

November 15, 2022



Oklahoma State Pension Commission Meeting Materials



Table of Contents

	<u>Page</u>
• Executive Summary	3
• Actuarial Summary Report	18
• State Actions Regarding ESG Investing	40
• Q3 2022 Performance Report	50

Executive Summary



OKLAHOMA STATE PENSION COMMISSION

Q3 2022 EXECUTIVE SUMMARY

Economic and Capital Market Review

During Q3, hopes for easing inflationary conditions and an eventual pivot to more accommodative monetary policy dominated investor sentiment in the first half of the quarter leading to strong gains for risk assets, but as the quarter progressed, comments from the Federal Reserve Open Market Committee (FOMC) members took an increasingly hawkish tone. Many FOMC members admonished market participants in public speeches for ignoring the Committee’s stated resolve to tackle inflation, particularly in Jerome Powell’s much anticipated speech at the annual Jackson Hole Economic Symposium on August 26th, which left little room for hopeful interpretation. Mr. Powell invoked the historical record of the 1970’s, noting that prior Federal Reserve officials had erred historically in not taking seriously enough the threat of sticky inflation and its ability to disrupt economic activity. He further vowed to take “forceful and rapid steps to moderate demand” to keep expectations anchored and push inflation back toward the statutory target of 2%. Following the speech, risk assets sold off and didn’t catch relief for the remainder of the quarter as the September core CPI reading came in above expectations and exacerbated negative sentiment. From August 25th to the end of Q3, yields on the 2-year Treasury increased 0.87% and US equities declined -14.6%. Any gains prior to the Jackson Hole speech were erased entirely as markets made new year-to-date lows. For the quarter, global equities fell -6.8% as measured by the MSCI ACWI Index, with non-US markets underperforming as the US Dollar soared to multi-decade highs. Fixed income markets suffered significant losses as inflationary dynamics forced global central banks into further tightening monetary policy, and commodity markets priced lower as well due to cyclical dynamics related to a potential global growth slowdown weighing on sentiment for raw materials. Key market index returns as of September 30, 2022 can be observed in **Figure 1** below.

Figure 1: Key Market Index Returns
Period Ending September 30, 2022

Index	Asset Class	QTD	CYTD	1 Year	5 Year	10 Year
S&P 500 Index	US Equity	-4.9	-23.9	-15.5	9.2	11.7
MSCI ACW Ex-US Index (Net)	International Equity	-9.9	-26.5	-25.2	-0.8	3.0
Bloomberg US Agg	US Fixed Income	-4.8	-14.6	-14.6	-0.3	0.9
NCREIF ODCE (AWA) (Net)	Core Real Estate	0.3	12.4	21.0	9.3	9.9
HFRX Absolute Return Index	Hedge Funds	2.1	1.2	1.4	2.0	2.2
Bloomberg Commodity Index	Commodities	-4.1	13.6	11.8	7.0	-2.1

Despite the changes in interest rates and tighter financial conditions, the United States’ economic activity proved relatively resilient. Labor markets cooled slightly but continue to remain historically tight, with data broadly supportive of continued above-trend wage growth. The unemployment rate ended the quarter at 3.5%, while non-farm payroll growth averaged a robust 372,000 per month. At the same time, various official measures of aggregate wage growth continued to show annual rates of change in the range of 5% to 6%. Notably, total job openings trended lower through the quarter, with August data indicating job openings down 1.8 million from the record levels in March signaling one encouraging sign for those seeking a labor market softening.

On the GDP growth front, the Atlanta Federal Reserve's GDP Nowcast indicated Q3 growth above 2%, with the Q2 inventory drag largely in the rearview mirror. In addition to economic activity, consumer activity remained resilient as well, with retail sales (excluding autos and gas) producing sequential growth each month of the quarter. The ISM Services Purchasing Managers Index remained firmly in expansionary territory as well, reading 56.7 at the end of September. This positive data is contrasted to a degree by continued negative business and consumer sentiment surveys.

Global macro pressures have continued to grow throughout the year, with policymakers in Europe contending with inflationary dynamics like those in the US, while simultaneously having to provide support to their economies amidst an energy crisis due to the continent's shift away from reliance on Russian natural gas. In China, policymakers are balancing an effort to reduce speculation in the property sector and reign in the power of its largest technology companies against the country's otherwise aggressive growth objectives. Concurrently, China continues to periodically lock down its population centers in an effort to enforce a strict zero-COVID policy, exacerbating supply chain issues globally. Global GDP growth forecasts continue to moderate as a result of these dynamics, with the Organization of Economic Co-operation and Development lowering its forecasted global GDP growth from 4.5% in December 2021, to 3.0% at the end of Q3.

Performance Highlights

Total Fund Performance and Attribution

During the 3rd Quarter of 2022 and for the fiscal year ended June 30th, the Oklahoma State Pension Funds produced negative returns, ranging between -3.8% to -6.4% net of fees. Relative to policy benchmarks, performance mostly underperformed over the trailing 12-month period, with only two out of seven plans outperforming its respective policy benchmark net of fees. Detailed comparative performance of the seven plans can be found on **pages 11-14** of the performance report.

In terms of performance attribution, the fundamental drivers have not changed substantially over the longer periods. In the case of the Oklahoma State Pension Funds, the following high-level strategic decisions explain most of the strong performance. The more significant drivers are described below.

1. **High Allocation to Growth Oriented Assets** – Overall, the Pension Plans have a higher than median allocation, when compared to their peers, to growth-oriented assets. This remains appropriate given the Plans' extended time horizons, healthy funded statuses, cash needs, and tolerance for risk. However, such risk posturing can lead to meaningful drawdowns that the plans have experienced thus far in 2022.
2. **Bias Toward US Equities** – In general, the Pension Plans are invested more heavily in US equities. International equities have fallen more than their US counterparts year-to-date as recessionary pressures, political changes, and geopolitical pressures have weighed more heavily on non-US stocks; the strategic tilt has benefited the plans over the longer-term as US stocks continue to outpace international over the trailing 10-year time period. This tilt may be appropriate since the plans' liabilities and contributions are influenced by US economic conditions
3. **Avoidance of Dilutive Asset Classes** – Institutional investors are constantly approached with marketing pitches on new investment strategies. Many of these strategies many only add alpha

during one type of market environment or are largely unproven over multiple market cycles. They may add portfolio complexity and higher costs without providing commensurate benefits, or tend to shift into new asset classes after an increase in their performance. In comparison to peers, the Oklahoma Pension Plans have resisted the temptation to invest in these products, which have kept fees low and avoided the unnecessary dilution of returns.

4. **Selective Use of Active Management** – When evaluating the potential benefits and costs of active management, it is often the case that the costs outweigh the benefits. The relative magnitude of these gap varies by asset class and the unique attributes of the investors themselves. In general, the Oklahoma State Pension Plans have employed active management strategies in a manner that extracted benefits that have exceeded the associated costs. This has enhanced absolute returns and performance relative to peers.

Despite negative returns through the first three quarters of the year, RVK continues to believe that the Oklahoma Plans are well-positioned and are appropriately monitored for success in a manner that aligns with each Plan's objective, risk tolerance, constraints, and unique competitive advantages.

Asset Class Performance – Q3 2022

Asset class returns varied during the third quarter but hovered mostly in negative territory. Performance highlights for specific asset classes are provided below, and detailed performance numbers can be found on **pages 15-26** of the performance report.

1. **US Equity** – Absolute US equity returns remained in negative territory during Q3. Relative to benchmarks, returns varied, with four out of six plans outperforming their respective benchmarks. US equity returns ranged from approximately -5.2% (Teachers) to -3.8% (Firefighters). Longer term performance over 3-, 5-, 7-, and 10-year periods continues to mostly lag broad indexes of US equities.
2. **International Equity** – International equity returns were negative on an absolute basis, with underlying plans generally keeping pace or underperforming their asset class benchmark during the third quarter. Returns for the quarter ranged from approximately -11.1% (Teachers) to -7.0% (Firefighters). The use of active management in this asset class has yielded mixed results over long time periods. Three out of six plans with dedicated international equity buckets outperformed their respective indices over the 10-year trailing period. The Police plan measures total domestic and international equity against a broad, global benchmark of equities, and has outperformed almost all trailing periods.
3. **Fixed Income** – Fixed income absolute returns were negative in the third quarter, though five out seven plans outperformed their respective asset class benchmarks. Returns ranged from approximately -6.5% (Firefighters) to -3.3% (Police). Over longer periods of time, as measured by 7- and 10-year periods, most plans are exceeding or roughly flat against their respective benchmarks.

4. **Real Estate** – Real estate returns are largely reported on a lagged basis and were mostly positive for the quarter and the trailing year. For the quarter, the NFI-ODCE Index (Net) delivered a return of 0.3%, comprised of 0.6% income and -0.3% appreciation as valuations are slowly decreasing to reflect higher interest rates and a slowing of economic activity.
5. **Hedge Funds** – Hedge funds returns were mixed in the third quarter. Returns ranged from a low of approximately -1.2% (Police) to a high of 26.1%. (Firefighters). Longer-term returns for Oklahoma Plans’ hedge fund allocations have been challenged, providing negative or low single-digit positive returns over the trailing 7- and 10-year time periods.
6. **Private Equity** – Private equity produced mostly negative returns over the quarter, but the level of performance varied across the different pension plans. This variability is consistent with expectations given that each plan has different exposures by investment strategy and vintage year. Further, performance versus benchmarks varied considerably, but this is primarily due to the fact that one plan (Teachers) uses a public equity benchmark, while the others use a private benchmark.

Long-Term Performance

In aggregate, the 5-Year and 10-Year absolute and risk-adjusted returns for the Oklahoma Pension Plans continue to compare favorably relative to peers. Three out of seven plans performed at or above median on both metrics. Performance is more favorable on an asset-weighted basis, with 68.7% outperforming the median plan over the trailing 10-year period. The 5-Year and 10-Year return metrics are provided below in **Figure 3** and **Figure 4**.

Figure 3: Five and Ten-Year Performance of Oklahoma Pension Plans
Ordered by Level of 10-Year Net-of-Fees Return as of September 30, 2022

Plan	Percent of Assets	5-Year Return Net of Fees	10-Year Return Net of Fees	10-Year Rank vs. All Public Plans ¹
Firefighters	8.7	6.2	8.1	4th
Teachers	51.9	5.1	7.6	10th
Police	8.1	5.8	6.8	32nd
Public Employees	27.2	3.4	6.0	73rd
Judges	0.9	3.4	6.0	77th
Law Enforcement	2.9	3.9	5.9	63rd
Wildlife	0.3	3.8	5.7	78th

¹ Peer ranking are based on gross of fees; therefore, it is possible for a Plan to be ranked higher relative to peers despite having a lower net of fees return.

**Figure 4: 10-Year Risk-Adjusted Returns for Oklahoma Pension Plans
Ranked by Sharpe Ratio as of September 30, 2022**

Plan	Percent of Assets	Sharpe Ratio	10-Year Rank vs. All Public Plans
Police	8.1	0.80	14 th
Firefighters	8.7	0.77	16 th
Teachers	51.9	0.68	32 nd
Law Enforcement	2.9	0.61	64 th
Wildlife	0.3	0.58	75 th
Public Employees	27.2	0.53	84 th
Judges	0.9	0.52	86 th

68.7% of assets

Individual Plan Performance Highlights

Oklahoma Teachers' Retirement System (OTRS)

Detailed performance of the OTRS plan begins on **page 38** of the performance report. As of September 30, 2022, the market value of assets for OTRS was approximately **\$18.41 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OTRS Annualized Net-of-Fees Returns

Period Ending September 30, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OTRS Total Fund (Net)	-5.00	-5.00	-18.60	-14.63	4.63	5.08	7.09	7.61
OTRS Policy Index	-4.01	-4.01	-18.66	-14.46	4.97	5.46	7.36	7.38
<i>Difference</i>	-0.99	-0.99	0.06	-0.17	-0.34	-0.38	-0.27	0.23
OTRS Actual Allocation Index	-4.19	-4.19	-19.70	-15.49	4.82	5.12	7.06	7.47
<i>Difference</i>	-0.81	-0.81	1.10	0.86	-0.19	-0.04	0.03	0.14
All Public Plans – Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
<i>Rank</i>	73	73	61	55	29	34	21	10

Commentary

The OTRS Total Fund returned -5.00% for the quarter, trailing its policy index by 99 basis points. The largest sources of underperformance over the quarter were the Private Equity and Private Debt allocations, which trailed their benchmarks by -4.42% and -3.70% respectively. Over long-term periods, the Plan has provided mixed returns relative to its policy index; however, the Plan outperformed its policy index by 23 basis points over the 10-year period. Relative to a broad group of pension plans, the Plan has ranked in or near the top quartile over the trailing 3-year and all longer time periods. Favorable peer rankings were driven by the higher allocation to public equities (and US equity in particular) relative to other public plans. This posturing, however, proved challenging during the third quarter.

In summary, while the OTRS Plan has delivered negative absolute returns for the calendar year-to-date, longer-term performance remains robust and has outperformed its Policy Index by 0.23% annually over the trailing 10-year period. In addition, the Plan has produced strong returns relative to peers over longer-term trailing periods. Finally, on a risk-adjusted basis, the Plan ranks above median relative to other public plans, as well as other Oklahoma plans, as illustrated in **Figure 4** on the previous page.

Oklahoma Public Employees Retirement System (OPERS)

Detailed performance of the OPERS plan begins on **page 59** of the performance report. As of September 30, 2022, the market value of assets for OPERS was approximately **\$9.63 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OPERS Annualized Net-of-Fees Returns

Period Ending September 30, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OPERS Total Fund (Net)	-6.41	-6.41	-22.73	-19.45	2.01	3.37	5.67	6.00
OPERS Policy Index	-6.15	-6.15	-22.36	-19.10	1.89	3.44	5.81	5.96
<i>Difference</i>	<i>-0.26</i>	<i>-0.26</i>	<i>-0.37</i>	<i>-0.35</i>	0.12	<i>-0.07</i>	<i>-0.14</i>	0.04
OPERS Actual Allocation Index	-6.07	-6.07	-22.42	-19.09	3.13	4.01	6.18	6.28
<i>Difference</i>	<i>-0.34</i>	<i>-0.34</i>	<i>-0.31</i>	<i>-0.36</i>	<i>-1.12</i>	<i>-0.64</i>	<i>-0.51</i>	<i>-0.28</i>
All Public Plans – Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
<i>Rank</i>	98	98	98	98	85	85	79	73

Commentary

The OPERS Total Fund continues to provide returns in line with its policy index over longer time periods but has ranked below median over all periods shown relative to a broad peer group of public plans. Among equity strategies, International Growth Equity was moderately successful in exceeding their benchmarks for the quarter, but International Core Active Equity generally trailed its respective benchmark. US Active Large Cap Equity strategies added value above their benchmarks, while US Active Small Cap Equity exposure trailed the Russell 2000 Index.

In summary, the OPERS plan has generated long-term returns in line with its policy index but has lagged relative to peers over all trailing periods shown. This is due to the plan being much more heavily weighted towards traditional assets rather than alternative assets. On a risk-adjusted basis, the Plan has ranked below median relative to other public plans and 6th among the group of seven Oklahoma plans.

Oklahoma Firefighters Pension & Retirement System (OFPRS)

Detailed performance of the OFPRS plan begins on **page 76** of the performance report. As of September 30, 2022, the market value of assets for OFPRS was approximately **\$3.09 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OFPRS Annualized Net-of-Fees Returns

Period Ending September 30, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OFPRS Total Fund (Net)	-3.84	-3.84	-17.07	-13.77	5.49	6.15	7.81	8.08
OFPRS Policy Index	-4.99	-4.99	-17.83	-13.19	5.24	6.07	7.86	8.11
<i>Difference</i>	1.15	1.15	0.76	-0.58	0.25	0.08	-0.05	-0.03
OFPRS Actual Allocation Index	-4.74	-4.74	-17.01	-12.51	6.35	6.39	8.00	8.05
<i>Difference</i>	0.90	0.90	-0.06	-1.26	-0.86	-0.24	-0.19	0.03
All Public Plans – Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
<i>Rank</i>	26	26	43	46	17	10	6	4

Commentary

The Firefighters Plan continues to demonstrate the strongest long-term returns among the seven Oklahoma pension plans on an absolute basis. The Plan outperformed its policy and actual allocation index in the third quarter with mixed performance over all longer periods. Relative to peers, the Firefighters has ranked above median over all trailing periods shown above. Over the trailing ten years, on a risk-adjusted basis, the Plan ranked in the 16th percentile relative to a broad peer group of public pension plans and 2nd among the group of seven Oklahoma pension plans.

In summary, the Firefighters' Plan has generally outpaced the performance of peers and other Oklahoma pension plans and has exceeded its required return of 7.5% over the trailing 7- and 10-year periods. In addition, the Plan has performed well on a risk-adjusted basis, ranking in the 16th percentile relative to other public plans and 2nd among the other Oklahoma Plans.

Oklahoma Police Pension & Retirement System (OPPRS)

Detailed performance of the OPPRS plan begins on **page 103** of the performance report. As of September 30, 2022, the market value of assets for OPPRS was approximately **\$2.88 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OPPRS Annualized Net-of-Fees Returns

Period Ending September 30, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OPPRS Total Fund (Net)	-3.78	-3.78	-12.89	-9.20	6.36	5.75	6.71	6.75
OPPRS Policy Index	-5.12	-5.12	-18.22	-13.67	3.90	4.44	6.11	5.93
<i>Difference</i>	1.34	1.34	5.33	4.47	2.46	1.31	0.60	0.82
OPPRS Actual Allocation Index	-4.96	-4.96	-18.09	-13.62	4.05	4.29	5.68	5.84
<i>Difference</i>	1.18	1.18	5.20	4.42	2.31	1.46	1.03	0.91
All Public Plans – Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
<i>Rank</i>	24	24	14	15	8	15	29	32

Commentary

The Police Plan provided absolute returns that ranked above median and exceeded both the policy index and actual allocation index over all trailing periods. It should be noted that the portfolio is intentionally allocated to reduce downside risk in the portfolio to protect the funded status of the plan. Absolute and risk-adjusted performance for the portfolio are consistent with this objective. As illustrated in **Figure 4** on page 5, the OPPRS 10-year Sharpe ratio is ranked 1st relative to other Oklahoma Plans and in the 14th percentile relative to a broad peer group of public plans. Thus, on a risk-adjusted basis, the OPPRS plan has performed well over the long term and in a manner that is consistent with its stated objectives.

In summary, while the OPPRS plan has struggled to deliver annualized returns in excess of its 7.5% actuarial rate, the portfolio has generally outpaced the performance of peers and other Oklahoma pension plans both on an absolute and risk-adjusted basis through the first three quarters of 2022 due to the emphasis on downside risk protection.

Oklahoma Law Enforcement Retirement System (OLERS)

The detailed performance of the OLERS plan begins on **page 117** of the performance report. As of September 30, 2022, the market value of assets for OLERS was approximately **\$1.01 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OLERS Annualized Net-of-Fees Returns

Period Ending September 30, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OLERS Total Fund (Net)	-4.63	-4.63	-18.08	-14.97	3.64	3.88	5.59	5.94
OLERS Policy Index	-4.72	-4.72	-17.78	-13.19	4.25	4.89	6.56	6.91
<i>Difference</i>	0.09	0.09	-0.30	-1.78	-0.61	-1.01	-0.97	-0.97
OLERS Actual Allocation Index	-4.59	-4.59	-18.52	-14.26	6.29	5.99	7.36	7.17
<i>Difference</i>	-0.04	-0.04	0.44	-0.71	-2.65	-2.11	-1.77	-1.23
All Public Plans – Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
<i>Rank</i>	56	56	53	57	47	67	69	63

Commentary

The Law Enforcement Plan generated a return of -4.63% for the quarter, outpacing its Policy Index but trailing its Actual Allocation Index by 0.09% and -0.04%, respectively. Outperformance was driven primarily by Long/Short Equity, which ended the quarter with a -0.43% return, leading the MSCI ACW Index by 6.39%. Private Equity and Fixed Income also contributed to positive relative performance, as each outperformed their benchmarks by 1.59% and 0.22%, respectively.

In summary, the OLERS Plan has ranked slightly below median relative to peers for most trailing periods and has trailed other Oklahoma plans in terms of absolute returns over various trailing periods. The Plan has also ranked slightly below peers on a risk-adjusted basis, as represented by a Sharpe ratio, ranking in the 64th percentile relative to peers over the trailing 10-year period.

Uniform Retirement System for Justices & Judges (URSJJ)

Detailed performance of the URSJJ plan begins on **page 131** of the performance report. As of September 30, 2022, the market value of assets for URSJJ was approximately **\$331.83 Million**. A high-level summary of Total Plan Performance and brief commentary is provided below.

URSJJ Annualized Net-of-Fees Returns

Period Ending September 30, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
URSJJ Total Fund (Net)	-6.11	-6.11	-22.60	-19.31	1.91	3.38	5.73	5.96
URSJJ Policy Index	-6.15	-6.15	-22.36	-19.10	1.91	3.45	5.82	5.97
<i>Difference</i>	0.04	0.04	-0.24	-0.21	0.00	-0.07	-0.09	-0.01
URSJJ Actual Allocation Index	-6.11	-6.11	-22.45	-19.14	3.05	3.98	6.12	6.19
<i>Difference</i>	0.00	0.00	-0.15	-0.17	-1.14	-0.60	-0.39	-0.23
All Public Plans – Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
<i>Rank</i>	96	96	98	98	87	86	80	77

Commentary

The Judges Plan generated a 10-year absolute return that ranked 5th relative to other Oklahoma Pension Plans, and in the 77th percentile relative to a broad peer group of public plans over the trailing 10 years. The plan has delivered performance that is generally in line with the benchmark given its significant use of passive management.

Overall, the URSJJ Plan has not delivered returns in excess of its 6.5% actuarial rate over the past 10 years and has trailed relative to a broad peer group of public plans and to other Oklahoma plans. On a risk-adjusted basis, the Plan performed below median over the past 10 years relative to peers (with a Sharpe ratio ranking in the 86th percentile) and ranked 7th relative to Oklahoma Plans.

Oklahoma Wildlife Conservation Retirement System (OWCRS)

Detailed performance of the OWCRS plan begins on **page 143** of the performance report. As of September 30, 2022, the market value of assets for OWCRS was approximately **\$111.99 Million**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OWCRS Annualized Net-of-Fees Returns

Period Ending September 30, 2022

	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OWCRS Total Fund (Net)	-5.18	-5.18	-19.76	-16.50	1.95	3.78	5.36	5.74
OWCRS Policy Index	-4.20	-4.20	-20.18	-17.22	1.25	2.67	4.67	4.97
<i>Difference</i>	-0.98	-0.98	0.42	0.72	0.70	1.11	0.69	0.77
OWCRS Actual Allocation Index	-4.35	-4.35	-19.77	-17.16	1.84	3.81	5.79	5.91
<i>Difference</i>	-0.83	-0.83	0.01	0.66	0.11	-0.03	-0.43	-0.17
All Public Plans – Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
<i>Rank</i>	77	77	74	77	84	75	82	78

Commentary

The Wildlife Plan generated a return of -5.18% for the quarter, trailing its policy benchmark by 0.98%. Alternative investments were the primary detractor from relative performance, trailing the custom index by 4.83%. Looking to longer time periods, the plan has exceeded the policy benchmark over the trailing year and all longer time periods shown. Relative to peers, the Wildlife Plan provided 10-year absolute returns that ranked 7th when compared to other Oklahoma Pension Plans and below median relative to a broad peer group of public plans over all trailing periods.

Overall, the OWCRS Plan performed below median relative to a broad peer group of public plans over all periods shown. On a risk-adjusted basis, the Plan also ranked below median over the past 10 years, with a Sharpe ratio ranking in the 75th percentile relative to other public plans and ranking 5th relative to the group of seven Oklahoma Plans.

Overview of Fundamental Investment Performance Drivers

When reviewing the performance of the Oklahoma Pension Plans, it is important to understand the key drivers of investment returns, which we will reference throughout this document. In short, the return of an investment portfolio can be attributed to the following three, fundamental factors.

1. **Strategic Asset Allocation** – The long-term strategic asset allocation of a portfolio is by far the most significant driver of absolute returns in the long term. In other words, the percentages that a plan allocates to various asset classes, such as US equity, international equity, private equity, real estate, etc., tend to dominate. To this end, the most significant decision for pension plan boards is the extent of their exposure to various types of assets – especially equities. To this point, the degree of equity exposure is primarily a function of a plan’s risk tolerance and long-term return requirements; thus, understanding these requirements is the most critical responsibility of pension plan sponsors and their advisors.
2. **Tactical Asset Allocation** – Tactical asset allocation is a term that describes the return impact when a portfolio deviates from its long-term strategic asset allocation targets. In general, use of intentional tactical allocation at the total portfolio level is unlikely to add value, thus most institutional investors wisely avoid it. However, some degree of *unintentional* tactical allocation is inevitable due to the inability of institutional investors to match allocations with desired targets at all times. This is especially true in illiquid asset classes, such as private equity, as investors have limited control over the investment and distribution of capital from underlying funds. Nevertheless, even though some degree of tactical allocation is unavoidable, its overall impact on performance is generally modest.
3. **Active Management** – The third driver of investment performance is active management. Active management involves the construction of a portfolio of securities that differs from the mix in a comparable reference index. Although active management is usually not the most important driver of long-term *absolute returns*, it is an important driver of *relative returns* in comparison to peer organizations with similar allocation strategies. In general, there are three primary ways in which active management is incorporated into an institutional investment strategy.
 - a. **Use of Style Tilts within Asset Classes** – When all securities available for investment are aggregated within an asset class, the resulting portfolio can be categorized into various market segments. For example, the US equity market can be divided into small-, mid-, and large-sized companies, as well as value- and growth-oriented companies. Thus, one form of active management is to deliberately tilt a portfolio toward specific market segments in a manner that differs from the broad universe. For example, investors with a “small cap bias” make an active decision to favor investment in small companies rather than large companies. The degree to which this “style tilt” pays off is measured by evaluating an investor’s asset class performance relative to a broad asset class index. After adjusting for manager performance relative to their individual benchmarks, this reveals whether the style tilt added or detracted value.
 - b. **Use of Active Managers in Traditional Asset Classes with Index Fund Alternatives** – In many traditional asset classes, such as US equity, investors can choose a low-cost index fund or a more expensive, actively managed fund. An actively managed fund holds

securities that differ from a reference index representative of the asset class. For example, an active US equity manager may hold a portfolio of stocks that have different weightings than the S&P 500 Index. If an investor chooses to invest in an actively managed fund, their objective is to outperform the reference index. This can be evaluated on an absolute return basis and/or a risk-adjusted basis (i.e., the manager may provide a lower return but with less risk).

- c. **Use of Alternative Asset Classes that Lack Index Funds** – The final way in which active management is used is by investing in asset classes in which index funds are unavailable. Examples include private equity, hedge funds, private real estate, and several other niche market segments. In these situations, the key to evaluating performance is to gauge absolute and risk-adjusted returns versus a relatively comparable public market index or fundamental economic indicator (e.g., the consumer price index, which may be used as a proxy for inflation). In addition, peer rankings can be useful to gauge whether plans are selecting top tier managers relative to other institutional investors, as superior manager selection is essential in these asset classes. Although there are performance metrics that can be useful in these markets, it is also important to acknowledge that these metrics are considerably less precise than the metrics used in traditional asset classes. In addition, the metrics offer particularly limited value over shorter time periods.

In summary, it is important for institutional investors to be aware of the three factors that drive absolute and relative performance of institutional investment portfolios. When evaluating the performance of the Oklahoma pension plans, both individually and collectively, we will often refer to these three performance drivers.

November 15, 2022

Actuarial Summary Report

Oklahoma State Pension Commission

Fiscal Year ending June 30, 2022



Table of Contents

	Page
I. Executive Summary	20
a. Overview	21
b. Funded Status Position	23
c. Rates of Return	26
d. Contributions	27
e. GASB 67 Summary	30
II. Individual Plan Highlights	31
III. Appendix	38

Executive Summary



Executive Summary

Overview

RVK reviewed the Fiscal Year 2022 actuarial reports for each underlying plan within the Oklahoma State Pension Commission. This presentation summarizes several key plan metrics from FY 2022 as well as historical trends over the prior 20 years. The metrics include in the report are: funded status levels, asset balance changes, liabilities, and contributions. RVK also incorporated data obtained from RVK's semi-annual Public Fund Survey as well as Public Plans Data, which is an organization that collects data on more than 5,000 US public pension plans.

The information presented in this report is based on Actuarial Valuation reports for the Fiscal Year ending on June 30, 2022. The actuaries for each Plan provided all plan-specific data used in this presentation. RVK is not an actuarial firm and does not provide the actuarial services that generated the plan-specific data. This being the case, the information contained herein does not constitute a statement of actuarial opinion and may not be used in place of valuation results and recommendations provided by the plan actuary.

Funded Status Highlights

- 1. Change in Funded Status** – For the fiscal year ending June 30, 2022, The funded status of the plans increased by 1.8% based on the actuarial value of assets. Based on the market value of assets, however, the funded status of the plans decreased by 13.9%:
 - **Actuarial Value of Assets Increase** – An increase of approximately \$1.8 billion (~4.7%) in the actuarial value of assets was the primary driver of improved funded status of the plans. This is a result of smoothing of gains from previous fiscal years to reduce the volatility of unfunded liabilities.
 - **Market Value of Assets Decrease** – Market results in the second half of FY 2022 were challenged, with both equity and fixed income assets experiencing double digit losses. The market value of assets fell by approximately \$5.6 billion (~13.0%).
 - **Liability Increase** – Liabilities increased by approximately \$1.1 billion (~2.4%) over the last year partially offset the increase in the actuarial value of assets.
 - 2. Positive Impact of Excess Contributions** – In FY 2022, pension plan contributions exceeded the actuarially required contributions, offsetting a portion of market value losses.
-

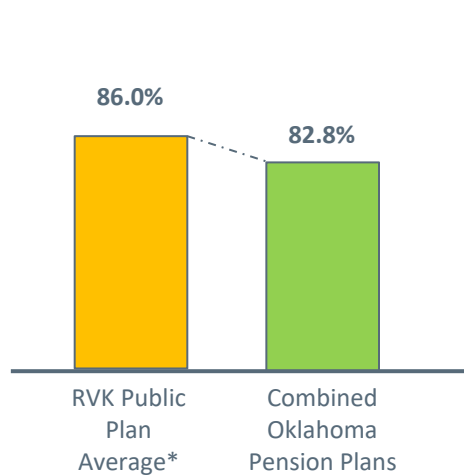
Executive Summary (continued)

Contribution Highlights

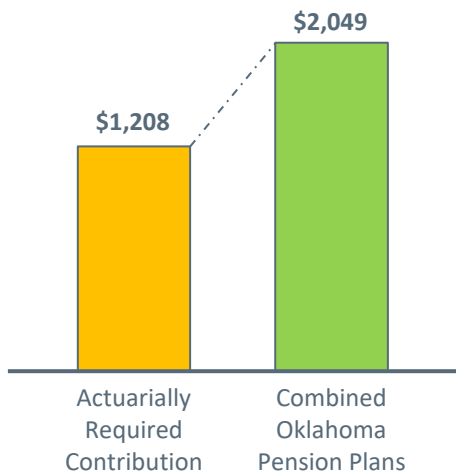
- 1. Annual Contribution Increase** – Total contributions for the fiscal year were approximately \$2.05 Billion, which was a 15.1% increase relative to the prior fiscal year. Contributions from the State (\$902 M) and employers (\$543 M) were the primary drivers of contribution increase.
- 2. Actual Contributions Exceeded Required Contributions** – For the past Fiscal Year, the actual contribution exceeded the actuarially required contribution. Since 2012, total plan contributions have been higher than the actuarial requirement.

Key Metrics for Oklahoma Pension Plans

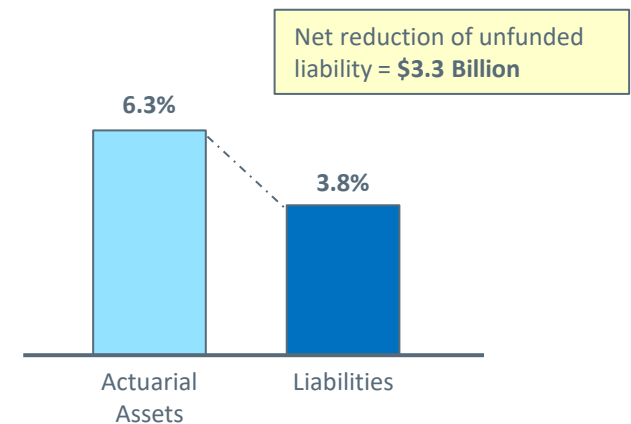
Funded Status (AV) vs. RVK Survey Median



Total Contributions FY 2022 (\$ Millions)



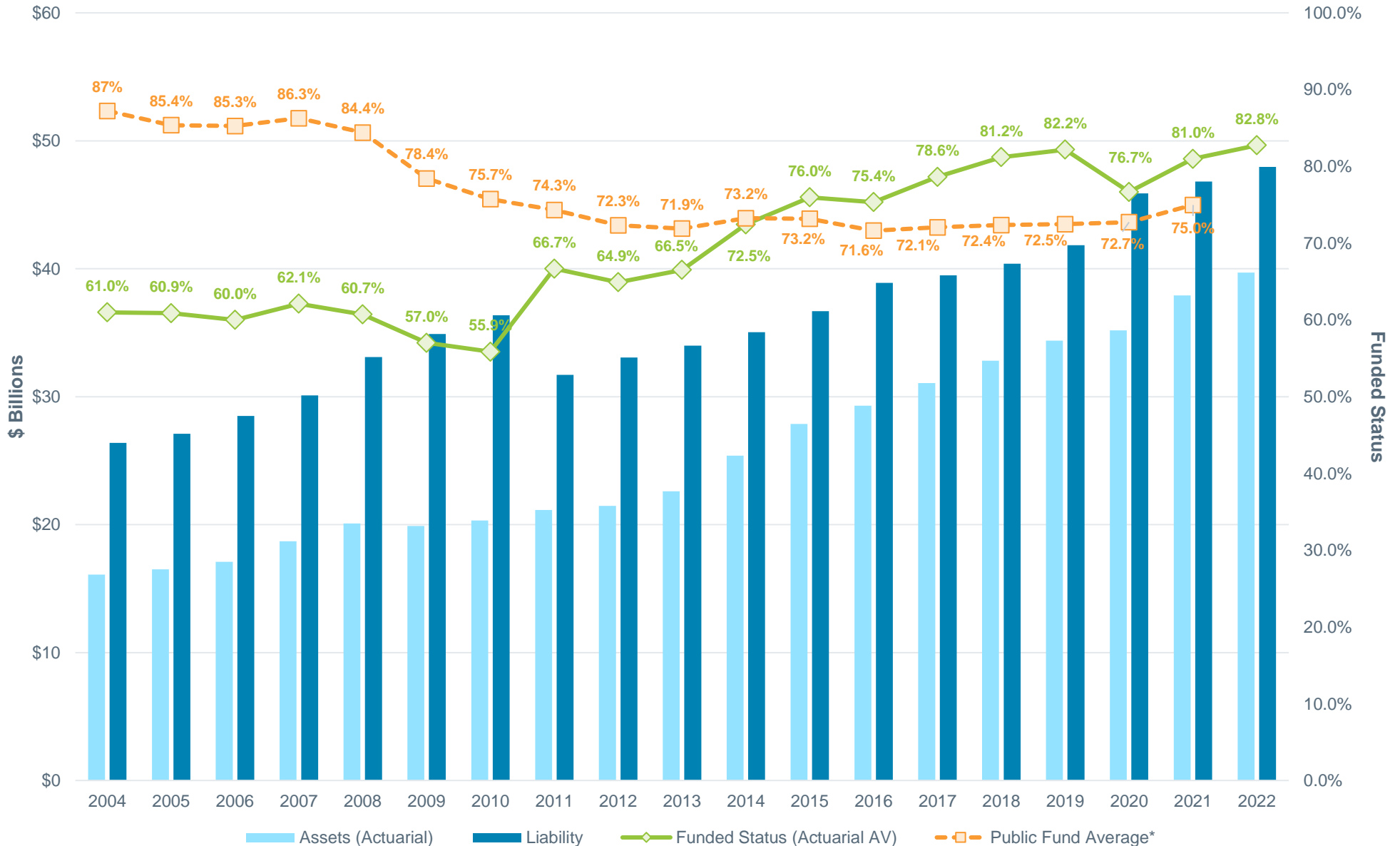
10-Year Asset vs. Liability Growth Rate (FY 2012 – 2022)



*Source: RVK Public Pension Plan Survey

OKSPC Funded Status

Aggregate Funded Status (Actuarial Values)



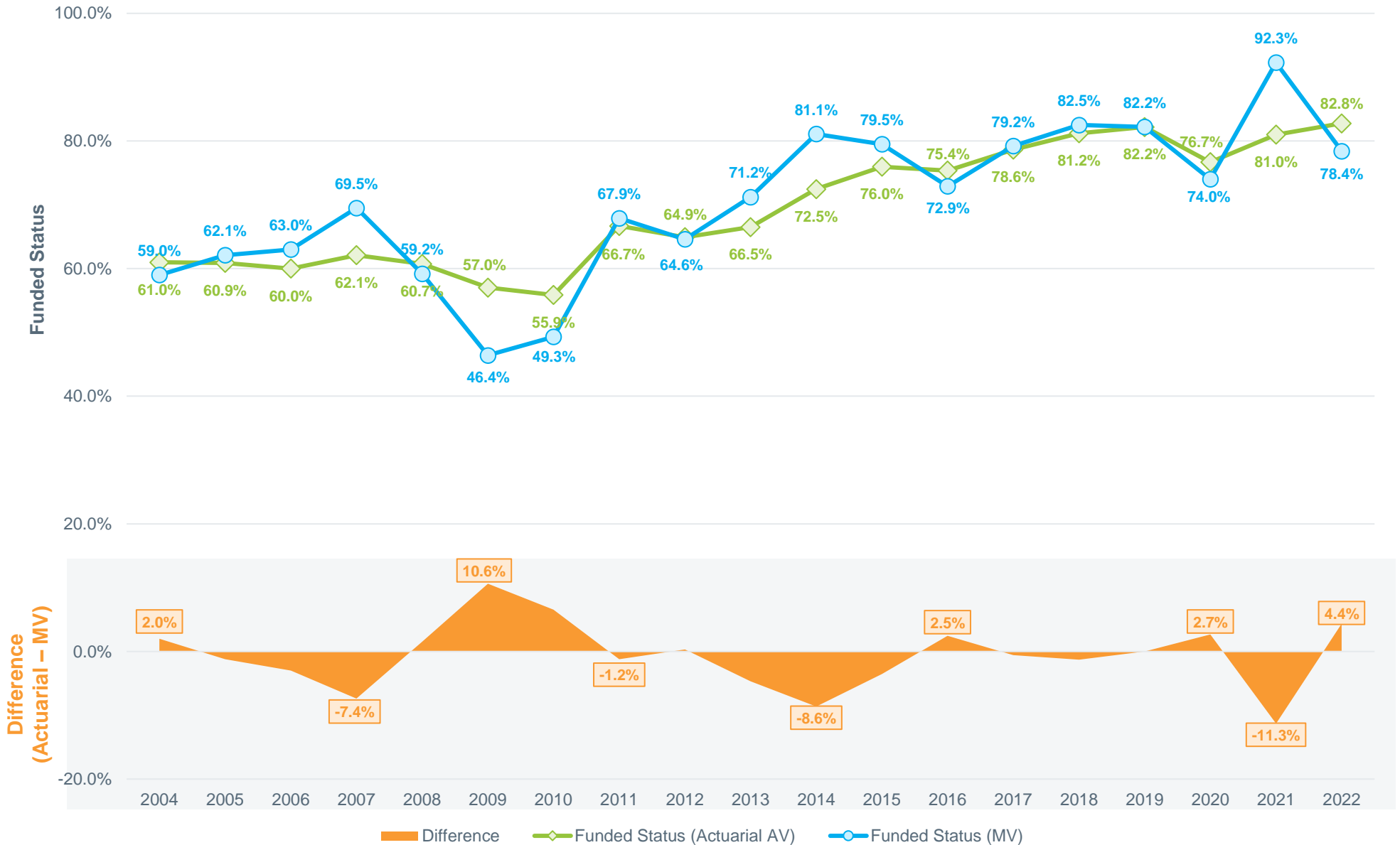
Data as of June 30, 2022.

*Source: Public Plans Data (2022). 2022 Public Fund data is currently unavailable.



OKSPC Funded Status

Aggregate Funded Status (Actuarial Assets vs Market Values)



OKSPC Funded Status

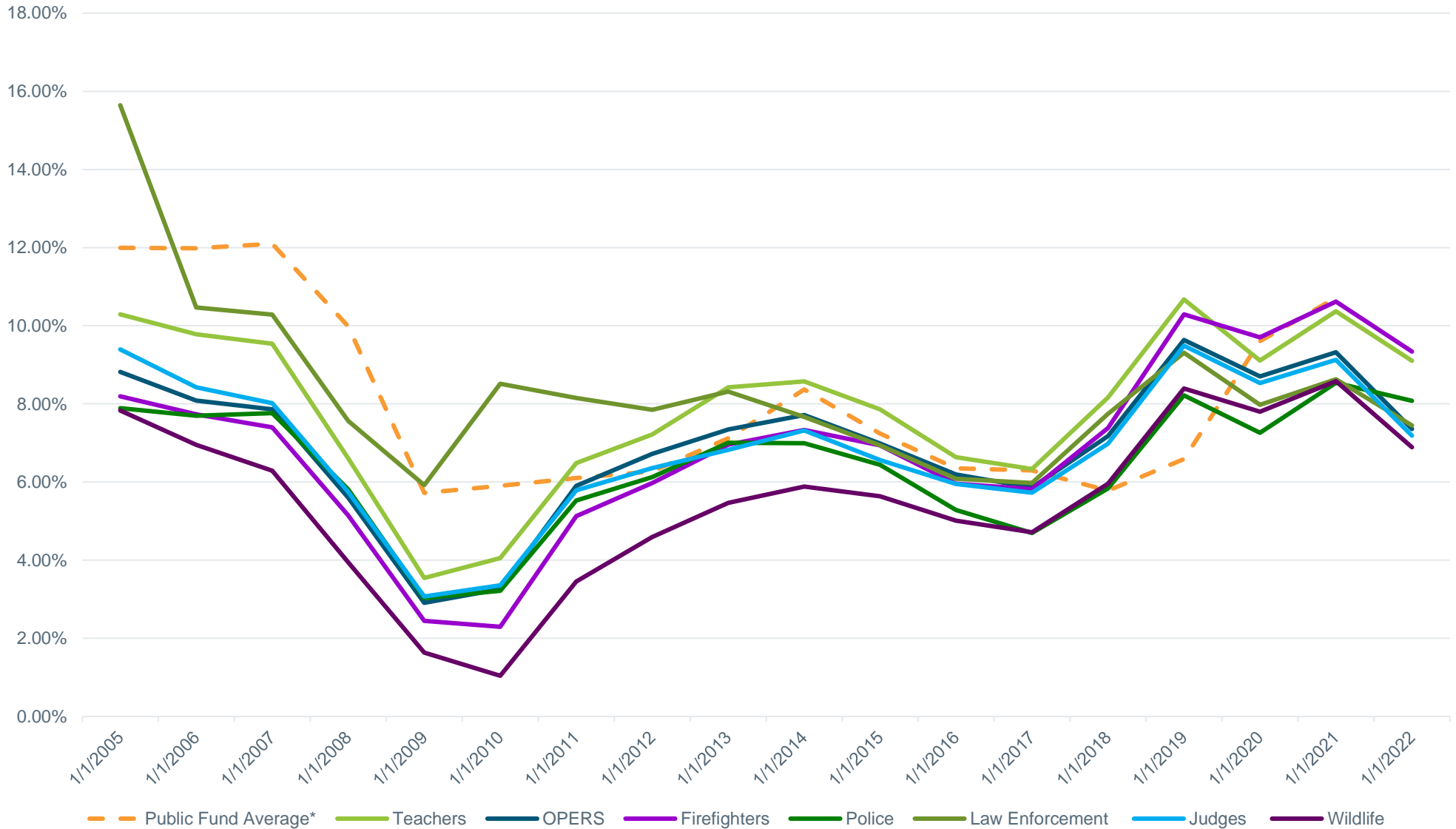
Individual Plan Funded Status Summary

Plan	Actuarial Value of Assets (\$M)	Actuarial Accrued Liability (\$M)	Market Value of Assets (\$M)	Funded Status (per Actuarial Assets)	Funded Status (per MV Assets)	Change YoY (Actuarial)	Change YoY (MV)
Teachers	\$20,469	\$27,835	\$19,669	73.54%	70.66%	2.04%	-10.91
OPERS	\$11,312	\$11,140	\$10,393	101.54%	93.29%	2.04%	-20.11
Firefighters	\$3,130	\$4,286	\$2,978	73.03%	69.49%	1.33%	-14.75
Police	\$3,087	\$2,929	\$3,009	105.41%	102.74%	0.79%	-14.33
Law Enforcement	\$1,174	\$1,283	\$1,077	91.54%	83.97%	0.98%	-14.11
Judges	\$390	\$352	\$358	110.86%	101.65%	-0.40%	-25.14
Wildlife	\$130	\$141	\$119	92.15%	84.92%	-0.74%	-17.91

OKSPC Rates of Return

Individual Plan Rates of Return

Rolling 10-Year Return

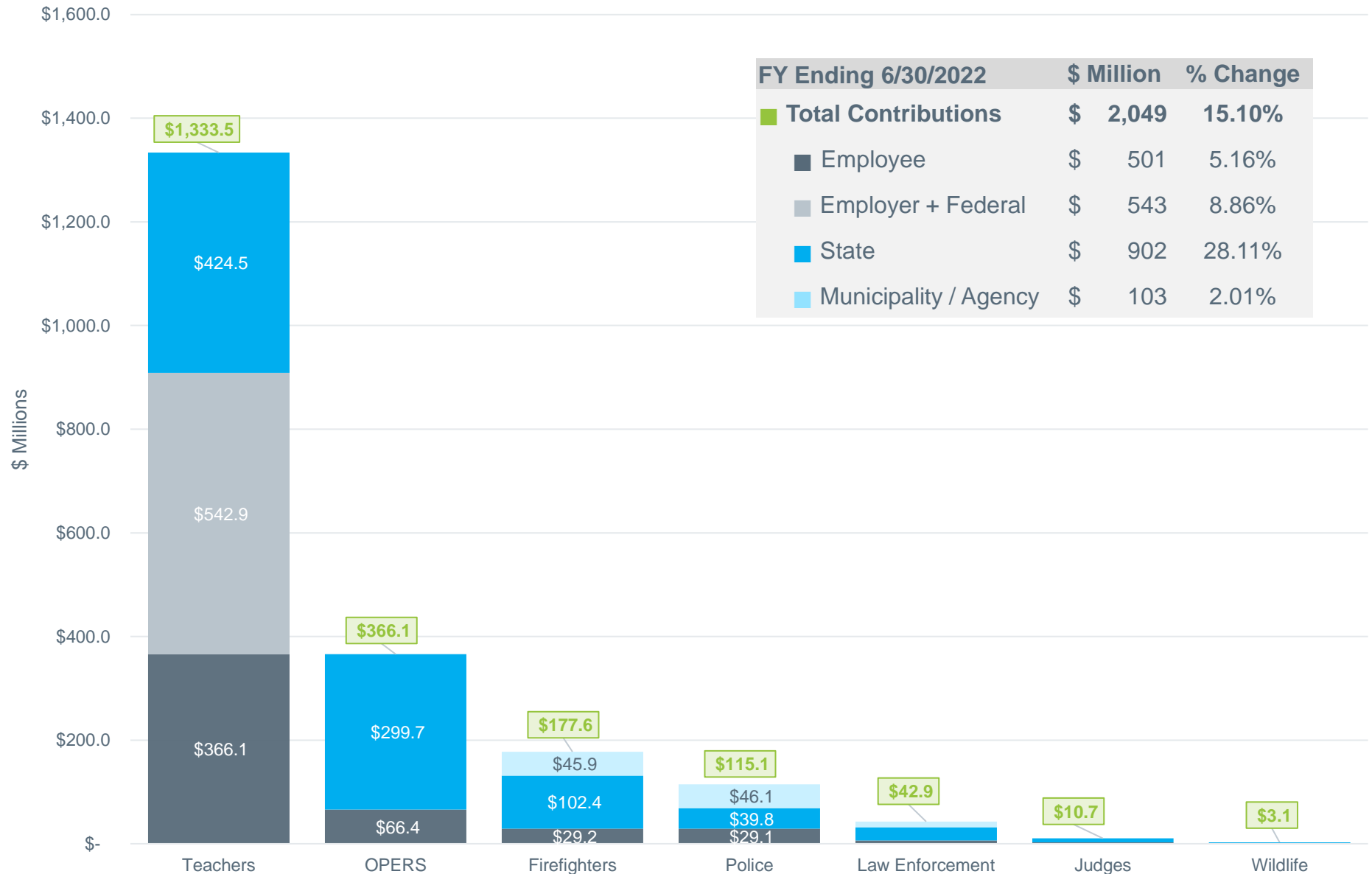


Data as of June 30, 2022.

*Source: Public Plans Data (2022). 2022 data is currently unavailable.

OKSPC Contributions

Individual Plan 2022 Contributions



Teachers "Employer + Federal" contribution includes grant matching funds.

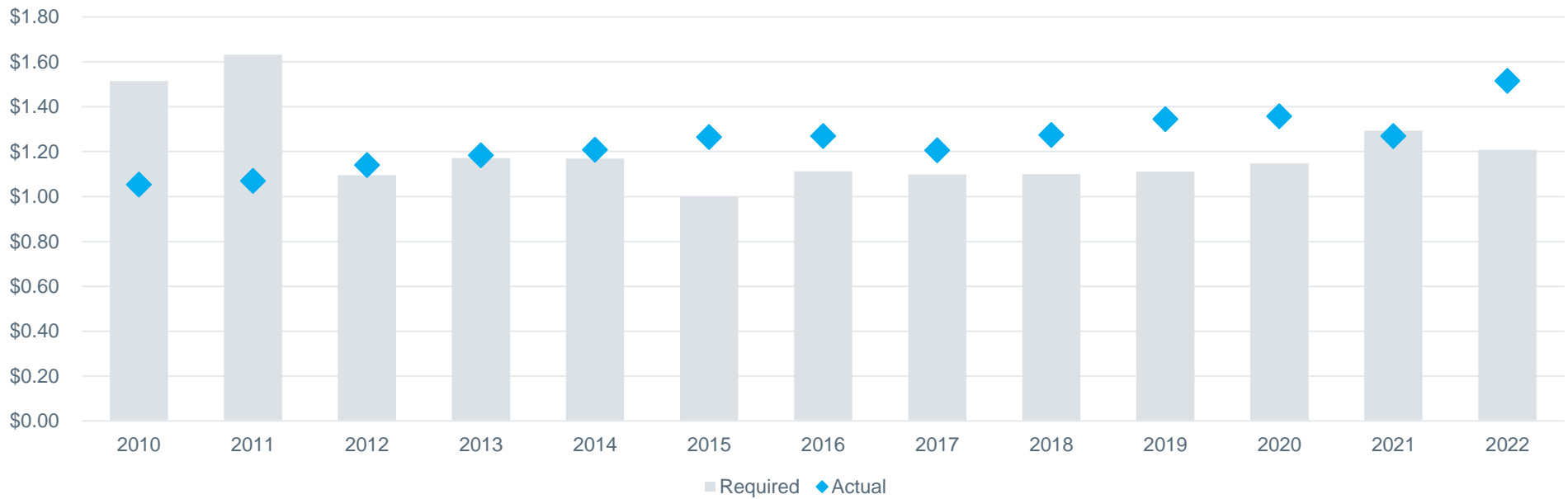


OKSPC Historical Contributions

Historical State and Employer Contributions

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Required	\$1.51	\$1.63	\$1.09	\$1.17	\$1.17	\$1.00	\$1.11	\$1.10	\$1.10	\$1.11	\$1.15	\$1.29	\$1.21
Actual	\$1.05	\$1.07	\$1.14	\$1.18	\$1.21	\$1.27	\$1.27	\$1.21	\$1.27	\$1.35	\$1.36	\$1.27	\$1.52
% Actual vs Required	69.6%	65.5%	104.3%	101.1%	103.3%	126.8%	114.2%	109.8%	116.0%	121.1%	118.3%	98.19%	125.47%

Historical Contributions



OKSPC Actuarially Determined Contribution Rates

	Teachers	OPERS	Firefighters	Police	Law Enforcement	Judges	Wildlife
Total Normal Cost	10.4%	10.8%	22.0%	20.5%	25.2%	26.2%	13.4%
Expenses	0.1%	0.6%	1.2%	0.7%	1.8%	0.7%	0.0%
Amortization of UAAL	13.8%	-0.4%	32.0%	-3.6%	22.8%	-21.3%	12.9%
Total ADC	24.3%	11.0%	55.2%	17.6%	49.8%	5.6%	26.3%
Employee Contribution	7.0%	4.3%	9.0%	8.0%	8.0%	8.0%	5.0%
Total Employer ADC	17.3%	6.7%	46.2%	9.6%	41.8%	-2.4%	21.3%
Employer Contribution	9.3%	16.5%	14.0%	13.0%	11.2%	22.0%	21.3%
Total State ADC	8.0%	16.5%	32.2%	0.0%	30.6%	22.0%	21.3%

GASB 67 : Funding Position and Contributions

Funding Position:

	Net Position (\$M)	Total Pension Liability (\$M)	Unfunded Accrued Liability (\$M)	Funded Status	Discount Rate
Teachers	\$19,202	\$27,411	\$8,209	70.05%	7.00%
OPERS	\$9,987	\$10,828	\$841	92.24%	6.50%
Firefighters	\$2,978	\$4,286	\$1,308	69.49%	7.50%
Police	\$3,009	\$2,929	(\$80)	102.74%	7.50%
Law Enforcement	\$1,075	\$1,271	\$197	84.53%	7.50%
Judges	\$354	\$349	(\$5)	101.44%	6.50%
Wildlife	\$119	\$141	\$21	84.92%	7.00%
Total	\$36,724	\$47,214	\$10,490	77.78%	

Contributions:

	ADEC	Actual Contributions	Contribution Deficiency/Excess	Covered Payroll	ADEC % Payroll	Actual % Payroll
Teachers	\$868	\$967	\$100	\$5,015	17.30%	19.29%
OPERS	\$117	\$283	\$166	\$1,557	7.50%	18.19%
Firefighters	\$150	\$134	(\$16)	\$327	45.98%	40.99%
Police	\$36	\$86	\$50	\$355	10.08%	24.23%
Law Enforcement	\$36	\$35	(\$1)	\$87	41.07%	40.18%
Judges	(\$0)	\$8	\$8	\$36	-1.16%	21.05%
Wildlife	\$2	\$3	\$0	\$11	19.91%	22.72%

ADEC stands for Actuarially Determined Employer Contribution.

