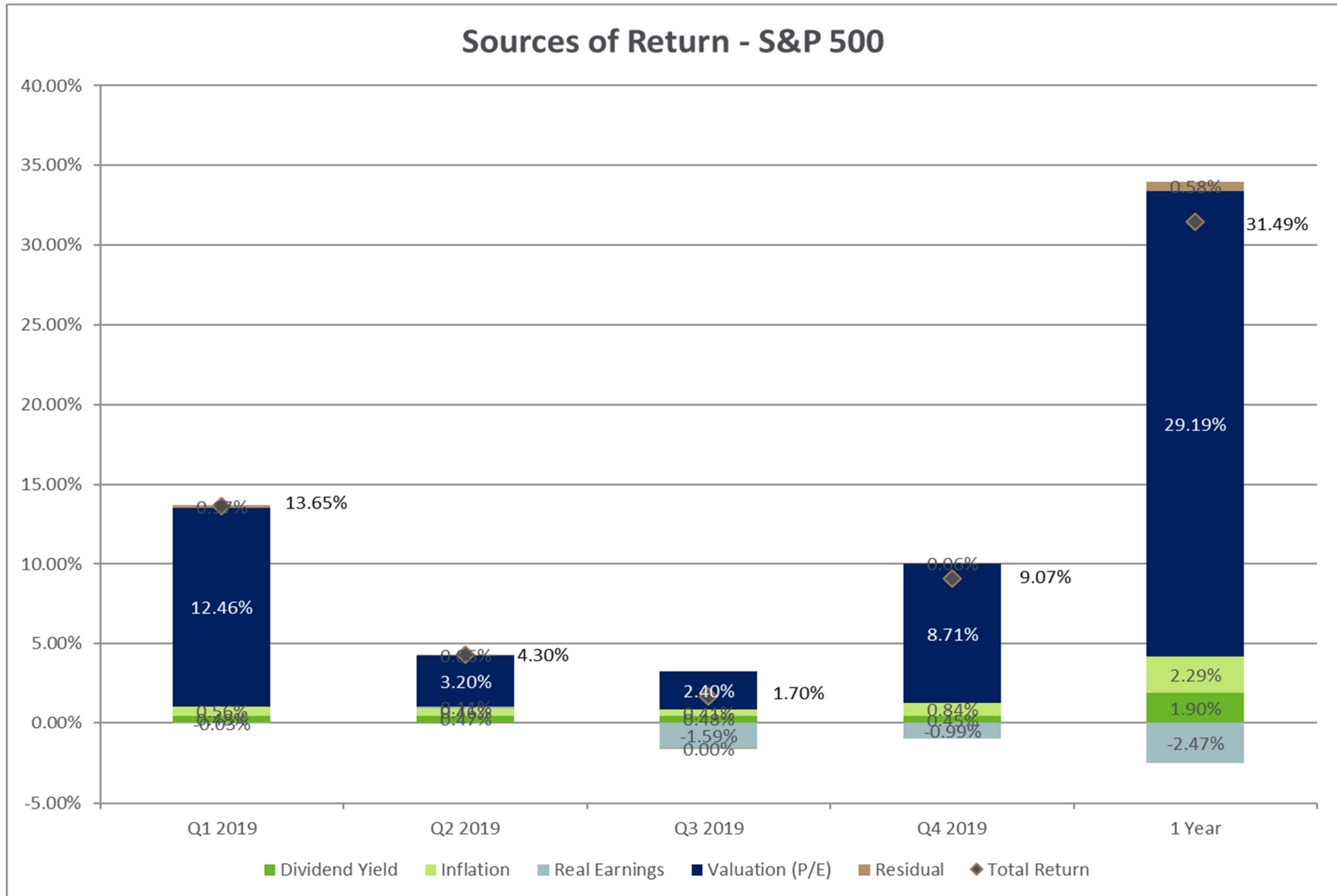
CCC SPREADS WIDENED DURING THE YEAR



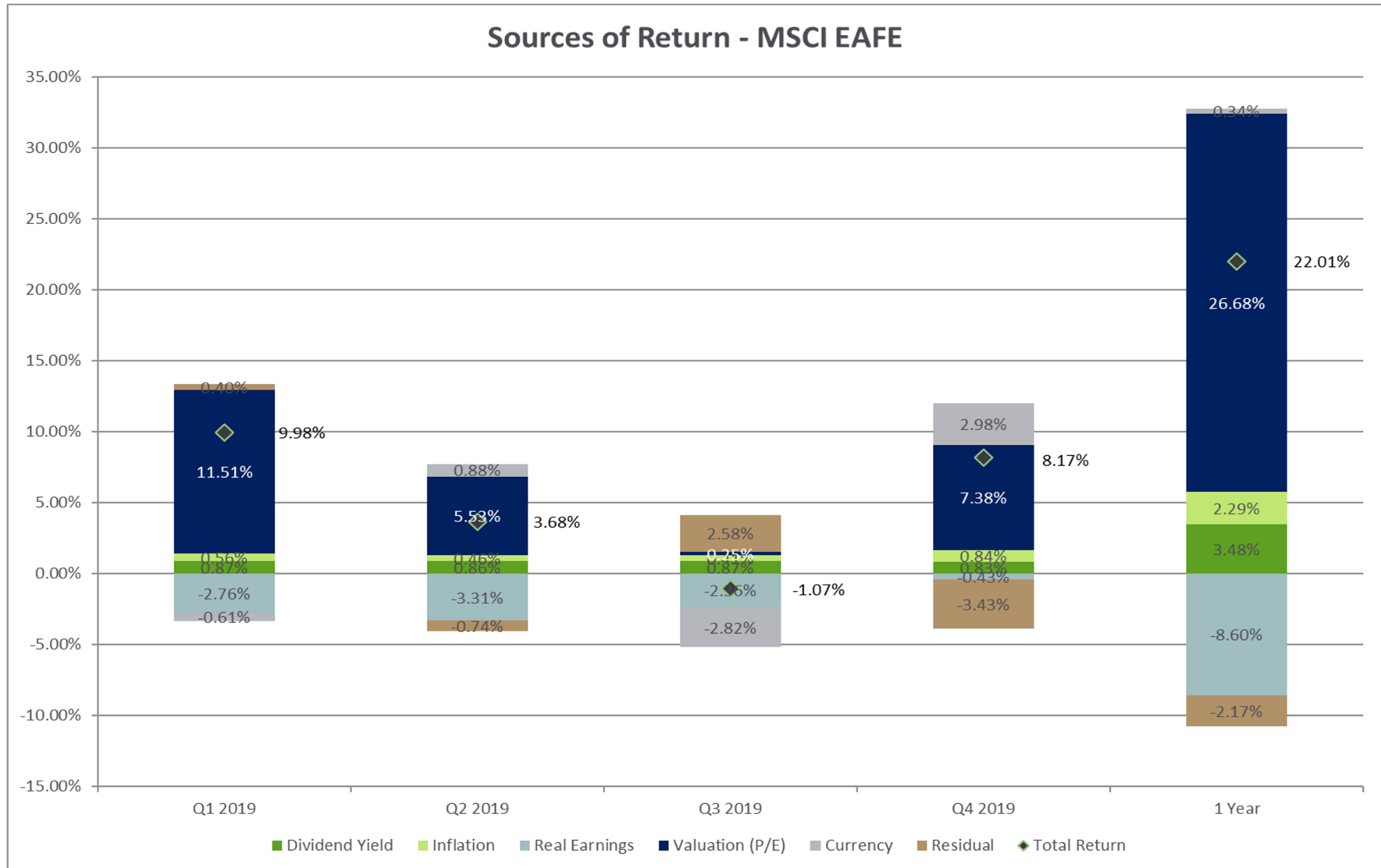
Source: Bloomberg, FactSet



1 YEAR ATTRIBUTION OF S&P 500 RETURNS



1 YEAR ATTRIBUTION OF MSCI EAFE RETURNS



Spot Rates

1 USD = 0.890 Euro

1 USD = 0.880 Euro

1 USD = 0.917 Euro

1 USD = 0.891 Euro



OK Pension Commission

NEPC, LLC

OKLAHOMA STATE PENSION COMMISSION

ASSET ALLOCATION SUMMARY

Key Policy Items	Teachers [^]	TRS 12/31/18	PERS*	PERS 12/31/18	Firefighters	FTRS 12/31/18	Police **	POLICE 12/31/18
TOTAL EQUITY	Target 57.5%	57.5%	68.0%	68.0%	57.0%	57.0%	50.0%	50.0%
	Actual 61.1%	54.7%	69.2%	66.9%	65.2%	60.5%	53.7%	51.0%
	Range 37.5-73.5	37.5-73.5	59.2-76.8	59.2-76.8	42-62	42-62	25-80	25-80
Large Cap	Target 17.0%	17.0%	34.0%	34.0%	29.4%	29.4%	15.0%	15.0%
	Actual 23.6%	17.9%	34.6%	33.6%	36.6%	33.5%	18.9%	16.4%
	Range 12-23	12-23	31.2-36.8	31.2-36.8	24.4-34.4	24.4-34.4	10-20	10-20
MidCap	Target 13.0%	13.0%	-	-	-	-	-	-
	Actual 10.9%	10.0%	-	-	-	-	-	-
	Range 8-18	8-18	-	-	-	-	-	-
Small Cap	Target 10.0%	10.0%	6.0%	6.0%	12.6%	12.6%	5.0%	5.0%
	Actual 9.7%	9.0%	6.3%	6.3%	14.0%	12.7%	6.3%	6.5%
	Range 5-15	5-15	3.2-8.8	3.2-8.8	7.6-17.6	7.6-17.6	0-15	0-15
International / Equity	Target 17.5%	17.5%	28.0%	28.0%	15.0%	15.0%	15.0%	15.0%
	Actual 16.9%	17.8%	28.3%	27.0%	14.6%	14.3%	15.0%	14.1%
	Range 12.5-22.5	12.5-22.5	25-31	25-31	10-20	10-20	5-25	5-25
Long/Short Equity	Target -	-	-	-	-	-	15.0%	15.0%
	Actual -	-	-	-	-	-	13.5%	14.0%
	Range -	-	-	-	-	-	10-20	10-20
TOTAL FIXED INCOME	Target 23.5%	23.5%	32.0%	32.0%	20.0%	20.0%	15.0%	15.0%
	Actual 22.0%	22.8%	30.5%	32.8%	18.5%	17.8%	16.7%	16.3%
	Range 18.5-28.5	18.5-28.5	27.5-36.5	27.5-36.5	10-30	10-30	10-20	10-20
Dom. Fixed Income/High Yield	Target 23.5%	23.5%	32.0%	32.0%	13.0%	13.0%	-	-
	Actual 22.0%	22.8%	30.5%	32.8%	12.6%	11.4%	-	-
	Range 18.5-28.5	18.5-28.5	27.5-36.5	27.5-36.5	0-28	0-28	-	-
Int'l & Global Fixed Income	Target -	-	-	-	7.0%	7.0%	7.5%	7.5%
	Actual -	-	-	-	5.9%	6.4%	16.7%	16.3%
	Range -	-	-	-	2-12	2-12	10-20	10-20
TOTAL ALTERNATIVES	Target 19.0%	19%	0%	0%	23.0%	23%	35.0%	35.0%
	Actual 15.8%	21.5%	0.1%	0.1%	15.3%	20.3%	27.8%	30.8%
	Range 17.1-20.9	17.1-20.9	0-5	0-5	5-40	5-40	10-60	10-60
Low Volatility Hedge Funds	Target -	-	-	-	5.0%	5.0%	10.0%	10.0%
	Actual -	-	-	-	1.2%	3.2%	6.2%	8.0%
	Range -	-	-	-	0-10	0-10	5-15	5-15
Private Equity/MLP's	Target 12.0%	12.0%	-	-	8.0%	8.0%	10.0%	10.0%
	Actual 9.1%	13.3%	-	-	3.3%	3.7%	10.5%	10.1%
	Range 7-17	7-17	-	-	0-15	0-15	5-15	5-15
Real Estate/Real Assets	Target 7.0%	7%	0%	0%	10.0%	10%	15.0%	15.0%
	Actual 6.7%	8.2%	0.1%	0.1%	10.8%	13.4%	11.1%	12.7%
	Range 2-12	2-12	0-5	0-5	5-15	5-15	0-30	0-30
CASH	Actual 1.0%	1.0%	0.2%	0.2%	0.9%	1.3%	1.8%	2.0%
Actuarial Assumed Rates	7.5%		7.0%		7.5%		7.5%	

Out of Range

[^]Master Limited Partnerships included in Private Equity allocation.

*The Russell 3000 index was broken down into Large Cap & Small Cap allocations for the PERS retirement plan

**Real Assets are included in Real Estate

Please note that allocations may not add to 100% due to rounding.



OKLAHOMA STATE PENSION COMMISSION ASSET ALLOCATION SUMMARY

Key Policy Items		Law	Law 12/31/18	Judges	Judges 12/31/18	Wildlife	Wildlife 12/31/18
TOTAL EQUITY	Target	55.0%	55.0%	68.0%	68.0%	50.0%	50.0%
	Actual	60.4%	56.6%	69.2%	67.3%	58.6%	54.6%
	Range	55-65	55-65	59.2-76.8	59.2-76.8	40-65	40-65
<i>Large Cap</i>	Target	20.0%	20.0%	34.0%	34.0%	50.0%	50.0%
	Actual	29.3%	27.1%	34.6%	33.9%	37.8%	34.3%
	Range	15-25	15-25	31.2-36.8	31.2-36.8	40-65	40-65
<i>MidCap</i>	Target	-	-	-	-	0.0%	0.0%
	Actual	-	-	-	-	9.7%	10.7%
	Range	-	-	-	-	0-10	0-10
<i>Small Cap</i>	Target	10.0%	10.0%	6.0%	6.0%	0.0%	0.0%
	Actual	6.2%	5.6%	6.5%	6.3%	4.8%	3.6%
	Range	5-15	5-15	3.2-8.8	3.2-8.8	0-10	0-10
<i>International / Equity</i>	Target	15.0%	15.0%	28.0%	28.0%	0.0%	0.0%
	Actual	14.7%	13.5%	28.1%	27.1%	6.3%	6.0%
	Range	5-15	5-15	25-31	25-31	0-15	0-15
<i>Long/Short Equity</i>	Target	10.0%	10.0%	-	-	-	-
	Actual	10.2%	10.4%	-	-	-	-
	Range	5-15	5-15	-	-	-	-
TOTAL FIXED INCOME	Target	30.0%	30.0%	32.0%	32.0%	40.0%	40.0%
	Actual	25.4%	28.7%	30.3%	32.4%	35.6%	39.7%
	Range	25-35	25-35	27.5-36.5	27.5-36.5	35-55	35-55
<i>Dom. Fixed Income/High Yield</i>	Target	20.0%	20.0%	32.0%	32.0%	40.0%	40.0%
	Actual	17.4%	20.2%	30.3%	32.4%	35.6%	39.7%
	Range	15-25	15-25	27.5-36.5	27.5-36.5	35-55	35-55
<i>Int'l & Global Fixed Income</i>	Target	10.0%	10.0%	-	-	-	-
	Actual	8.0%	8.5%	-	-	-	-
	Range	5-15	5-15	-	-	-	-
TOTAL ALTERNATIVES	Target	15.0%	15.0%	-	-	10.0%	10.0%
	Actual	13.9%	14.5%	-	-	5.0%	5.1%
	Range	5-15	5-15	-	-	0-10	0-10
<i>Low Volatility Hedge Funds</i>	Target	-	-	-	-	-	-
	Actual	-	-	-	-	-	-
	Range	-	-	-	-	-	-
<i>Private Equity/MLP's</i>	Target	5.0%	5.0%	-	-	-	-
	Actual	3.7%	3.3%	-	-	-	-
	Range	0-5	0-5	-	-	-	-
<i>Real Estate/Real Assets</i>	Target	10.0%	0.10	-	-	-	-
	Actual	10.2%	11.2%	-	-	-	-
	Range	2-12	2-12	-	-	-	-
CASH	Actual	0.3%	0.2%	0.5%	0.2%	0.8%	0.8%
Actuarial Assumed Rates		7.5%		7.0%		7.0%	

^Master Limited Partnerships included in Private Equity allocation.

*The Russell 3000 index was broken down into Large Cap & Small Cap allocations for the PERS retirement plan

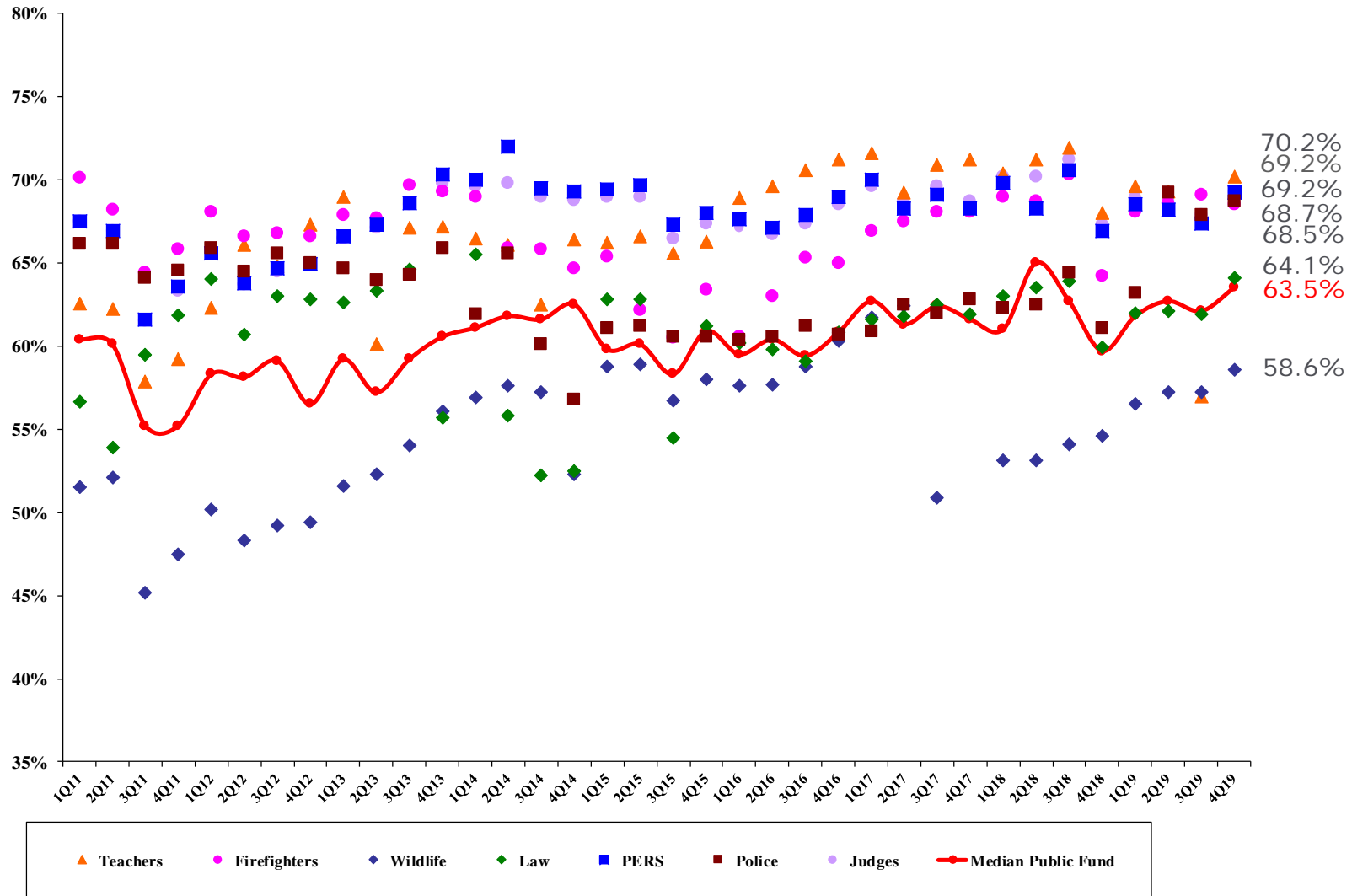
**Real Assets are included in Real Estate

Please note that allocations may not add to 100% due to rounding.

Out of
Range



OKLAHOMA STATE PENSION COMMISSION EQUITY COMMITMENT (PUBLIC EQUITY + PRIVATE EQUITY)



*Cash allocations not broken out for individual managers.
*Before Q2 2012, the Median Public Fund assumes 4.6% allocation to private equity



Total Fund Attribution Analysis

Performance Attribution

Teachers Attribution Analysis	Last 3 Mo.	1 Yr	3 Yrs	5 Yrs
Wtd. Actual Return	5.5%	20.3%	9.9%	7.5%
Wtd. Index Return *	5.7%	20.4%	9.7%	6.9%
Excess Return	-0.2%	-0.2%	0.2%	0.6%
Selection Effect	-0.1%	0.6%	0.3%	0.3%
Allocation Effect	0.9%	1.3%	0.4%	0.0%
Interaction Effect	-1.0%	-1.8%	-0.3%	-0.1%

PERS Attribution Analysis	Last 3 Mo.	1 Yr	3 Yrs	5 Yrs
Wtd. Actual Return	6.2%	21.4%	9.9%	7.2%
Wtd. Index Return *	6.0%	21.3%	9.9%	7.1%
Excess Return	0.2%	0.1%	0.0%	0.1%
Selection Effect	0.2%	0.4%	0.2%	0.2%
Allocation Effect	0.0%	-0.3%	-0.1%	-0.1%
Interaction Effect	0.0%	0.0%	0.0%	0.0%

Firefighters Attribution Analysis	Last 3 Mo.	1 Yr	3 Yrs	5 Yrs
Wtd. Actual Return	5.8%	20.2%	11.7%	8.8%
Wtd. Index Return *	4.9%	20.4%	10.1%	7.9%
Excess Return	0.9%	-0.2%	1.5%	0.9%
Selection Effect	0.3%	0.2%	1.2%	0.5%
Allocation Effect	0.6%	-0.8%	0.2%	0.5%
Interaction Effect	-0.3%	-0.1%	0.0%	-0.2%

Police Attribution Analysis	Last 3 Mo.	1 Yr	3 Yrs	5 Yrs
Wtd. Actual Return	5.1%	15.9%	8.7%	7.0%
Wtd. Index Return *	5.8%	19.0%	9.2%	6.5%
Excess Return	-0.7%	-3.1%	-0.5%	0.5%
Selection Effect	-0.7%	-3.6%	-0.8%	0.2%
Allocation Effect	-0.1%	0.0%	0.1%	0.3%
Interaction Effect	0.0%	0.6%	0.1%	0.0%



Total Fund Attribution Analysis

Law Attribution Analysis	Last 3 Mo.	1 Yr	3 Yrs	5 Yrs
Wtd. Actual Return	5.8%	17.7%	8.6%	6.4%
Wtd. Index Return *	5.9%	20.1%	9.4%	7.2%
Excess Return	0.0%	-2.4%	-0.8%	-0.8%
Selection Effect	0.0%	-1.7%	-0.1%	-0.1%
Allocation Effect	-0.3%	-1.6%	-0.6%	-0.7%
Interaction Effect	0.5%	1.5%	0.1%	0.3%

Judges Attribution Analysis	Last 3 Mo.	1 Yr	3 Yrs	5 Yrs
Wtd. Actual Return	6.1%	21.4%	9.9%	7.3%
Wtd. Index Return *	6.1%	21.5%	10.0%	7.3%
Excess Return	0.0%	-0.1%	-0.1%	0.0%
Selection Effect	0.0%	0.2%	0.0%	0.1%
Allocation Effect	0.0%	-0.2%	-0.1%	-0.1%
Interaction Effect	0.0%	0.0%	0.0%	0.0%

Wildlife Attribution Analysis	Last 3 Mo.	1 Yr	3 Yrs	5 Yrs
Wtd. Actual Return	4.8%	20.8%	10.1%	7.3%
Wtd. Index Return *	2.7%	13.1%	6.2%	4.5%
Excess Return	2.1%	7.7%	3.9%	2.8%
Selection Effect	2.1%	4.9%	2.7%	1.7%
Allocation Effect	0.2%	0.9%	0.3%	0.2%
Interaction Effect	-0.1%	1.8%	0.8%	0.8%

Returns are gross of manager fees.

Plan attribution calculations are returns based and the results shown reflect the composites shown. As a result, the total returns shown may vary from the calculated returns shown on the performance summary.



Oklahoma State Pension Commission

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Oklahoma State Pension Commission	35,466,198,170	100.0	5.5	35	6.0	50	19.8	30	9.8	36	7.4	33	9.2	10
S&P 500			9.1	1	10.9	1	31.5	1	15.3	1	11.7	1	13.6	1
BBgBarc US Aggregate TR			0.2	99	2.5	99	8.7	99	4.0	99	3.0	99	3.7	99
60% S&P 500 / 40% BBgBarc Aggregate			5.5	38	7.5	2	22.2	5	10.9	8	8.4	5	9.8	3
MSCI EAFE			8.2	1	7.0	10	22.0	5	9.6	43	5.7	89	5.5	97
Teachers	17,785,318,255	50.1	5.1	59	5.7	69	19.6	33	9.7	39	7.4	34	9.9	3
TEACHERS Allocation Index			5.1	53	5.5	74	18.5	48	8.9	65	7.0	51	9.1	15
TEACHERS Policy Index			6.2	9	6.6	24	21.1	13	9.4	47	7.2	43	8.9	19
PERS	10,456,425,394	29.5	6.2	7	6.9	12	21.4	10	9.9	29	7.3	40	8.7	31
PERS Allocation Index			6.0	14	6.8	15	20.9	16	9.6	41	7.1	46	8.2	50
PERS Policy Index			6.1	13	6.9	12	21.5	8	10.1	24	7.4	32	8.5	36
Firefighters	2,970,852,952	8.4	5.8	18	5.7	69	20.2	25	11.7	2	8.8	1	9.6	6
FIREFIGHTERS Allocation Index			6.0	14	6.5	27	20.1	27	10.1	24	8.0	9	9.3	9
FIREFIGHTERS Policy Index			5.9	15	7.3	4	21.8	6	10.9	7	8.5	4	9.9	3
Police	2,716,416,498	7.7	5.1	57	5.6	72	15.7	85	8.5	76	6.8	64	7.8	67
POLICE Allocation Index			4.5	82	4.5	92	14.6	94	7.9	86	5.9	86	7.6	73
POLICE Policy Index			5.5	35	6.1	48	18.6	47	9.0	60	6.4	79	8.1	55
Law	1,049,729,332	3.0	5.9	18	5.7	69	17.7	61	8.8	69	6.6	72	8.4	41
LAW Policy Index			5.7	23	6.6	25	19.1	40	9.2	57	7.4	33	8.7	29
Judges	365,110,322	1.0	6.1	13	6.9	12	21.4	9	9.9	29	7.3	40	8.5	34
JUDGES Allocation Index			6.1	13	6.8	15	21.0	15	9.7	39	7.1	49	8.2	51
JUDGES Policy Index			6.1	10	7.0	10	21.5	8	10.1	24	7.4	32	8.5	36
Wildlife	122,345,417	0.3	4.8	73	6.0	54	19.5	35	9.6	41	7.0	51	8.0	57
WILDLIFE Policy Index			4.6	79	5.3	82	17.5	62	8.1	85	6.0	86	7.7	70
InvMetrics Public DB Gross Median			5.2		6.0		18.4		9.4		7.1		8.2	

Returns are gross of manager fees.



Oklahoma State Pension Commission

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	2019 (%)	Rank	2018 (%)	Rank	2017 (%)	Rank	2016 (%)	Rank	2015 (%)	Rank
Oklahoma State Pension Commission	35,466,198,170	100.0	19.8	30	-5.0	79	16.4	28	9.5	5	-1.5	83
S&P 500			31.5	1	-4.4	61	21.8	1	12.0	1	1.4	11
BBgBarc US Aggregate TR			8.7	99	0.0	2	3.5	99	2.6	99	0.5	35
60% S&P 500 / 40% BBgBarc Aggregate			22.2	5	-2.3	12	14.2	72	8.3	27	1.3	13
MSCI EAFE			22.0	5	-13.8	99	25.0	1	1.0	99	-0.8	75
Teachers	17,785,318,255	50.1	19.6	33	-5.0	78	16.1	34	11.4	1	-2.9	98
TEACHERS Allocation Index			18.5	48	-4.7	70	14.3	70	11.0	1	-2.0	89
TEACHERS Policy Index			21.1	13	-5.1	80	14.1	74	10.6	1	-2.5	95
PERS	10,456,425,394	29.5	21.4	10	-6.5	97	17.1	17	7.7	52	-0.8	74
PERS Allocation Index			20.9	16	-6.5	97	16.5	26	8.1	34	-0.9	77
PERS Policy Index			21.5	8	-6.1	94	16.9	21	8.1	34	-0.9	76
Firefighters	2,970,852,952	8.4	20.2	25	-2.4	13	18.7	4	7.3	61	2.1	6
FIREFIGHTERS Allocation Index			20.1	27	-3.9	49	15.6	44	9.4	5	0.5	35
FIREFIGHTERS Policy Index			21.8	6	-3.8	45	16.4	28	8.7	15	1.6	10
Police	2,716,416,498	7.7	15.7	85	-2.4	14	13.2	86	7.5	57	1.0	21
POLICE Allocation Index			14.6	94	-3.7	42	13.8	77	6.7	80	-0.4	63
POLICE Policy Index			18.6	47	-5.3	83	15.5	48	7.1	70	-1.9	89
Law	1,049,729,332	3.0	17.7	61	-4.6	66	14.6	63	7.2	66	-0.4	65
LAW Policy Index			19.1	40	-3.7	40	13.4	86	8.6	18	1.0	22
Judges	365,110,322	1.0	21.4	9	-6.4	96	16.9	21	8.1	36	-1.1	79
JUDGES Allocation Index			21.0	15	-6.5	97	16.7	24	7.9	44	-1.2	81
JUDGES Policy Index			21.5	8	-6.1	94	16.9	21	8.1	34	-0.9	76
Wildlife	122,345,417	0.3	19.5	35	-3.5	36	14.3	71	6.6	82	0.1	49
WILDLIFE Policy Index			17.5	62	-4.9	76	13.0	88	7.4	60	-1.3	81
InvMetrics Public DB Gross Median			18.4		-4.0		15.3		7.7		0.1	

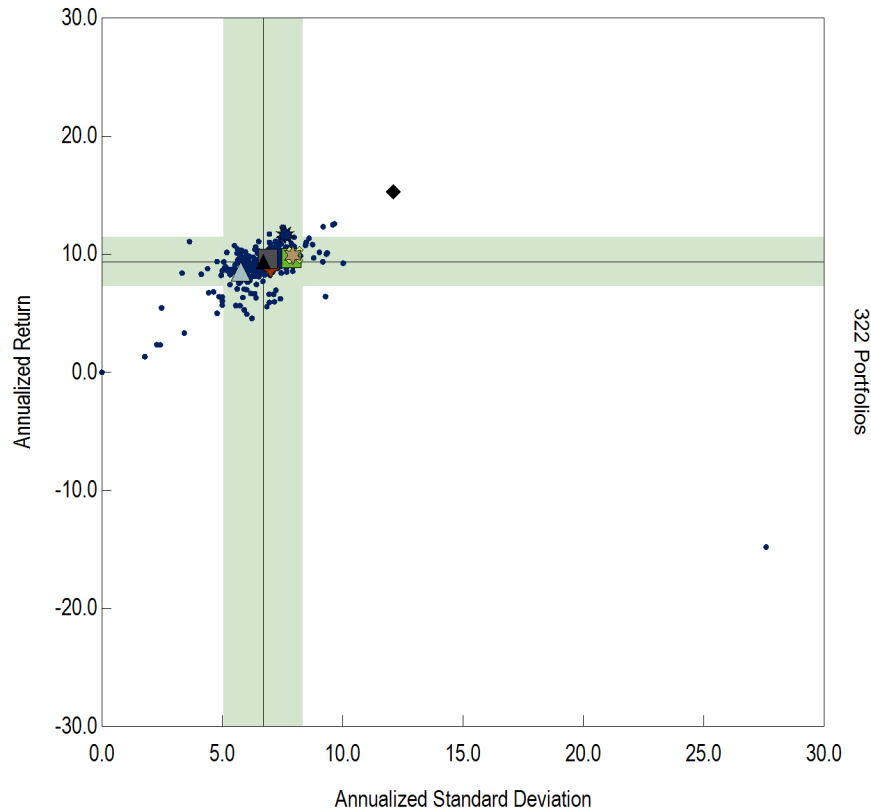
Returns are gross of manager fees.