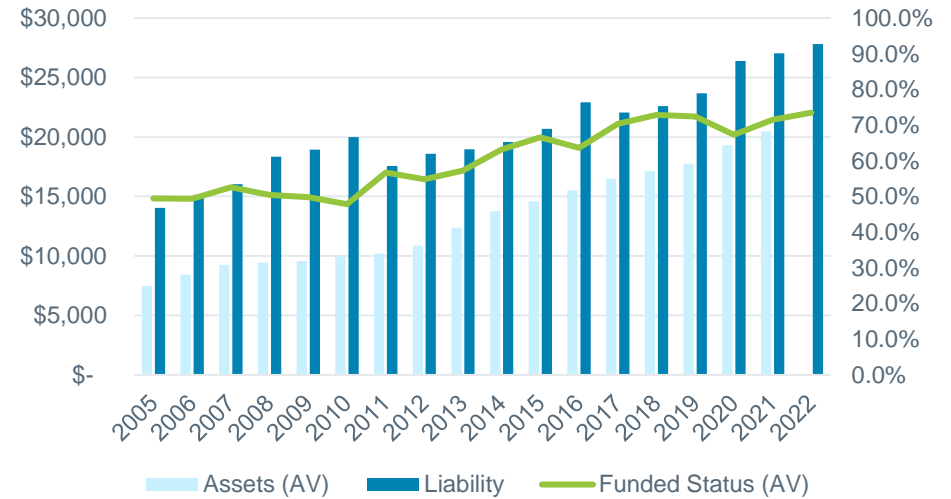
Individual Plan Highlights



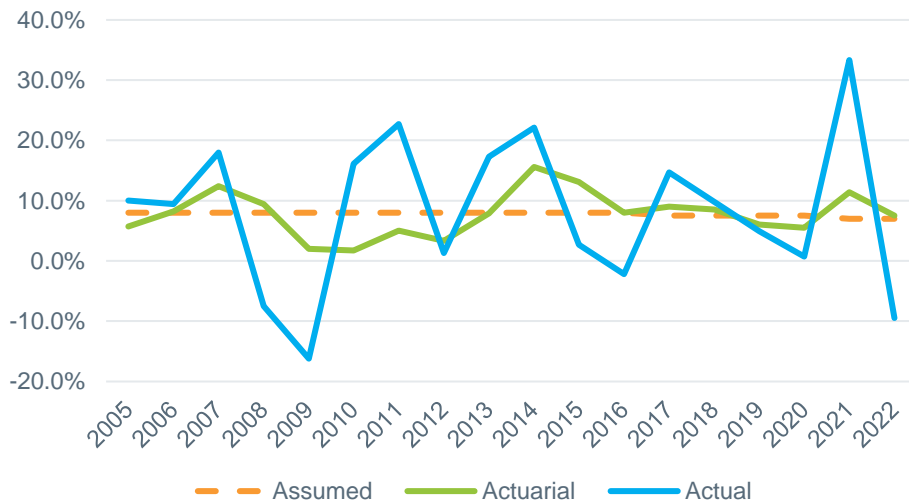
Teachers

	2022	2021	Change
Assets (AV)	\$20,469 M	\$19,330 M	+ \$1,139 M
Liability	\$27,835 M	\$27,034 M	+ \$802 M
Funded Status (AV)	73.5%	71.5%	+ 2.0%
Assets (MV)	\$19,669 M	\$22,052 M	- \$2,383 M
Funded Status (MV)	70.7%	81.6%	- 10.9%

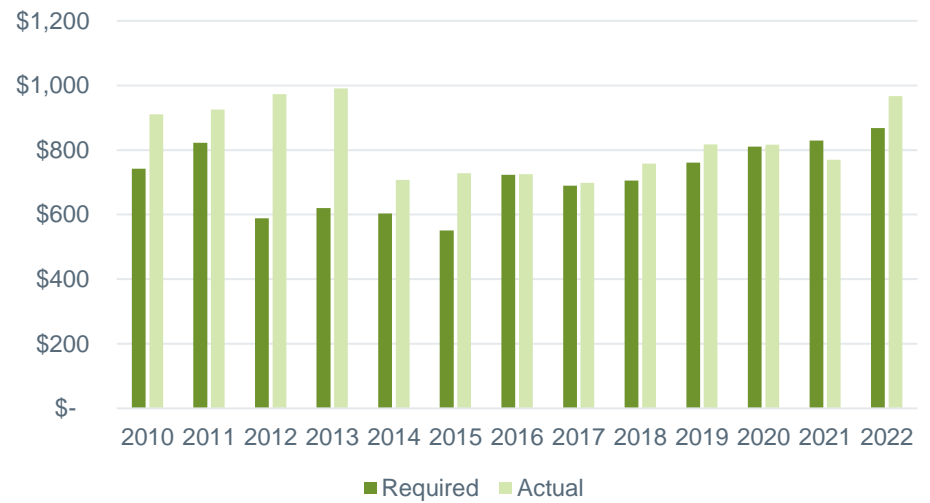
Historical Funded Status



Rate of Return (Annual)



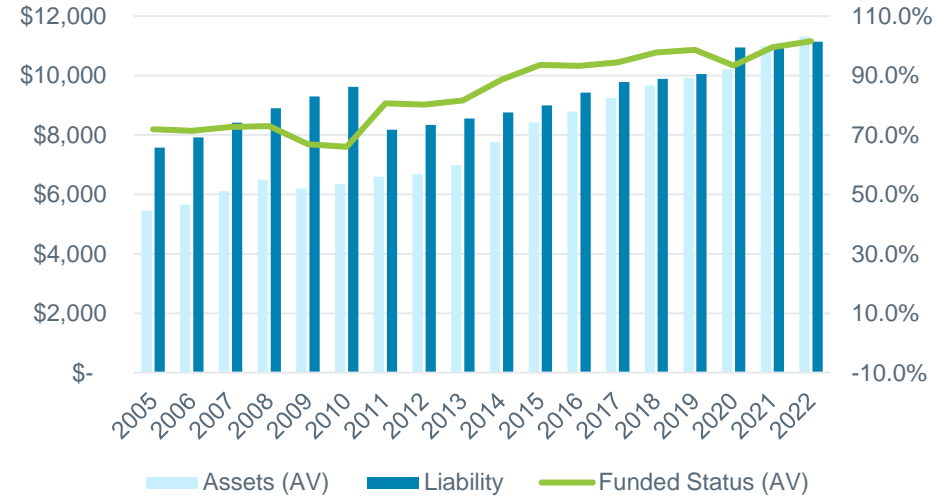
Historical Contributions



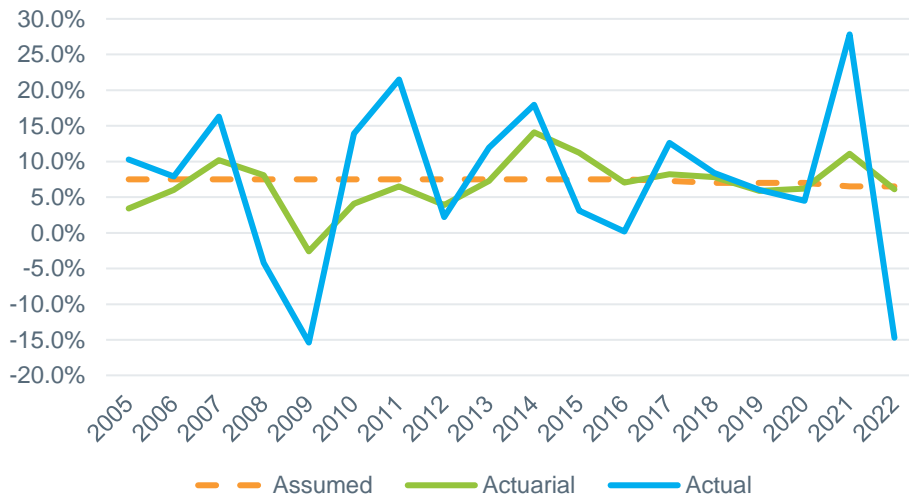
OPERS

	2022	2021	Change
Assets (AV)	\$11,312 M	\$10,991 M	+ \$321 M
Liability	\$11,140 M	\$11,046 M	+ \$94 M
Funded Status (AV)	101.5%	99.5%	+ 2.0%
Assets (MV)	\$10,393 M	\$12,526 M	- \$2,133 M
Funded Status (MV)	93.3%	113.4%	- 20.1%

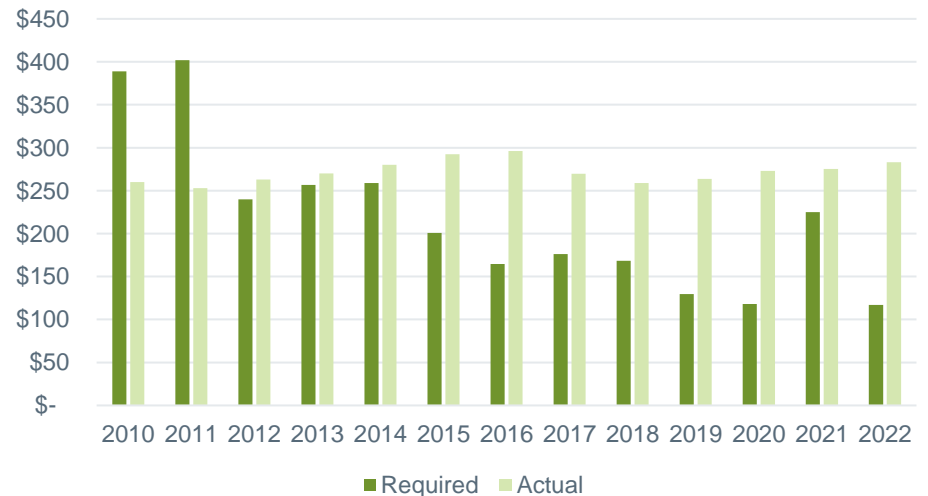
Historical Funded Status



Rate of Return (Annual)



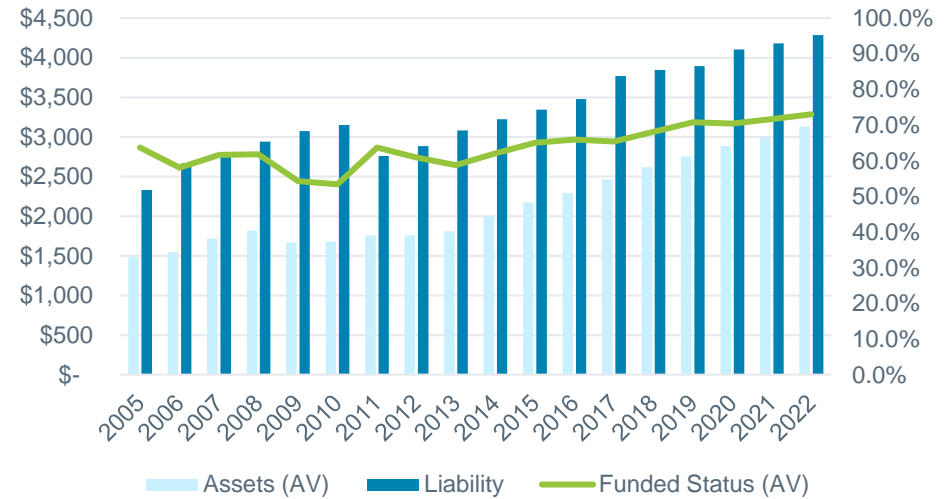
Historical Contributions



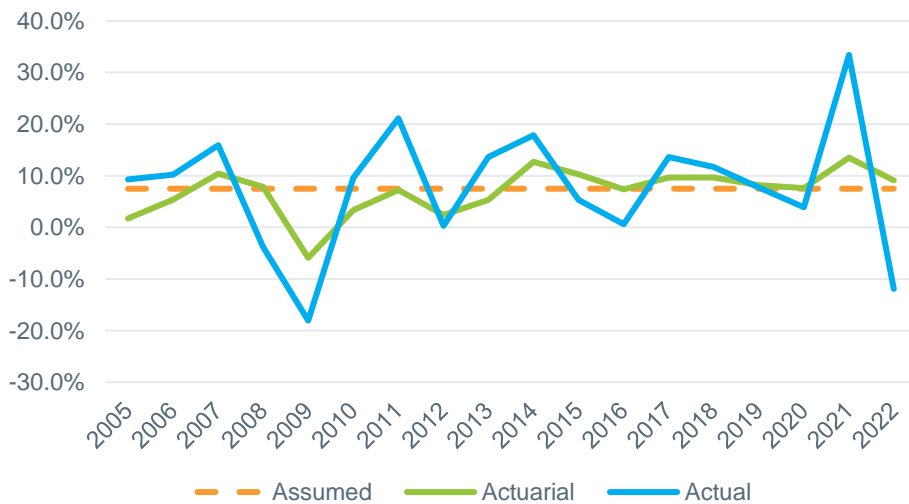
Firefighters

	2022	2021	Change
Assets (AV)	\$3,130 M	\$2,997 M	+ \$133 M
Liability	\$4,286 M	\$4,179 M	+ \$106 M
Funded Status (AV)	73.0%	71.7%	+ 1.3%
Assets (MV)	\$2,978 M	\$3,521 M	- \$543 M
Funded Status (MV)	69.5%	84.2%	- 14.8%

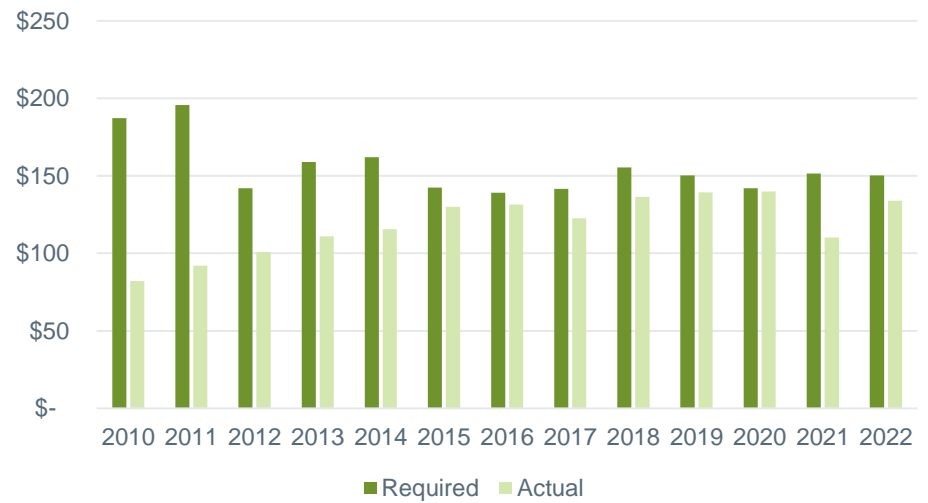
Historical Funded Status



Rate of Return (Annual)



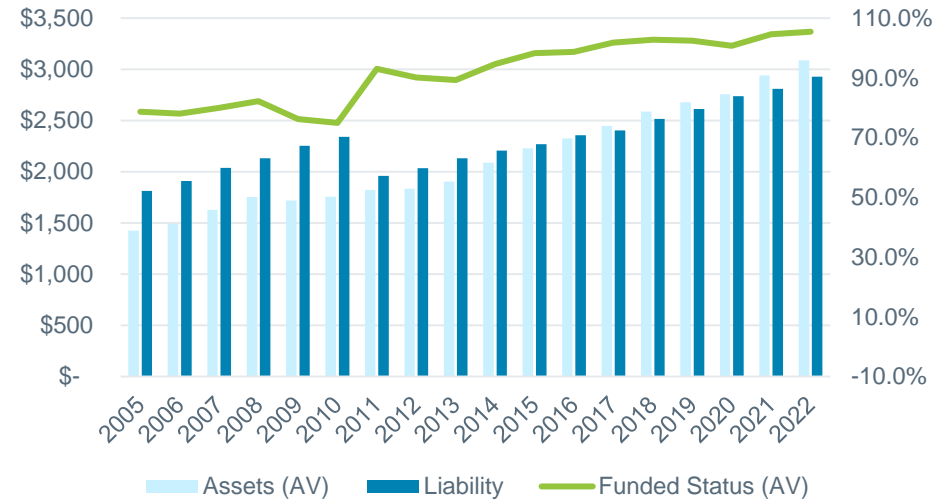
Historical Contributions



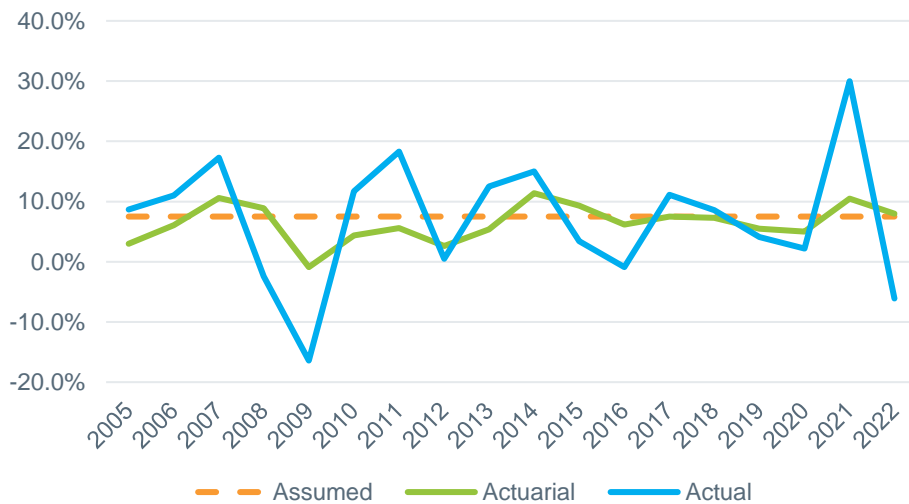
Police

	2022	2021	Change
Assets (AV)	\$3,087 M	\$2,940 M	+ \$147 M
Liability	\$2,929 M	\$2,810 M	+ \$119 M
Funded Status (AV)	105.4%	104.6%	+ .8%
Assets (MV)	\$3,009 M	\$3,290 M	- \$281 M
Funded Status (MV)	102.7%	117.1%	- 14.3%

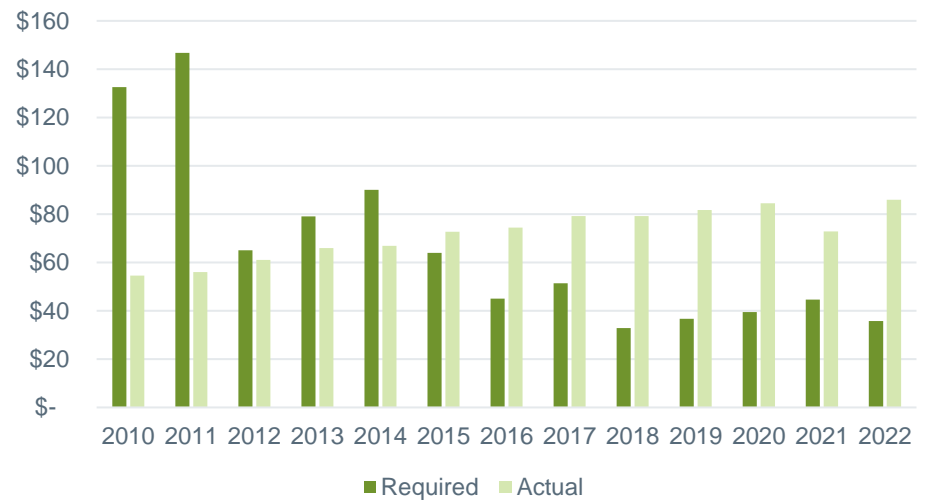
Historical Funded Status



Rate of Return (Annual)



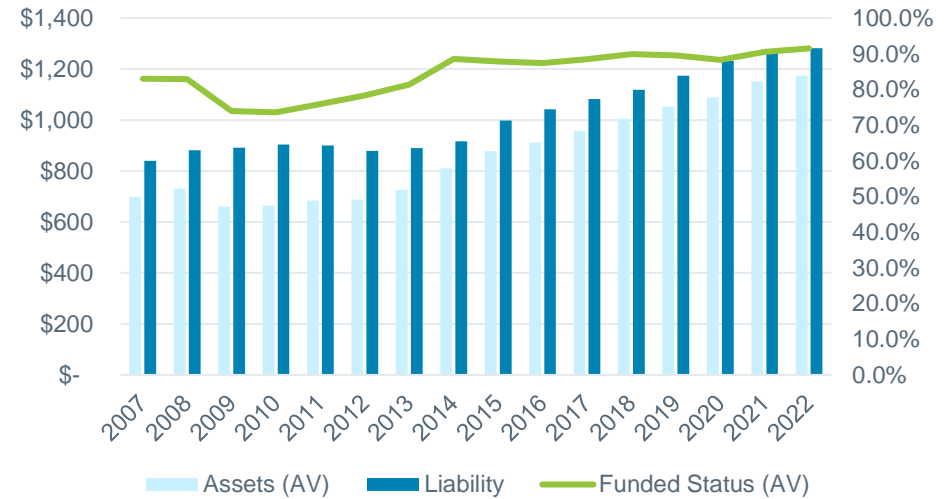
Historical Contributions



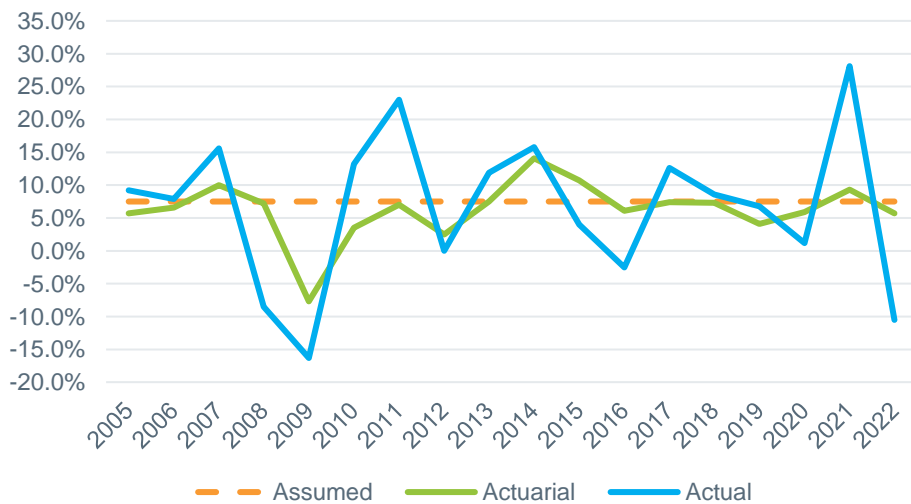
Law Enforcement

	2022	2021	Change
Assets (AV)	\$1,174 M	\$1,152 M	+ \$22 M
Liability	\$1,282 M	\$1,272 M	+ \$11 M
Funded Status (AV)	91.5%	90.6%	+ 1.0%
Assets (MV)	\$1,077 M	\$1,247 M	- \$170 M
Funded Status (MV)	84.0%	98.1%	- 14.1%

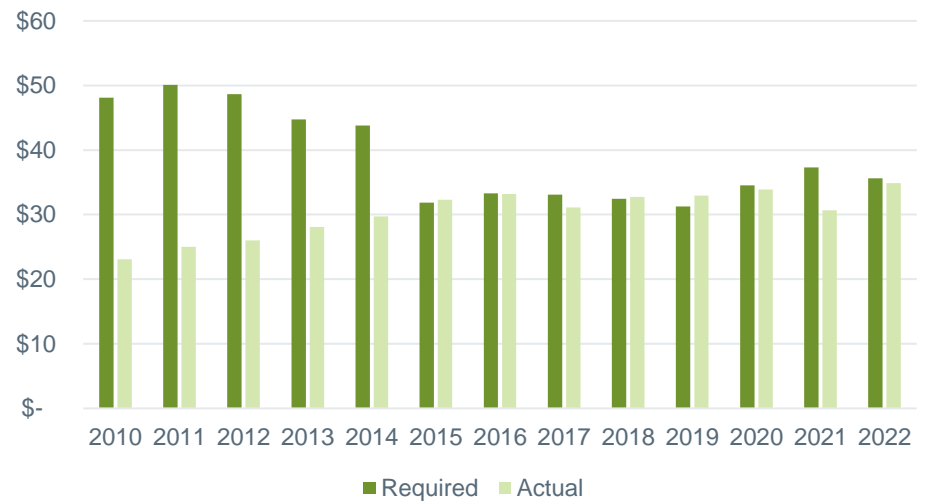
Historical Funded Status



Rate of Return (Annual)



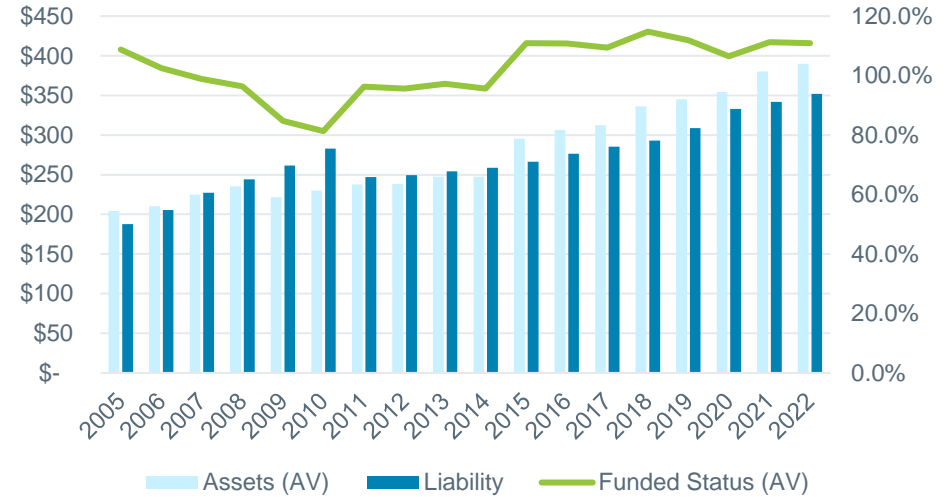
Historical Contributions



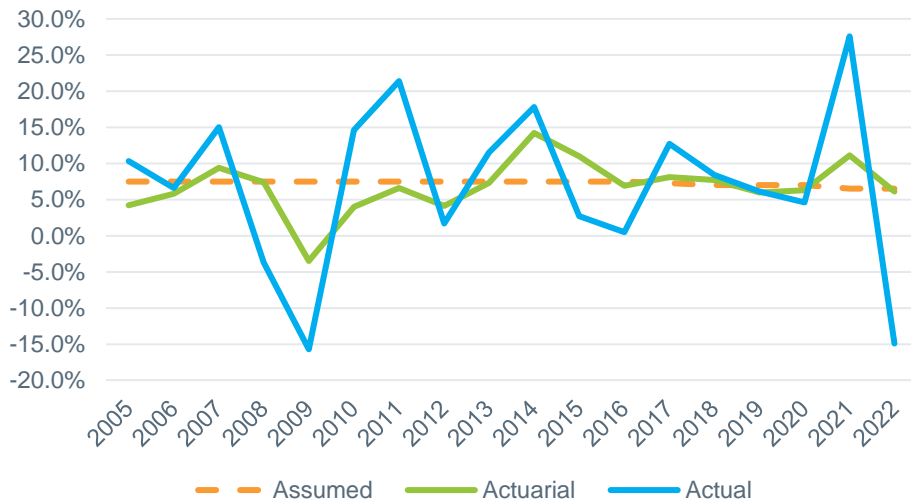
Judges

	2022	2021	Change
Assets (AV)	\$390 M	\$380 M	+ \$10 M
Liability	\$352 M	\$342 M	+ \$10 M
Funded Status (AV)	110.9%	111.3%	- .4%
Assets (MV)	\$358 M	\$434 M	- \$76 M
Funded Status (MV)	101.6%	126.8%	- 25.1%

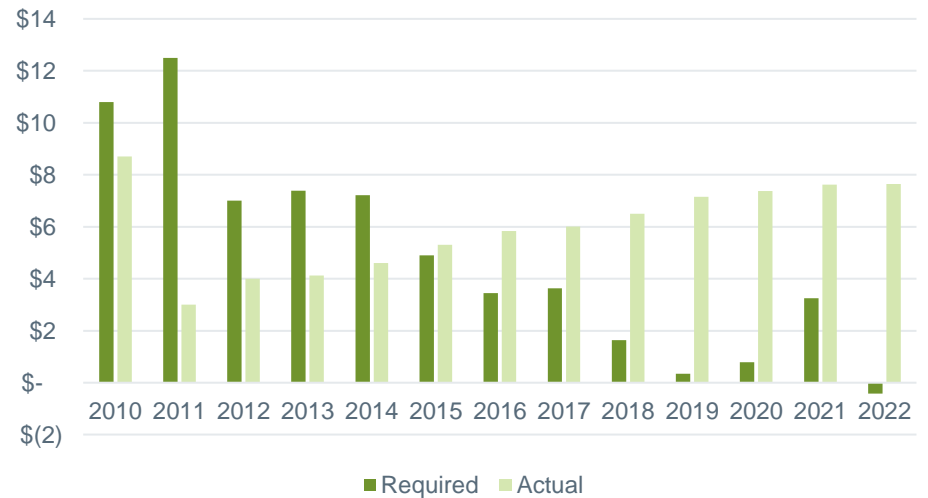
Historical Funded Status



Rate of Return (Annual)



Historical Contributions



Appendix



RVK Public Funds Survey

RVK conducts a semi-annual survey of public pension plans, aggregating various portfolio and actuarial factors. Below is the list of participants from the latest edition:

Alameda County Employees' Retirement Association
Arlington County Employees' Retirement System
Chicago Teachers' Pension Fund
City of Fresno Employees Retirement Systems
City of Jacksonville Police and Fire Retirement Fund
City of Milwaukee Employees' Retirement System

City of Plano Retirement Security Plan

Confederated Tribes of the Warm Springs Tribal Council Pension Fund
Fire and Police Pension Association of Colorado
Gila River Indian Community Retirement Plan
Iowa Public Employees' Retirement System
Kansas Public Employees' Retirement System
Los Angeles Water & Power Employees Retirement Plan
Maryland State Retirement and Pension System
Merced County Employees' Retirement Association
Montana Teachers' Retirement System
Nevada Public Employees' Retirement System
North Carolina Retirement System

Oklahoma Firefighters Pension and Retirement System

Oklahoma Police Pension and Retirement System

Oklahoma Teachers' Retirement System

Oklahoma Wildlife Conservation Retirement System

Pennsylvania State Employees' Retirement System

Public School and Education ERS of Missouri

San Diego City Employees' Retirement System

San Diego Transit Corporation Employees Retirement

Santa Barbara County Employees' Retirement System

South Dakota Retirement System

State of Michigan Retirement Systems

State Teachers Retirement System of Ohio

Teachers' Retirement System of the State of Illinois

Texas Municipal Retirement System

Ventura County Employees' Retirement Association

Virginia Retirement System

Wyoming Retirement System

Anchorage Police & Fire Retirement System
California State Teachers' Retirement System
City of Austin Employees' Retirement System
City of Fresno Fire & Police Retirement System
City of Jacksonville Retirement System
City of Plano Other Post-Employment Benefits Trust
Civilian Employees' Retirement System of the Police Department of
Kansas City, Missouri

Employees Retirement System of Texas

Fresno County Employees' Retirement Association

Imperial County Employees' Retirement System

Kansas City, Missouri Employees' Retirement System

Los Angeles Fire and Police Pension System

Marin County Employees' Retirement Association

Mendocino County Employees' Retirement Association

Montana Public Employees' Retirement System

Municipality of Anchorage Pre-Funding Program

New York State Common Retirement Fund

Ohio Public Employees' Retirement System

Oklahoma Law Enforcement Retirement System

Oklahoma Public Employees Retirement System

Oklahoma Uniform Retirement System for Justices and Judges

Orange County Employees' Retirement System

Police Retirement System of Kansas City, Missouri

Sacramento County Employees' Retirement System

San Diego County Employees Retirement Association

San Mateo County Employees' Retirement Association

Sonoma County Employees' Retirement Association

Stanislaus County Employees' Retirement Association

State of New Jersey Pension Fund

Teachers' Retirement System of Louisiana

Teachers' Retirement System of Kentucky

The Navajo Nation Retirement Plan

Vermont Pension Investment Committee

West Virginia Investment Management Board

November 2022

State Actions Regarding ESG Investing



States Propose Differing ESG Policies

Beginning in 2019, many statehouses started acting to either promote or restrict ESG considerations in the investment decision making process mostly relating to their views on fossil fuel and firearm/ammunitions companies.

Net Zero Pledge vs ESG Integration

- Many state bills are focused on large, publicly-traded banks that have pledged to reduce funding new fossil fuel projects in the United States (referred to as “financed emissions”). Most proposed legislation currently excludes asset management firms.
- The scope of these bills is limited to ceasing direct business with banks that have publicly committed to reducing or eliminating financing to fossil fuel companies. In the future, it is expected to include the divestment of these firms’ common stock in asset management accounts.
- In some states, new legislation or comments indicate that a consideration of ESG factors when managing state portfolios should be prohibited under the view that ESG integration is non-pecuniary and investment decision making should be limited to pecuniary interests alone.
- Several states have moved in the opposite direction and have frozen or divested holdings of fossil fuel companies within their portfolios and have memorialized the use of ESG factors in portfolio construction as a risk mitigant.
- Banks making public pledges to reach net zero greenhouse gas emissions can be easily identified. However, determining to what extent and with what intention integrating ESG factors in portfolio decisions is much less clear and open to interpretation.

History of Social Action Investing

1950 & 1960's: Electrical and Mine Workers started investing pension capital in affordable housing and health facilities.

1960s: Social unrest with Vietnam War protests caused businesses to start taking accountability for their actions as many firms were sued by share and stakeholders for their corporate decisions

- For example, Agent Orange, a chemical used by the United States military and produced by several US based chemical companies faced lawsuits that are on-going

1970s: American Economist Milton Friedman introduced his concept of Shareholder Theory which says that an entity's greatest responsibility lies in the satisfaction of the shareholders

- At that time, it was taken to mean that firms should maximize profits. Today, however, it is debated that the business strategy should include other considerations

1980s: The first coordinated ESG investing action as the United States Government restricted any additional investment in South Africa to end apartheid

1990s: The first Social Index was created to track sustainable investments in a market capitalization weighted methodology

2011: The concept of an ESG framework to standardize sustainability accounting and measurements across 77 industries was launched

2019: Social concerns are voiced regarding environmental impacts of the fossil fuel industry

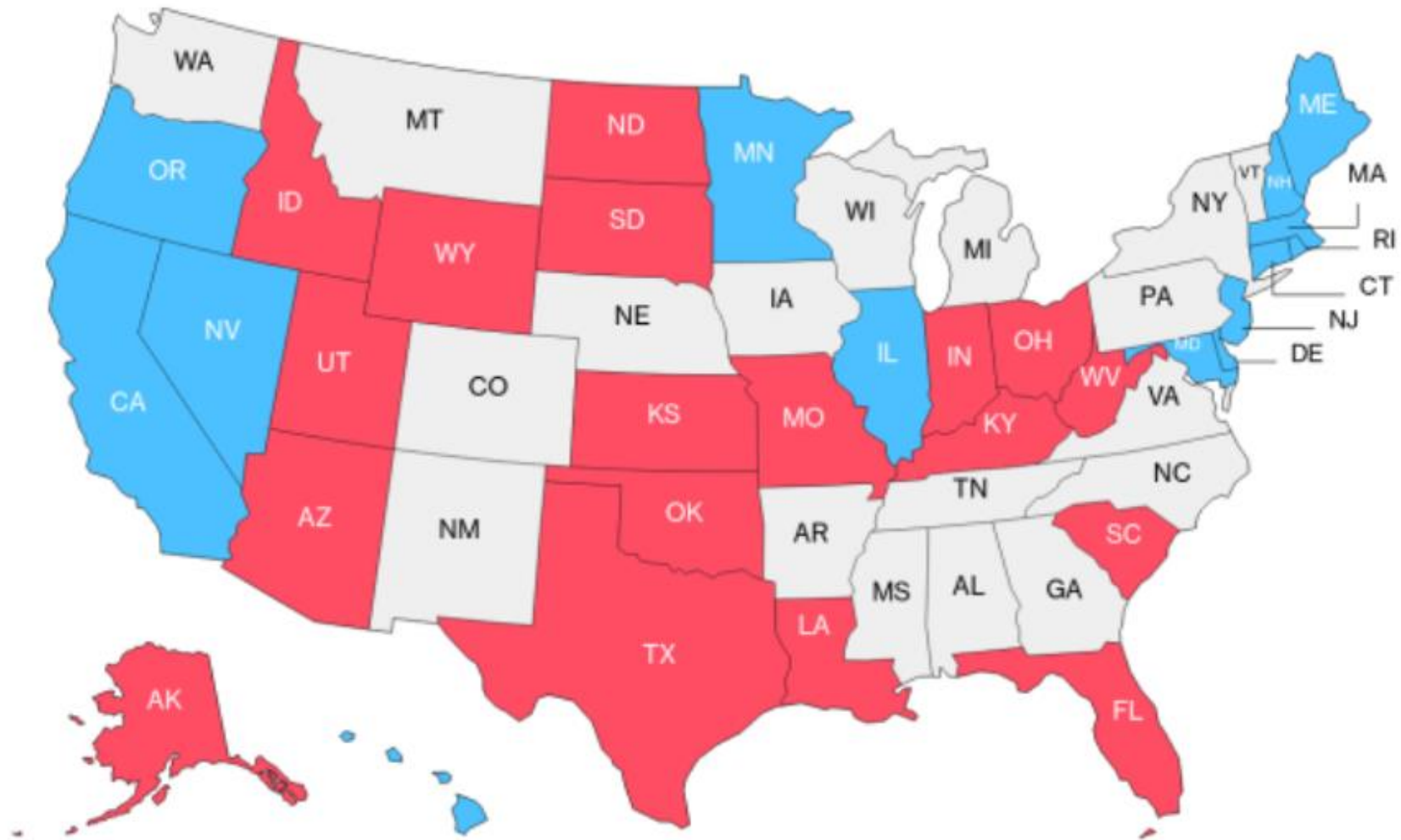
2020: The acceleration of ESG investing as social unrest and the COVID-19 pandemic brought economic disparities to the forefront and highlighted gaps in healthcare and systems

2021: Larry Fink, CEO of BlackRock, published his annual letter to the shareholders regarding BlackRock's ESG initiatives

2022: Texas becomes the first state to pass an anti-divestment law in support of fossil fuels

Legislatures that have implemented or are considering Actions Relating to ESG

■ Pro-ESG ■ No position ■ Anti-ESG



Source: Bloomberg Law analysis

Bloomberg Law



Examples of State Fossil Fuel Divestment Initiatives

Fossil Fuel Divestment Initiatives is the intentional act of moving one's money and investments out of the fossil fuel industry and invest in renewable energy and other environmentally-friendly initiatives. Examples include:

California

6/2022: *State Bill 1173: Public Retirement Systems/Fossil Fuels: Divestment* – [still in committee](#)

Prohibits investment in the 200 largest publicly traded fossil fuel companies as determined by the carbon content of the companies' reserves, applies to boards of Public Employees' Retirement System and State Teachers' Retirement System.

Illinois

1/2020: *PA 101-473: Illinois Sustainable Investing Act* – [passed](#)

Directs state and local government entities that manage public funds to consider materially relevant sustainability factors, including corporate governance and leadership, environmental, social capital, human capital, and business model and innovation factors.

New Jersey

1/2022: *S416 Prohibiting Investment of State Pension Funds in 200 Largest Publicly Traded Fossil Fuel Companies* – [still in committee](#)

Prohibits investment in the 200 largest publicly traded fossil fuel companies as determined by the carbon content of the companies' reserves.

New York

1/2022: *S4783A/A6331: Teachers' Fossil Fuel Divestment Act* – [still in committee](#)

Prohibits investment in coal producers and oil and gas producers. Requires divestment from coal producers within one year and from oil and gas producers within two years. Requires divestment within five years from private equity and private debt investments in restricted companies.

Vermont

3/2022: *S251: Divestment of State Pension Funds from Fossil Fuel Companies* – [still in committee](#)

Prohibits investment in the 200 largest publicly traded fossil fuel companies as determined by the carbon content of the companies' reserves.

Examples of State ESG Boycott Initiatives

Kentucky

5/2022: “ESG investment practices are inconsistent with Kentucky law governing fiduciary duties owed by investment management firms to public pension plans.”

4/2022: *State Bill 205: State Dealings with Companies that Engage in Energy Company Boycott* – *passed*

Requires divestment within one year from listed companies that do not cease restricted activities, requires Treasurer to maintain a list of financial companies that boycott fossil fuel companies. No list has been published to date and does not apply to indirect holdings in active or passive investment funds or private equity funds. Requires state agency to request fund managers remove listed companies from fund or create similar fund without listed companies.

Oklahoma

11/2022: *House Bill 2034: Energy Discrimination Elimination Act of 2022* – *passed*

Applies to all OK state retirement systems, requires divestment within one year from listed companies that do not cease restricted activities, requires Treasurer to maintain a list of financial companies that boycott fossil fuel companies. No list has been published to date and does not apply to indirect holdings in active or passive investment funds or private equity funds. Requires state agency to request fund managers remove listed companies from fund or create similar fund without listed companies.

Idaho

7/2022: *State Bill S1405: Disfavored State Investments* – *passed*

Prohibits public entities engaged in investment activities from considering ESG characteristics in a manner that could override the prudent investor rule. Allows ESG investments only if optional and sufficient alternatives are offered.

Texas

9/2021: *State Bill 13: Relating to State Contracts with and Investments in Certain Companies that Boycott Energy Companies* – *passed*

Applies to several Retirement Systems of Texas. Requires the Comptroller to maintain a list of financial companies that boycott energy companies and prohibits investments in listed companies. Does not apply to indirect holdings in active or passive investment funds or private equity funds. Requires state agency to request fund managers remove listed companies from fund or create similar fund without listed companies.

Actions taken by State Treasuries and Retirement Boards

States	Action	Dollar Amounts
<ul style="list-style-type: none"> Alabama Idaho Indiana Florida Kentucky 	Most states are still considering additional measures. Currently, they emphasized they will only consider the pecuniary nature of any investment	\$-.-
<ul style="list-style-type: none"> W. Virginia Idaho 	West Virginia barred state agencies from conducting business with the five major financial firms on the next page. Idaho is set to follow suit	\$ TBD
<ul style="list-style-type: none"> Texas 	<p>Compiled and published a list of 10 financial firms and 348 investment funds that governmental entities must eventually divest from. To-date no divestment has been completed</p> <ul style="list-style-type: none"> BlackRock was the only American firm listed 	\$-.-
<ul style="list-style-type: none"> Arkansas (Treasury) Louisiana (Treasury) Missouri (Pension) S. Carolina (Treasury) Utah (Treasury) 	Terminated their relationship with BlackRock. Approximately \$1.7 Billion	\$125 mil \$795 mil \$500 mil \$200 mil \$100 mil

Financial Firms Impacted by Proposed/Enacted Legislation

Name	Sample Pledge Language
BlackRock	<p><i>"...we (are) committed to supporting the goal of net zero greenhouse gas emissions by 2050 or sooner – and (have) announced a number of steps to help our clients navigate the transition."</i></p>
Goldman Sachs	<p><i>"...we have begun asking our clients to disclose more of their climate data. We now encourage companies we invest in to adopt the SASB and TCFD frameworks, and we are aspiring to integrate both into our investment process in our Asset Management business."</i></p>
JP Morgan	<p><i>"...we are measuring the emissions of our clients in key sectors of our financing portfolio (our "financed emissions") and are setting reduction targets for these sector portfolios that are Paris-aligned. To start, we have developed intermediate Paris-aligned targets to reduce the carbon intensity in our Oil & Gas, Electric Power and Auto Manufacturing portfolios by 2030."</i></p>
Morgan Stanley	<p><i>"...reducing greenhouse gas emissions in our lending portfolio by setting ambitious and achievable targets to reach net-zero emissions by 2050, which includes near-term goals. In September 2020, Morgan Stanley became the first major U.S.-headquartered financial services firm to commit to net-zero financed emissions by 2050."</i></p>
US Bancorp (Removed from West Virginia's List)	<p><i>"Financed emissions will be a focus for U.S. Bank, aligning its business with its environmental priorities. U.S. Bank will join PCAF, committing to measure and disclose financed emissions using PCAF standards. Aligning with PCAF standards will support U.S. Bank's efforts to calculate financed emissions, which is an important component for tracking progress toward the company's Net Zero commitment."</i></p>
Wells Fargo	<p><i>"...(we are) committed to aligning our activities to support the goals of the Paris Agreement and helping transition to a net-zero carbon economy. Our goal is to achieve net-zero greenhouse gas emissions by 2050, including financed emissions."</i></p>

OK Pension Funds' Exposure to BlackRock

State Retirement Funds, Sovereign Wealth Funds, Corporate Funds, Endowments & Foundations, and not-for-profit use the above-mentioned financial firm for institutional quality investments. Of the eight Oklahoma State Retirement Funds (OPERS) and the Uniform Retirement System for Justices and Judges (URSJJ) have the largest percentage of assets placed with BlackRock.

BlackRock is one of the largest asset managers and offers low-cost passive and active funds that are appropriately managed. As of June 30, 2022, OPERS and URSJJ's total investment with BlackRock was ~\$6.2 billion, or approximately 58% of combined assets. The passive investments started with Barclays in 2009 and, by RVK's manager research, are offered at attractive fees.

Based on OPERS and URSJJ's Q2 valuations, the estimated annual fee paid to BlackRock is \$2.0 million, representing a 49% discount to the standard fees RVK observes from competing providers.

However, this situation is unique and many plan sponsors have been successful in negotiating lower fees than the representative figures shown below.

Mandate	Active or Passive	Approx. Amount Invested* (\$)	Current Fee (bps)	Current Fee (\$)	Representative Fee (bps)	Representative Fee (\$)
Russell 1000 Value	Passive	318,000,000	0.75	23,850	2.00	63,600
Russell 1000 Index	Passive	1,812,000,000	0.75	135,900	2.00	362,400
Russell 2000 Index	Passive	21,000,000	1.00	2,100	2.50	5,250
ACWI ex-USA	Passive	1,721,000,000	2.50	430,250	8.00	1,376,800
ACWI ex-USA Growth	Passive	309,000,000	6.00	185,400	10.00	309,000
Enhanced Core FI	Active	1,626,000,000	8.075	1,312,995	11.00	1,788,600
TIPS	Passive	417,000,000	1.00	41,700	2.00	83,400
Current 15% Discount				-122,880		-
Total Fee				2,009,315		3,989,050

*Approximate amounts invested as of 6/30/2022.

Concluding Thoughts

ESG investing continues to trend within the plan sponsor community. The conversations include:

- ✓ Climate eclipsing governance and social issues at the top of the ESG agenda for institutional investors
- ✓ Large conglomerates pushing their suppliers to become net-emission zero
- ✓ Private companies are now being evaluated for their carbon-intensity
- ✓ States continue to discuss and plan their direction with ESG investing
 - ✓ Pennsylvania is discussing their views
 - ✓ Indiana's Attorney General Advisory Opinion is discussing a no-ESG investment position statement.

Through it all, renewable energy and investing is increasing across all the states

- Oklahoma is a leader in providing wind energy.
- Texas has a massive growing fleet of renewables.



Quarterly Investment Performance Analysis

Oklahoma State Pension Commission

Period Ended: September 30, 2022



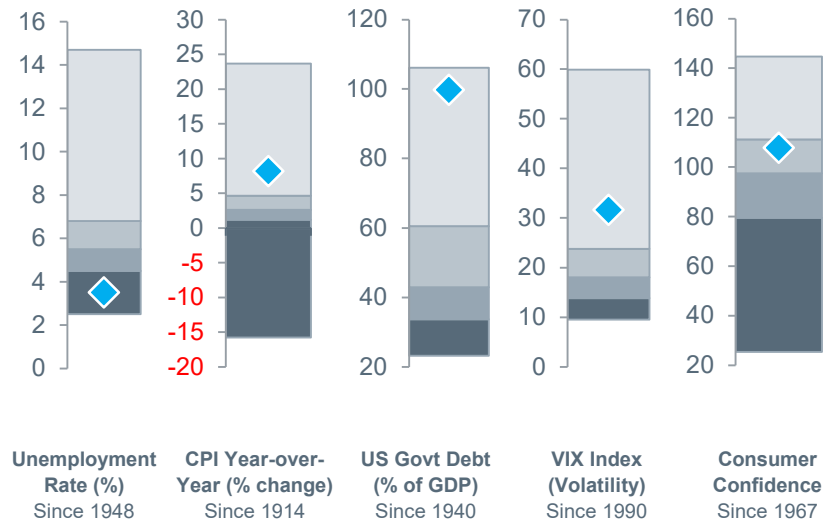
Capital Markets Metrics



Third Quarter Economic Environment

Investor sentiment and market movements continued to be driven by persistently high inflation levels and a corresponding tightening of monetary policy by most global central banks. Strong consumer demand, combined with supply chain disruptions and energy supply constraints caused by the war in Ukraine, exacerbated the difficulties for policymakers aiming to respond to inflation in an effective yet balanced manner. In its interim September 2022 economic outlook, OECD forecasted that headline inflation among G20 countries would finish 2022 above 8%—and only moderate to 6.6% in 2023. The OECD’s inflation forecasts remain elevated compared to historical levels despite actions by global central banks, including the FOMC. In September, the FOMC increased the federal funds rate to a range of 3.00%-3.25%, which represented a third consecutive 0.75 percentage point hike. Global GDP growth forecasts continued to moderate during the quarter. The OECD forecasted real global GDP growth of 3.0% in 2022 and 2.2% in 2023, representing sharp declines from its December 2021 forecasts of 4.5% and 3.2%, respectively. Overall, economic and inflation forecasts are being impacted by multiple factors. In particular, the ongoing war in Ukraine could lead to sudden shifts in conditions, as global economic impacts could follow modifications to sanctions regimes, changes to external military support, pending NATO membership applications, or extreme energy supply shortages in Europe.

Key Economic Indicators



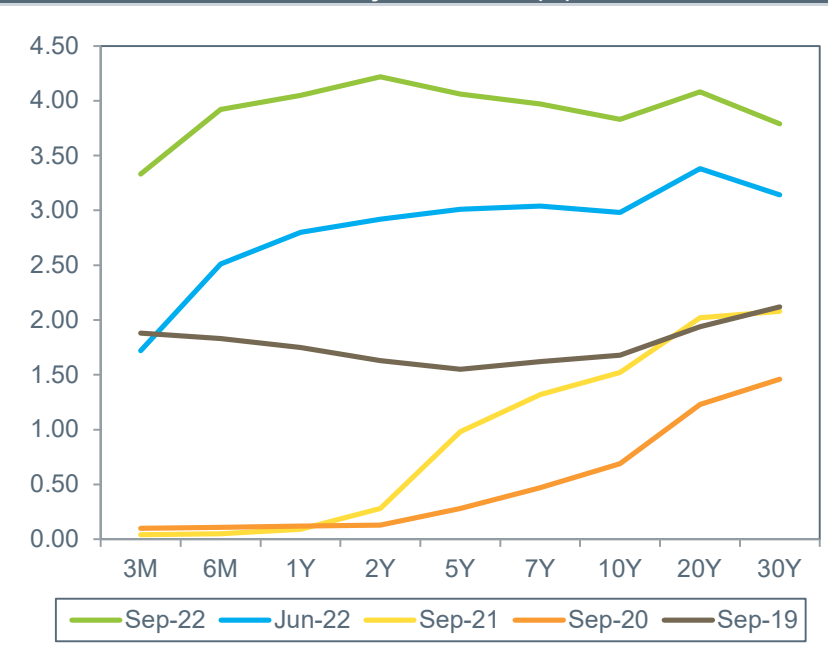
Economic Indicators

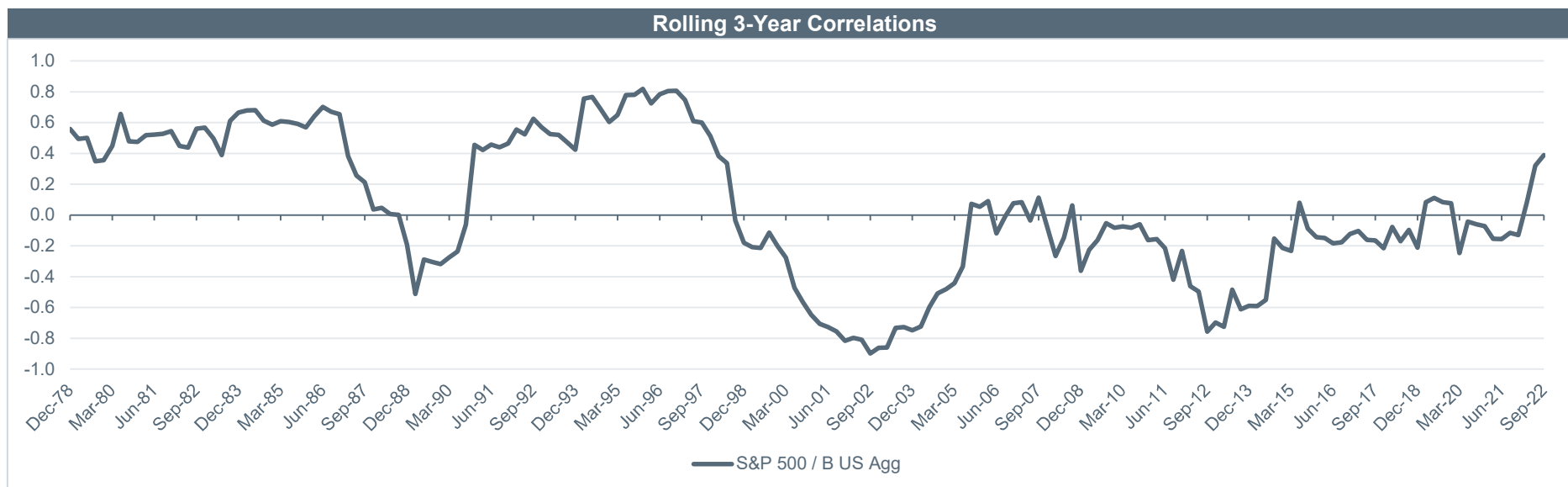
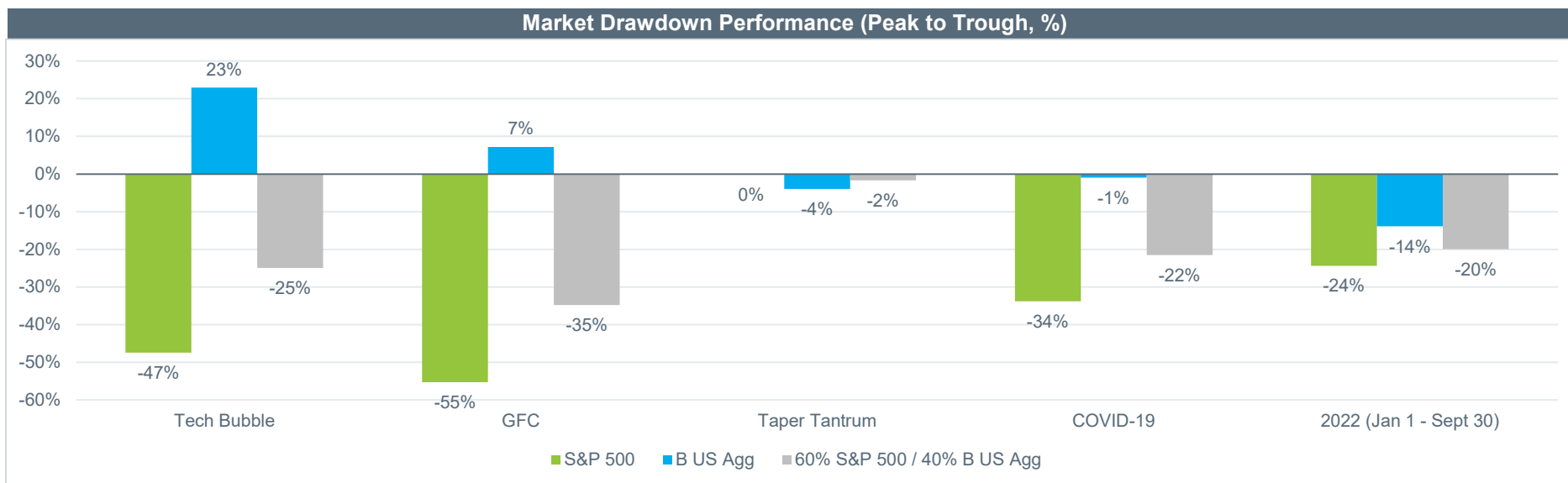
	Sep-22	Jun-22	Sep-21	Sep-19	20 Yr
Federal Funds Rate (%)	3.08 ▲	1.58	0.06	1.90	1.27
Breakeven Infl. - 5 Yr (%)	2.16 ▼	2.62	2.53	1.35	1.91
Breakeven Infl. - 10 Yr (%)	2.15 ▼	2.34	2.38	1.52	2.07
CPI YoY (Headline) (%)	8.2 ▼	9.1	5.4	1.7	2.4
Unemployment Rate (%)	3.5 ▼	3.6	4.7	3.5	6.0
Real GDP YoY (%)	1.8 =	1.8	5.0	2.3	2.0
PMI - Manufacturing	50.9 ▼	53.0	60.5	48.1	53.7
USD Total Wtd Idx	127.64 ▲	121.05	114.67	117.95	103.22
WTI Crude Oil per Barrel (\$)	79.5 ▼	105.8	75.0	54.1	67.2
Gold Spot per Oz (\$)	1,661 ▼	1,807	1,757	1,472	1,143

Market Performance (%)

	QTD	CYTD	1 Yr	5 Yr	10 Yr
S&P 500 (Cap Wtd)	-4.88	-23.87	-15.47	9.24	11.70
Russell 2000	-2.19	-25.10	-23.50	3.55	8.55
MSCI EAFE (Net)	-9.36	-27.09	-25.13	-0.84	3.67
MSCI EAFE SC (Net)	-9.83	-32.11	-32.06	-1.79	5.28
MSCI Emg Mkts (Net)	-11.57	-27.16	-28.11	-1.81	1.05
Bloomberg US Agg Bond	-4.75	-14.61	-14.60	-0.27	0.89
ICE BofAML 3 Mo US T-Bill	0.46	0.61	0.62	1.15	0.68
NCREIF ODCE (Gross)	0.52	13.08	22.09	10.24	10.92
FTSE NAREIT Eq REIT (TR)	-9.94	-28.13	-16.41	2.93	6.26
HFRI FOF Comp	-0.41	-6.97	-6.57	3.06	3.46
Bloomberg Cmdty (TR)	-4.11	13.57	11.80	6.96	-2.14

Treasury Yield Curve (%)





Source: FactSet

Drawdown performance shown is cumulative. 2022 drawdown returns use a start (peak) date of January 1, 2022 and will differ slightly from CYTD returns.

Correlation is calculated using quarterly periodicity.



Third Quarter Review

Broad Market

US equity markets continued elevated volatility in Q3. Following three consecutive calendar years with returns above 20.0%, the Russell 3000 Index has declined -24.6% year-to-date. Consumer discretionary and energy sectors provided investors with positive returns, while all other sectors were negative.

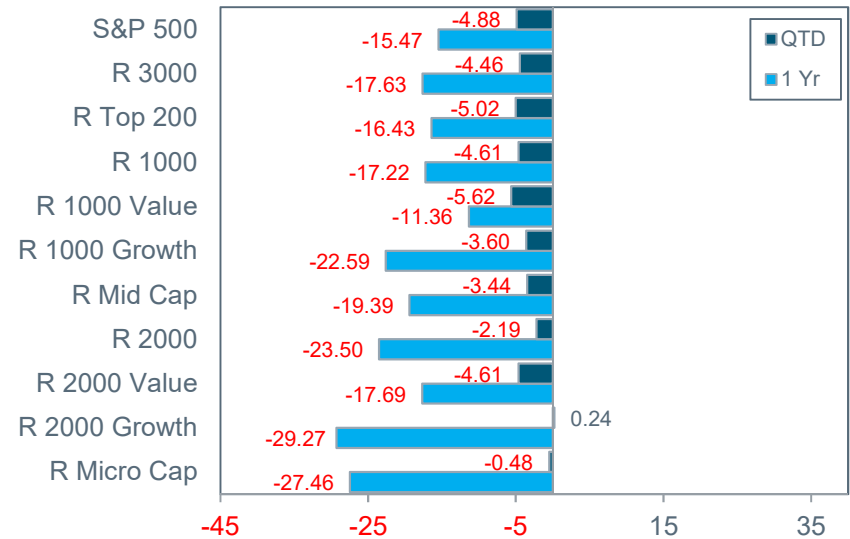
Market Cap

Large-cap stocks fell most sharply, followed by mid-cap stocks. The only exception was small-cap growth stocks, which had slightly positive returns. Overall, in a reversal of the style trend during the first half of the year, growth stocks outperformed value stocks during the quarter.

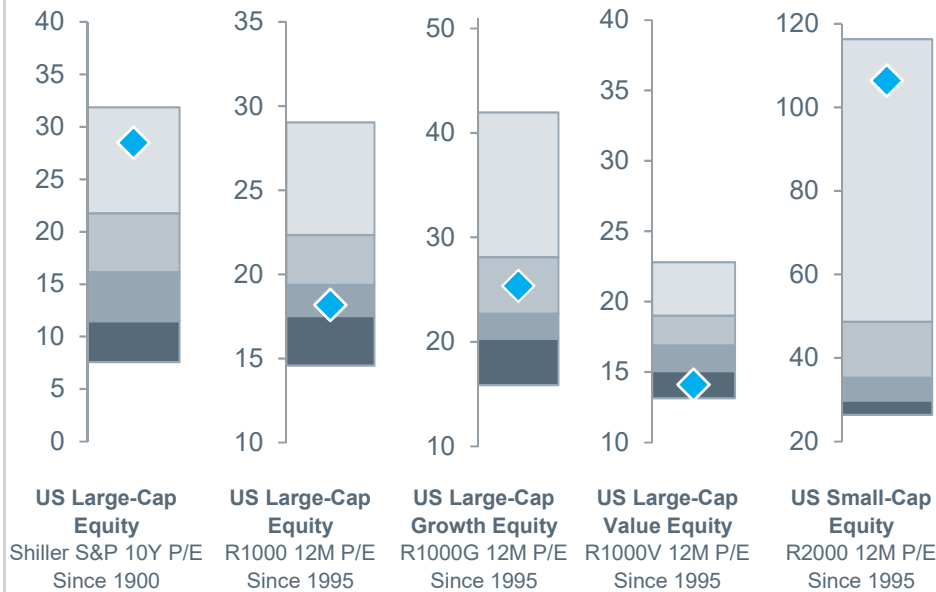
Style and Sector

Value-oriented managers had a higher success rate than core or growth managers, on average. Mid - and small-cap manager success rates versus their respective benchmarks have been higher than large-cap managers, especially among value-oriented managers.

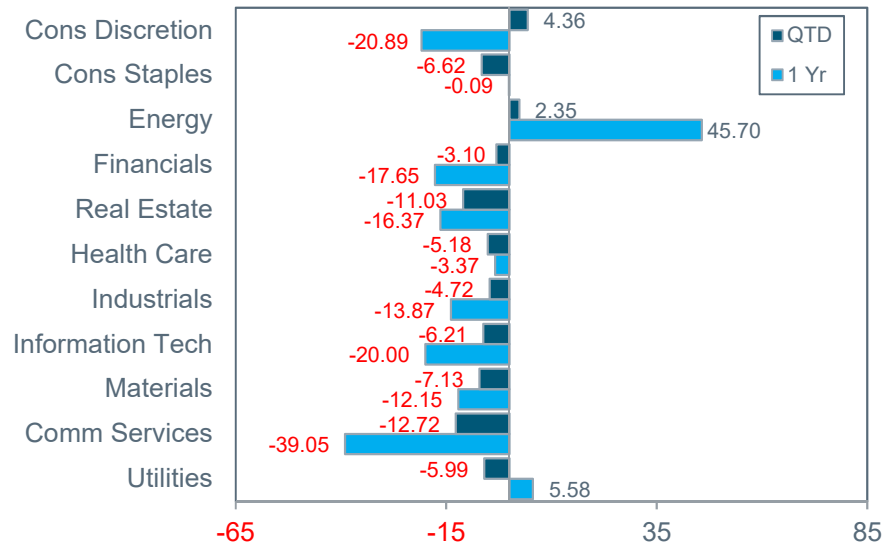
Style and Capitalization Market Performance (%)



Valuations



S&P 500 Index Sector Performance (%)



Valuation data courtesy of Bloomberg Professional Service and Robert J. Shiller, Irrational Exuberance, Second Edition. P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.



Third Quarter Review

Developed Markets

Developed international stocks significantly lagged domestic stocks during Q3. Developed international growth stocks outperformed value stocks, and small-cap stocks marginally trailed large-cap stocks. European stocks slightly trailed other developed regions, although the returns of individual European countries continued to vary widely. Countries with the closest energy ties to Russia, such as Germany, faced significant sentiment headwinds. Japan, which has been largely unaffected by energy supply disruptions, was a relative bright spot among the largest developed international countries.

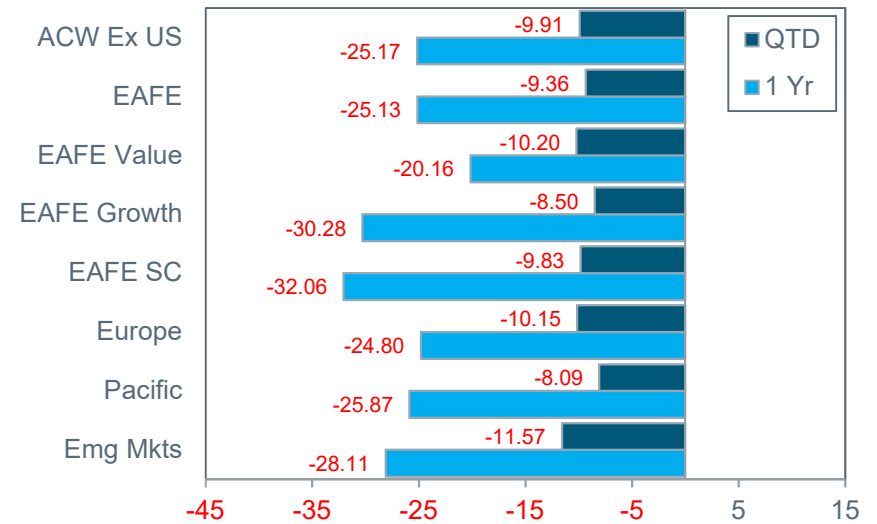
Emerging Markets

Emerging markets underperformed developed international markets in Q3 with the MSCI EM Index returning -11.57%. Nearly all emerging market countries experienced negative returns.

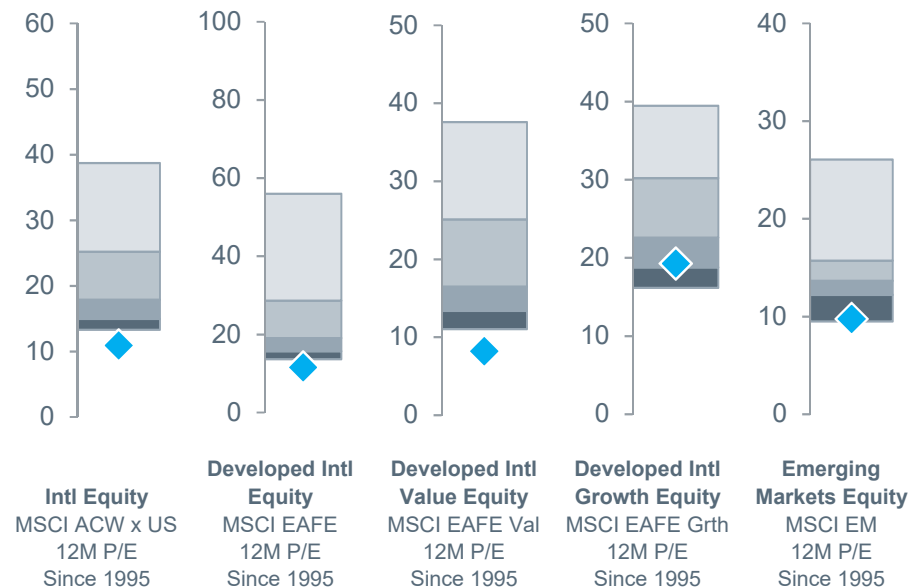
Market Cap & Style

In international markets, growth stocks outperformed value, while large-cap stocks trailed small by a wide margin.

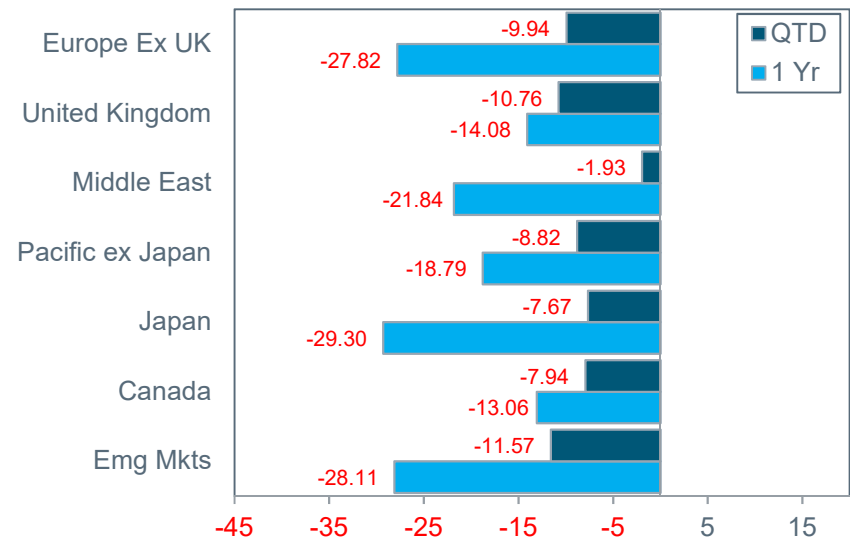
MSCI Style and Capitalization Market Performance (%)



Valuations



MSCI Region Performance (%)



Valuation data courtesy of Bloomberg Professional Service.

P/E metrics shown represent the 5th through 95th percentiles to minimize the effect of outliers.

All returns are shown net of foreign taxes on dividends.



Third Quarter Review

Broad Market

In Q3, the 10-year US Treasury yields rose 85 basis points from 2.98% to 3.83%. The Federal Reserve hiked the Federal Funds rate by 75 basis points twice during the quarter, as the FOMC continued to repond to inflationary pressures. The Bloomberg US Aggregate Bond Index ended Q3 with a return of -4.8%.

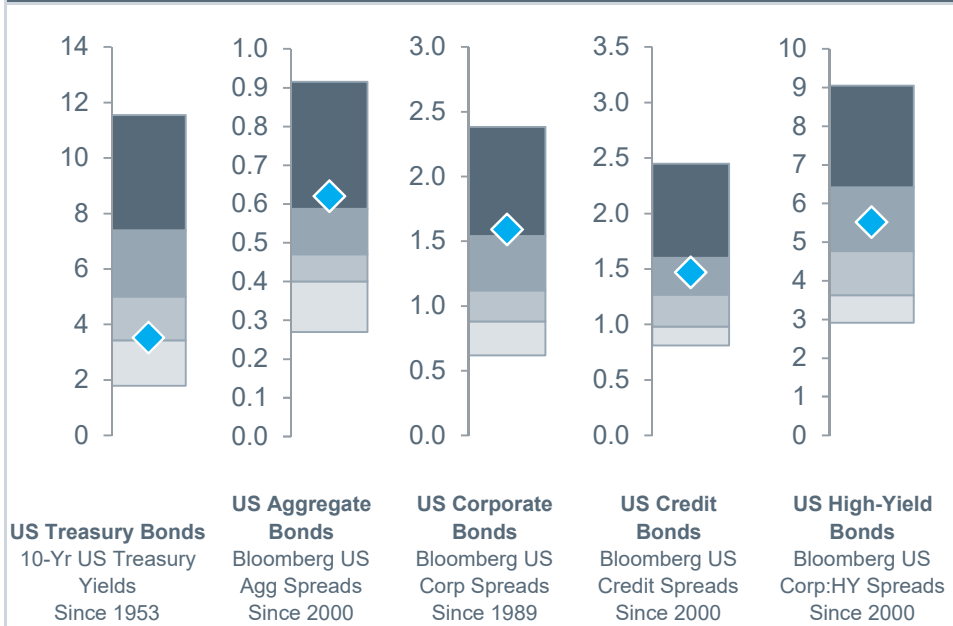
Credit Market

Investment grade underperformed both high yield and bank loans, which have relatively less interest rate sensitivity.

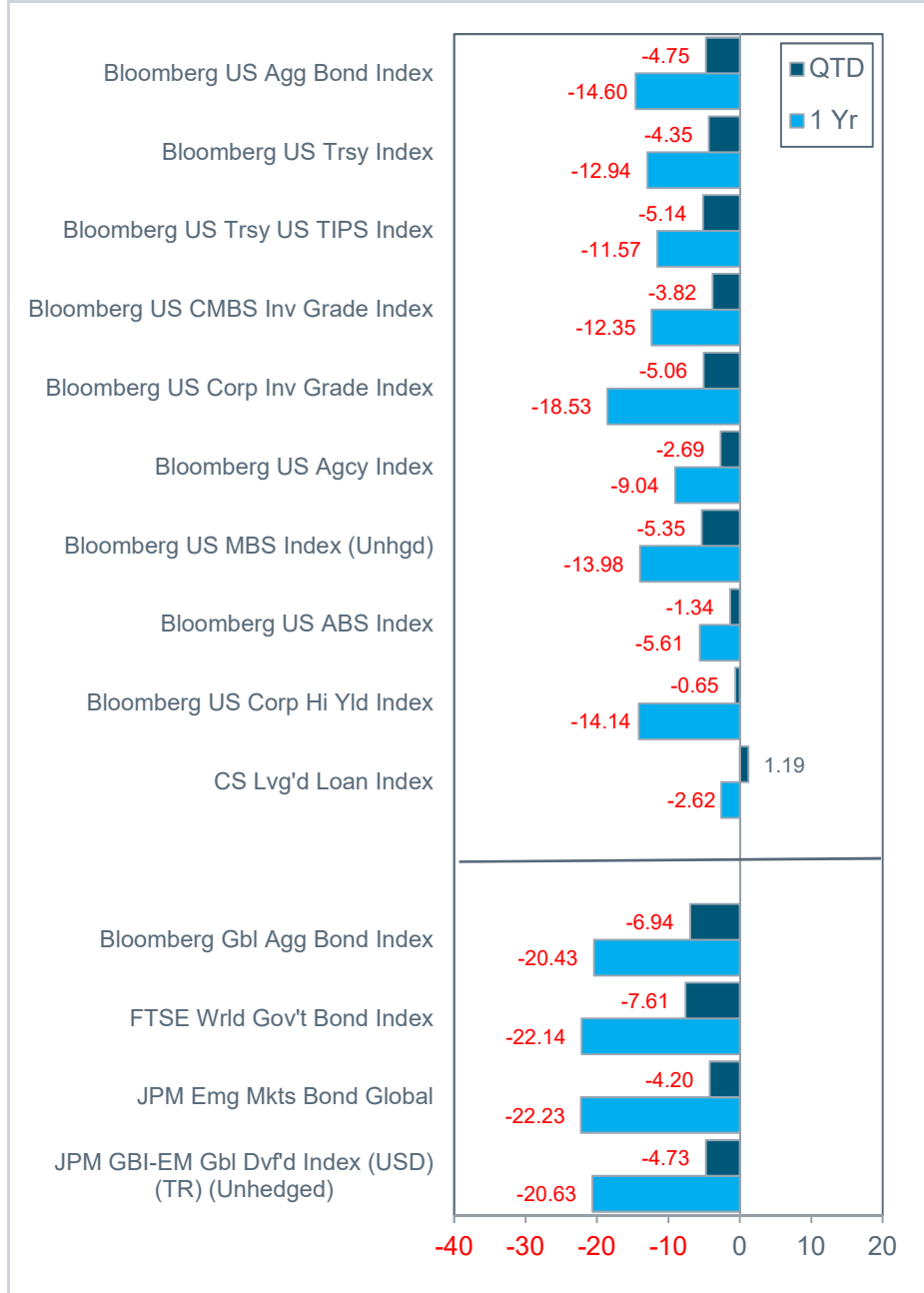
Emerging Market Debt

Emerging market debt continues to experience headwinds from the ongoing Russia-Ukraine war and US Dollar strength. Hard currency emerging market bonds declined -4.6%, while foreign developed market debt declined -10.0%, as measured by the JPM EMBI Global Diversified Index and the FTSE Non-US WGBI (Unhedged) Index, respectively.

Valuations



Fixed Income Performance (%)



Valuation data courtesy of Bloomberg Professional Service. Valuations shown represent the 5th through 95th percentiles to minimize the effect of outliers.



Third Quarter Review - Absolute Return

General Market - Hedge Funds

Dispersion continued to be the theme across hedge fund strategies during Q3. Consistent with the first six months of the year, Macro and Trend Following strategies produced positive results, taking advantage of continued upward trends in global interest rates and the US dollar. The HFRI Macro Index returned 1.7% in Q3, while the SG Trend Index rose 5.1%. For the year, Trend Followers are now up 35.6%, massively outperforming the rest of the hedge fund industry.

General Market - Global Tactical Asset Allocation (GTAA)

Global Tactical Asset Allocation (GTAA) strategies that RVK follows closely posted losses for the second consecutive quarter. Given US dollar strength and a relatively strong quarter for US equity compared to other risk asset classes, nearly all active managers providing broader diversification underperformed a US-centric blend of 60% equity and 40% fixed income. The top-performing long-biased GTAA strategies were those that have been including meaningful market neutral, idiosyncratic relative valuation exposures.

Third Quarter Review - Real Assets

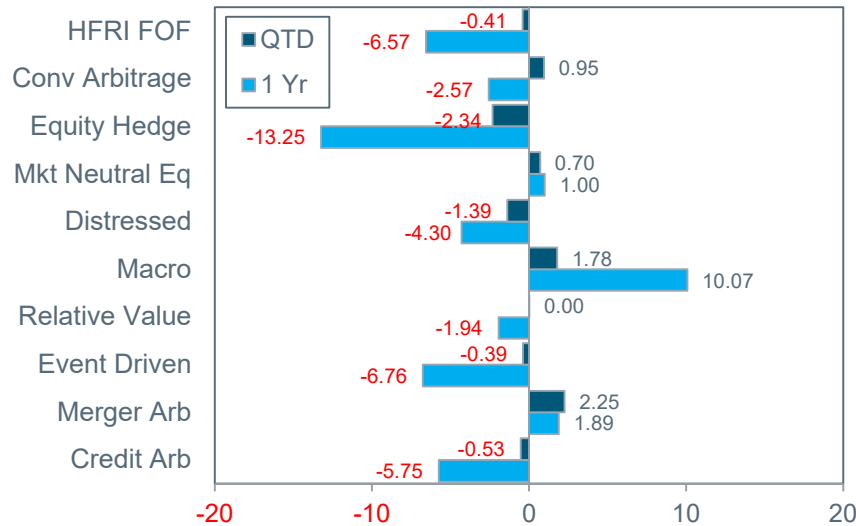
General Market - Diversified Inflation Strategies (DIS)

Despite headwinds that have affected nearly all asset classes, Diversified Inflation Strategies (DIS) tracked closely by RVK have outperformed a US-centric blend of 60% equity and 40% fixed income for the quarter and year. After responding positively to record inflationary pressures in Q1, DIS again posted losses for the second consecutive quarter ranging from the negative mid-single digits to negative low double digits.

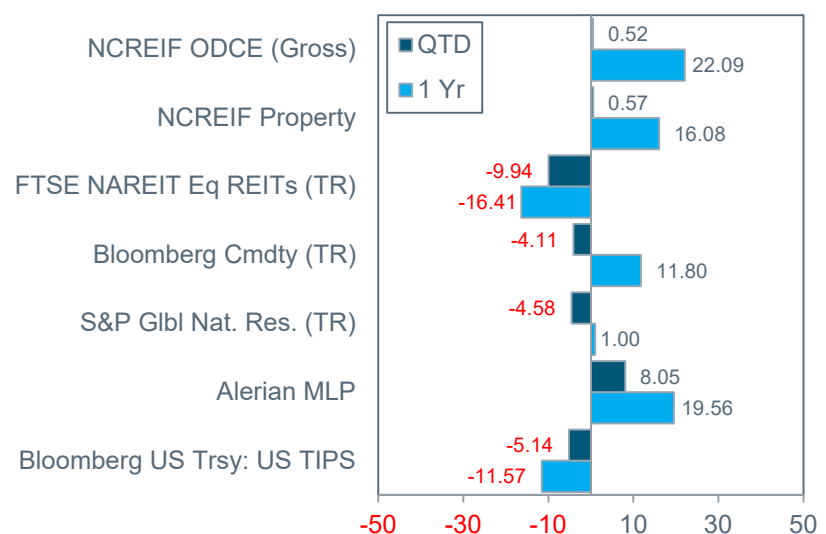
General Market - Real Estate

Core private real estate generated a positive 0.5% return in Q3 (on a preliminary and gross of fee basis), as reported by the NFI-ODCE Index, with a return contribution of 0.8% from income and -0.3% from price appreciation. The income return continues to trend at the lower end of historical levels while price appreciation turned negative. Investors of publicly traded real estate significantly underperformed their private market counterparts. Publicly traded real estate delivered a return of -11.2% in Q3, as measured by FTSE/NAREIT All REITs Index.

HFRI Hedge Fund Performance (%)



Real Asset Performance (%)



Annual Asset Class Performance

As of September 30, 2022

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	YTD
Best	8.44	78.51	27.94	22.49	20.00	38.82	30.14	15.02	21.31	37.28	8.35	31.49	19.96	43.24	13.57
	5.24	58.21	26.85	15.99	18.23	32.39	19.31	9.59	17.13	33.01	1.87	26.00	18.40	28.71	13.08
	2.06	46.78	22.04	13.56	18.06	29.30	13.69	3.20	11.96	25.03	0.01	25.53	18.31	27.11	0.61
	-2.35	31.78	18.88	8.29	17.32	22.78	12.50	1.38	11.77	21.83	-1.26	24.96	16.12	22.17	-6.97
	-10.01	28.01	16.83	7.84	16.35	13.94	5.97	0.55	11.19	14.65	-2.08	22.01	12.34	14.82	-13.61
	-21.37	27.17	16.36	4.98	16.00	8.96	4.89	0.05	8.77	10.71	-4.02	19.59	10.99	11.26	-14.61
	-26.16	26.46	15.12	2.11	15.81	7.44	3.64	-0.27	8.52	7.77	-4.38	18.42	10.88	10.10	-14.74
	-33.79	18.91	15.06	0.10	10.94	2.47	3.37	-0.81	6.67	7.62	-4.62	14.32	7.82	6.17	-23.87
	-35.65	11.47	10.16	-4.18	8.78	0.07	2.45	-1.44	4.68	7.50	-4.68	8.72	7.51	5.96	-25.10
	-37.00	11.41	7.75	-5.72	6.98	-2.02	0.04	-3.30	2.65	5.23	-11.01	8.43	7.11	5.28	-27.09
	-37.74	5.93	6.54	-12.14	4.79	-2.60	-2.19	-4.41	2.18	3.54	-11.25	8.39	1.19	0.05	-27.16
	-43.33	1.92	6.31	-13.32	4.21	-8.61	-4.90	-4.47	1.00	3.01	-13.73	7.69	0.67	-1.55	-28.13
	-47.01	0.21	5.70	-15.94	0.11	-8.83	-4.95	-14.92	0.51	1.70	-14.57	5.34	-3.12	-2.52	-28.94
Worst	-53.33	-29.76	0.13	-18.42	-1.06	-9.52	-17.01	-24.66	0.33	0.86	-17.89	2.28	-8.00	-2.54	-32.11
	S&P 500 - US Large Cap	R 2000 - US Small Cap	MSCI EAFE (Net) - Int'l Dev.	MSCI EAFE SC (Net) - Int'l SC	MSCI EM (Net) - Int'l Emg Mkts	Bloombrg US Agg Bond - FI	Bloombrg US Corp Hi Yield - FI	Bloombrg US Trsy US TIPS - FI	Bloombrg US Gov Credit Lng - FI	NCREIF ODCE (Gross) - Real Estate	FTSE NAREIT Eq REITs Index (TR)	HFRI FOF Comp Index - ARS	Bloombrg Cmdty (TR) - Commod.	ICE BofAML 3 Mo T-Bill - Cash Equiv	

NCREIF ODCE (Gross) performance is reported quarterly; performance is shown N/A in interim-quarter months.



Oklahoma State Pension Commission



Oklahoma State Pension Commission
 All Plans Summary
 Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Oklahoma State Pension Commission	35,455,530,842	100.00												
OTRS (Teachers) Total Fund	18,408,805,489	51.92	-5.00	-5.00	-18.60	-14.63	4.63	5.08	7.09	7.61	18.20	13.22	19.48	-5.29
OTRS Policy Index			-4.01	-4.01	-18.66	-14.46	4.97	5.46	7.36	7.38	15.60	15.24	21.72	-4.75
Difference			-0.99	-0.99	0.06	-0.17	-0.34	-0.38	-0.27	0.23	2.60	-2.02	-2.24	-0.54
OTRS Actual Allocation Index			-4.19	-4.19	-19.70	-15.49	4.82	5.12	7.06	7.47	16.21	16.98	18.94	-4.70
Difference			-0.81	-0.81	1.10	0.86	-0.19	-0.04	0.03	0.14	1.99	-3.76	0.54	-0.59
Actuarial Discount Rate (7.0%)			1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference			-6.71	-6.71	-23.81	-21.63	-2.37	-1.92	0.09	0.61	11.20	6.22	12.48	-12.29
OPERS (Public Employees) Total Fund	9,628,558,750	27.16	-6.41	-6.41	-22.73	-19.45	2.01	3.37	5.67	6.00	12.29	15.18	21.23	-6.57
OPERS Policy Index			-6.15	-6.15	-22.36	-19.10	1.89	3.44	5.81	5.96	11.54	15.19	21.46	-6.09
Difference			-0.26	-0.26	-0.37	-0.35	0.12	-0.07	-0.14	0.04	0.75	-0.01	-0.23	-0.48
OPERS Actual Allocation Index			-6.07	-6.07	-22.42	-19.09	3.13	4.01	6.18	6.28	12.14	18.93	20.87	-6.49
Difference			-0.34	-0.34	-0.31	-0.36	-1.12	-0.64	-0.51	-0.28	0.15	-3.75	0.36	-0.08
Actuarial Discount Rate (6.5%)			1.59	1.59	4.84	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference			-8.00	-8.00	-27.57	-25.95	-4.49	-3.13	-0.83	-0.50	5.79	8.68	14.73	-13.07
OFPRS (Firefighters)	3,086,169,724	8.70	-3.84	-3.84	-17.07	-13.77	5.49	6.15	7.81	8.08	13.46	17.97	19.77	-2.77
OFPRS Policy Index			-4.99	-4.99	-17.83	-13.19	5.24	6.07	7.86	8.11	17.66	13.85	21.76	-3.80
Difference			1.15	1.15	0.76	-0.58	0.25	0.08	-0.05	-0.03	-4.20	4.12	-1.99	1.03
OFPRS Actual Allocation Index			-4.74	-4.74	-17.01	-12.51	6.35	6.39	8.00	8.05	15.88	17.79	20.30	-3.93
Difference			0.90	0.90	-0.06	-1.26	-0.86	-0.24	-0.19	0.03	-2.42	0.18	-0.53	1.16
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			-5.66	-5.66	-22.64	-21.27	-2.01	-1.35	0.31	0.58	5.96	10.47	12.27	-10.27
OPPRS (Police) Total Fund	2,878,507,551	8.12	-3.78	-3.78	-12.89	-9.20	6.36	5.75	6.71	6.75	17.28	12.17	15.22	-2.85
OPPRS Policy Index			-5.12	-5.12	-18.22	-13.67	3.90	4.44	6.11	5.93	15.19	12.66	19.13	-5.34
Difference			1.34	1.34	5.33	4.47	2.46	1.31	0.60	0.82	2.09	-0.49	-3.91	2.49
OPPRS Actual Allocation Index			-4.96	-4.96	-18.09	-13.62	4.05	4.29	5.68	5.84	14.36	14.67	15.02	-3.70
Difference			1.18	1.18	5.20	4.42	2.31	1.46	1.03	0.91	2.92	-2.50	0.20	0.85
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			-5.60	-5.60	-18.46	-16.70	-1.14	-1.75	-0.79	-0.75	9.78	4.67	7.72	-10.35

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



All Plans Summary

Asset Allocation & Performance - Net of Fees

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
OLERS (Law Enforcement) Total Fund	1,009,667,473	2.85	-4.63	-4.63	-18.08	-14.97	3.64	3.88	5.59	5.94	14.56	12.26	17.44	-5.30
OLERS Policy Index			-4.72	-4.72	-17.78	-13.19	4.25	4.89	6.56	6.91	15.57	12.77	19.12	-3.67
Difference			0.09	0.09	-0.30	-1.78	-0.61	-1.01	-0.97	-0.97	-1.01	-0.51	-1.68	-1.63
OLERS Actual Allocation Index			-4.59	-4.59	-18.52	-14.26	6.29	5.99	7.36	7.17	14.97	21.57	17.33	-3.47
Difference			-0.04	-0.04	0.44	-0.71	-2.65	-2.11	-1.77	-1.23	-0.41	-9.31	0.11	-1.83
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			-6.45	-6.45	-23.65	-22.47	-3.86	-3.62	-1.91	-1.56	7.06	4.76	9.94	-12.80
URSJJ (Judges) Total Fund	331,829,855	0.94	-6.11	-6.11	-22.60	-19.31	1.91	3.38	5.73	5.96	12.08	15.06	21.36	-6.43
URSJJ Policy Index			-6.15	-6.15	-22.36	-19.10	1.91	3.45	5.82	5.97	11.54	15.19	21.51	-6.09
Difference			0.04	0.04	-0.24	-0.21	0.00	-0.07	-0.09	-0.01	0.54	-0.13	-0.15	-0.34
URSJJ Actual Allocation Index			-6.11	-6.11	-22.45	-19.14	3.05	3.98	6.12	6.19	12.10	18.70	21.01	-6.52
Difference			0.00	0.00	-0.15	-0.17	-1.14	-0.60	-0.39	-0.23	-0.02	-3.64	0.35	0.09
Actuarial Discount Rate (6.5%)			1.59	1.59	4.84	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference			-7.70	-7.70	-27.44	-25.81	-4.59	-3.12	-0.77	-0.54	5.58	8.56	14.86	-12.93
OWCRS (Wildlife) Total Fund	111,991,999	0.32	-5.18	-5.18	-19.76	-16.50	1.95	3.78	5.36	5.74	11.58	13.00	19.21	-3.85
OWCRS Policy Index			-4.20	-4.20	-20.18	-17.22	1.25	2.67	4.67	4.97	10.35	12.67	17.53	-4.95
Difference			-0.98	-0.98	0.42	0.72	0.70	1.11	0.69	0.77	1.23	0.33	1.68	1.10
OWCRS Actual Allocation Index			-4.35	-4.35	-19.77	-17.16	1.84	3.81	5.79	5.91	10.43	13.21	20.53	-3.71
Difference			-0.83	-0.83	0.01	0.66	0.11	-0.03	-0.43	-0.17	1.15	-0.21	-1.32	-0.14
Actuarial Discount Rate (7.0%)			1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference			-6.89	-6.89	-24.97	-23.50	-5.05	-3.22	-1.64	-1.26	4.58	6.00	12.21	-10.85

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 All Plans Summary
 Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Oklahoma State Pension Commission	35,455,530,842	100.00												
All Public Plans-Total Fund Median			-4.37	-4.37	-17.47	-13.88	3.92	4.78	6.56	6.81	14.01	12.54	18.57	-4.03
OTRS (Teachers) Total Fund	18,408,805,489	51.92	-4.96	-4.96	-18.47	-14.46	4.85	5.35	7.40	7.98	18.42	13.45	19.83	-4.98
OTRS Policy Index			-4.01	-4.01	-18.66	-14.46	4.97	5.46	7.36	7.38	15.60	15.24	21.72	-4.75
Difference			-0.95	-0.95	0.19	0.00	-0.12	-0.11	0.04	0.60	2.82	-1.79	-1.89	-0.23
OTRS Actual Allocation Index			-4.19	-4.19	-19.70	-15.49	4.82	5.12	7.06	7.47	16.21	16.98	18.94	-4.70
Difference			-0.77	-0.77	1.23	1.03	0.03	0.23	0.34	0.51	2.21	-3.53	0.89	-0.28
Actuarial Discount Rate (7.0%)			1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference			-6.67	-6.67	-23.68	-21.46	-2.15	-1.65	0.40	0.98	11.42	6.45	12.83	-11.98
Rank			73	73	61	55	29	34	21	10	9	38	31	73
OPERS (Public Employees) Total Fund	9,628,558,750	27.16	-6.39	-6.39	-22.68	-19.33	2.14	3.49	5.80	6.13	12.46	15.34	21.38	-6.48
OPERS Policy Index			-6.15	-6.15	-22.36	-19.10	1.89	3.44	5.81	5.96	11.54	15.19	21.46	-6.09
Difference			-0.24	-0.24	-0.32	-0.23	0.25	0.05	-0.01	0.17	0.92	0.15	-0.08	-0.39
OPERS Actual Allocation Index			-6.07	-6.07	-22.42	-19.09	3.13	4.01	6.18	6.28	12.14	18.93	20.87	-6.49
Difference			-0.32	-0.32	-0.26	-0.24	-0.99	-0.52	-0.38	-0.15	0.32	-3.59	0.51	0.01
Actuarial Discount Rate (6.5%)			1.59	1.59	4.84	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference			-7.98	-7.98	-27.52	-25.83	-4.36	-3.01	-0.70	-0.37	5.96	8.84	14.88	-12.98
Rank			98	98	98	98	85	85	79	73	72	19	11	94
OFPRS (Firefighters) Total Fund	3,086,169,724	8.70	-3.74	-3.74	-16.83	-13.45	5.88	6.53	8.18	8.44	13.87	18.44	20.15	-2.46
OFPRS Policy Index			-4.99	-4.99	-17.83	-13.19	5.24	6.07	7.86	8.11	17.66	13.85	21.76	-3.80
Difference			1.25	1.25	1.00	-0.26	0.64	0.46	0.32	0.33	-3.79	4.59	-1.61	1.34
OFPRS Actual Allocation Index			-4.74	-4.74	-17.01	-12.51	6.35	6.39	8.00	8.05	15.88	17.79	20.30	-3.93
Difference			1.00	1.00	0.18	-0.94	-0.47	0.14	0.18	0.39	-2.01	0.65	-0.15	1.47
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			-5.56	-5.56	-22.40	-20.95	-1.62	-0.97	0.68	0.94	6.37	10.94	12.65	-9.96
Rank			26	26	43	46	17	10	6	4	53	5	26	19

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



All Plans Summary

Asset Allocation & Performance - Gross of Fees

	Allocation		Performance (%)											
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
OPPRS (Police) Total Fund	2,878,507,551	8.12	-3.69	-3.69	-12.56	-8.76	6.77	6.18	7.14	7.19	17.71	12.54	15.68	-2.46
OPPRS Policy Index			-5.12	-5.12	-18.22	-13.67	3.90	4.44	6.11	5.93	15.19	12.66	19.13	-5.34
Difference			1.43	1.43	5.66	4.91	2.87	1.74	1.03	1.26	2.52	-0.12	-3.45	2.88
OPPRS Actual Allocation Index			-4.96	-4.96	-18.09	-13.62	4.05	4.29	5.68	5.84	14.36	14.67	15.02	-3.70
Difference			1.27	1.27	5.53	4.86	2.72	1.89	1.46	1.35	3.35	-2.13	0.66	1.24
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			-5.51	-5.51	-18.13	-16.26	-0.73	-1.32	-0.36	-0.31	10.21	5.04	8.18	-9.96
Rank			24	24	14	15	8	15	29	32	13	50	85	19
OLERS (Law Enforcement) Total Fund	1,009,667,473	2.85	-4.53	-4.53	-17.81	-14.61	4.10	4.39	6.13	6.48	15.04	12.80	18.07	-4.76
OLERS Policy Index			-4.72	-4.72	-17.78	-13.19	4.25	4.89	6.56	6.91	15.57	12.77	19.12	-3.67
Difference			0.19	0.19	-0.03	-1.42	-0.15	-0.50	-0.43	-0.43	-0.53	0.03	-1.05	-1.09
OLERS Actual Allocation Index			-4.59	-4.59	-18.52	-14.26	6.29	5.99	7.36	7.17	14.97	21.57	17.33	-3.47
Difference			0.06	0.06	0.71	-0.35	-2.19	-1.60	-1.23	-0.69	0.07	-8.77	0.74	-1.29
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference			-6.35	-6.35	-23.38	-22.11	-3.40	-3.11	-1.37	-1.02	7.54	5.30	10.57	-12.26
Rank			56	56	53	57	47	67	69	63	35	47	57	67
URSJJ (Judges) Total Fund	331,829,855	0.94	-6.11	-6.11	-22.58	-19.28	1.95	3.42	5.77	6.00	12.12	15.10	21.40	-6.38
URSJJ Policy Index			-6.15	-6.15	-22.36	-19.10	1.91	3.45	5.82	5.97	11.54	15.19	21.51	-6.09
Difference			0.04	0.04	-0.22	-0.18	0.04	-0.03	-0.05	0.03	0.58	-0.09	-0.11	-0.29
URSJJ Actual Allocation Index			-6.11	-6.11	-22.45	-19.14	3.05	3.98	6.12	6.19	12.10	18.70	21.01	-6.52
Difference			0.00	0.00	-0.13	-0.14	-1.10	-0.56	-0.35	-0.19	0.02	-3.60	0.39	0.14
Actuarial Discount Rate (6.5%)			1.59	1.59	4.84	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference			-7.70	-7.70	-27.42	-25.78	-4.55	-3.08	-0.73	-0.50	5.62	8.60	14.90	-12.88
Rank			96	96	98	98	87	86	80	77	77	22	11	92
OWCRS (Wildlife) Total Fund	111,991,999	0.32	-5.09	-5.09	-19.55	-16.22	2.26	4.06	5.61	5.98	11.95	13.34	19.46	-3.68
OWCRS Policy Index			-4.20	-4.20	-20.18	-17.22	1.25	2.67	4.67	4.97	10.35	12.67	17.53	-4.95
Difference			-0.89	-0.89	0.63	1.00	1.01	1.39	0.94	1.01	1.60	0.67	1.93	1.27
OWCRS Actual Allocation Index			-4.35	-4.35	-19.77	-17.16	1.84	3.81	5.79	5.91	10.43	13.21	20.53	-3.71
Difference			-0.74	-0.74	0.22	0.94	0.42	0.25	-0.18	0.07	1.52	0.13	-1.07	0.03
Actuarial Discount Rate (7.0%)			1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference			-6.80	-6.80	-24.76	-23.22	-4.74	-2.94	-1.39	-1.02	4.95	6.34	12.46	-10.68
Rank			77	77	74	77	84	75	82	78	79	39	37	43

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
US Equity												
OTRS US Equity	-5.20	-5.20	-23.57	-17.39	5.59	6.35	9.08	10.43	24.40	15.40	27.64	-8.27
Russell 3000 Index	-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	25.66	20.89	31.02	-5.24
Difference	-0.74	-0.74	1.05	0.24	-2.11	-2.27	-1.82	-0.96	-1.26	-5.49	-3.38	-3.03
OPERS US Equity	-4.56	-4.56	-23.93	-17.15	7.95	8.22	10.55	11.21	25.96	20.37	29.26	-6.45
OPERS US Equity Custom Index	-4.25	-4.25	-24.64	-18.16	7.47	8.23	10.66	11.20	24.73	20.97	30.56	-5.70
Difference	-0.31	-0.31	0.71	1.01	0.48	-0.01	-0.11	0.01	1.23	-0.60	-1.30	-0.75
OPPRS US Equity	-3.83	-3.83	-25.91	-21.52	6.48	7.89	10.22	10.92	19.50	25.45	31.05	-5.21
Wilshire 5000 Index	-4.45	-4.45	-24.41	-17.17	8.07	8.85	11.15	11.53	26.70	20.82	31.02	-5.27
Difference	0.62	0.62	-1.50	-4.35	-1.59	-0.96	-0.93	-0.61	-7.20	4.63	0.03	0.06
OLERS US Equity	-4.47	-4.47	-26.52	-21.55	6.52	6.91	9.52	10.39	25.49	19.46	32.12	-9.02
S&P 500 Index (Cap Wtd)	-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	28.71	18.40	31.49	-4.38
Difference	0.41	0.41	-2.65	-6.08	-1.64	-2.33	-1.88	-1.31	-3.22	1.06	0.63	-4.64
URSJJ US Equity	-4.20	-4.20	-24.64	-18.14	7.48	8.19	10.64	11.18	24.69	21.02	30.49	-5.83
URSJJ US Equity Custom Index	-4.25	-4.25	-24.64	-18.16	7.47	8.23	10.66	11.20	24.73	20.97	30.56	-5.70
Difference	0.05	0.05	0.00	0.02	0.01	-0.04	-0.02	-0.02	-0.04	0.05	-0.07	-0.13
OWCRS US Equity	-4.27	-4.27	-22.72	-15.45	7.83	8.71	10.52	11.38	26.38	18.87	28.92	-5.64
Russell 3000 Index	-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	25.66	20.89	31.02	-5.24
Difference	0.19	0.19	1.90	2.18	0.13	0.09	-0.38	-0.01	0.72	-2.02	-2.10	-0.40

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
International Equity												
OTRS International Equity	-11.05	-11.05	-30.98	-29.07	-1.44	-1.33	2.71	3.66	11.24	12.13	21.38	-16.32
MSCI ACW Ex US IM Index (USD) (Net)	-9.69	-9.69	-26.92	-25.72	-1.27	-0.78	3.38	3.19	8.53	11.12	21.63	-14.76
Difference	-1.36	-1.36	-3.16	-3.35	-0.17	-0.55	-0.67	0.47	2.71	1.01	-0.25	-1.56
OPERS International Equity	-10.57	-10.57	-27.88	-26.83	-1.65	-0.71	3.38	3.28	6.98	12.30	23.21	-13.81
MSCI ACW Ex US Index (USD) (Gross)	-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	8.29	11.13	22.13	-13.78
Difference	-0.77	-0.77	-1.70	-2.04	-0.58	-0.37	-0.40	-0.20	-1.31	1.17	1.08	-0.03
OFPRS International Equity	-6.99	-6.99	-28.25	-27.21	3.12	3.11	6.96	5.50	7.00	31.77	26.48	-13.83
MSCI ACW Ex US Index (USD) (Net)	-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	7.82	10.65	21.51	-14.20
Difference	2.92	2.92	-1.75	-2.04	4.64	3.92	3.67	2.49	-0.82	21.12	4.97	0.37
OLERS International Equity	-10.81	-10.81	-28.52	-27.84	-1.67	-0.82	3.17	2.69	7.51	12.49	23.70	-14.62
MSCI ACW Ex US Index (USD) (Net)	-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	7.82	10.65	21.51	-14.20
Difference	-0.90	-0.90	-2.02	-2.67	-0.15	-0.01	-0.12	-0.32	-0.31	1.84	2.19	-0.42
URSJJ International Equity	-9.86	-9.86	-26.27	-24.90	-1.27	-0.56	3.56	3.26	8.06	10.86	21.83	-13.97
MSCI ACW Ex US Index (USD) (Gross)	-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	8.29	11.13	22.13	-13.78
Difference	-0.06	-0.06	-0.09	-0.11	-0.20	-0.22	-0.22	-0.22	-0.23	-0.27	-0.30	-0.19
OWCRS International Equity	-9.92	-9.92	-26.88	-26.45	-2.17	-1.32	3.28	3.27	5.57	10.17	23.05	-13.82
MSCI ACW Ex US Index (USD) (Net)	-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	7.82	10.65	21.51	-14.20
Difference	-0.01	-0.01	-0.38	-1.28	-0.65	-0.51	-0.01	0.26	-2.25	-0.48	1.54	0.38
Total Equity												
OPPRS Total Equity	-4.96	-4.96	-18.91	-14.76	8.47	7.40	8.79	8.85	23.58	18.46	21.98	-5.24
MSCI ACW Index (USD) (Gross)	-6.71	-6.71	-25.34	-20.29	4.23	4.96	7.98	7.84	19.04	16.82	27.30	-8.93
Difference	1.75	1.75	6.43	5.53	4.24	2.44	0.81	1.01	4.54	1.64	-5.32	3.69

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Fixed Income												
OTRS Fixed Income	-4.59	-4.59	-18.16	-17.57	-2.84	0.42	1.94	2.14	0.05	11.91	11.84	-1.44
Bloomberg US Unv Bond Index	-4.45	-4.45	-14.90	-14.92	-3.11	-0.18	0.86	1.17	-1.10	7.58	9.29	-0.25
Difference	-0.14	-0.14	-3.26	-2.65	0.27	0.60	1.08	0.97	1.15	4.33	2.55	-1.19
OPERS Fixed Income	-5.38	-5.38	-16.62	-16.14	-3.04	0.23	0.99	1.23	-0.82	10.54	10.12	-0.33
OPERS Fixed Income Custom Index	-5.47	-5.47	-16.33	-15.75	-3.41	-0.15	0.66	0.90	-1.01	9.08	9.43	-0.33
Difference	0.09	0.09	-0.29	-0.39	0.37	0.38	0.33	0.33	0.19	1.46	0.69	0.00
OFPRS Fixed Income	-6.49	-6.49	-17.61	-17.92	-4.29	-2.06	-0.11	0.26	-2.93	8.25	6.97	-2.67
Bloomberg US Agg Bond Index	-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	0.01
Difference	-1.74	-1.74	-3.00	-3.32	-1.03	-1.79	-0.65	-0.63	-1.38	0.74	-1.75	-2.68
OPPRS Fixed Income	-3.29	-3.29	-11.29	-11.42	-1.13	0.69	1.53	N/A	1.28	6.63	7.24	-0.21
Bloomberg US Agg Bond Index	-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	0.01
Difference	1.46	1.46	3.32	3.18	2.13	0.96	0.99	N/A	2.83	-0.88	-1.48	-0.22
OLERS Fixed Income	-4.53	-4.53	-15.05	-15.09	-4.04	-1.40	0.21	0.51	-1.91	5.47	6.01	0.14
Bloomberg US Agg Bond Index	-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	0.01
Difference	0.22	0.22	-0.44	-0.49	-0.78	-1.13	-0.33	-0.38	-0.36	-2.04	-2.71	0.13
URSJJ Fixed Income	-5.41	-5.41	-16.64	-16.15	-3.08	0.20	0.95	1.18	-0.92	10.58	10.06	-0.32
URSJJ Fixed Income Custom Index	-5.47	-5.47	-16.33	-15.75	-3.41	-0.15	0.66	0.90	-1.01	9.08	9.43	-0.33
Difference	0.06	0.06	-0.31	-0.40	0.33	0.35	0.29	0.28	0.09	1.50	0.63	0.01
OWCRS Fixed Income	-3.99	-3.99	-13.89	-14.01	-2.48	0.29	0.62	0.91	-0.41	8.29	7.94	0.76
Bloomberg US Agg Bond Index	-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	0.01
Difference	0.76	0.76	0.72	0.59	0.78	0.56	0.08	0.02	1.14	0.78	-0.78	0.75

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of September 30, 2022

	Performance (%)										2021	2020	2019	2018
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years						
Real Estate														
OTRS Real Estate	2.75	2.75	16.94	23.16	8.59	7.90	8.28	N/A	11.65	-2.48	5.59	7.43		
NCREIF Property Index	0.57	0.57	9.35	16.08	9.91	8.62	8.45	9.48	17.70	1.60	6.42	6.72		
Difference	2.18	2.18	7.59	7.08	-1.32	-0.72	-0.17	N/A	-6.05	-4.08	-0.83	0.71		
NCREIF ODCE Index (AWA) (Net)	0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	21.02	0.34	4.39	7.36		
Difference	2.44	2.44	4.58	2.20	-2.79	-1.36	-0.59	N/A	-9.37	-2.82	1.20	0.07		
OPERS Real Estate	0.64	0.64	2.44	2.70	-4.19	-1.88	-0.31	N/A	-8.15	-8.51	2.90	1.12		
NCREIF ODCE Index (AWA) (Net)	0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	21.02	0.34	4.39	7.36		
Difference	0.33	0.33	-9.92	-18.26	-15.57	-11.14	-9.18	N/A	-29.17	-8.85	-1.49	-6.24		
OFPRS Real Estate	-0.66	-0.66	9.34	17.41	8.37	7.80	8.05	9.20	16.14	-0.50	3.99	8.65		
NCREIF ODCE Index (AWA) (Net)	0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	21.02	0.34	4.39	7.36		
Difference	-0.97	-0.97	-3.02	-3.55	-3.01	-1.46	-0.82	-0.71	-4.88	-0.84	-0.40	1.29		
Real Assets														
OPPRS Real Assets	0.36	0.36	14.28	22.60	10.67	7.94	7.36	6.98	17.79	-1.07	3.52	3.55		
OPPRS Real Assets Blended Benchmark	0.31	0.31	12.36	20.96	11.38	8.14	6.83	5.67	21.02	0.34	4.43	0.98		
Difference	0.05	0.05	1.92	1.64	-0.71	-0.20	0.53	1.31	-3.23	-1.41	-0.91	2.57		
OLERS Real Assets	-0.62	-0.62	9.27	17.19	9.63	7.11	6.72	6.92	18.80	0.06	2.74	3.10		
OLERS Real Assets Blended Benchmark	0.31	0.31	12.36	20.96	11.38	8.25	7.35	6.11	21.02	0.34	4.46	1.55		
Difference	-0.93	-0.93	-3.09	-3.77	-1.75	-1.14	-0.63	0.81	-2.22	-0.28	-1.72	1.55		

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Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Hedge Funds												
OFPRS Hedge Fund	26.08	26.08	0.29	-16.44	-11.01	-6.33	-3.60	-1.32	-26.04	-4.62	3.52	-2.86
HFRI FOF: Cnsvt Index	0.26	0.26	-1.30	-0.61	4.75	3.81	3.41	3.66	7.62	6.47	6.30	-0.87
Difference	25.82	25.82	1.59	-15.83	-15.76	-10.14	-7.01	-4.98	-33.66	-11.09	-2.78	-1.99
OPPRS Long/Short Equity	-1.18	-1.18	-20.92	-22.39	0.96	1.84	3.03	4.40	0.11	22.33	16.34	-4.94
MSCI ACW Index (USD) (Net)	-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	18.54	16.25	26.60	-9.42
Difference	5.64	5.64	4.71	-1.73	-2.79	-2.60	-4.39	-2.88	-18.43	6.08	-10.26	4.48
HFRI FOF: Strategic Index	-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	6.26	14.62	10.52	-6.67
Difference	0.32	0.32	-7.13	-9.03	-2.19	-0.27	0.13	1.09	-6.15	7.71	5.82	1.73
OLERS Long/Short Equity	-0.43	-0.43	-20.62	-22.87	-2.34	-0.82	1.06	3.01	-1.52	13.12	12.40	-5.52
MSCI ACW Index (USD) (Net)	-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	18.54	16.25	26.60	-9.42
Difference	6.39	6.39	5.01	-2.21	-6.09	-5.26	-6.36	-4.27	-20.06	-3.13	-14.20	3.90
HFRI FOF: Strategic Index	-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	6.26	14.62	10.52	-6.67
Difference	1.07	1.07	-6.83	-9.51	-5.49	-2.93	-1.84	-0.30	-7.78	-1.50	1.88	1.15

Performance shown is net of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Net of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Private Equity												
OTRS Private Equity	-5.64	-5.64	-2.08	2.55	23.39	21.97	19.68	19.46	57.72	17.27	17.73	23.03
R 2000 Index+4%	-1.22	-1.22	-22.87	-20.44	8.46	7.70	11.81	12.89	19.41	24.76	30.55	-7.45
Difference	-4.42	-4.42	20.79	22.99	14.93	14.27	7.87	6.57	38.31	-7.49	-12.82	30.48
OPPRS Private Equity	-1.75	-1.75	9.32	14.94	21.08	18.34	15.42	N/A	49.68	7.49	6.45	18.91
Cambridge US Prvt Eq Index	0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	40.64	21.97	13.82	10.40
Difference	-1.75	-1.75	12.73	12.47	1.33	1.29	-0.48	N/A	9.04	-14.48	-7.37	8.51
OPPRS Private Equity	-2.99	-2.99	4.50	13.21	27.06	21.65	16.73	15.66	67.32	15.87	10.51	15.22
MSCI ACW Index (USD) (Net)	-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	18.54	16.25	26.60	-9.42
Difference	3.83	3.83	30.13	33.87	23.31	17.21	9.31	8.38	48.78	-0.38	-16.09	24.64
Cambridge US Prvt Eq Index	0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	40.64	21.97	13.82	10.40
Difference	-2.99	-2.99	7.91	10.74	7.31	4.60	0.83	0.34	26.68	-6.10	-3.31	4.82
OLERS Private Equity	-2.13	-2.13	-0.13	6.30	19.90	16.27	12.87	12.59	41.10	20.25	14.02	4.82
S&P 500 Index+5%	-3.72	-3.72	-21.03	-11.25	13.57	14.70	16.97	17.29	35.14	24.32	38.06	0.40
Difference	1.59	1.59	20.90	17.55	6.33	1.57	-4.10	-4.70	5.96	-4.07	-24.04	4.42
Cambridge US Prvt Eq Index	0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	40.64	21.97	13.82	10.40
Difference	-2.13	-2.13	3.28	3.83	0.15	-0.78	-3.03	-2.73	0.46	-1.72	0.20	-5.58
Other Alternatives												
OWCRS Alternative Investments	-5.05	-5.05	-13.17	-10.84	-0.33	1.41	3.63	1.90	8.64	2.14	15.31	-6.07
OWCRS Alternatives Custom Index	-0.22	-0.22	-6.80	-6.40	4.19	3.10	3.29	N/A	6.17	10.88	8.38	-4.02
Difference	-4.83	-4.83	-6.37	-4.44	-4.52	-1.69	0.34	N/A	2.47	-8.74	6.93	-2.05

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Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Gross of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
US Equity												
OTRS US Equity	-5.17	-5.17	-23.47	-17.25	5.78	6.61	9.41	10.68	24.61	15.62	28.03	-7.94
Russell 3000 Index	-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	25.66	20.89	31.02	-5.24
Difference	-0.71	-0.71	1.15	0.37	-1.92	-2.01	-1.49	-0.71	-1.05	-5.27	-2.99	-2.70
OPERS US Equity	-4.54	-4.54	-23.88	-17.02	8.08	8.35	10.68	11.33	26.13	20.53	29.50	-6.38
OPERS US Equity Custom Index	-4.25	-4.25	-24.64	-18.16	7.47	8.23	10.66	11.20	24.73	20.97	30.56	-5.70
Difference	-0.29	-0.29	0.76	1.14	0.61	0.12	0.02	0.13	1.40	-0.44	-1.06	-0.68
OPPRS US Equity	-3.73	-3.73	-25.71	-21.25	6.83	8.22	10.54	11.23	19.85	25.89	31.43	-4.96
Russell 3000 Index	-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	25.66	20.89	31.02	-5.24
Difference	0.73	0.73	-1.09	-3.62	-0.87	-0.40	-0.36	-0.16	-5.81	5.00	0.41	0.28
OLERS US Equity	-4.35	-4.35	-26.21	-21.13	7.04	7.46	10.08	10.94	26.08	20.00	32.83	-8.51
S&P 500 Index (Cap Wtd)	-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	28.71	18.40	31.49	-4.38
Difference	0.53	0.53	-2.34	-5.66	-1.12	-1.78	-1.32	-0.76	-2.63	1.60	1.34	-4.13
URSJJ US Equity	-4.20	-4.20	-24.63	-18.13	7.49	8.20	10.65	11.19	24.70	21.03	30.51	-5.81
URSJJ US Equity Custom Index	-4.25	-4.25	-24.64	-18.16	7.47	8.23	10.66	11.20	24.73	20.97	30.56	-5.70
Difference	0.05	0.05	0.01	0.03	0.02	-0.03	-0.01	-0.01	-0.03	0.06	-0.05	-0.11
OWCRS US Equity	-4.24	-4.24	-22.63	-15.33	8.05	8.94	10.77	11.59	26.59	19.18	29.17	-5.38
Russell 3000 Index	-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	25.66	20.89	31.02	-5.24
Difference	0.22	0.22	1.99	2.30	0.35	0.32	-0.13	0.20	0.93	-1.71	-1.85	-0.14