December 31, 2019

TOTAL FUND RISK/RETURN - 3 YEARS

3 Years Ending December 31, 2019



- Teachers
- ✦ PERS
- ★ Firefighters
- ▲ Police
- ◆ Law
- * Judges
- Wildlife
- ◆ S&P 500
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

3 Years Ending December 31, 2019

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Oklahoma State Pension Commission	9.78%	36	7.65%	86
Teachers	9.67%	39	7.87%	91
PERS	9.94%	29	8.00%	94
Firefighters	11.67%	2	7.62%	84
Police	8.53%	76	5.77%	17
Law	8.79%	69	7.01%	62
Judges	9.92%	29	7.93%	92
Wildlife	9.63%	41	6.89%	57

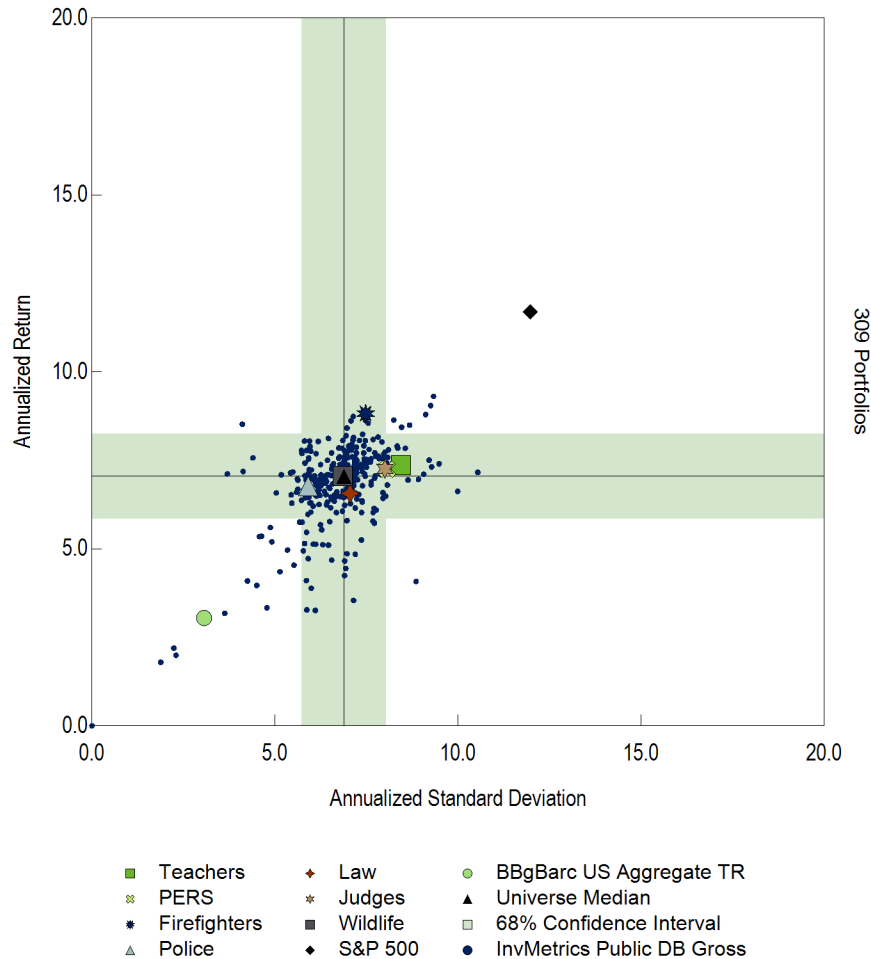
3 Years Ending December 31, 2019

	Sharpe Ratio	Rank	Sortino Ratio	Rank
Oklahoma State Pension Commission	1.06	67	1.34	76
Teachers	1.02	79	1.44	58
PERS	1.04	75	1.32	78
Firefighters	1.32	14	1.63	31
Police	1.19	37	1.49	49
Law	1.02	80	1.32	79
Judges	1.04	73	1.29	82
Wildlife	1.16	44	1.44	59



TOTAL FUND RISK/RETURN - 5 YEARS

5 Years Ending December 31, 2019



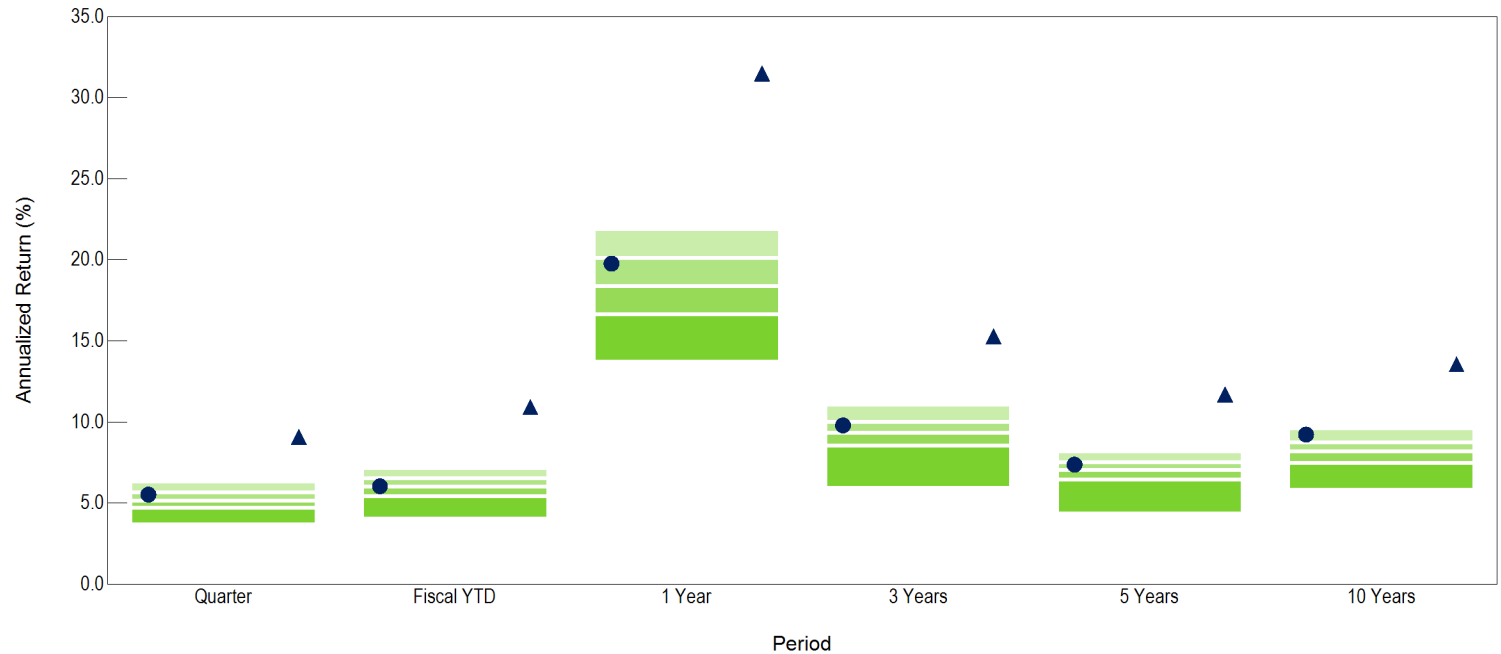
5 Years Ending December 31, 2019				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
Oklahoma State Pension Commission	7.37%	33	7.93%	90
Teachers	7.36%	34	8.43%	96
PERS	7.25%	40	8.06%	94
Firefighters	8.82%	1	7.48%	81
Police	6.77%	64	5.91%	16
Law	6.57%	72	7.05%	62
Judges	7.26%	40	8.00%	93
Wildlife	7.05%	51	6.85%	48

5 Years Ending December 31, 2019				
	Sharpe Ratio	Rank	Sortino Ratio	Rank
Oklahoma State Pension Commission	0.80	73	1.20	71
Teachers	0.75	81	1.15	82
PERS	0.77	79	1.16	81
Firefighters	1.04	9	1.50	20
Police	0.97	19	1.47	26
Law	0.78	77	1.21	70
Judges	0.78	79	1.15	82
Wildlife	0.88	49	1.29	55



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Oklahoma State Pension Commission vs. InvMetrics Public DB Gross

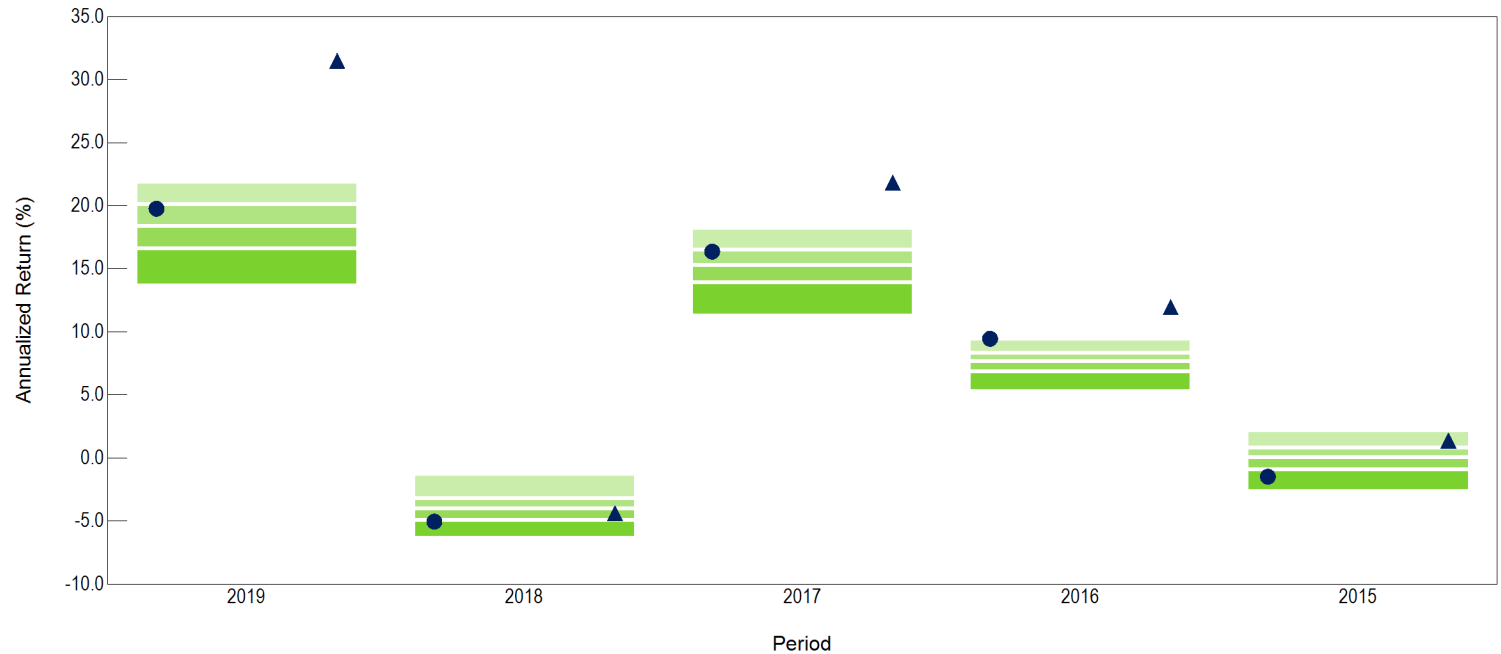


	Return (Rank)											
5th Percentile	6.3	7.1	21.9	11.0	8.2	9.6						
25th Percentile	5.7	6.5	20.1	10.0	7.5	8.8						
Median	5.2	6.0	18.4	9.4	7.1	8.2						
75th Percentile	4.7	5.4	16.7	8.6	6.5	7.5						
95th Percentile	3.7	4.1	13.7	6.0	4.4	5.8						
# of Portfolios	334	333	330	322	309	266						
● Oklahoma State Pension Commission	5.5	(35)	6.0	(50)	19.8	(30)	9.8	(36)	7.4	(33)	9.2	(10)
▲ S&P 500	9.1	(1)	10.9	(1)	31.5	(1)	15.3	(1)	11.7	(1)	13.6	(1)



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

Oklahoma State Pension Commission vs. InvMetrics Public DB Gross



	Return (Rank)									
5th Percentile	21.9		-1.3		18.2		9.4		2.2	
25th Percentile	20.1		-3.1		16.5		8.4		0.9	
Median	18.4		-4.0		15.3		7.7		0.1	
75th Percentile	16.7		-4.9		14.0		6.9		-0.9	
95th Percentile	13.7		-6.3		11.3		5.3		-2.6	
# of Portfolios	330		319		304		305		316	
● Oklahoma State Pension Commission	19.8	(30)	-5.0	(79)	16.4	(28)	9.5	(5)	-1.5	(83)
▲ S&P 500	31.5	(1)	-4.4	(61)	21.8	(1)	12.0	(1)	1.4	(11)



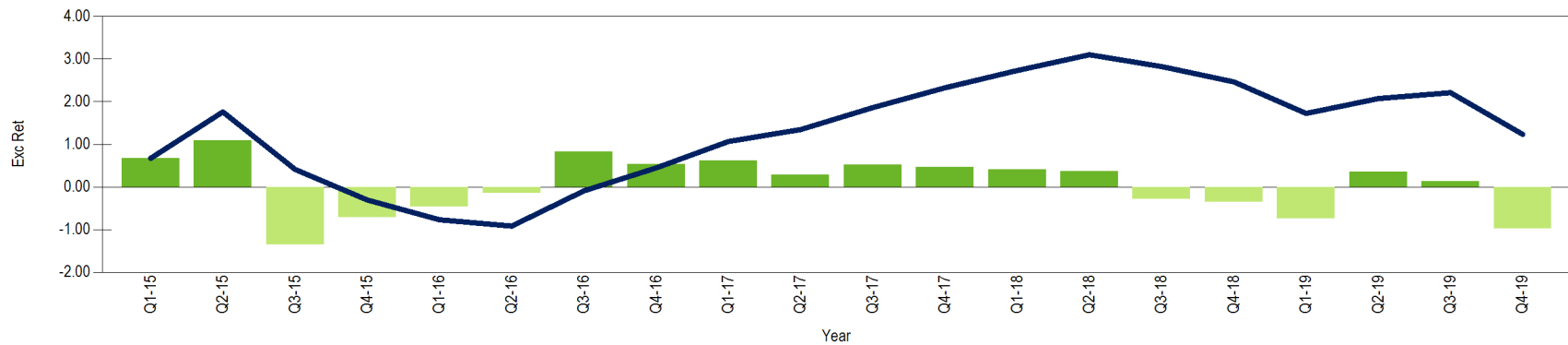
OKLAHOMA TEACHERS



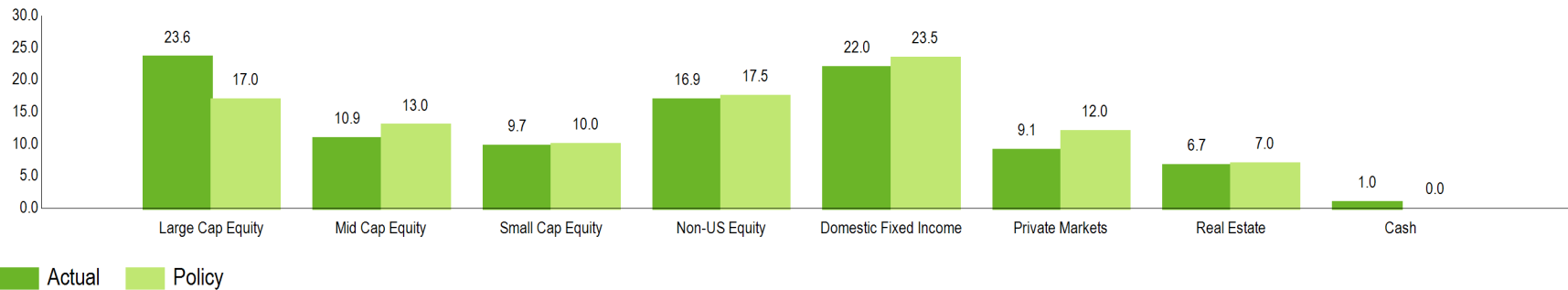
TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
OK TEACHERS	\$17,785,318,255	5.2%	48	5.8%	62	19.7%	31	9.7%	39	7.4%	32	9.9%	3
<i>TEACHERS Allocation Index</i>		5.1%	53	5.5%	74	18.5%	48	8.9%	65	7.0%	51	9.1%	15
<i>TEACHERS Policy Index</i>		6.2%	9	6.6%	24	21.1%	13	9.4%	47	7.2%	43	8.9%	19
<i>InvMetrics Public DB Gross Median</i>		5.2%		6.0%		18.4%		9.4%		7.1%		8.2%	

Quarterly and Cumulative Excess Performance



Actual vs Target Allocation (%)

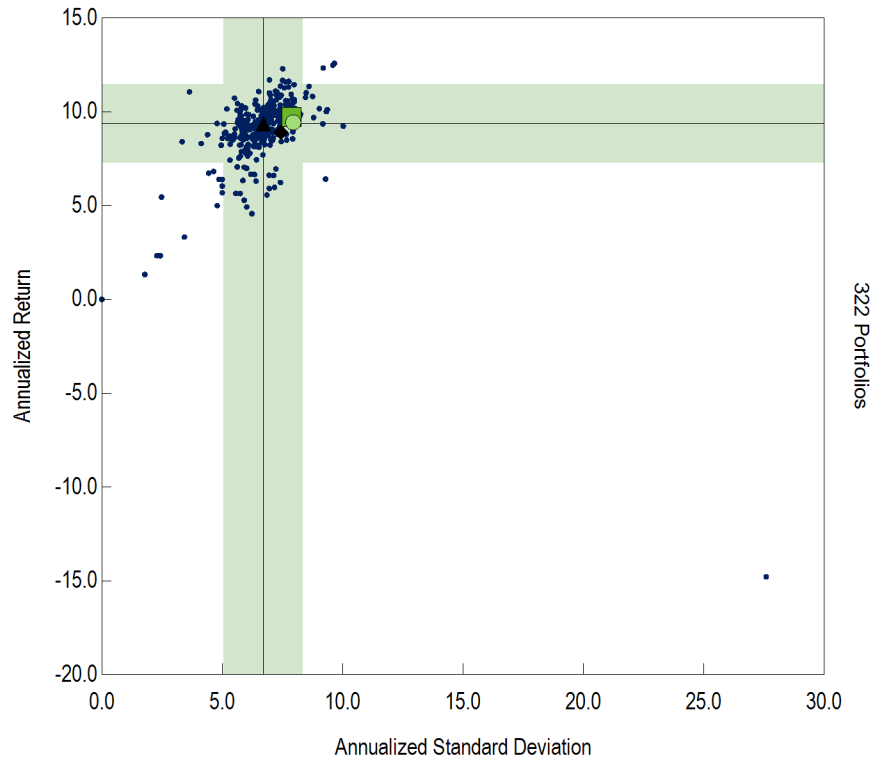


Returns are gross of manager fees.



TOTAL FUND RISK/RETURN - 3 YEARS

3 Years Ending December 31, 2019



- OK TEACHERS
- ◆ TEACHERS Allocation Index
- TEACHERS Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

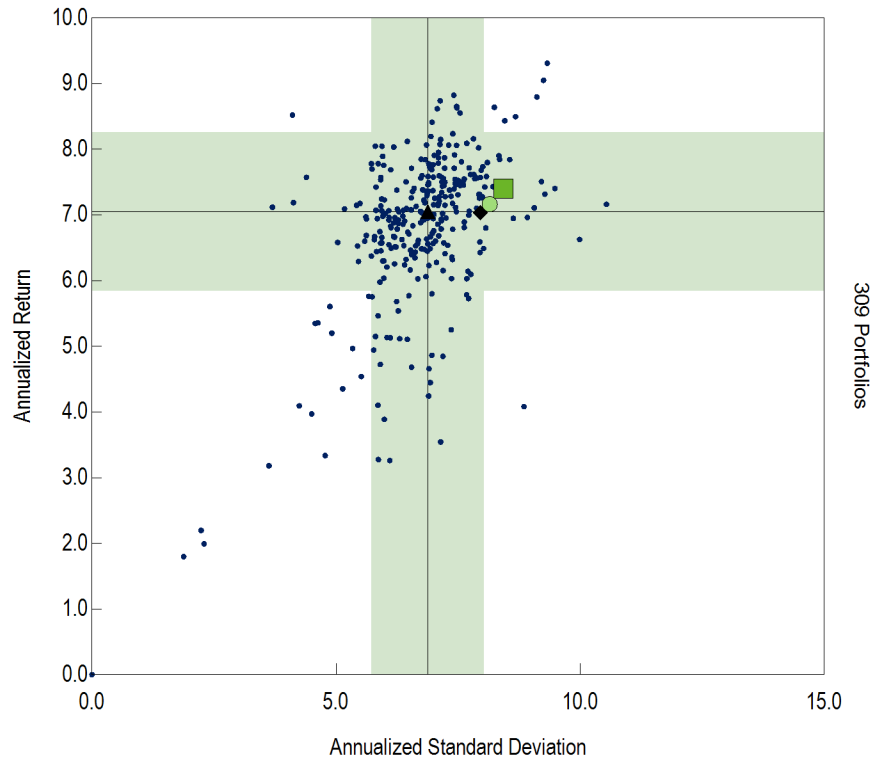
3 Years Ending December 31, 2019				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
OK TEACHERS	9.72%	39	7.87%	91
TEACHERS Allocation Index	8.90%	65	7.44%	79
TEACHERS Policy Index	9.43%	47	7.95%	93

3 Years Ending December 31, 2019				
	Sharpe Ratio	Rank	Sortino Ratio	Rank
OK TEACHERS	1.03	78	1.45	58
TEACHERS Allocation Index	0.98	85	1.27	86
TEACHERS Policy Index	0.98	84	1.26	87



TOTAL FUND RISK/RETURN - 5 YEARS

5 Years Ending December 31, 2019



- OK TEACHERS
- ◆ TEACHERS Allocation Index
- TEACHERS Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

5 Years Ending December 31, 2019

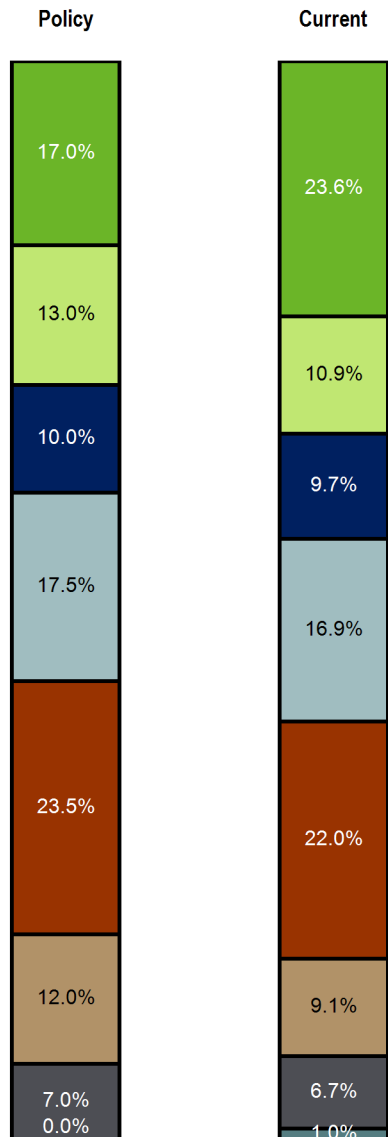
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
OK TEACHERS	7.40%	32	8.44%	96
TEACHERS Allocation Index	7.03%	51	7.96%	91
TEACHERS Policy Index	7.16%	43	8.15%	94

5 Years Ending December 31, 2019

	Sharpe Ratio	Rank	Sortino Ratio	Rank
OK TEACHERS	0.75	81	1.15	81
TEACHERS Allocation Index	0.75	81	1.15	82
TEACHERS Policy Index	0.75	81	1.17	77



TOTAL FUND ASSET ALLOCATION VS. POLICY



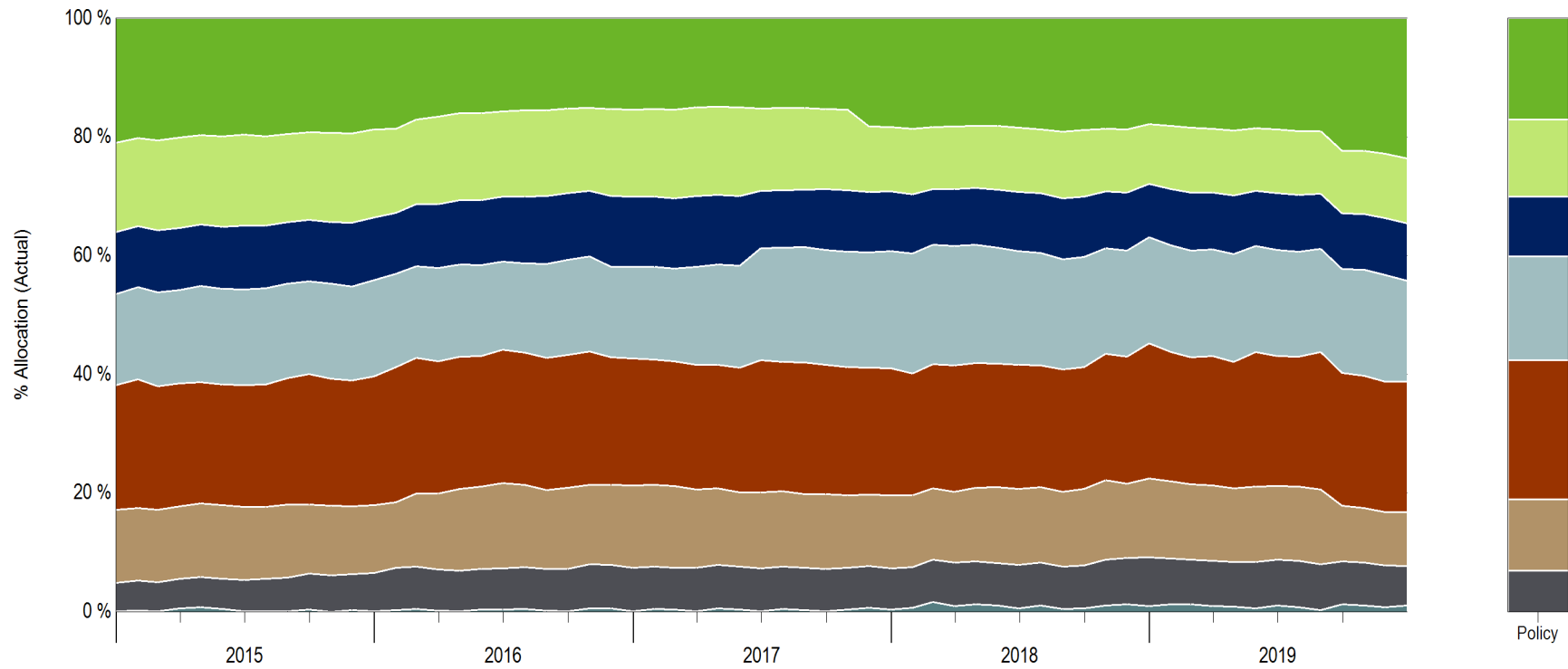
Asset Allocation vs. Target						
	Current	Policy	Current Difference*	Policy Range	Within Range	
Large Cap Equity	\$4,199,103,488	17.0%	23.6%	6.6%	12.0% - 23.0%	No
Mid Cap Equity	\$1,942,976,314	13.0%	10.9%	-2.1%	8.0% - 18.0%	Yes
Small Cap Equity	\$1,732,462,048	10.0%	9.7%	-0.3%	5.0% - 15.0%	Yes
Non-US Equity	\$3,013,218,365	17.5%	16.9%	-0.6%	12.5% - 22.5%	Yes
Domestic Fixed Income	\$3,914,212,853	23.5%	22.0%	-1.5%	18.5% - 28.5%	Yes
Private Markets	\$1,613,029,087	12.0%	9.1%	-2.9%	7.0% - 17.0%	Yes
Real Estate	\$1,194,299,463	7.0%	6.7%	-0.3%	2.0% - 12.0%	Yes
Cash	\$176,016,637	0.0%	1.0%	1.0%	0.0% - 5.0%	Yes
Total	\$17,785,318,255	100.0%	100.0%			

*Difference between Policy and Current Allocation



TOTAL FUND ASSET ALLOCATION HISTORY

Asset Allocation History



- Large Cap Equity
- Small Cap Equity
- Domestic Fixed Income
- Real Estate
- Cash
- Mid Cap Equity
- Non-US Equity
- Private Markets



Oklahoma Teachers

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
OK TEACHERS	17,785,318,255	100.0	5.2	48	5.8	62	19.7	31	9.7	39	7.4	32	9.9	3
<i>TEACHERS Allocation Index</i>			<u>5.1</u>	53	<u>5.5</u>	74	<u>18.5</u>	48	<u>8.9</u>	65	<u>7.0</u>	51	<u>9.1</u>	15
Over/Under			0.1		0.3		1.2		0.8		0.4		0.8	
<i>TEACHERS Policy Index</i>			6.2	9	6.6	24	21.1	13	9.4	47	7.2	43	8.9	19
<i>InvMetrics Public DB Gross Median</i>			5.2		6.0		18.4		9.4		7.1		8.2	
Total Equity Composite	10,887,760,215	61.2	7.7	70	6.8	79	25.6	59	11.6	58	8.6	53	11.1	26
<i>Russell 3000</i>			<u>9.1</u>	42	<u>10.4</u>	19	<u>31.0</u>	23	<u>14.6</u>	27	<u>11.2</u>	18	<u>13.4</u>	8
Over/Under			-1.4		-3.6		-5.4		-3.0		-2.6		-2.3	
<i>eV All Global Equity Gross Median</i>			8.7		8.6		26.6		12.3		8.7		10.0	
Transition Account	81,597	0.0												
<i>91 Day T-Bills</i>			<u>0.4</u>	--	<u>0.9</u>	--	<u>2.1</u>	--	<u>1.6</u>	--	<u>1.1</u>	--	<u>0.6</u>	--
Over/Under														
U.S. Equity Comp	7,874,460,253	44.3	8.0	56	8.3	56	29.5	46	12.9	48	9.9	53	13.0	55
<i>S&P 500</i>			<u>9.1</u>	35	<u>10.9</u>	19	<u>31.5</u>	33	<u>15.3</u>	31	<u>11.7</u>	29	<u>13.6</u>	40
Over/Under			-1.1		-2.6		-2.0		-2.4		-1.8		-0.6	
<i>eV All US Equity Gross Median</i>			8.3		8.8		28.7		12.6		10.2		13.2	
Sawgrass Large Growth	219,868	0.0	0.4	99	3.2	99	22.0	99	15.8	92	11.1	90	13.7	76
<i>Russell 1000 Growth</i>			<u>10.6</u>	27	<u>12.3</u>	14	<u>36.4</u>	32	<u>20.5</u>	45	<u>14.6</u>	33	<u>15.2</u>	33
Over/Under			-10.2		-9.1		-14.4		-4.7		-3.5		-1.5	
<i>eV US Large Cap Growth Equity Gross Median</i>			9.8		10.3		34.2		19.7		13.6		14.7	
Hotchkis & Wiley Large Cap Value	1,662,035	0.0	-0.7	99	0.5	99	20.7	94	7.7	93	7.0	86	12.3	47
<i>Russell 1000 Value</i>			<u>7.4</u>	59	<u>8.9</u>	67	<u>26.5</u>	54	<u>9.7</u>	71	<u>8.3</u>	67	<u>11.8</u>	63
Over/Under			-8.1		-8.4		-5.8		-2.0		-1.3		0.5	
<i>eV US Large Cap Value Equity Gross Median</i>			7.7		9.6		26.9		10.9		9.0		12.1	
Aronson Mid Cap	458,874,262	2.6	5.2	93	4.4	89	22.7	93	8.9	75	7.1	85	12.8	68
<i>Russell MidCap</i>			<u>7.1</u>	54	<u>7.6</u>	52	<u>30.5</u>	54	<u>12.1</u>	53	<u>9.3</u>	58	<u>13.2</u>	58
Over/Under			-1.9		-3.2		-7.8		-3.2		-2.2		-0.4	
<i>eV US Mid Cap Equity Gross Median</i>			7.3		7.7		31.0		12.3		10.0		13.5	
Frontier	526,977,517	3.0	8.2	39	7.5	36	33.9	63	16.5	75	11.6	62	13.8	72
<i>Russell MidCap Growth</i>			<u>8.2</u>	41	<u>7.4</u>	37	<u>35.5</u>	53	<u>17.4</u>	59	<u>11.6</u>	60	<u>14.2</u>	56
Over/Under			0.0		0.1		-1.6		-0.9		0.0		-0.4	

Returns are gross of manager fees.



Oklahoma Teachers

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Wellington	563,624,725	3.2	9.1	21	10.0	6	41.0	16	23.1	8	13.1	39	13.8	72
<i>Russell MidCap Growth</i>			<u>8.2</u>	41	<u>7.4</u>	37	<u>35.5</u>	53	<u>17.4</u>	59	<u>11.6</u>	60	<u>14.2</u>	56
Over/Under			0.9		2.6		5.5		5.7		1.5		-0.4	
<i>eV US Mid Cap Growth Equity Gross Median</i>			7.6		6.5		35.8		18.3		12.3		14.3	
Hotchkis & Wiley Mid Cap	393,499,810	2.2	8.9	12	1.4	99	14.0	99	0.8	99	2.1	99	11.6	77
<i>Russell MidCap Value</i>			<u>6.4</u>	68	<u>7.7</u>	63	<u>27.1</u>	61	<u>8.1</u>	60	<u>7.6</u>	65	<u>12.4</u>	44
Over/Under			2.5		-6.3		-13.1		-7.3		-5.5		-0.8	
<i>eV US Mid Cap Value Equity Gross Median</i>			7.2		8.6		28.7		8.5		8.4		12.2	
Shapiro Capital	783,860,097	4.4	8.4	39	6.2	73	26.0	32	9.1	16	8.7	25	13.1	20
<i>Russell 2000 Value</i>			<u>8.5</u>	35	<u>7.9</u>	46	<u>22.4</u>	69	<u>4.8</u>	65	<u>7.0</u>	58	<u>10.6</u>	82
Over/Under			-0.1		-1.7		3.6		4.3		1.7		2.5	
Frontier Capital Management Small Cap Value	224,383,708	1.3	6.8	74	6.4	68	26.7	28	5.3	56	8.9	22	--	--
<i>Russell 2000 Value</i>			<u>8.5</u>	35	<u>7.9</u>	46	<u>22.4</u>	69	<u>4.8</u>	65	<u>7.0</u>	58	<u>10.6</u>	82
Over/Under			-1.7		-1.5		4.3		0.5		1.9		--	--
Neumeier Poma Investment Counsel Small Cap Value	265,049,608	1.5	8.1	47	7.3	57	24.4	50	11.5	6	12.3	3	--	--
<i>Russell 2000 Value</i>			<u>8.5</u>	35	<u>7.9</u>	46	<u>22.4</u>	69	<u>4.8</u>	65	<u>7.0</u>	58	<u>10.6</u>	82
Over/Under			-0.4		-0.6		2.0		6.7		5.3		--	--
<i>eV US Small Cap Value Equity Gross Median</i>			7.9		7.6		24.4		5.5		7.6		12.0	
Geneva Capital Management Small Cap Growth	224,481,365	1.3	7.5	79	5.1	48	29.7	48	17.3	42	15.0	13	--	--
<i>Russell 2000 Growth</i>			<u>11.4</u>	30	<u>6.7</u>	32	<u>28.5</u>	51	<u>12.5</u>	80	<u>9.3</u>	82	<u>13.0</u>	84
Over/Under			-3.9		-1.6		1.2		4.8		5.7		--	--

Returns are gross of manager fees.