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Gross of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
International Equity												
OTRS International Equity	-10.97	-10.97	-29.86	-28.76	-1.02	-0.88	3.18	4.13	11.72	12.61	21.95	-15.88
MSCI ACW Ex US IM Index (USD) (Net)	-9.69	-9.69	-26.92	-25.72	-1.27	-0.78	3.38	3.19	8.53	11.12	21.63	-14.76
Difference	-1.28	-1.28	-2.94	-3.04	0.25	-0.10	-0.20	0.94	3.19	1.49	0.32	-1.12
OPERS International Equity	-10.54	-10.54	-27.82	-26.67	-1.48	-0.56	3.55	3.44	7.22	12.53	23.34	-13.69
MSCI ACW Ex US Index (USD) (Gross)	-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	8.29	11.13	22.13	-13.78
Difference	-0.74	-0.74	-1.64	-1.88	-0.41	-0.22	-0.23	-0.04	-1.07	1.40	1.21	0.09
OFPRS International Equity	-6.82	-6.82	-27.90	-26.76	3.73	3.75	7.66	6.13	7.66	32.50	27.22	-13.23
MSCI ACW Ex US Index (USD) (Net)	-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	7.82	10.65	21.51	-14.20
Difference	3.09	3.09	-1.40	-1.59	5.25	4.56	4.37	3.12	-0.16	21.85	5.71	0.97
OLERS International Equity	-10.67	-10.67	-27.99	-27.51	-1.17	-0.27	3.75	3.23	7.69	13.02	24.39	-14.03
MSCI ACW Ex US Index (USD) (Net)	-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	7.82	10.65	21.51	-14.20
Difference	-0.76	-0.76	-1.49	-2.34	0.35	0.54	0.46	0.22	-0.13	2.37	2.88	0.17
URSJJ International Equity	-9.86	-9.86	-26.26	-24.88	-1.26	-0.54	3.59	3.29	8.09	10.87	21.86	-13.93
MSCI ACW Ex US Index (USD) (Gross)	-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	8.29	11.13	22.13	-13.78
Difference	-0.06	-0.06	-0.08	-0.09	-0.19	-0.20	-0.19	-0.19	-0.20	-0.26	-0.27	-0.15
OWCRS International Equity	-9.79	-9.79	-26.58	-26.05	-1.61	-0.69	4.00	3.81	6.16	10.82	23.86	-13.14
MSCI ACW Ex US Index (USD) (Net)	-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	7.82	10.65	21.51	-14.20
Difference	0.12	0.12	-0.08	-0.88	-0.09	0.12	0.71	0.80	-1.66	0.17	2.35	1.06
Total Equity												
OPPRS Total Equity	-4.91	-4.91	-18.77	-14.56	8.76	7.72	9.12	9.20	23.90	18.81	22.38	-4.91
MSCI ACW Index (USD) (Gross)	-6.71	-6.71	-25.34	-20.29	4.23	4.96	7.98	7.84	19.04	16.82	27.30	-8.93
Difference	1.80	1.80	6.57	5.73	4.53	2.76	1.14	1.36	4.86	1.99	-4.92	4.02

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Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Gross of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Fixed Income												
OTRS Fixed Income	-4.53	-4.53	-18.05	-17.42	-2.66	0.61	2.15	2.36	0.23	12.11	12.05	-1.23
Bloomberg US Unv Bond Index	-4.45	-4.45	-14.90	-14.92	-3.11	-0.18	0.86	1.17	-1.10	7.58	9.29	-0.25
Difference	-0.08	-0.08	-3.15	-2.50	0.45	0.79	1.29	1.19	1.33	4.53	2.76	-0.98
OPERS Fixed Income	-5.37	-5.37	-16.58	-16.05	-2.95	0.32	1.07	1.32	-0.72	10.65	10.19	-0.24
Fixed Income Custom Index	-5.47	-5.47	-16.33	-15.75	-3.41	-0.15	0.66	0.90	-1.01	9.08	9.43	-0.33
Difference	0.10	0.10	-0.25	-0.30	0.46	0.47	0.41	0.42	0.29	1.57	0.76	0.09
OFPRS Fixed Income	-6.41	-6.41	-17.35	-17.60	-4.06	-1.81	0.13	0.52	-2.70	8.41	7.22	-2.41
Bloomberg US Agg Bond Index	-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	0.01
Difference	-1.66	-1.66	-2.74	-3.00	-0.80	-1.54	-0.41	-0.37	-1.15	0.90	-1.50	-2.42
OPPRS Fixed Income	-3.21	-3.21	-11.08	-11.13	-0.80	1.07	1.95	2.29	1.60	6.98	7.74	0.24
Bloomberg US Agg Bond Index	-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	0.01
Difference	1.54	1.54	3.53	3.47	2.46	1.34	1.41	1.40	3.15	-0.53	-0.98	0.23
OLERS Fixed Income	-4.47	-4.47	-14.92	-14.93	-3.83	-1.15	0.46	0.76	-1.71	5.74	6.29	0.41
Bloomberg US Agg Bond Index	-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	0.01
Difference	0.28	0.28	-0.31	-0.33	-0.57	-0.88	-0.08	-0.13	-0.16	-1.77	-2.43	0.40
URSJJ Fixed Income	-5.40	-5.40	-16.61	-16.07	-3.00	0.29	1.03	1.27	-0.82	10.70	10.14	-0.23
Fixed Income Custom Index	-5.47	-5.47	-16.33	-15.75	-3.41	-0.15	0.66	0.90	-1.01	9.08	9.43	-0.33
Difference	0.07	0.07	-0.28	-0.32	0.41	0.44	0.37	0.37	0.19	1.62	0.71	0.10
OWCRS Fixed Income	-3.87	-3.87	-13.64	-13.70	-2.21	0.46	0.74	0.99	-0.10	8.56	7.94	0.76
Bloomberg US Agg Bond Index	-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-1.55	7.51	8.72	0.01
Difference	0.88	0.88	0.97	0.90	1.05	0.73	0.20	0.10	1.45	1.05	-0.78	0.75

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Gross of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Real Estate												
OTRS Real Estate	2.82	2.82	17.17	23.49	8.85	8.12	8.49	N/A	11.92	-2.27	5.77	7.60
NCREIF Property Index	0.57	0.57	9.35	16.08	9.91	8.62	8.45	9.48	17.70	1.60	6.42	6.72
Difference	2.25	2.25	7.82	7.41	-1.06	-0.50	0.04	N/A	-5.78	-3.87	-0.65	0.88
NCREIF ODCE Index (AWA) (Net)	0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	21.02	0.34	4.39	7.36
Difference	2.51	2.51	4.81	2.53	-2.53	-1.14	-0.38	N/A	-9.10	-2.61	1.38	0.24
OPERS Real Estate	0.64	0.64	2.44	2.70	-4.19	-1.88	-0.31	N/A	-8.15	-8.51	2.90	1.12
NCREIF ODCE Index (AWA) (Net)	0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	21.02	0.34	4.39	7.36
Difference	0.33	0.33	-9.92	-18.26	-15.57	-11.14	-9.18	N/A	-29.17	-8.85	-1.49	-6.24
OFPRS Real Estate	-0.52	-0.52	9.82	18.09	9.05	8.50	8.76	9.86	16.84	0.18	4.69	9.39
NCREIF Property Index	0.57	0.57	9.35	16.08	9.91	8.62	8.45	9.48	17.70	1.60	6.42	6.72
Difference	-1.09	-1.09	0.47	2.01	-0.86	-0.12	0.31	0.38	-0.86	-1.42	-1.73	2.67
NCREIF ODCE Index (AWA) (Net)	0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	21.02	0.34	4.39	7.36
Difference	-0.83	-0.83	-2.54	-2.87	-2.33	-0.76	-0.11	-0.05	-4.18	-0.16	0.30	2.03
Real Assets												
OPPRS Real Assets	0.65	0.65	15.94	24.84	11.90	9.02	8.31	7.86	19.08	-0.51	4.21	4.30
OPPRS Real Assets Blended Benchmark	0.31	0.31	12.36	20.96	11.38	8.14	6.83	5.67	21.02	0.34	4.43	0.98
Difference	0.34	0.34	3.58	3.88	0.52	0.88	1.48	2.19	-1.94	-0.85	-0.22	3.32
OLERS Real Assets	-0.46	-0.46	9.87	18.06	10.55	8.03	7.65	7.85	19.82	0.94	3.67	4.01
OLERS Real Assets Blended Benchmark	0.31	0.31	12.36	20.96	11.38	8.25	7.35	6.11	21.02	0.34	4.46	1.55
Difference	-0.77	-0.77	-2.49	-2.90	-0.83	-0.22	0.30	1.74	-1.20	0.60	-0.79	2.46

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
 All Plans Summary
 Asset Class Performance - Gross of Fees

As of September 30, 2022

	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Hedge Funds												
OFPRS Hedge Fund	26.08	26.08	0.29	-16.44	-11.01	-6.33	-3.60	-1.32	-26.04	-4.62	3.52	-2.86
HFRI FOF: Cnsvt Index	0.26	0.26	-1.30	-0.61	4.75	3.81	3.41	3.66	7.62	6.47	6.30	-0.87
Difference	25.82	25.82	1.59	-15.83	-15.76	-10.14	-7.01	-4.98	-33.66	-11.09	-2.78	-1.99
OPPRS Long/Short Equity	-1.18	-1.18	-20.91	-22.39	1.10	2.10	3.35	4.79	0.14	22.68	16.85	-4.52
HFRI FOF: Strategic Index	-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	6.26	14.62	10.52	-6.67
Difference	0.32	0.32	-7.12	-9.03	-2.05	-0.01	0.45	1.48	-6.12	8.06	6.33	2.15
OLERS Long/Short Equity	-0.43	-0.43	-20.61	-22.86	-2.02	-0.30	1.72	3.77	-1.46	13.93	13.34	-4.75
HFRI FOF: Strategic Index	-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	6.26	14.62	10.52	-6.67
Difference	1.07	1.07	-6.82	-9.50	-5.17	-2.41	-1.18	0.46	-7.72	-0.69	2.82	1.92

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
All Plans Summary
Asset Class Performance - Gross of Fees

As of September 30, 2022

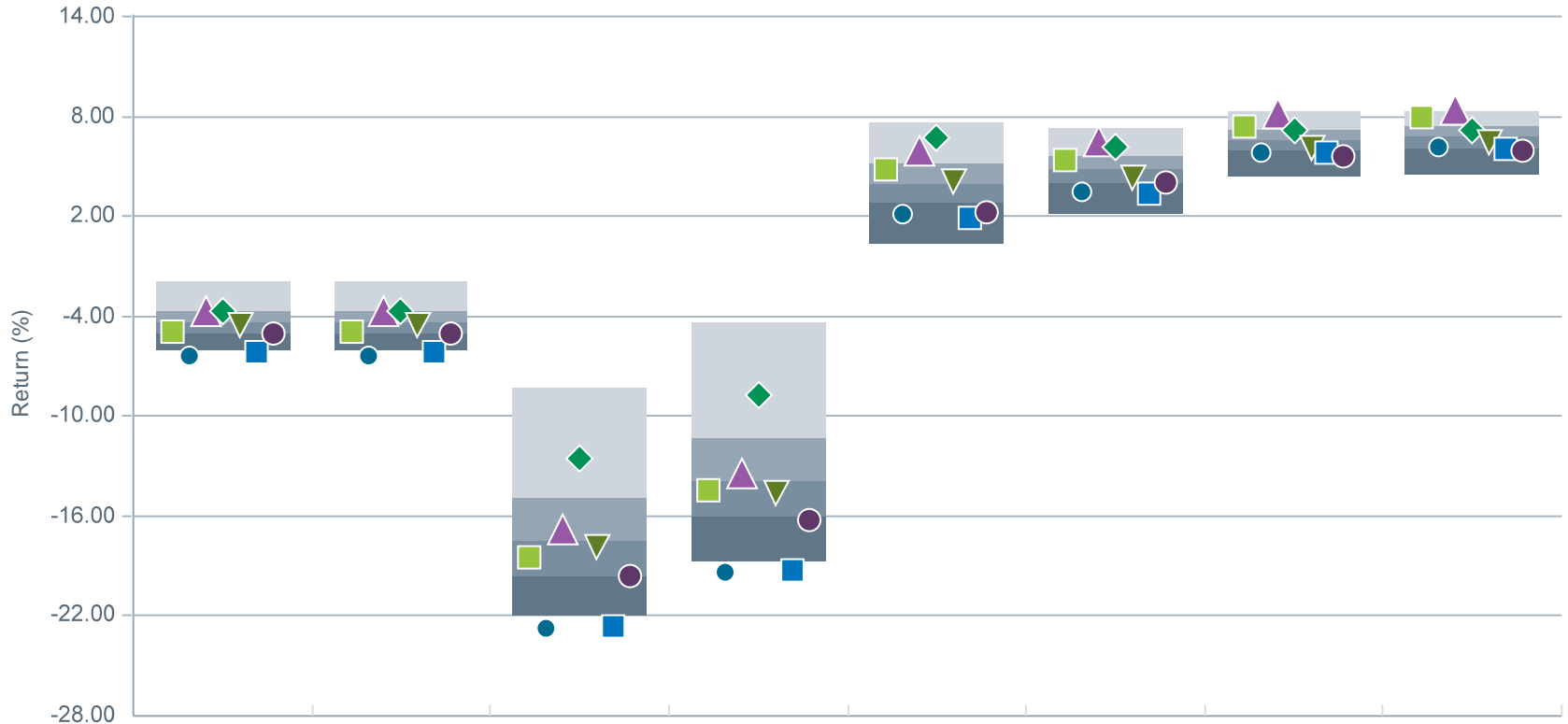
	Performance (%)											
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018
Private Equity												
OTRS Private Equity	-5.64	-5.64	-2.08	2.55	23.39	21.97	19.68	19.46	57.72	17.27	17.73	23.03
R 2000 Index+4%	-1.22	-1.22	-22.87	-20.44	8.46	7.70	11.81	12.89	19.41	24.76	30.55	-7.45
Difference	-4.42	-4.42	20.79	22.99	14.93	14.27	7.87	6.57	38.31	-7.49	-12.82	30.48
OFPRS Private Equity	-1.75	-1.75	9.32	14.94	21.08	18.34	15.42	N/A	49.68	7.49	6.45	18.91
Cambridge US Prvt Eq Index	0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	40.64	21.97	13.82	10.40
Difference	-1.75	-1.75	12.73	12.47	1.33	1.29	-0.48	N/A	9.04	-14.48	-7.37	8.51
OPPRS Private Equity	-2.99	-2.99	4.50	13.21	27.06	21.65	16.73	15.66	67.32	15.87	10.51	15.22
Cambridge US Prvt Eq Index	0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	40.64	21.97	13.82	10.40
Difference	-2.99	-2.99	7.91	10.74	7.31	4.60	0.83	0.34	26.68	-6.10	-3.31	4.82
OLERS Private Equity	-2.13	-2.13	-0.13	6.30	19.90	16.27	12.87	12.59	41.10	20.25	14.02	4.82
Cambridge US Prvt Eq Index	0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	40.64	21.97	13.82	10.40
Difference	-2.13	-2.13	3.28	3.83	0.15	-0.78	-3.03	-2.73	0.46	-1.72	0.20	-5.58
Other Alternatives												
OWCRS Alternative Investments	-4.82	-4.82	-12.58	-10.02	0.39	1.85	3.95	2.12	9.60	2.74	15.31	-6.07
OWCRS Alternatives Custom Index	-0.22	-0.22	-6.80	-6.40	4.19	3.10	3.29	N/A	6.17	10.88	8.38	-4.02
Difference	-4.60	-4.60	-5.78	-3.62	-3.80	-1.25	0.66	N/A	3.43	-8.14	6.93	-2.05

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. OPPRS Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
 All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of September 30, 2022



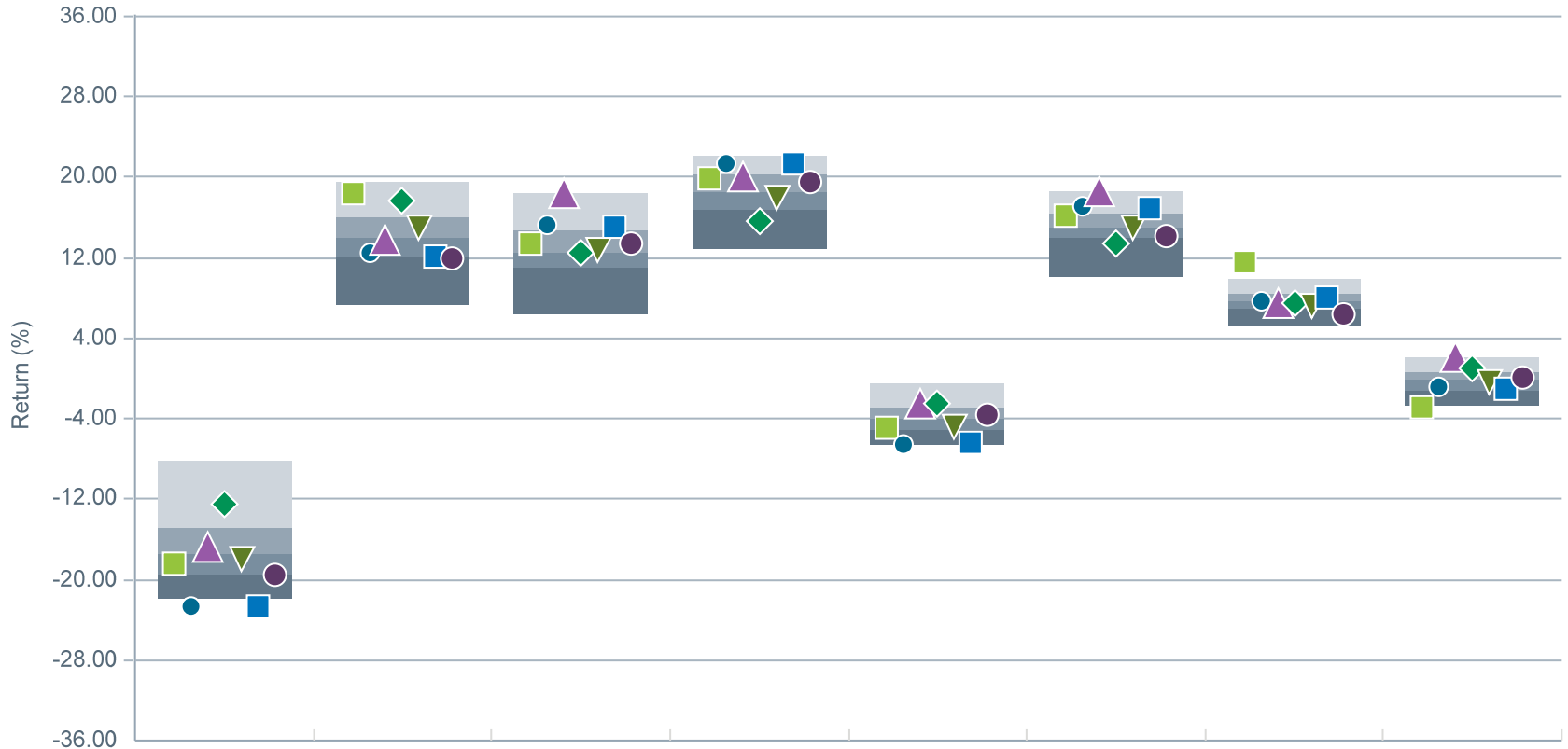
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OTRS (Teachers)	-4.96 (73)	-4.96 (73)	-18.47 (61)	-14.46 (55)	4.85 (29)	5.35 (34)	7.40 (21)	7.98 (10)
● OPERS (Public Employees)	-6.39 (98)	-6.39 (98)	-22.68 (98)	-19.33 (98)	2.14 (85)	3.49 (85)	5.80 (79)	6.13 (73)
▲ OFPRS (Firefighters)	-3.74 (26)	-3.74 (26)	-16.83 (43)	-13.45 (46)	5.88 (17)	6.53 (10)	8.18 (6)	8.44 (4)
◆ OPPRS (Police)	-3.69 (24)	-3.69 (24)	-12.56 (14)	-8.76 (15)	6.77 (8)	6.18 (15)	7.14 (29)	7.19 (32)
▼ OLERS (Law Enforcement)	-4.53 (56)	-4.53 (56)	-17.81 (53)	-14.61 (57)	4.10 (47)	4.39 (67)	6.13 (69)	6.48 (63)
■ URSJJ (Judges)	-6.11 (96)	-6.11 (96)	-22.58 (98)	-19.28 (98)	1.95 (87)	3.42 (86)	5.77 (80)	6.00 (77)
● OWCRS (Wildlife)	-5.09 (77)	-5.09 (77)	-19.55 (74)	-16.22 (77)	2.26 (84)	4.06 (75)	5.61 (82)	5.98 (78)
5th Percentile	-1.87	-1.87	-8.24	-4.42	7.64	7.24	8.29	8.30
1st Quartile	-3.73	-3.73	-14.94	-11.26	5.10	5.59	7.20	7.40
Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
3rd Quartile	-5.01	-5.01	-19.61	-16.07	2.81	4.03	5.91	6.06
95th Percentile	-6.07	-6.07	-21.98	-18.65	0.34	2.18	4.35	4.45

Performance shown is gross of fees. Parentheses contain percentile ranks. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of September 30, 2022



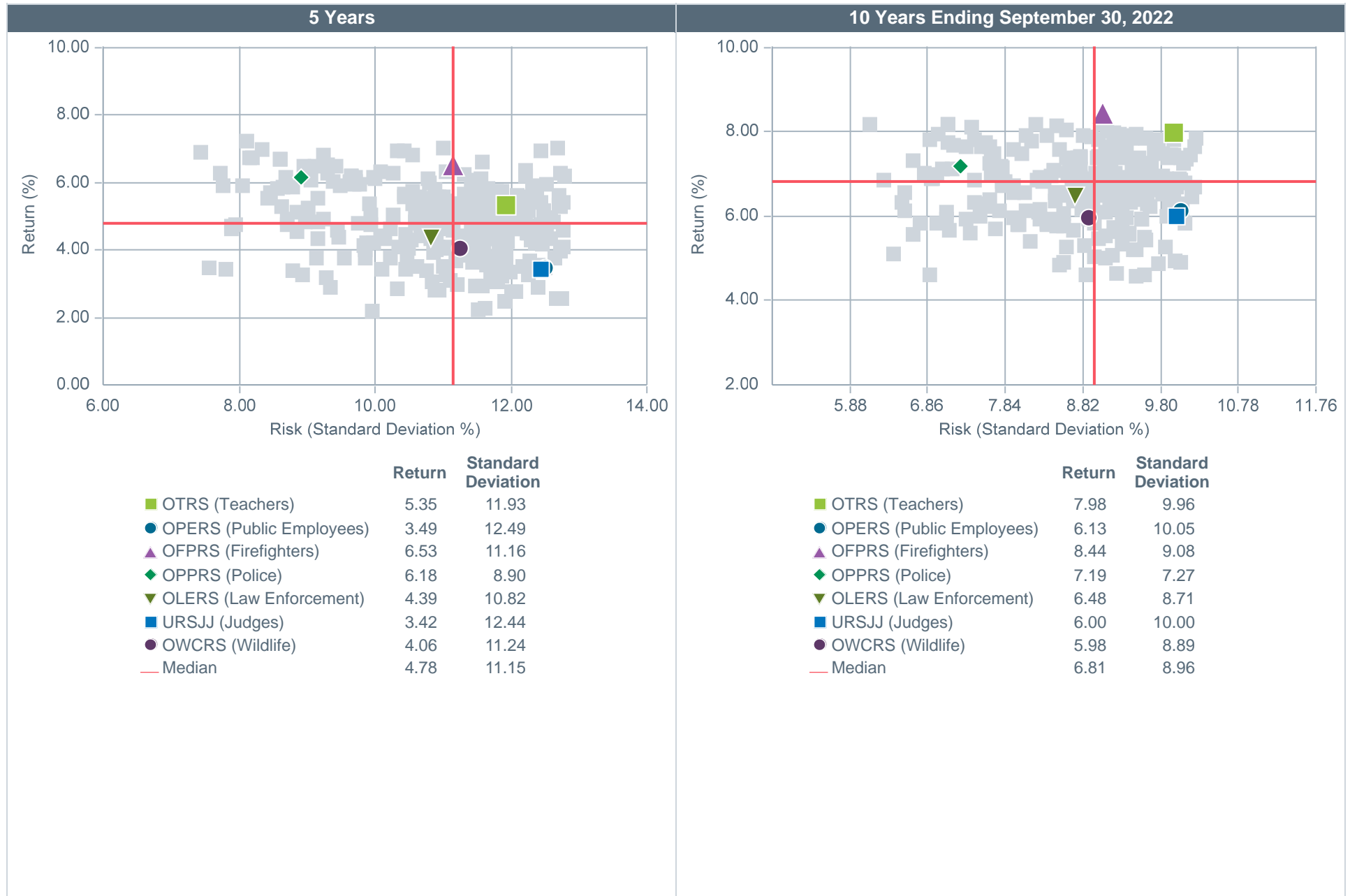
	CYTD	2021	2020	2019	2018	2017	2016	2015
■ OTRS (Teachers)	-18.47 (61)	18.42 (9)	13.45 (38)	19.83 (31)	-4.98 (73)	16.20 (29)	11.54 (1)	-2.90 (97)
● OPERS (Public Employees)	-22.68 (98)	12.46 (72)	15.34 (19)	21.38 (11)	-6.48 (94)	17.13 (14)	7.69 (51)	-0.77 (66)
▲ OFPRS (Firefighters)	-16.83 (43)	13.87 (53)	18.44 (5)	20.15 (26)	-2.46 (19)	18.67 (5)	7.42 (59)	2.12 (5)
◆ OPPRS (Police)	-12.56 (14)	17.71 (13)	12.54 (50)	15.68 (85)	-2.46 (19)	13.40 (83)	7.47 (57)	1.05 (16)
▼ OLERS (Law Enforcement)	-17.81 (53)	15.04 (35)	12.80 (47)	18.07 (57)	-4.76 (67)	15.00 (53)	7.38 (62)	-0.25 (54)
■ URSJJ (Judges)	-22.58 (98)	12.12 (77)	15.10 (22)	21.40 (11)	-6.38 (92)	16.89 (18)	8.09 (39)	-1.07 (74)
● OWCRS (Wildlife)	-19.55 (74)	11.95 (79)	13.34 (39)	19.46 (37)	-3.68 (43)	14.13 (71)	6.39 (86)	0.05 (45)
5th Percentile	-8.24	19.59	18.43	22.06	-0.54	18.60	9.98	2.08
1st Quartile	-14.94	16.10	14.71	20.19	-2.90	16.44	8.51	0.71
Median	-17.48	14.01	12.54	18.57	-4.03	15.15	7.69	-0.13
3rd Quartile	-19.61	12.21	10.94	16.66	-5.11	13.89	6.94	-1.17
95th Percentile	-21.98	7.35	6.40	12.93	-6.65	10.14	5.33	-2.66

Performance shown is gross of fees. Parentheses contain percentile ranks. Oklahoma State Pension Commission fiscal year begins on 07/01.



All Plans

Total Fund Risk & Return vs. All Public Plans-Total Fund

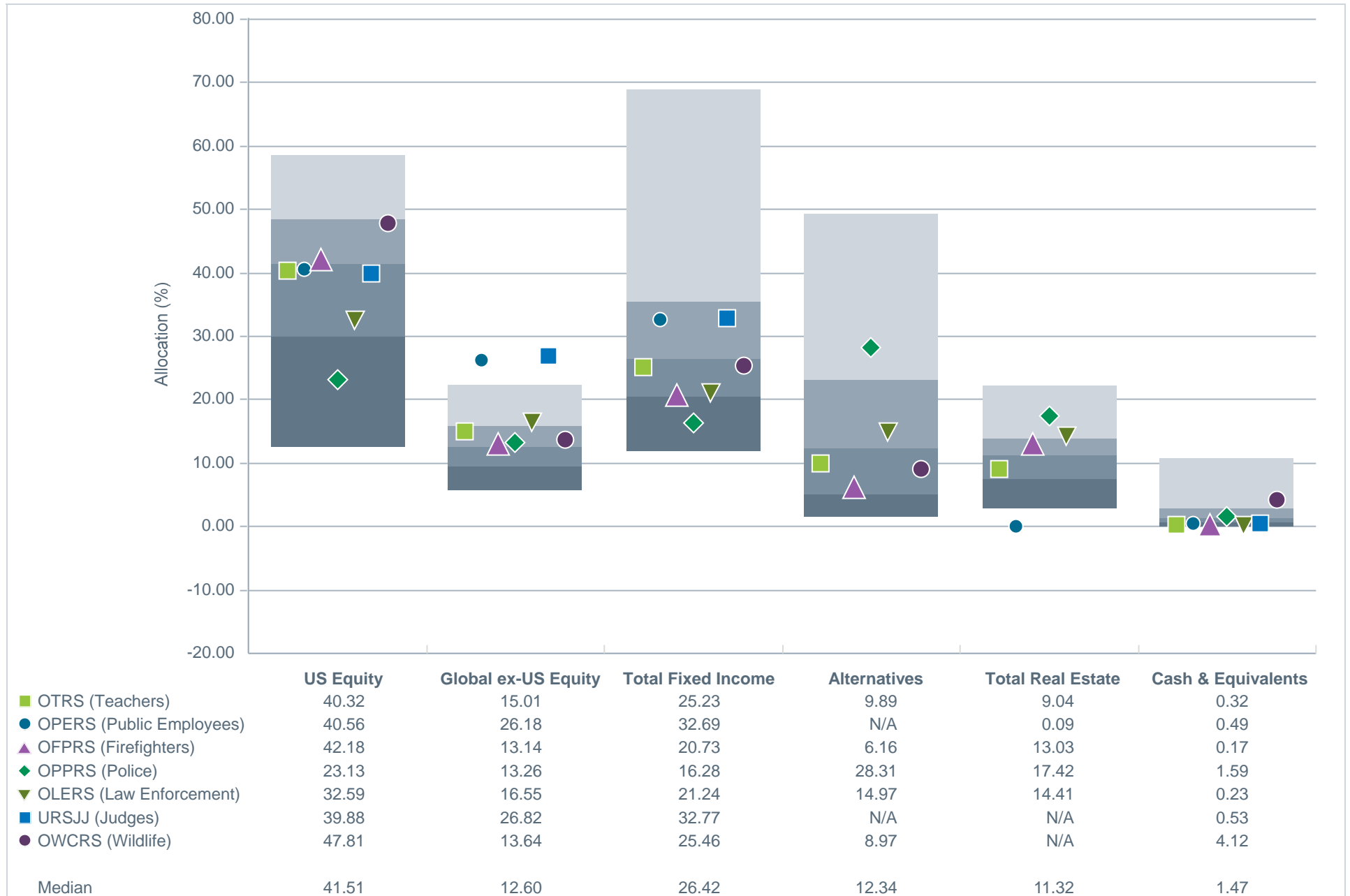


Performance shown is gross of fees. Calculation is based on monthly periodicity.



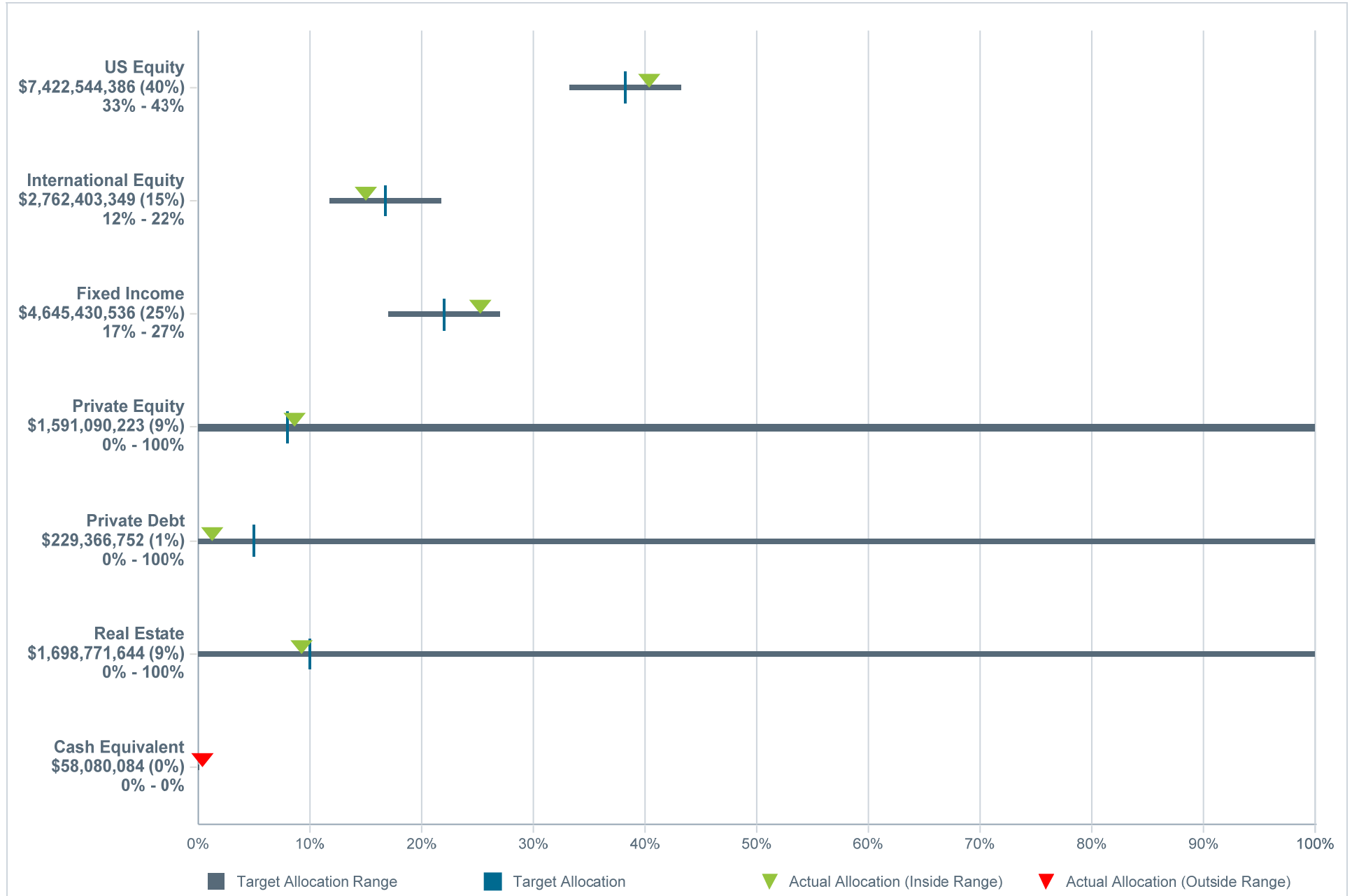
Oklahoma State Pension Commission
 All Plans Total Fund vs. All Public Plans-Total Fund
 Plan Sponsor TF Asset Allocation

As of September 30, 2022



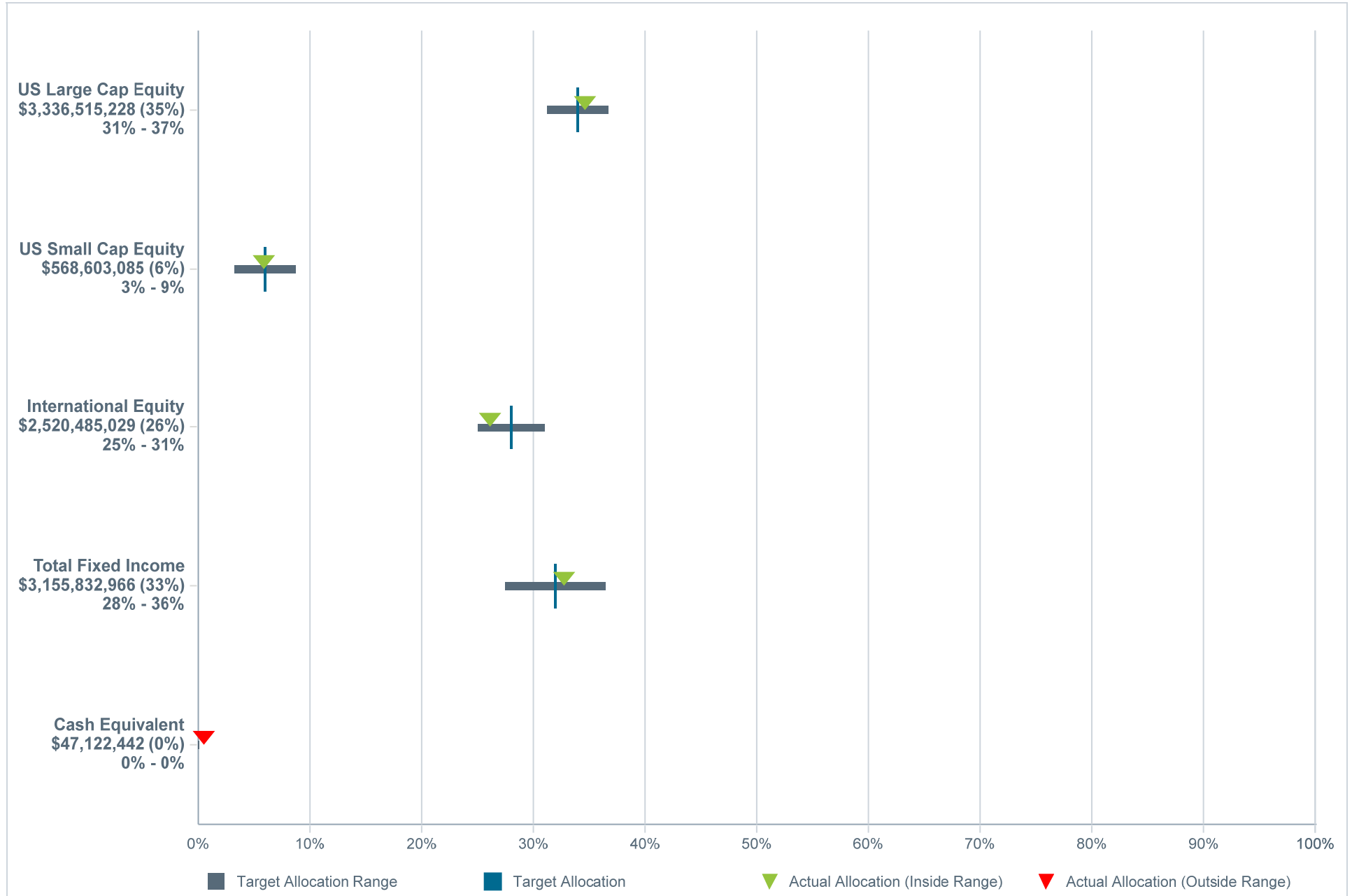
Parentheses contain percentile ranks.





Allocations shown may not sum up to 100% exactly due to rounding. Allocation to Private Equity includes Private Credit. Cash held in short-term investments with the Custodian shall be considered as domestic fixed income for rebalancing purposes.



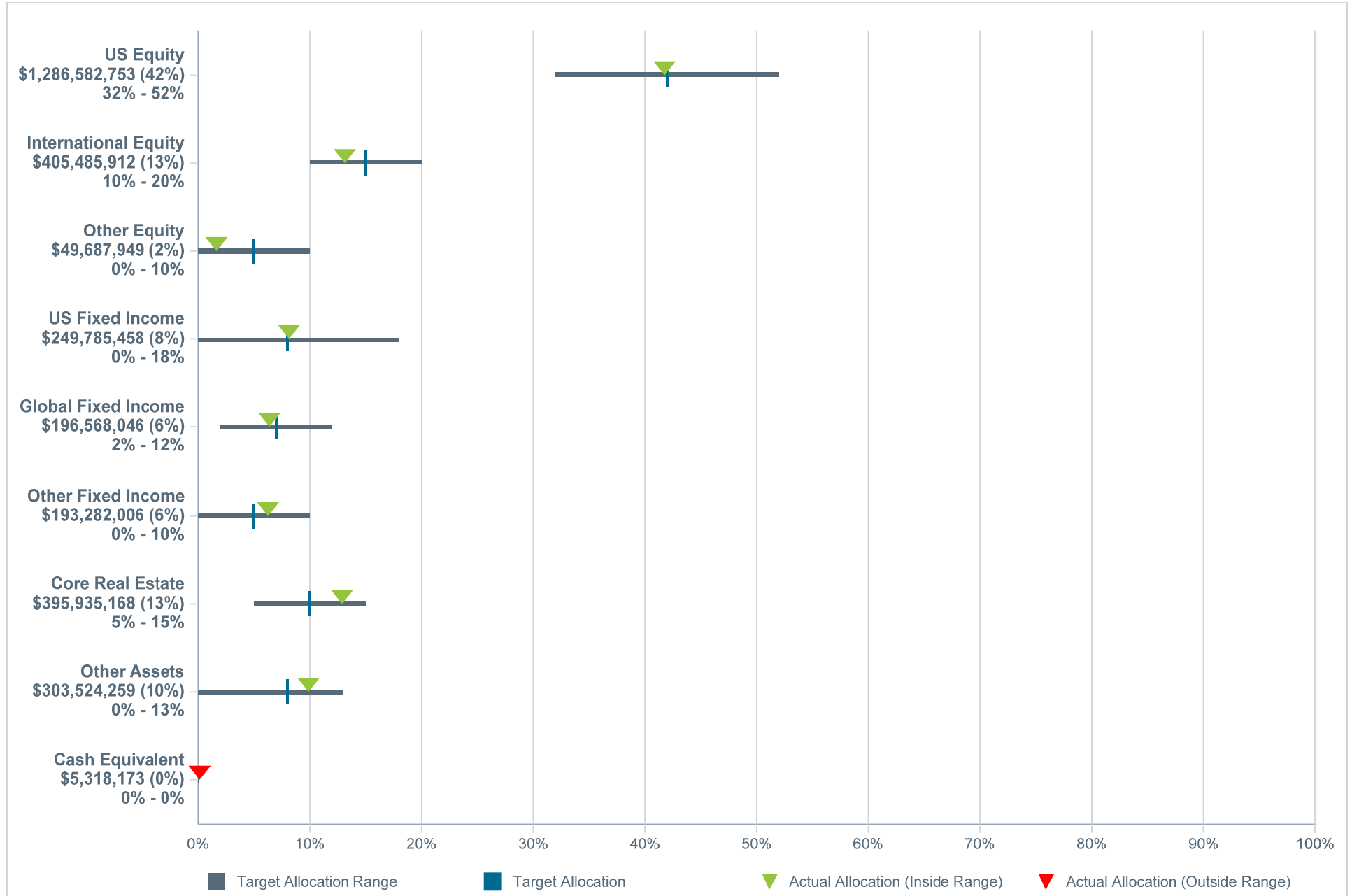


Allocations shown may not sum up to 100% exactly due to rounding. Cash held in short-term investments with the Master Custodian and direct real estate holdings shall be considered as U.S. fixed income for rebalancing purposes.



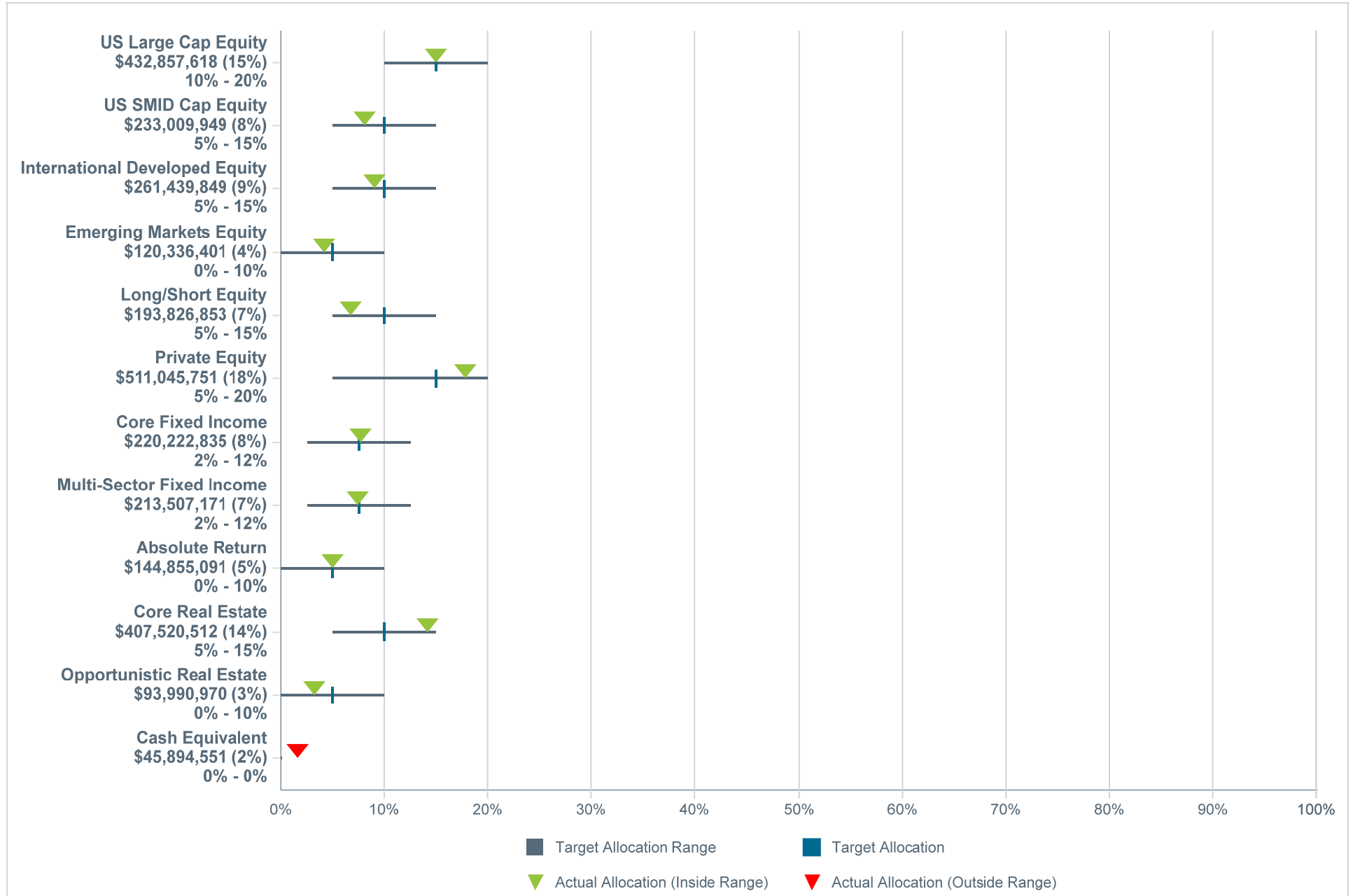
Oklahoma State Pension Commission
 Oklahoma Firefighters Pension & Retirement System
 Asset Allocation vs. Target Allocation

As of September 30, 2022



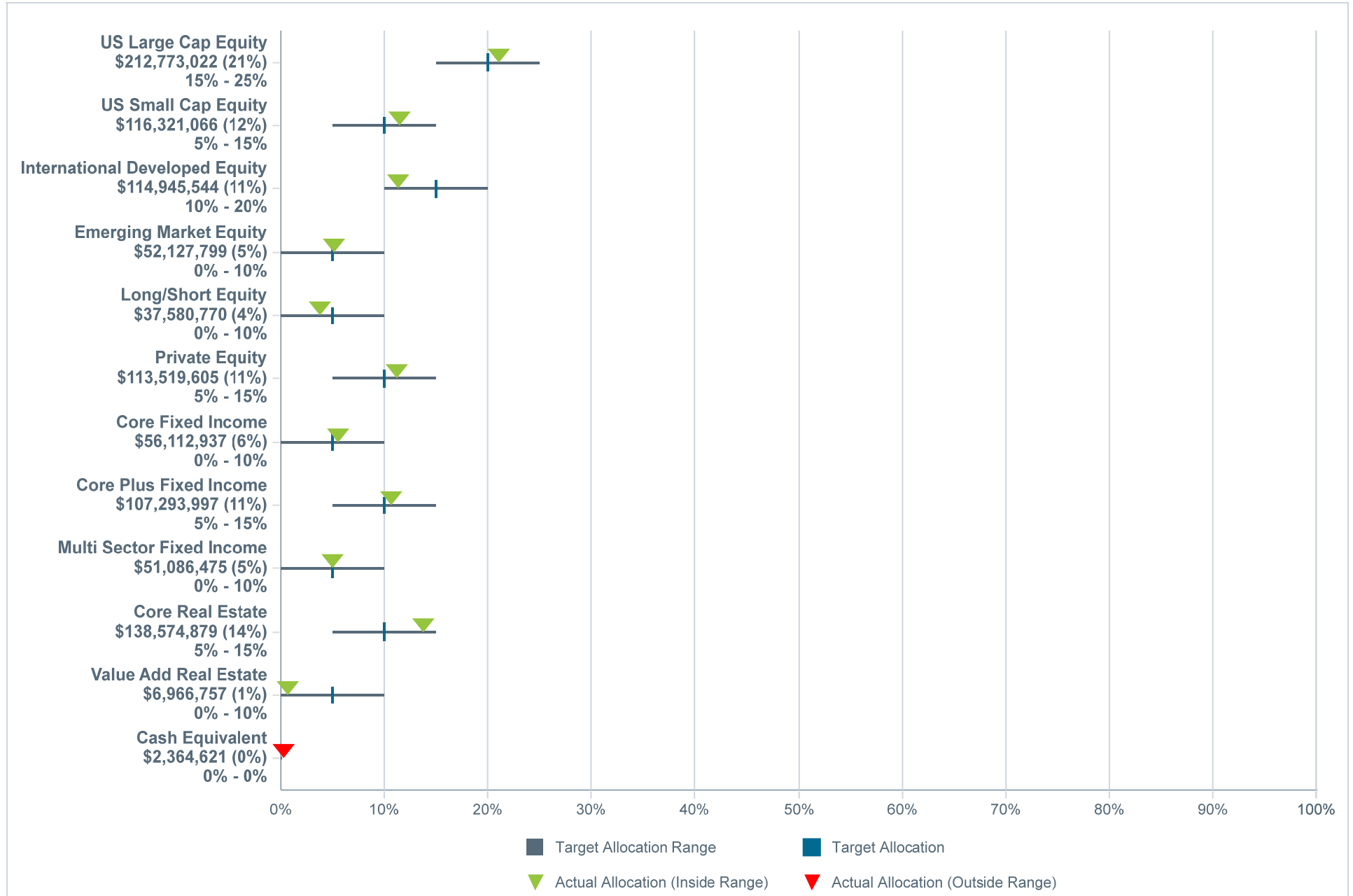
Allocations shown may not sum up to 100% exactly due to rounding. Allocation to Other Equity includes opportunistic equity; Other Fixed Income includes non-core Fixed Income; and Other Assets include Hedge Funds and Private Equity.





Allocations shown may not sum up to 100% exactly due to rounding. Allocation to Multi-Sector Fixed Income includes Private Credit.



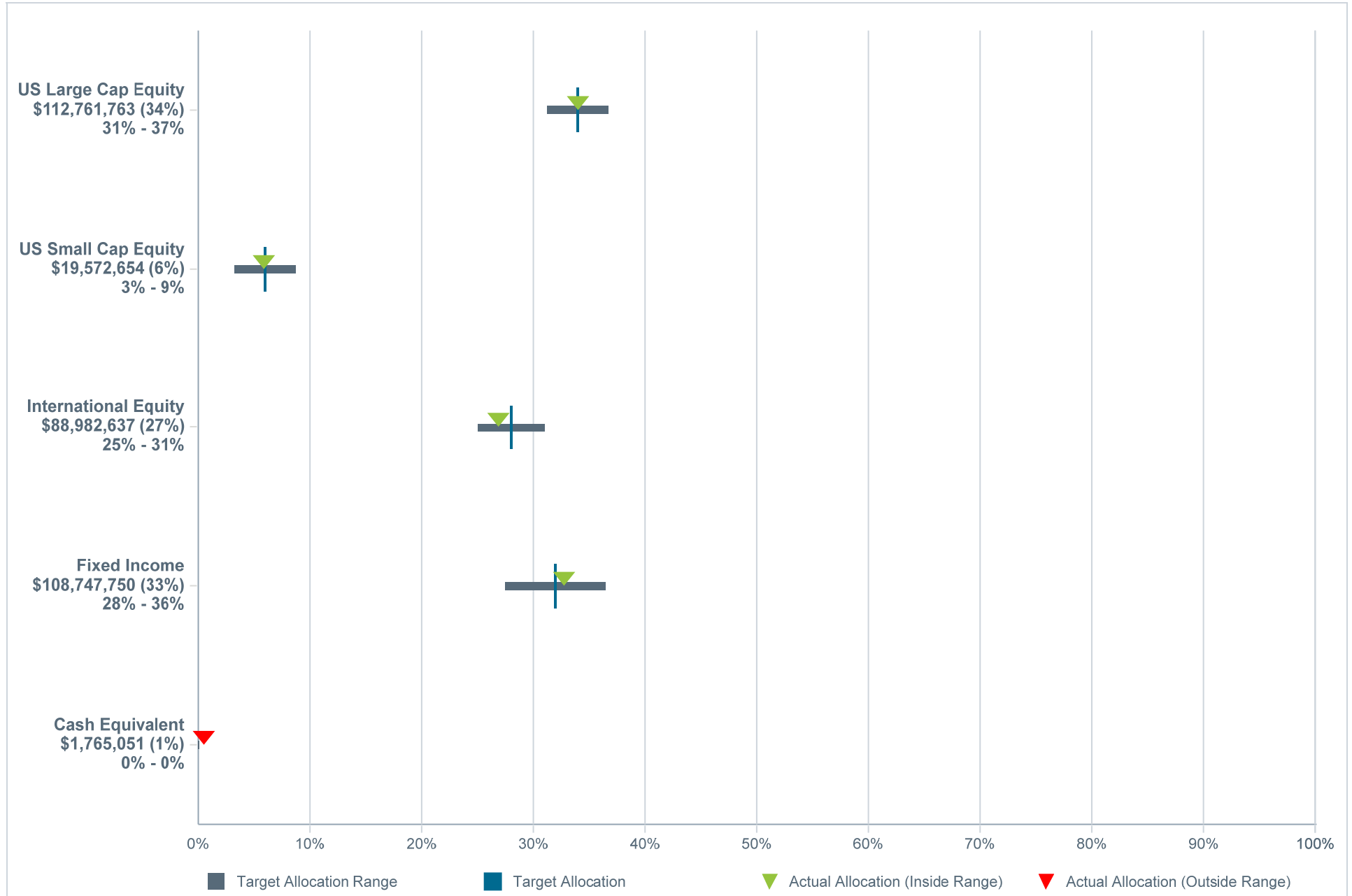


Allocations shown may not sum up to 100% exactly due to rounding. Short term cash reserves shall be considered as fixed income for rebalancing purposes.



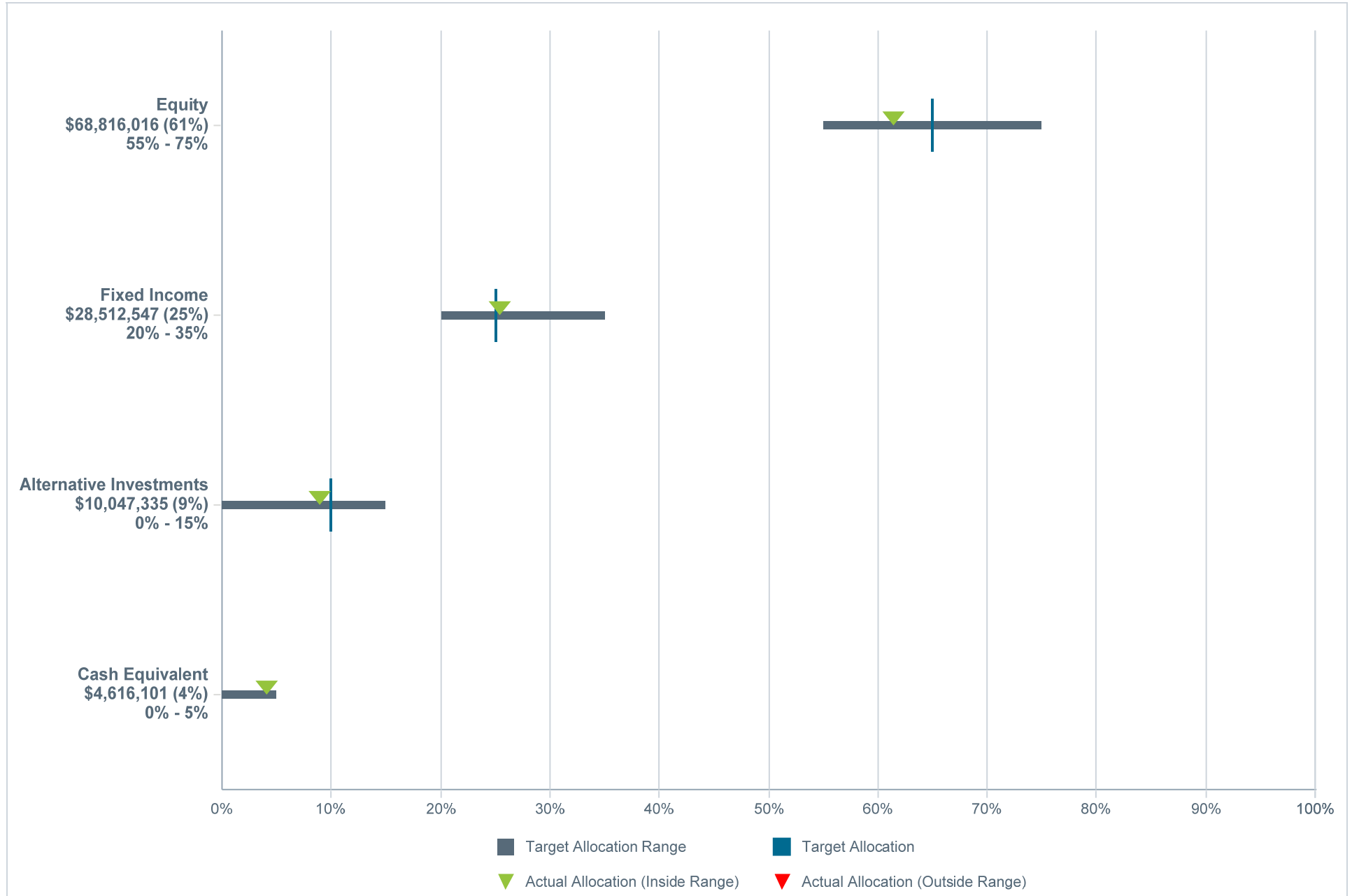
Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges
 Asset Allocation vs. Target Allocation

As of September 30, 2022



Allocations shown may not sum up to 100% exactly due to rounding. Cash held in short-term investments with the Master Custodian and direct real estate holdings shall be considered as U.S. fixed income for rebalancing purposes.





Allocations shown may not sum up to 100% exactly due to rounding.

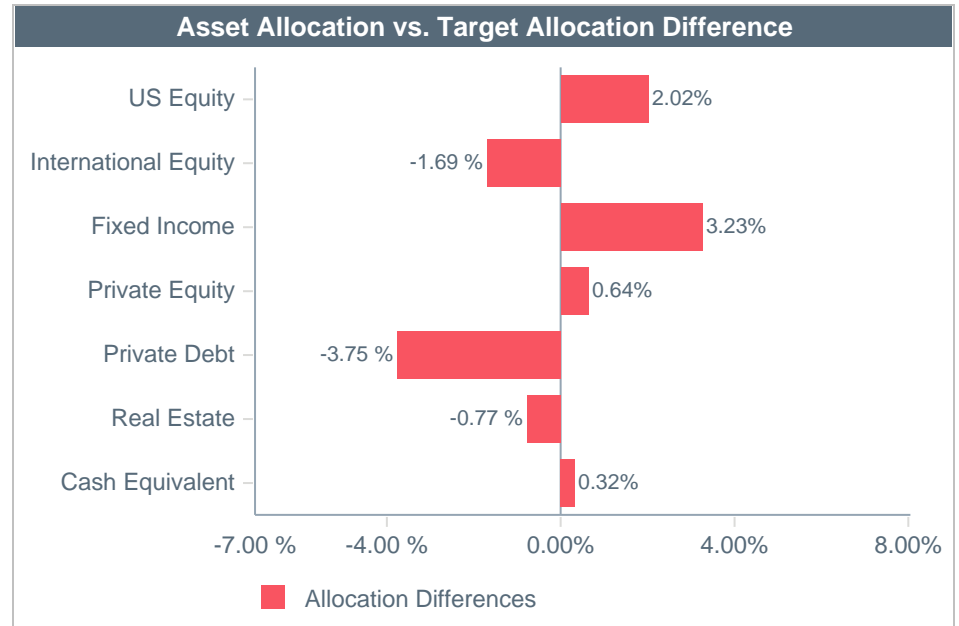


Oklahoma Teachers' Retirement System (OTRS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OTRS Total Fund (Net)	-5.00	-5.00	-18.60	-14.63	4.63	5.08	7.09	7.61	18.20	13.22	19.48	-5.29	15.83
OTRS Policy Index	-4.01	-4.01	-18.66	-14.46	4.97	5.46	7.36	7.38	15.60	15.24	21.72	-4.75	15.16
Difference	-0.99	-0.99	0.06	-0.17	-0.34	-0.38	-0.27	0.23	2.60	-2.02	-2.24	-0.54	0.67
OTRS Actual Allocation Index	-4.19	-4.19	-19.70	-15.49	4.82	5.12	7.06	7.47	16.21	16.98	18.94	-4.70	14.35
Difference	-0.81	-0.81	1.10	0.86	-0.19	-0.04	0.03	0.14	1.99	-3.76	0.54	-0.59	1.48
Actuarial Discount Rate (7.0%)	1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference	-6.71	-6.71	-23.81	-21.63	-2.37	-1.92	0.09	0.61	11.20	6.22	12.48	-12.29	8.83
OTRS Total Fund (Gross)	-4.96	-4.96	-18.47	-14.46	4.85	5.35	7.40	7.98	18.42	13.45	19.83	-4.98	16.20
OTRS Policy Index	-4.01	-4.01	-18.66	-14.46	4.97	5.46	7.36	7.38	15.60	15.24	21.72	-4.75	15.16
Difference	-0.95	-0.95	0.19	0.00	-0.12	-0.11	0.04	0.60	2.82	-1.79	-1.89	-0.23	1.04
OTRS Actual Allocation Index	-4.19	-4.19	-19.70	-15.49	4.82	5.12	7.06	7.47	16.21	16.98	18.94	-4.70	14.35
Difference	-0.77	-0.77	1.23	1.03	0.03	0.23	0.34	0.51	2.21	-3.53	0.89	-0.28	1.85
All Public Plans-Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	14.01	12.54	18.57	-4.03	15.15
Rank	73	73	61	55	29	34	21	10	9	38	31	73	29

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OTRS (Teachers)	18,408,805,489	100.00	100.00
US Equity	7,422,544,386	40.32	38.30
International Equity	2,762,403,349	15.01	16.70
Fixed Income	4,645,430,536	25.23	22.00
Private Equity	1,591,090,223	8.64	8.00
Private Debt	229,366,752	1.25	5.00
Real Estate	1,698,771,644	9.23	10.00
Cash Equivalent	58,080,084	0.32	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Opportunistic Fixed Income accounts for 1.25% of the Total Fund. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OTRS Total Fund	18,408,805,489	100.00	-5.00	-5.00	-18.60	-14.63	4.63	5.08	7.09	7.61	8.47	12/01/1991
OTRS Policy Index			-4.01	-4.01	-18.66	-14.46	4.97	5.46	7.36	7.38	8.53	
Difference			-0.99	-0.99	0.06	-0.17	-0.34	-0.38	-0.27	0.23	-0.06	
OTRS Actual Allocation Index			-4.19	-4.19	-19.70	-15.49	4.82	5.12	7.06	7.47	N/A	
Difference			-0.81	-0.81	1.10	0.86	-0.19	-0.04	0.03	0.14	N/A	
Actuarial Discount Rate (7.0%)			1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			-6.71	-6.71	-23.81	-21.63	-2.37	-1.92	0.09	0.61	1.47	
US Equity	7,422,544,386	40.32	-5.20	-5.20	-23.57	-17.39	5.59	6.35	9.08	10.43	10.16	04/01/1990
Russell 3000 Index			-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	9.79	
Difference			-0.74	-0.74	1.05	0.24	-2.11	-2.27	-1.82	-0.96	0.37	
US Active Equity	720,594,126	3.91	-5.19	-5.19	-25.15	-20.52	5.69	6.15	9.01	10.32	7.97	12/01/1998
Russell 3000 Index			-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	7.06	
Difference			-0.73	-0.73	-0.53	-2.89	-2.01	-2.47	-1.89	-1.07	0.91	
Frontier Small Cap Value Equity (SA)	359,738,122	1.95	-2.97	-2.97	-17.61	-12.50	6.35	4.60	8.28	N/A	7.86	06/01/2013
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	6.57	
Difference			1.64	1.64	3.51	5.19	1.63	1.73	0.86	N/A	1.29	
Geneva US Small Cap Growth Equity (SA)	358,959,084	1.95	-5.15	-5.15	-28.97	-24.63	4.51	7.08	9.80	N/A	10.51	06/01/2013
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	7.47	
Difference			-5.39	-5.39	0.31	4.64	1.57	3.48	2.68	N/A	3.04	
US Passive Equity (Cap Wgt)	4,013,707,282	21.80	-4.55	-4.55	-28.23	-22.12	5.27	7.09	9.71	10.53	10.47	04/01/2012
Northern Trust Russell 3000 Index (SA)	4,008,332,851	21.77	-4.56	-4.56	N/A	N/A	N/A	N/A	N/A	N/A	-4.56	07/01/2022
Russell 3000 Index			-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	-4.46	
Difference			-0.10	-0.10	N/A	N/A	N/A	N/A	N/A	N/A	-0.10	
US Passive Equity (Non-Cap Wgt)	2,683,972,755	14.58	-5.51	-5.51	-21.14	-13.52	3.98	7.15	9.62	10.91	10.70	04/01/2012
NTGI SciBetUS HF Ex MulBeEW Gr			-5.52	-5.52	-21.10	-13.47	4.00	6.47	N/A	N/A	N/A	
Difference			0.01	0.01	-0.04	-0.05	-0.02	0.68	N/A	N/A	N/A	
SciBeta US High FactorExposure Index (SA)	2,683,972,755	14.58	-5.51	-5.51	-21.14	-13.52	3.98	N/A	N/A	N/A	5.45	12/01/2017
NTGI SciBetUS HF Ex MulBeEW Gr			-5.52	-5.52	-21.10	-13.47	4.00	6.47	N/A	N/A	5.48	
Difference			0.01	0.01	-0.04	-0.05	-0.02	N/A	N/A	N/A	-0.03	

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity	2,762,403,349	15.01	-11.05	-11.05	-30.08	-29.07	-1.44	-1.33	2.71	3.66	6.41	02/01/1996
MSCI ACW Ex US IM Index (USD) (Gross)			-9.58	-9.58	-26.60	-25.34	-0.83	-0.32	3.86	3.66	4.55	
Difference			-1.47	-1.47	-3.48	-3.73	-0.61	-1.01	-1.15	0.00	1.86	
Causeway Intl Opportunities (SA)	476,920,467	2.59	-10.44	-10.44	-24.37	-24.32	-1.23	-1.58	2.58	3.25	6.44	05/01/2003
MSCI ACW Ex US Val Index (USD) (Gross)			-10.29	-10.29	-20.53	-19.46	-1.54	-1.51	2.87	2.47	6.38	
Difference			-0.15	-0.15	-3.84	-4.86	0.31	-0.07	-0.29	0.78	0.06	
Allianz Best Styles AC Intl Equity (SA)	10,756,288	0.06	-0.86	-0.86	-17.51	-15.08	1.55	0.55	N/A	N/A	5.00	07/01/2016
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	3.82	
Difference			8.94	8.94	8.67	9.71	2.62	0.89	N/A	N/A	1.18	
NT ACWI Ex US Investable Market Fund (CF)	972,079,028	5.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-9.87	09/01/2022
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	-9.94	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.07	
Wellington Intl Quality Growth (SA)	490,831,085	2.67	-12.01	-12.01	-35.18	-33.67	-1.19	1.11	N/A	N/A	4.78	07/01/2016
MSCI ACW Ex US Grth Index (USD) (Gross)			-9.30	-9.30	-31.64	-30.00	-1.08	0.51	4.44	4.31	4.10	
Difference			-2.71	-2.71	-3.54	-3.67	-0.11	0.60	N/A	N/A	0.68	
Wasatch International Small Cap Growth (SA)	279,928,121	1.52	-9.26	-9.26	-40.34	-41.03	-2.22	-0.57	3.34	5.26	6.97	12/01/2011
MSCI ACW Ex US Sm Cap Index (USD) (Gross)			-8.25	-8.25	-29.07	-28.57	0.80	-0.16	4.39	4.83	5.49	
Difference			-1.01	-1.01	-11.27	-12.46	-3.02	-0.41	-1.05	0.43	1.48	
Wellington International Small Cap Equity (CF)	229,205,027	1.25	-8.77	-8.77	-32.82	-33.39	-2.86	-4.36	0.15	3.50	4.69	12/01/2011
MSCI EAFE Sm Cap Index (USD) (Gross)			-9.75	-9.75	-31.82	-31.74	-1.78	-1.41	3.64	5.66	6.26	
Difference			0.98	0.98	-1.00	-1.65	-1.08	-2.95	-3.49	-2.16	-1.57	
SSGA Emerging Market Small Cap (CF)	302,680,268	1.64	-6.61	-6.61	-22.44	-20.68	5.39	1.48	N/A	N/A	4.07	09/01/2016
MSCI Emg Mkts Sm Cap Index (USD) (Gross)			-5.03	-5.03	-23.88	-22.76	6.01	1.67	5.07	3.28	3.98	
Difference			-1.58	-1.58	1.44	2.08	-0.62	-0.19	N/A	N/A	0.09	

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	4,645,430,536	25.23	-4.59	-4.59	-18.16	-17.57	-2.84	0.42	1.94	2.14	6.03	04/01/1990
OTRS Fixed Income Blended Benchmark			-3.54	-3.54	-14.58	-14.40	-2.41	0.29	1.63	1.82	N/A	
Difference			-1.05	-1.05	-3.58	-3.17	-0.43	0.13	0.31	0.32	N/A	
Loomis Sayles Multisector Full Discretion (SA)	1,353,706,541	7.35	-2.71	-2.71	-14.37	-14.96	0.03	1.47	2.66	2.40	5.22	07/01/1999
OTRS Fixed Income Blended Benchmark			-3.54	-3.54	-14.58	-14.40	-2.41	0.29	1.63	1.82	4.56	
Difference			0.83	0.83	0.21	-0.56	2.44	1.18	1.03	0.58	0.66	
Mackay Shields Core+ Extended Discretion (SA)	1,304,505,420	7.09	-3.84	-3.84	-15.95	-15.87	-1.60	0.63	1.57	1.67	3.91	11/01/2004
OTRS Fixed Income Blended Benchmark			-3.54	-3.54	-14.58	-14.40	-2.41	0.29	1.63	1.82	3.84	
Difference			-0.30	-0.30	-1.37	-1.47	0.81	0.34	-0.06	-0.15	0.07	
Lord Abbett Core Plus Full Discretion (SA)	1,296,083,884	7.04	-3.97	-3.97	-14.76	-14.41	-2.17	0.35	1.37	1.68	3.89	11/01/2004
OTRS Fixed Income Blended Benchmark			-3.54	-3.54	-14.58	-14.40	-2.41	0.29	1.63	1.82	3.84	
Difference			-0.43	-0.43	-0.18	-0.01	0.24	0.06	-0.26	-0.14	0.05	
Hoisington Active Duration Long Bonds (SA)	691,134,691	3.75	-10.39	-10.39	-31.89	-29.44	-9.55	-1.68	-0.45	0.54	4.70	11/01/2004
Bloomberg US Trsy Index			-4.35	-4.35	-13.09	-12.94	-3.11	-0.23	0.17	0.50	2.57	
Difference			-6.04	-6.04	-18.80	-16.50	-6.44	-1.45	-0.62	0.04	2.13	
Private Equity	1,591,090,223	8.64	-5.64	-5.64	-2.08	2.55	23.39	21.97	19.68	19.46	18.94	07/01/2015
R 2000 Index+4%			-1.22	-1.22	-22.87	-20.44	8.46	7.70	11.81	12.89	9.60	
Difference			-4.42	-4.42	20.79	22.99	14.93	14.27	7.87	6.57	9.34	
Franklin Park Private Equity LP	1,583,783,053	8.60	-5.62	-5.62	-2.07	2.56	23.54	22.24	19.84	17.25	19.04	07/01/2015
Legacy Private Equity LP	7,307,170	0.04	-10.07	-10.07	-4.27	0.49	7.16	3.38	4.50	6.44	3.86	10/01/2008

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Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Private Debt	229,366,752	1.25	-2.37	-2.37	6.89	16.04	9.57	8.60	8.58	N/A	8.69	07/01/2015
S&P/LSTA Leveraged Loan 100 Index +3%			1.33	1.33	-4.21	-3.86	1.43	2.54	3.34	3.01	2.90	
Difference			-3.70	-3.70	11.10	19.90	8.14	6.06	5.24	N/A	5.79	
PIMCO Bravo LP	81,990	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03/01/2011
PIMCO Bravo II LP	22,021,982	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03/01/2013
PIMCO Bravo III LP	169,817,241	0.92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	04/01/2017
PIMCO COF II LP	37,445,539	0.20	-2.34	-2.34	11.05	17.30	12.18	10.93	N/A	N/A	11.77	10/01/2016
Bloomberg US Unv Bond Index			-4.45	-4.45	-14.90	-14.92	-3.11	-0.18	0.86	1.17	0.01	
Difference			2.11	2.11	25.95	32.22	15.29	11.11	N/A	N/A	11.76	

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Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Real Estate	1,698,771,644	9.23	2.75	2.75	16.94	23.16	8.59	7.90	8.28	N/A	8.56	07/01/2015
NCREIF Property Index			0.57	0.57	9.35	16.08	9.91	8.62	8.45	9.48	8.61	
Difference			2.18	2.18	7.59	7.08	-1.32	-0.72	-0.17	N/A	-0.05	
AEW Core Property Trust (CF)	448,057,230	2.43	3.13	3.13	20.61	27.53	11.49	9.44	8.89	9.36	8.97	07/01/2011
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	10.05	
Difference			2.82	2.82	8.25	6.57	0.11	0.18	0.02	-0.55	-1.08	
Heitman America Real Estate (CF)	453,778,877	2.47	4.24	4.24	24.10	32.61	11.78	9.29	9.46	10.10	9.74	05/01/2011
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	10.31	
Difference			3.93	3.93	11.74	11.65	0.40	0.03	0.59	0.19	-0.57	
L&B Core Income Partners LP	29,383,654	0.16	-6.84	-6.84	-7.01	0.51	-4.70	-2.00	1.41	4.16	3.86	04/01/2011
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	10.23	
Difference			-7.15	-7.15	-19.37	-20.45	-16.08	-11.26	-7.46	-5.75	-6.37	
American Strategic Value Realty (CF)	127,554,568	0.69	2.61	2.61	13.98	20.57	11.09	9.93	10.39	N/A	10.05	12/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.69	
Difference			2.30	2.30	1.62	-0.39	-0.29	0.67	1.52	N/A	0.36	
Angelo Gordon Value X LP	56,090,173	0.30	7.72	7.72	25.91	30.87	16.94	N/A	N/A	N/A	10.00	07/01/2019
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	10.83	
Difference			7.41	7.41	13.55	9.91	5.56	N/A	N/A	N/A	-0.83	
Artemis Real Estate III LP	27,906,130	0.15	10.67	10.67	31.93	50.55	31.92	N/A	N/A	N/A	N/A	02/01/2019
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	10.13	
Difference			10.36	10.36	19.57	29.59	20.54	N/A	N/A	N/A	N/A	
Artemis Real Estate IV LP	35,229	0.00	-44.52	-44.52	N/A	N/A	N/A	N/A	N/A	N/A	-44.52	07/01/2022
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	0.31	
Difference			-44.83	-44.83	N/A	N/A	N/A	N/A	N/A	N/A	-44.83	
Dune Real Estate III LP	34,967,733	0.19	-0.32	-0.32	3.14	7.02	-3.79	2.28	4.10	N/A	4.80	11/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.58	
Difference			-0.63	-0.63	-9.22	-13.94	-15.17	-6.98	-4.77	N/A	-4.78	
Dune Real Estate IV LP	28,151,904	0.15	3.68	3.68	16.99	26.49	-8.03	N/A	N/A	N/A	-7.82	09/01/2019
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	11.44	
Difference			3.37	3.37	4.63	5.53	-19.41	N/A	N/A	N/A	-19.26	

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Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

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FCP Realty IV LP	42,273,910	0.23	3.79	3.79	26.40	34.27	18.71	N/A	N/A	N/A	0.26	12/01/2018
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	10.10	
Difference			3.48	3.48	14.04	13.31	7.33	N/A	N/A	N/A	-9.84	
FCP Realty V LP	39,867,301	0.22	-2.42	-2.42	-8.38	-27.26	N/A	N/A	N/A	N/A	-27.26	10/01/2021
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	20.96	
Difference			-2.73	-2.73	-20.74	-48.22	N/A	N/A	N/A	N/A	-48.22	
GreenOak US II LP	23,234,851	0.13	1.79	1.79	-4.97	-5.51	-19.26	-10.13	-5.86	N/A	-5.75	10/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.48	
Difference			1.48	1.48	-17.33	-26.47	-30.64	-19.39	-14.73	N/A	-15.23	
GreenOak US III LP	40,540,725	0.22	0.19	0.19	8.57	9.28	0.96	N/A	N/A	N/A	-8.48	06/01/2018
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.80	
Difference			-0.12	-0.12	-3.79	-11.68	-10.42	N/A	N/A	N/A	-18.28	
Harbert European Real Estate V LP	35,186,046	0.19	-4.70	-4.70	1.81	7.49	11.77	N/A	N/A	N/A	-1.23	12/01/2018
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	10.10	
Difference			-5.01	-5.01	-10.55	-13.47	0.39	N/A	N/A	N/A	-11.33	
Invesco VI Global Real Estate Fund	33,126,592	0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10/01/2022
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Invesco Strategic Opportunity (CF)	20,113,958	0.11	11.49	11.49	30.78	27.85	50.88	N/A	N/A	N/A	50.88	10/01/2019
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	11.38	
Difference			11.18	11.18	18.42	6.89	39.50	N/A	N/A	N/A	39.50	
L&B Gloden Driller (SA)	78,275,184	0.43	-2.91	-2.91	-2.92	-1.39	-2.43	5.35	4.50	N/A	N/A	07/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.57	
Difference			-3.22	-3.22	-15.28	-22.35	-13.81	-3.91	-4.37	N/A	N/A	
Landmark Real Estate VII LP	6,243,969	0.03	0.61	0.61	4.41	6.86	-0.27	1.27	8.06	N/A	8.18	12/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.69	
Difference			0.30	0.30	-7.95	-14.10	-11.65	-7.99	-0.81	N/A	-1.51	
Lyrical-OTRS Realty Partner IV LP	63,406,060	0.34	0.71	0.71	16.69	16.69	10.89	15.24	8.32	N/A	5.77	11/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.58	
Difference			0.40	0.40	4.33	-4.27	-0.49	5.98	-0.55	N/A	-3.81	

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Starwood Opportunity X LP	12,039,624	0.07	3.52	3.52	31.64	38.65	19.47	16.78	16.04	N/A	15.45	07/01/2015
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.06	
Difference			3.21	3.21	19.28	17.69	8.09	7.52	7.17	N/A	6.39	
Starwood Opportunity XI LP	53,376,485	0.29	3.90	3.90	10.79	20.93	15.72	N/A	N/A	N/A	22.18	08/01/2018
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.74	
Difference			3.59	3.59	-1.57	-0.03	4.34	N/A	N/A	N/A	12.44	
Starwood Opportunity XII LP	34,761,442	0.19	5.79	5.79	20.53	N/A	N/A	N/A	N/A	N/A	20.53	01/01/2022
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	12.36	
Difference			5.48	5.48	8.17	N/A	N/A	N/A	N/A	N/A	8.17	
Property ACQ Fund	10,400,000	0.06	0.00	0.00	3.17	3.17	-7.47	-9.80	N/A	N/A	-9.46	08/01/2017

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OTRS Total Fund	18,408,805,489	100.00	-4.96	-4.96	-18.47	-14.45	4.85	5.35	7.40	7.98	8.81	12/01/1991
OTRS Policy Index			-4.01	-4.01	-18.66	-14.46	4.97	5.46	7.36	7.38	8.53	
Difference			-0.95	-0.95	0.19	0.00	-0.12	-0.11	0.04	0.60	0.28	
OTRS Actual Allocation Index			-4.19	-4.19	-19.70	-15.49	4.82	5.12	7.06	7.47	N/A	
Difference			-0.77	-0.77	1.23	1.03	0.03	0.23	0.34	0.51	N/A	
Actuarial Discount Rate (7.0%)			1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			-6.67	-6.67	-23.68	-21.46	-2.15	-1.65	0.40	0.98	1.81	
All Public Plans-Total Fund Median			-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	7.66	
Rank			73	73	61	55	29	34	21	10	2	
US Equity	7,422,544,386	40.32	-5.17	-5.17	-23.47	-17.26	5.78	6.61	9.41	10.68	10.23	04/01/1990
Russell 3000 Index			-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	9.79	
Difference			-0.71	-0.71	1.15	0.37	-1.92	-2.01	-1.49	-0.71	0.44	
IM U.S. Equity (SA+CF) Median			-4.25	-4.25	-23.46	-16.68	6.77	7.31	9.86	10.88	10.75	
Rank			70	70	51	53	65	59	57	54	68	
US Active Equity	720,594,126	3.91	-4.92	-4.92	-24.63	-19.87	6.31	6.71	9.50	10.81	8.45	12/01/1998
Russell 3000 Index			-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	7.06	
Difference			-0.46	-0.46	-0.01	-2.24	-1.39	-1.91	-1.40	-0.58	1.39	
IM U.S. Equity (SA+CF) Median			-4.25	-4.25	-23.46	-16.68	6.77	7.31	9.86	10.88	8.91	
Rank			67	67	60	65	57	58	56	51	59	
Frontier Small Cap Value Equity (SA)	359,738,122	1.95	-2.89	-2.89	-17.22	-11.95	7.07	5.37	9.14	N/A	8.75	06/01/2013
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	6.57	
Difference			1.72	1.72	3.90	5.74	2.35	2.50	1.72	N/A	2.18	
IM U.S. Small Cap Value Equity (SA+CF) Median			-4.46	-4.46	-19.26	-13.87	6.31	4.24	8.22	9.73	8.02	
Rank			20	20	24	31	38	32	30	N/A	28	
Geneva US Small Cap Growth Equity (SA)	358,959,084	1.95	-5.07	-5.07	-28.57	-24.08	5.21	7.81	10.56	N/A	11.10	06/01/2013
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	7.47	
Difference			-5.31	-5.31	0.71	5.19	2.27	4.21	3.44	N/A	3.63	
IM U.S. Small Cap Growth Equity (SA+CF) Median			-0.70	-0.70	-30.74	-28.76	6.72	8.74	10.66	11.71	10.60	
Rank			94	94	38	23	70	66	57	N/A	34	
US Passive Equity (Cap Wgt)	4,013,707,282	21.80	-4.55	-4.55	-28.23	-22.12	5.28	7.09	9.72	10.54	10.48	04/01/2012
Northern Trust Russell 3000 Index (SA)	4,008,332,851	21.77	-4.56	-4.56	N/A	N/A	N/A	N/A	N/A	N/A	-4.56	07/01/2022
Russell 3000 Index			-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	-4.46	
Difference			-0.10	-0.10	N/A	N/A	N/A	N/A	N/A	N/A	-0.10	
IM U.S. Large Cap Equity (SA+CF) Median			-4.87	-4.87	-23.65	-15.47	7.37	8.71	10.89	11.57	-4.87	
Rank			42	42	N/A	N/A	N/A	N/A	N/A	N/A	42	

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Passive Equity (Non-Cap Wgt)	2,683,972,755	14.58	-5.51	-5.51	-21.11	-13.48	4.04	7.21	9.66	10.96	10.74	04/01/2012
NTGI SciBetUS HF Ex MulBeEW Gr			-5.52	-5.52	-21.10	-13.47	4.00	6.47	N/A	N/A	N/A	
Difference			0.01	0.01	-0.01	-0.01	0.04	0.74	N/A	N/A	N/A	
SciBeta US High FactorExposure Index (SA)	2,683,972,755	14.58	-5.51	-5.51	-21.11	-13.48	4.04	N/A	N/A	N/A	5.51	12/01/2017
NTGI SciBetUS HF Ex MulBeEW Gr			-5.52	-5.52	-21.10	-13.47	4.00	6.47	N/A	N/A	5.48	
Difference			0.01	0.01	-0.01	-0.01	0.04	N/A	N/A	N/A	0.03	
IM U.S. Large Cap Index Equity (SA+CF) Median			-4.87	-4.87	-23.89	-15.49	8.00	9.01	11.18	11.63	8.15	
Rank			82	82	19	16	98	N/A	N/A	N/A	83	
International Equity	2,762,403,349	15.01	-10.97	-10.97	-29.86	-28.76	-1.02	-0.88	3.18	4.13	6.85	02/01/1996
MSCI ACW Ex US IM Index (USD) (Gross)			-9.58	-9.58	-26.60	-25.34	-0.83	-0.32	3.86	3.66	4.55	
Difference			-1.39	-1.39	-3.26	-3.42	-0.19	-0.56	-0.68	0.47	2.30	
IM International Equity (SA+CF) Median			-9.47	-9.38	-27.45	-25.97	-0.43	0.04	3.97	4.89	6.26	
Rank			79	81	66	70	61	69	70	69	37	
Causeway Intl Opportunities (SA)	476,920,467	2.59	-10.36	-10.36	-24.18	-24.07	-0.91	-1.26	2.93	3.50	6.58	05/01/2003
MSCI ACW Ex US Val Index (USD) (Gross)			-10.29	-10.29	-20.53	-19.46	-1.54	-1.51	2.87	2.47	6.38	
Difference			-0.07	-0.07	-3.65	-4.61	0.63	0.25	0.06	1.03	0.20	
IM ACWI Ex US Value (SA+CF) Median			-10.46	-10.46	-24.45	-24.26	-0.80	-0.68	3.58	4.07	7.19	
Rank			46	46	44	48	53	63	70	66	67	
Allianz Best Styles AC Intl Equity (SA)	10,756,288	0.06	-0.86	-0.86	-17.39	-14.92	1.80	0.81	N/A	N/A	5.27	07/01/2016
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	3.82	
Difference			8.94	8.94	8.79	9.87	2.87	1.15	N/A	N/A	1.45	
IM ACWI Ex US Core (SA+CF) Median			-9.69	-9.69	-27.72	-25.09	-0.24	0.09	3.61	3.95	4.03	
Rank			1	1	1	1	13	26	N/A	N/A	22	
NT ACWI Ex US Investable Market Fund (CF)	972,079,028	5.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-9.87	09/01/2022
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	-9.94	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.07	
IM ACWI Ex US Core (SA+CF) Median			-9.69	-9.69	-27.72	-25.09	-0.24	0.09	3.61	3.95	-9.57	
Rank			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	67	
Wellington Intl Quality Growth (SA)	490,831,085	2.67	-11.88	-11.88	-34.89	-33.27	-0.64	1.67	N/A	N/A	5.37	07/01/2016
MSCI ACW Ex US Grth Index (USD) (Gross)			-9.30	-9.30	-31.64	-30.00	-1.08	0.51	4.44	4.31	4.10	
Difference			-2.58	-2.58	-3.25	-3.27	0.44	1.16	N/A	N/A	1.27	
IM ACWI Ex US Growth (SA+CF) Median			-8.52	-8.52	-32.98	-31.39	0.01	1.14	5.04	5.08	5.29	
Rank			99	99	63	64	63	36	N/A	N/A	45	

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Wasatch International Small Cap Growth (SA)	279,928,121	1.52	-9.09	-9.09	-39.97	-40.56	-1.51	0.18	4.15	6.12	7.86	12/01/2011
MSCI ACW Ex US Sm Cap Index (USD) (Gross)			-8.25	-8.25	-29.07	-28.57	0.80	-0.16	4.39	4.83	5.49	
Difference			-0.84	-0.84	-10.90	-11.99	-2.31	0.34	-0.24	1.29	2.37	
IM International Small Cap Equity (SA+CF) Median			-9.44	-9.44	-32.36	-31.41	-0.24	-0.34	4.10	6.04	6.82	
Rank			43	43	86	90	63	40	49	47	27	
Wellington International Small Cap Equity (CF)	229,205,027	1.25	-8.67	-8.67	-32.68	-33.17	-2.46	-3.88	0.72	4.14	5.35	12/01/2011
MSCI EAFE Sm Cap Index (USD) (Gross)			-9.75	-9.75	-31.82	-31.74	-1.78	-1.41	3.64	5.66	6.26	
Difference			1.08	1.08	-0.86	-1.43	-0.68	-2.47	-2.92	-1.52	-0.91	
IM EAFE Core (SA+CF) Median			-9.47	-9.47	-27.41	-25.12	-0.89	-0.13	3.32	4.71	5.30	
Rank			24	24	96	97	86	100	100	75	49	
SSGA Emerging Market Small Cap (CF)	302,680,268	1.64	-6.44	-6.44	-22.04	-20.12	6.10	2.18	N/A	N/A	4.72	09/01/2016
MSCI Emg Mkts Sm Cap Index (USD) (Gross)			-5.03	-5.03	-23.88	-22.76	6.01	1.67	5.07	3.28	3.98	
Difference			-1.41	-1.41	1.84	2.64	0.09	0.51	N/A	N/A	0.74	
IM Emerging Markets Equity (SA+CF) Median			-10.21	-10.19	-27.04	-27.47	-0.62	-0.89	4.84	2.41	3.00	
Rank			22	22	25	21	12	17	N/A	N/A	24	

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Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)										
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date	
Fixed Income	4,645,430,536	25.23	-4.53	-4.53	-18.05	-17.42	-2.66	0.61	2.15	2.36	6.21	04/01/1990	
OTRS Fixed Income Blended Benchmark			-3.54	-3.54	-14.58	-14.40	-2.41	0.29	1.63	1.82	N/A		
Difference			-0.99	-0.99	-3.47	-3.02	-0.25	0.32	0.52	0.54	N/A		
IM U.S. Fixed Income (SA+CF) Median			-2.90	-2.90	-11.80	-11.56	-1.16	0.85	1.54	1.70	5.46		
Rank			75	75	88	87	77	61	33	29	22		
Loomis Sayles Multisector Full Discretion (SA)	1,353,706,541	7.35	-2.60	-2.60	-14.24	-14.78	0.26	1.68	2.86	2.59	5.41	07/01/1999	
OTRS Fixed Income Blended Benchmark			-3.54	-3.54	-14.58	-14.40	-2.41	0.29	1.63	1.82	4.56		
Difference			0.94	0.94	0.34	-0.38	2.67	1.39	1.23	0.77	0.85		
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			-4.32	-4.32	-14.67	-14.66	-2.34	0.51	1.54	1.81	4.77		
Rank			11	11	30	54	5	10	11	17	17		
Mackay Shields Core+ Extended Discretion (SA)	1,304,505,420	7.09	-3.79	-3.79	-15.84	-15.71	-1.40	0.84	1.78	1.89	4.15	11/01/2004	
OTRS Fixed Income Blended Benchmark			-3.54	-3.54	-14.58	-14.40	-2.41	0.29	1.63	1.82	3.84		
Difference			-0.25	-0.25	-1.26	-1.31	1.01	0.55	0.15	0.07	0.31		
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			-4.32	-4.32	-14.67	-14.66	-2.34	0.51	1.54	1.81	3.83		
Rank			26	26	79	76	20	27	37	42	29		
Lord Abbett Core Plus Full Discretion (SA)	1,296,083,884	7.04	-3.93	-3.93	-14.67	-14.29	-2.00	0.52	1.54	1.85	4.06	11/01/2004	
OTRS Fixed Income Blended Benchmark			-3.54	-3.54	-14.58	-14.40	-2.41	0.29	1.63	1.82	3.84		
Difference			-0.39	-0.39	-0.09	0.11	0.41	0.23	-0.09	0.03	0.22		
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			-4.32	-4.32	-14.67	-14.66	-2.34	0.51	1.54	1.81	3.83		
Rank			31	31	51	35	36	48	51	45	34		
Hoisington Active Duration Long Bonds (SA)	691,134,691	3.75	-10.37	-10.37	-31.85	-29.38	-9.48	-1.59	-0.34	0.66	4.84	11/01/2004	
Bloomberg US Trsy Index			-4.35	-4.35	-13.09	-12.94	-3.11	-0.23	0.17	0.50	2.57		
Difference			-6.02	-6.02	-18.76	-16.44	-6.37	-1.36	-0.51	0.16	2.27		
IM U.S. Long Duration (SA+CF) Median			-8.82	-8.82	-28.91	-27.53	-6.37	-0.60	1.67	1.93	5.05		
Rank			100	100	99	96	100	100	100	100	76		

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Private Equity	1,591,090,223	8.64	-5.64	-5.64	-2.08	2.55	23.39	21.97	19.68	19.46	18.94	07/01/2015
R 2000 Index+4%			-1.22	-1.22	-22.87	-20.44	8.46	7.70	11.81	12.89	9.60	
Difference			-4.42	-4.42	20.79	22.99	14.93	14.27	7.87	6.57	9.34	
Franklin Park Private Equity LP	1,583,783,053	8.60	-5.62	-5.62	-2.07	2.56	23.54	22.24	19.96	17.36	19.20	07/01/2015
Legacy Private Equity LP	7,307,170	0.04	-10.07	-10.07	-4.27	0.49	7.16	3.38	4.56	6.48	3.89	10/01/2008
Private Debt	229,366,752	1.25	-2.37	-2.37	6.89	16.04	9.57	8.60	8.58	N/A	8.69	07/01/2015
S&P/LSTA Leveraged Loan 100 Index +3%			1.33	1.33	-4.21	-3.86	1.43	2.54	3.34	3.01	2.90	
Difference			-3.70	-3.70	11.10	19.90	8.14	6.06	5.24	N/A	5.79	
PIMCO Bravo LP	81,990	0.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03/01/2011
PIMCO Bravo II LP	22,021,982	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	03/01/2013
PIMCO Bravo III LP	169,817,241	0.92	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	04/01/2017
PIMCO COF II LP	37,445,539	0.20	-2.34	-2.34	11.05	17.30	12.18	10.93	N/A	N/A	11.77	10/01/2016
Bloomberg US Unv Bond Index			-4.45	-4.45	-14.90	-14.92	-3.11	-0.18	0.86	1.17	0.01	
Difference			2.11	2.11	25.95	32.22	15.29	11.11	N/A	N/A	11.76	
Real Estate	1,698,771,644	9.23	2.82	2.82	17.17	23.49	8.85	8.12	8.49	N/A	8.76	07/01/2015
NCREIF Property Index			0.57	0.57	9.35	16.08	9.91	8.62	8.45	9.48	8.61	
Difference			2.25	2.25	7.82	7.41	-1.06	-0.50	0.04	N/A	0.15	
AEW Core Property Trust (CF)	448,057,230	2.43	3.13	3.13	20.61	27.53	11.49	9.44	9.33	9.95	9.59	07/01/2011
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	11.06	
Difference			2.61	2.61	7.53	5.44	-0.88	-0.80	-0.52	-0.97	-1.47	
Heitman America Real Estate (CF)	453,778,877	2.47	4.43	4.43	24.77	33.55	12.58	10.08	10.23	10.89	10.53	05/01/2011
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	11.33	
Difference			3.91	3.91	11.69	11.46	0.21	-0.16	0.38	-0.03	-0.80	
L&B Core Income Partners LP	29,383,654	0.16	-6.84	-6.84	-7.01	0.40	-4.97	-2.31	1.18	4.11	3.86	04/01/2011
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	11.25	
Difference			-7.36	-7.36	-20.09	-21.69	-17.34	-12.55	-8.67	-6.81	-7.39	
American Strategic Value Realty (CF)	127,554,568	0.69	2.89	2.89	14.95	21.95	12.36	11.20	11.66	N/A	11.36	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.70	
Difference			2.37	2.37	1.87	-0.14	-0.01	0.96	1.81	N/A	0.66	

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Angelo Gordon Value X LP	56,090,173	0.30	7.72	7.72	25.91	30.87	16.94	N/A	N/A	N/A	10.00	07/01/2019
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	11.81	
Difference			7.20	7.20	12.83	8.78	4.57	N/A	N/A	N/A	-1.81	
Artemis Real Estate III LP	27,906,130	0.15	10.67	10.67	31.93	50.55	31.92	N/A	N/A	N/A	N/A	02/01/2019
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	11.13	
Difference			10.15	10.15	18.85	28.46	19.55	N/A	N/A	N/A	N/A	
Artemis Real Estate IV LP	35,229	0.00	-44.52	-44.52	N/A	N/A	N/A	N/A	N/A	N/A	-44.52	07/01/2022
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	0.52	
Difference			-45.04	-45.04	N/A	N/A	N/A	N/A	N/A	N/A	-45.04	
Dune Real Estate III LP	34,967,733	0.19	-0.32	-0.32	3.14	7.02	-3.79	2.28	4.34	N/A	5.79	11/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.59	
Difference			-0.84	-0.84	-9.94	-15.07	-16.16	-7.96	-5.51	N/A	-4.80	
Dune Real Estate IV LP	28,151,904	0.15	3.68	3.68	16.99	26.49	-8.03	N/A	N/A	N/A	-7.82	09/01/2019
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	12.49	
Difference			3.16	3.16	3.91	4.40	-20.40	N/A	N/A	N/A	-20.31	
FCP Realty IV LP	42,273,910	0.23	3.79	3.79	26.40	34.27	18.71	N/A	N/A	N/A	0.26	12/01/2018
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	11.13	
Difference			3.27	3.27	13.32	12.18	6.34	N/A	N/A	N/A	-10.87	
FCP Realty V LP	39,867,301	0.22	-2.42	-2.42	-8.38	-27.26	N/A	N/A	N/A	N/A	-27.26	10/01/2021
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	22.09	
Difference			-2.94	-2.94	-21.46	-49.35	N/A	N/A	N/A	N/A	-49.35	
GreenOak US II LP	23,234,851	0.13	1.79	1.79	-4.97	-5.51	-19.26	-10.13	-5.59	N/A	-4.86	10/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.47	
Difference			1.27	1.27	-18.05	-27.60	-31.63	-20.37	-15.44	N/A	-15.33	
GreenOak US III LP	40,540,725	0.22	0.19	0.19	8.57	9.28	0.96	N/A	N/A	N/A	-8.48	06/01/2018
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.83	
Difference			-0.33	-0.33	-4.51	-12.81	-11.41	N/A	N/A	N/A	-19.31	
Harbert European Real Estate V LP	35,186,046	0.19	-4.70	-4.70	1.81	7.49	11.77	N/A	N/A	N/A	-1.23	12/01/2018
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	11.13	
Difference			-5.22	-5.22	-11.27	-14.60	-0.60	N/A	N/A	N/A	-12.36	
Invesco VI Global Real Estate Fund	33,126,592	0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10/01/2022
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Teachers' Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

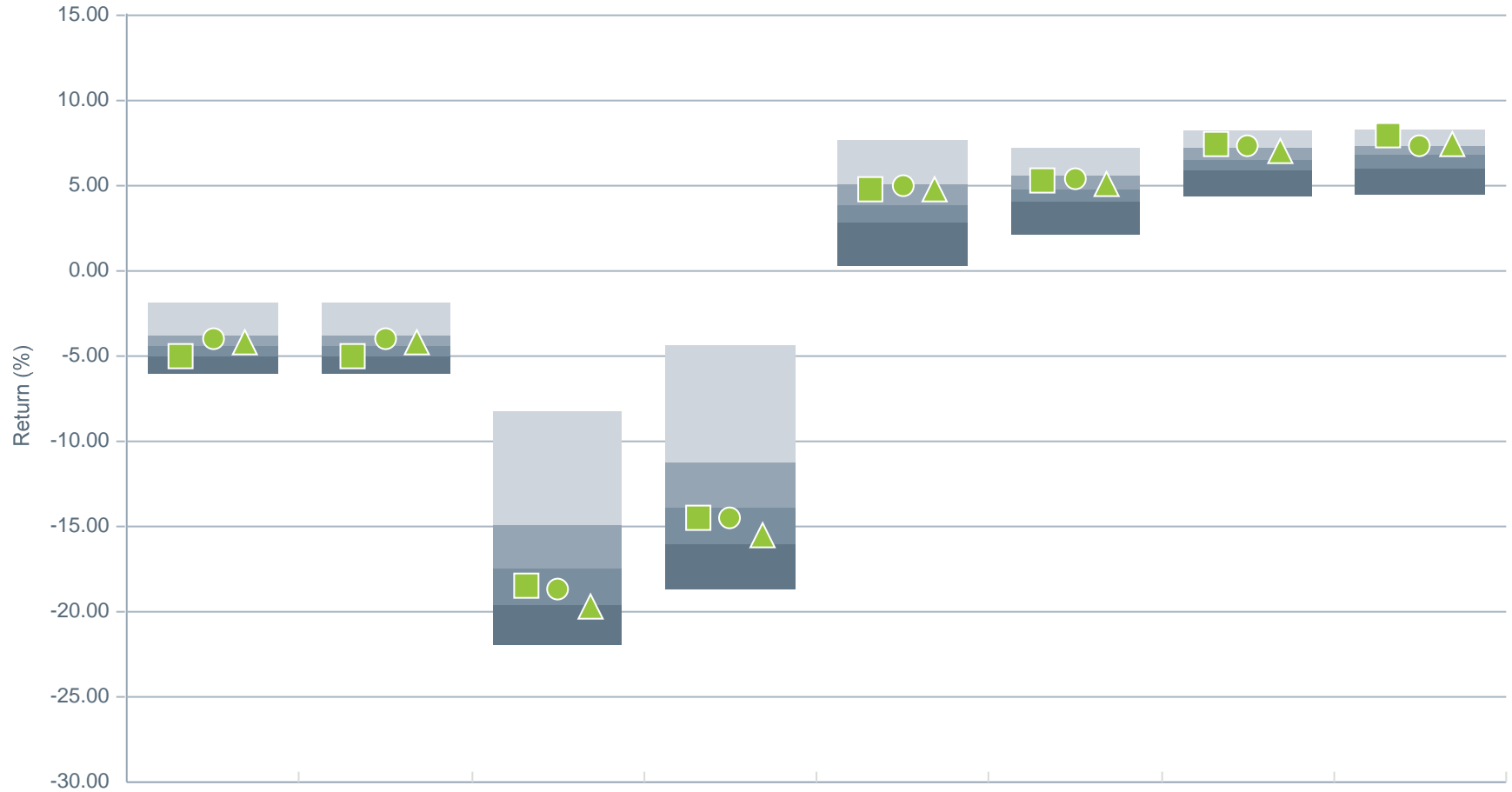
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Invesco Strategic Opportunity (CF)	20,113,958	0.11	11.49	11.49	30.78	27.85	50.88	N/A	N/A	N/A	50.88	10/01/2019
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	12.37	
Difference			10.97	10.97	17.70	5.76	38.51	N/A	N/A	N/A	38.51	
L&B Gloden Driller (SA)	78,275,184	0.43	-2.91	-2.91	-2.92	-1.39	-2.43	5.35	4.59	N/A	3.62	07/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.56	
Difference			-3.43	-3.43	-16.00	-23.48	-14.80	-4.89	-5.26	N/A	-6.94	
Landmark Real Estate VII LP	6,243,969	0.03	0.61	0.61	4.41	6.86	-0.27	1.27	8.53	N/A	10.01	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.70	
Difference			0.09	0.09	-8.67	-15.23	-12.64	-8.97	-1.32	N/A	-0.69	
Lyrical-OTRS Realty Partner IV LP	63,406,060	0.34	0.71	0.71	16.69	16.69	10.89	15.24	8.77	N/A	7.71	11/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.59	
Difference			0.19	0.19	3.61	-5.40	-1.48	5.00	-1.08	N/A	-2.88	
Starwood Opportunity X LP	12,039,624	0.07	3.52	3.52	31.64	38.65	19.47	16.78	16.91	N/A	16.28	07/01/2015
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.04	
Difference			3.00	3.00	18.56	16.56	7.10	6.54	7.06	N/A	6.24	
Starwood Opportunity XI LP	53,376,485	0.29	3.90	3.90	10.79	20.93	15.72	N/A	N/A	N/A	22.18	08/01/2018
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.74	
Difference			3.38	3.38	-2.29	-1.16	3.35	N/A	N/A	N/A	11.44	
Starwood Opportunity XII LP	34,761,442	0.19	5.79	5.79	20.53	N/A	N/A	N/A	N/A	N/A	20.53	01/01/2022
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	13.08	
Difference			5.27	5.27	7.45	N/A	N/A	N/A	N/A	N/A	7.45	
Property ACQ Fund	10,400,000	0.06	0.00	0.00	3.17	3.17	-7.45	-4.01	N/A	N/A	-3.85	08/01/2017

During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded, and Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated. During 09/2022, Invesco VI Global Real Estate Fund was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Teachers' Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of September 30, 2022



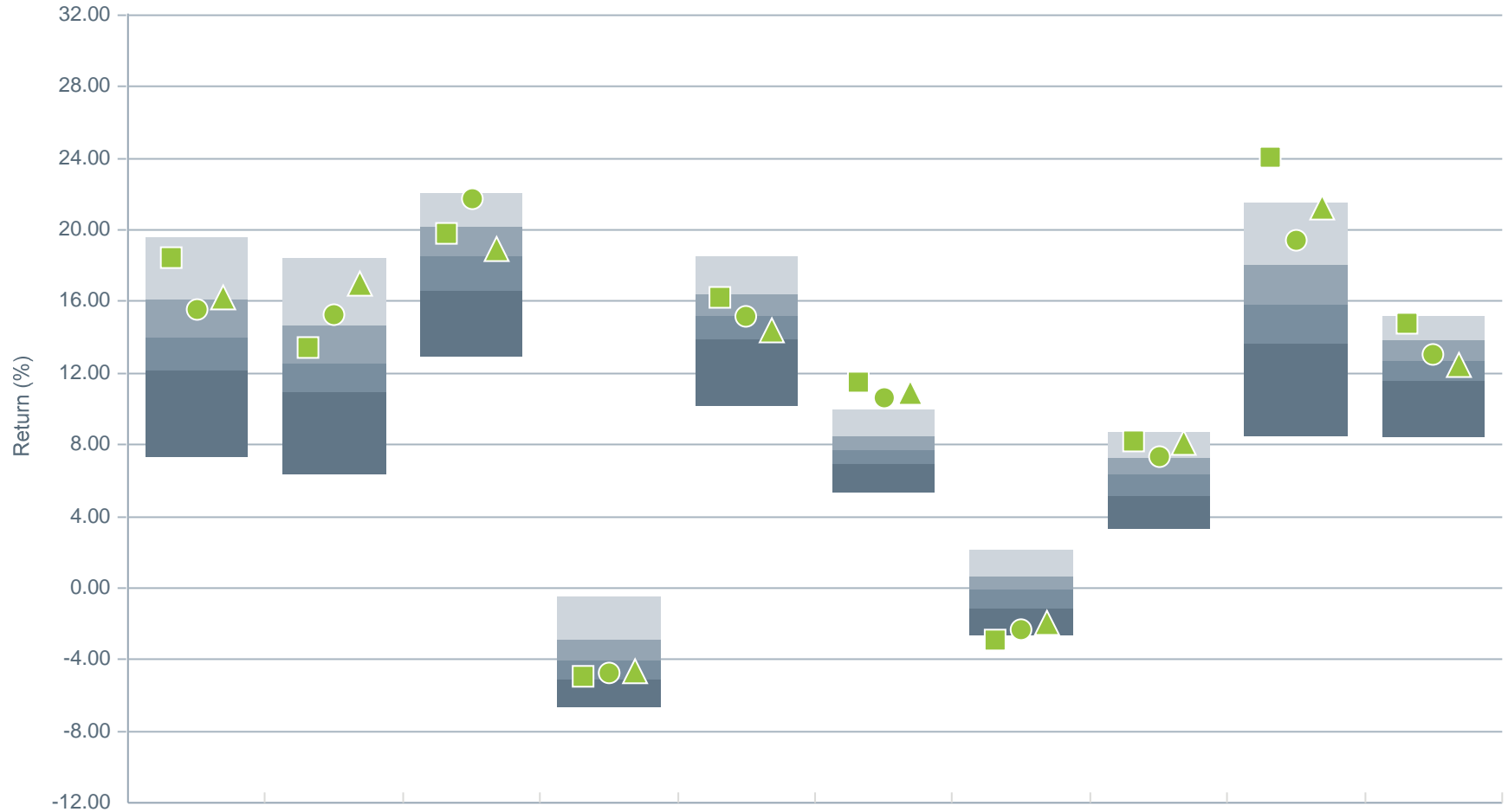
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OTRS Total Fund	-4.96 (73)	-4.96 (73)	-18.47 (61)	-14.46 (55)	4.85 (29)	5.35 (34)	7.40 (21)	7.98 (10)
● OTRS Policy Index	-4.01 (34)	-4.01 (34)	-18.66 (63)	-14.46 (55)	4.97 (27)	5.46 (30)	7.36 (22)	7.38 (26)
▲ OTRS Allocation Index	-4.19 (42)	-4.19 (42)	-19.70 (77)	-15.49 (70)	4.82 (29)	5.12 (40)	7.06 (33)	7.47 (21)
5th Percentile	-1.87	-1.87	-8.24	-4.42	7.64	7.24	8.29	8.30
1st Quartile	-3.73	-3.73	-14.94	-11.26	5.10	5.59	7.20	7.40
Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
3rd Quartile	-5.01	-5.01	-19.61	-16.07	2.81	4.03	5.91	6.06
95th Percentile	-6.07	-6.07	-21.98	-18.65	0.34	2.18	4.35	4.45

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Teachers' Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

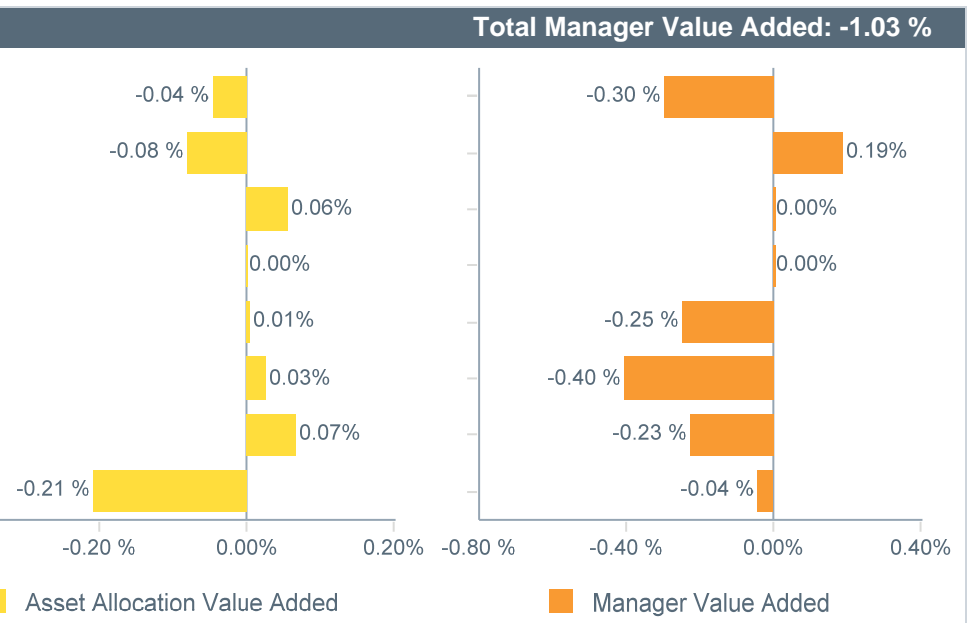
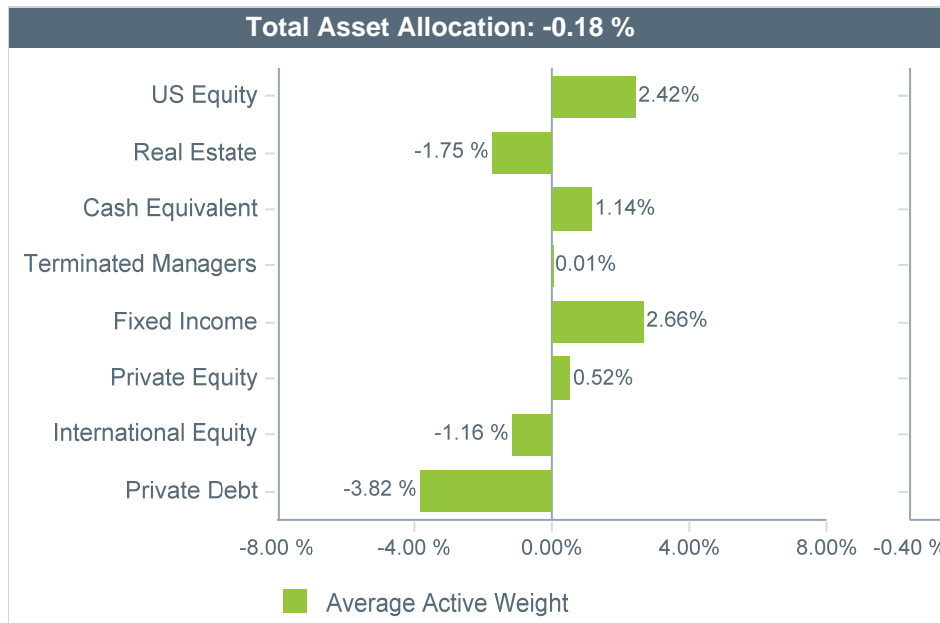
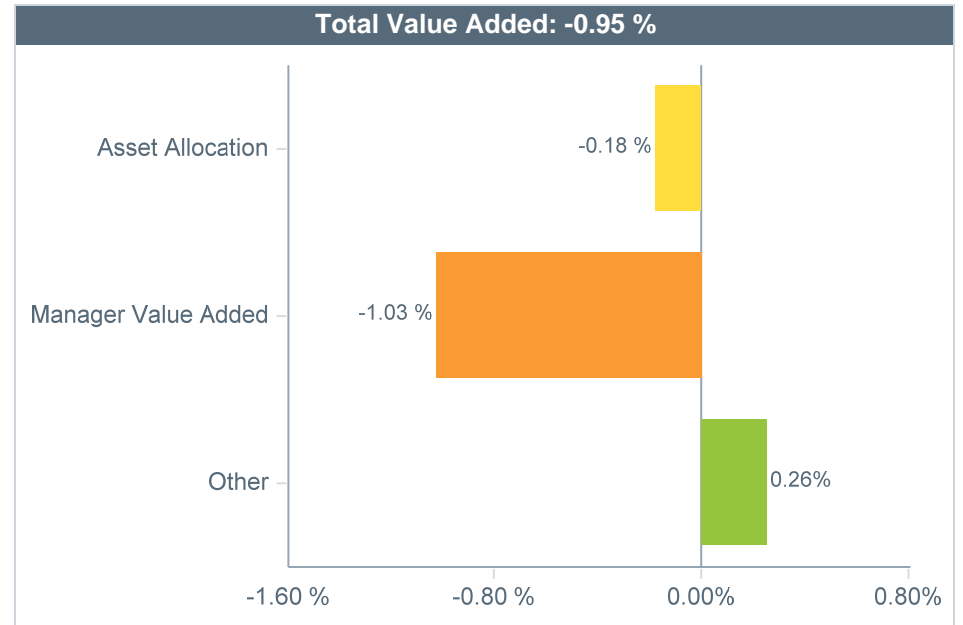
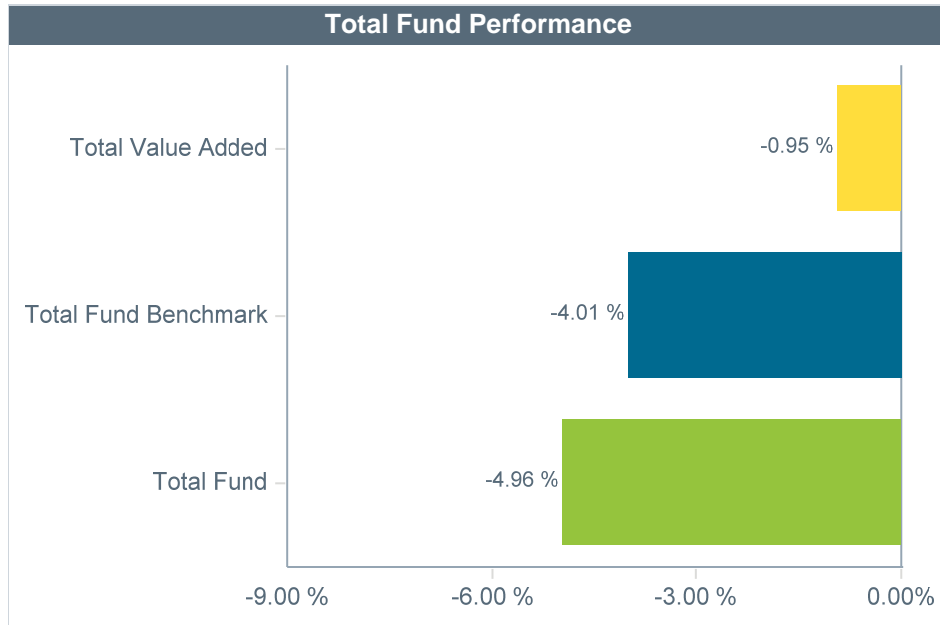
As of September 30, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OTRS Total Fund	18.42 (9)	13.45 (38)	19.83 (31)	-4.98 (73)	16.20 (29)	11.54 (1)	-2.90 (97)	8.16 (9)	24.03 (2)	14.76 (9)
● OTRS Policy Index	15.60 (30)	15.24 (20)	21.72 (8)	-4.75 (67)	15.16 (50)	10.65 (3)	-2.33 (93)	7.36 (23)	19.45 (15)	13.09 (39)
▲ OTRS Allocation Index	16.21 (25)	16.98 (9)	18.94 (43)	-4.70 (64)	14.35 (67)	10.93 (3)	-1.95 (87)	8.15 (9)	21.24 (6)	12.44 (59)
5th Percentile	19.59	18.43	22.06	-0.54	18.60	9.98	2.08	8.68	21.59	15.19
1st Quartile	16.10	14.71	20.19	-2.90	16.44	8.51	0.71	7.24	18.05	13.79
Median	14.01	12.54	18.57	-4.03	15.15	7.69	-0.13	6.34	15.88	12.71
3rd Quartile	12.21	10.94	16.66	-5.11	13.89	6.94	-1.17	5.08	13.66	11.63
95th Percentile	7.35	6.40	12.93	-6.65	10.14	5.33	-2.66	3.24	8.52	8.44

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.