December 31, 2019

Oklahoma Teachers

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Wasatch Advisors Small Cap Growth	234,687,270	1.3	8.9	62	8.9	14	36.8	23	19.6	26	15.1	13	--	--
<i>Russell 2000 Growth</i>			<u>11.4</u>	30	<u>6.7</u>	32	<u>28.5</u>	51	<u>12.5</u>	80	<u>9.3</u>	82	<u>13.0</u>	84
Over/Under			-2.5		2.2		8.3		7.1		5.8			
<i>eV US Small Cap Growth Equity Gross Median</i>			9.6		5.0		28.5		15.9		11.6		14.6	
Domestic Passive Equity	4,197,139,988	23.6	8.0	--	10.8	--	30.8	--	14.2	--	10.7	--	--	--
<i>S&P 500</i>			<u>9.1</u>	--	<u>10.9</u>	--	<u>31.5</u>	--	<u>15.3</u>	--	<u>11.7</u>	--	<u>13.6</u>	--
Over/Under			-1.1		-0.1		-0.7		-1.1		-1.0			
Northern Trust Russell 1000	1,681,084,152	9.5	10.2	--	11.8	--	32.8	--	--	--	--	--	--	--
<i>Russell 1000</i>			<u>9.0</u>	--	<u>10.6</u>	--	<u>31.4</u>	--	<u>15.0</u>	--	<u>11.5</u>	--	<u>13.5</u>	--
Over/Under			1.2		1.2		1.4							
Sci Beta US HFE MBMS	2,516,055,836	14.1	6.6	--	10.1	--	29.5	--	--	--	--	--	--	--
<i>S&P 500</i>			<u>9.1</u>	--	<u>10.9</u>	--	<u>31.5</u>	--	<u>15.3</u>	--	<u>11.7</u>	--	<u>13.6</u>	--
Over/Under			-2.5		-0.8		-2.0							
International Equity Composite	3,013,218,365	16.9	9.6	62	7.2	72	21.6	73	10.5	58	6.4	61	6.4	71
<i>MSCI ACWI ex USA</i>			<u>8.9</u>	76	<u>7.0</u>	76	<u>21.5</u>	73	<u>9.9</u>	71	<u>5.5</u>	80	<u>5.0</u>	92
Over/Under			0.7		0.2		0.1		0.6		0.9		1.4	
<i>eV All ACWI ex-US Equity Gross Median</i>			10.1		8.4		25.3		11.4		7.1		7.5	
Causeway - Value	499,168,224	2.8	12.0	12	9.7	24	23.6	28	10.3	19	5.4	61	6.6	55
<i>MSCI EAFE</i>			<u>8.2</u>	77	<u>7.0</u>	79	<u>22.0</u>	35	<u>9.6</u>	36	<u>5.7</u>	56	<u>5.5</u>	69
Over/Under			3.8		2.7		1.6		0.7		-0.3		1.1	
<i>eV EAFE Value Equity Gross Median</i>			9.5		8.2		21.1		8.4		5.8		6.9	
Allianz Intl	1,053,944,598	5.9	8.8	--	6.8	--	18.3	--	9.5	--	--	--	--	--
<i>MSCI ACWI ex USA</i>			<u>8.9</u>	--	<u>7.0</u>	--	<u>21.5</u>	--	<u>9.9</u>	--	<u>5.5</u>	--	<u>5.0</u>	--
Over/Under			-0.1		-0.2		-3.2		-0.4					
Wellington Intl	555,654,282	3.1	9.4	--	8.6	--	29.4	--	16.9	--	--	--	--	--
<i>MSCI ACWI ex USA</i>			<u>8.9</u>	--	<u>7.0</u>	--	<u>21.5</u>	--	<u>9.9</u>	--	<u>5.5</u>	--	<u>5.0</u>	--
Over/Under			0.5		1.6		7.9		7.0					
Northern Trust Intl - Liquidating	12,851	0.0												

Returns are gross of manager fees.



Oklahoma Teachers

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
International Small Cap Equity	904,438,410	5.1	9.4	93	6.0	93	20.3	80	8.8	82	6.6	81	--	--
MSCI ACWI ex USA			<u>8.9</u>	94	<u>7.0</u>	85	<u>21.5</u>	73	<u>9.9</u>	74	<u>5.5</u>	89	<u>5.0</u>	99
Over/Under			0.5		-1.0		-1.2		-1.1		1.1			
eV ACWI ex-US Small Cap Equity Gross Median			11.9		8.9		25.3		13.5		9.4		9.8	
Advisory Research Int'l Small Cap	887,142	0.0	3.1	99	-0.7	99	-0.6	99	3.2	92	3.2	99	--	--
MSCI ACWI ex USA			<u>8.9</u>	94	<u>7.0</u>	85	<u>21.5</u>	73	<u>9.9</u>	74	<u>5.5</u>	89	<u>5.0</u>	99
Over/Under			-5.8		-7.7		-22.1		-6.7		-2.3			
EPOCH Int'l Small Cap	5,333,365	0.0	2.9	99	0.0	99	11.1	96	5.2	89	4.8	94	--	--
MSCI ACWI ex USA			<u>8.9</u>	94	<u>7.0</u>	85	<u>21.5</u>	73	<u>9.9</u>	74	<u>5.5</u>	89	<u>5.0</u>	99
Over/Under			-6.0		-7.0		-10.4		-4.7		-0.7			
Wasatch Int'l Small Cap	336,352,584	1.9	12.5	34	8.8	58	32.6	19	15.3	23	10.7	23	--	--
MSCI ACWI ex USA			<u>8.9</u>	94	<u>7.0</u>	85	<u>21.5</u>	73	<u>9.9</u>	74	<u>5.5</u>	89	<u>5.0</u>	99
Over/Under			3.6		1.8		11.1		5.4		5.2			
Wellington Int'l Small Cap	279,099,008	1.6	11.8	55	9.9	36	23.6	59	7.9	84	5.8	88	--	--
MSCI ACWI ex USA			<u>8.9</u>	94	<u>7.0</u>	85	<u>21.5</u>	73	<u>9.9</u>	74	<u>5.5</u>	89	<u>5.0</u>	99
Over/Under			2.9		2.9		2.1		-2.0		0.3			
eV ACWI ex-US Small Cap Equity Gross Median			11.9		8.9		25.3		13.5		9.4		9.8	
SSGA Emerging Market Small Cap	282,766,311	1.6	9.5	93	4.6	98	13.1	93	8.7	82	--	--	--	--
MSCI Emerging Markets Small Cap Gross			<u>9.6</u>	93	<u>4.8</u>	98	<u>11.9</u>	95	<u>7.1</u>	86	<u>3.3</u>	99	<u>3.3</u>	99
Over/Under			-0.1		-0.2		1.2		1.6					
eV ACWI ex-US Small Cap Equity Gross Median			11.9		8.9		25.3		13.5		9.4		9.8	
Fixed Composite	3,914,212,853	22.0	0.2	88	3.2	29	12.1	25	5.7	28	4.5	33	6.1	26
BBgBarc US Aggregate TR			<u>0.2</u>	87	<u>2.5</u>	49	<u>8.7</u>	48	<u>4.0</u>	58	<u>3.0</u>	61	<u>3.7</u>	60
Over/Under			0.0		0.7		3.4		1.7		1.5		2.4	
eV All US Fixed Inc Gross Median			0.6		2.4		8.5		4.3		3.4		4.2	
Loomis Sayles Core Plus	1,064,337,922	6.0	1.5	4	2.8	59	10.1	49	4.7	63	3.7	71	5.6	20
BBgBarc US Aggregate TR			<u>0.2</u>	88	<u>2.5</u>	84	<u>8.7</u>	91	<u>4.0</u>	98	<u>3.0</u>	99	<u>3.7</u>	99
Over/Under			1.3		0.3		1.4		0.7		0.7		1.9	

Returns are gross of manager fees.



Oklahoma Teachers

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Mackay Shields Core Plus	1,073,889,389	6.0	1.5	4	3.7	8	12.4	5	4.8	57	3.4	90	5.1	47
BBgBarc US Aggregate TR			<u>0.2</u>	88	<u>2.5</u>	84	<u>8.7</u>	91	<u>4.0</u>	98	<u>3.0</u>	99	<u>3.7</u>	99
Over/Under			1.3		1.2		3.7		0.8		0.4		1.4	
Lord Abbett Core Plus	1,063,663,552	6.0	0.8	24	2.6	76	10.7	29	4.6	77	3.7	72	4.9	53
BBgBarc US Aggregate TR			<u>0.2</u>	88	<u>2.5</u>	84	<u>8.7</u>	91	<u>4.0</u>	98	<u>3.0</u>	99	<u>3.7</u>	99
Over/Under			0.6		0.1		2.0		0.6		0.7		1.2	
eV US Core Plus Fixed Inc Gross Median			0.5		2.9		10.1		4.9		3.9		5.0	
Hoisington Long Bonds	712,321,990	4.0	-4.8	95	4.6	91	17.8	89	8.1	87	4.3	99	8.3	53
BBgBarc US Aggregate TR			<u>0.2</u>	46	<u>2.5</u>	99	<u>8.7</u>	99	<u>4.0</u>	99	<u>3.0</u>	99	<u>3.7</u>	99
Over/Under			-5.0		2.1		9.1		4.1		1.3		4.6	
eV US Long Duration Fixed Inc Gross Median			0.0		6.0		21.3		8.7		6.2		8.3	
Total Private Equity	1,613,029,087	9.1	3.4	--	8.6	--	15.0	--	16.4	--	14.8	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under			3.4		7.3		5.1		3.8		3.5			
Legacy LP - Aldus PE	13,949,943	0.1	-0.5	--	-0.5	--	-3.6	--	-0.9	--	2.1	--	6.0	--
Pimco Bravo	1,539,992	0.0	36.1	--	-23.7	--	-52.9	--	-6.5	--	-0.8	--	--	--
PIMCO Bravo 2	69,938,905	0.4	-0.1	--	2.2	--	1.2	--	6.1	--	7.6	--	--	--
OK - OTRS/Franklin Park	1,289,222,947	7.2	3.8	--	9.9	--	18.0	--	18.6	--	16.7	--	--	--
Pimco COF II	93,434,835	0.5	1.9	--	3.6	--	3.8	--	9.3	--	--	--	--	--
PIMCO Bravo 3	144,942,465	0.8	2.8	--	6.1	--	8.1	--	--	--	--	--	--	--
Master Limited Partnerships	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Alerian MLP Index			<u>-4.1</u>	--	<u>-8.9</u>	--	<u>6.6</u>	--	<u>-4.4</u>	--	<u>-7.0</u>	--	<u>4.2</u>	--
Over/Under														
Total Core Real Estate	1,207,419,463	6.8	0.6	--	0.1	--	5.8	--	6.7	--	8.7	--	--	--
NCREIF Property Index			<u>1.6</u>	--	<u>3.0</u>	--	<u>6.4</u>	--	<u>6.7</u>	--	<u>8.2</u>	--	<u>10.2</u>	--
Over/Under			-1.0		-2.9		-0.6		0.0		0.5			

Returns are gross of manager fees.



Oklahoma Teachers

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
L & B Real Estate	98,170,640	0.6	-3.0	--	-7.9	--	-7.8	--	2.7	--	6.5	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-4.5		-10.7		-13.1		-4.4		-2.5			
Heitman Real Estate	330,174,522	1.9	1.8	--	2.0	--	3.8	--	6.7	--	8.8	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			0.3		-0.8		-1.5		-0.4		-0.2			
AEW Real Estate	328,264,304	1.8	1.5	--	2.9	--	6.2	--	6.8	--	8.6	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			0.0		0.1		0.9		-0.3		-0.4			
L & B Gold Driller	86,454,313	0.5	2.4	--	2.5	--	43.1	--	14.7	--	8.5	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			0.9		-0.3		37.8		7.6		-0.5			
Greenoak Real Estate II	37,831,489	0.2	0.0	--	-0.5	--	1.7	--	6.6	--	5.0	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-1.5		-3.3		-3.6		-0.5		-4.0			
Greenoak Real Estate III	16,048,840	0.1	-1.8	--	-7.5	--	-7.0	--	--	--	--	--	--	--
Lyrical-OTRS Realty Partner IV	64,926,898	0.4	2.6	--	4.7	--	59.9	--	10.7	--	6.3	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			1.1		1.9		54.6		3.6		-2.7			
Dune Real Estate	54,577,457	0.3	-4.7	--	-3.7	--	0.7	--	9.7	--	10.8	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-6.2		-6.5		-4.6		2.6		1.8			
Landmark Realty	16,248,720	0.1	-0.2	--	-0.6	--	-1.4	--	4.1	--	15.7	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-1.7		-3.4		-6.7		-3.0		6.7			
American Realty	66,249,856	0.4	2.2	--	4.2	--	8.8	--	10.0	--	10.9	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			0.7		1.4		3.5		2.9		1.9			

Returns are gross of manager fees.



Oklahoma Teachers

TOTAL FUND PERFORMANCE DETAIL

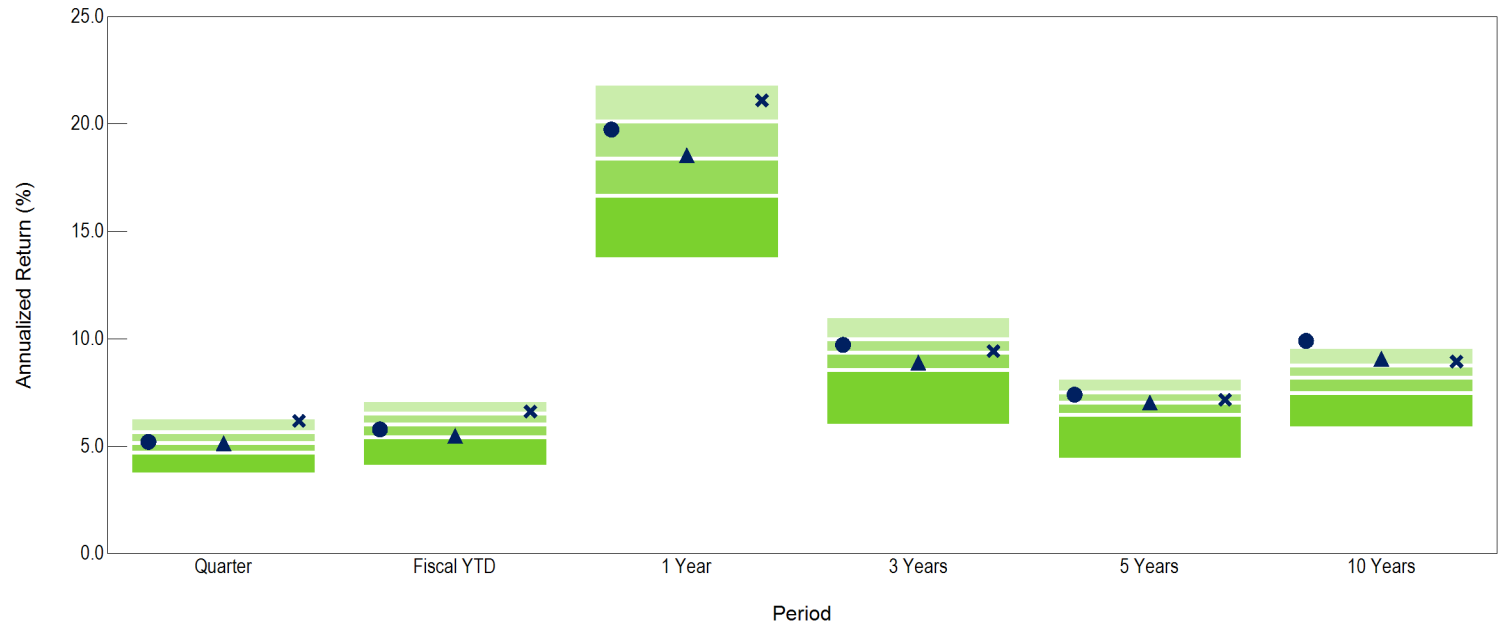
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Starwood Capital	24,684,037	0.1	2.9	--	4.4	--	6.1	--	12.9	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			1.4		1.6		0.8		5.8					
Starwood Opportunity XI	11,208,074	0.1	8.4	--	10.0	--	29.9	--	--	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			6.9		7.2		24.6							
FCP Realty Fund IV, L.P.	6,634,014	0.0	1.2	--	-11.6	--	-38.6	--	--	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-0.3		-14.4		-43.9							
Harbert European Real Estate V	9,913,785	0.1	9.8	--	4.0	--	-24.5	--	--	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			8.3		1.2		-29.8							
Artemis Real Estate III	6,753,171	0.0	-0.9	--	0.1	--	--	--	--	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-2.4		-2.7									
Angelo Gordon VAL FD X	11,350,620	0.1	-7.1	--	-20.8	--	--	--	--	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-8.6		-23.6									

Returns are gross of manager fees.



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

OK TEACHERS vs. InvMetrics Public DB Gross

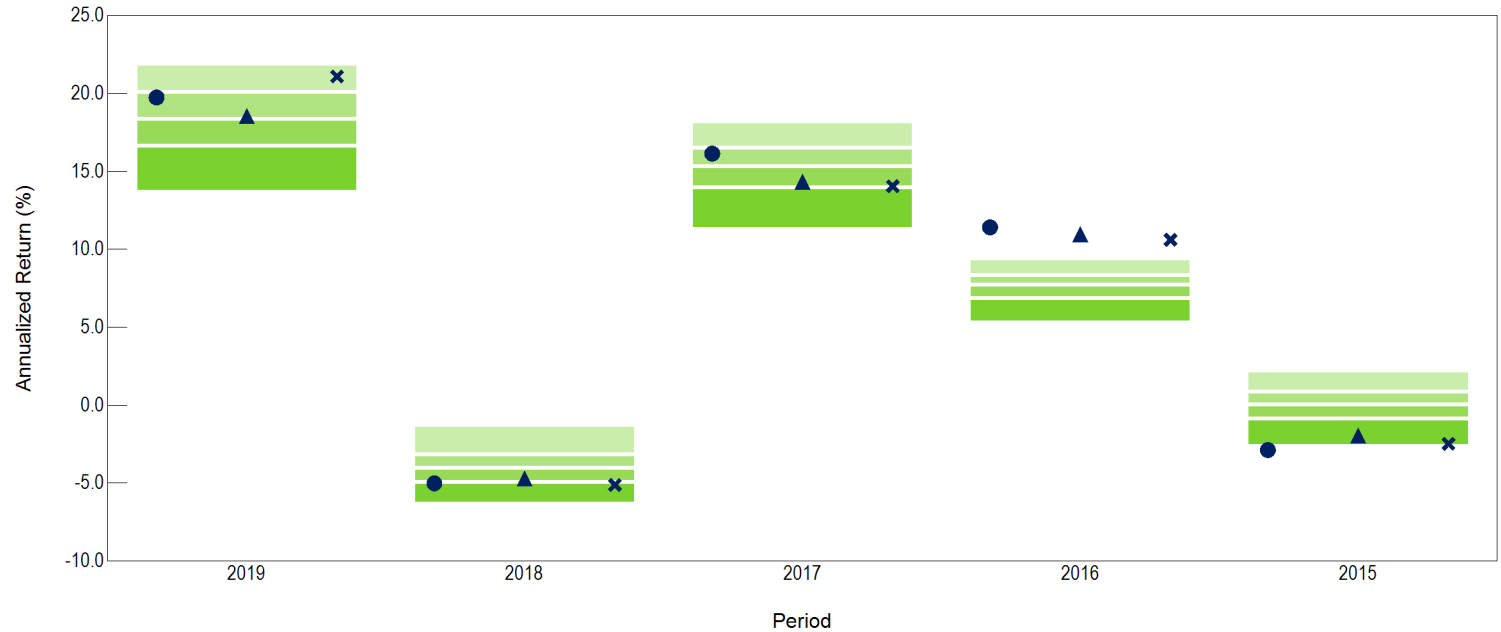


	Return (Rank)											
5th Percentile	6.3		7.1		21.9		11.0		8.2		9.6	
25th Percentile	5.7		6.5		20.1		10.0		7.5		8.8	
Median	5.2		6.0		18.4		9.4		7.1		8.2	
75th Percentile	4.7		5.4		16.7		8.6		6.5		7.5	
95th Percentile	3.7		4.1		13.7		6.0		4.4		5.8	
# of Portfolios	334		333		330		322		309		266	
● OK TEACHERS	5.2	(48)	5.8	(62)	19.7	(31)	9.7	(39)	7.4	(32)	9.9	(3)
▲ TEACHERS Allocation Index	5.1	(53)	5.5	(74)	18.5	(48)	8.9	(65)	7.0	(51)	9.1	(15)
× TEACHERS Policy Index	6.2	(9)	6.6	(24)	21.1	(13)	9.4	(47)	7.2	(43)	8.9	(19)



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

OK TEACHERS vs. InvMetrics Public DB Gross



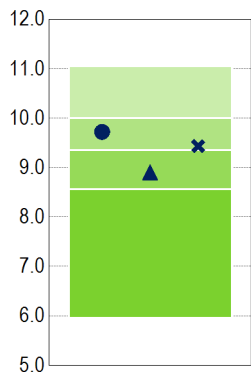
	Return (Rank)									
5th Percentile	21.9		-1.3		18.2		9.4		2.2	
25th Percentile	20.1		-3.1		16.5		8.4		0.9	
Median	18.4		-4.0		15.3		7.7		0.1	
75th Percentile	16.7		-4.9		14.0		6.9		-0.9	
95th Percentile	13.7		-6.3		11.3		5.3		-2.6	
# of Portfolios	330		319		304		305		316	
● OK TEACHERS	19.7	(31)	-5.0	(78)	16.1	(34)	11.4	(1)	-2.9	(97)
▲ TEACHERS Allocation Index	18.5	(48)	-4.7	(70)	14.3	(70)	11.0	(1)	-2.0	(89)
× TEACHERS Policy Index	21.1	(13)	-5.1	(80)	14.1	(74)	10.6	(1)	-2.5	(95)



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

OK TEACHERS vs. InvMetrics Public DB Gross 3 Years

Anlzd Return

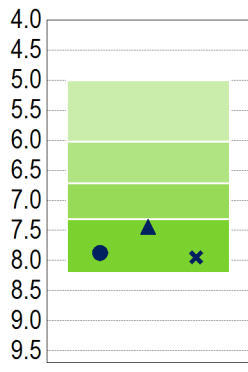


- OK TEACHERS
Value 9.72
Rank 39
- ▲ TEACHERS Allocation Index
Value 8.90
Rank 65
- × TEACHERS Policy Index
Value 9.43
Rank 47

Universe

5th %tile	11.05
25th %tile	10.01
Median	9.37
75th %tile	8.58
95th %tile	5.97

Anlzd Standard Deviation

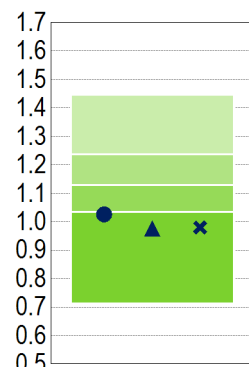


- OK TEACHERS
Value 7.87
Rank 91
- ▲ TEACHERS Allocation Index
Value 7.44
Rank 79
- × TEACHERS Policy Index
Value 7.95
Rank 93

Universe

5th %tile	5.00
25th %tile	6.02
Median	6.71
75th %tile	7.30
95th %tile	8.20

Sharpe Ratio

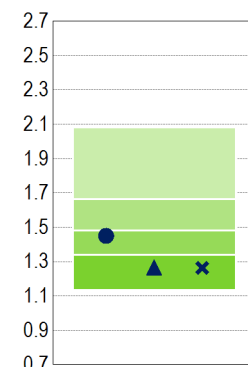


- OK TEACHERS
Value 1.03
Rank 78
- ▲ TEACHERS Allocation Index
Value 0.98
Rank 85
- × TEACHERS Policy Index
Value 0.98
Rank 84

Universe

5th %tile	1.45
25th %tile	1.24
Median	1.13
75th %tile	1.04
95th %tile	0.72

Sortino Ratio



- OK TEACHERS
Value 1.45
Rank 58
- ▲ TEACHERS Allocation Index
Value 1.27
Rank 86
- × TEACHERS Policy Index
Value 1.26
Rank 87

Universe

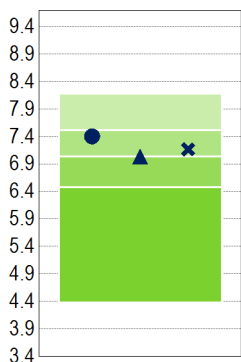
5th %tile	2.08
25th %tile	1.67
Median	1.48
75th %tile	1.34
95th %tile	1.14



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

OK TEACHERS vs. InvMetrics Public DB Gross 5 Years

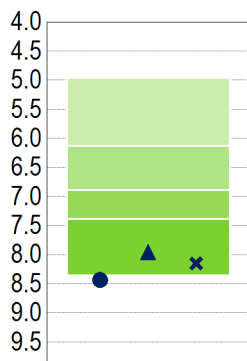
Anlzd Return



● OK TEACHERS	
Value	7.40
Rank	32
▲ TEACHERS Allocation Index	
Value	7.03
Rank	51
× TEACHERS Policy Index	
Value	7.16
Rank	43

Universe	
5th %tile	8.18
25th %tile	7.52
Median	7.05
75th %tile	6.49
95th %tile	4.39

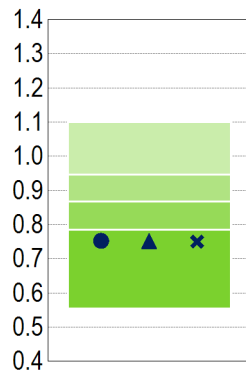
Anlzd Standard Deviation



● OK TEACHERS	
Value	8.44
Rank	96
▲ TEACHERS Allocation Index	
Value	7.96
Rank	91
× TEACHERS Policy Index	
Value	8.15
Rank	94

Universe	
5th %tile	4.96
25th %tile	6.12
Median	6.88
75th %tile	7.37
95th %tile	8.35

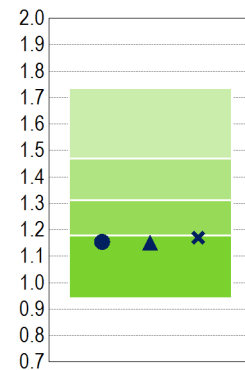
Sharpe Ratio



● OK TEACHERS	
Value	0.75
Rank	81
▲ TEACHERS Allocation Index	
Value	0.75
Rank	81
× TEACHERS Policy Index	
Value	0.75
Rank	81

Universe	
5th %tile	1.10
25th %tile	0.95
Median	0.87
75th %tile	0.79
95th %tile	0.56

Sortino Ratio



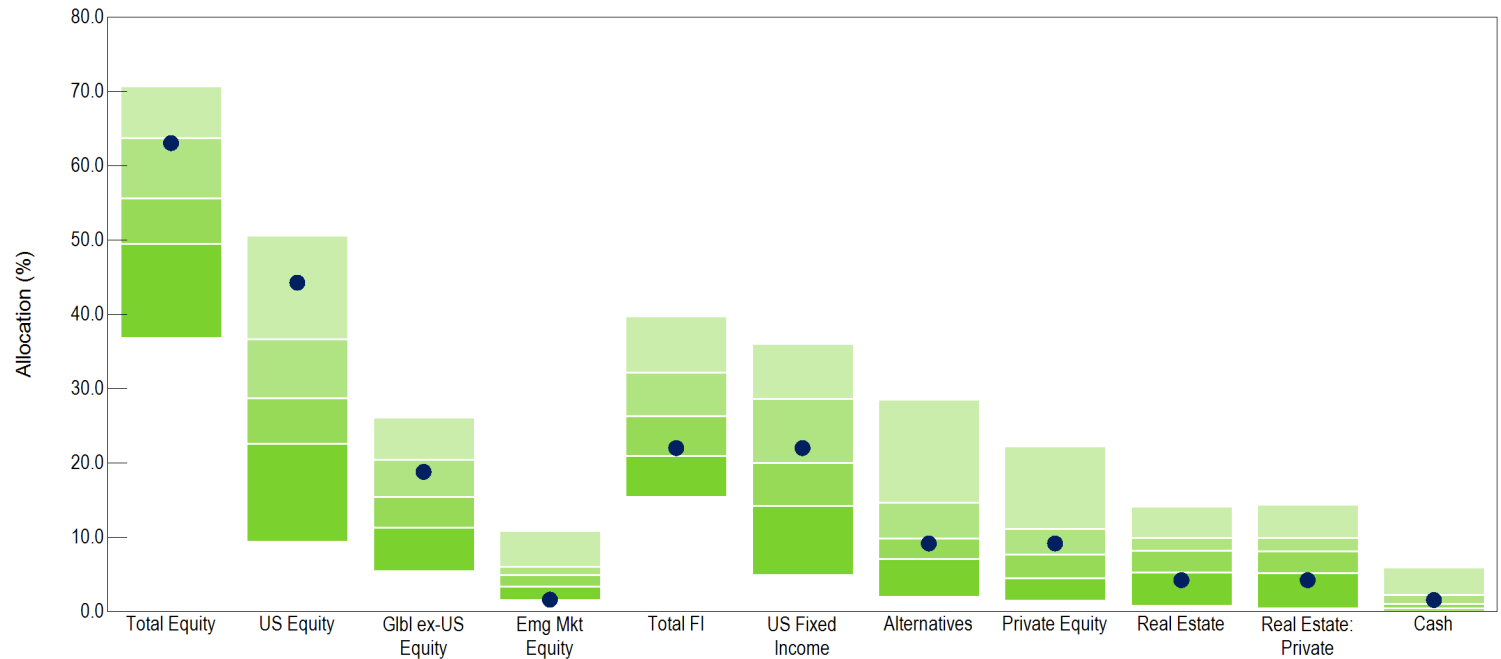
● OK TEACHERS	
Value	1.15
Rank	81
▲ TEACHERS Allocation Index	
Value	1.15
Rank	82
× TEACHERS Policy Index	
Value	1.17
Rank	77

Universe	
5th %tile	1.74
25th %tile	1.47
Median	1.32
75th %tile	1.18
95th %tile	0.94



TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

Total Plan Allocation vs. InvMetrics Public DB Gross



Allocation (Rank)

	Total Equity	US Equity	Gbl ex-US Equity	Emg Mkt Equity	Total FI	US Fixed Income	Alternatives	Private Equity	Real Estate	Real Estate: Private	Cash	
5th Percentile	70.7	50.6	26.1	10.8	39.7	36.0	28.5	22.3	14.2	14.4	5.9	--
25th Percentile	63.8	36.7	20.5	6.1	32.2	28.7	14.7	11.2	10.0	10.0	2.3	--
Median	55.7	28.8	15.5	5.0	26.4	20.0	9.9	7.8	8.3	8.1	1.1	--
75th Percentile	49.6	22.7	11.4	3.4	21.0	14.3	7.1	4.5	5.4	5.2	0.5	--
95th Percentile	36.9	9.5	5.5	1.7	15.5	5.0	2.1	1.5	0.9	0.5	0.0	--
# of Portfolios	257	179	220	110	256	164	170	112	181	134	239	--
● OK TEACHERS	63.1 (27)	44.3 (9)	18.8 (34)	1.6 (96)	22.0 (73)	22.0 (43)	9.2 (57)	9.2 (39)	4.2 (85)	4.2 (85)	1.5 (38)	--



OK TEACHERS

Performance Attribution		
	Last 3 Mo.	1 Yr
Wtd. Actual Return	5.4%	20.3%
Wtd. Index Return *	5.7%	20.4%
Excess Return	-0.3%	-0.1%
Selection Effect	-0.1%	0.6%
Allocation Effect	0.8%	1.1%
Interaction Effect	-1.0%	-1.8%
Returns by Asset Class		
OK TEACHERS	5.2%	19.7%
Total Equity Composite	7.7%	25.6%
U.S. Equity Comp	8.0%	29.5%
Domestic Passive Equity	8.0%	30.8%
International Equity Composite	9.6%	21.6%
International Small Cap Equity	9.4%	20.3%
Fixed Composite	0.2%	12.1%
Total Private Equity	3.4%	15.0%
Master Limited Partnerships		
Total Core Real Estate	0.6%	5.8%
Other	1.7%	3.6%

*Calculated from benchmark returns and weightings of each component.