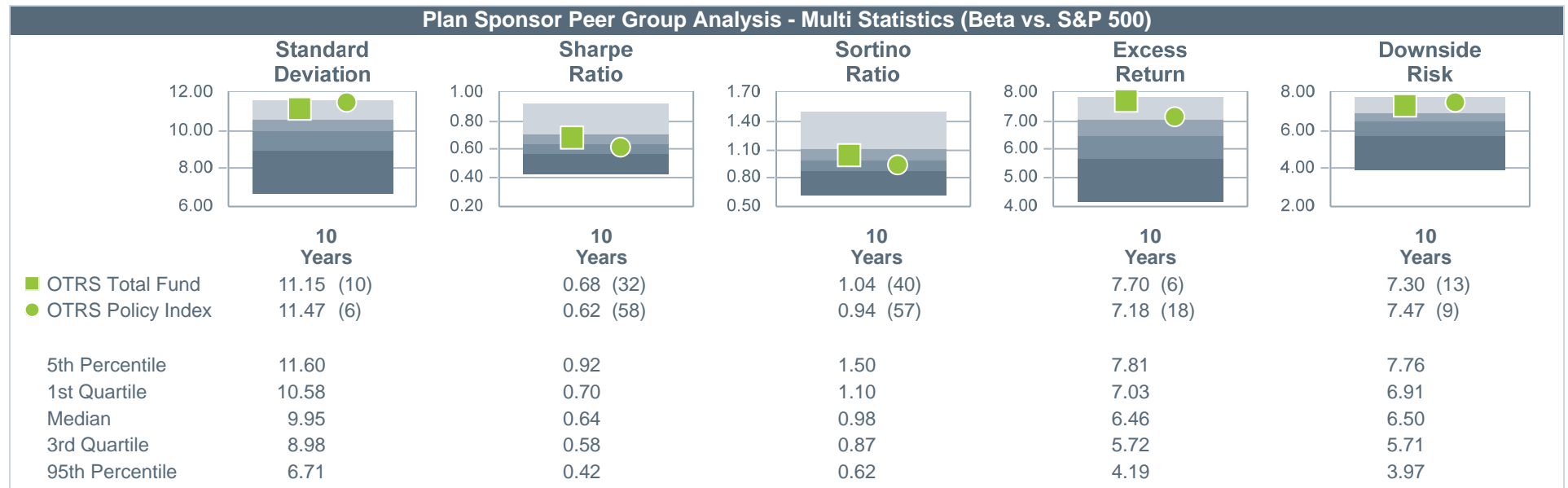
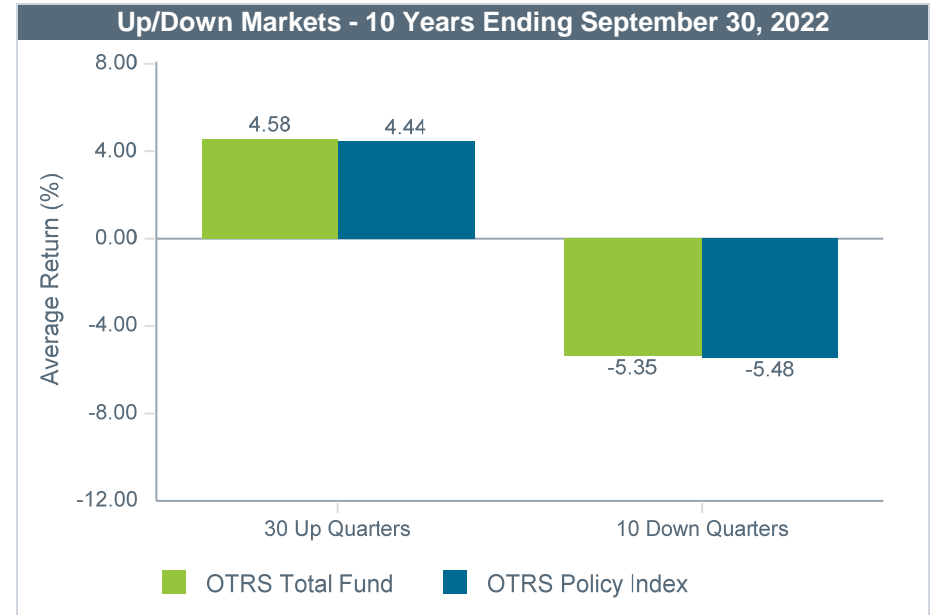
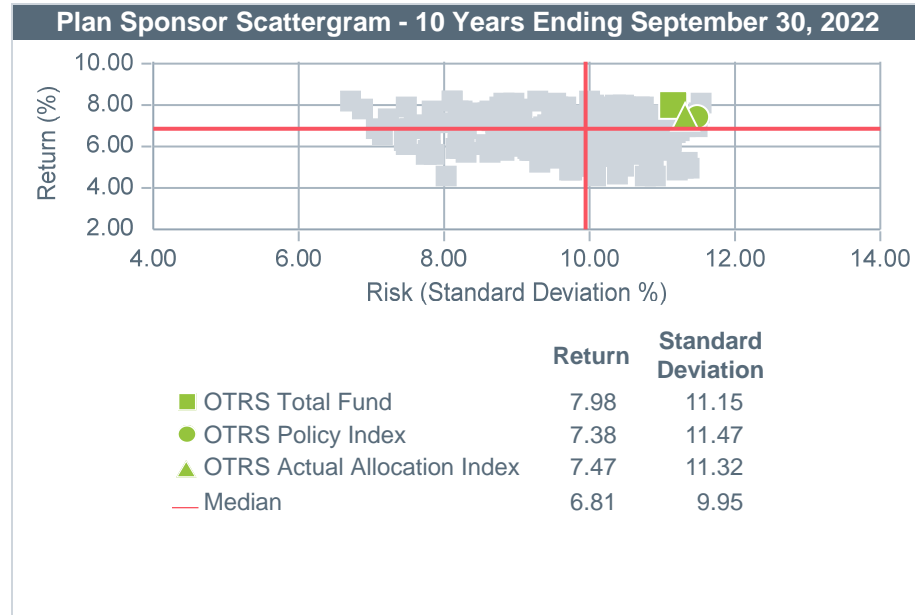




Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation. Allocation to Private Equity includes Private Credit.

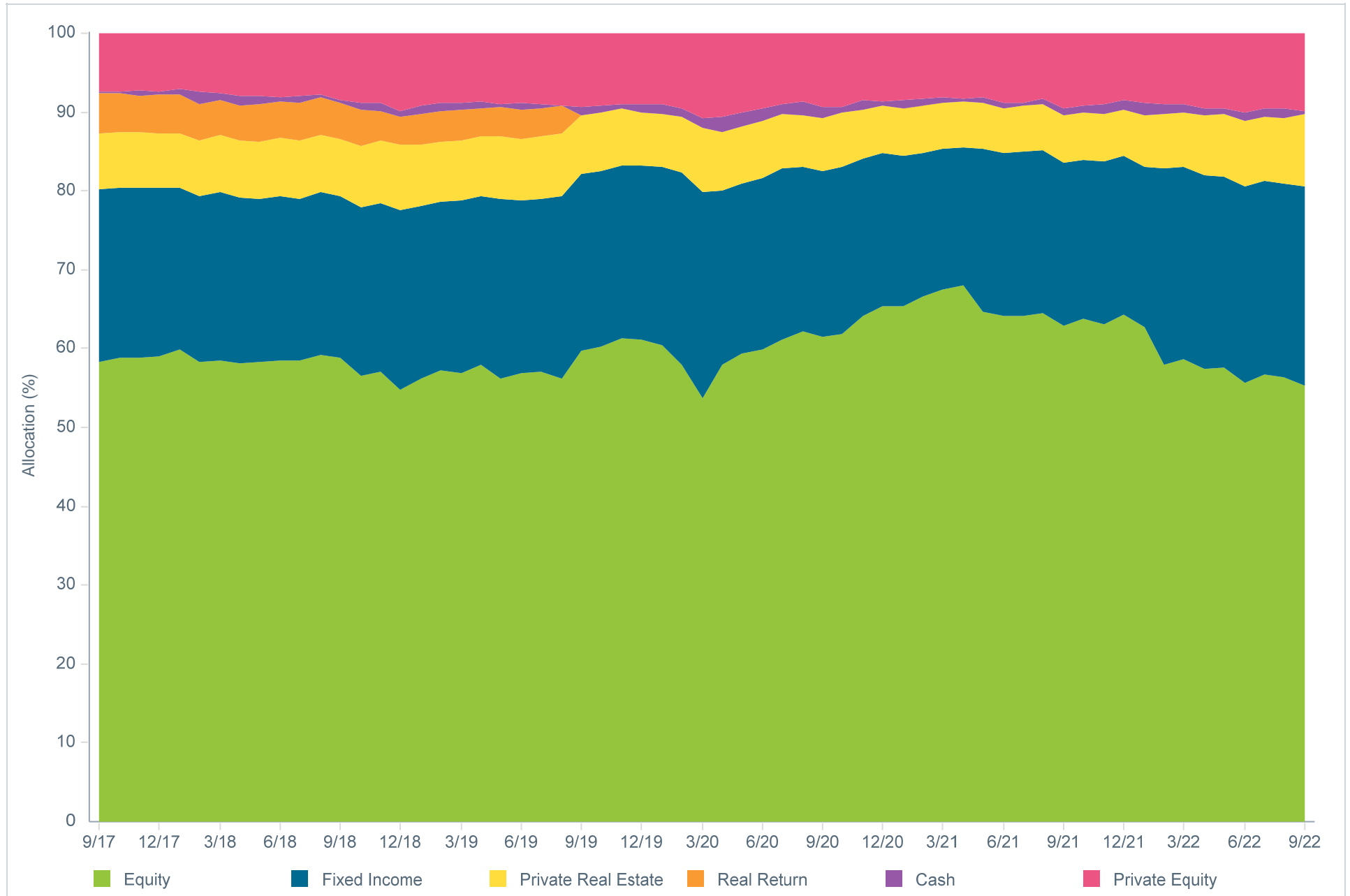


Total Fund Risk & Return, Up/Down Markets, and Multi Statistics



Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



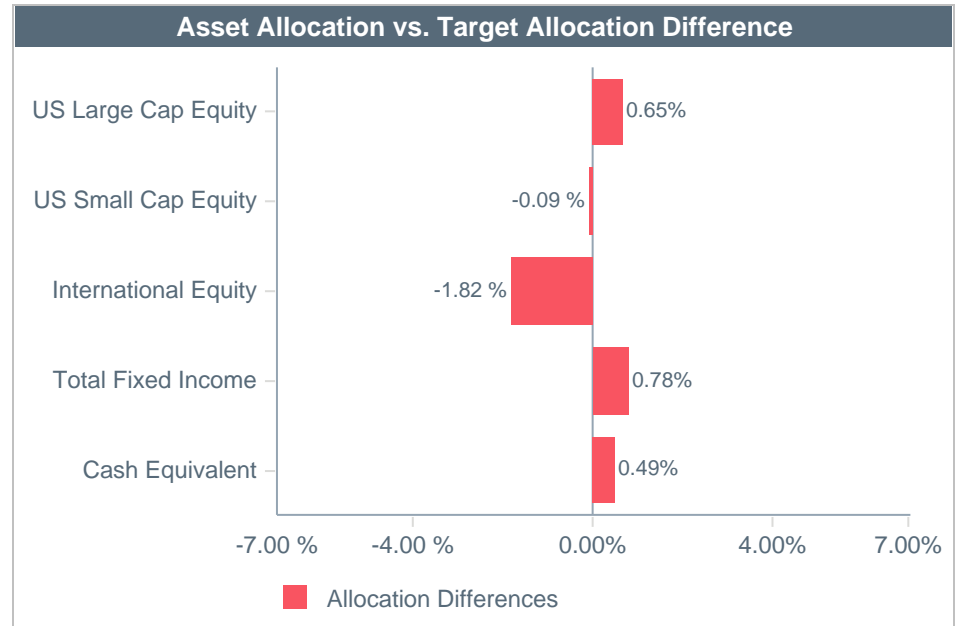


Oklahoma Public Employees Retirement System (OPERS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OPERS Total Fund (Net)	-6.41	-6.41	-22.73	-19.45	2.01	3.37	5.67	6.00	12.29	15.18	21.23	-6.57	17.01
OPERS Policy Index	-6.15	-6.15	-22.36	-19.10	1.89	3.44	5.81	5.96	11.54	15.19	21.46	-6.09	16.86
Difference	-0.26	-0.26	-0.37	-0.35	0.12	-0.07	-0.14	0.04	0.75	-0.01	-0.23	-0.48	0.15
OPERS Actual Allocation Index	-6.07	-6.07	-22.42	-19.09	3.13	4.01	6.18	6.28	12.14	18.93	20.87	-6.49	16.51
Difference	-0.34	-0.34	-0.31	-0.36	-1.12	-0.64	-0.51	-0.28	0.15	-3.75	0.36	-0.08	0.50
Actuarial Discount Rate (6.5%)	1.59	1.59	4.84	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference	-8.00	-8.00	-27.57	-25.95	-4.49	-3.13	-0.83	-0.50	5.79	8.68	14.73	-13.07	10.51
OPERS Total Fund (Gross)	-6.39	-6.39	-22.68	-19.33	2.14	3.49	5.80	6.13	12.46	15.34	21.38	-6.48	17.13
OPERS Policy Index	-6.15	-6.15	-22.36	-19.10	1.89	3.44	5.81	5.96	11.54	15.19	21.46	-6.09	16.86
Difference	-0.24	-0.24	-0.32	-0.23	0.25	0.05	-0.01	0.17	0.92	0.15	-0.08	-0.39	0.27
OPERS Actual Allocation Index	-6.07	-6.07	-22.42	-19.09	3.13	4.01	6.18	6.28	12.14	18.93	20.87	-6.49	16.51
Difference	-0.32	-0.32	-0.26	-0.24	-0.99	-0.52	-0.38	-0.15	0.32	-3.59	0.51	0.01	0.62
All Public Plans-Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	14.01	12.54	18.57	-4.03	15.15
Rank	98	98	98	98	85	85	79	73	72	19	11	94	14

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OPERS (Public Employees)	9,628,558,750	100.00	100.00
US Large Cap Equity	3,336,515,228	34.65	34.00
US Small Cap Equity	568,603,085	5.91	6.00
International Equity	2,520,485,029	26.18	28.00
Total Fixed Income	3,155,832,966	32.78	32.00
Cash Equivalent	47,122,442	0.49	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Fixed Income includes the Grand Centre Real Estate allocation for Policy purposes. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OPERS Total Fund	9,628,558,750	100.00	-6.41	-6.41	-22.73	-19.45	2.01	3.37	5.67	6.00	N/A	03/01/1987
OPERS Policy Index			-6.15	-6.15	-22.36	-19.10	1.89	3.44	5.81	5.96	7.63	
Difference			-0.26	-0.26	-0.37	-0.35	0.12	-0.07	-0.14	0.04	N/A	
OPERS Actual Allocation Index			-6.07	-6.07	-22.42	-19.09	3.13	4.01	6.18	6.28	7.69	
Difference			-0.34	-0.34	-0.31	-0.36	-1.12	-0.64	-0.51	-0.28	N/A	
Actuarial Discount Rate (6.5%)			1.59	1.59	4.84	6.50	6.50	6.50	6.50	6.50	6.50	
Difference			-8.00	-8.00	-27.57	-25.95	-4.49	-3.13	-0.83	-0.50	N/A	
US Equity	3,905,118,313	40.56	-4.56	-4.56	-23.93	-17.15	7.95	8.22	10.55	11.21	N/A	09/01/1988
OPERS US Equity Custom Index			-4.25	-4.25	-24.64	-18.16	7.47	8.23	10.66	11.20	N/A	
Difference			-0.31	-0.31	0.71	1.01	0.48	-0.01	-0.11	0.01	N/A	
US Active Large Cap Equity	296,393,723	3.08	-3.09	-3.09	-30.67	-24.89	3.24	5.34	8.06	9.60	N/A	08/01/2003
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	9.19	
Difference			1.52	1.52	-6.08	-7.67	-4.71	-3.66	-3.09	-2.00	N/A	
Westfield Large Cap Growth Equity (SA)	296,393,723	3.08	-3.09	-3.09	-30.67	-24.89	9.59	10.80	N/A	N/A	12.80	02/01/2017
Russell 1000 Grth Index			-3.60	-3.60	-30.66	-22.59	10.67	12.16	13.74	13.70	13.73	
Difference			0.51	0.51	-0.01	-2.30	-1.08	-1.36	N/A	N/A	-0.93	
US Large Cap Enhanced Index Equity	1,153,027,665	11.98	-4.73	-4.73	-23.43	-15.51	7.82	8.07	10.25	11.20	N/A	03/01/2000
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	6.43	
Difference			-0.12	-0.12	1.16	1.71	-0.13	-0.93	-0.90	-0.40	N/A	
State Street Large Cap Enhanced Index (SA)	579,201,040	6.02	-4.08	-4.08	-23.25	-15.14	8.07	9.02	10.95	11.81	8.71	09/01/2004
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	9.00	
Difference			0.53	0.53	1.34	2.08	0.12	0.02	-0.20	0.21	-0.29	
Mellon EB DV Large Cap Stock Index (SA)	573,826,625	5.96	-5.38	-5.38	-23.62	-15.87	7.57	7.12	9.53	10.58	8.06	06/01/2004
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	8.79	
Difference			-0.77	-0.77	0.97	1.35	-0.38	-1.88	-1.62	-1.02	-0.73	
US Large Cap Passive Equity	1,887,093,840	19.60	-4.81	-4.81	-23.55	-16.27	8.32	9.24	11.30	11.75	N/A	01/01/2003
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	9.66	
Difference			-0.20	-0.20	1.04	0.95	0.37	0.24	0.15	0.15	N/A	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Grand Centre Real Estate holding is considered Fixed Income for policy purposes; benchmark shown is for illustrative purposes only.



Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
BlackRock Russell 1000 Value (CF)	273,870,340	2.84	-5.80	-5.80	-18.00	-11.63	N/A	N/A	N/A	N/A	1.50	01/01/2021
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	1.67	
Difference			-0.18	-0.18	-0.25	-0.27	N/A	N/A	N/A	N/A	-0.17	
Blackrock Russell 1000 Index (CF)	1,613,223,499	16.75	-4.61	-4.61	-24.57	-17.18	7.99	9.04	11.19	11.64	12.85	09/01/2010
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	12.82	
Difference			0.00	0.00	0.02	0.04	0.04	0.04	0.04	0.04	0.03	
US Active Small Cap Equity	568,603,085	5.91	-4.16	-4.16	-22.51	-19.11	9.40	7.21	10.21	10.58	N/A	08/01/2003
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	8.17	
Difference			-1.97	-1.97	2.59	4.39	5.11	3.66	2.70	2.03	N/A	
BHMS Small Cap Value Equity (SA)	201,878,226	2.10	-4.28	-4.28	-22.14	-14.11	10.15	4.91	9.19	10.48	9.51	12/01/2004
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	6.27	
Difference			0.33	0.33	-1.02	3.58	5.43	2.04	1.77	2.54	3.24	
UBS US Small Cap Growth Equity (SA)	170,192,113	1.77	-1.42	-1.42	-32.09	-33.84	8.11	9.03	9.94	10.80	N/A	06/01/2003
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	8.72	
Difference			-1.66	-1.66	-2.81	-4.57	5.17	5.43	2.82	1.99	N/A	
DePrince Race & Zollo Small Cap Value (SA)	196,532,746	2.04	-5.96	-5.96	-14.30	-9.26	7.70	6.20	10.47	9.58	8.90	03/01/2011
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	7.08	
Difference			-1.35	-1.35	6.82	8.43	2.98	3.33	3.05	1.64	1.82	
International Equity	2,520,485,029	26.18	-10.57	-10.57	-27.88	-26.83	-1.65	-0.71	3.38	3.28	N/A	05/01/1994
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	4.72	
Difference			-0.77	-0.77	-1.70	-2.04	-0.58	-0.37	-0.40	-0.20	N/A	
International Core Active Equity	538,179,911	5.59	-13.71	-13.71	-23.75	-23.46	-3.25	-2.14	1.75	2.26	N/A	08/01/2003
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	6.05	
Difference			-3.91	-3.91	2.43	1.33	-2.18	-1.80	-2.03	-1.22	N/A	
Mondrian ACWI ex US Equity (SA)	538,179,911	5.59	-13.71	-13.71	-23.75	-23.46	-3.25	-2.14	1.75	2.26	N/A	08/01/2001
MSCI ACW Ex US Val Index (USD) (Gross)			-10.29	-10.29	-20.53	-19.46	-1.54	-1.51	2.87	2.47	4.86	
Difference			-3.42	-3.42	-3.22	-4.00	-1.71	-0.63	-1.12	-0.21	N/A	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Grand Centre Real Estate holding is considered Fixed Income for policy purposes; benchmark shown is for illustrative purposes only.



Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Core Passive Equity	1,462,089,085	15.18	-9.86	-9.86	-26.28	-24.90	-1.26	-0.55	3.57	3.26	N/A	08/01/2003
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	6.05	
Difference			-0.06	-0.06	-0.10	-0.11	-0.19	-0.21	-0.21	-0.22	N/A	
Blackrock ACWI Ex US Index (CF)	1,462,089,085	15.18	-9.86	-9.86	-26.28	-24.90	-1.26	-0.55	3.57	3.26	3.42	11/01/2009
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	3.64	
Difference			-0.06	-0.06	-0.10	-0.11	-0.19	-0.21	-0.21	-0.22	-0.22	
International Growth Equity	520,216,034	5.40	-9.14	-9.14	-35.46	-34.55	-1.91	-0.29	4.02	3.84	4.62	05/01/2005
MSCI ACW Ex US Grth Index (USD) (Gross)			-9.30	-9.30	-31.64	-30.00	-1.08	0.51	4.44	4.31	4.89	
Difference			0.16	0.16	-3.82	-4.55	-0.83	-0.80	-0.42	-0.47	-0.27	
Baillie Gifford Intl Growth Equity (SA)	240,548,493	2.50	-8.86	-8.86	-40.75	-40.65	-2.86	-1.06	3.74	N/A	2.48	10/01/2013
MSCI ACW Ex US Grth Index (USD) (Gross)			-9.30	-9.30	-31.64	-30.00	-1.08	0.51	4.44	4.31	3.03	
Difference			0.44	0.44	-9.11	-10.65	-1.78	-1.57	-0.70	N/A	-0.55	
Blackrock ACWI Ex US Growth (CF)	279,667,541	2.90	-9.38	-9.38	-30.08	-28.20	-1.14	0.37	4.22	3.89	4.20	11/01/2009
MSCI ACW Ex US Grth Index (USD) (Gross)			-9.30	-9.30	-31.64	-30.00	-1.08	0.51	4.44	4.31	4.52	
Difference			-0.08	-0.08	1.56	1.80	-0.06	-0.14	-0.22	-0.42	-0.32	
Fixed Income	3,147,182,966	32.69	-5.38	-5.38	-16.62	-16.14	-3.04	0.23	0.99	1.23	N/A	04/01/1989
OPERS Fixed Income Custom Index			-5.47	-5.47	-16.33	-15.75	-3.41	-0.15	0.66	0.90	N/A	
Difference			0.09	0.09	-0.29	-0.39	0.37	0.38	0.33	0.33	N/A	
Active Fixed Income	1,214,164,295	12.61	-6.32	-6.32	-19.62	-18.94	-4.32	-0.07	0.76	1.29	N/A	08/01/2003
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.11	
Difference			-1.57	-1.57	-5.01	-4.34	-1.06	0.20	0.22	0.40	N/A	
MetWest Core Plus Fixed Income (SA)	939,209,676	9.75	-5.09	-5.09	-15.26	-15.34	-2.68	0.29	1.02	1.40	N/A	09/01/2001
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.38	
Difference			-0.34	-0.34	-0.65	-0.74	0.58	0.56	0.48	0.51	N/A	
Hoisington Long Duration Fixed Income (SA)	274,954,619	2.86	-10.28	-10.28	-31.62	-29.22	-9.51	-1.72	-0.47	0.62	N/A	10/01/1991
Bloomberg US Trsy Lng Trm Bond Index			-9.63	-9.63	-28.84	-26.65	-8.51	-1.62	-0.34	0.59	6.12	
Difference			-0.65	-0.65	-2.78	-2.57	-1.00	-0.10	-0.13	0.03	N/A	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Grand Centre Real Estate holding is considered Fixed Income for policy purposes; benchmark shown is for illustrative purposes only.



Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Enhanced Fixed Income	1,549,394,448	16.09	-4.69	-4.69	-14.88	-14.92	-2.93	-0.01	0.82	1.15	N/A	06/01/2000
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.94	
Difference			0.06	0.06	-0.27	-0.32	0.33	0.26	0.28	0.26	N/A	
Blackrock Enhanced Core (SA)	1,549,394,448	16.09	-4.69	-4.69	-14.88	-14.92	-2.93	-0.01	0.82	1.15	N/A	06/01/2000
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.94	
Difference			0.06	0.06	-0.27	-0.32	0.33	0.26	0.28	0.26	N/A	
Passive Fixed Income	383,624,223	3.98	-5.14	-5.14	-13.56	-11.56	0.88	2.05	2.34	1.09	2.80	03/01/2010
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	1.99	
Difference			-0.39	-0.39	1.05	3.04	4.14	2.32	1.80	0.20	0.81	
Blackrock TIPS (CF)	383,624,223	3.98	-5.14	-5.14	-13.56	-11.56	0.88	2.05	2.34	1.09	2.80	03/01/2010
Bloomberg US Trsy US TIPS Index			-5.14	-5.14	-13.61	-11.57	0.79	1.95	2.21	0.98	2.76	
Difference			0.00	0.00	0.05	0.01	0.09	0.10	0.13	0.11	0.04	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Grand Centre Real Estate holding is considered Fixed Income for policy purposes; benchmark shown is for illustrative purposes only.



Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OPERS Total Fund	9,628,558,750	100.00	-6.39	-6.39	-22.68	-19.33	2.14	3.49	5.80	6.13	7.77	03/01/1987
OPERS Policy Index			-6.15	-6.15	-22.36	-19.10	1.89	3.44	5.81	5.96	7.63	
Difference			-0.24	-0.24	-0.32	-0.23	0.25	0.05	-0.01	0.17	0.14	
OPERS Actual Allocation Index			-6.07	-6.07	-22.42	-19.09	3.13	4.01	6.18	6.28	7.69	
Difference			-0.32	-0.32	-0.26	-0.24	-0.99	-0.52	-0.38	-0.15	0.08	
Actuarial Discount Rate (6.5%)			1.59	1.59	4.84	6.50	6.50	6.50	6.50	6.50	6.50	
Difference			-7.98	-7.98	-27.52	-25.83	-4.36	-3.01	-0.70	-0.37	1.27	
All Public Plans-Total Fund Median			-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	8.02	
Rank			98	98	98	98	85	85	79	73	74	
US Equity	3,905,118,313	40.56	-4.54	-4.54	-23.88	-17.02	8.08	8.35	10.68	11.33	9.91	09/01/1988
OPERS US Equity Custom Index			-4.25	-4.25	-24.64	-18.16	7.47	8.23	10.66	11.20	N/A	
Difference			-0.29	-0.29	0.76	1.14	0.61	0.12	0.02	0.13	N/A	
IM U.S. Equity (SA+CF) Median			-4.25	-4.25	-23.46	-16.68	6.77	7.31	9.86	10.88	11.02	
Rank			57	57	54	52	33	40	38	42	91	
US Active Large Cap Equity	296,393,723	3.08	-3.06	-3.06	-30.61	-24.81	3.32	5.42	8.14	9.74	7.83	08/01/2003
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	9.19	
Difference			1.55	1.55	-6.02	-7.59	-4.63	-3.58	-3.01	-1.86	-1.36	
IM U.S. Large Cap Equity (SA+CF) Median			-4.87	-4.87	-23.65	-15.47	7.37	8.71	10.89	11.57	9.46	
Rank			14	14	82	84	94	89	89	83	94	
Westfield Large Cap Growth Equity (SA)	296,393,723	3.08	-3.06	-3.06	-30.61	-24.81	9.69	10.90	N/A	N/A	12.98	02/01/2017
Russell 1000 Grth Index			-3.60	-3.60	-30.66	-22.59	10.67	12.16	13.74	13.70	13.73	
Difference			0.54	0.54	0.05	-2.22	-0.98	-1.26	N/A	N/A	-0.75	
IM U.S. Large Cap Growth Equity (SA+CF) Median			-4.12	-4.12	-31.92	-25.79	7.80	10.52	12.14	12.76	12.26	
Rank			25	25	42	47	24	40	N/A	N/A	35	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Large Cap Enhanced Index Equity	1,153,027,665	11.98	-4.72	-4.72	-23.42	-15.49	7.84	8.10	10.27	11.23	5.52	03/01/2000
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	6.43	
Difference			-0.11	-0.11	1.17	1.73	-0.11	-0.90	-0.88	-0.37	-0.91	
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median			-4.71	-4.71	-23.28	-14.69	8.03	8.66	11.13	11.78	7.04	
Rank			51	51	56	63	52	59	77	73	100	
State Street Large Cap Enhanced Index (SA)	579,201,040	6.02	-4.07	-4.07	-23.23	-15.12	8.10	9.05	10.99	11.85	8.76	09/01/2004
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	9.00	
Difference			0.54	0.54	1.36	2.10	0.15	0.05	-0.16	0.25	-0.24	
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median			-4.71	-4.71	-23.28	-14.69	8.03	8.66	11.13	11.78	9.15	
Rank			27	27	49	54	49	41	56	46	76	
Mellon EB DV Large Cap Stock Index (SA)	573,826,625	5.96	-5.37	-5.37	-23.61	-15.86	7.58	7.14	9.55	10.61	8.10	06/01/2004
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	8.79	
Difference			-0.76	-0.76	0.98	1.36	-0.37	-1.86	-1.60	-0.99	-0.69	
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median			-4.71	-4.71	-23.28	-14.69	8.03	8.66	11.13	11.78	8.98	
Rank			74	74	58	72	54	77	85	86	98	
US Large Cap Passive Equity	1,887,093,840	19.60	-4.81	-4.81	-23.55	-16.26	8.32	9.25	11.31	11.75	9.89	01/01/2003
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	9.66	
Difference			-0.20	-0.20	1.04	0.96	0.37	0.25	0.16	0.15	0.23	
BlackRock Russell 1000 Value (CF)	273,870,340	2.84	-5.80	-5.80	-18.00	-11.63	N/A	N/A	N/A	N/A	1.51	01/01/2021
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	1.67	
Difference			-0.18	-0.18	-0.25	-0.27	N/A	N/A	N/A	N/A	-0.16	
IM U.S. Large Cap Value Equity (SA+CF) Median			-5.72	-5.72	-16.57	-9.64	6.57	6.84	9.31	10.11	3.51	
Rank			53	53	66	67	N/A	N/A	N/A	N/A	73	
Blackrock Russell 1000 Index (CF)	1,613,223,499	16.75	-4.61	-4.61	-24.56	-17.18	7.99	9.05	11.20	11.65	12.86	09/01/2010
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	12.82	
Difference			0.00	0.00	0.03	0.04	0.04	0.05	0.05	0.05	0.04	
IM U.S. Large Cap Index Equity (SA+CF) Median			-4.87	-4.87	-23.89	-15.49	8.00	9.01	11.18	11.63	12.85	
Rank			39	39	62	57	51	48	50	48	49	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Active Small Cap Equity	568,603,085	5.91	-4.01	-4.01	-22.25	-18.36	10.13	7.94	10.91	11.25	10.98	08/01/2003
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	8.17	
Difference			-1.82	-1.82	2.85	5.14	5.84	4.39	3.40	2.70	2.81	
IM U.S. Small Cap Equity (SA+CF) Median			-2.98	-2.98	-23.53	-19.30	6.09	5.51	8.85	10.20	10.07	
Rank			66	66	40	46	15	26	21	29	24	
BHMS Small Cap Value Equity (SA)	201,878,226	2.10	-4.28	-4.28	-21.95	-13.79	10.66	5.42	9.73	11.03	10.12	12/01/2004
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	6.27	
Difference			0.33	0.33	-0.83	3.90	5.94	2.55	2.31	3.09	3.85	
IM U.S. Small Cap Value Equity (SA+CF) Median			-4.46	-4.46	-19.26	-13.87	6.31	4.24	8.22	9.73	8.35	
Rank			47	47	76	50	7	31	22	16	7	
UBS US Small Cap Growth Equity (SA)	170,192,113	1.77	-1.18	-1.18	-31.86	-32.59	9.26	10.04	10.85	11.62	10.43	06/01/2003
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	8.72	
Difference			-1.42	-1.42	-2.58	-3.32	6.32	6.44	3.73	2.81	1.71	
IM U.S. Small Cap Growth Equity (SA+CF) Median			-0.70	-0.70	-30.74	-28.76	6.72	8.74	10.66	11.71	11.35	
Rank			59	59	60	67	30	34	47	51	79	
DePrince Race & Zollo Small Cap Value (SA)	196,532,746	2.04	-5.86	-5.86	-14.05	-8.92	8.10	6.81	11.03	10.15	9.50	03/01/2011
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	7.08	
Difference			-1.25	-1.25	7.07	8.77	3.38	3.94	3.61	2.21	2.42	
IM U.S. Micro Cap Equity (SA+CF) Median			-3.24	-3.24	-22.46	-18.80	8.40	5.36	9.74	11.95	10.87	
Rank			81	81	15	9	56	30	28	71	71	
International Equity	2,520,485,029	26.18	-10.54	-10.54	-27.82	-26.67	-1.48	-0.56	3.55	3.44	4.94	05/01/1994
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	4.72	
Difference			-0.74	-0.74	-1.64	-1.88	-0.41	-0.22	-0.23	-0.04	0.22	
IM All ACWI Ex US (SA+CF) Median			-9.32	-9.32	-27.93	-26.10	-0.49	0.32	4.01	4.71	6.33	
Rank			74	74	49	57	66	67	64	81	100	
International Core Active Equity	538,179,911	5.59	-13.62	-13.62	-23.54	-23.18	-2.90	-1.79	2.12	2.63	5.53	08/01/2003
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	6.05	
Difference			-3.82	-3.82	2.64	1.61	-1.83	-1.45	-1.66	-0.85	-0.52	
IM All ACWI Ex US (SA+CF) Median			-9.32	-9.32	-27.93	-26.10	-0.49	0.32	4.01	4.71	6.62	
Rank			98	98	14	21	88	85	87	93	89	
Mondrian ACWI ex US Equity (SA)	538,179,911	5.59	-13.62	-13.62	-23.54	-23.18	-2.90	-1.79	2.12	2.63	5.51	08/01/2001
MSCI ACW Ex US Val Index (USD) (Gross)			-10.29	-10.29	-20.53	-19.46	-1.54	-1.51	2.87	2.47	4.86	
Difference			-3.33	-3.33	-3.01	-3.72	-1.36	-0.28	-0.75	0.16	0.65	
IM ACWI Ex US Core (SA+CF) Median			-9.69	-9.69	-27.72	-25.09	-0.24	0.09	3.61	3.95	5.74	
Rank			100	100	9	12	89	85	86	100	83	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Core Passive Equity	1,462,089,085	15.18	-9.86	-9.86	-26.27	-24.89	-1.24	-0.53	3.60	3.30	5.33	08/01/2003
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	6.05	
Difference			-0.06	-0.06	-0.09	-0.10	-0.17	-0.19	-0.18	-0.18	-0.72	
Blackrock ACWI Ex US Index (CF)	1,462,089,085	15.18	-9.86	-9.86	-26.27	-24.89	-1.24	-0.53	3.60	3.30	3.46	11/01/2009
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	3.64	
Difference			-0.06	-0.06	-0.09	-0.10	-0.17	-0.19	-0.18	-0.18	-0.18	
International Growth Equity	520,216,034	5.40	-9.11	-9.11	-35.39	-34.17	-1.56	-0.02	4.31	4.07	4.79	05/01/2005
MSCI ACW Ex US Grth Index (USD) (Gross)			-9.30	-9.30	-31.64	-30.00	-1.08	0.51	4.44	4.31	4.89	
Difference			0.19	0.19	-3.75	-4.17	-0.48	-0.53	-0.13	-0.24	-0.10	
IM ACWI Ex US Growth (SA+CF) Median			-8.52	-8.52	-32.98	-31.39	0.01	1.14	5.04	5.08	5.95	
Rank			76	76	65	72	78	72	69	97	98	
Baillie Gifford Intl Growth Equity (SA)	240,548,493	2.50	-8.81	-8.81	-40.64	-39.99	-2.22	-0.59	4.26	N/A	2.92	10/01/2013
MSCI ACW Ex US Grth Index (USD) (Gross)			-9.30	-9.30	-31.64	-30.00	-1.08	0.51	4.44	4.31	3.03	
Difference			0.49	0.49	-9.00	-9.99	-1.14	-1.10	-0.18	N/A	-0.11	
IM ACWI Ex US Growth (SA+CF) Median			-8.52	-8.52	-32.98	-31.39	0.01	1.14	5.04	5.08	3.84	
Rank			65	65	95	96	84	86	71	N/A	85	
Blackrock ACWI Ex US Growth (CF)	279,667,541	2.90	-9.38	-9.38	-30.06	-28.17	-1.10	0.42	4.27	3.94	4.25	11/01/2009
MSCI ACW Ex US Grth Index (USD) (Gross)			-9.30	-9.30	-31.64	-30.00	-1.08	0.51	4.44	4.31	4.52	
Difference			-0.08	-0.08	1.58	1.83	-0.02	-0.09	-0.17	-0.37	-0.27	
IM ACWI Ex US Growth (SA+CF) Median			-8.52	-8.52	-32.98	-31.39	0.01	1.14	5.04	5.08	5.70	
Rank			79	79	36	40	67	69	70	97	99	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	3,147,182,966	32.69	-5.37	-5.37	-16.58	-16.05	-2.95	0.32	1.07	1.32	6.04	04/01/1989
OPERS Fixed Income Custom Index			-5.47	-5.47	-16.33	-15.75	-3.41	-0.15	0.66	0.90	N/A	
Difference			0.10	0.10	-0.25	-0.30	0.46	0.47	0.41	0.42	N/A	
IM U.S. Broad Market Fixed Income (SA+CF) Median			-4.43	-4.43	-14.50	-14.51	-2.54	0.31	1.22	1.58	5.79	
Rank			98	98	95	93	79	50	68	75	17	
Active Fixed Income	1,214,164,295	12.61	-6.30	-6.30	-19.57	-18.79	-4.20	0.05	0.87	1.41	4.87	08/01/2003
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.11	
Difference			-1.55	-1.55	-4.96	-4.19	-0.94	0.32	0.33	0.52	1.76	
IM U.S. Broad Market Fixed Income (SA+CF) Median			-4.43	-4.43	-14.50	-14.51	-2.54	0.31	1.22	1.58	3.81	
Rank			99	99	100	100	100	79	84	64	10	
MetWest Core Plus Fixed Income (SA)	939,209,676	9.75	-5.08	-5.08	-15.23	-15.18	-2.56	0.41	1.12	1.52	4.45	09/01/2001
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.38	
Difference			-0.33	-0.33	-0.62	-0.58	0.70	0.68	0.58	0.63	1.07	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			-4.32	-4.32	-14.67	-14.66	-2.34	0.51	1.54	1.81	4.33	
Rank			97	97	64	63	67	59	83	76	40	
Hoisington Long Duration Fixed Income (SA)	274,954,619	2.86	-10.25	-10.25	-31.55	-29.12	-9.39	-1.59	-0.34	0.76	6.83	10/01/1991
Bloomberg US Trsy Lng Trm Bond Index			-9.63	-9.63	-28.84	-26.65	-8.51	-1.62	-0.34	0.59	6.12	
Difference			-0.62	-0.62	-2.71	-2.47	-0.88	0.03	0.00	0.17	0.71	
IM U.S. Long Duration (SA+CF) Median			-8.82	-8.82	-28.91	-27.53	-6.37	-0.60	1.67	1.93	N/A	
Rank			100	100	99	96	100	100	100	100	N/A	
Enhanced Fixed Income	1,549,394,448	16.09	-4.69	-4.69	-14.84	-14.87	-2.86	0.07	0.90	1.23	4.14	06/01/2000
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.94	
Difference			0.06	0.06	-0.23	-0.27	0.40	0.34	0.36	0.34	0.20	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.55	-4.55	-14.43	-14.48	-2.70	0.18	1.07	1.37	4.37	
Rank			66	66	68	69	63	65	72	69	83	
Blackrock Enhanced Core (SA)	1,549,394,448	16.09	-4.69	-4.69	-14.84	-14.87	-2.86	0.07	0.90	1.23	4.14	06/01/2000
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.94	
Difference			0.06	0.06	-0.23	-0.27	0.40	0.34	0.36	0.34	0.20	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.55	-4.55	-14.43	-14.48	-2.70	0.18	1.07	1.37	4.37	
Rank			66	66	68	69	63	65	72	69	83	

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Oklahoma State Pension Commission
Oklahoma Public Employees Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

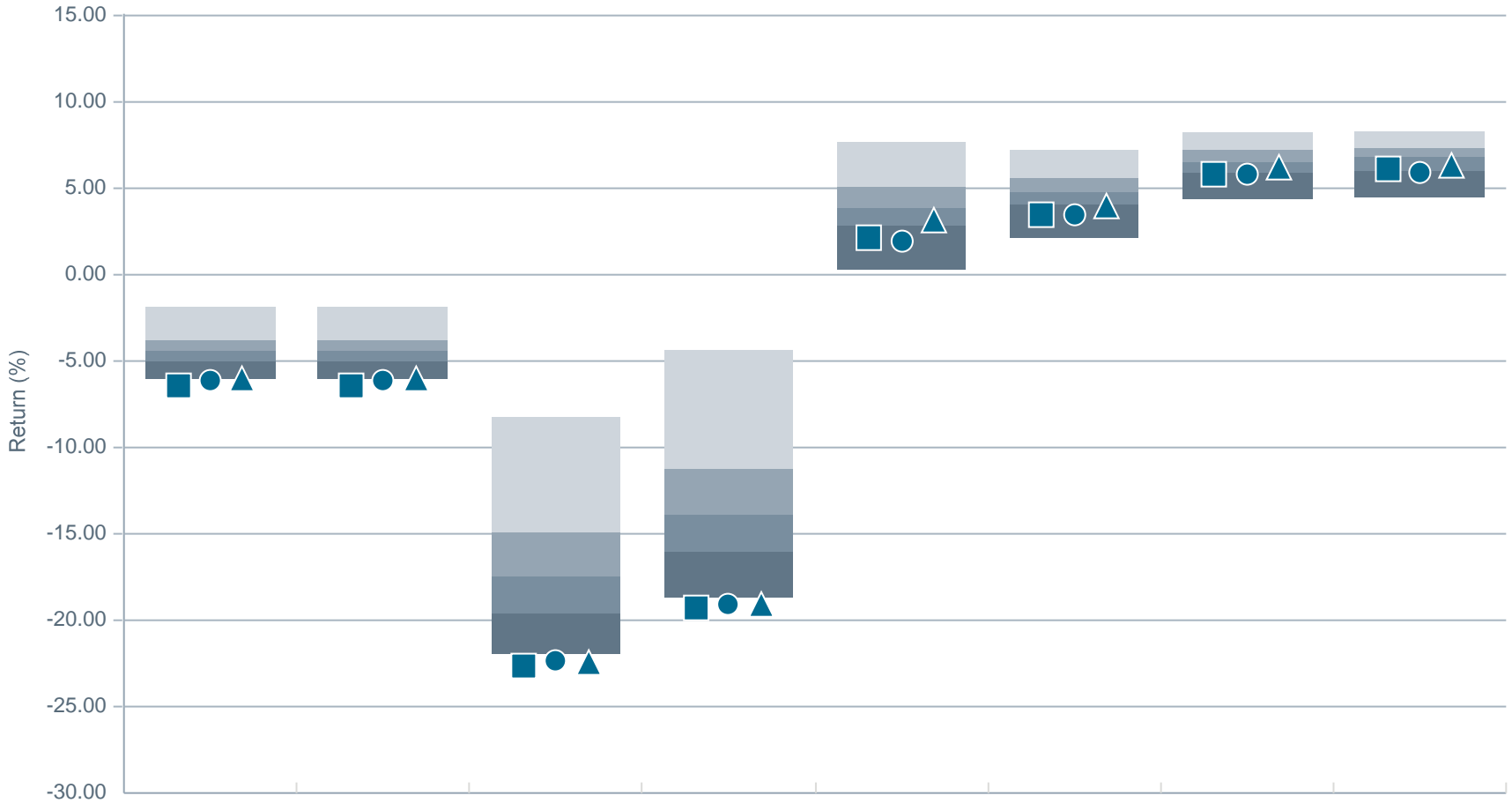
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Passive Fixed Income	383,624,223	3.98	-5.14	-5.14	-13.55	-11.55	0.89	2.06	2.35	1.10	2.81	03/01/2010
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	1.99	
Difference			-0.39	-0.39	1.06	3.05	4.15	2.33	1.81	0.21	0.82	
Blackrock TIPS (CF)	383,624,223	3.98	-5.14	-5.14	-13.55	-11.55	0.89	2.06	2.35	1.10	2.81	03/01/2010
Bloomberg US Trsy US TIPS Index			-5.14	-5.14	-13.61	-11.57	0.79	1.95	2.21	0.98	2.76	
Difference			0.00	0.00	0.06	0.02	0.10	0.11	0.14	0.12	0.05	
IM U.S. TIPS (SA+CF) Median			-5.02	-5.02	-13.40	-11.43	0.95	2.13	2.32	1.19	2.80	
Rank			59	59	63	64	54	52	38	64	47	

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Oklahoma State Pension Commission
 Oklahoma Public Employees Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of September 30, 2022



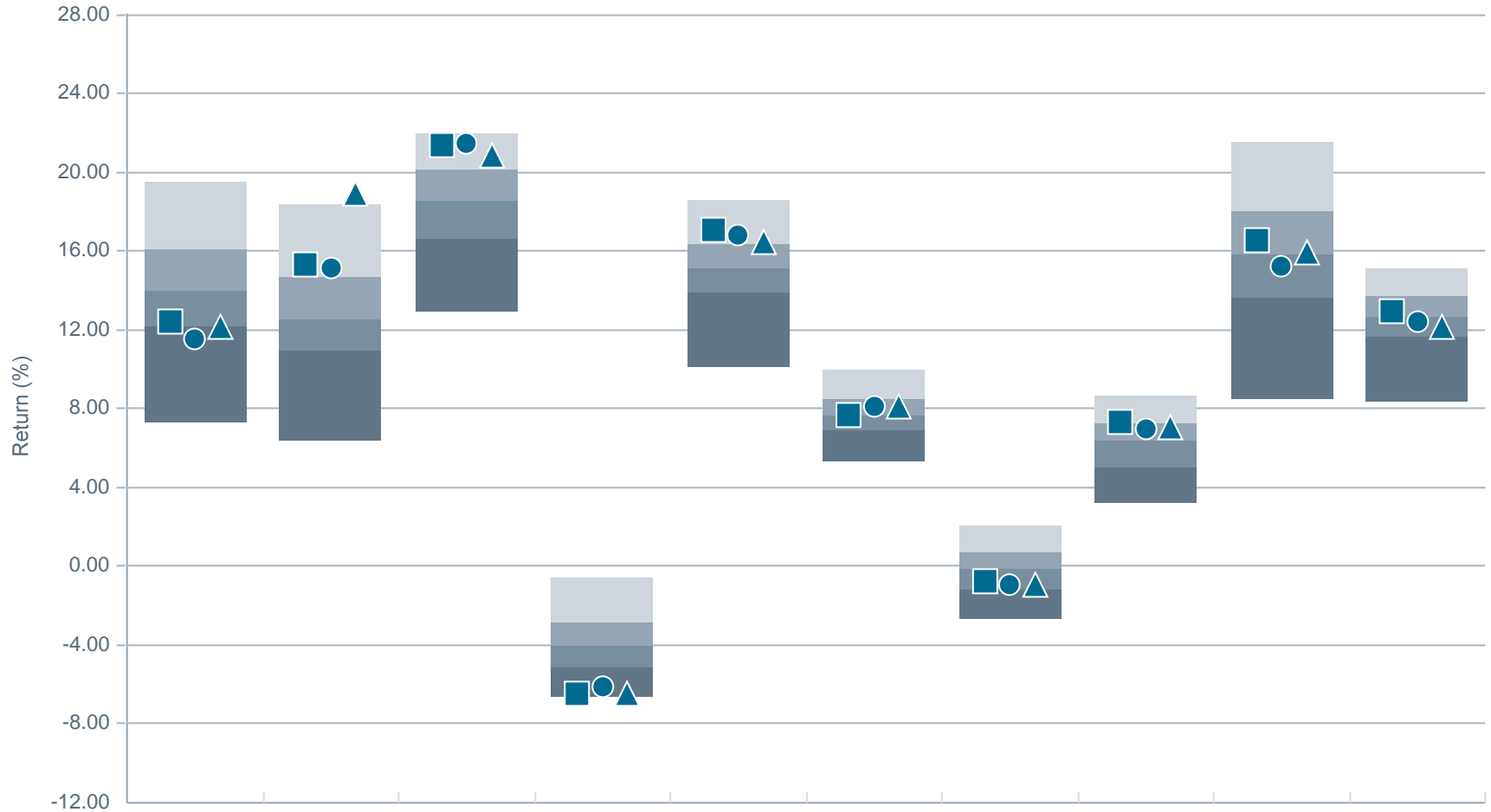
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OPERS Total Fund	-6.39 (98)	-6.39 (98)	-22.68 (98)	-19.33 (98)	2.14 (85)	3.49 (85)	5.80 (79)	6.13 (73)
● OPERS Policy Index	-6.15 (96)	-6.15 (96)	-22.36 (98)	-19.10 (97)	1.89 (88)	3.44 (86)	5.81 (78)	5.96 (78)
▲ OPERS Allocation Index	-6.07 (96)	-6.07 (96)	-22.42 (98)	-19.09 (97)	3.13 (69)	4.01 (76)	6.18 (66)	6.28 (70)
5th Percentile	-1.87	-1.87	-8.24	-4.42	7.64	7.24	8.29	8.30
1st Quartile	-3.73	-3.73	-14.94	-11.26	5.10	5.59	7.20	7.40
Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
3rd Quartile	-5.01	-5.01	-19.61	-16.07	2.81	4.03	5.91	6.06
95th Percentile	-6.07	-6.07	-21.98	-18.65	0.34	2.18	4.35	4.45

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Public Employees Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

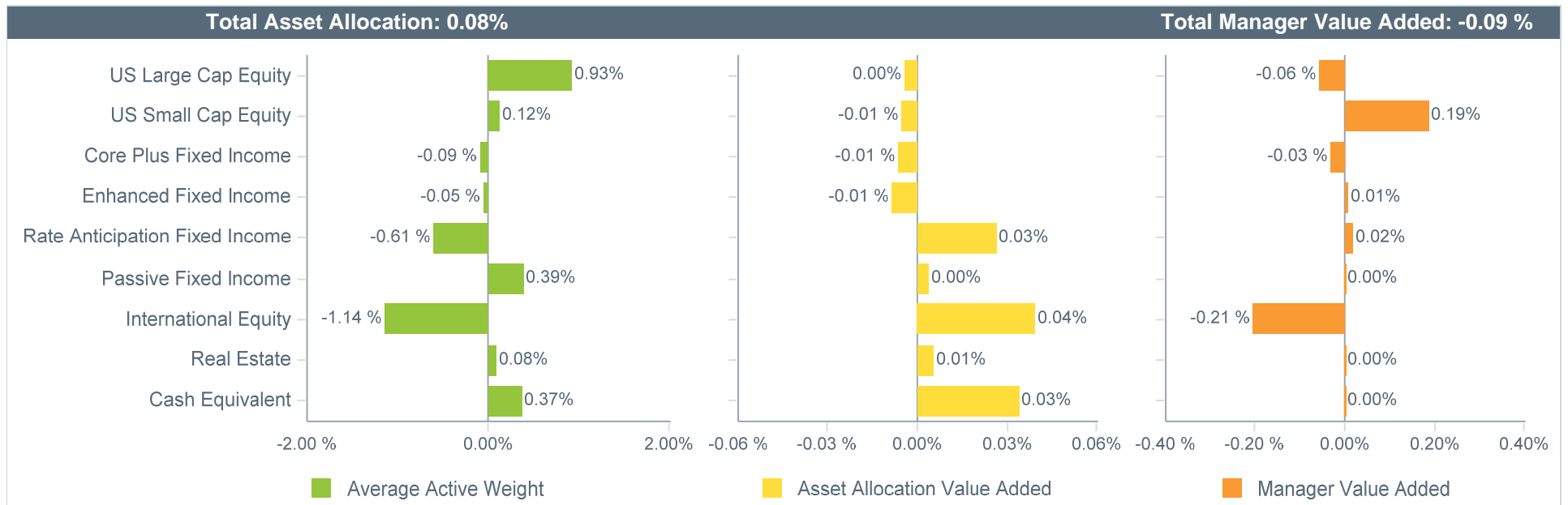
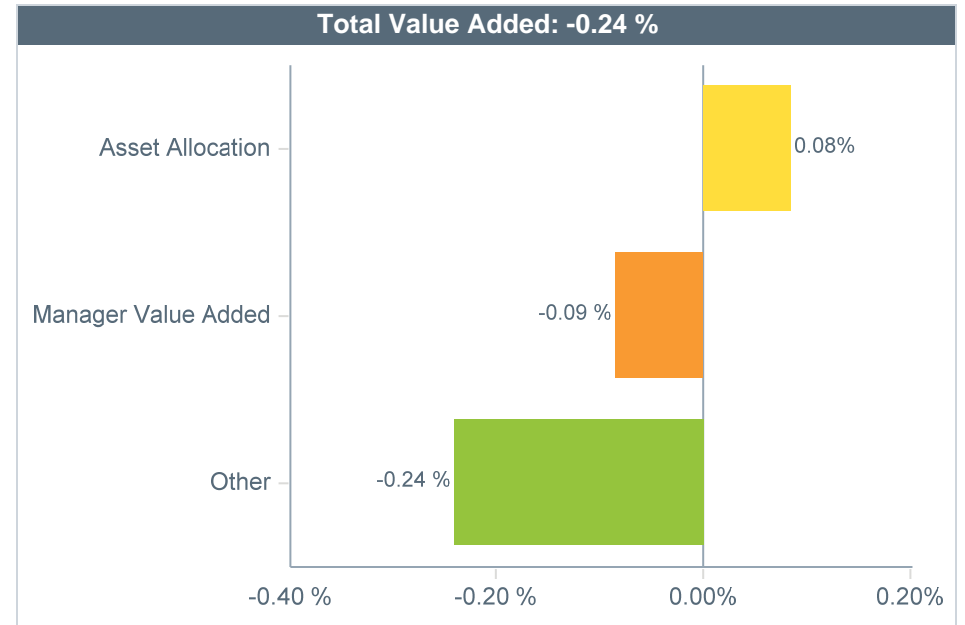
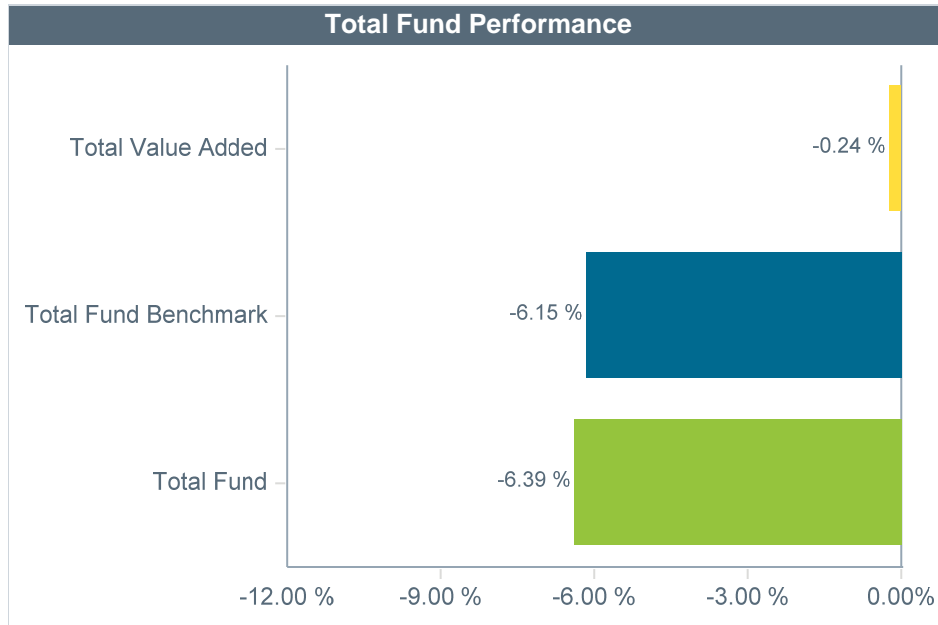
As of September 30, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OPERS Total Fund	12.46 (72)	15.34 (19)	21.38 (11)	-6.48 (94)	17.13 (14)	7.69 (51)	-0.77 (66)	7.37 (23)	16.60 (44)	12.94 (42)
● OPERS Policy Index	11.54 (82)	15.19 (21)	21.46 (10)	-6.09 (90)	16.86 (18)	8.12 (38)	-0.89 (70)	7.00 (31)	15.27 (57)	12.47 (59)
▲ OPERS Allocation Index	12.14 (77)	18.93 (4)	20.87 (17)	-6.49 (94)	16.51 (24)	8.09 (39)	-0.94 (72)	7.05 (30)	15.94 (50)	12.21 (63)
5th Percentile	19.59	18.43	22.06	-0.54	18.60	9.98	2.08	8.68	21.59	15.19
1st Quartile	16.10	14.71	20.19	-2.90	16.44	8.51	0.71	7.24	18.05	13.79
Median	14.01	12.54	18.57	-4.03	15.15	7.69	-0.13	6.34	15.88	12.71
3rd Quartile	12.21	10.94	16.66	-5.11	13.89	6.94	-1.17	5.08	13.66	11.63
95th Percentile	7.35	6.40	12.93	-6.65	10.14	5.33	-2.66	3.24	8.52	8.44

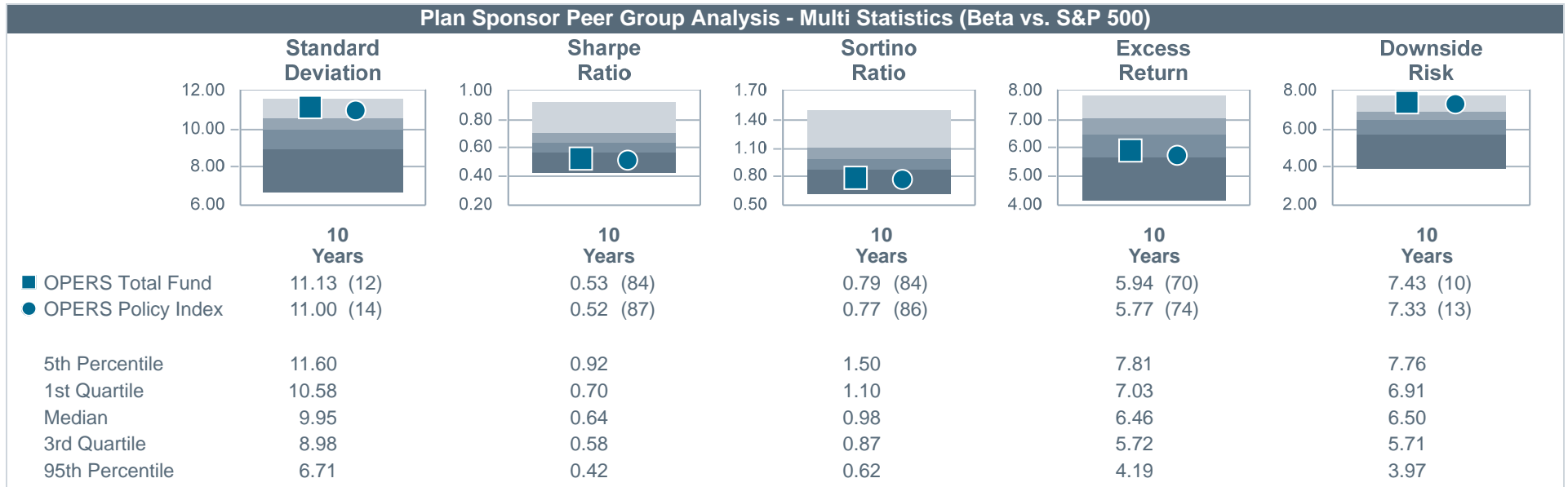
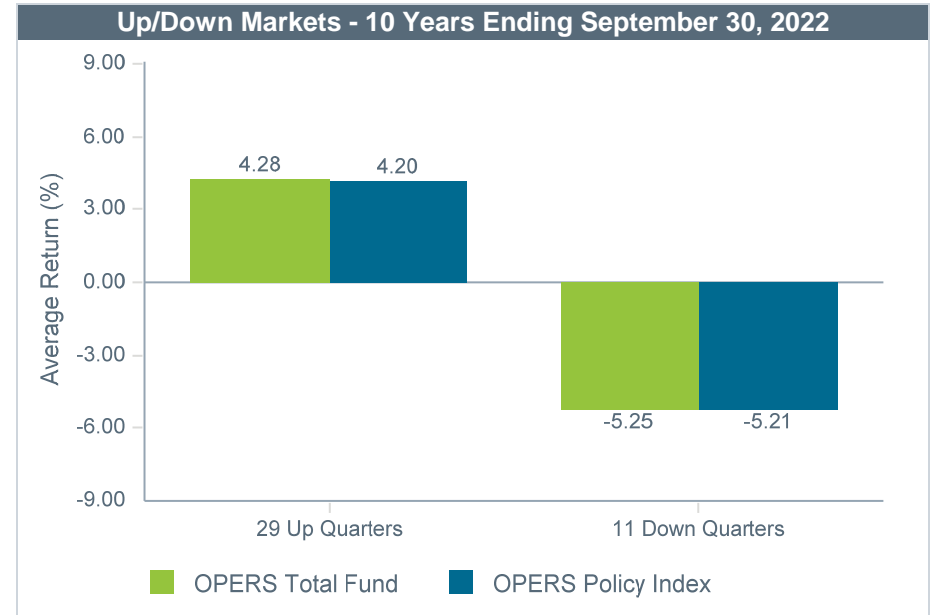
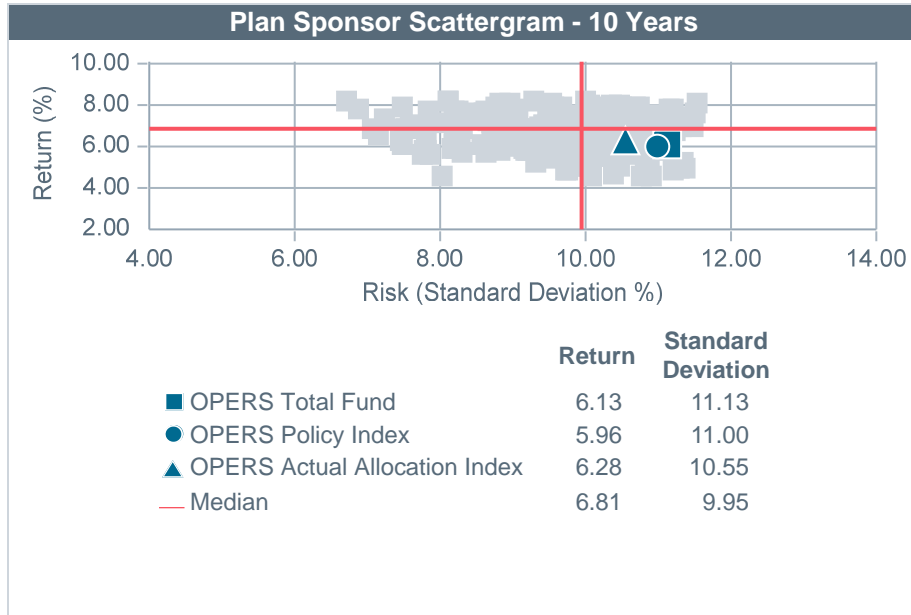
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



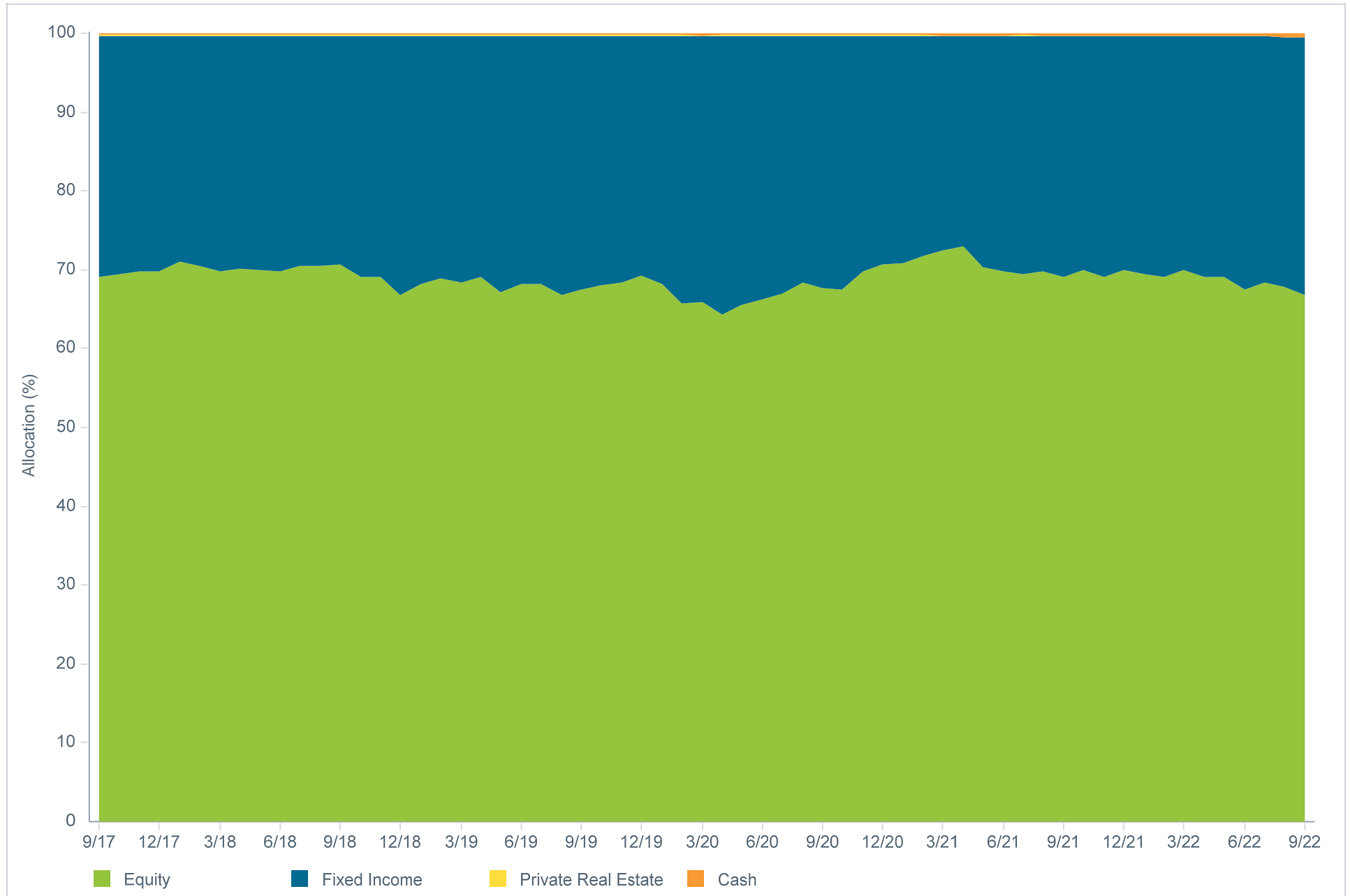


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.

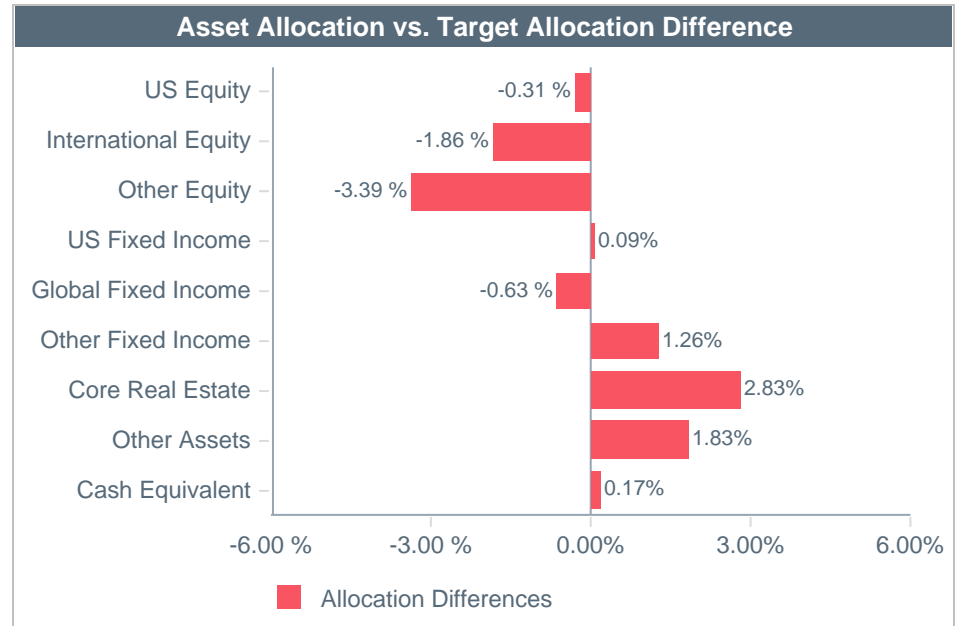


Oklahoma Firefighters Pension & Retirement System (OFPRS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OFPRS Total Fund (Net)	-3.84	-3.84	-17.07	-13.77	5.49	6.15	7.81	8.08	13.46	17.97	19.77	-2.77	18.30
OFPRS Policy Index	-4.99	-4.99	-17.83	-13.19	5.24	6.07	7.86	8.11	17.66	13.85	21.76	-3.80	16.41
Difference	1.15	1.15	0.76	-0.58	0.25	0.08	-0.05	-0.03	-4.20	4.12	-1.99	1.03	1.89
OFPRS Actual Allocation Index	-4.74	-4.74	-17.01	-12.51	6.35	6.39	8.00	8.05	15.88	17.79	20.30	-3.93	15.64
Difference	0.90	0.90	-0.06	-1.26	-0.86	-0.24	-0.19	0.03	-2.42	0.18	-0.53	1.16	2.66
Actuarial Discount Rate (7.5%)	1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference	-5.66	-5.66	-22.64	-21.27	-2.01	-1.35	0.31	0.58	5.96	10.47	12.27	-10.27	10.80
OFPRS Total Fund (Gross)	-3.74	-3.74	-16.83	-13.45	5.88	6.53	8.18	8.44	13.87	18.44	20.15	-2.46	18.67
OFPRS Policy Index	-4.99	-4.99	-17.83	-13.19	5.24	6.07	7.86	8.11	17.66	13.85	21.76	-3.80	16.41
Difference	1.25	1.25	1.00	-0.26	0.64	0.46	0.32	0.33	-3.79	4.59	-1.61	1.34	2.26
OFPRS Actual Allocation Index	-4.74	-4.74	-17.01	-12.51	6.35	6.39	8.00	8.05	15.88	17.79	20.30	-3.93	15.64
Difference	1.00	1.00	0.18	-0.94	-0.47	0.14	0.18	0.39	-2.01	0.65	-0.15	1.47	3.03
All Public Plans-Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	14.01	12.54	18.57	-4.03	15.15
Rank	26	26	43	46	17	10	6	4	53	5	26	19	5

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OFPRS (Firefighters)	3,086,169,724	100.00	100.00
US Equity	1,286,582,753	41.69	42.00
International Equity	405,485,912	13.14	15.00
Other Equity	49,687,949	1.61	5.00
US Fixed Income	249,785,458	8.09	8.00
Global Fixed Income	196,568,046	6.37	7.00
Other Fixed Income	193,282,006	6.26	5.00
Core Real Estate	395,935,168	12.83	10.00
Other Assets	303,524,259	9.83	8.00
Cash Equivalent	5,318,173	0.17	0.00



Parenteses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OFPRS Total Fund	3,086,169,724	100.00	-3.84	-3.84	-17.07	-13.77	5.49	6.15	7.81	8.08	6.72	01/01/1997
OFPRS Policy Index			-4.99	-4.99	-17.83	-13.19	5.24	6.07	7.86	8.11	7.17	
Difference			1.15	1.15	0.76	-0.58	0.25	0.08	-0.05	-0.03	-0.45	
OFPRS Actual Allocation Index			-4.74	-4.74	-17.01	-12.51	6.35	6.39	8.00	8.05	7.13	
Difference			0.90	0.90	-0.06	-1.26	-0.86	-0.24	-0.19	0.03	-0.41	
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			-5.66	-5.66	-22.64	-21.27	-2.01	-1.35	0.31	0.58	-0.78	
All Public Plans-Total Fund Median			-4.38	-4.38	-18.73	-14.95	3.55	4.52	6.22	6.43	6.47	
Rank			26	26	30	36	11	8	6	3	31	
Total Equity	1,741,756,614	56.44	-4.60	-4.60	-26.47	-22.91	5.62	6.79	9.56	9.83	7.12	01/01/1997
Wilshire 5000 Index			-4.45	-4.45	-24.41	-17.17	8.07	8.85	11.15	11.53	8.38	
Difference			-0.15	-0.15	-2.06	-5.74	-2.45	-2.06	-1.59	-1.70	-1.26	
US Equity	1,286,582,753	41.69	-3.83	-3.83	-25.91	-21.52	6.48	7.89	10.22	10.92	7.65	01/01/1997
Wilshire 5000 Index			-4.45	-4.45	-24.41	-17.17	8.07	8.85	11.15	11.53	8.38	
Difference			0.62	0.62	-1.50	-4.35	-1.59	-0.96	-0.93	-0.61	-0.73	
IM U.S. Equity (SA+CF) Median			-4.40	-4.40	-23.91	-17.41	5.97	6.56	9.03	10.00	8.92	
Rank			42	42	63	66	43	36	32	33	88	
US Large Cap Equity	917,737,777	29.74	-4.30	-4.30	-25.19	-19.08	6.68	7.93	10.21	11.07	7.75	12/01/1996
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	8.30	
Difference			0.31	0.31	-0.60	-1.86	-1.27	-1.07	-0.94	-0.53	-0.55	
IM U.S. Large Cap Equity (SA+CF) Median			-4.91	-4.91	-23.87	-15.89	6.54	8.01	10.12	10.85	8.39	
Rank			32	32	63	67	49	51	48	44	82	
US Large Cap Core Equity	450,309,647	14.59	-4.60	-4.60	-23.78	-15.37	7.74	8.50	10.74	11.54	8.16	12/01/1997
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	7.45	
Difference			0.28	0.28	0.09	0.10	-0.42	-0.74	-0.66	-0.16	0.71	
IM U.S. Large Cap Core Equity (SA+CF) Median			-4.96	-4.96	-23.25	-15.77	6.63	8.10	10.08	10.97	7.72	
Rank			32	32	55	44	31	37	33	18	30	
Liquidity Pool - SSgA Equity Index (CF)	217,048,632	7.03	-4.88	-4.88	-23.87	-15.49	N/A	N/A	N/A	N/A	N/A	03/01/2021
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	-2.33	
Difference			0.00	0.00	0.00	-0.02	N/A	N/A	N/A	N/A	N/A	
IM U.S. Large Cap Core Equity (SA+CF) Median			-4.96	-4.96	-23.25	-15.77	6.63	8.10	10.08	10.97	-2.88	
Rank			45	45	56	46	N/A	N/A	N/A	N/A	N/A	

During 07/2022, OFP Centerbridge Real Estate II was funded. During 09/2022, Riverside Micro Cap Fund VI LP was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Intech Enhanced Investment Tech (SA)	233,261,014	7.56	-4.37	-4.37	-23.67	-15.82	7.86	8.42	10.47	11.39	8.36	01/01/2002
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	7.74	
Difference			0.51	0.51	0.20	-0.35	-0.30	-0.82	-0.93	-0.31	0.62	
IM U.S. Large Cap Index Equity (SA+CF) Median			-4.88	-4.88	-23.99	-15.94	7.78	8.68	10.99	11.45	7.72	
Rank			15	15	21	48	47	65	70	54	17	
US Large Cap Value Equity	232,982,324	7.55	-5.26	-5.26	-17.76	-14.00	4.07	4.94	7.76	8.51	7.11	12/01/1996
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	7.72	
Difference			0.36	0.36	-0.01	-2.64	-0.29	-0.35	-0.39	-0.66	-0.61	
IM U.S. Large Cap Value Equity (SA+CF) Median			-5.79	-5.79	-16.81	-10.00	5.76	6.05	8.51	9.46	8.09	
Rank			42	42	61	78	78	72	70	76	92	
Beutel Goodman American Equity (SA)	116,967,099	3.79	-5.34	-5.34	-12.81	-10.76	6.81	7.33	N/A	N/A	9.82	04/01/2016
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	7.62	
Difference			0.28	0.28	4.94	0.60	2.45	2.04	N/A	N/A	2.20	
IM U.S. Large Cap Value Equity (SA+CF) Median			-5.79	-5.79	-16.81	-10.00	5.76	6.05	8.51	9.46	8.25	
Rank			43	43	19	56	31	25	N/A	N/A	17	
Aristotle US Equity (SA)	116,015,225	3.76	-5.17	-5.17	-22.70	-16.82	N/A	N/A	N/A	N/A	4.52	09/01/2020
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	7.71	
Difference			0.45	0.45	-4.95	-5.46	N/A	N/A	N/A	N/A	-3.19	
IM U.S. Large Cap Value Equity (SA+CF) Median			-5.79	-5.79	-16.81	-10.00	5.76	6.05	8.51	9.46	8.51	
Rank			38	38	87	89	N/A	N/A	N/A	N/A	82	

During 07/2022, OFP Centerbridge Real Estate II was funded. During 09/2022, Riverside Micro Cap Fund VI LP was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Large Cap Growth Equity	234,445,807	7.60	-2.70	-2.70	-35.72	-32.01	6.07	9.19	11.18	12.28	6.84	12/01/1996
Russell 1000 Grth Index			-3.60	-3.60	-30.66	-22.59	10.67	12.16	13.74	13.70	8.36	
Difference			0.90	0.90	-5.06	-9.42	-4.60	-2.97	-2.56	-1.42	-1.52	
IM U.S. Large Cap Growth Equity (SA+CF) Median			-4.11	-4.11	-32.50	-26.67	7.05	9.47	11.26	11.86	8.79	
Rank			18	18	79	78	66	59	52	34	100	
Fred Alger Capital Appreciation (SA)	234,445,807	7.60	-2.70	-2.70	-35.33	-31.30	6.44	9.42	11.33	12.39	13.05	07/01/2010
Russell 1000 Grth Index			-3.60	-3.60	-30.66	-22.59	10.67	12.16	13.74	13.70	14.88	
Difference			0.90	0.90	-4.67	-8.71	-4.23	-2.74	-2.41	-1.31	-1.83	
IM U.S. Large Cap Growth Equity (SA+CF) Median			-4.11	-4.11	-32.50	-26.67	7.05	9.47	11.26	11.86	13.05	
Rank			18	18	77	77	58	53	48	32	51	
US Small Cap Equity	368,844,976	11.95	-2.66	-2.66	-27.26	-26.63	6.12	7.83	10.15	10.73	8.16	01/01/1997
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	7.50	
Difference			-0.47	-0.47	-2.16	-3.13	1.83	4.28	2.64	2.18	0.66	
IM U.S. Small Cap Equity (SA+CF) Median			-3.24	-3.24	-23.90	-20.11	5.36	4.78	8.30	9.47	9.45	
Rank			38	38	69	75	40	20	21	24	87	
Liquidity Pool - SSgA Small Cap Completeness Index (CF)	57,365,004	1.86	-2.36	-2.36	-28.96	-28.02	N/A	N/A	N/A	N/A	N/A	03/01/2021
Russell Sm Cap Compl Index			-2.37	-2.37	-28.94	-28.00	5.03	5.34	8.38	9.70	-16.96	
Difference			0.01	0.01	-0.02	-0.02	N/A	N/A	N/A	N/A	N/A	
IM U.S. Small Cap Equity (SA+CF) Median			-3.24	-3.24	-23.90	-20.11	5.36	4.78	8.30	9.47	-10.40	
Rank			35	35	77	78	N/A	N/A	N/A	N/A	N/A	
US Small Cap Value Equity	156,240,909	5.06	-2.27	-2.27	-19.65	-14.86	5.56	5.77	9.66	9.92	8.60	12/01/1996
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	8.39	
Difference			2.34	2.34	1.47	2.83	0.84	2.90	2.24	1.98	0.21	
IM U.S. Small Cap Value Equity (SA+CF) Median			-4.55	-4.55	-19.92	-14.53	5.44	3.38	7.18	8.76	9.46	
Rank			12	12	47	55	49	15	10	20	84	
Earnest Partner Small Cap Value Equity (SA)	77,449,628	2.51	-1.62	-1.62	-18.54	-12.27	9.05	7.56	11.19	11.32	8.26	08/01/2005
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	5.98	
Difference			2.99	2.99	2.58	5.42	4.33	4.69	3.77	3.38	2.28	
IM U.S. Small Cap Value Equity (SA+CF) Median			-4.55	-4.55	-19.92	-14.53	5.44	3.38	7.18	8.76	7.06	
Rank			8	8	34	25	12	6	6	2	22	
River Road Small Cap Value Equity (SA)	78,791,281	2.55	-2.62	-2.62	-14.55	-8.11	5.24	5.90	9.54	9.47	6.24	04/01/2007
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	5.23	
Difference			1.99	1.99	6.57	9.58	0.52	3.03	2.12	1.53	1.01	
IM U.S. Small Cap Value Equity (SA+CF) Median			-4.55	-4.55	-19.92	-14.53	5.44	3.38	7.18	8.76	6.51	
Rank			15	15	9	9	52	12	11	26	64	

During 07/2022, OFP Centerbridge Real Estate II was funded. During 09/2022, Riverside Micro Cap Fund VI LP was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Small Cap Growth Equity	155,239,063	5.03	-3.25	-3.25	-40.38	-44.04	1.07	6.83	8.36	9.88	5.94	07/01/1995
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	6.77	
Difference			-3.49	-3.49	-11.10	-14.77	-1.87	3.23	1.24	1.07	-0.83	
IM U.S. Small Cap Growth Equity (SA+CF) Median			-0.86	-0.86	-31.54	-30.16	5.91	7.80	10.10	10.97	10.33	
Rank			82	82	94	95	96	68	81	77	100	
Lord Abbett Small Cap Growth Equity (SA)	81,601,411	2.64	0.46	0.46	-35.45	-37.64	5.79	10.63	9.83	10.86	9.56	04/01/2011
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	7.75	
Difference			0.22	0.22	-6.17	-8.37	2.85	7.03	2.71	2.05	1.81	
IM U.S. Small Cap Growth Equity (SA+CF) Median			-0.86	-0.86	-31.54	-30.16	5.91	7.80	10.10	10.97	9.78	
Rank			29	29	78	82	51	21	55	51	55	
Delaware SMID Focus Growth Equity (SA)	73,637,652	2.39	-7.05	-7.05	-43.96	-48.96	-2.93	3.58	7.00	8.90	8.36	04/01/2011
Russell 2500 Grth Index			-0.12	-0.12	-29.54	-29.39	4.76	6.30	8.84	10.30	9.11	
Difference			-6.93	-6.93	-14.42	-19.57	-7.69	-2.72	-1.84	-1.40	-0.75	
IM U.S. SMID Cap Growth Equity (SA+CF) Median			-1.22	-1.22	-30.45	-27.98	5.59	8.49	9.89	10.27	9.37	
Rank			96	96	94	96	96	90	88	82	71	
Other Equity												
OFP Adams Street Co-Invest Fund V	2,500,000	0.08	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	0.00	07/01/2022
OFP LGT Co-Invest Fund III	12,711,992	0.41	0.37	0.37	-0.27	N/A	N/A	N/A	N/A	N/A	-0.27	01/01/2022
OFP Schroders P/E Global DIR III	34,475,956	1.12	0.00	0.00	11.09	N/A	N/A	N/A	N/A	N/A	11.09	01/01/2022
International Equity	405,485,912	13.14	-6.99	-6.99	-28.25	-27.21	3.12	3.11	6.96	5.50	4.52	01/01/1997
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	4.14	
Difference			2.92	2.92	-1.75	-2.04	4.64	3.92	3.67	2.49	0.38	
IM International Equity (SA+CF) Median			-9.66	-9.60	-28.48	-26.64	-1.13	-0.69	3.28	4.12	5.46	
Rank			10	11	48	56	9	8	7	22	82	
International Developed Equity	258,454,394	8.37	-5.25	-5.25	-28.41	-27.00	5.36	5.53	8.88	7.42	5.27	01/01/1997
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	4.14	
Difference			4.66	4.66	-1.91	-1.83	6.88	6.34	5.59	4.41	1.13	
IM International Equity Developed Markets (SA+CF) Median			-9.71	-9.66	-28.63	-26.82	-1.22	-0.78	3.21	4.11	5.37	
Rank			2	3	48	53	2	3	2	5	56	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Liquidity Pool - SSgA MSCI ACWI ex US (CF)	56,597,012	1.83	-9.90	-9.90	-26.28	-24.91	N/A	N/A	N/A	N/A	N/A	03/01/2021
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	-14.84	
Difference			0.01	0.01	0.22	0.26	N/A	N/A	N/A	N/A	N/A	
IM All ACWI Ex US (SA+CF) Median			-9.45	-9.45	-28.29	-26.55	-1.07	-0.52	3.29	3.96	-15.38	
Rank			59	59	36	31	N/A	N/A	N/A	N/A	N/A	
Chautauqua Intl Growth Equity (CF)	139,094,900	4.51	-0.95	-0.95	-19.77	-20.59	8.42	5.74	9.69	7.77	7.94	08/01/2012
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	3.54	
Difference			8.96	8.96	6.73	4.58	9.94	6.55	6.40	4.76	4.40	
IM All ACWI Ex US (SA+CF) Median			-9.45	-9.45	-28.29	-26.55	-1.07	-0.52	3.29	3.96	4.53	
Rank			1	1	3	5	1	2	1	3	3	
WCM Berkeley Street Intl Equity (SA)	119,330,926	3.87	-7.49	-7.49	-36.94	-33.57	2.61	5.40	8.23	8.24	8.27	08/01/2012
MSCI EAFE Index (USD) (Net)			-9.36	-9.36	-27.09	-25.13	-1.83	-0.84	2.84	3.67	4.18	
Difference			1.87	1.87	-9.85	-8.44	4.44	6.24	5.39	4.57	4.09	
IM EAFE Core (SA+CF) Median			-9.62	-9.62	-27.63	-25.55	-1.36	-0.83	2.54	3.97	4.52	
Rank			5	5	99	97	1	1	1	1	1	
Emerging Markets Equity	90,434,505	2.93	-12.75	-12.75	-28.04	-28.28	-3.59	-3.87	1.42	0.38	2.03	08/01/2012
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	1.58	
Difference			-1.18	-1.18	-0.88	-0.17	-1.52	-2.06	-2.46	-0.67	0.45	
IM Emerging Markets Equity (SA+CF) Median			-10.36	-10.33	-27.59	-28.13	-1.45	-1.63	3.96	1.65	2.18	
Rank			80	80	56	53	79	90	93	88	53	
RBC GAM Emerging Markets Equity (CF)	46,134,300	1.49	-11.53	-11.53	-24.24	-23.80	-2.46	N/A	N/A	N/A	-2.12	01/01/2019
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	-0.15	
Difference			0.04	0.04	2.92	4.31	-0.39	N/A	N/A	N/A	-1.97	
IM Emerging Markets Equity (SA+CF) Median			-10.36	-10.33	-27.59	-28.13	-1.45	-1.63	3.96	1.65	0.76	
Rank			66	66	32	30	66	N/A	N/A	N/A	92	
Wellington Emerging Markets (CF)	44,300,205	1.44	-13.97	-13.97	-31.62	-32.43	-4.73	N/A	N/A	N/A	-3.86	01/01/2019
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	-0.15	
Difference			-2.40	-2.40	-4.46	-4.32	-2.66	N/A	N/A	N/A	-3.71	
IM Emerging Markets Equity (SA+CF) Median			-10.36	-10.33	-27.59	-28.13	-1.45	-1.63	3.96	1.65	0.76	
Rank			91	91	78	77	90	N/A	N/A	N/A	99	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
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	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	446,353,505	14.46	-6.49	-6.49	-17.61	-17.92	-4.29	-2.06	-0.11	0.26	3.95	01/01/1997
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	4.15	
Difference			-1.74	-1.74	-3.00	-3.32	-1.03	-1.79	-0.65	-0.63	-0.20	
IM Global Fixed Income (SA+CF) Median			-3.64	-3.64	-16.38	-16.59	-2.73	0.00	1.72	1.29	3.55	
Rank			71	73	57	56	67	74	72	55	43	
Garcia Hamilton Core Fixed Income (SA)	97,986,374	3.18	-5.24	-5.24	-12.79	-12.96	-2.87	-0.01	0.78	N/A	1.19	07/01/2014
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	0.83	
Difference			-0.49	-0.49	1.82	1.64	0.39	0.26	0.24	N/A	0.36	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.63	-4.63	-14.64	-14.74	-3.03	-0.10	0.78	1.08	0.99	
Rank			97	97	6	6	39	42	48	N/A	21	
Orleans Core Fixed Income (SA)	83,732,296	2.71	-4.50	-4.50	-14.59	-14.98	-3.31	-0.33	0.70	N/A	0.75	07/01/2014
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	0.83	
Difference			0.25	0.25	0.02	-0.38	-0.05	-0.06	0.16	N/A	-0.08	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.63	-4.63	-14.64	-14.74	-3.03	-0.10	0.78	1.08	0.99	
Rank			32	32	46	58	78	79	63	N/A	81	
Liquidity Pool - SSgA Aggregate Bond (CF)	64,395,632	2.09	-4.74	-4.74	-14.60	-14.63	N/A	N/A	N/A	N/A	N/A	03/01/2021
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-9.14	
Difference			0.01	0.01	0.01	-0.03	N/A	N/A	N/A	N/A	N/A	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.63	-4.63	-14.64	-14.74	-3.03	-0.10	0.78	1.08	-9.10	
Rank			60	60	47	47	N/A	N/A	N/A	N/A	N/A	
Garrison Middle Market Funding (CF)	168,125	0.01	-1.91	-1.91	-11.37	-3.89	4.12	4.17	3.03	N/A	4.03	07/01/2013
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	1.21	
Difference			2.84	2.84	3.24	10.71	7.38	4.44	2.49	N/A	2.82	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			-4.41	-4.41	-14.98	-15.00	-2.68	0.10	1.19	1.43	1.74	
Rank			7	7	7	2	1	1	6	N/A	1	
Medley Opportunity II (CF)	3,503,031	0.11	0.00	0.00	-5.86	-9.14	-8.68	-9.99	-5.65	N/A	-3.44	07/01/2013
DNU - USE Idx#300330 - CS Lvg'd Loan Index			1.19	1.19	-3.31	-2.62	2.12	3.00	3.67	3.70	3.53	
Difference			-1.19	-1.19	-2.55	-6.52	-10.80	-12.99	-9.32	N/A	-6.97	
Brandywine Global Fixed Income (CF)	196,568,046	6.37	-8.59	-8.59	-21.79	-22.23	-4.81	-3.10	0.17	-0.27	2.09	08/01/2009
FTSE Wrld Gov't Bond Index			-7.61	-7.61	-21.27	-22.14	-7.03	-3.07	-1.29	-1.76	-0.07	
Difference			-0.98	-0.98	-0.52	-0.09	2.22	-0.03	1.46	1.49	2.16	
IM Global Fixed Income (SA+CF) Median			-3.64	-3.64	-16.38	-16.59	-2.73	0.00	1.72	1.29	2.23	
Rank			90	92	86	84	72	90	66	61	54	

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Other Fixed Income												
PIMCO Corporate Opp II (CF)	13,214,312	0.43	-2.26	-2.26	11.38	17.45	11.86	10.88	N/A	N/A	11.33	12/01/2016
Bloomberg US Corp Hi Yld Index			-0.65	-0.65	-14.74	-14.14	-0.45	1.57	4.13	3.94	2.85	
Difference			-1.61	-1.61	26.12	31.59	12.31	9.31	N/A	N/A	8.48	
PIMCO Bravo III (CF)	48,227,361	1.56	-1.49	-1.49	7.63	18.35	10.28	N/A	N/A	N/A	11.08	12/01/2017
Bloomberg US Corp Hi Yld Index			-0.65	-0.65	-14.74	-14.14	-0.45	1.57	4.13	3.94	1.59	
Difference			-0.84	-0.84	22.37	32.49	10.73	N/A	N/A	N/A	9.49	
PIMCO Private Income (CF)	97,293,749	3.15	-0.51	-0.51	2.09	4.37	9.44	N/A	N/A	N/A	8.41	05/01/2019
Bloomberg US Corp Hi Yld Index			-0.65	-0.65	-14.74	-14.14	-0.45	1.57	4.13	3.94	0.30	
Difference			0.14	0.14	16.83	18.51	9.89	N/A	N/A	N/A	8.11	
PIMCO Bravo IV (CF)	34,546,584	1.12	-3.54	-3.54	0.27	-1.21	N/A	N/A	N/A	N/A	-1.21	10/01/2021
Bloomberg US Corp Hi Yld Index			-0.65	-0.65	-14.74	-14.14	-0.45	1.57	4.13	3.94	-14.14	
Difference			-2.89	-2.89	15.01	12.93	N/A	N/A	N/A	N/A	12.93	
Hedge Fund												
HFRI FOF: Cnsvt Index	339,660	0.01	26.08	26.08	0.29	-16.44	-11.01	-6.33	-3.60	-1.32	0.67	01/01/2006
HFRI FOF: Cnsvt Index			0.26	0.26	-1.30	-0.61	4.75	3.81	3.41	3.66	2.60	
Difference			25.82	25.82	1.59	-15.83	-15.76	-10.14	-7.01	-4.98	-1.93	
Glouston Capital Partners Permal (CF)	339,660	0.01	26.08	26.08	0.29	-16.44	-11.00	-6.17	-3.68	N/A	-3.65	06/01/2015
HFRI FOF: Cnsvt Index			0.26	0.26	-1.30	-0.61	4.75	3.81	3.41	3.66	2.91	
Difference			25.82	25.82	1.59	-15.83	-15.75	-9.98	-7.09	N/A	-6.56	
Core Real Estate												
NCREIF ODCE Index (AWA) (Net)	395,935,168	12.83	-0.66	-0.66	9.34	17.41	8.37	7.80	8.05	9.20	6.88	05/01/2005
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	7.42	
Difference			-0.97	-0.97	-3.02	-3.55	-3.01	-1.46	-0.82	-0.71	-0.54	
JP Morgan Strategic Property (CF)	128,093,192	4.15	-1.52	-1.52	9.15	17.77	10.26	8.12	7.99	9.46	7.80	04/01/2005
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	7.38	
Difference			-1.83	-1.83	-3.21	-3.19	-1.12	-1.14	-0.88	-0.45	0.42	
Portfolio Advisors Real Estate III LP	2,206,106	0.07	2.40	2.40	11.59	11.86	-5.14	-3.90	0.00	4.05	-1.32	07/01/2008
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	5.86	
Difference			2.09	2.09	-0.77	-9.10	-16.52	-13.16	-8.87	-5.86	-7.18	
Portfolio Advisors Real Estate IV LP	904,283	0.03	-0.81	-0.81	18.47	23.28	4.78	6.64	8.26	10.98	7.73	07/01/2011
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	10.05	
Difference			-1.12	-1.12	6.11	2.32	-6.60	-2.62	-0.61	1.07	-2.32	

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Angelo Gordon Net Lease III LP	22,329,446	0.72	1.65	1.65	7.62	9.72	7.70	7.71	7.37	N/A	5.51	03/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.81	
Difference			1.34	1.34	-4.74	-11.24	-3.68	-1.55	-1.50	N/A	-4.30	
Mesirow Real Estate (CF)	4,538,055	0.15	16.37	16.37	24.93	162.40	49.13	32.55	25.56	N/A	20.56	04/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.62	
Difference			16.06	16.06	12.57	141.44	37.75	23.29	16.69	N/A	10.94	
Mesirow Real Estate Value IV LP (OFPRS)	18,740,409	0.61	0.76	0.76	11.26	39.70	N/A	N/A	N/A	N/A	N/A	06/01/2021
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	24.16	
Difference			0.45	0.45	-1.10	18.74	N/A	N/A	N/A	N/A	N/A	
Dune Real Estate III LP	16,264,026	0.53	-0.32	-0.32	3.15	7.02	-3.70	2.29	5.77	N/A	6.10	05/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.72	
Difference			-0.63	-0.63	-9.21	-13.94	-15.08	-6.97	-3.10	N/A	-3.62	
Portfolio Advisors Real Estate LP	3,666,047	0.12	0.16	0.16	6.21	6.71	-6.07	-2.62	-0.08	N/A	2.86	06/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.82	
Difference			-0.15	-0.15	-6.15	-14.25	-17.45	-11.88	-8.95	N/A	-6.96	
Landmark Real Estate VII LP	4,461,136	0.14	0.61	0.61	3.58	6.01	-0.52	1.10	8.11	N/A	9.46	09/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.78	
Difference			0.30	0.30	-8.78	-14.95	-11.90	-8.16	-0.76	N/A	-0.32	
JP Morgan Special Situation Property (CF)	76,239,094	2.47	-3.75	-3.75	5.06	12.52	9.77	8.86	8.98	N/A	10.33	11/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.58	
Difference			-4.06	-4.06	-7.30	-8.44	-1.61	-0.40	0.11	N/A	0.75	
Hall Capital III LP	7,429,182	0.24	0.13	0.13	0.18	0.28	5.22	5.43	6.44	N/A	2.64	11/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.58	
Difference			-0.18	-0.18	-12.18	-20.68	-6.16	-3.83	-2.43	N/A	-6.94	
Portfolio Advisors Real Estate VI LP	17,881,990	0.58	3.16	3.16	21.69	29.65	11.95	18.42	N/A	N/A	12.03	01/01/2017
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	8.88	
Difference			2.85	2.85	9.33	8.69	0.57	9.16	N/A	N/A	3.15	
Dune Real Estate IV LP	23,299,197	0.75	3.66	3.66	16.96	26.46	-3.14	N/A	N/A	N/A	-2.98	08/01/2019
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	11.13	
Difference			3.35	3.35	4.60	5.50	-14.52	N/A	N/A	N/A	-14.11	
Hall Capital Real Estate LP	7,321,863	0.24	1.41	1.41	15.44	16.67	14.20	N/A	N/A	N/A	10.68	09/01/2018
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.95	
Difference			1.10	1.10	3.08	-4.29	2.82	N/A	N/A	N/A	0.73	

During 07/2022, OFP Centerbridge Real Estate II was funded. During 09/2022, Riverside Micro Cap Fund VI LP was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Terracap Partners V LP (OFPRS)	55,000,225	1.78	-0.74	-0.74	10.63	10.99	N/A	N/A	N/A	N/A	N/A	05/01/2021
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	22.59	
Difference			-1.05	-1.05	-1.73	-9.97	N/A	N/A	N/A	N/A	N/A	
OFP Centerbridge Real Estate II	7,560,917	0.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	08/01/2022
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	0.31	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.31	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Private Equity	303,184,598	9.82	-1.75	-1.75	9.32	14.94	21.08	18.34	15.42	N/A	17.53	03/01/2014
Pomona Captial VIII LP	3,140,473	0.10	-11.10	-11.10	-18.03	-15.91	15.46	14.56	13.79	N/A	16.27	03/01/2014
Capital Dynamics Global Secondaries IV	25,299,151	0.82	-5.63	-5.63	2.19	4.11	9.98	11.37	10.35	N/A	10.88	12/01/2014
Ardian AESF VI LP	37,818,246	1.23	2.22	2.22	11.36	16.37	20.03	17.78	N/A	N/A	14.96	02/01/2017
Pomona Capital IX LP	25,370,229	0.82	-6.55	-6.55	-2.25	4.74	23.74	N/A	N/A	N/A	33.93	02/01/2018
Pomona Capital X LP	16,300,272	0.53	-14.07	-14.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2022
Argonaut Private Equity IV LP	21,385,659	0.69	16.30	16.30	45.76	45.23	18.23	N/A	N/A	N/A	14.40	08/01/2018
Argonaut Private Equity V LP	8,234,543	0.27	0.69	0.69	-1.19	N/A	N/A	N/A	N/A	N/A	-1.19	01/01/2022
Ardian ASF VIII LP	50,911,390	1.65	-4.92	-4.92	5.86	18.98	N/A	N/A	N/A	N/A	40.76	05/01/2020
Ardian Real Estate (CF)	6,201,346	0.20	-5.42	-5.42	3.41	9.17	19.37	16.38	13.93	N/A	15.33	04/01/2014
IFM Global Infrastructure Fund LP	107,194,900	3.47	-0.11	-0.11	7.19	N/A	N/A	N/A	N/A	N/A	N/A	12/01/2021
Riverside Micro Cap Fund VI LP	1,328,389	0.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10/01/2022

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OFPRS Total Fund	3,086,169,724	100.00	-3.74	-3.74	-16.83	-13.45	5.88	6.53	8.18	8.44	8.05	07/01/1989
OFPRS Policy Index			-4.99	-4.99	-17.83	-13.19	5.24	6.07	7.86	8.11	N/A	
Difference			1.25	1.25	1.00	-0.26	0.64	0.46	0.32	0.33	N/A	
OFPRS Actual Allocation Index			-4.74	-4.74	-17.01	-12.51	6.35	6.39	8.00	8.05	7.93	
Difference			1.00	1.00	0.18	-0.94	-0.47	0.14	0.18	0.39	0.12	
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			-5.56	-5.56	-22.40	-20.95	-1.62	-0.97	0.68	0.94	0.55	
All Public Plans-Total Fund Median			-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	7.86	
Rank			26	26	43	46	17	10	6	4	37	
Total Equity	1,741,756,614	56.44	-4.49	-4.49	-26.25	-22.60	6.03	7.19	9.87	10.05	8.81	07/01/1989
Wilshire 5000 Index			-4.45	-4.45	-24.41	-17.17	8.07	8.85	11.15	11.53	9.78	
Difference			-0.04	-0.04	-1.84	-5.43	-2.04	-1.66	-1.28	-1.48	-0.97	
US Equity	1,286,582,753	41.69	-3.73	-3.73	-25.71	-21.25	6.83	8.22	10.54	11.23	9.31	07/01/1989
Wilshire 5000 Index			-4.45	-4.45	-24.41	-17.17	8.07	8.85	11.15	11.53	9.78	
Difference			0.72	0.72	-1.30	-4.08	-1.24	-0.63	-0.61	-0.30	-0.47	
IM U.S. Equity (SA+CF) Median			-4.25	-4.25	-23.46	-16.68	6.77	7.31	9.86	10.88	10.75	
Rank			42	42	66	69	50	42	40	44	97	
US Large Cap Equity	917,737,777	29.74	-4.23	-4.23	-25.05	-18.89	6.89	8.12	10.41	11.28	9.63	07/01/1989
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	9.90	
Difference			0.38	0.38	-0.46	-1.67	-1.06	-0.88	-0.74	-0.32	-0.27	
IM U.S. Large Cap Equity (SA+CF) Median			-4.87	-4.87	-23.65	-15.47	7.37	8.71	10.89	11.57	10.35	
Rank			32	32	65	71	59	60	59	59	93	
US Large Cap Core Equity	450,309,647	14.59	-4.59	-4.59	-23.74	-15.31	7.79	8.55	10.80	11.62	9.22	11/01/1996
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	8.47	
Difference			0.29	0.29	0.13	0.16	-0.37	-0.69	-0.60	-0.08	0.75	
IM U.S. Large Cap Core Equity (SA+CF) Median			-4.84	-4.84	-23.04	-15.41	7.63	8.80	10.82	11.68	9.07	
Rank			42	42	57	50	49	59	51	56	45	
Liquidity Pool - SSgA Equity Index (CF)	217,048,632	7.03	-4.88	-4.88	-23.87	-15.49	N/A	N/A	N/A	N/A	-5.24	04/01/2021
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	-5.21	
Difference			0.00	0.00	0.00	-0.02	N/A	N/A	N/A	N/A	-0.03	
IM U.S. Large Cap Core Equity (SA+CF) Median			-4.84	-4.84	-23.04	-15.41	7.63	8.80	10.82	11.68	-5.34	
Rank			55	55	61	54	N/A	N/A	N/A	N/A	46	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Intech Enhanced Investment Tech (SA)	233,261,014	7.56	-4.35	-4.35	-23.61	-15.73	7.99	8.54	10.62	11.61	8.59	02/01/2002
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	7.85	
Difference			0.53	0.53	0.26	-0.26	-0.17	-0.70	-0.78	-0.09	0.74	
IM U.S. Large Cap Index Equity (SA+CF) Median			-4.87	-4.87	-23.89	-15.49	8.00	9.01	11.18	11.63	8.01	
Rank			16	16	23	52	51	75	77	52	12	
US Large Cap Value Equity	232,982,324	7.55	-5.14	-5.14	-17.48	-13.63	4.46	5.29	8.10	8.79	8.81	06/01/1990
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	9.23	
Difference			0.48	0.48	0.27	-2.27	0.10	0.00	-0.05	-0.38	-0.42	
IM U.S. Large Cap Value Equity (SA+CF) Median			-5.72	-5.72	-16.57	-9.64	6.57	6.84	9.31	10.11	10.30	
Rank			40	40	61	78	83	79	79	89	97	
Beutel Goodman American Equity (SA)	116,967,099	3.79	-5.22	-5.22	-12.51	-10.38	7.27	7.78	N/A	N/A	10.60	05/01/2016
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	7.38	
Difference			0.40	0.40	5.24	0.98	2.91	2.49	N/A	N/A	3.22	
IM U.S. Large Cap Value Equity (SA+CF) Median			-5.72	-5.72	-16.57	-9.64	6.57	6.84	9.31	10.11	8.85	
Rank			41	41	20	56	35	31	N/A	N/A	17	
Aristotle US Equity (SA)	116,015,225	3.76	-5.06	-5.06	-22.44	-16.46	N/A	N/A	N/A	N/A	4.97	09/01/2020
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	7.71	
Difference			0.56	0.56	-4.69	-5.10	N/A	N/A	N/A	N/A	-2.74	
IM U.S. Large Cap Value Equity (SA+CF) Median			-5.72	-5.72	-16.57	-9.64	6.57	6.84	9.31	10.11	9.17	
Rank			37	37	86	88	N/A	N/A	N/A	N/A	81	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Large Cap Growth Equity	234,445,807	7.60	-2.58	-2.58	-35.51	-31.72	6.54	9.67	11.66	12.79	9.29	07/01/1989
Russell 1000 Grth Index			-3.60	-3.60	-30.66	-22.59	10.67	12.16	13.74	13.70	10.12	
Difference			1.02	1.02	-4.85	-9.13	-4.13	-2.49	-2.08	-0.91	-0.83	
IM U.S. Large Cap Growth Equity (SA+CF) Median			-4.12	-4.12	-31.92	-25.79	7.80	10.52	12.14	12.76	11.13	
Rank			20	20	82	81	70	66	61	49	100	
Fred Alger Capital Appreciation (SA)	234,445,807	7.60	-2.58	-2.58	-35.12	-31.00	6.91	9.90	11.81	12.90	13.69	08/01/2010
Russell 1000 Grth Index			-3.60	-3.60	-30.66	-22.59	10.67	12.16	13.74	13.70	14.34	
Difference			1.02	1.02	-4.46	-8.41	-3.76	-2.26	-1.93	-0.80	-0.65	
IM U.S. Large Cap Growth Equity (SA+CF) Median			-4.12	-4.12	-31.92	-25.79	7.80	10.52	12.14	12.76	13.49	
Rank			20	20	79	78	63	63	57	47	39	
US Small Cap Equity	368,844,976	11.95	-2.49	-2.49	-26.97	-26.29	6.63	8.37	10.67	11.19	9.43	07/01/1992
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	8.93	
Difference			-0.30	-0.30	-1.87	-2.79	2.34	4.82	3.16	2.64	0.50	
IM U.S. Small Cap Equity (SA+CF) Median			-2.98	-2.98	-23.53	-19.30	6.09	5.51	8.85	10.20	12.04	
Rank			42	42	71	77	43	22	23	31	94	
Liquidity Pool - SSgA Small Cap Completeness Index (CF)	57,365,004	1.86	-2.36	-2.36	-28.96	-28.02	N/A	N/A	N/A	N/A	-17.74	04/01/2021
Russell Sm Cap Compl Index			-2.37	-2.37	-28.94	-28.00	5.03	5.34	8.38	9.70	-17.74	
Difference			0.01	0.01	-0.02	-0.02	N/A	N/A	N/A	N/A	0.00	
IM U.S. Small Cap Equity (SA+CF) Median			-2.98	-2.98	-23.53	-19.30	6.09	5.51	8.85	10.20	-11.67	
Rank			39	39	80	82	N/A	N/A	N/A	N/A	82	
US Small Cap Value Equity	156,240,909	5.06	-1.98	-1.98	-19.04	-14.05	6.63	6.80	10.65	10.86	10.25	09/01/1992
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	9.80	
Difference			2.63	2.63	2.08	3.64	1.91	3.93	3.23	2.92	0.45	
IM U.S. Small Cap Value Equity (SA+CF) Median			-4.46	-4.46	-19.26	-13.87	6.31	4.24	8.22	9.73	12.40	
Rank			13	13	47	52	46	13	11	19	85	
Earnest Partner Small Cap Value Equity (SA)	77,449,628	2.51	-1.24	-1.24	-17.68	-11.14	10.26	8.64	12.18	12.28	8.97	09/01/2005
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	6.15	
Difference			3.37	3.37	3.44	6.55	5.54	5.77	4.76	4.34	2.82	
IM U.S. Small Cap Value Equity (SA+CF) Median			-4.46	-4.46	-19.26	-13.87	6.31	4.24	8.22	9.73	8.06	
Rank			9	9	32	25	11	7	7	3	26	
River Road Small Cap Value Equity (SA)	78,791,281	2.55	-2.42	-2.42	-14.13	-7.54	6.22	6.92	10.55	10.39	7.02	05/01/2007
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	5.18	
Difference			2.19	2.19	6.99	10.15	1.50	4.05	3.13	2.45	1.84	
IM U.S. Small Cap Value Equity (SA+CF) Median			-4.46	-4.46	-19.26	-13.87	6.31	4.24	8.22	9.73	7.19	
Rank			16	16	11	12	51	11	12	27	61	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