OKLAHOMA PERS

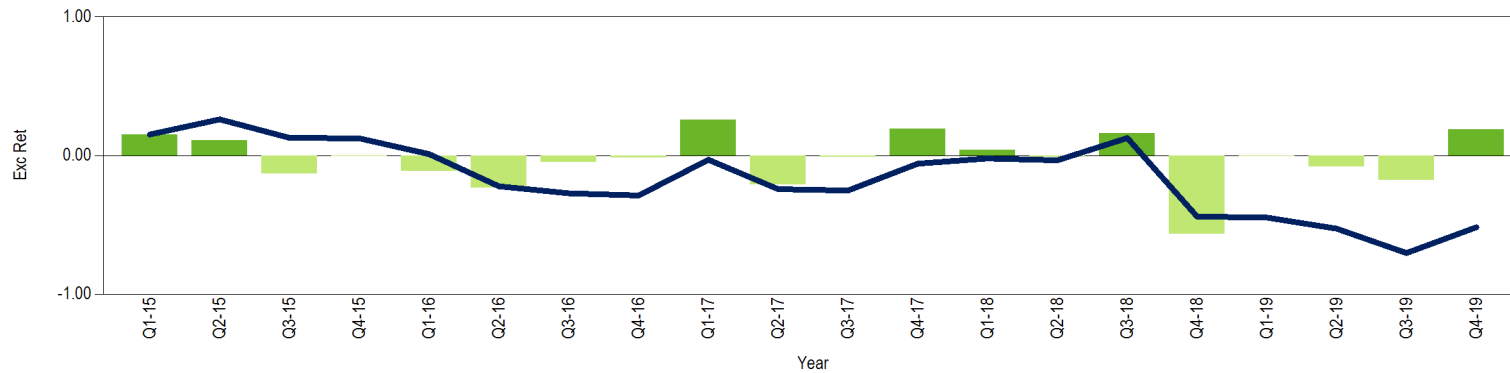


Oklahoma PERS

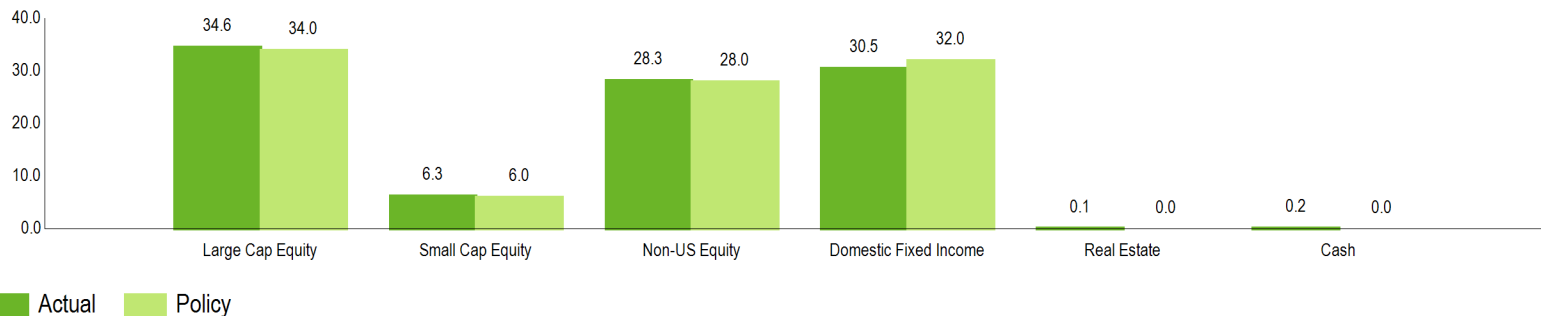
TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
OK PERS	\$10,456,425,394	6.2%	7	6.9%	12	21.4%	10	9.9%	29	7.3%	39	8.7%	31
<i>PERS Allocation Index</i>		6.0%	14	6.8%	15	20.9%	16	9.6%	41	7.1%	46	8.2%	50
<i>PERS Policy Index</i>		6.1%	13	6.9%	12	21.5%	8	10.1%	24	7.4%	32	8.5%	36
<i>InvMetrics Public DB Gross Median</i>		5.2%		6.0%		18.4%		9.4%		7.1%		8.2%	

Quarterly and Cumulative Excess Performance



Actual vs Target Allocation (%)

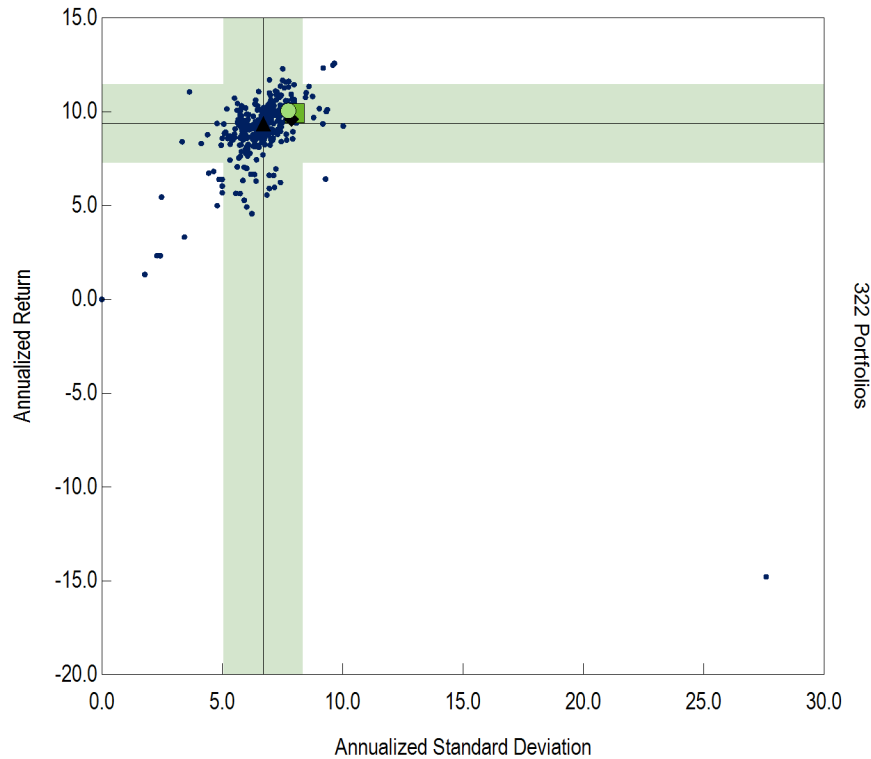


Returns are gross of manager fees.



TOTAL FUND RISK/RETURN - 3 YEARS

3 Years Ending December 31, 2019



- OK PERS
- ◆ PERS Allocation Index
- PERS Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

3 Years Ending December 31, 2019

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
OK PERS	9.94%	29	8.00%	94
PERS Allocation Index	9.61%	41	7.87%	91
PERS Policy Index	10.05%	24	7.74%	88

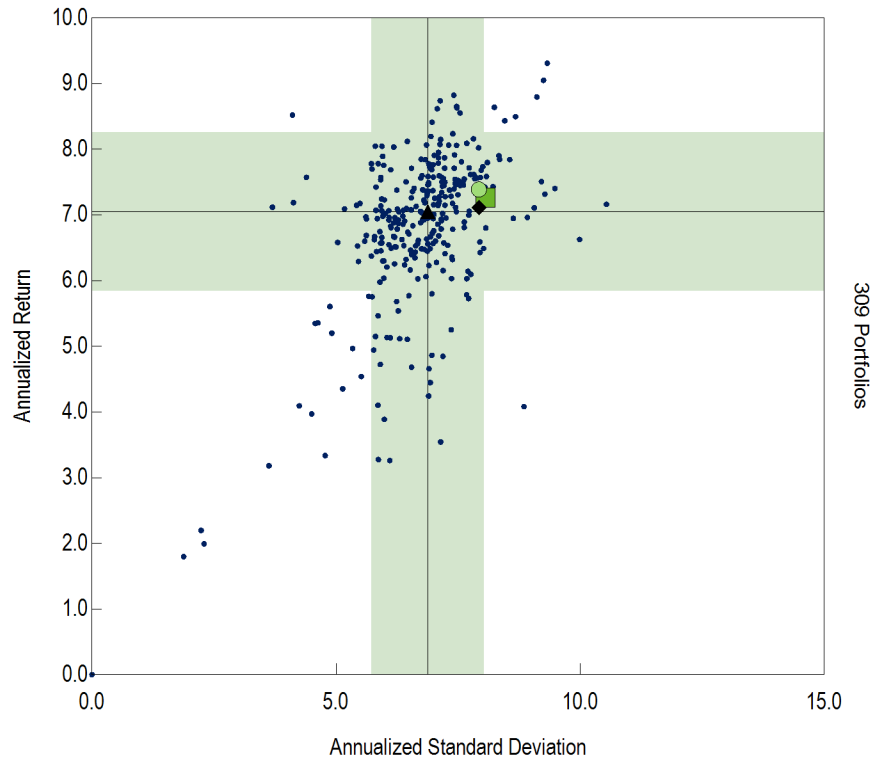
3 Years Ending December 31, 2019

	Sharpe Ratio	Rank	Sortino Ratio	Rank
OK PERS	1.04	75	1.32	78
PERS Allocation Index	1.01	81	1.27	85
PERS Policy Index	1.09	65	1.37	71
OK PERS	1.04	75	1.32	78
PERS Allocation Index	1.01	81	1.27	85
PERS Policy Index	1.09	65	1.37	71



TOTAL FUND RISK/RETURN - 5 YEARS

5 Years Ending December 31, 2019



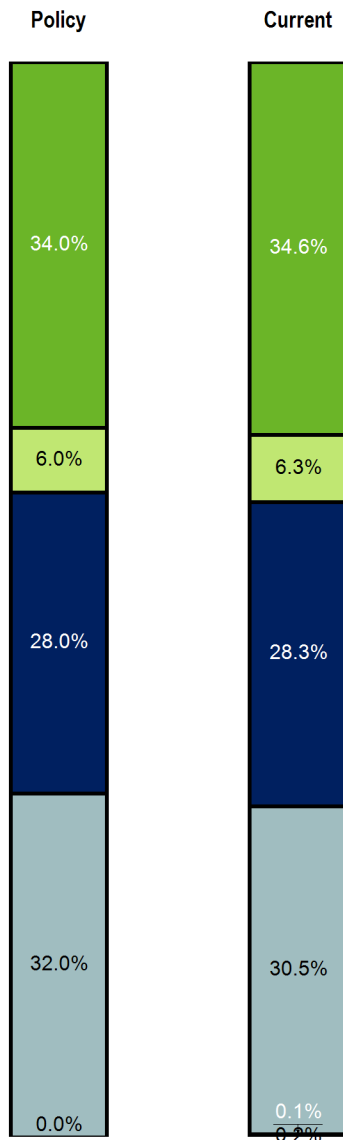
- OK PERS
- ◆ PERS Allocation Index
- PERS Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

5 Years Ending December 31, 2019				
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
OK PERS	7.26%	39	8.06%	94
PERS Allocation Index	7.11%	46	7.93%	90
PERS Policy Index	7.39%	32	7.93%	89

5 Years Ending December 31, 2019				
	Sharpe Ratio	Rank	Sortino Ratio	Rank
OK PERS	0.77	79	1.16	81
PERS Allocation Index	0.76	80	1.15	82
PERS Policy Index	0.80	73	1.22	69



TOTAL FUND ASSET ALLOCATION VS. POLICY



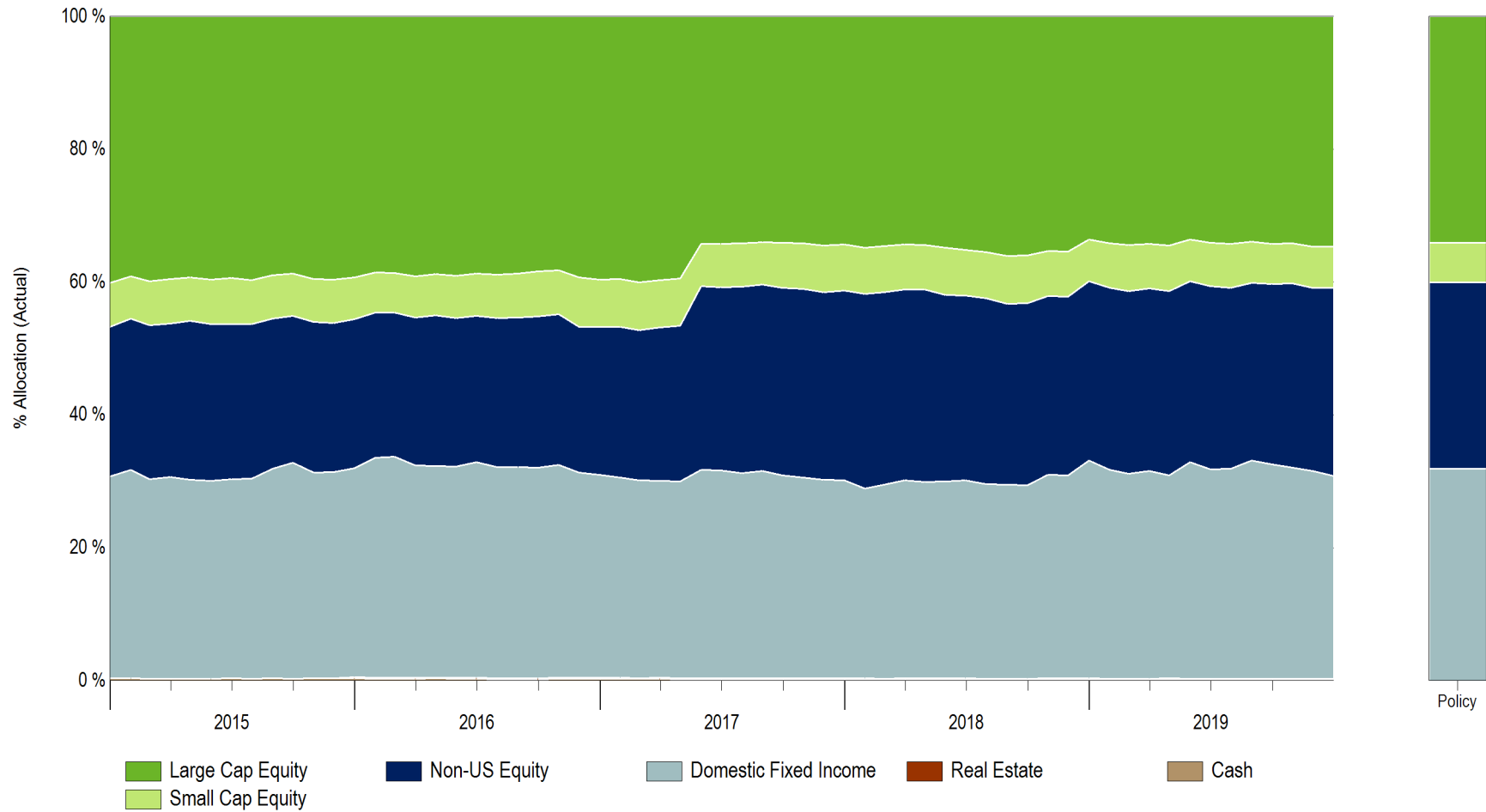
Asset Allocation vs. Target						
	Current	Policy	Current	Difference*	Policy Range	Within Range
Large Cap Equity	\$3,621,737,024	34.0%	34.6%	0.6%	31.2% - 36.8%	Yes
Small Cap Equity	\$654,554,800	6.0%	6.3%	0.3%	3.2% - 8.8%	Yes
Non-US Equity	\$2,959,192,077	28.0%	28.3%	0.3%	25.0% - 31.0%	Yes
Domestic Fixed Income	\$3,192,982,641	32.0%	30.5%	-1.5%	27.5% - 36.5%	Yes
Real Estate	\$11,750,000	0.0%	0.1%	0.1%	0.0% - 5.0%	Yes
Cash	\$16,208,853	0.0%	0.2%	0.2%	0.0% - 5.0%	Yes
Total	\$10,456,425,394	100.0%	100.0%			

*Difference between Policy and Current Allocation



TOTAL FUND ASSET ALLOCATION HISTORY

Asset Allocation History



Oklahoma PERS

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
OK PERS	10,456,425,394	100.0	6.2	7	6.9	12	21.4	10	9.9	29	7.3	39	8.7	31
<i>PERS Allocation Index</i>			<u>6.0</u>	14	<u>6.8</u>	15	<u>20.9</u>	16	<u>9.6</u>	41	<u>7.1</u>	46	<u>8.2</u>	50
Over/Under			0.2		0.1		0.5		0.3		0.2		0.5	
<i>PERS Policy Index</i>			6.1	13	6.9	12	21.5	8	10.1	24	7.4	32	8.5	36
<i>InvMetrics Public DB Gross Median</i>			5.2		6.0		18.4		9.4		7.1		8.2	
Domestic Equity Composite	4,276,291,824	40.9	9.1	34	9.5	40	29.5	46	13.7	43	10.7	44	13.3	48
<i>Domestic Equity Benchmark</i>			<u>9.2</u>	33	<u>10.2</u>	30	<u>30.7</u>	38	<u>14.3</u>	40	<u>11.1</u>	38	<u>13.4</u>	46
Over/Under			-0.1		-0.7		-1.2		-0.6		-0.4		-0.1	
<i>eV All US Equity Gross Median</i>			8.3		8.8		28.7		12.6		10.2		13.2	
Aronson Johnson & Ortiz	324,421,313	3.1	6.4	81	6.3	95	21.7	91	7.9	91	6.7	90	11.5	72
<i>Russell 1000 Value</i>			<u>7.4</u>	59	<u>8.9</u>	67	<u>26.5</u>	54	<u>9.7</u>	71	<u>8.3</u>	67	<u>11.8</u>	63
Over/Under			-1.0		-2.6		-4.8		-1.8		-1.6		-0.3	
<i>eV US Large Cap Value Equity Gross Median</i>			7.7		9.6		26.9		10.9		9.0		12.1	
Mellon	597,796,539	5.7	8.5	44	8.9	75	23.7	91	12.4	83	9.0	87	12.9	69
<i>Russell 1000</i>			<u>9.0</u>	33	<u>10.6</u>	34	<u>31.4</u>	33	<u>15.0</u>	41	<u>11.5</u>	36	<u>13.5</u>	40
Over/Under			-0.5		-1.7		-7.7		-2.6		-2.5		-0.6	
State Street Enhanced Index	593,709,698	5.7	8.6	41	11.0	26	30.8	38	14.9	44	11.6	34	13.9	26
<i>Russell 1000</i>			<u>9.0</u>	33	<u>10.6</u>	34	<u>31.4</u>	33	<u>15.0</u>	41	<u>11.5</u>	36	<u>13.5</u>	40
Over/Under			-0.4		0.4		-0.6		-0.1		0.1		0.4	
Blackrock Russell 1000	1,773,664,364	17.0	9.0	33	10.6	34	31.5	33	15.1	39	11.5	35	--	--
<i>Russell 1000</i>			<u>9.0</u>	33	<u>10.6</u>	34	<u>31.4</u>	33	<u>15.0</u>	41	<u>11.5</u>	36	<u>13.5</u>	40
Over/Under			0.0		0.0		0.1		0.1		0.0		--	--
<i>eV US Large Cap Core Equity Gross Median</i>			8.2		10.0		29.7		14.5		11.0		13.3	
UBS Global Asset Mgmt	211,834,367	2.0	9.3	56	1.9	75	31.6	40	15.2	58	9.9	76	15.4	33
<i>Russell 2000 Growth</i>			<u>11.4</u>	30	<u>6.7</u>	32	<u>28.5</u>	51	<u>12.5</u>	80	<u>9.3</u>	82	<u>13.0</u>	84
Over/Under			-2.1		-4.8		3.1		2.7		0.6		2.4	
<i>eV US Small Cap Growth Equity Gross Median</i>			9.6		5.0		28.5		15.9		11.6		14.6	

Domestic Equity Benchmark is 86.4% Russell 1000 and 13.6% Russell 2000.

Returns are gross of manager fees.



Oklahoma PERS

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Barrow Hanley	223,477,359	2.1	12.3	3	9.4	20	26.7	28	6.9	34	7.9	43	12.7	29
<i>Russell 2000 Value</i>			<u>8.5</u>	35	<u>7.9</u>	46	<u>22.4</u>	69	<u>4.8</u>	65	<u>7.0</u>	58	<u>10.6</u>	82
Over/Under			3.8		1.5		4.3		2.1		0.9		2.1	
DePrince Race & Zollo	219,243,074	2.1	8.1	47	7.6	49	27.5	22	8.0	23	8.8	24	--	--
<i>Russell 2000 Value</i>			<u>8.5</u>	35	<u>7.9</u>	46	<u>22.4</u>	69	<u>4.8</u>	65	<u>7.0</u>	58	<u>10.6</u>	82
Over/Under			-0.4		-0.3		5.1		3.2		1.8			
<i>eV US Small Cap Value Equity Gross Median</i>			7.9		7.6		24.4		5.5		7.6		12.0	
Westfield	332,145,109	3.2	12.5	5	11.7	21	37.0	27	--	--	--	--	--	--
<i>Russell 1000 Growth</i>			<u>10.6</u>	27	<u>12.3</u>	14	<u>36.4</u>	32	<u>20.5</u>	45	<u>14.6</u>	33	<u>15.2</u>	33
Over/Under			1.9		-0.6		0.6							
<i>eV US Large Cap Growth Equity Gross Median</i>			9.8		10.3		34.2		19.7		13.6		14.7	
Domestic Fixed Income Composite	3,192,982,641	30.5	-0.3	95	2.8	36	10.2	32	4.7	39	3.5	49	4.7	41
<i>BBgBarc US Aggregate TR</i>			<u>0.2</u>	87	<u>2.5</u>	49	<u>8.7</u>	48	<u>4.0</u>	58	<u>3.0</u>	61	<u>3.7</u>	60
Over/Under			-0.5		0.3		1.5		0.7		0.5		1.0	
<i>eV All US Fixed Inc Gross Median</i>			0.6		2.4		8.5		4.3		3.4		4.2	
Blackrock	1,560,172,019	14.9	0.3	39	2.6	38	9.3	47	4.3	58	3.4	58	4.2	62
<i>BBgBarc US Aggregate TR</i>			<u>0.2</u>	59	<u>2.5</u>	69	<u>8.7</u>	77	<u>4.0</u>	84	<u>3.0</u>	88	<u>3.7</u>	91
Over/Under			0.1		0.1		0.6		0.3		0.4		0.5	
Met West	948,650,488	9.1	0.2	48	2.6	42	9.4	43	4.5	30	3.4	52	4.8	15
<i>BBgBarc US Aggregate TR</i>			<u>0.2</u>	59	<u>2.5</u>	69	<u>8.7</u>	77	<u>4.0</u>	84	<u>3.0</u>	88	<u>3.7</u>	91
Over/Under			0.0		0.1		0.7		0.5		0.4		1.1	
<i>eV US Core Fixed Inc Gross Median</i>			0.2		2.6		9.3		4.4		3.4		4.3	
Hoisington	352,346,533	3.4	-4.8	95	4.5	91	17.4	90	8.3	75	4.5	97	8.5	43
<i>BBgBarc US Treasury Long TR</i>			<u>-4.1</u>	93	<u>3.5</u>	96	<u>14.8</u>	96	<u>6.9</u>	96	<u>4.1</u>	99	<u>7.0</u>	97
Over/Under			-0.7		1.0		2.6		1.4		0.4		1.5	
<i>eV US Long Duration Fixed Inc Gross Median</i>			0.0		6.0		21.3		8.7		6.2		8.3	
Blackrock TIPS	331,813,601	3.2	0.8	10	2.2	14	8.5	9	3.5	43	2.8	56	--	--
<i>BBgBarc US TIPS TR</i>			<u>0.8</u>	11	<u>2.1</u>	16	<u>8.4</u>	10	<u>3.3</u>	75	<u>2.6</u>	79	<u>3.4</u>	55
Over/Under			0.0		0.1		0.1		0.2		0.2			
<i>eV US Interm Duration Fixed Inc Gross Median</i>			0.4		1.9		7.0		3.5		2.8		3.4	

Returns are gross of manager fees.



Oklahoma PERS

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
International Equity Composite	2,959,192,077	28.3	9.8	57	7.8	60	23.3	59	10.7	56	6.3	64	5.7	80
MSCI ACWI ex USA			<u>8.9</u>	76	<u>7.0</u>	76	<u>21.5</u>	73	<u>9.9</u>	71	<u>5.5</u>	80	<u>5.0</u>	92
Over/Under			0.9		0.8		1.8		0.8		0.8		0.7	
eV All ACWI ex-US Equity Gross Median			<u>10.1</u>		<u>8.4</u>		<u>25.3</u>		<u>11.4</u>		<u>7.1</u>		<u>7.5</u>	
Baillie Gifford	393,485,737	3.8	13.1	6	11.6	6	34.8	16	14.0	52	9.0	34	--	--
MSCI ACWI ex USA Growth			<u>9.6</u>	70	<u>8.6</u>	47	<u>27.3</u>	74	<u>12.9</u>	71	<u>7.3</u>	84	<u>6.2</u>	97
Over/Under			3.5		3.0		7.5		1.1		1.7			
eV ACWI ex-US All Cap Growth Eq Gross Median			<u>10.3</u>		<u>8.6</u>		<u>31.0</u>		<u>14.0</u>		<u>8.7</u>		<u>8.3</u>	
Blackrock ACWI Ex US	1,553,963,775	14.9	9.0	75	7.0	75	21.9	70	10.2	62	5.8	74	5.3	89
MSCI ACWI ex USA			<u>8.9</u>	76	<u>7.0</u>	76	<u>21.5</u>	73	<u>9.9</u>	71	<u>5.5</u>	80	<u>5.0</u>	92
Over/Under			0.1		0.0		0.4		0.3		0.3		0.3	
eV All ACWI ex-US Equity Gross Median			<u>10.1</u>		<u>8.4</u>		<u>25.3</u>		<u>11.4</u>		<u>7.1</u>		<u>7.5</u>	
Blackrock ACWI Ex US Growth	355,887,528	3.4	9.1	77	7.7	78	25.7	84	12.4	82	7.2	86	6.2	97
MSCI ACWI ex USA Growth			<u>9.6</u>	70	<u>8.6</u>	47	<u>27.3</u>	74	<u>12.9</u>	71	<u>7.3</u>	84	<u>6.2</u>	97
Over/Under			-0.5		-0.9		-1.6		-0.5		-0.1		0.0	
eV ACWI ex-US All Cap Growth Eq Gross Median			<u>10.3</u>		<u>8.6</u>		<u>31.0</u>		<u>14.0</u>		<u>8.7</u>		<u>8.3</u>	
Mondrian	655,855,037	6.3	10.4	45	7.7	63	19.4	84	9.1	81	5.3	83	5.4	86
MSCI ACWI ex USA Value			<u>8.2</u>	88	<u>5.2</u>	97	<u>15.7</u>	94	<u>6.9</u>	94	<u>3.6</u>	97	<u>3.6</u>	99
Over/Under			2.2		2.5		3.7		2.2		1.7		1.8	
eV All ACWI ex-US Equity Gross Median			<u>10.1</u>		<u>8.4</u>		<u>25.3</u>		<u>11.4</u>		<u>7.1</u>		<u>7.5</u>	
Real Estate	11,750,000	0.1	2.2	--	4.3	--	2.9	--	-0.8	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			0.7		1.5		-2.4		-7.9					
Grand Centre	11,750,000	0.1	2.2	--	4.3	--	2.9	--	-0.8	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			0.7		1.5		-2.4		-7.9					

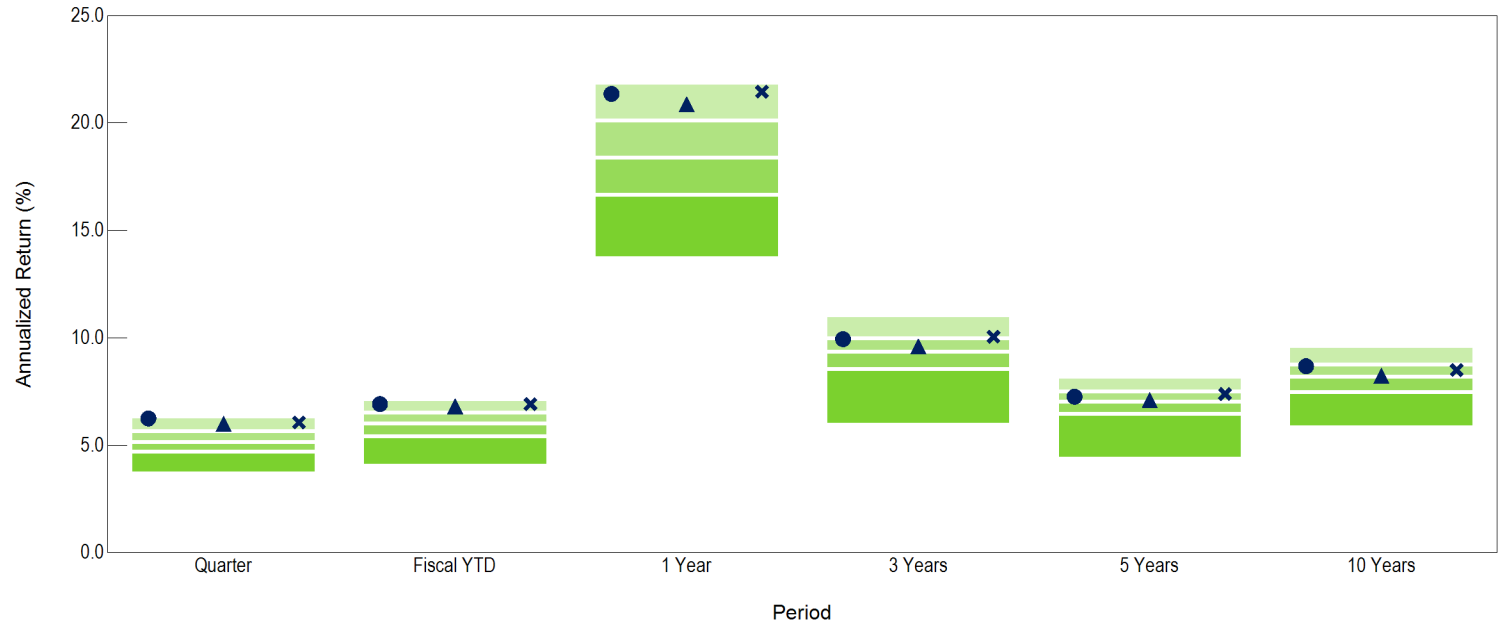
New Policy Index effective as of November 1, 2013 consist of 38% Large Cap Equity, 6% Small Cap Equity, 24% International Equity, and 32% Domestic Fixed Income.

Returns are gross of manager fees.



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

OK PERS vs. InvMetrics Public DB Gross

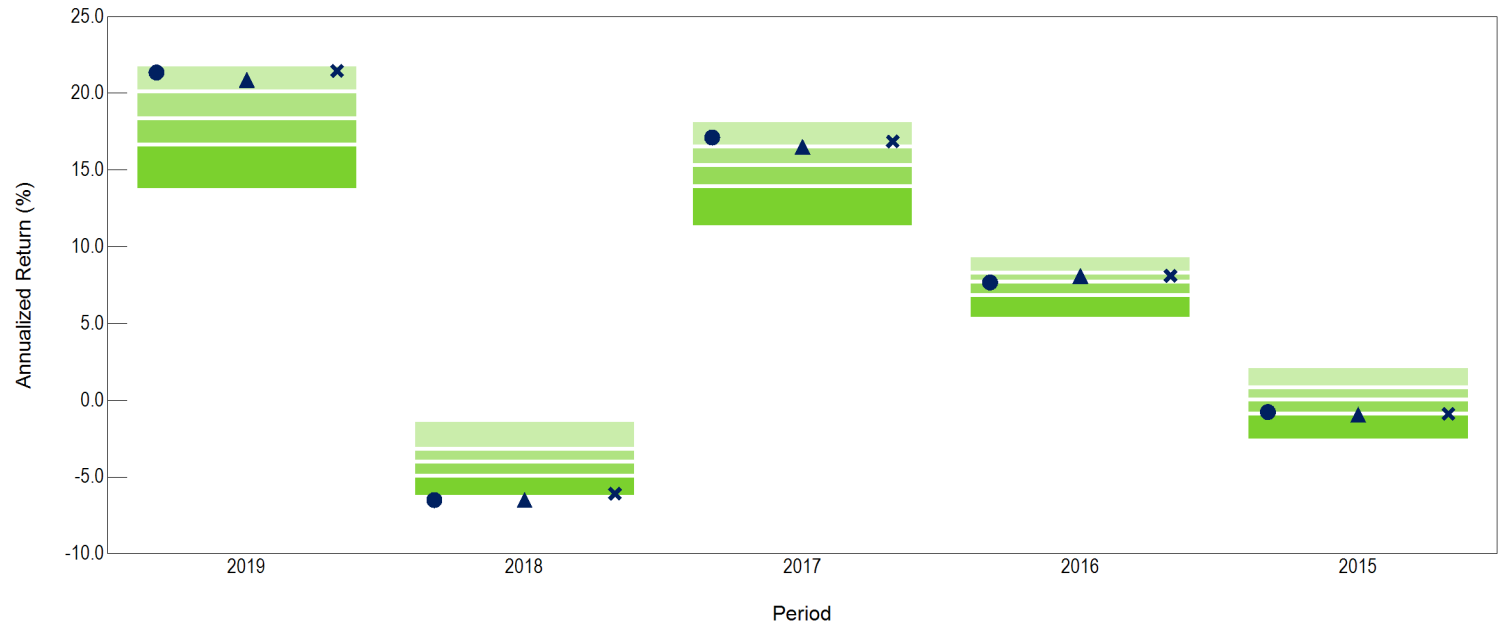


	Return (Rank)											
5th Percentile	6.3		7.1		21.9		11.0		8.2		9.6	
25th Percentile	5.7		6.5		20.1		10.0		7.5		8.8	
Median	5.2		6.0		18.4		9.4		7.1		8.2	
75th Percentile	4.7		5.4		16.7		8.6		6.5		7.5	
95th Percentile	3.7		4.1		13.7		6.0		4.4		5.8	
# of Portfolios	334		333		330		322		309		266	
● OK PERS	6.2	(7)	6.9	(12)	21.4	(10)	9.9	(29)	7.3	(39)	8.7	(31)
▲ PERS Allocation Index	6.0	(14)	6.8	(15)	20.9	(16)	9.6	(41)	7.1	(46)	8.2	(50)
× PERS Policy Index	6.1	(13)	6.9	(12)	21.5	(8)	10.1	(24)	7.4	(32)	8.5	(36)



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

OK PERS vs. InvMetrics Public DB Gross



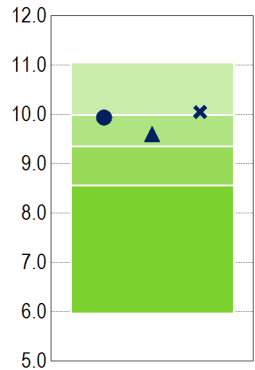
	Return (Rank)									
5th Percentile	21.9		-1.3		18.2		9.4		2.2	
25th Percentile	20.1		-3.1		16.5		8.4		0.9	
Median	18.4		-4.0		15.3		7.7		0.1	
75th Percentile	16.7		-4.9		14.0		6.9		-0.9	
95th Percentile	13.7		-6.3		11.3		5.3		-2.6	
# of Portfolios	330		319		304		305		316	
● OK PERS	21.4	(10)	-6.5	(97)	17.1	(17)	7.7	(52)	-0.8	(73)
▲ PERS Allocation Index	20.9	(16)	-6.5	(97)	16.5	(26)	8.1	(34)	-0.9	(77)
× PERS Policy Index	21.5	(8)	-6.1	(94)	16.9	(21)	8.1	(34)	-0.9	(76)



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

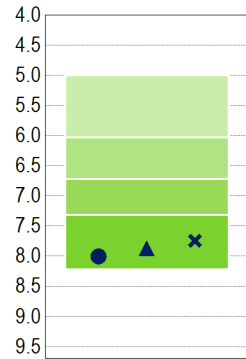
OK PERS vs. InvMetrics Public DB Gross 3 Years

Anlzd Return



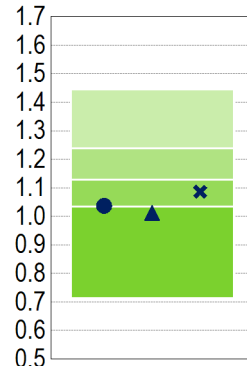
● OK PERS	
Value	9.94
Rank	29
▲ PERS Allocation Index	
Value	9.61
Rank	41
✕ PERS Policy Index	
Value	10.05
Rank	24
Universe	
5th %tile	11.05
25th %tile	10.01
Median	9.37
75th %tile	8.58
95th %tile	5.97

Anlzd Standard Deviation



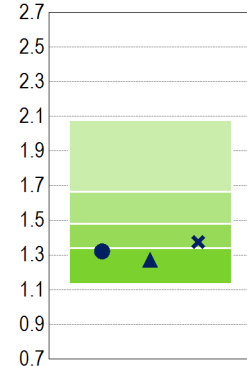
● OK PERS	
Value	8.00
Rank	94
▲ PERS Allocation Index	
Value	7.87
Rank	91
✕ PERS Policy Index	
Value	7.74
Rank	88
Universe	
5th %tile	5.00
25th %tile	6.02
Median	6.71
75th %tile	7.30
95th %tile	8.20

Sharpe Ratio



● OK PERS	
Value	1.04
Rank	75
▲ PERS Allocation Index	
Value	1.01
Rank	81
✕ PERS Policy Index	
Value	1.09
Rank	65
Universe	
5th %tile	1.45
25th %tile	1.24
Median	1.13
75th %tile	1.04
95th %tile	0.72

Sortino Ratio



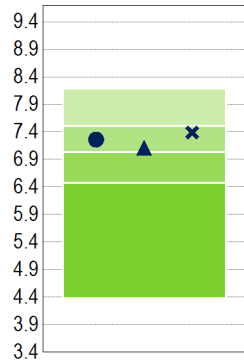
● OK PERS	
Value	1.32
Rank	78
▲ PERS Allocation Index	
Value	1.27
Rank	85
✕ PERS Policy Index	
Value	1.37
Rank	71
Universe	
5th %tile	2.08
25th %tile	1.67
Median	1.48
75th %tile	1.34
95th %tile	1.14



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

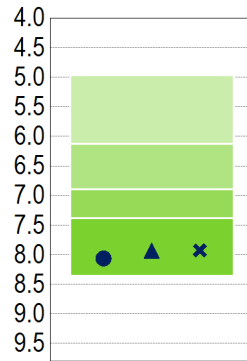
OK PERS vs. InvMetrics Public DB Gross 5 Years

Anlzd Return



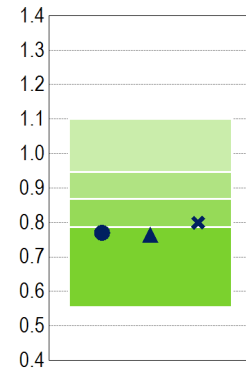
● OK PERS	
Value	7.26
Rank	39
▲ PERS Allocation Index	
Value	7.11
Rank	46
✕ PERS Policy Index	
Value	7.39
Rank	32
Universe	
5th %tile	8.18
25th %tile	7.52
Median	7.05
75th %tile	6.49
95th %tile	4.39

Anlzd Standard Deviation



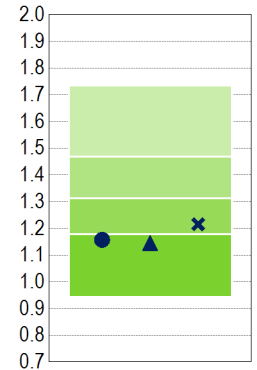
● OK PERS	
Value	8.06
Rank	94
▲ PERS Allocation Index	
Value	7.93
Rank	90
✕ PERS Policy Index	
Value	7.37
Rank	89
Universe	
5th %tile	4.96
25th %tile	6.12
Median	6.88
75th %tile	7.37
95th %tile	8.35

Sharpe Ratio



● OK PERS	
Value	0.77
Rank	79
▲ PERS Allocation Index	
Value	0.76
Rank	80
✕ PERS Policy Index	
Value	0.80
Rank	73
Universe	
5th %tile	1.10
25th %tile	0.95
Median	0.87
75th %tile	0.79
95th %tile	0.56

Sortino Ratio

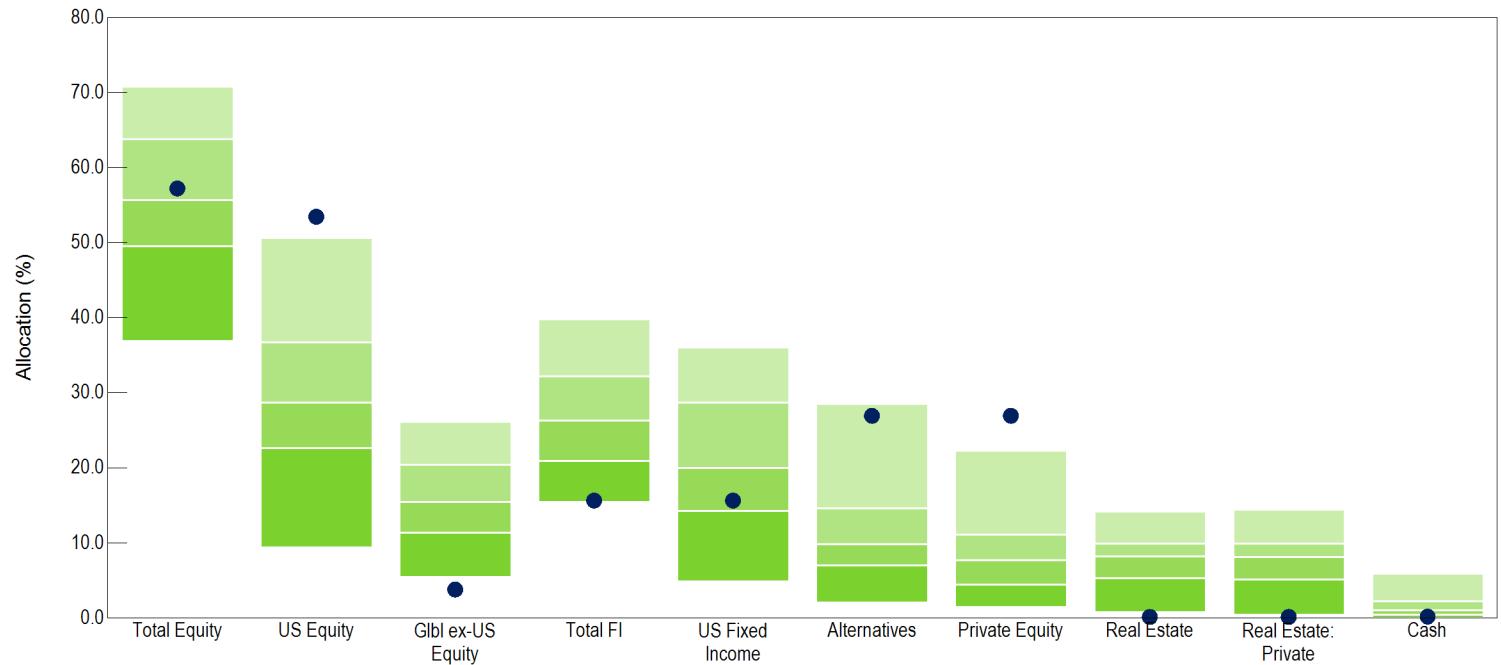


● OK PERS	
Value	1.16
Rank	81
▲ PERS Allocation Index	
Value	1.15
Rank	82
✕ PERS Policy Index	
Value	1.22
Rank	69
Universe	
5th %tile	1.74
25th %tile	1.47
Median	1.32
75th %tile	1.18
95th %tile	0.94



TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

Total Plan Allocation vs. InvMetrics Public DB Gross



	Allocation (Rank)																					
5th Percentile	70.7	50.6	26.1	39.7	36.0	28.5	22.3	14.2	14.4	5.9	-	70.7	50.6	26.1	39.7	36.0	28.5	22.3	14.2	14.4	5.9	-
25th Percentile	63.8	36.7	20.5	32.2	28.7	14.7	11.2	10.0	10.0	2.3	-	63.8	36.7	20.5	32.2	28.7	14.7	11.2	10.0	10.0	2.3	-
Median	55.7	28.8	15.5	26.4	20.0	9.9	7.8	8.3	8.1	1.1	-	55.7	28.8	15.5	26.4	20.0	9.9	7.8	8.3	8.1	1.1	-
75th Percentile	49.6	22.7	11.4	21.0	14.3	7.1	4.5	5.4	5.2	0.5	-	49.6	22.7	11.4	21.0	14.3	7.1	4.5	5.4	5.2	0.5	-
95th Percentile	36.9	9.5	5.5	15.5	5.0	2.1	1.5	0.9	0.5	0.0	-	36.9	9.5	5.5	15.5	5.0	2.1	1.5	0.9	0.5	0.0	-
# of Portfolios	257	179	220	256	164	170	112	181	134	239	-	257	179	220	256	164	170	112	181	134	239	-
● OK PERS	57.2	(45)	53.4	(3)	3.8	(99)	15.6	(95)	15.6	(70)	26.9	(6)	26.9	(4)	0.1	(99)	0.1	(99)	0.2	(90)	-	



TOTAL FUND ATTRIBUTION ANALYSIS

Performance Attribution		
	Last 3 Mo.	1 Yr
Wtd. Actual Return	6.2%	21.4%
Wtd. Index Return *	6.0%	21.3%
Excess Return	0.2%	0.1%
Selection Effect	0.2%	0.4%
Allocation Effect	0.0%	-0.3%
Interaction Effect	0.0%	0.0%
Asset Class Returns		
OK PERS	6.2%	21.4%
Domestic Equity Composite	9.1%	29.5%
Domestic Fixed Income Composite	-0.3%	10.2%
International Equity Composite	9.8%	23.3%
Cash Composite	3.4%	7.0%
Z TERMINATED - R/E Composite		
Real Estate	2.2%	2.9%

*Calculated from benchmark returns and weightings of each component.

Z TERMINATED represents Composite that fully liquidated.



OKLAHOMA FIREFIGHTERS

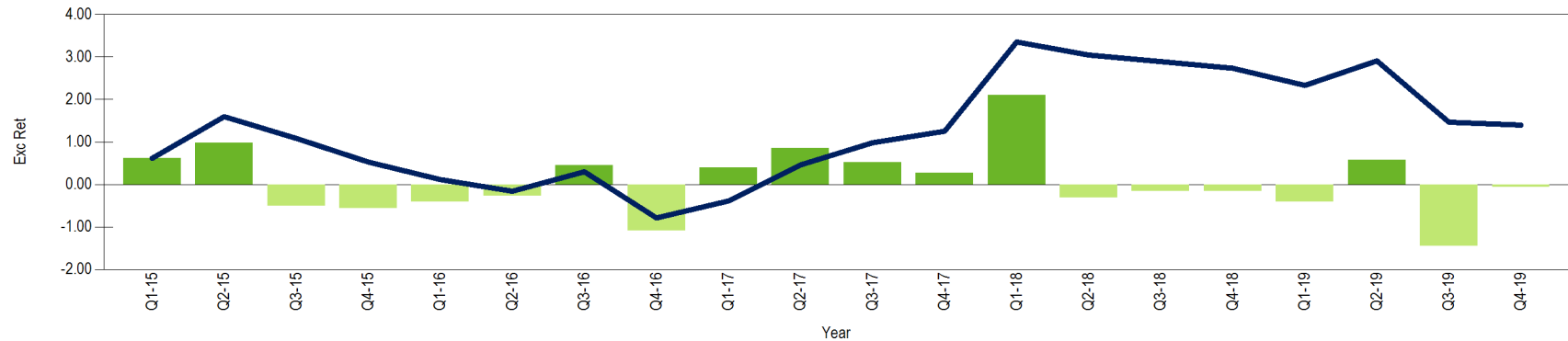


Oklahoma Firefighters

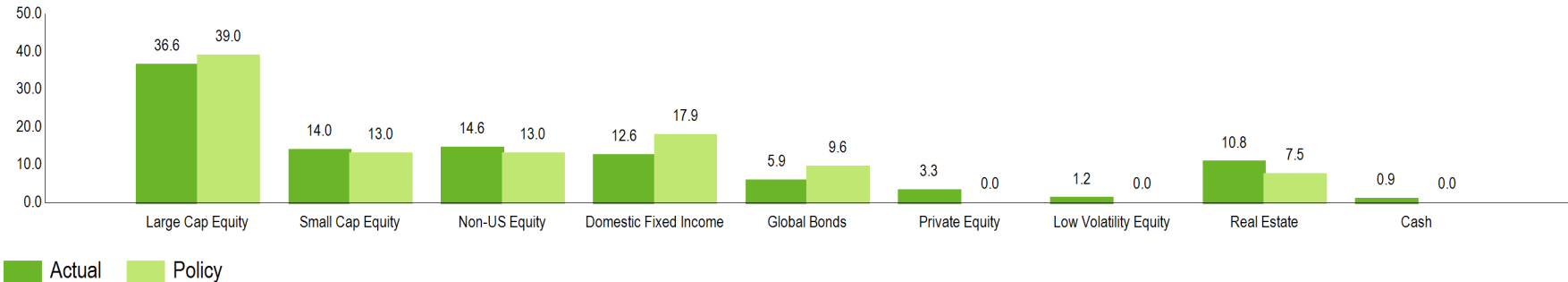
TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
OK FIREFIGHTERS	\$2,970,852,952	5.8%	18	5.7%	69	20.2%	25	11.7%	2	8.8%	1	9.6%	6
<i>FIREFIGHTERS Allocation Index</i>		6.0%	14	6.5%	27	20.1%	27	10.1%	24	8.0%	9	9.3%	9
<i>FIREFIGHTERS Policy Index</i>		5.9%	15	7.3%	4	21.8%	6	10.9%	7	8.5%	4	9.9%	3
<i>InvMetrics Public DB Gross Median</i>		5.2%		6.0%		18.4%		9.4%		7.1%		8.2%	

Quarterly and Cumulative Excess Performance



Actual vs Target Allocation (%)



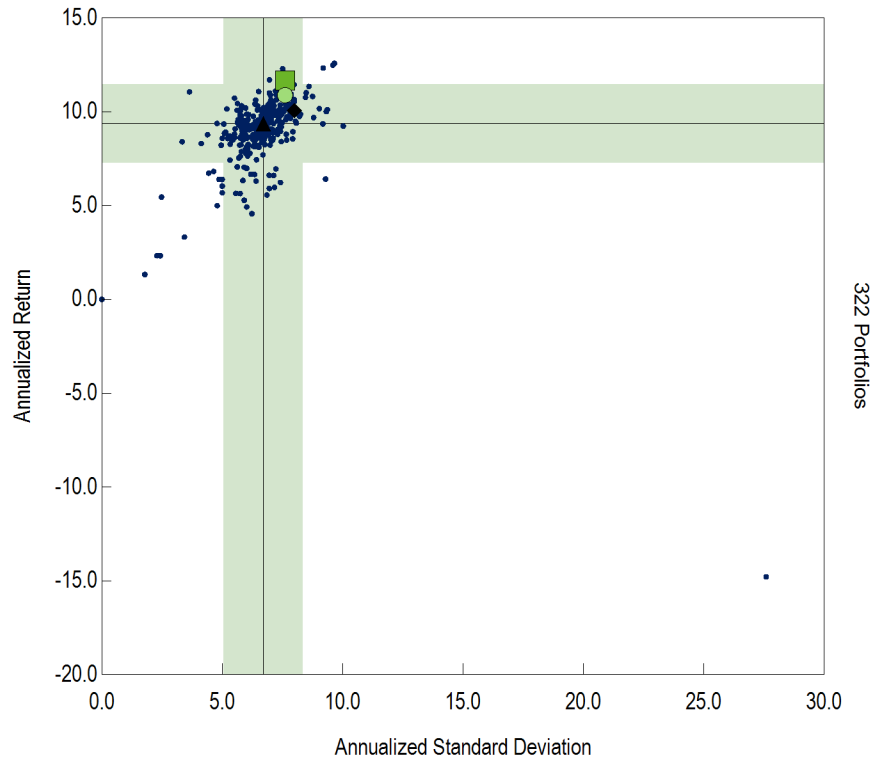
Returns are gross of manager fees.



Oklahoma Firefighters

TOTAL FUND RISK/RETURN - 3 YEARS

3 Years Ending December 31, 2019



- OK FIREFIGHTERS
- ◆ FIREFIGHTERS Allocation Index
- FIREFIGHTERS Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

3 Years Ending December 31, 2019

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
OK FIREFIGHTERS	11.67%	2	7.62%	84
FIREFIGHTERS Allocation Index	10.08%	24	8.00%	94
FIREFIGHTERS Policy Index	10.88%	7	7.61%	84

3 Years Ending December 31, 2019

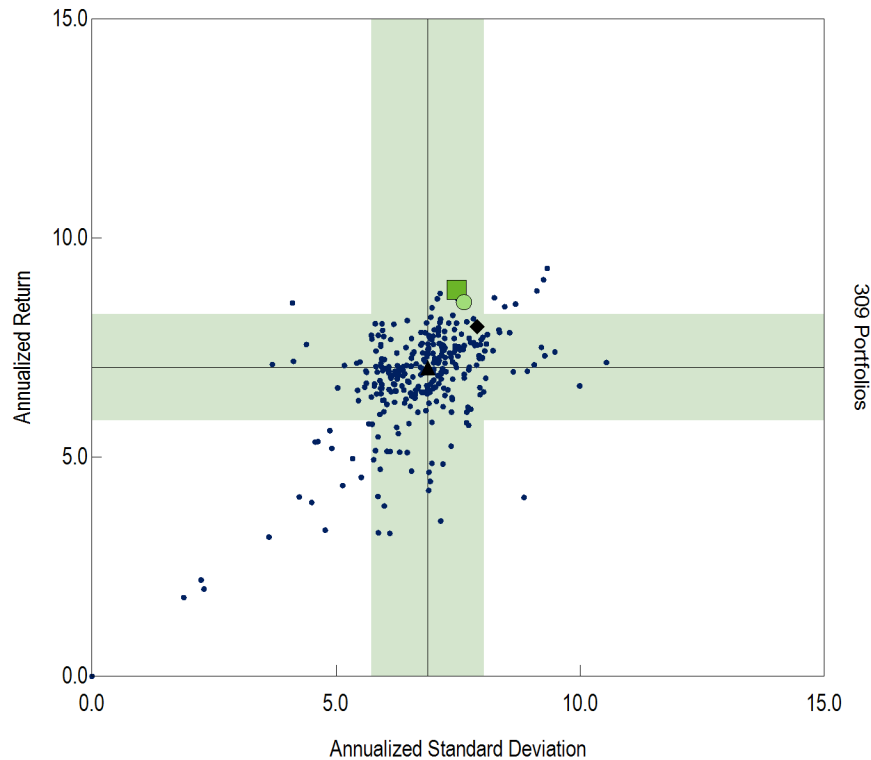
	Sharpe Ratio	Rank	Sortino Ratio	Rank
OK FIREFIGHTERS	1.32	14	1.63	31
FIREFIGHTERS Allocation Index	1.05	70	1.41	63
FIREFIGHTERS Policy Index	1.21	32	1.69	23



Oklahoma Firefighters

TOTAL FUND RISK/RETURN - 5 YEARS

5 Years Ending December 31, 2019



- OK FIREFIGHTERS
- ◆ FIREFIGHTERS Allocation Index
- FIREFIGHTERS Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

5 Years Ending December 31, 2019

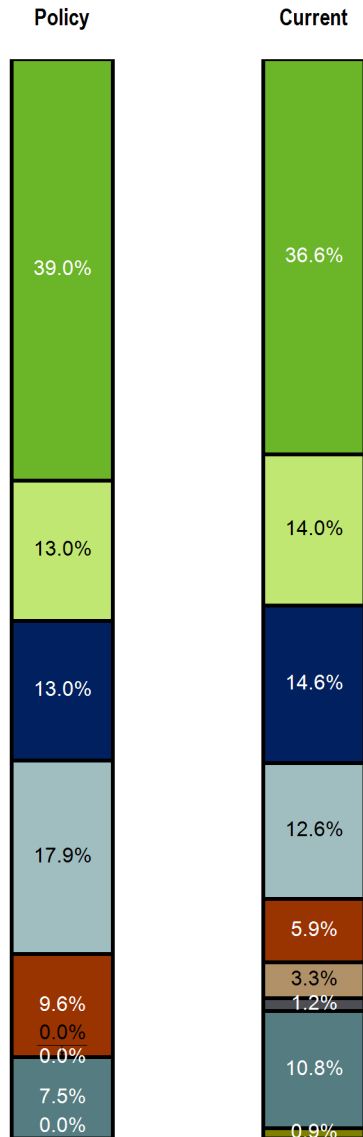
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
OK FIREFIGHTERS	8.82%	1	7.48%	81
FIREFIGHTERS Allocation Index	7.98%	9	7.89%	89
FIREFIGHTERS Policy Index	8.54%	4	7.62%	83

5 Years Ending December 31, 2019

	Sharpe Ratio	Rank	Sortino Ratio	Rank
OK FIREFIGHTERS	1.04	9	1.50	20
FIREFIGHTERS Allocation Index	0.88	48	1.24	65
FIREFIGHTERS Policy Index	0.98	17	1.46	28



TOTAL PLAN ASSET ALLOCATION VS. POLICY



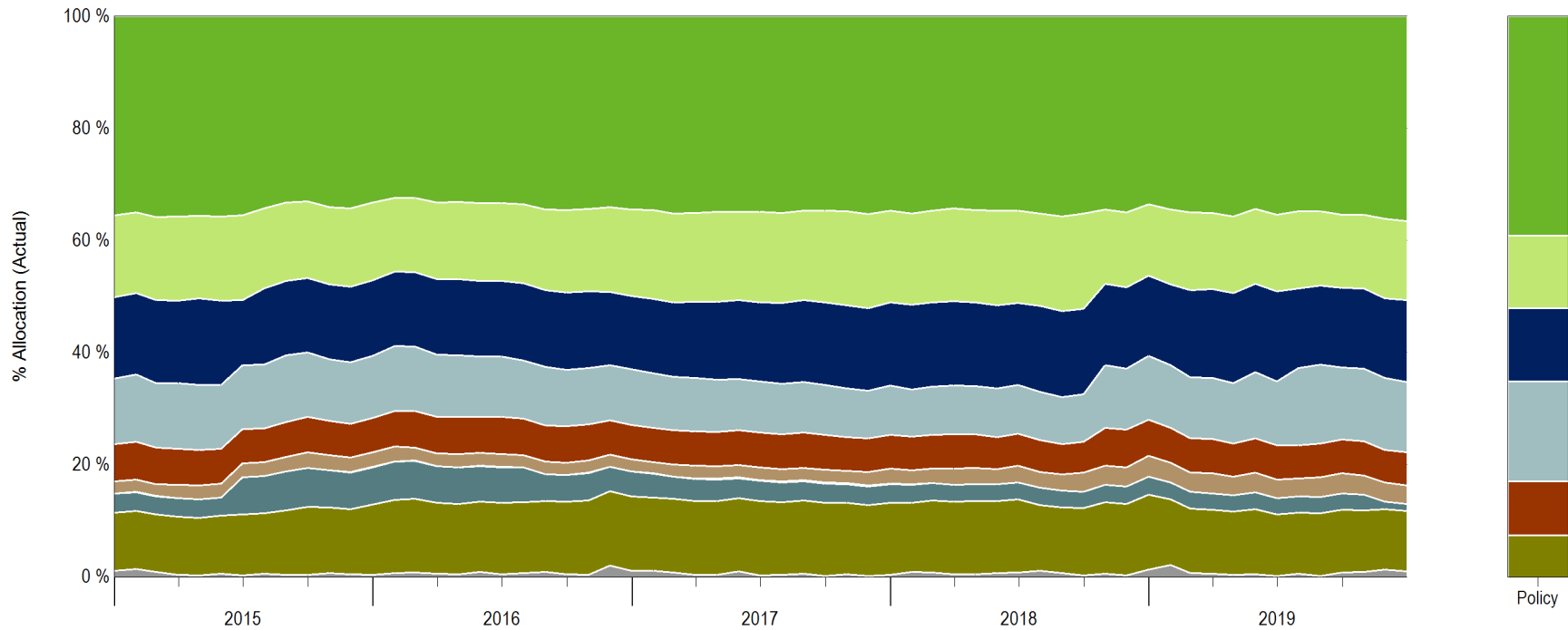
Asset Allocation vs. Target						
	Current	Policy	Current Difference*	Policy Range	Within Range	
Large Cap Equity	\$1,086,876,786	39.0%	36.6%	-2.4%	34.0% - 44.0%	Yes
Small Cap Equity	\$416,168,207	13.0%	14.0%	1.0%	8.0% - 18.0%	Yes
Non-US Equity	\$434,965,323	13.0%	14.6%	1.6%	8.0% - 18.0%	Yes
Domestic Fixed Income	\$372,967,685	17.9%	12.6%	-5.3%	12.9% - 22.9%	No
Global Bonds	\$175,893,635	9.6%	5.9%	-3.7%	4.6% - 14.6%	Yes
Private Equity	\$97,498,779	0.0%	3.3%	3.3%	0.0% - 10.0%	Yes
Low Volatility Equity	\$36,397,587	0.0%	1.2%	1.2%	0.0% - 10.0%	Yes
Real Estate	\$322,015,300	7.5%	10.8%	3.3%	2.5% - 12.5%	Yes
Cash	\$28,069,648	0.0%	0.9%	0.9%	0.0% - 5.0%	Yes
Total	\$2,970,852,952	100.0%	100.0%			

*Difference between Policy and Current Allocation



TOTAL PLAN ASSET ALLOCATION HISTORY

Asset Allocation History



- Large Cap Equity
- Non-US Equity
- Global Bonds
- Long/Short Equity
- Real Estate
- Small Cap Equity
- Domestic Fixed Income
- Private Equity
- Low Volatility Equity
- Cash



Oklahoma Firefighters

TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
OK FIREFIGHTERS	2,970,852,952	100.0	5.8	18	5.7	69	20.2	25	11.7	2	8.8	1	9.6	6
<i>FIREFIGHTERS Allocation Index</i>			<u>6.0</u>	14	<u>6.5</u>	27	<u>20.1</u>	27	<u>10.1</u>	24	<u>8.0</u>	9	<u>9.3</u>	9
Over/Under			-0.2		-0.8		0.1		1.6		0.8		0.3	
<i>FIREFIGHTERS Policy Index</i>			5.9	15	7.3	4	21.8	6	10.9	7	8.5	4	9.9	3
<i>InvMetrics Public DB Gross Median</i>			5.2		6.0		18.4		9.4		7.1		8.2	
Domestic Equity Composite	1,503,044,993	50.6	8.7	44	7.9	61	30.5	40	15.2	32	11.3	34	13.1	53
<i>Russell 3000</i>			<u>9.1</u>	34	<u>10.4</u>	27	<u>31.0</u>	36	<u>14.6</u>	38	<u>11.2</u>	36	<u>13.4</u>	45
Over/Under			-0.4		-2.5		-0.5		0.6		0.1		-0.3	
<i>eV All US Equity Gross Median</i>			8.3		8.8		28.7		12.6		10.2		13.2	
Large Cap Equity Composite	1,086,876,786	36.6	8.7	42	10.0	33	31.3	34	15.1	33	11.2	37	13.3	47
<i>Russell 1000</i>			<u>9.0</u>	37	<u>10.6</u>	24	<u>31.4</u>	33	<u>15.0</u>	34	<u>11.5</u>	32	<u>13.5</u>	41
Over/Under			-0.3		-0.6		-0.1		0.1		-0.3		-0.2	
<i>eV All US Equity Gross Median</i>			8.3		8.8		28.7		12.6		10.2		13.2	
Aronson	99,017,923	3.3	6.4	82	6.2	95	21.9	90	8.1	89	6.7	90	11.4	72
<i>Russell 1000 Value</i>			<u>7.4</u>	59	<u>8.9</u>	67	<u>26.5</u>	54	<u>9.7</u>	71	<u>8.3</u>	67	<u>11.8</u>	63
Over/Under			-1.0		-2.7		-4.6		-1.6		-1.6		-0.4	
SSgA Equity Index	232,426,377	7.8	9.1	32	10.9	28	31.5	33	15.3	36	11.7	32	13.6	36
<i>S&P 500</i>			<u>9.1</u>	32	<u>10.9</u>	29	<u>31.5</u>	33	<u>15.3</u>	36	<u>11.7</u>	33	<u>13.6</u>	39
Over/Under			0.0		0.0		0.0		0.0		0.0		0.0	
SSgA EQ Wtd S&P	223,357,849	7.5	7.7	63	8.9	75	30.1	46	12.6	81	9.9	78	13.6	36
<i>S&P 500</i>			<u>9.1</u>	32	<u>10.9</u>	29	<u>31.5</u>	33	<u>15.3</u>	36	<u>11.7</u>	33	<u>13.6</u>	39
Over/Under			-1.4		-2.0		-1.4		-2.7		-1.8		0.0	
Intech	223,829,434	7.5	8.7	39	10.6	34	33.2	17	15.3	36	11.2	44	13.7	34
<i>S&P 500</i>			<u>9.1</u>	32	<u>10.9</u>	29	<u>31.5</u>	33	<u>15.3</u>	36	<u>11.7</u>	33	<u>13.6</u>	39
Over/Under			-0.4		-0.3		1.7		0.0		-0.5		0.1	
<i>eV US Large Cap Core Equity Gross Median</i>			8.2		10.0		29.7		14.5		11.0		13.3	

Returns are gross of manager fees.



Oklahoma Firefighters

TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Fred Alger Management	204,734,051	6.9	10.8	26	10.2	52	35.1	42	21.6	30	14.3	40	--	--
<i>Russell 1000 Growth</i>			<u>10.6</u>	27	<u>12.3</u>	14	<u>36.4</u>	32	<u>20.5</u>	45	<u>14.6</u>	33	<u>15.2</u>	33
Over/Under			0.2		-2.1		-1.3		1.1		-0.3			
<i>eV US Large Cap Growth Equity Gross Median</i>			9.8		10.3		34.2		19.7		13.6		14.7	
Beutel Goodman Company	103,511,152	3.5	8.5	--	12.5	--	31.0	--	14.0	--	--	--	--	--
<i>Russell 1000 Value</i>			<u>7.4</u>	--	<u>8.9</u>	--	<u>26.5</u>	--	<u>9.7</u>	--	<u>8.3</u>	--	<u>11.8</u>	--
Over/Under			1.1		3.6		4.5		4.3					
Small Cap Equity Composite	396,471,055	13.3	9.0	41	3.1	88	32.1	19	16.4	15	12.3	16	13.9	32
<i>Russell 2000</i>			<u>9.9</u>	27	<u>7.3</u>	45	<u>25.5</u>	51	<u>8.6</u>	51	<u>8.2</u>	58	<u>11.8</u>	75
Over/Under			-0.9		-4.2		6.6		7.8		4.1		2.1	
<i>eV US Small Cap Equity Gross Median</i>			8.5		7.0		25.6		8.8		8.8		13.0	
Earnest Partner	99,856,387	3.4	7.1	68	7.0	62	31.8	8	12.2	5	10.5	10	13.2	18
<i>Russell 2000 Value</i>			<u>8.5</u>	35	<u>7.9</u>	46	<u>22.4</u>	69	<u>4.8</u>	65	<u>7.0</u>	58	<u>10.6</u>	82
Over/Under			-1.4		-0.9		9.4		7.4		3.5		2.6	
River Road	98,194,251	3.3	10.3	12	7.8	47	32.0	8	12.0	5	12.5	2	12.7	30
<i>Russell 2000 Value</i>			<u>8.5</u>	35	<u>7.9</u>	46	<u>22.4</u>	69	<u>4.8</u>	65	<u>7.0</u>	58	<u>10.6</u>	82
Over/Under			1.8		-0.1		9.6		7.2		5.5		2.1	
<i>eV US Small Cap Value Equity Gross Median</i>			7.9		7.6		24.4		5.5		7.6		12.0	
Lord Abbet	96,401,101	3.2	7.5	78	-4.4	99	33.0	36	22.9	13	10.9	60	--	--
<i>Russell 2000 Growth</i>			<u>11.4</u>	30	<u>6.7</u>	32	<u>28.5</u>	51	<u>12.5</u>	80	<u>9.3</u>	82	<u>13.0</u>	84
Over/Under			-3.9		-11.1		4.5		10.4		1.6			
Delaware Small Growth	102,019,316	3.4	11.0	34	2.6	74	31.3	40	18.9	32	14.7	15	--	--
<i>Russell 2500 Growth</i>			<u>10.6</u>	37	<u>7.1</u>	30	<u>32.7</u>	37	<u>15.2</u>	58	<u>10.8</u>	62	<u>14.0</u>	65
Over/Under			0.4		-4.5		-1.4		3.7		3.9			
<i>eV US Small Cap Growth Equity Gross Median</i>			9.6		5.0		28.5		15.9		11.6		14.6	

Returns are gross of manager fees.



Oklahoma Firefighters

TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Tortoise Direct Opportunities	19,697,152	0.7	1.2	--	-2.4	--	-3.6	--	1.9	--	--	--	--	--
Alerian MLP Index			<u>-4.1</u>	--	<u>-8.9</u>	--	<u>6.6</u>	--	<u>-4.4</u>	--	<u>-7.0</u>	--	<u>4.2</u>	--
Over/Under			5.3		6.5		-10.2		6.3					
International Equity Composite	434,965,323	14.6	8.5	86	6.4	85	27.3	39	14.5	22	8.8	25	6.0	77
MSCI ACWI ex USA			<u>8.9</u>	76	<u>7.0</u>	76	<u>21.5</u>	73	<u>9.9</u>	71	<u>5.5</u>	80	<u>5.0</u>	92
Over/Under			-0.4		-0.6		5.8		4.6		3.3		1.0	
eV All ACWI ex-US Equity Gross Median			10.1		8.4		25.3		11.4		7.1		7.5	
Chautauqua	141,970,737	4.8	4.9	99	2.9	99	23.9	55	12.2	43	8.2	33	--	--
MSCI EAFE			<u>8.2</u>	89	<u>7.0</u>	75	<u>22.0</u>	68	<u>9.6</u>	75	<u>5.7</u>	77	<u>5.5</u>	83
Over/Under			-3.3		-4.1		1.9		2.6		2.5			
eV All ACWI ex-US Equity Gross Median			10.1		8.4		25.3		11.4		7.1		7.5	
WCM	182,146,447	6.1	10.1	51	9.8	23	37.5	3	19.8	3	13.3	4	--	--
MSCI EAFE			<u>8.2</u>	89	<u>7.0</u>	75	<u>22.0</u>	68	<u>9.6</u>	75	<u>5.7</u>	77	<u>5.5</u>	83
Over/Under			1.9		2.8		15.5		10.2		7.6			
eV All ACWI ex-US Equity Gross Median			10.1		8.4		25.3		11.4		7.1		7.5	
Emerging Markets Equity Composite	110,818,399	3.7	10.9	60	5.8	70	17.2	70	9.9	77	3.0	95	--	--
MSCI Emerging Markets			<u>11.8</u>	40	<u>7.1</u>	52	<u>18.4</u>	63	<u>11.6</u>	54	<u>5.6</u>	68	<u>3.7</u>	91
Over/Under			-0.9		-1.3		-1.2		-1.7		-2.6			
eV Emg Mkts Equity Gross Median			11.5		7.1		20.1		11.9		6.5		5.4	
ClariVest Emerging Market Equity	104,307	0.0	74.7	1	74.7	1	86.9	1	28.5	1	13.1	1	--	--
MSCI Emerging Markets			<u>11.8</u>	40	<u>7.1</u>	52	<u>18.4</u>	63	<u>11.6</u>	54	<u>5.6</u>	68	<u>3.7</u>	91
Over/Under			62.9		67.6		68.5		16.9		7.5			
eV Emg Mkts Equity Gross Median			11.5		7.1		20.1		11.9		6.5		5.4	
RBC GAM EMERGING MARKETS	54,705,094	1.8	10.0	72	4.5	82	--	--	--	--	--	--	--	--
MSCI Emerging Markets			<u>11.8</u>	40	<u>7.1</u>	52	<u>18.4</u>	63	<u>11.6</u>	54	<u>5.6</u>	68	<u>3.7</u>	91
Over/Under			-1.8		-2.6									
eV Emg Mkts Equity Gross Median			11.5		7.1		20.1		11.9		6.5		5.4	
Wellington Emerging Markets	56,008,998	1.9	11.8	44	7.0	55	--	--	--	--	--	--	--	--
MSCI Emerging Markets			<u>11.8</u>	40	<u>7.1</u>	52	<u>18.4</u>	63	<u>11.6</u>	54	<u>5.6</u>	68	<u>3.7</u>	91
Over/Under			0.0		-0.1									
eV Emg Mkts Equity Gross Median			11.5		7.1		20.1		11.9		6.5		5.4	

Returns are gross of manager fees.



Oklahoma Firefighters

TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Fixed Income Composite	548,861,321	18.5	1.6	18	2.3	54	7.2	61	4.2	55	2.9	65	4.3	48
BBgBarc US Aggregate TR			0.2	87	2.5	49	8.7	48	4.0	58	3.0	61	3.7	60
Over/Under			1.4		-0.2		-1.5		0.2		-0.1		0.6	
eV All US Fixed Inc Gross Median			0.6		2.4		8.5		4.3		3.4		4.2	
Core Bonds Composite	229,352,578	7.7	0.3	45	2.5	59	8.1	92	3.9	87	3.2	81	--	--
BBgBarc US Aggregate TR			0.2	59	2.5	69	8.7	77	4.0	84	3.0	88	3.7	91
Over/Under			0.1		0.0		-0.6		-0.1		0.2			
eV US Core Fixed Inc Gross Median			0.2		2.6		9.3		4.4		3.4		4.3	
Orleans Capital Management	78,708,003	2.6	0.8	6	2.9	10	10.1	13	4.4	46	3.5	38	--	--
BBgBarc US Aggregate TR			0.2	59	2.5	69	8.7	77	4.0	84	3.0	88	3.7	91
Over/Under			0.6		0.4		1.4		0.4		0.5			
eV US Core Fixed Inc Gross Median			0.2		2.6		9.3		4.4		3.4		4.3	
Garcia Hamilton Associates	150,644,575	5.1	0.0	87	2.3	78	7.1	96	4.0	85	3.3	69	--	--
BBgBarc US Aggregate TR			0.2	59	2.5	69	8.7	77	4.0	84	3.0	88	3.7	91
Over/Under			-0.2		-0.2		-1.6		0.0		0.3			
eV US Core Fixed Inc Gross Median			0.2		2.6		9.3		4.4		3.4		4.3	
Intermediate Bonds Composite	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BBgBarc US Govt/Credit Int TR			0.4	66	1.7	68	6.8	63	3.2	81	2.6	84	3.1	84
Over/Under														
eV US Interm Duration Fixed Inc Gross Median			0.4		1.9		7.0		3.5		2.8		3.4	
Garrison Middle Market Funding	3,436,816	0.1	-16.3	99	-14.6	99	-14.9	99	-3.9	99	-1.1	99	--	--
Credit Suisse Leveraged Loans			1.7	4	2.6	71	8.2	95	4.5	82	4.5	9	5.2	40
Over/Under			-18.0		-17.2		-23.1		-8.4		-5.6			
eV US Core Plus Fixed Inc Gross Median			0.5		2.9		10.1		4.9		3.9		5.0	
Medley Opportunity Fund II	13,799,095	0.5	-6.4	99	-11.1	99	-14.5	99	-8.4	99	-3.1	99	--	--
Credit Suisse Leveraged Loans			1.7	67	2.6	74	8.2	73	4.5	58	4.5	72	5.2	68
Over/Under			-8.1		-13.7		-22.7		-12.9		-7.6			
eV US Float-Rate Bank Loan Fixed Inc Gross Median			1.8		2.9		8.7		4.5		4.7		5.4	

Returns are gross of manager fees.



Oklahoma Firefighters

TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
PIMCO Corporate Opp Fund II	33,237,967	1.1	1.8	6	3.5	83	3.7	99	11.0	1	--	--	--	--
BBgBarc US High Yield TR			<u>2.6</u>	1	<u>4.0</u>	76	<u>14.3</u>	65	<u>6.4</u>	31	<u>6.1</u>	1	<u>7.6</u>	1
Over/Under			-0.8		-0.5		-10.6		4.6					
eV US Corporate Fixed Inc Gross Median			1.2		4.3		14.7		6.2		5.0		6.2	
PIMCO Bravo III	41,326,648	1.4	2.8	1	6.1	1	8.0	97	--	--	--	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	99	<u>1.3</u>	99	<u>9.9</u>	90	<u>12.6</u>	1	<u>11.3</u>	1	<u>13.4</u>	1
Over/Under			2.8		4.8		-1.9							
eV US Corporate Fixed Inc Net Median			1.2		4.1		14.4		5.9		4.7		5.9	
PIMCO Private Income Fund	51,814,581	1.7	2.5	1	3.0	87	--	--	--	--	--	--	--	--
BBgBarc US High Yield TR			<u>2.6</u>	1	<u>4.0</u>	76	<u>14.3</u>	65	<u>6.4</u>	31	<u>6.1</u>	1	<u>7.6</u>	1
Over/Under			-0.1		-1.0									
eV US Corporate Fixed Inc Gross Median			1.2		4.3		14.7		6.2		5.0		6.2	
Global Fixed Composite	175,893,635	5.9	4.1	12	2.3	60	9.1	56	5.4	46	2.6	69	--	--
FTSE WGBI TR			-0.4	94	0.5	93	5.9	85	4.1	79	2.0	82	1.9	88
Over/Under			4.5		1.8		3.2		1.3		0.6			
eV All Global Fixed Inc Gross Median			1.8		2.7		9.6		5.2		3.7		4.2	
Brandywine	175,893,635	5.9	4.1	12	2.3	60	9.1	56	5.4	46	2.6	69	5.2	32
FTSE WGBI TR			-0.4	94	0.5	93	5.9	85	4.1	79	2.0	82	1.9	88
Over/Under			4.5		1.8		3.2		1.3		0.6		3.3	
eV All Global Fixed Inc Gross Median			1.8		2.7		9.6		5.2		3.7		4.2	
Real Estate Composite	322,015,300	10.8	0.9	--	2.2	--	4.9	--	7.4	--	9.3	--	--	--
NCREIF Property Index			<u>1.6</u>	--	<u>3.0</u>	--	<u>6.4</u>	--	<u>6.7</u>	--	<u>8.2</u>	--	<u>10.2</u>	--
Over/Under			-0.7		-0.8		-1.5		0.7		1.1			
JP Morgan RE	111,537,774	3.8	2.3	--	2.8	--	4.4	--	6.5	--	8.6	--	11.2	--
NCREIF Property Index			<u>1.6</u>	--	<u>3.0</u>	--	<u>6.4</u>	--	<u>6.7</u>	--	<u>8.2</u>	--	<u>10.2</u>	--
Over/Under			0.7		-0.2		-2.0		-0.2		0.4		1.0	
Portfolio Advisors RE III	2,922,785	0.1	-4.4	--	-9.3	--	-9.1	--	-2.8	--	5.3	--	4.7	--
NCREIF Property Index			<u>1.6</u>	--	<u>3.0</u>	--	<u>6.4</u>	--	<u>6.7</u>	--	<u>8.2</u>	--	<u>10.2</u>	--
Over/Under			-6.0		-12.3		-15.5		-9.5		-2.9		-5.5	

Returns are gross of manager fees.



Oklahoma Firefighters

TOTAL PLAN PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Portfolio Advisors RE IV	1,964,452	0.1	2.0	--	0.7	--	-4.3	--	7.2	--	10.4	--	--	--
NCREIF Property Index			1.6	--	3.0	--	6.4	--	6.7	--	8.2	--	10.2	--
Over/Under			0.4		-2.3		-10.7		0.5		2.2			
Angelo Gordon Net Lease Realty III LP	23,472,628	0.8	1.9	--	3.6	--	7.8	--	8.1	--	6.7	--	--	--
NCREIF Property Index			1.6	--	3.0	--	6.4	--	6.7	--	8.2	--	10.2	--
Over/Under			0.3		0.6		1.4		1.4		-1.5			
Mesirow	27,201,459	0.9	1.0	--	2.0	--	11.0	--	10.4	--	9.3	--	--	--
NCREIF Property Index			1.6	--	3.0	--	6.4	--	6.7	--	8.2	--	10.2	--
Over/Under			-0.6		-1.0		4.6		3.7		1.1			
Dune Real Estate Fund III	25,384,848	0.9	-4.7	--	-3.9	--	0.7	--	10.3	--	11.7	--	--	--
NCREIF Property Index			1.6	--	3.0	--	6.4	--	6.7	--	8.2	--	10.2	--
Over/Under			-6.3		-6.9		-5.7		3.6		3.5			
OK FF Portfolio Advisors	6,968,336	0.2	-1.7	--	-2.0	--	-2.3	--	1.3	--	3.6	--	--	--
NCREIF Property Index			1.6	--	3.0	--	6.4	--	6.7	--	8.2	--	10.2	--
Over/Under			-3.3		-5.0		-8.7		-5.4		-4.6			
Landmark RE VII	11,606,232	0.4	-0.2	--	-0.6	--	-1.4	--	4.1	--	16.2	--	--	--
NCREIF Property Index			1.6	--	3.0	--	6.4	--	6.7	--	8.2	--	10.2	--
Over/Under			-1.8		-3.6		-7.8		-2.6		8.0			
JP Morgan Special Situation Property	72,099,714	2.4	1.5	--	4.2	--	6.7	--	9.2	--	11.7	--	--	--
NCREIF Property Index			1.6	--	3.0	--	6.4	--	6.7	--	8.2	--	10.2	--
Over/Under			-0.1		1.2		0.3		2.5		3.5			
Hall Capital III	10,859,981	0.4	1.1	--	1.8	--	7.2	--	9.2	--	0.5	--	--	--
NCREIF Property Index			1.6	--	3.0	--	6.4	--	6.7	--	8.2	--	10.2	--
Over/Under			-0.5		-1.2		0.8		2.5		-7.7			
Portfolio Advisors RE VI	16,385,624	0.6	0.7	--	7.4	--	7.7	--	--	--	--	--	--	--
NCREIF Property Index			1.6	--	3.0	--	6.4	--	6.7	--	8.2	--	10.2	--
Over/Under			-0.9		4.4		1.3							

Returns are gross of manager fees.



Oklahoma Firefighters

TOTAL PLAN PERFORMANCE DETAIL

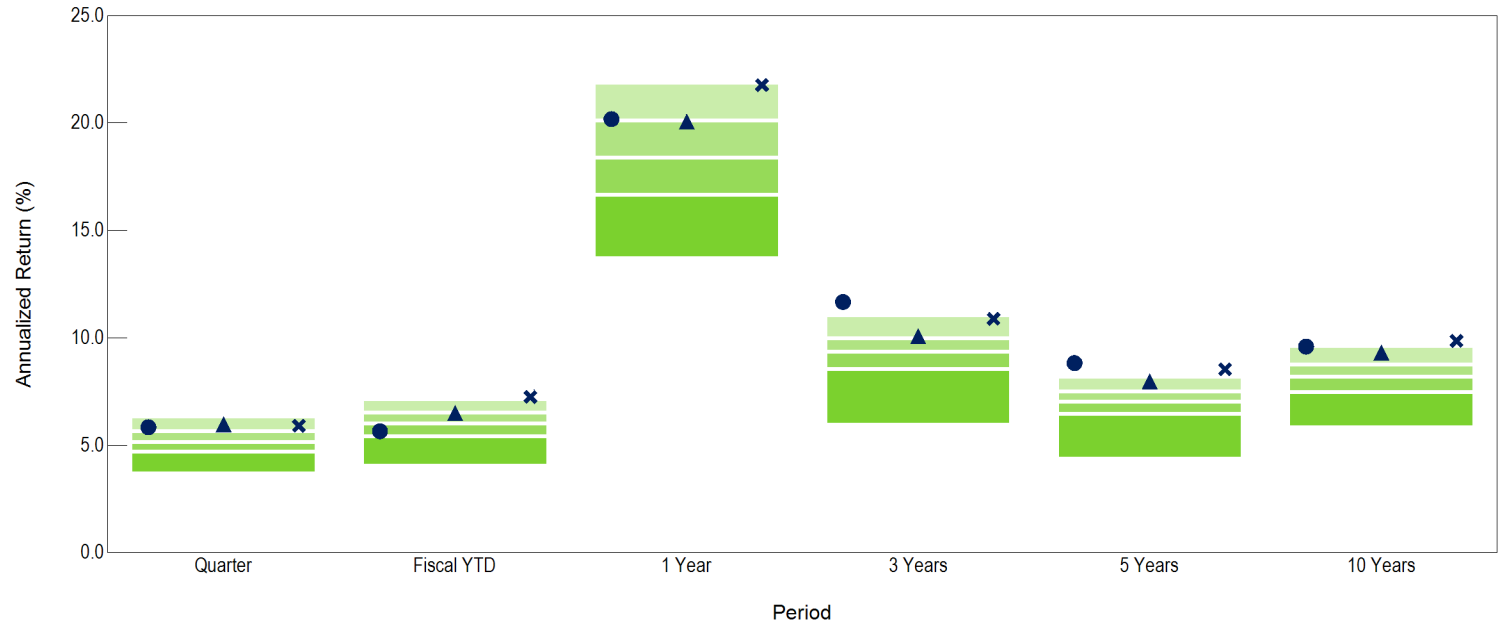
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Hall Capital Real Estate Fund	3,025,512	0.1	2.2	--	3.4	--	3.8	--	--	--	--	--	--	--
NCREIF Property Index			<u>1.6</u>	--	<u>3.0</u>	--	<u>6.4</u>	--	<u>6.7</u>	--	<u>8.2</u>	--	<u>10.2</u>	--
Over/Under			0.6		0.4		-2.6							
Dune Real Estate IV LP	8,585,956	0.3	-7.5	--	--	--	--	--	--	--	--	--	--	--
NCREIF Property Index			<u>1.6</u>	--	<u>3.0</u>	--	<u>6.4</u>	--	<u>6.7</u>	--	<u>8.2</u>	--	<u>10.2</u>	--
Over/Under			-9.1											
Hedge Fund Composite	36,397,587	1.2	-0.4	--	-1.6	--	3.5	--	3.5	--	1.8	--	3.5	--
HFRI FOF: Conservative Index			<u>1.7</u>	--	<u>1.6</u>	--	<u>6.4</u>	--	<u>3.2</u>	--	<u>2.3</u>	--	<u>2.8</u>	--
Over/Under			-2.1		-3.2		-2.9		0.3		-0.5		0.7	
Permal	36,397,587	1.2	-0.4	--	-1.5	--	0.2	--	3.1	--	--	--	--	--
HFRI Fund of Funds Composite Index			<u>3.1</u>	--	<u>2.1</u>	--	<u>8.4</u>	--	<u>3.9</u>	--	<u>2.4</u>	--	<u>2.8</u>	--
Over/Under			-3.5		-3.6		-8.2		-0.8					
Private Equity Composite	97,498,779	3.3	0.9	--	5.3	--	6.4	--	14.8	--	12.2	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under			0.9		4.0		-3.5		2.2		0.9			
Pomona Capital Fund VIII	4,051,832	0.1	-3.0	--	-2.3	--	-4.5	--	12.1	--	11.9	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under			-3.0		-3.6		-14.4		-0.5		0.6			
Ardian	21,689,393	0.7	-0.2	--	3.6	--	3.9	--	11.9	--	10.9	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under			-0.2		2.3		-6.0		-0.7		-0.4			
Dynamics Global Secondaries IV	29,896,936	1.0	-0.1	--	3.2	--	2.8	--	18.2	--	11.0	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under			-0.1		1.9		-7.1		5.6		-0.3			
AESF VI	19,569,680	0.7	3.2	--	9.3	--	10.2	--	--	--	--	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under			3.2		8.0		0.3							
Pomona Capital Fund IX	17,428,314	0.6	2.0	--	6.5	--	18.9	--	--	--	--	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under			2.0		5.2		9.0							

Returns are gross of manager fees.



TOTAL PLAN RETURN SUMMARY VS. PEER UNIVERSE

OK FIREFIGHTERS vs. InvMetrics Public DB Gross

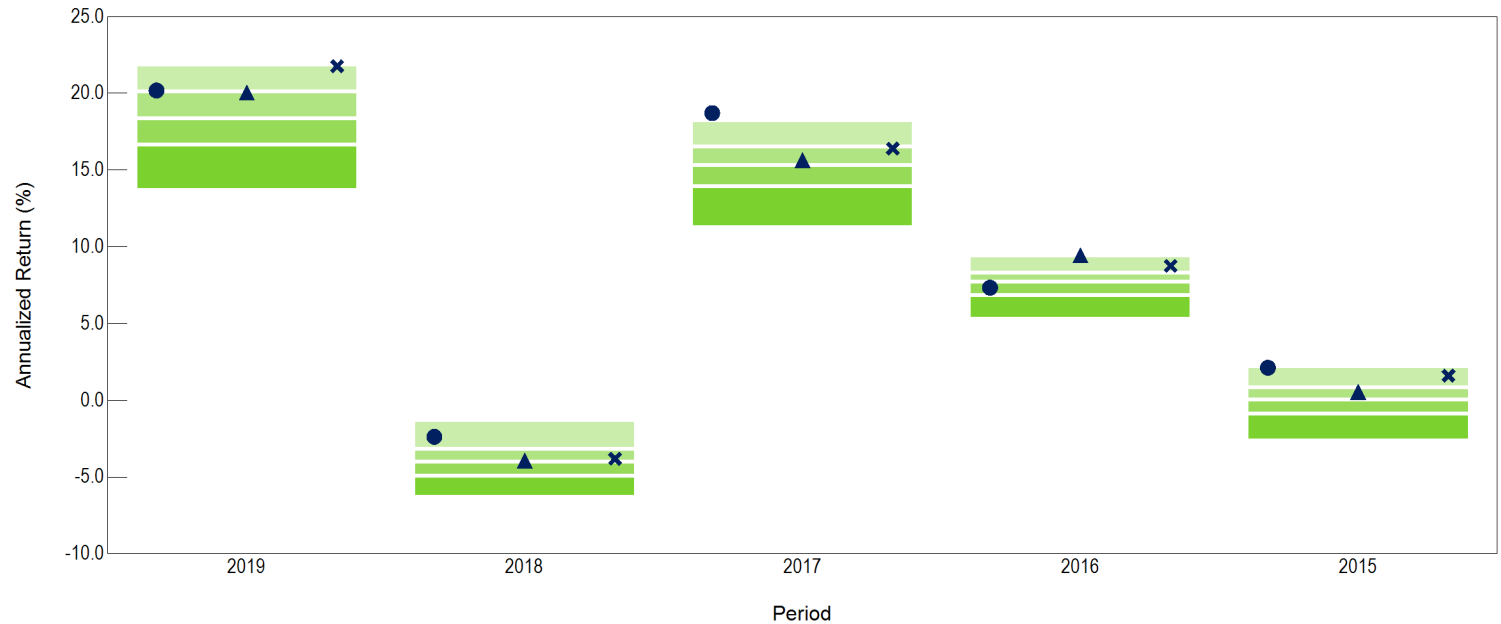


	Return (Rank)											
5th Percentile	6.3	7.1	21.9	11.0	8.2	9.6						
25th Percentile	5.7	6.5	20.1	10.0	7.5	8.8						
Median	5.2	6.0	18.4	9.4	7.1	8.2						
75th Percentile	4.7	5.4	16.7	8.6	6.5	7.5						
95th Percentile	3.7	4.1	13.7	6.0	4.4	5.8						
# of Portfolios	334	333	330	322	309	266						
● OK FIREFIGHTERS	5.8	(18)	5.7	(69)	20.2	(25)	11.7	(2)	8.8	(1)	9.6	(6)
▲ FIREFIGHTERS Allocation Index	6.0	(14)	6.5	(27)	20.1	(27)	10.1	(24)	8.0	(9)	9.3	(9)
× FIREFIGHTERS Policy Index	5.9	(15)	7.3	(4)	21.8	(6)	10.9	(7)	8.5	(4)	9.9	(3)



TOTAL PLAN RETURN SUMMARY VS. PEER UNIVERSE

OK FIREFIGHTERS vs. InvMetrics Public DB Gross



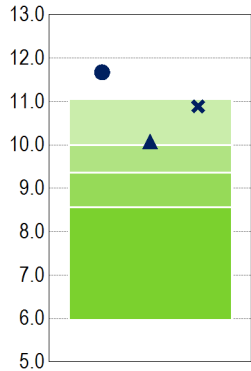
	Return (Rank)									
5th Percentile	21.9		-1.3		18.2		9.4		2.2	
25th Percentile	20.1		-3.1		16.5		8.4		0.9	
Median	18.4		-4.0		15.3		7.7		0.1	
75th Percentile	16.7		-4.9		14.0		6.9		-0.9	
95th Percentile	13.7		-6.3		11.3		5.3		-2.6	
# of Portfolios	330		319		304		305		316	
● OK FIREFIGHTERS	20.2	(25)	-2.4	(13)	18.7	(4)	7.3	(61)	2.1	(6)
▲ FIREFIGHTERS Allocation Index	20.1	(27)	-3.9	(49)	15.6	(44)	9.4	(5)	0.5	(35)
× FIREFIGHTERS Policy Index	21.8	(6)	-3.8	(45)	16.4	(28)	8.7	(15)	1.6	(10)



TOTAL PLAN RISK STATISTICS VS. PEER UNIVERSE

OK FIREFIGHTERS vs. InvMetrics Public DB Gross 3 Years

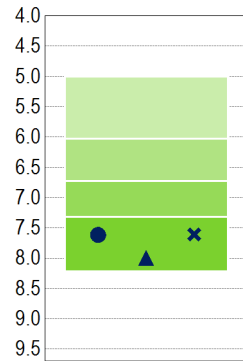
Anlzd Return



- OK FIREFIGHTERS
Value 11.67
Rank 2
- ▲ FIREFIGHTERS Allocation Index
Value 10.08
Rank 24
- × FIREFIGHTERS Policy Index
Value 10.88
Rank 7

Universe	
5th %tile	11.05
25th %tile	10.01
Median	9.37
75th %tile	8.58
95th %tile	5.97

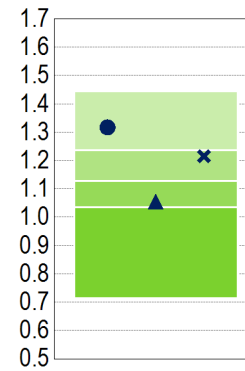
Anlzd Standard Deviation



- OK FIREFIGHTERS
Value 7.62
Rank 84
- ▲ FIREFIGHTERS Allocation Index
Value 8.00
Rank 94
- × FIREFIGHTERS Policy Index
Value 7.61
Rank 84

Universe	
5th %tile	5.00
25th %tile	6.02
Median	6.71
75th %tile	7.30
95th %tile	8.20

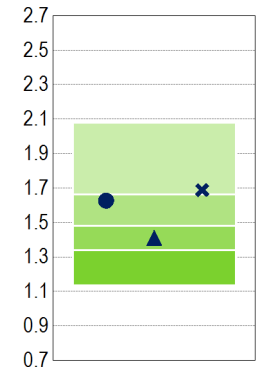
Sharpe Ratio



- OK FIREFIGHTERS
Value 1.32
Rank 14
- ▲ FIREFIGHTERS Allocation Index
Value 1.05
Rank 70
- × FIREFIGHTERS Policy Index
Value 1.21
Rank 32

Universe	
5th %tile	1.45
25th %tile	1.24
Median	1.13
75th %tile	1.04
95th %tile	0.72

Sortino Ratio



- OK FIREFIGHTERS
Value 1.63
Rank 31
- ▲ FIREFIGHTERS Allocation Index
Value 1.41
Rank 63
- × FIREFIGHTERS Policy Index
Value 1.69
Rank 23

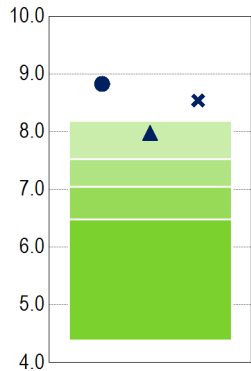
Universe	
5th %tile	2.08
25th %tile	1.67
Median	1.48
75th %tile	1.34
95th %tile	1.14



TOTAL PLAN RISK STATISTICS VS. PEER UNIVERSE

OK FIREFIGHTERS vs. InvMetrics Public DB Gross 5 Years

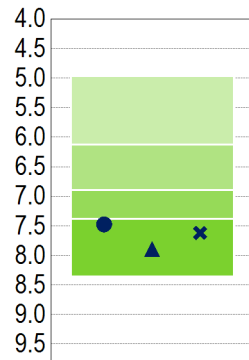
Anlzd Return



● OK FIREFIGHTERS	
Value	8.82
Rank	1
▲ FIREFIGHTERS Allocation Index	
Value	7.98
Rank	9
× FIREFIGHTERS Policy Index	
Value	8.54
Rank	4

Universe	
5th %tile	8.18
25th %tile	7.52
Median	7.05
75th %tile	6.49
95th %tile	4.39

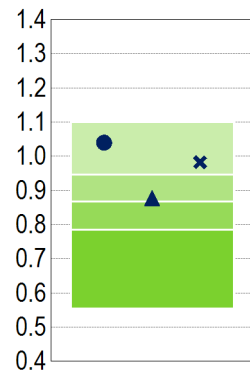
Anlzd Standard Deviation



● OK FIREFIGHTERS	
Value	7.48
Rank	81
▲ FIREFIGHTERS Allocation Index	
Value	7.89
Rank	89
× FIREFIGHTERS Policy Index	
Value	7.62
Rank	83

Universe	
5th %tile	4.96
25th %tile	6.12
Median	6.88
75th %tile	7.37
95th %tile	8.35

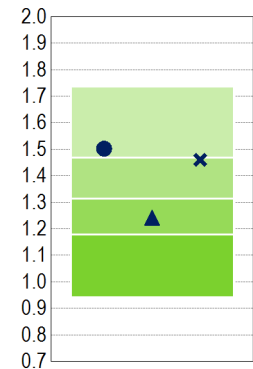
Sharpe Ratio



● OK FIREFIGHTERS	
Value	1.04
Rank	9
▲ FIREFIGHTERS Allocation Index	
Value	0.88
Rank	48
× FIREFIGHTERS Policy Index	
Value	0.98
Rank	17

Universe	
5th %tile	1.10
25th %tile	0.95
Median	0.87
75th %tile	0.79
95th %tile	0.56

Sortino Ratio



● OK FIREFIGHTERS	
Value	1.50
Rank	20
▲ FIREFIGHTERS Allocation Index	
Value	1.24
Rank	65
× FIREFIGHTERS Policy Index	
Value	1.46
Rank	28

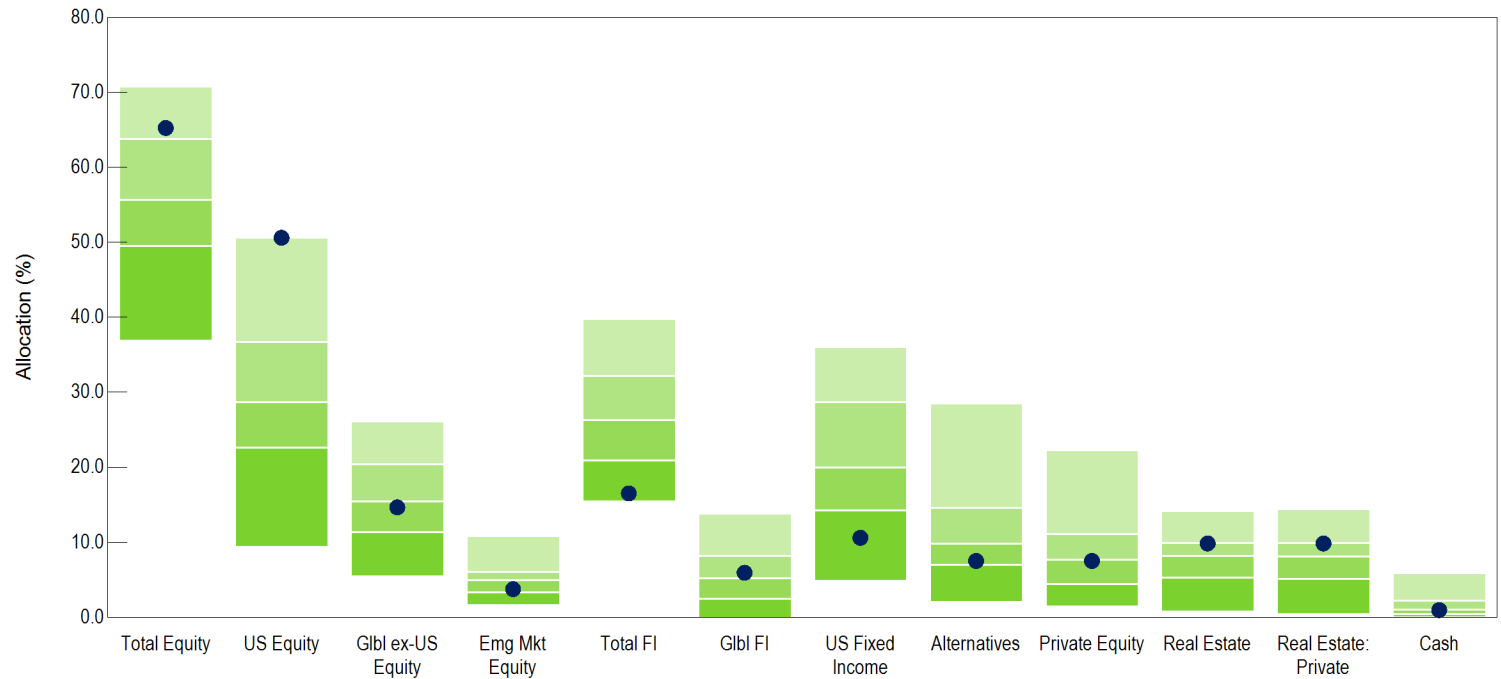
Universe	
5th %tile	1.74
25th %tile	1.47
Median	1.32
75th %tile	1.18
95th %tile	0.94



Oklahoma Firefighters

TOTAL PLAN ALLOCATIONS VS. PEER UNIVERSE

Total Plan Allocation vs. InvMetrics Public DB Gross



	Allocation (Rank)												
5th Percentile	70.7	50.6	26.1	10.8	39.7	13.8	36.0	28.5	22.3	14.2	14.4	5.9	--
25th Percentile	63.8	36.7	20.5	6.1	32.2	8.2	28.7	14.7	11.2	10.0	10.0	2.3	--
Median	55.7	28.8	15.5	5.0	26.4	5.3	20.0	9.9	7.8	8.3	8.1	1.1	--
75th Percentile	49.6	22.7	11.4	3.4	21.0	2.5	14.3	7.1	4.5	5.4	5.2	0.5	--
95th Percentile	36.9	9.5	5.5	1.7	15.5	0.0	5.0	2.1	1.5	0.9	0.5	0.0	--
# of Portfolios	257	179	220	110	256	42	164	170	112	181	134	239	--
● OK FIREFIGHTERS	65.2 (20)	50.6 (6)	14.6 (56)	3.7 (68)	16.5 (93)	5.9 (39)	10.6 (83)	7.5 (69)	7.5 (54)	9.8 (30)	9.8 (31)	0.9 (57)	--



TOTAL PLAN ATTRIBUTION ANALYSIS

Performance Attribution		
	Last 3 Mo.	1 Yr
Wtd. Actual Return	5.8%	20.2%
Wtd. Index Return *	5.8%	19.9%
Excess Return	0.1%	0.3%
Selection Effect	0.1%	0.3%
Allocation Effect	0.0%	0.0%
Interaction Effect	0.0%	0.0%
Asset Class Returns		
OK FIREFIGHTERS	5.8%	20.2%
Domestic Equity Composite	8.7%	30.5%
Large Cap Equity Composite	8.7%	31.3%
Small Cap Equity Composite	9.0%	32.1%
Z TERMINATED - Long/Short Equity Composite		
International Equity Composite	8.5%	27.3%
Emerging Markets Equity Composite	10.9%	17.2%
Fixed Income Composite	1.6%	7.2%
Domestic Fixed Income	0.4%	6.2%
Core Bonds Composite	0.3%	8.1%
Intermediate Bonds Composite		
Global Fixed Composite	4.1%	9.1%
OTHER	0.7%	5.1%
Real Estate Composite	0.9%	4.9%
Hedge Fund Composite	-0.4%	3.5%
Private Equity Composite	0.9%	6.4%

*Calculated from benchmark returns and weightings of each component.

Z TERMINATED represents Composite that fully liquidated.



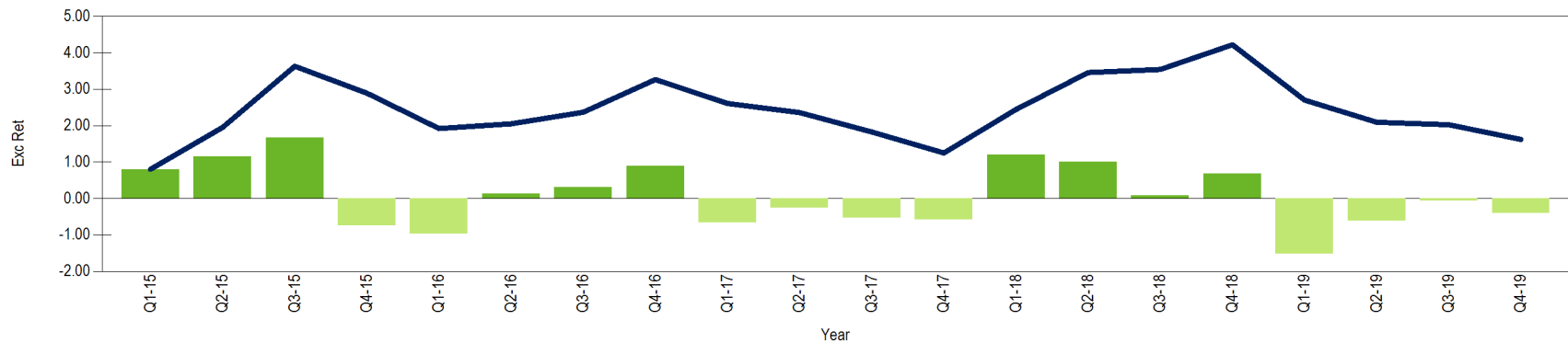
OKLAHOMA POLICE



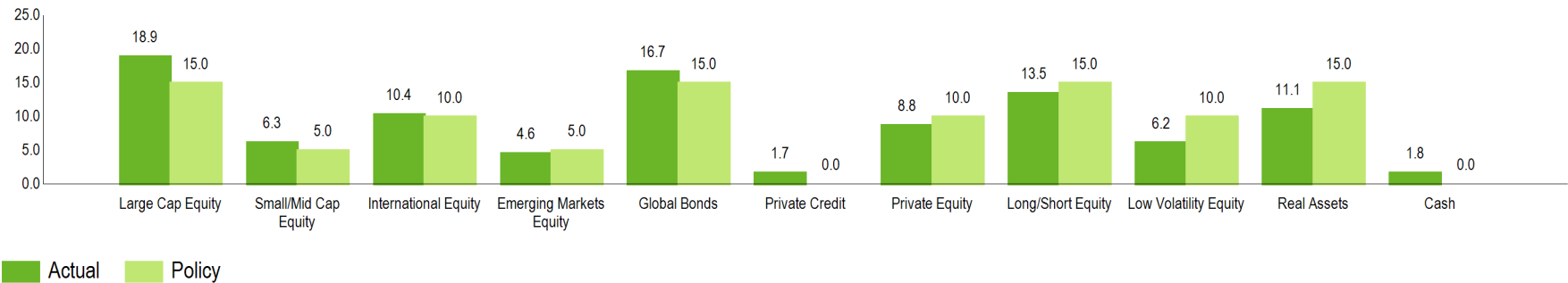
TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
OK POLICE	\$2,716,416,498	5.1%	57	5.6%	72	15.7%	85	8.5%	76	6.8%	64	7.8%	67
<i>POLICE Allocation Index</i>		4.5%	82	4.5%	92	14.6%	94	7.9%	86	5.9%	86	7.6%	73
<i>POLICE Policy Index</i>		5.5%	35	6.1%	48	18.6%	47	9.0%	60	6.4%	79	8.1%	55
<i>InvMetrics Public DB Gross Median</i>		5.2%		6.0%		18.4%		9.4%		7.1%		8.2%	

Quarterly and Cumulative Excess Performance



Actual vs Target Allocation (%)

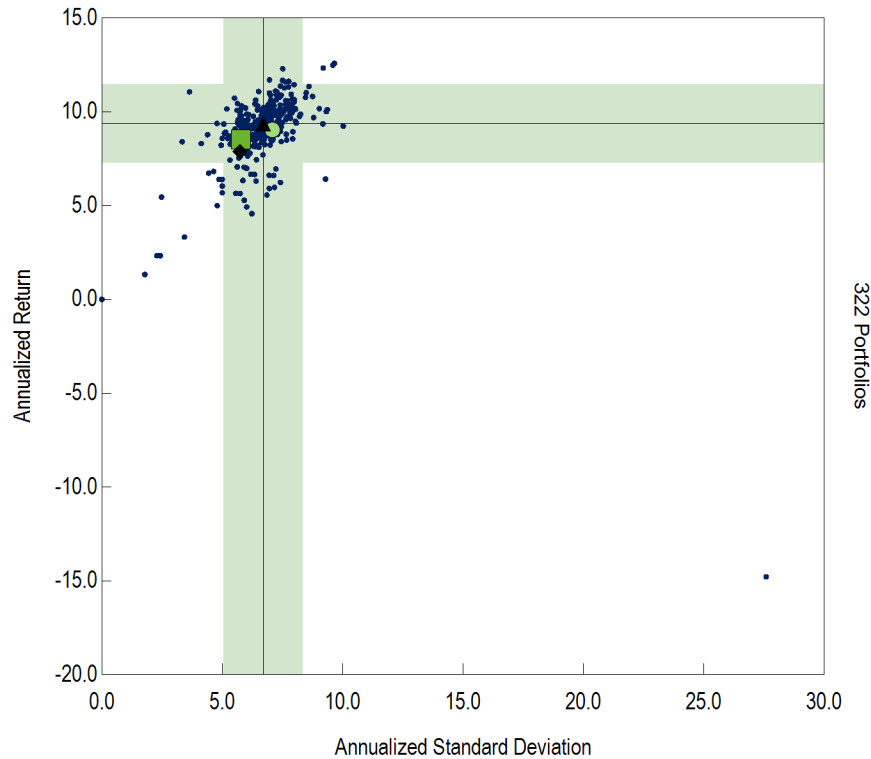


Returns are gross of manager fees.



TOTAL FUND RISK/RETURN - 3 YEARS

3 Years Ending December 31, 2019



3 Years Ending December 31, 2019

	Anlzd Ret	Rank	Anlzd Std Dev	Rank
OK POLICE	8.53%	76	5.77%	17
POLICE Allocation Index	7.89%	86	5.73%	15
POLICE Policy Index	9.04%	60	7.08%	65

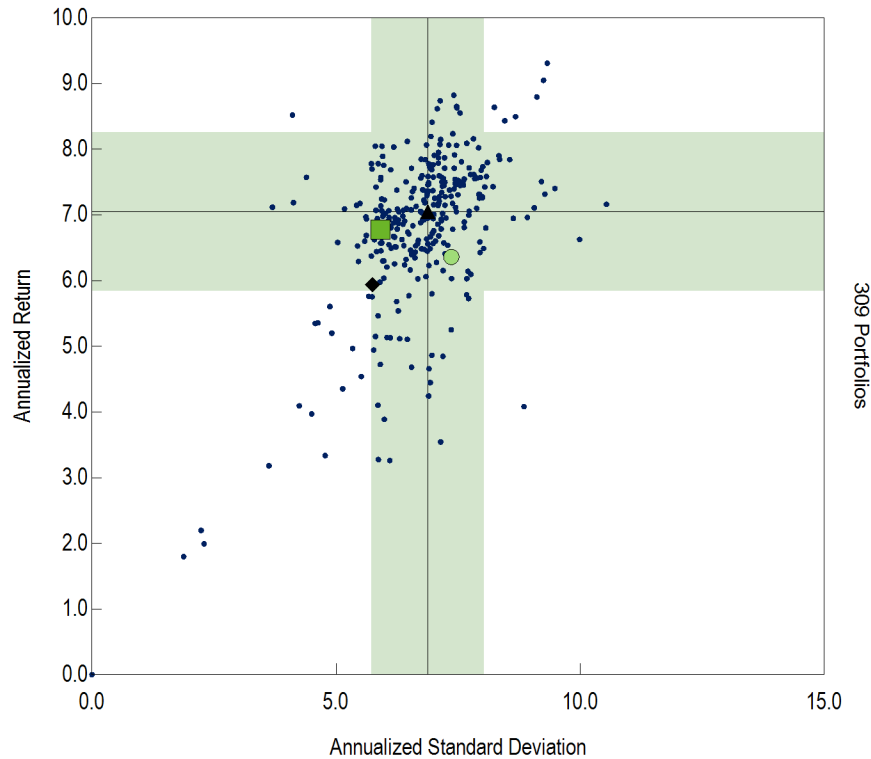
3 Years Ending December 31, 2019

	Sharpe Ratio	Rank	Sortino Ratio	Rank
OK POLICE	1.19	37	1.49	49
POLICE Allocation Index	1.09	64	1.51	46
POLICE Policy Index	1.04	73	1.50	49



TOTAL FUND RISK/RETURN - 5 YEARS

5 Years Ending December 31, 2019



- OK POLICE
- ◆ POLICE Allocation Index
- POLICE Policy Index
- ▲ Universe Median
- 68% Confidence Interval
- InvMetrics Public DB Gross

5 Years Ending December 31, 2019

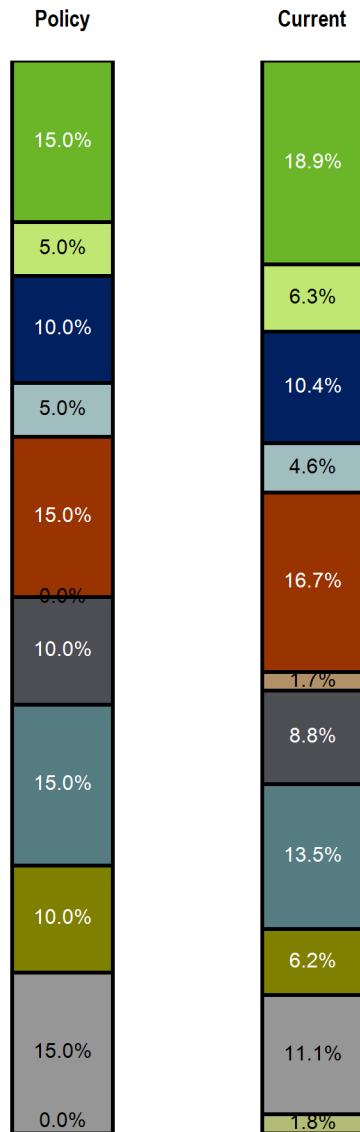
	Anlzd Ret	Rank	Anlzd Std Dev	Rank
OK POLICE	6.78%	64	5.91%	16
POLICE Allocation Index	5.94%	86	5.75%	11
POLICE Policy Index	6.36%	79	7.36%	75

5 Years Ending December 31, 2019

	Sharpe Ratio	Rank	Sortino Ratio	Rank
OK POLICE	0.97	19	1.47	26
POLICE Allocation Index	0.85	57	1.26	62
POLICE Policy Index	0.72	84	1.21	70



TOTAL FUND ASSET ALLOCATION VS. POLICY



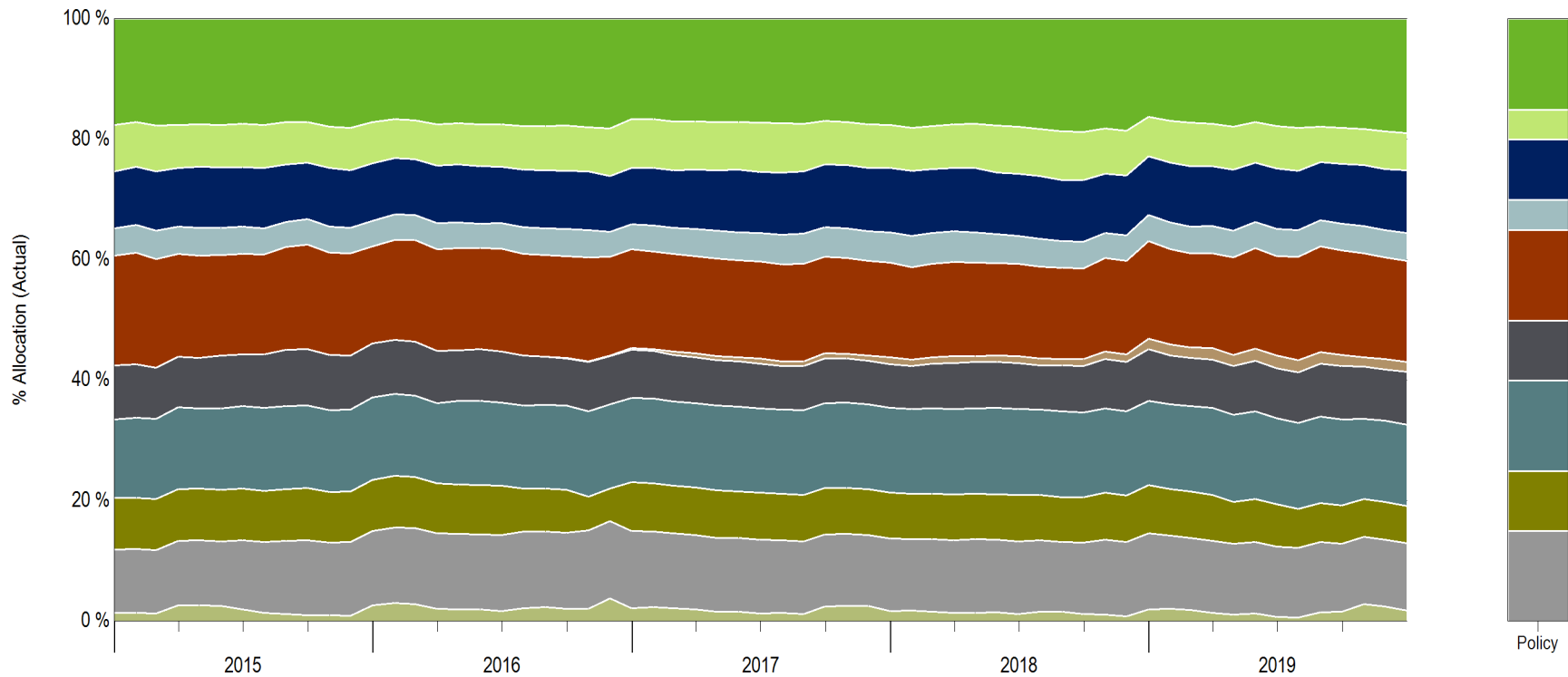
Asset Allocation vs. Target							
	Current	Policy	Current	Difference*	Policy Range	Within Range	
Large Cap Equity	\$514,726,658	15.0%	18.9%	3.9%	10.0% - 20.0%	Yes	
Small/Mid Cap Equity	\$170,134,431	5.0%	6.3%	1.3%	0.0% - 15.0%	Yes	
International Equity	\$282,151,882	10.0%	10.4%	0.4%	5.0% - 15.0%	Yes	
Emerging Markets Equity	\$126,011,507	5.0%	4.6%	-0.4%	0.0% - 10.0%	Yes	
Global Bonds	\$454,858,049	15.0%	16.7%	1.7%	10.0% - 20.0%	Yes	
Private Credit	\$45,911,044	0.0%	1.7%	1.7%	0.0% - 5.0%	Yes	
Private Equity	\$237,786,990	10.0%	8.8%	-1.2%	5.0% - 15.0%	Yes	
Long/Short Equity	\$367,182,014	15.0%	13.5%	-1.5%	10.0% - 20.0%	Yes	
Low Volatility Equity	\$167,936,440	10.0%	6.2%	-3.8%	5.0% - 15.0%	Yes	
Real Assets	\$301,928,415	15.0%	11.1%	-3.9%	0.0% - 30.0%	Yes	
Cash	\$47,789,067	0.0%	1.8%	1.8%	0.0% - 5.0%	Yes	
Total	\$2,716,416,498	100.0%	100.0%				

*Difference between Policy and Current Allocation



TOTAL FUND ASSET ALLOCATION HISTORY

Asset Allocation History



- Large Cap Equity
- Emerging Markets Equity
- Private Credit
- Long/Short Equity
- Real Assets
- Small/Mid Cap Equity
- Global Bonds
- Private Equity
- Low Volatility Equity
- Cash
- International Equity



Oklahoma Police

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
OK POLICE	2,716,416,498	100.0	5.1	57	5.6	72	15.7	85	8.5	76	6.8	64	7.8	67
<i>POLICE Allocation Index</i>			<u>4.5</u>	82	<u>4.5</u>	92	<u>14.6</u>	94	<u>7.9</u>	86	<u>5.9</u>	86	<u>7.6</u>	73
Over/Under			0.6		1.1		1.1		0.6		0.9		0.2	
<i>POLICE Policy Index</i>			5.5	35	6.1	48	18.6	47	9.0	60	6.4	79	8.1	55
<i>InvMetrics Public DB Gross Median</i>			5.2		6.0		18.4		9.4		7.1		8.2	
Equity Composite	1,093,024,479	40.2	9.5	34	9.2	36	26.8	49	12.3	51	9.3	39	10.0	49
<i>Russell 3000</i>			<u>9.1</u>	42	<u>10.4</u>	19	<u>31.0</u>	23	<u>14.6</u>	27	<u>11.2</u>	18	<u>13.4</u>	8
Over/Under			0.4		-1.2		-4.2		-2.3		-1.9		-3.4	
<i>eV All Global Equity Gross Median</i>			8.7		8.6		26.6		12.3		8.7		10.0	
Domestic Equity Composite	684,861,089	25.2	9.4	30	9.8	35	30.2	41	13.6	44	11.0	39	13.3	49
<i>S&P 500</i>			<u>9.1</u>	35	<u>10.9</u>	19	<u>31.5</u>	33	<u>15.3</u>	31	<u>11.7</u>	29	<u>13.6</u>	40
Over/Under			0.3		-1.1		-1.3		-1.7		-0.7		-0.3	
<i>eV All US Equity Gross Median</i>			8.3		8.8		28.7		12.6		10.2		13.2	
<i>Northern Trust Russell 1000 Index Fund</i>	514,726,658	18.9	9.0	33	10.6	34	31.4	33	15.0	41	11.5	36	13.6	39
<i>Russell 1000</i>			<u>9.0</u>	33	<u>10.6</u>	34	<u>31.4</u>	33	<u>15.0</u>	41	<u>11.5</u>	36	<u>13.5</u>	40
Over/Under			0.0		0.0		0.0		0.0		0.0		0.1	
<i>eV US Large Cap Core Equity Gross Median</i>			8.2		10.0		29.7		14.5		11.0		13.3	
<i>Boston Partners</i>	83,751,139	3.1	8.7	30	10.5	11	31.9	8	6.4	63	7.9	49	11.6	67
<i>Russell 2500 Value</i>			<u>7.1</u>	60	<u>7.2</u>	61	<u>23.6</u>	69	<u>6.1</u>	66	<u>7.2</u>	61	<u>11.3</u>	77
Over/Under			1.6		3.3		8.3		0.3		0.7		0.3	
<i>eV US Small-Mid Cap Value Equity Gross Median</i>			7.5		7.7		27.0		7.3		7.7		11.9	
<i>Silvercrest - Cortina Small Cap Growth</i>	86,383,292	3.2	12.1	24	6.0	38	23.2	79	14.4	65	12.0	45	--	--
<i>Russell 2000 Growth</i>			<u>11.4</u>	30	<u>6.7</u>	32	<u>28.5</u>	51	<u>12.5</u>	80	<u>9.3</u>	82	<u>13.0</u>	84
Over/Under			0.7		-0.7		-5.3		1.9		2.7			
<i>eV US Small Cap Growth Equity Gross Median</i>			9.6		5.0		28.5		15.9		11.6		14.6	

Northern Trust Russell 1000 Index fund was Mellon Capital Passive Index fund before 10/30/2014.

Returns are gross of manager fees.



Oklahoma Police

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
International Equity Composite	408,163,389	15.0	9.6	62	8.1	56	21.3	75	10.3	60	6.3	65	4.7	94
MSCI ACWI ex USA			8.9	76	7.0	76	21.5	73	9.9	71	5.5	80	5.0	92
Over/Under			0.7		1.1		-0.2		0.4		0.8		-0.3	
eV All ACWI ex-US Equity Gross Median			10.1		8.4		25.3		11.4		7.1		7.5	
Mondrian Int'l Value	152,372,833	5.6	10.4	49	8.2	54	19.5	50	9.1	34	5.6	46	5.7	47
MSCI ACWI ex USA			8.9	75	7.0	71	21.5	36	9.9	25	5.5	47	5.0	67
Over/Under			1.5		1.2		-2.0		-0.8		0.1		0.7	
eV ACWI ex-US Value Equity Gross Median			10.4		8.4		19.5		8.1		5.4		5.5	
Baring Focused Intl Equity	129,779,049	4.8	8.6	85	7.7	63	23.7	57	11.4	51	8.3	32	--	--
MSCI ACWI ex USA			8.9	76	7.0	76	21.5	73	9.9	71	5.5	80	5.0	92
Over/Under			-0.3		0.7		2.2		1.5		2.8			
eV All ACWI ex-US Equity Gross Median			10.1		8.4		25.3		11.4		7.1		7.5	
Wasatch EM Small Cap	40,932,679	1.5	12.4	7	14.0	2	30.7	4	14.8	9	6.2	36	--	--
MSCI Emerging Markets Small Cap			9.5	60	4.5	64	11.5	84	6.7	85	3.0	87	2.9	99
Over/Under			2.9		9.5		19.2		8.1		3.2			
eV Emg Mkts Small Cap Equity Gross Median			9.9		5.2		16.3		9.5		5.4		6.8	
AB EM Strategic Core Equity	85,078,829	3.1	8.3	--	6.0	--	16.7	--	8.9	--	--	--	--	--
MSCI Emerging Markets			11.8	--	7.1	--	18.4	--	11.6	--	5.6	--	3.7	--
Over/Under			-3.5		-1.1		-1.7		-2.7					
Total Long/Short	367,182,014	13.5	6.4	38	5.4	42	16.8	40	7.7	43	5.3	54	--	--
HFRI FOF: Strategic Index			4.6	52	2.8	62	10.6	62	4.7	66	2.7	76	3.1	88
Over/Under			1.8		2.6		6.2		3.0		2.6			
eV Alt Fundamental - Long/Short Equity Median			4.7		4.3		13.9		6.7		5.6		7.1	
Grosvenor	367,182,014	13.5	6.4	38	5.4	42	16.8	40	7.7	43	5.3	54	6.1	62
HFRI FOF: Strategic Index			4.6	52	2.8	62	10.6	62	4.7	66	2.7	76	3.1	88
Over/Under			1.8		2.6		6.2		3.0		2.6		3.0	
eV Alt Fundamental - Long/Short Equity Median			4.7		4.3		13.9		6.7		5.6		7.1	

Returns are gross of manager fees.



Oklahoma Police

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Private Equity	237,786,990	8.8	1.3	--	6.1	--	11.3	--	11.9	--	10.9	--	12.0	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under			1.3		4.8		1.4		-0.7		-0.4		-1.4	
Apollo Accord III	4,650,000	0.2	--	--	--	--	--	--	--	--	--	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under														
TA XIII	1,500,000	0.1	--	--	--	--	--	--	--	--	--	--	--	--
Fixed Income Composite	454,858,049	16.7	0.9	72	2.1	65	9.1	56	4.8	63	3.8	47	4.9	34
BBgBarc US Aggregate TR			<u>0.2</u>	84	<u>2.5</u>	57	<u>8.7</u>	62	<u>4.0</u>	81	<u>3.0</u>	62	<u>3.7</u>	56
Over/Under			0.7		-0.4		0.4		0.8		0.8		1.2	
eV All Global Fixed Inc Gross Median			1.8		2.7		9.6		5.2		3.7		4.2	
Oaktree	131,118,449	4.8	2.5	9	1.8	68	9.1	43	4.6	43	5.0	27	6.7	22
BBgBarc US Aggregate TR			<u>0.2</u>	87	<u>2.5</u>	49	<u>8.7</u>	48	<u>4.0</u>	58	<u>3.0</u>	61	<u>3.7</u>	60
Over/Under			2.3		-0.7		0.4		0.6		2.0		3.0	
Agincourt	241,417,899	8.9	0.3	84	2.6	44	9.5	38	4.5	45	3.5	48	4.4	47
BBgBarc US Aggregate TR			<u>0.2</u>	87	<u>2.5</u>	49	<u>8.7</u>	48	<u>4.0</u>	58	<u>3.0</u>	61	<u>3.7</u>	60
Over/Under			0.1		0.1		0.8		0.5		0.5		0.7	
eV All US Fixed Inc Gross Median			0.6		2.4		8.5		4.3		3.4		4.2	
Loomis Sayles	82,321,701	3.0	0.4	82	1.1	86	7.8	72	5.2	50	3.0	62	3.3	65
FTSE WGBI TR			<u>-0.4</u>	94	<u>0.5</u>	93	<u>5.9</u>	85	<u>4.1</u>	79	<u>2.0</u>	82	<u>1.9</u>	88
Over/Under			0.8		0.6		1.9		1.1		1.0		1.4	
eV All Global Fixed Inc Gross Median			1.8		2.7		9.6		5.2		3.7		4.2	

*The Private Real Estate returns are time weighted.

Returns are gross of manager fees.



Oklahoma Police

TOTAL FUND PERFORMANCE DETAIL

	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Total Low Volatility Strategies	167,936,440	6.2	1.0	--	1.4	--	4.7	--	3.4	--	1.9	--	--	--
HFRI FOF: Conservative Index			<u>1.7</u>	--	<u>1.6</u>	--	<u>6.4</u>	--	<u>3.2</u>	--	<u>2.3</u>	--	<u>2.8</u>	--
Over/Under			-0.7		-0.2		-1.7		0.2		-0.4			
PAAMCO	90,945,304	3.3	2.0	67	1.8	58	5.5	73	3.0	77	1.6	68	3.5	66
HFRI FOF: Conservative Index			<u>1.7</u>	75	<u>1.6</u>	59	<u>6.4</u>	71	<u>3.2</u>	76	<u>2.3</u>	51	<u>2.8</u>	74
Over/Under			0.3		0.2		-0.9		-0.2		-0.7		0.7	
eV Alt Fund of Funds - All Single Strategy Median			3.3		2.1		9.7		3.9		2.6		4.2	
Wellington Global Total Return	76,991,136	2.8	0.0	93	0.9	67	3.4	83	4.3	43	--	--	--	--
HFRI FOF Conservative (1 Mo Lag)			<u>0.6</u>	85	<u>1.3</u>	63	<u>4.4</u>	76	<u>3.1</u>	76	<u>2.2</u>	55	<u>2.7</u>	75
Over/Under			-0.6		-0.4		-1.0		1.2					
eV Alt Fund of Funds - All Single Strategy Median			3.3		2.1		9.7		3.9		2.6		4.2	
Private Credit	45,911,044	1.7	1.5	--	4.0	--	7.8	--	10.0	--	--	--	--	--
Cambridge Associates US All PE			<u>0.0</u>	--	<u>1.3</u>	--	<u>9.9</u>	--	<u>12.6</u>	--	<u>11.3</u>	--	<u>13.4</u>	--
Over/Under			1.5		2.7		-2.1		-2.6					
Real Estate	275,312,005	10.1	2.0	--	3.2	--	5.9	--	7.9	--	9.7	--	--	--
NCREIF ODCE Net			<u>1.3</u>	--	<u>2.4</u>	--	<u>4.4</u>	--	<u>6.1</u>	--	<u>8.0</u>	--	<u>10.4</u>	--
Over/Under			0.7		0.8		1.5		1.8		1.7			
Total Core Real Estate	222,101,751	8.2	1.9	--	2.6	--	4.8	--	7.2	--	9.3	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			0.4		-0.2		-0.5		0.1		0.3			
Columbus Square	4,849,446	0.2	0.5	--	1.6	--	4.5	--	7.1	--	11.1	--	15.2	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-1.0		-1.2		-0.8		0.0		2.1		3.8	
JP Morgan	132,391,560	4.9	2.3	--	2.8	--	4.4	--	6.5	--	8.6	--	11.2	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			0.8		0.0		-0.9		-0.6		-0.4		-0.2	
Blackstone Property Partners	84,860,746	3.1	1.4	--	2.7	--	6.5	--	9.3	--	10.4	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-0.1		-0.1		1.2		2.2		1.4			

*Returns are gross of manager fees.



Oklahoma Police

TOTAL FUND PERFORMANCE DETAIL

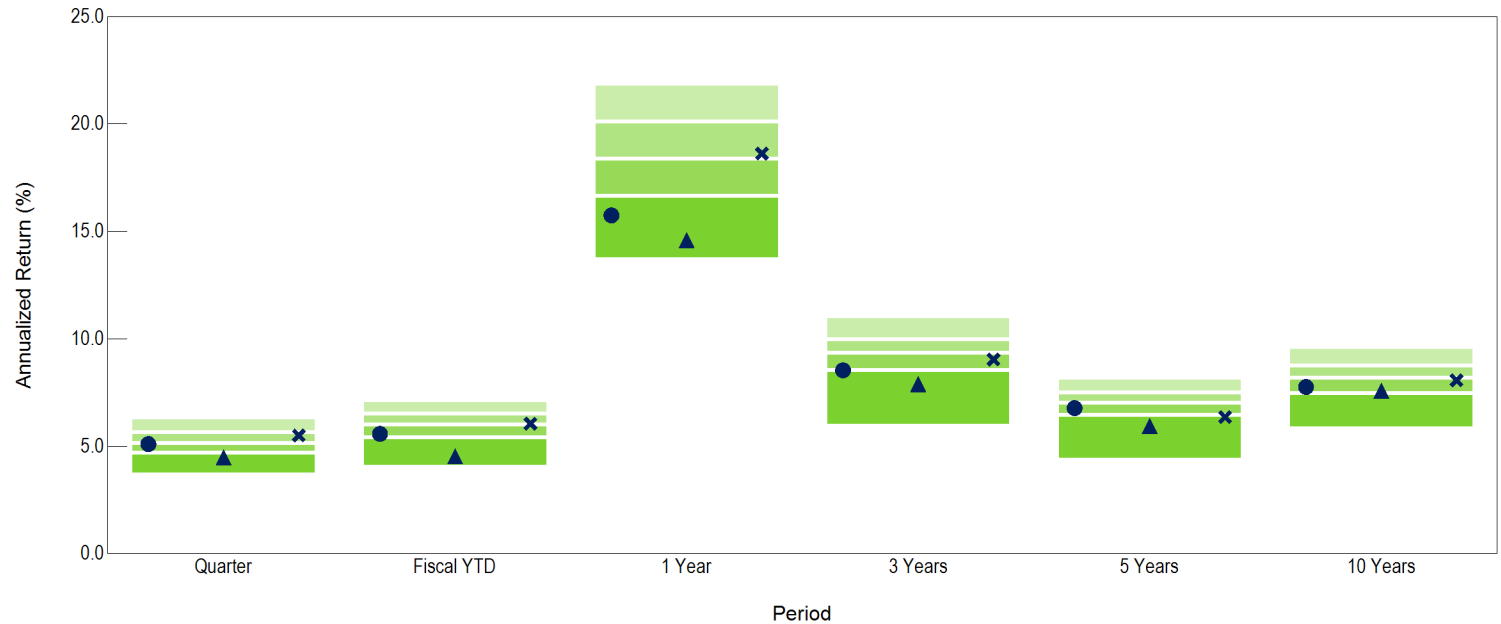
	Market Value (\$)	% of Portfolio	3 Mo (%)	Rank	Fiscal YTD (%)	Rank	1 Yr (%)	Rank	3 Yrs (%)	Rank	5 Yrs (%)	Rank	10 Yrs (%)	Rank
Private Real Estate	53,210,254	2.0	2.3	--	5.6	--	9.6	--	10.3	--	10.9	--	--	--
Siguler Guff Distressed RE	4,404,495	0.2	0.5	--	2.4	--	6.1	--	14.1	--	14.7	--	--	--
TA Associates Realty X	3,390,137	0.1	0.8	--	14.8	--	25.1	--	17.3	--	13.8	--	--	--
Cerberus Real Estate Fund III	9,527,635	0.4	2.6	--	3.8	--	9.3	--	6.8	--	10.2	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			1.1		1.0		4.0		-0.3		1.2			
Hall Capital Fund III	5,429,994	0.2	1.1	--	2.6	--	7.8	--	10.8	--	0.9	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-0.4		-0.2		2.5		3.7		-8.1			
Siguler Guff Distressed RE II	6,764,720	0.2	-0.1	--	1.9	--	2.1	--	10.9	--	7.4	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-1.6		-0.9		-3.2		3.8		-1.6			
Cerberus Real Estate Partners IV	11,493,576	0.4	3.8	--	8.3	--	16.7	--	-22.8	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			2.3		5.5		11.4		-29.9					
Siguler Guff Dist. Real Estate Opp. II B	5,278,913	0.2	4.8	--	5.1	--	-5.2	--	--	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			3.3		2.3		-10.5							
Angelo Gordon Realty Value Fund X	3,879,730	0.1	-0.8	--	-17.1	--	--	--	--	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			-2.3		-19.9									
Blackstone Real Estate Partners Fund IX	3,041,054	0.1	12.6	--	--	--	--	--	--	--	--	--	--	--
NCREIF ODCE			<u>1.5</u>	--	<u>2.8</u>	--	<u>5.3</u>	--	<u>7.1</u>	--	<u>9.0</u>	--	<u>11.4</u>	--
Over/Under			11.1											
Mt Lucas Peak	26,616,410	1.0	3.1	--	0.0	--	-6.0	--	-4.2	--	-1.7	--	-0.1	--

*Returns are gross of manager fees.



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

OK POLICE vs. InvMetrics Public DB Gross

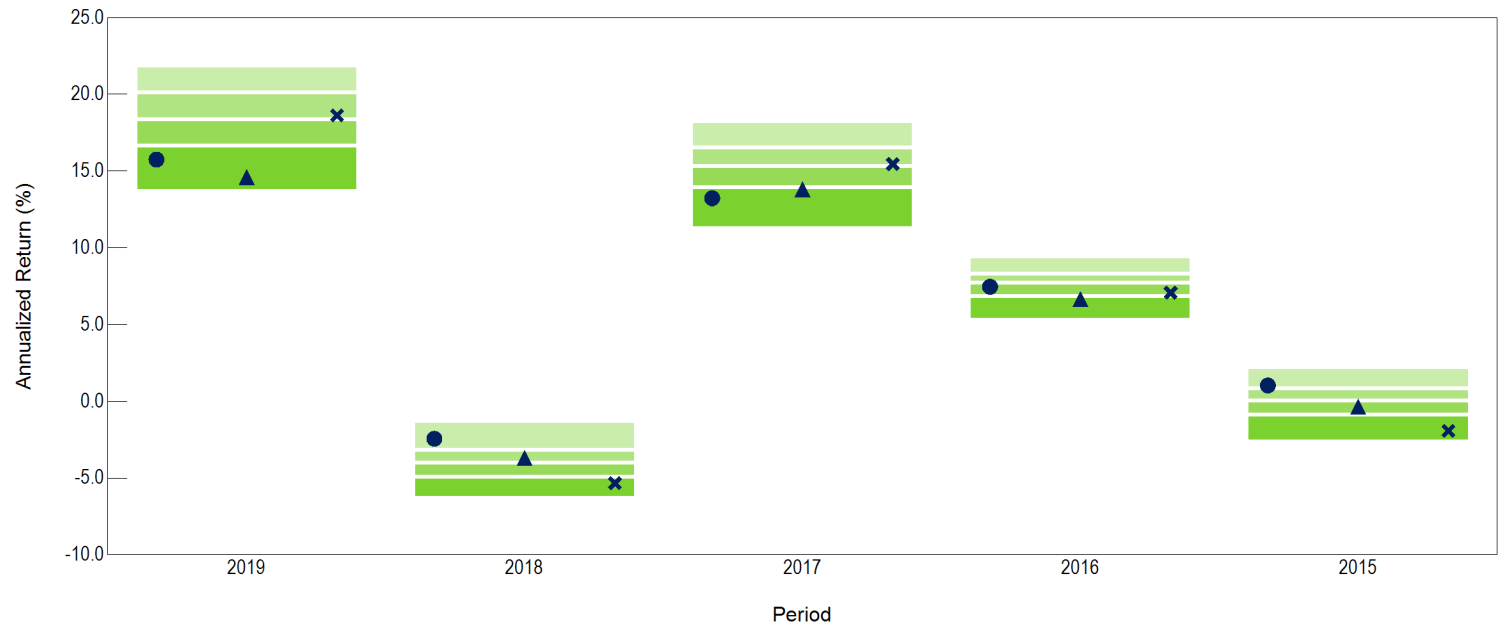


	Quarter		Fiscal YTD		1 Year		3 Years		5 Years		10 Years	
Return (Rank)												
5th Percentile	6.3		7.1		21.9		11.0		8.2		9.6	
25th Percentile	5.7		6.5		20.1		10.0		7.5		8.8	
Median	5.2		6.0		18.4		9.4		7.1		8.2	
75th Percentile	4.7		5.4		16.7		8.6		6.5		7.5	
95th Percentile	3.7		4.1		13.7		6.0		4.4		5.8	
# of Portfolios	334		333		330		322		309		266	
● OK POLICE	5.1	(57)	5.6	(72)	15.7	(85)	8.5	(76)	6.8	(64)	7.8	(67)
▲ POLICE Allocation Index	4.5	(82)	4.5	(92)	14.6	(94)	7.9	(86)	5.9	(86)	7.6	(73)
× POLICE Policy Index	5.5	(35)	6.1	(48)	18.6	(47)	9.0	(60)	6.4	(79)	8.1	(55)



TOTAL FUND RETURN SUMMARY VS. PEER UNIVERSE

OK POLICE vs. InvMetrics Public DB Gross



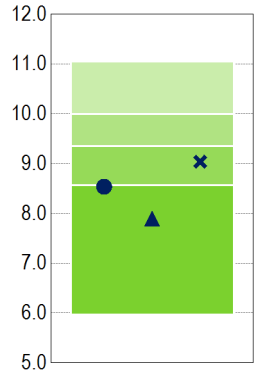
	Return (Rank)									
5th Percentile	21.9									
25th Percentile	20.1									
Median	18.4									
75th Percentile	16.7									
95th Percentile	13.7									
# of Portfolios	330									
● OK POLICE	15.7	(85)	-2.4	(14)	13.2	(86)	7.5	(57)	1.0	(21)
▲ POLICE Allocation Index	14.6	(94)	-3.7	(42)	13.8	(77)	6.7	(80)	-0.4	(63)
× POLICE Policy Index	18.6	(47)	-5.3	(83)	15.5	(48)	7.1	(70)	-1.9	(89)



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

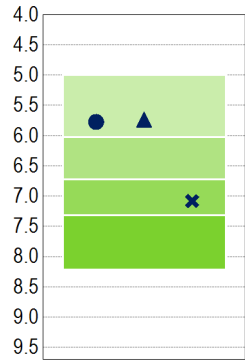
OK POLICE vs. InvMetrics Public DB Gross 3 Years

Anlzd Return



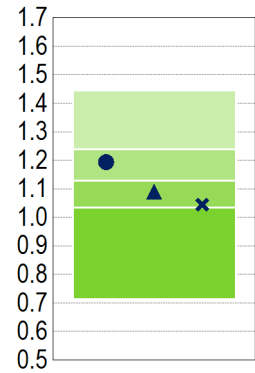
● OK POLICE	
Value	8.53
Rank	76
▲ POLICE Allocation Index	
Value	7.89
Rank	86
× POLICE Policy Index	
Value	9.04
Rank	60
Universe	
5th %tile	11.05
25th %tile	10.01
Median	9.37
75th %tile	8.58
95th %tile	5.97

Anlzd Standard Deviation



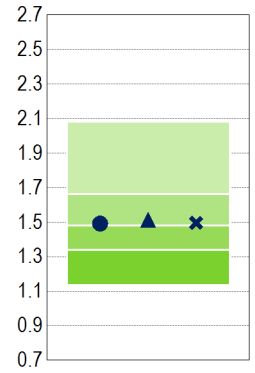
● OK POLICE	
Value	5.77
Rank	17
▲ POLICE Allocation Index	
Value	5.73
Rank	15
× POLICE Policy Index	
Value	7.08
Rank	65
Universe	
5th %tile	5.00
25th %tile	6.02
Median	6.71
75th %tile	7.30
95th %tile	8.20

Sharpe Ratio



● OK POLICE	
Value	1.19
Rank	37
▲ POLICE Allocation Index	
Value	1.09
Rank	64
× POLICE Policy Index	
Value	1.04
Rank	73
Universe	
5th %tile	1.45
25th %tile	1.24
Median	1.13
75th %tile	1.04
95th %tile	0.72

Sortino Ratio



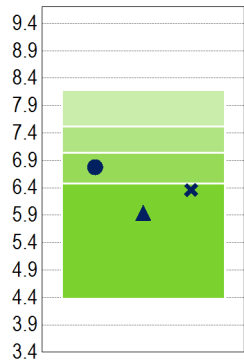
● OK POLICE	
Value	1.49
Rank	49
▲ POLICE Allocation Index	
Value	1.51
Rank	46
× POLICE Policy Index	
Value	1.50
Rank	49
Universe	
5th %tile	2.08
25th %tile	1.67
Median	1.48
75th %tile	1.34
95th %tile	1.14



TOTAL FUND RISK STATISTICS VS. PEER UNIVERSE

OK POLICE vs. InvMetrics Public DB Gross 5 Years

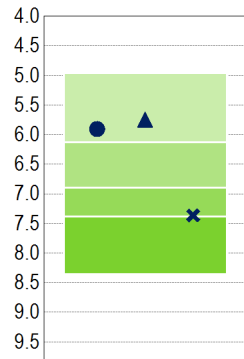
Anlzd Return



● OK POLICE	
Value	6.78
Rank	64
▲ POLICE Allocation Index	
Value	5.94
Rank	86
✕ POLICE Policy Index	
Value	6.36
Rank	79

Universe	
5th %tile	8.18
25th %tile	7.52
Median	7.05
75th %tile	6.49
95th %tile	4.39

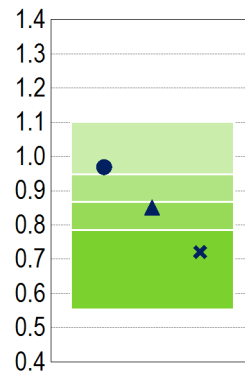
Anlzd Standard Deviation



● OK POLICE	
Value	5.91
Rank	16
▲ POLICE Allocation Index	
Value	5.75
Rank	11
✕ POLICE Policy Index	
Value	7.36
Rank	75

Universe	
5th %tile	4.96
25th %tile	6.12
Median	6.88
75th %tile	7.37
95th %tile	8.35

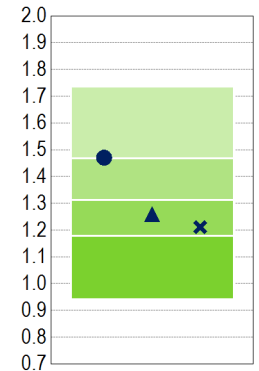
Sharpe Ratio



● OK POLICE	
Value	0.97
Rank	19
▲ POLICE Allocation Index	
Value	0.85
Rank	57
✕ POLICE Policy Index	
Value	0.72
Rank	84

Universe	
5th %tile	1.10
25th %tile	0.95
Median	0.87
75th %tile	0.79
95th %tile	0.56

Sortino Ratio



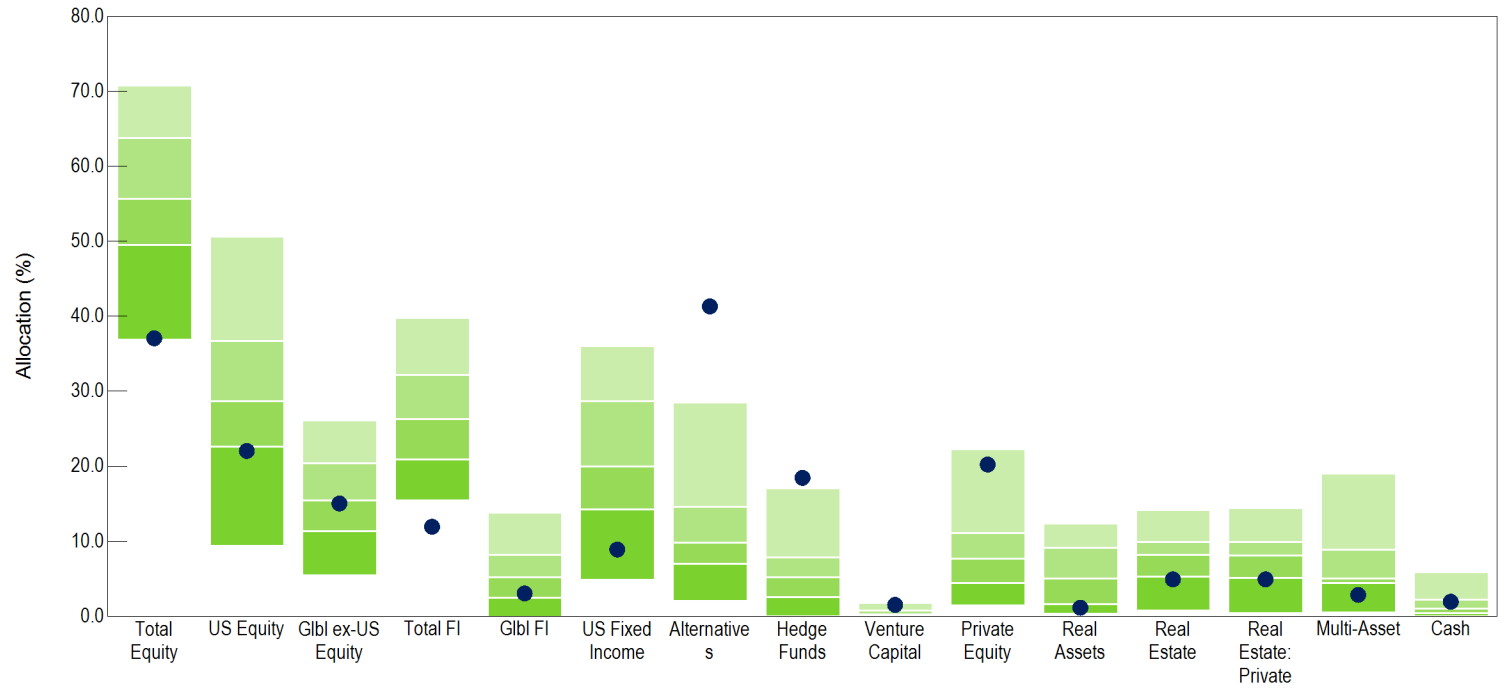
● OK POLICE	
Value	1.47
Rank	26
▲ POLICE Allocation Index	
Value	1.26
Rank	62
✕ POLICE Policy Index	
Value	1.21
Rank	70

Universe	
5th %tile	1.74
25th %tile	1.47
Median	1.32
75th %tile	1.18
95th %tile	0.94



TOTAL FUND ALLOCATIONS VS. PEER UNIVERSE

Total Plan Allocation vs. InvMetrics Public DB Gross



	Allocation (Rank)															
5th Percentile	70.7	50.6	26.1	39.7	13.8	36.0	28.5	17.0	1.8	22.3	12.4	14.2	14.4	19.1	5.9	--
25th Percentile	63.8	36.7	20.5	32.2	8.2	28.7	14.7	7.9	0.8	11.2	9.2	10.0	10.0	8.9	2.3	--
Median	55.7	28.8	15.5	26.4	5.3	20.0	9.9	5.2	0.3	7.8	5.1	8.3	8.1	5.1	1.1	--
75th Percentile	49.6	22.7	11.4	21.0	2.5	14.3	7.1	2.6	0.2	4.5	1.7	5.4	5.2	4.5	0.5	--
95th Percentile	36.9	9.5	5.5	15.5	0.0	5.0	2.1	0.1	0.0	1.5	0.4	0.9	0.5	0.6	0.0	--
# of Portfolios	257	179	220	256	42	164	170	84	25	112	77	181	134	70	239	--
● OK POLICE	37.1 (95)	22.0 (79)	15.0 (53)	11.9 (99)	3.0 (66)	8.9 (90)	41.3 (3)	18.4 (5)	1.5 (7)	20.2 (6)	1.1 (86)	4.9 (81)	4.9 (80)	2.8 (89)	1.9 (32)	--



TOTAL FUND ATTRIBUTION ANALYSIS

Performance Attribution		
	Last 3 Mo.	1 Yr
Wtd. Actual Return	5.1%	16.0%
Wtd. Index Return *	5.8%	19.0%
Excess Return	-0.7%	-3.0%
Selection Effect	-0.7%	-3.6%
Allocation Effect	0.0%	0.0%
Interaction Effect	0.0%	0.6%
Asset Class Returns		
OK POLICE	5.1%	15.7%
Equity	7.6%	22.2%
Equity Composite	9.5%	26.8%
Domestic Equity Composite	9.4%	30.2%
International Equity Composite	9.6%	21.3%
Total Long/Short	6.4%	16.8%
Private Equity	1.3%	11.3%
Fixed Income	1.0%	7.8%
Fixed Income Composite	0.9%	9.1%
Total Low Volatility Strategies	1.0%	4.7%
Private Credit	1.5%	7.8%
Total Real Assets	2.1%	4.2%
Real Estate	2.0%	5.9%
Total Core Real Estate	1.9%	4.8%
Private Real Estate	2.3%	9.6%
Commodity	3.1%	-6.0%



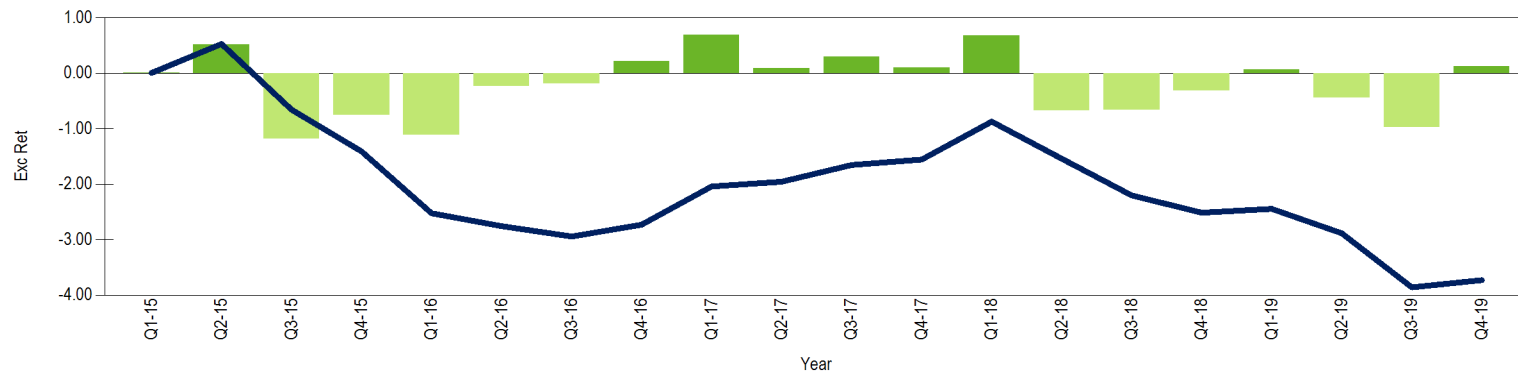
OKLAHOMA LAW



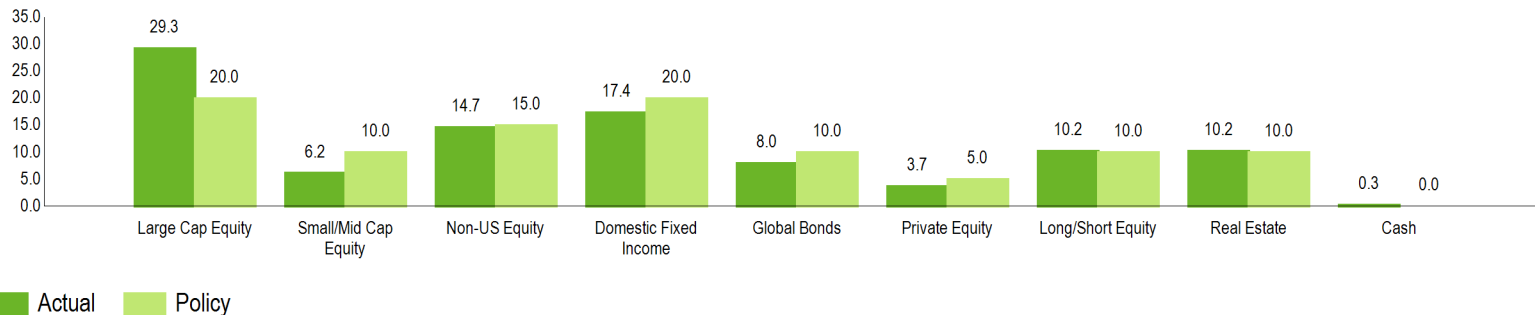
TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
OK LAW	\$1,049,729,332	5.9%	18	5.7%	69	17.7%	61	8.8%	69	6.6%	72	8.4%	41
<i>LAW Policy Index</i>		5.7%	23	6.6%	25	19.1%	40	9.2%	57	7.4%	33	8.7%	29
<i>InvMetrics Public DB Gross Median</i>		5.2%		6.0%		18.4%		9.4%		7.1%		8.2%	

Quarterly and Cumulative Excess Performance



Actual vs Target Allocation (%)

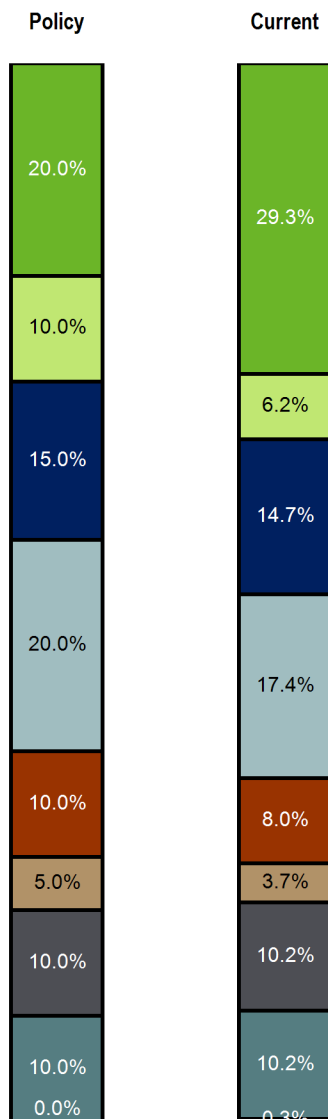


Actual Policy

Returns are gross of manager fees.



TOTAL FUND ASSET ALLOCATION VS. POLICY



Asset Allocation vs. Target							
	Current	Policy	Current	Difference*	Policy Range	Within Range	
Large Cap Equity	\$307,459,291	20.0%	29.3%	9.3%	15.0% - 25.0%	No	
Small/Mid Cap Equity	\$64,719,734	10.0%	6.2%	-3.8%	5.0% - 15.0%	Yes	
Non-US Equity	\$154,038,254	15.0%	14.7%	-0.3%	5.0% - 15.0%	Yes	
Domestic Fixed Income	\$182,868,358	20.0%	17.4%	-2.6%	15.0% - 25.0%	Yes	
Global Bonds	\$84,493,043	10.0%	8.0%	-2.0%	5.0% - 15.0%	Yes	
Private Equity	\$38,859,743	5.0%	3.7%	-1.3%	0.0% - 5.0%	Yes	
Long/Short Equity	\$107,300,813	10.0%	10.2%	0.2%	5.0% - 15.0%	Yes	
Real Estate	\$107,208,869	10.0%	10.2%	0.2%	2.0% - 12.0%	Yes	
Cash	\$2,781,226	0.0%	0.3%	0.3%	0.0% - 5.0%	Yes	
Total	\$1,049,729,332	100.0%	100.0%				



OKLAHOMA JUDGES

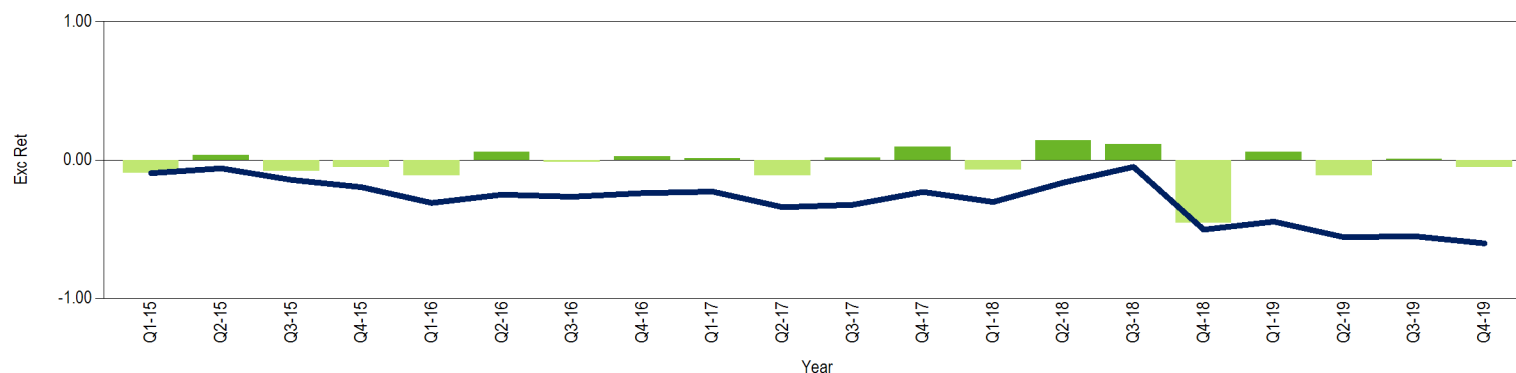


Oklahoma Judges

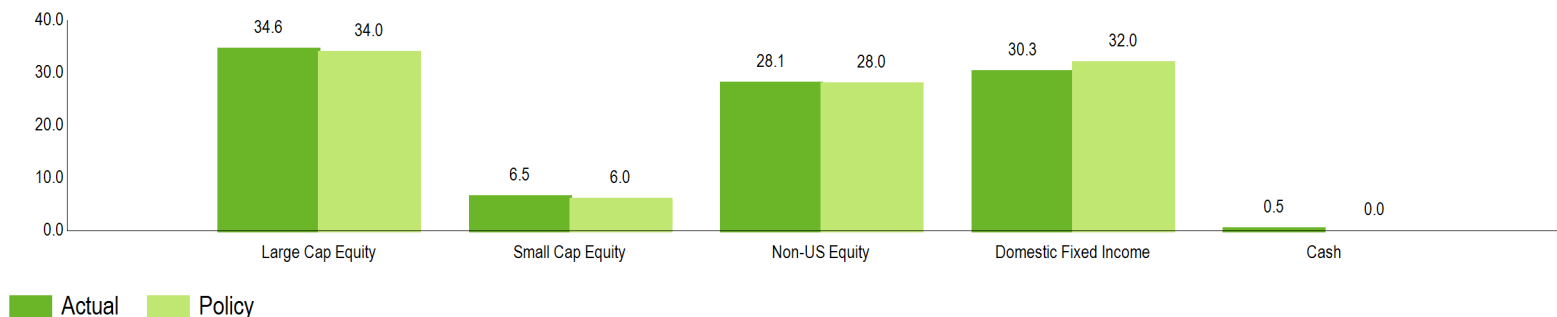
TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
OK JUDGES	\$365,110,322	6.1%	13	6.9%	12	21.4%	9	9.9%	29	7.3%	40	8.5%	34
<i>JUDGES Allocation Index</i>		6.1%	13	6.8%	15	21.0%	15	9.7%	39	7.1%	49	8.2%	51
<i>JUDGES Policy Index</i>		6.1%	10	7.0%	10	21.5%	8	10.1%	24	7.4%	32	8.5%	36
<i>InvMetrics Public DB Gross Median</i>		5.2%		6.0%		18.4%		9.4%		7.1%		8.2%	

Quarterly and Cumulative Excess Performance



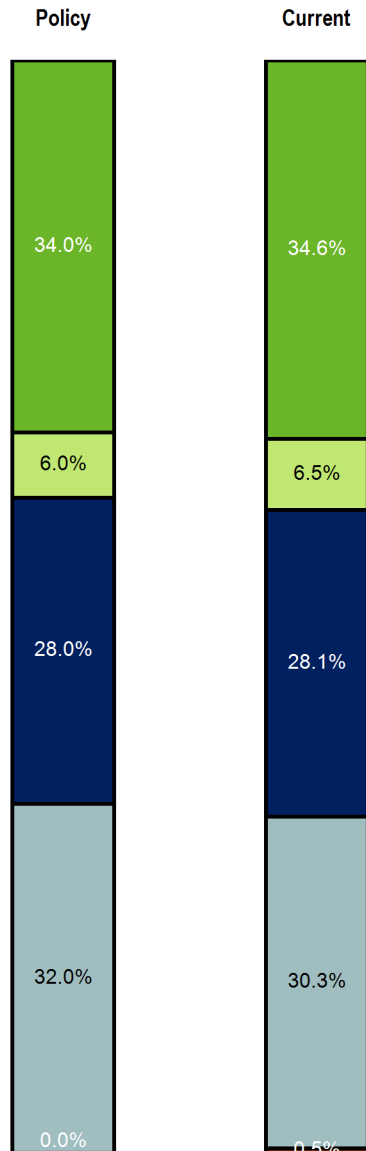
Actual vs Target Allocation (%)



Returns are gross of manager fees.



TOTAL FUND ASSET ALLOCATION VS. POLICY



Asset Allocation vs. Target						
	Current	Policy	Current Difference*	Policy Range	Within Range	
Large Cap Equity	\$126,326,227	34.0%	34.6%	0.6%	31.2% - 36.8%	Yes
Small Cap Equity	\$23,754,361	6.0%	6.5%	0.5%	3.2% - 8.8%	Yes
Non-US Equity	\$102,636,413	28.0%	28.1%	0.1%	25.0% - 31.0%	Yes
Domestic Fixed Income	\$110,702,389	32.0%	30.3%	-1.7%	27.5% - 36.5%	Yes
Cash	\$1,690,933	0.0%	0.5%	0.5%	0.0% - 5.0%	Yes
Total	\$365,110,322	100.0%	100.0%			

*Difference between Policy and Current Allocation



OKLAHOMA WILDLIFE

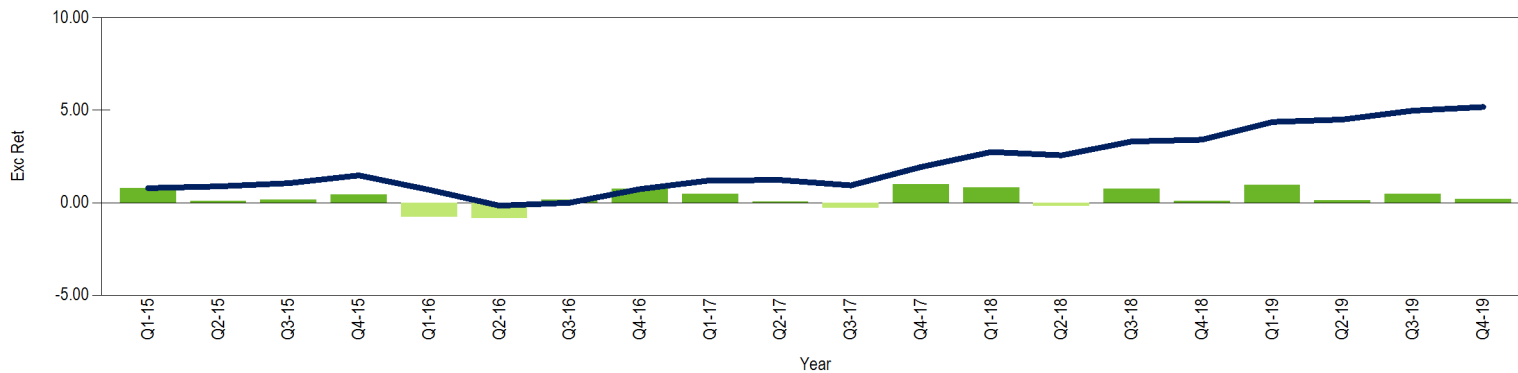


OKLAHOMA WILDLIFE

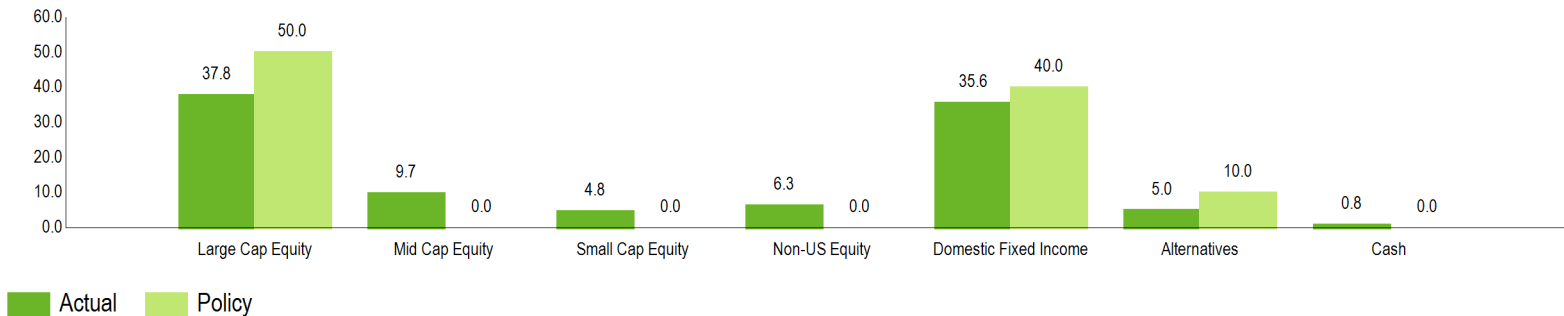
TOTAL FUND PERFORMANCE SUMMARY

	Market Value	3 Mo	Rank	Fiscal YTD	Rank	1 Yr	Rank	3 Yrs	Rank	5 Yrs	Rank	10 Yrs	Rank
OK WILDLIFE	\$122,345,417	4.8%	73	6.0%	54	19.5%	35	9.6%	41	7.1%	49	8.0%	56
<i>WILDLIFE Policy Index</i>		4.6%	79	5.3%	82	17.5%	62	8.1%	85	6.0%	86	7.7%	70
<i>InvMetrics Public DB Gross Median</i>		5.2%		6.0%		18.4%		9.4%		7.1%		8.2%	

Quarterly and Cumulative Excess Performance



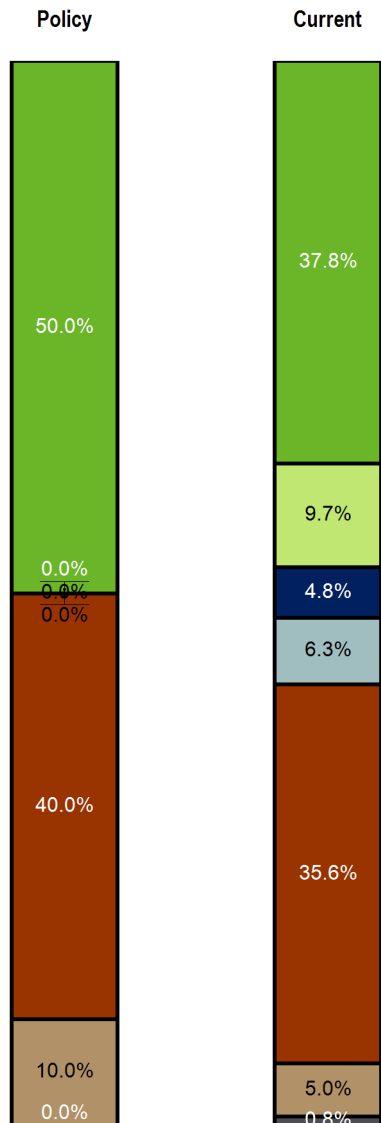
Actual vs Target Allocation (%)



Returns are gross of manager fees.



TOTAL FUND ASSET ALLOCATION VS. POLICY



Asset Allocation vs. Target						
	Current	Policy	Current	Difference*	Policy Range	Within Range
Large Cap Equity	\$46,242,899	50.0%	37.8%	-12.2%	40.0% - 65.0%	No
Mid Cap Equity	\$11,906,412	0.0%	9.7%	9.7%	0.0% - 10.0%	Yes
Small Cap Equity	\$5,811,915	0.0%	4.8%	4.8%	0.0% - 10.0%	Yes
Non-US Equity	\$7,689,180	0.0%	6.3%	6.3%	0.0% - 15.0%	Yes
Domestic Fixed Income	\$43,597,451	40.0%	35.6%	-4.4%	35.0% - 55.0%	Yes
Alternatives	\$6,062,290	10.0%	5.0%	-5.0%	0.0% - 10.0%	Yes
Cash	\$1,035,271	0.0%	0.8%	0.8%	0.0% - 5.0%	Yes
Total	\$122,345,417	100.0%	100.0%			

*Difference between Policy and Current Allocation



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- Past performance is no guarantee of future results.
- All investments carry some level of risk. Diversification and other asset allocation techniques are not guaranteed to ensure profit or protect against losses.
- NEPC's source for portfolio pricing, calculation of accruals, and transaction information is the plan's custodian bank. Information on market indices and security characteristics is received from other sources external to NEPC. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.
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Reporting Methodology

- The client's custodian bank is NEPC's preferred data source unless otherwise directed. NEPC generally reconciles custodian data to manager data. If the custodian cannot provide accurate data, manager data may be used.
- Trailing time period returns are determined by geometrically linking the holding period returns, from the first full month after inception to the report date. Rates of return are annualized when the time period is longer than a year. Performance is presented gross and/or net of manager fees as indicated on each page.
- For managers funded in the middle of a month, the "since inception" return will start with the first full month, although actual inception dates and cash flows are taken into account in all Composite calculations.
- This report may contain forward-looking statements that are based on NEPC's estimates, opinions and beliefs, but NEPC cannot guarantee that any plan will achieve its targeted return or meet other goals.