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	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Small Cap Growth Equity	155,239,063	5.03	-3.13	-3.13	-40.19	-43.80	1.49	7.25	8.75	10.27	7.37	07/01/1992
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	7.58	
Difference			-3.37	-3.37	-10.91	-14.53	-1.45	3.65	1.63	1.46	-0.21	
IM U.S. Small Cap Growth Equity (SA+CF) Median			-0.70	-0.70	-30.74	-28.76	6.72	8.74	10.66	11.71	12.50	
Rank			82	82	95	95	96	72	89	86	100	
Lord Abbett Small Cap Growth Equity (SA)	81,601,411	2.64	0.70	0.70	-35.06	-37.13	6.66	11.50	10.64	11.66	10.03	05/01/2011
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	7.47	
Difference			0.46	0.46	-5.78	-7.86	3.72	7.90	3.52	2.85	2.56	
IM U.S. Small Cap Growth Equity (SA+CF) Median			-0.70	-0.70	-30.74	-28.76	6.72	8.74	10.66	11.71	10.20	
Rank			29	29	78	83	51	20	52	51	55	
Delaware SMID Focus Growth Equity (SA)	73,637,652	2.39	-7.05	-7.05	-43.96	-48.96	-2.93	3.58	7.00	8.90	8.20	05/01/2011
Russell 2500 Grth Index			-0.12	-0.12	-29.54	-29.39	4.76	6.30	8.84	10.30	8.85	
Difference			-6.93	-6.93	-14.42	-19.57	-7.69	-2.72	-1.84	-1.40	-0.65	
IM U.S. SMID Cap Growth Equity (SA+CF) Median			-1.13	-1.13	-30.16	-27.35	6.77	9.32	10.71	11.20	9.84	
Rank			98	98	94	96	96	97	96	89	87	
Other Equity												
OFP Adams Street Co-Invest Fund V	2,500,000	0.08	0.00	0.00	N/A	N/A	N/A	N/A	N/A	N/A	0.00	07/01/2022
OFP LGT Co-Invest Fund III	12,711,992	0.41	0.37	0.37	-0.27	N/A	N/A	N/A	N/A	N/A	-0.27	01/01/2022
OFP Schroders P/E Global DIR III	34,475,956	1.12	0.00	0.00	11.09	N/A	N/A	N/A	N/A	N/A	11.09	01/01/2022
International Equity	405,485,912	13.14	-6.82	-6.82	-27.90	-26.76	3.73	3.75	7.66	6.13	N/A	07/01/1989
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	N/A	
Difference			3.09	3.09	-1.40	-1.59	5.25	4.56	4.37	3.12	N/A	
IM International Equity (SA+CF) Median			-9.47	-9.38	-27.45	-25.97	-0.43	0.04	3.97	4.89	7.26	
Rank			12	14	53	58	11	10	9	25	N/A	
International Developed Equity	258,454,394	8.37	-5.02	-5.02	-27.94	-26.39	6.13	6.35	9.78	8.25	6.06	04/01/1994
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	4.46	
Difference			4.89	4.89	-1.44	-1.22	7.65	7.16	6.49	5.24	1.60	
IM International Equity Developed Markets (SA+CF) Median			-9.53	-9.47	-27.73	-26.19	-0.62	-0.05	3.84	4.91	6.41	
Rank			4	4	52	53	3	3	2	8	62	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Liquidity Pool - SSgA MSCI ACWI ex US (CF)	56,597,012	1.83	-9.90	-9.90	-26.28	-24.91	N/A	N/A	N/A	N/A	-16.08	04/01/2021
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	-16.30	
Difference			0.01	0.01	0.22	0.26	N/A	N/A	N/A	N/A	0.22	
IM All ACWI Ex US (SA+CF) Median			-9.32	-9.32	-27.93	-26.10	-0.49	0.32	4.01	4.71	-16.57	
Rank			61	61	37	38	N/A	N/A	N/A	N/A	43	
Chautauqua Intl Growth Equity (CF)	139,094,900	4.51	-0.95	-0.95	-19.77	-20.59	8.42	5.82	9.91	8.05	8.30	09/01/2012
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	3.36	
Difference			8.96	8.96	6.73	4.58	9.94	6.63	6.62	5.04	4.94	
IM All ACWI Ex US (SA+CF) Median			-9.32	-9.32	-27.93	-26.10	-0.49	0.32	4.01	4.71	5.04	
Rank			1	1	4	8	1	3	1	6	6	
WCM Berkeley Street Intl Equity (SA)	119,330,926	3.87	-6.98	-6.98	-36.04	-32.39	4.12	6.81	9.64	9.57	9.76	09/01/2012
MSCI EAFE Index (USD) (Net)			-9.36	-9.36	-27.09	-25.13	-1.83	-0.84	2.84	3.67	3.94	
Difference			2.38	2.38	-8.95	-7.26	5.95	7.65	6.80	5.90	5.82	
IM EAFE Core (SA+CF) Median			-9.47	-9.47	-27.41	-25.12	-0.89	-0.13	3.32	4.71	4.93	
Rank			3	3	99	96	1	1	1	1	1	
Emerging Markets Equity	90,434,505	2.93	-12.64	-12.64	-27.81	-27.99	-3.23	-3.62	1.61	0.58	0.57	09/01/2012
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	1.63	
Difference			-1.07	-1.07	-0.65	0.12	-1.16	-1.81	-2.27	-0.47	-1.06	
IM Emerging Markets Equity (SA+CF) Median			-10.21	-10.19	-27.04	-27.47	-0.62	-0.89	4.84	2.41	2.91	
Rank			84	85	60	56	85	97	98	95	98	
RBC GAM Emerging Markets Equity (CF)	46,134,300	1.49	-11.53	-11.53	-24.24	-23.80	-2.46	N/A	N/A	N/A	-2.17	02/01/2019
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	-2.41	
Difference			0.04	0.04	2.92	4.31	-0.39	N/A	N/A	N/A	0.24	
IM Emerging Markets Equity (SA+CF) Median			-10.21	-10.19	-27.04	-27.47	-0.62	-0.89	4.84	2.41	-0.55	
Rank			69	69	35	32	77	N/A	N/A	N/A	78	
Wellington Emerging Markets (CF)	44,300,205	1.44	-13.76	-13.76	-31.19	-31.89	-4.02	N/A	N/A	N/A	-3.24	02/01/2019
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	-2.41	
Difference			-2.19	-2.19	-4.03	-3.78	-1.95	N/A	N/A	N/A	-0.83	
IM Emerging Markets Equity (SA+CF) Median			-10.21	-10.19	-27.04	-27.47	-0.62	-0.89	4.84	2.41	-0.55	
Rank			92	92	79	78	90	N/A	N/A	N/A	90	

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Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	446,353,505	14.46	-6.41	-6.41	-17.35	-17.60	-4.06	-1.81	0.13	0.52	5.01	07/01/1989
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	5.15	
Difference			-1.66	-1.66	-2.74	-3.00	-0.80	-1.54	-0.41	-0.37	-0.14	
IM Global Fixed Income (SA+CF) Median			-3.66	-3.66	-16.09	-16.06	-2.23	0.36	2.16	1.70	N/A	
Rank			72	73	58	58	69	75	78	58	N/A	
Garcia Hamilton Core Fixed Income (SA)	97,986,374	3.18	-5.19	-5.19	-12.67	-12.81	-2.70	0.16	0.97	N/A	1.34	08/01/2014
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	0.87	
Difference			-0.44	-0.44	1.94	1.79	0.56	0.43	0.43	N/A	0.47	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.55	-4.55	-14.43	-14.48	-2.70	0.18	1.07	1.37	1.33	
Rank			97	97	8	8	50	55	63	N/A	48	
Orleans Core Fixed Income (SA)	83,732,296	2.71	-4.46	-4.46	-14.50	-14.85	-3.18	-0.20	0.85	N/A	0.97	08/01/2014
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	0.87	
Difference			0.29	0.29	0.11	-0.25	0.08	0.07	0.31	N/A	0.10	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.55	-4.55	-14.43	-14.48	-2.70	0.18	1.07	1.37	1.33	
Rank			37	37	54	67	90	90	76	N/A	89	
Liquidity Pool - SSgA Aggregate Bond (CF)	64,395,632	2.09	-4.74	-4.74	-14.60	-14.63	N/A	N/A	N/A	N/A	-8.87	04/01/2021
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-8.86	
Difference			0.01	0.01	0.01	-0.03	N/A	N/A	N/A	N/A	-0.01	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.55	-4.55	-14.43	-14.48	-2.70	0.18	1.07	1.37	-8.66	
Rank			71	71	63	62	N/A	N/A	N/A	N/A	68	
Garrison Middle Market Funding (CF)	168,125	0.01	-1.91	-1.91	-11.37	-3.89	4.12	4.17	3.03	N/A	4.07	08/01/2013
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	1.21	
Difference			2.84	2.84	3.24	10.71	7.38	4.44	2.49	N/A	2.86	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			-4.32	-4.32	-14.67	-14.66	-2.34	0.51	1.54	1.81	2.02	
Rank			7	7	8	2	1	1	9	N/A	2	
Medley Opportunity II (CF)	3,503,031	0.11	0.00	0.00	-5.86	-9.14	-8.68	-9.99	-5.65	N/A	-3.47	08/01/2013
DNU - USE Idx#300330 - CS Lvg'd Loan Index			1.19	1.19	-3.31	-2.62	2.12	3.00	3.67	3.70	3.44	
Difference			-1.19	-1.19	-2.55	-6.52	-10.80	-12.99	-9.32	N/A	-6.91	
Brandywine Global Fixed Income (CF)	196,568,046	6.37	-8.44	-8.44	-21.33	-21.64	-4.43	-2.70	0.59	0.25	2.70	10/01/2009
FTSE Wrld Gov't Bond Index			-7.61	-7.61	-21.27	-22.14	-7.03	-3.07	-1.29	-1.76	-0.39	
Difference			-0.83	-0.83	-0.06	0.50	2.60	0.37	1.88	2.01	3.09	
IM Global Fixed Income (SA+CF) Median			-3.66	-3.66	-16.09	-16.06	-2.23	0.36	2.16	1.70	2.10	
Rank			88	91	84	81	73	89	69	60	43	

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Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

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Other Fixed Income												
PIMCO Corporate Opp II (CF)	13,214,312	0.43	-2.26	-2.26	11.38	17.45	11.86	10.88	N/A	N/A	11.50	01/01/2017
Bloomberg US Corp Hi Yld Index			-0.65	-0.65	-14.74	-14.14	-0.45	1.57	4.13	3.94	2.57	
Difference			-1.61	-1.61	26.12	31.59	12.31	9.31	N/A	N/A	8.93	
PIMCO Bravo III (CF)	48,227,361	1.56	-1.49	-1.49	7.63	18.35	10.28	N/A	N/A	N/A	11.08	12/01/2017
Bloomberg US Corp Hi Yld Index			-0.65	-0.65	-14.74	-14.14	-0.45	1.57	4.13	3.94	1.59	
Difference			-0.84	-0.84	22.37	32.49	10.73	N/A	N/A	N/A	9.49	
PIMCO Private Income (CF)	97,293,749	3.15	-0.51	-0.51	2.09	4.37	9.44	N/A	N/A	N/A	8.41	05/01/2019
Bloomberg US Corp Hi Yld Index			-0.65	-0.65	-14.74	-14.14	-0.45	1.57	4.13	3.94	0.30	
Difference			0.14	0.14	16.83	18.51	9.89	N/A	N/A	N/A	8.11	
PIMCO Bravo IV (CF)	34,546,584	1.12	-3.54	-3.54	0.27	-1.21	N/A	N/A	N/A	N/A	-1.21	10/01/2021
Bloomberg US Corp Hi Yld Index			-0.65	-0.65	-14.74	-14.14	-0.45	1.57	4.13	3.94	-14.14	
Difference			-2.89	-2.89	15.01	12.93	N/A	N/A	N/A	N/A	12.93	
Hedge Fund												
HFRI FOF: Cnsvt Index	339,660	0.01	26.08	26.08	0.29	-16.44	-11.01	-6.33	-3.60	-1.32	-3.39	06/01/2015
HFRI FOF: Cnsvt Index			0.26	0.26	-1.30	-0.61	4.75	3.81	3.41	3.66	2.91	
Difference			25.82	25.82	1.59	-15.83	-15.76	-10.14	-7.01	-4.98	-6.30	
Glouston Capital Partners Permal (CF)	339,660	0.01	26.08	26.08	0.29	-16.44	-11.00	-6.17	-3.68	N/A	-3.65	06/01/2015
HFRI FOF: Cnsvt Index			0.26	0.26	-1.30	-0.61	4.75	3.81	3.41	3.66	2.91	
Difference			25.82	25.82	1.59	-15.83	-15.75	-9.98	-7.09	N/A	-6.56	
Core Real Estate												
NCREIF ODCE Index (AWA) (Gross)	395,935,168	12.83	-0.52	-0.52	9.82	18.09	9.05	8.50	8.76	9.86	7.35	05/01/2005
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	8.41	
Difference			-1.04	-1.04	-3.26	-4.00	-3.32	-1.74	-1.09	-1.06	-1.06	
JP Morgan Strategic Property (CF)	128,093,192	4.15	-1.27	-1.27	10.11	19.06	11.33	9.14	8.99	10.43	8.51	05/01/2005
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	8.41	
Difference			-1.79	-1.79	-2.97	-3.03	-1.04	-1.10	-0.86	-0.49	0.10	
Portfolio Advisors Real Estate III LP	2,206,106	0.07	2.40	2.40	11.59	11.86	-5.14	-3.90	0.00	4.05	-1.33	08/01/2008
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	6.87	
Difference			1.88	1.88	-1.49	-10.23	-17.51	-14.14	-9.85	-6.87	-8.20	
Portfolio Advisors Real Estate IV LP	904,283	0.03	-0.81	-0.81	18.47	23.28	4.78	6.64	8.26	10.98	7.79	08/01/2011
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	11.15	
Difference			-1.33	-1.33	5.39	1.19	-7.59	-3.60	-1.59	0.06	-3.36	

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As of September 30, 2022

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Angelo Gordon Net Lease III LP	22,329,446	0.72	1.65	1.65	7.62	9.72	7.70	7.71	7.37	N/A	5.57	04/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.61	
Difference			1.13	1.13	-5.46	-12.37	-4.67	-2.53	-2.48	N/A	-5.04	
Mesirow Real Estate (CF)	4,538,055	0.15	16.37	16.37	24.93	162.40	49.13	32.55	25.56	N/A	20.78	05/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.72	
Difference			15.85	15.85	11.85	140.31	36.76	22.31	15.71	N/A	10.06	
Mesirow Real Estate Value IV LP (OFPRS)	18,740,409	0.61	0.76	0.76	11.26	39.70	N/A	N/A	N/A	N/A	N/A	06/01/2021
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	25.45	
Difference			0.24	0.24	-1.82	17.61	N/A	N/A	N/A	N/A	N/A	
Dune Real Estate III LP	16,264,026	0.53	-0.32	-0.32	3.15	7.02	-3.70	2.29	5.77	N/A	6.16	06/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.84	
Difference			-0.84	-0.84	-9.93	-15.07	-16.07	-7.95	-4.08	N/A	-4.68	
Portfolio Advisors Real Estate LP	3,666,047	0.12	0.16	0.16	6.21	6.71	-6.07	-2.62	-0.08	N/A	2.89	07/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.56	
Difference			-0.36	-0.36	-6.87	-15.38	-18.44	-12.86	-9.93	N/A	-7.67	
Landmark Real Estate VII LP	4,461,136	0.14	0.61	0.61	3.58	6.01	-0.52	1.10	8.11	N/A	9.56	10/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.47	
Difference			0.09	0.09	-9.50	-16.08	-12.89	-9.14	-1.74	N/A	-0.91	
JP Morgan Special Situation Property (CF)	76,239,094	2.47	-3.41	-3.41	6.71	14.79	11.73	10.73	10.81	N/A	12.21	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.70	
Difference			-3.93	-3.93	-6.37	-7.30	-0.64	0.49	0.96	N/A	1.51	
Hall Capital III LP	7,429,182	0.24	0.13	0.13	0.18	0.28	5.22	5.43	6.44	N/A	2.67	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.70	
Difference			-0.39	-0.39	-12.90	-21.81	-7.15	-4.81	-3.41	N/A	-8.03	
Portfolio Advisors Real Estate VI LP	17,881,990	0.58	3.16	3.16	21.69	29.65	11.95	18.42	N/A	N/A	12.22	02/01/2017
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.01	
Difference			2.64	2.64	8.61	7.56	-0.42	8.18	N/A	N/A	2.21	
Dune Real Estate IV LP	23,299,197	0.75	3.66	3.66	16.96	26.46	-3.14	N/A	N/A	N/A	-3.06	09/01/2019
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	12.49	
Difference			3.14	3.14	3.88	4.37	-15.51	N/A	N/A	N/A	-15.55	
Hall Capital Real Estate LP	7,321,863	0.24	1.41	1.41	15.44	16.67	14.20	N/A	N/A	N/A	10.91	10/01/2018
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.64	
Difference			0.89	0.89	2.36	-5.42	1.83	N/A	N/A	N/A	0.27	

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Terracap Partners V LP (OFPRS)	55,000,225	1.78	-0.74	-0.74	10.63	10.99	N/A	N/A	N/A	N/A	N/A	05/01/2021
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	23.79	
Difference			-1.26	-1.26	-2.45	-11.10	N/A	N/A	N/A	N/A	N/A	
OFP Centerbridge Real Estate II	7,560,917	0.24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00	08/01/2022
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	0.52	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.52	

During 07/2022, OFP Centerbridge Real Estate II was funded. During 09/2022, Riverside Micro Cap Fund VI LP was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Firefighters Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

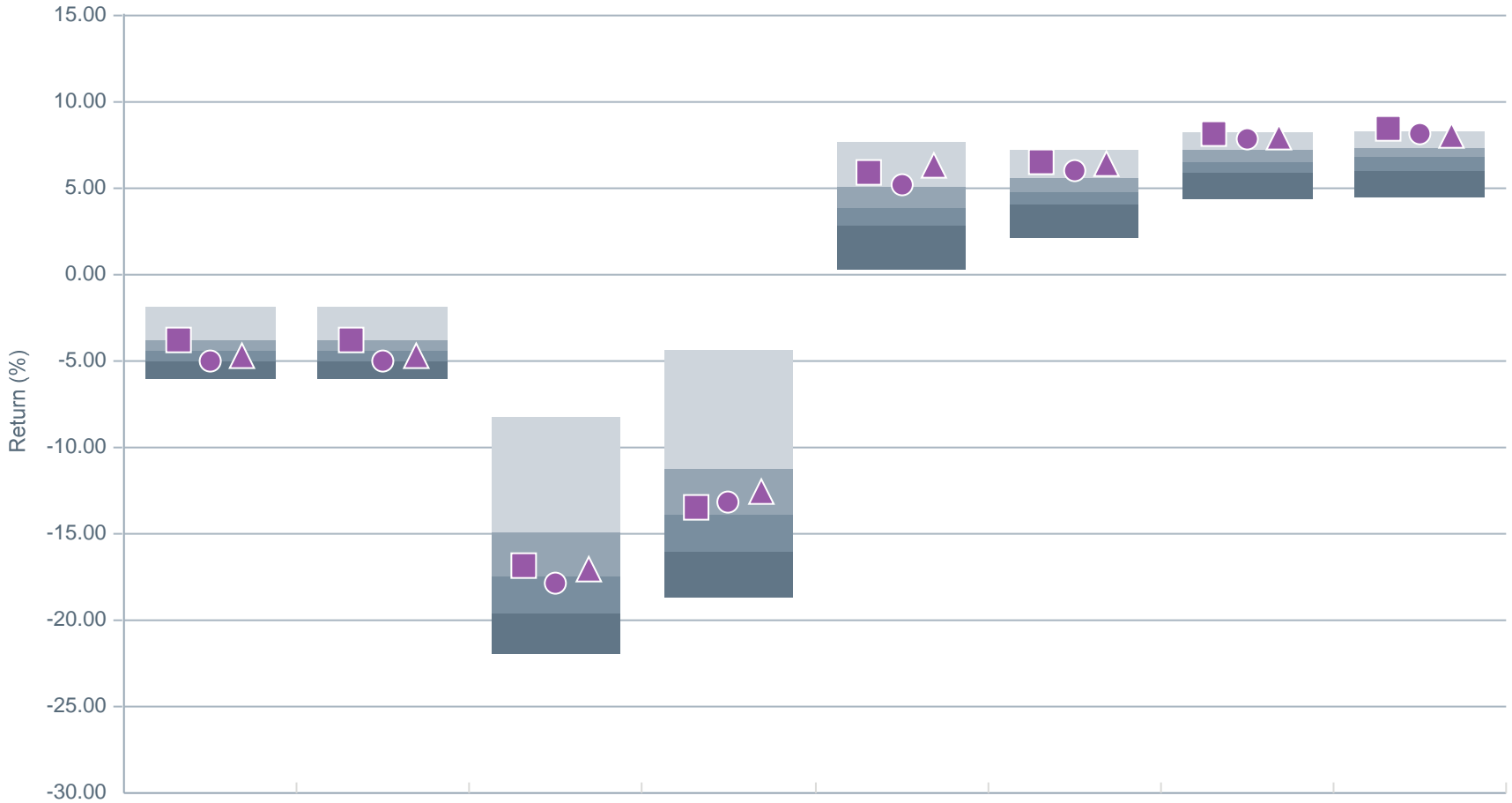
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Private Equity	303,184,598	9.82	-1.75	-1.75	9.32	14.94	21.08	18.34	15.42	N/A	17.71	04/01/2014
Pomona Captial VIII LP	3,140,473	0.10	-11.10	-11.10	-18.03	-15.91	15.46	14.56	13.79	N/A	16.44	04/01/2014
Capital Dynamics Global Secondaries IV	25,299,151	0.82	-5.63	-5.63	2.19	4.11	9.98	11.37	10.35	N/A	11.00	01/01/2015
Ardian AESF VI LP	37,818,246	1.23	2.22	2.22	11.36	16.37	20.03	17.78	N/A	N/A	15.45	04/01/2017
Pomona Capital IX LP	25,370,229	0.82	-6.55	-6.55	-2.25	4.74	23.74	N/A	N/A	N/A	34.65	03/01/2018
Pomona Capital X LP	16,300,272	0.53	-14.07	-14.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/01/2022
Argonaut Private Equity IV LP	21,385,659	0.69	16.30	16.30	45.76	45.23	18.23	N/A	N/A	N/A	14.71	09/01/2018
Argonaut Private Equity V LP	8,234,543	0.27	0.69	0.69	-1.19	N/A	N/A	N/A	N/A	N/A	-1.19	01/01/2022
Ardian ASF VIII LP	50,911,390	1.65	-4.92	-4.92	5.86	18.98	N/A	N/A	N/A	N/A	40.76	05/01/2020
Ardian Real Estate (CF)	6,201,346	0.20	-5.42	-5.42	3.41	9.17	19.37	16.38	13.93	N/A	15.50	05/01/2014
IFM Global Infrastructure Fund LP	107,194,900	3.47	-0.11	-0.11	7.19	N/A	N/A	N/A	N/A	N/A	N/A	12/01/2021
Riverside Micro Cap Fund VI LP	1,328,389	0.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10/01/2022

During 07/2022, OFP Centerbridge Real Estate II was funded. During 09/2022, Riverside Micro Cap Fund VI LP was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Firefighters Pension & Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of September 30, 2022



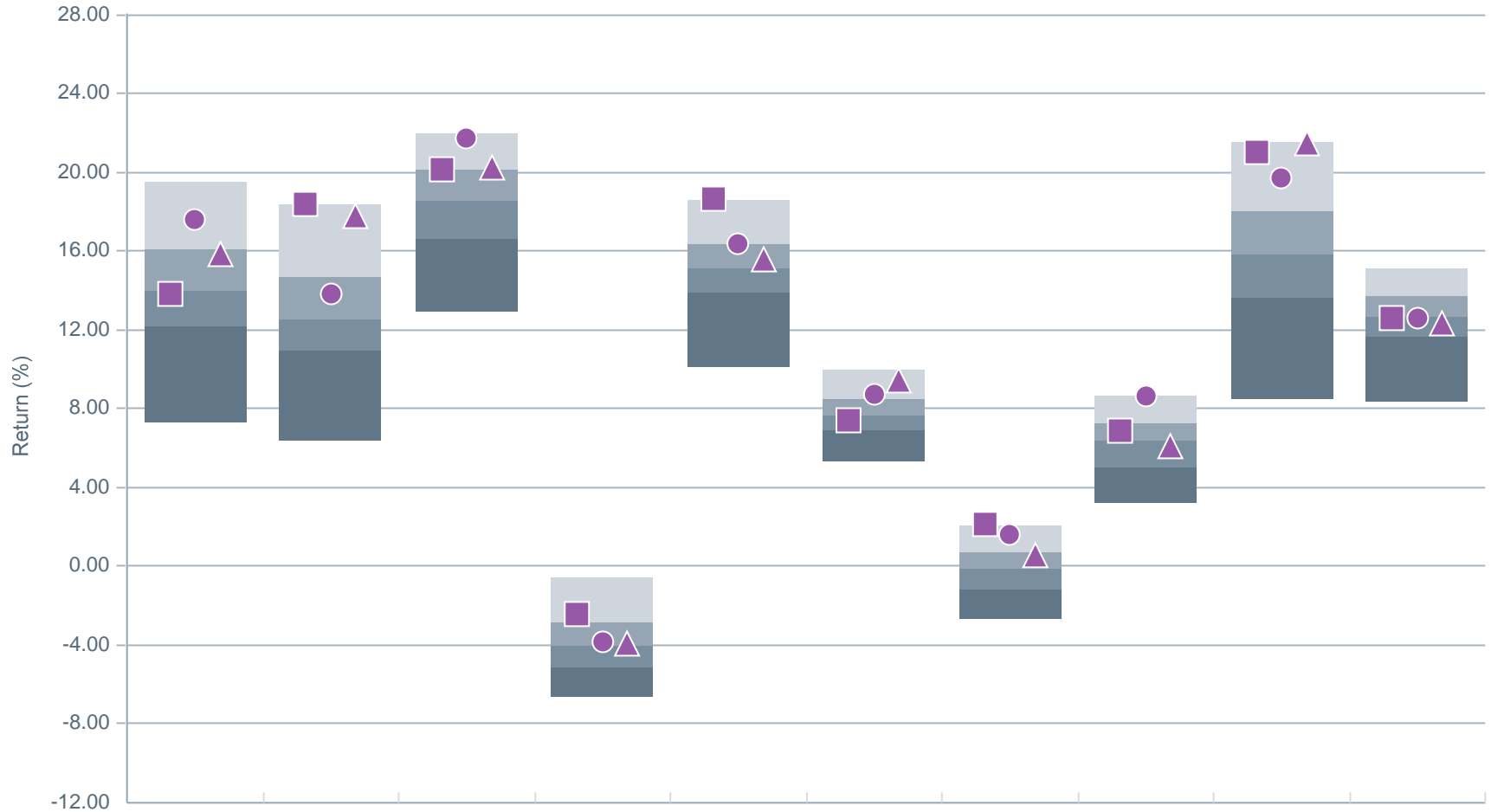
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OFPRS Total Fund	-3.74 (26)	-3.74 (26)	-16.83 (43)	-13.45 (46)	5.88 (17)	6.53 (10)	8.18 (6)	8.44 (4)
● OFPRS Policy Index	-4.99 (75)	-4.99 (75)	-17.83 (53)	-13.19 (42)	5.24 (24)	6.07 (17)	7.86 (11)	8.11 (8)
▲ OFPRS Allocation Index	-4.74 (66)	-4.74 (66)	-17.01 (44)	-12.51 (37)	6.35 (13)	6.39 (11)	8.00 (9)	8.05 (9)
5th Percentile	-1.87	-1.87	-8.24	-4.42	7.64	7.24	8.29	8.30
1st Quartile	-3.73	-3.73	-14.94	-11.26	5.10	5.59	7.20	7.40
Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
3rd Quartile	-5.01	-5.01	-19.61	-16.07	2.81	4.03	5.91	6.06
95th Percentile	-6.07	-6.07	-21.98	-18.65	0.34	2.18	4.35	4.45

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Firefighters Pension & Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

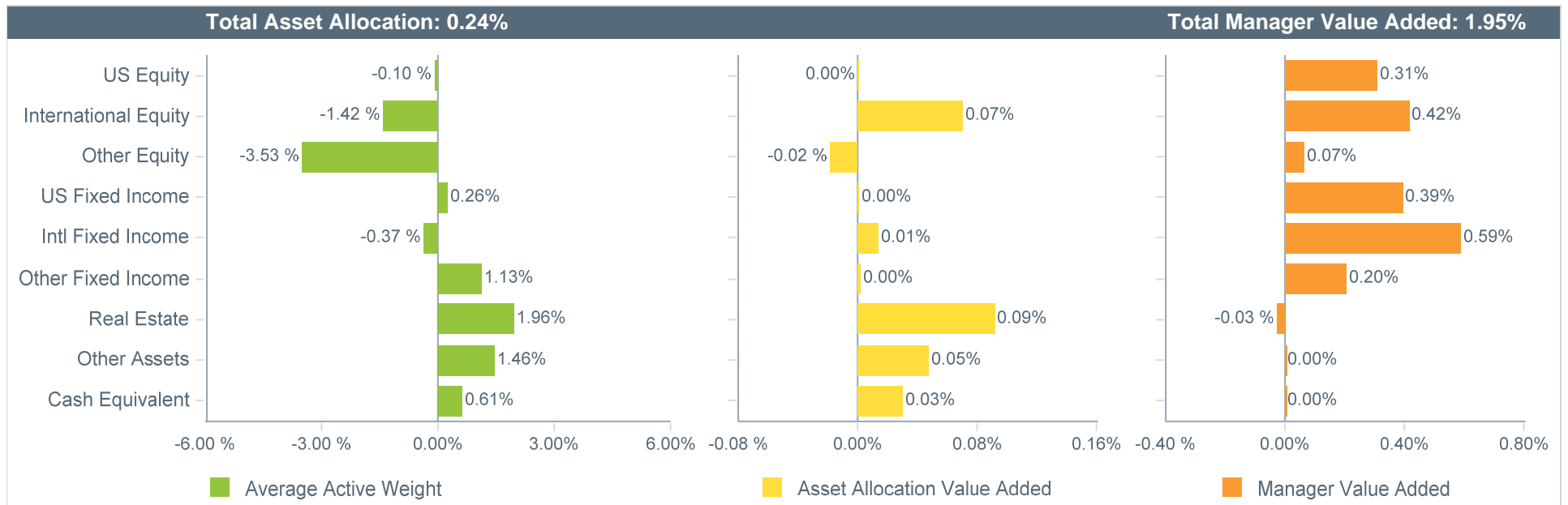
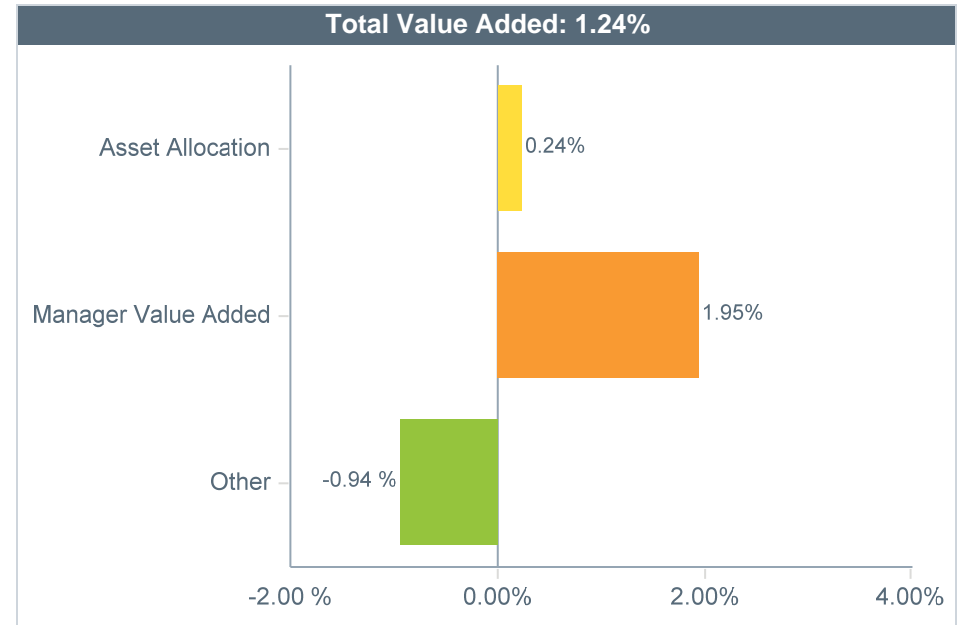
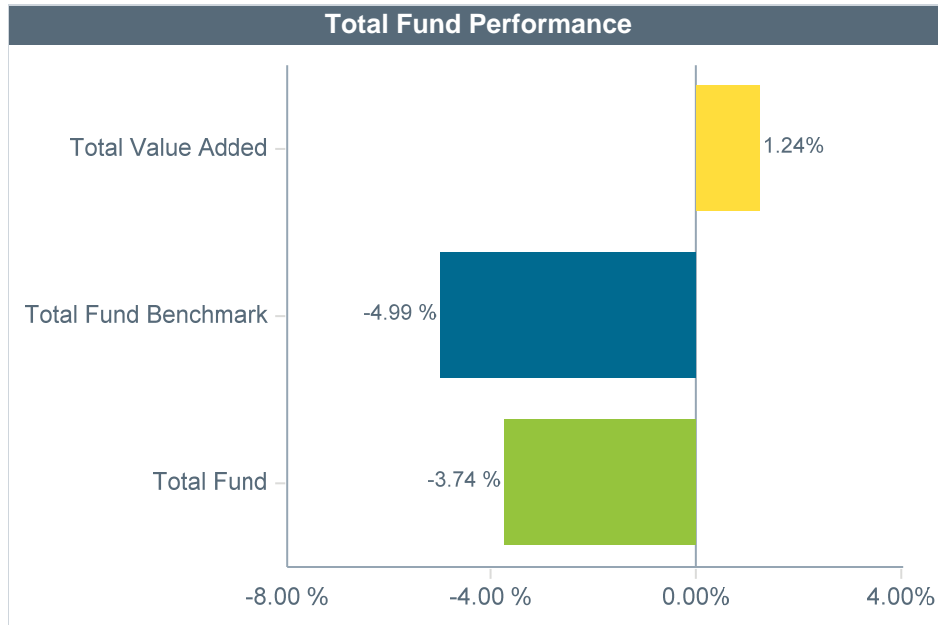
As of September 30, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OFPRS Total Fund	13.87 (53)	18.44 (5)	20.15 (26)	-2.46 (19)	18.67 (5)	7.42 (59)	2.12 (5)	6.91 (35)	21.10 (6)	12.57 (55)
● OFPRS Policy Index	17.66 (13)	13.85 (33)	21.76 (8)	-3.80 (46)	16.41 (26)	8.76 (19)	1.60 (9)	8.64 (6)	19.76 (13)	12.63 (53)
▲ OFPRS Allocation Index	15.88 (28)	17.79 (7)	20.30 (24)	-3.93 (48)	15.64 (40)	9.45 (10)	0.56 (29)	6.12 (56)	21.48 (6)	12.32 (62)
5th Percentile	19.59	18.43	22.06	-0.54	18.60	9.98	2.08	8.68	21.59	15.19
1st Quartile	16.10	14.71	20.19	-2.90	16.44	8.51	0.71	7.24	18.05	13.79
Median	14.01	12.54	18.57	-4.03	15.15	7.69	-0.13	6.34	15.88	12.71
3rd Quartile	12.21	10.94	16.66	-5.11	13.89	6.94	-1.17	5.08	13.66	11.63
95th Percentile	7.35	6.40	12.93	-6.65	10.14	5.33	-2.66	3.24	8.52	8.44

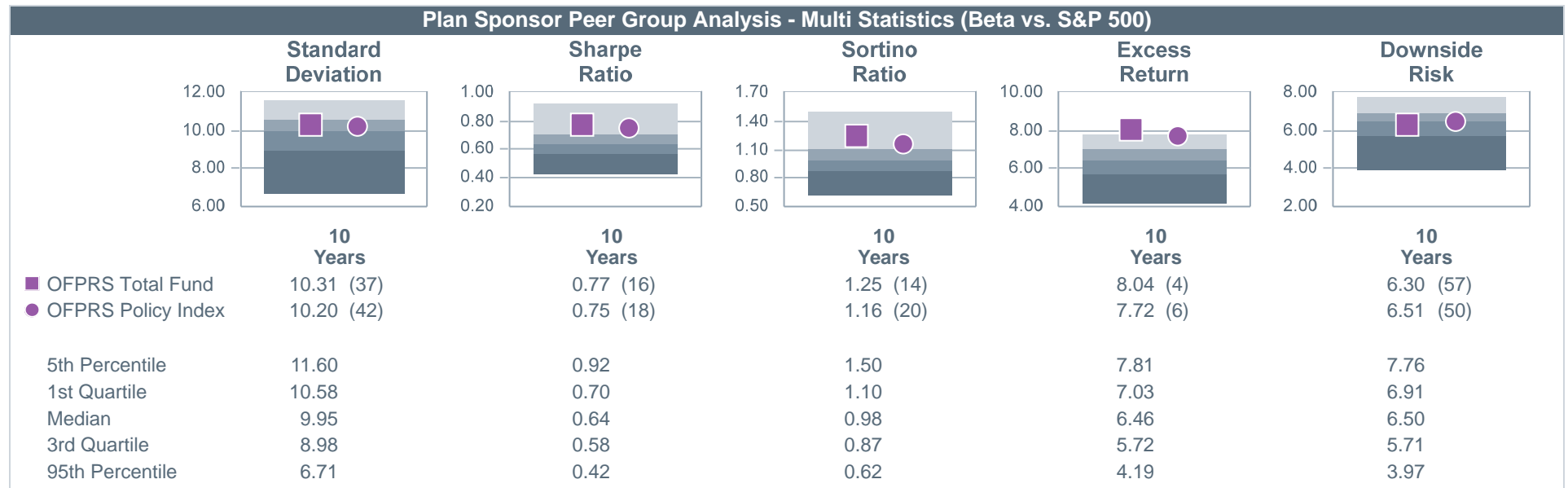
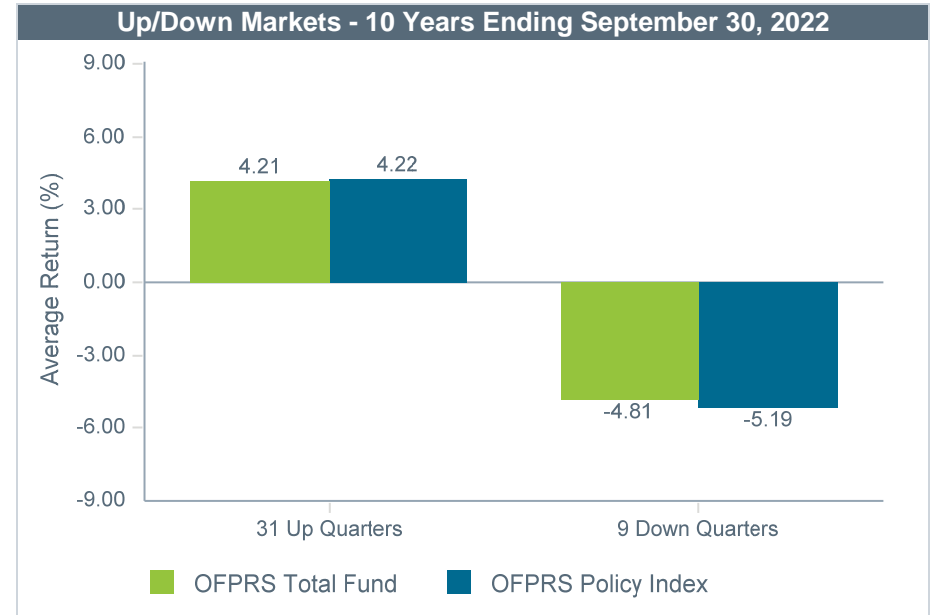
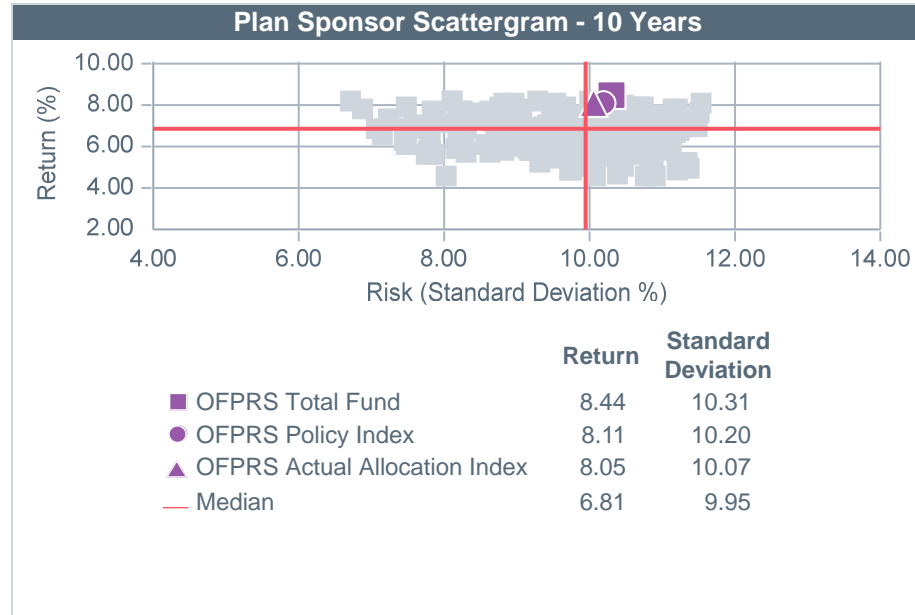
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.





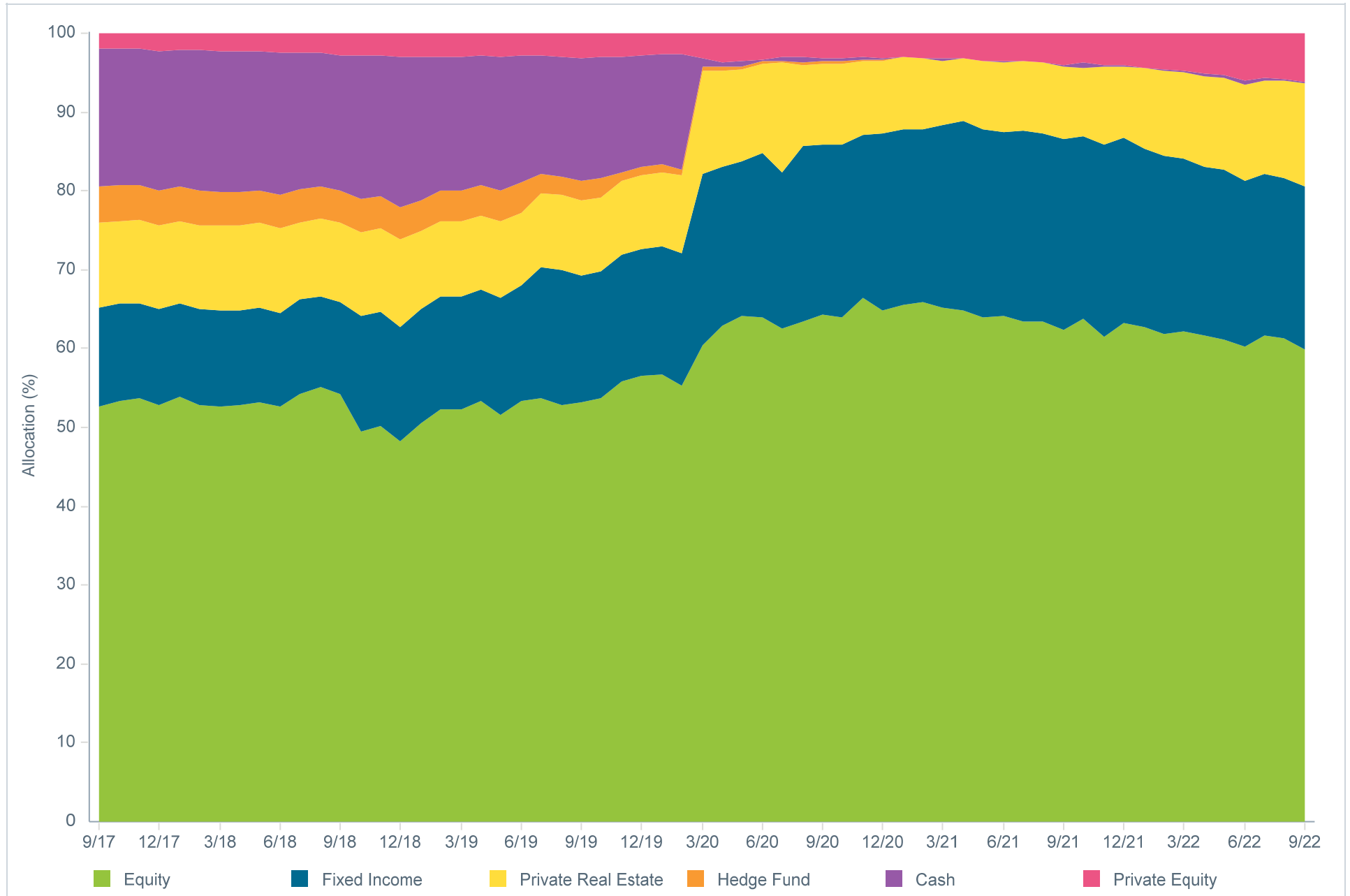
Performance shown is gross of fees. Calculation is based on quarterly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation. Allocation to Other Equity includes opportunistic equity; Other Fixed Income includes non-core Fixed Income; and Other Assets include Hedge Funds and Private Equity.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



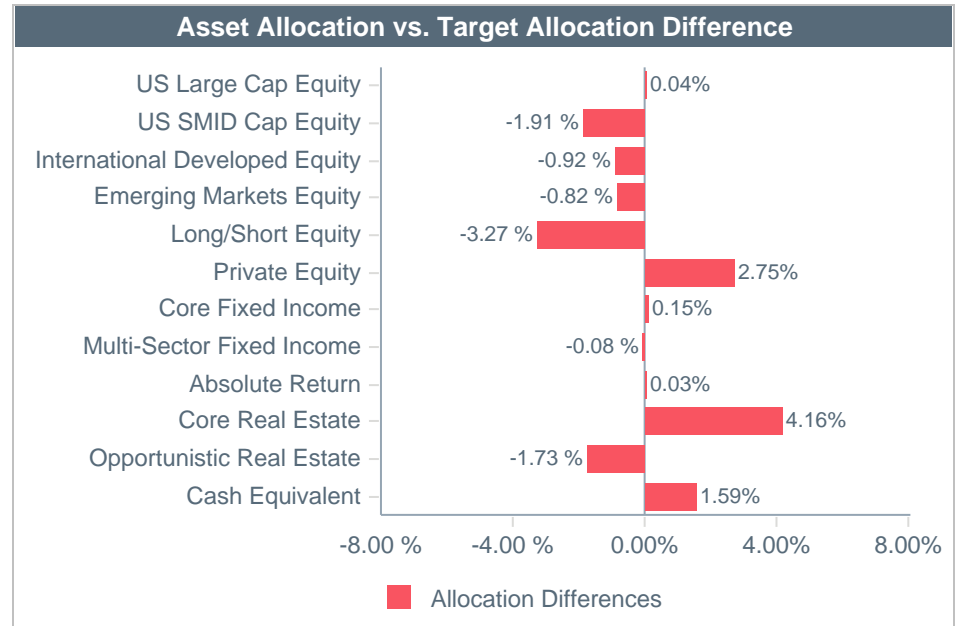


Oklahoma Police Pension & Retirement System (OPPRS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OPPRS Total Fund (Net)	-3.78	-3.78	-12.89	-9.20	6.36	5.75	6.71	6.75	17.28	12.17	15.22	-2.85	12.91
OPPRS Policy Index	-5.12	-5.12	-18.22	-13.67	3.90	4.44	6.11	5.93	15.19	12.66	19.13	-5.34	15.45
Difference	1.34	1.34	5.33	4.47	2.46	1.31	0.60	0.82	2.09	-0.49	-3.91	2.49	-2.54
OPPRS Actual Allocation Index	-4.96	-4.96	-18.09	-13.62	4.05	4.29	5.68	5.84	14.36	14.67	15.02	-3.70	13.78
Difference	1.18	1.18	5.20	4.42	2.31	1.46	1.03	0.91	2.92	-2.50	0.20	0.85	-0.87
Actuarial Discount Rate (7.5%)	1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference	-5.60	-5.60	-18.46	-16.70	-1.14	-1.75	-0.79	-0.75	9.78	4.67	7.72	-10.35	5.41
OPPRS Total Fund (Gross)	-3.69	-3.69	-12.56	-8.76	6.77	6.18	7.14	7.19	17.71	12.54	15.68	-2.46	13.40
OPPRS Policy Index	-5.12	-5.12	-18.22	-13.67	3.90	4.44	6.11	5.93	15.19	12.66	19.13	-5.34	15.45
Difference	1.43	1.43	5.66	4.91	2.87	1.74	1.03	1.26	2.52	-0.12	-3.45	2.88	-2.05
OPPRS Actual Allocation Index	-4.96	-4.96	-18.09	-13.62	4.05	4.29	5.68	5.84	14.36	14.67	15.02	-3.70	13.78
Difference	1.27	1.27	5.53	4.86	2.72	1.89	1.46	1.35	3.35	-2.13	0.66	1.24	-0.38
All Public Plans-Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	14.01	12.54	18.57	-4.03	15.15
Rank	24	24	14	15	8	15	29	32	13	50	85	19	83

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OPPRS (Police)	2,878,507,551	100.00	100.00
US Large Cap Equity	432,857,618	15.04	15.00
US SMID Cap Equity	233,009,949	8.09	10.00
International Developed Equity	261,439,849	9.08	10.00
Emerging Markets Equity	120,336,401	4.18	5.00
Long/Short Equity	193,826,853	6.73	10.00
Private Equity	511,045,751	17.75	15.00
Core Fixed Income	220,222,835	7.65	7.50
Multi-Sector Fixed Income	213,507,171	7.42	7.50
Absolute Return	144,855,091	5.03	5.00
Core Real Estate	407,520,512	14.16	10.00
Opportunistic Real Estate	93,990,970	3.27	5.00
Cash Equivalent	45,894,551	1.59	0.00



Parenteses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OPPRS Total Fund	2,878,507,551	100.00	-3.78	-3.78	-12.89	-9.20	6.36	5.75	6.71	6.75	6.17	07/01/2005
OPPRS Policy Index			-5.12	-5.12	-18.22	-13.67	3.90	4.44	6.11	5.93	5.62	
Difference			1.34	1.34	5.33	4.47	2.46	1.31	0.60	0.82	0.55	
OPPRS Actual Allocation Index			-4.96	-4.96	-18.09	-13.62	4.05	4.29	5.68	5.84	5.71	
Difference			1.18	1.18	5.20	4.42	2.31	1.46	1.03	0.91	0.46	
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			-5.60	-5.60	-18.46	-16.70	-1.14	-1.75	-0.79	-0.75	-1.33	
Total Equity	1,752,516,421	60.88	-4.96	-4.96	-18.91	-14.76	8.47	7.40	8.79	8.85	7.18	07/01/2005
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	6.11	
Difference			1.86	1.86	6.72	5.90	4.72	2.96	1.37	1.57	1.07	
US Equity												
Northern Trust Russell 1000 Index (SA)	432,857,618	15.04	-4.61	-4.61	-24.57	-17.20	7.94	8.99	11.15	11.60	N/A	07/01/1998
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	7.01	
Difference			0.00	0.00	0.02	0.02	-0.01	-0.01	0.00	0.00	N/A	
Boston Partners SMID Value Equity (SA)	124,932,138	4.34	-6.28	-6.28	-17.89	-14.10	5.50	3.75	7.28	8.60	N/A	06/01/1997
Russell 2500 Val Index			-4.50	-4.50	-20.41	-15.35	4.52	3.78	7.32	8.41	8.66	
Difference			-1.78	-1.78	2.52	1.25	0.98	-0.03	-0.04	0.19	N/A	
Silvercrest Small Cap Growth Equity (SA)	108,077,811	3.75	1.69	1.69	-30.95	-31.18	11.85	10.00	12.69	N/A	6.47	01/01/2014
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	5.64	
Difference			1.45	1.45	-1.67	-1.91	8.91	6.40	5.57	N/A	0.83	
International Equity												
Mondrian International Value Equity (SA)	125,710,421	4.37	-14.28	-14.28	-23.67	-23.19	-3.47	-2.40	1.54	2.70	N/A	04/01/2004
MSCI EAFE Val Index (USD) (Gross)			-10.12	-10.12	-20.61	-19.62	-2.20	-2.14	2.04	2.98	3.71	
Difference			-4.16	-4.16	-3.06	-3.57	-1.27	-0.26	-0.50	-0.28	N/A	
Barings Focused EAFE Plus Equity (SA)	135,729,428	4.72	-10.00	-10.00	-28.28	-26.74	-2.90	-1.35	2.82	2.62	2.36	02/01/2012
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	3.62	
Difference			-0.20	-0.20	-2.10	-1.95	-1.83	-1.01	-0.96	-0.86	-1.26	

During 07/2022, AB EM Strategic Core Equity (CF) was liquidated and Axiom Emerging Markets Equity (SA) was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Axiom Emerging Markets Equity (SA)	77,098,955	2.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-11.39	08/01/2022
MSCI Emg Mkts Index (USD) (Gross)			-11.42	-11.42	-26.89	-27.80	-1.71	-1.44	4.26	1.42	-11.27	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.12	
Wasatch EM Small Cap (SA)	43,237,447	1.50	-4.74	-4.74	-41.81	-38.51	5.77	3.67	5.69	3.42	3.85	08/01/2012
MSCI Emg Mkts Sm Cap Index (USD) (Gross)			-5.03	-5.03	-23.88	-22.76	6.01	1.67	5.07	3.28	4.07	
Difference			0.29	0.29	-17.93	-15.75	-0.24	2.00	0.62	0.14	-0.22	
Fixed Income	578,585,098	20.10	-3.29	-3.29	-11.29	-11.42	-1.13	0.69	1.53	N/A	N/A	07/01/2005
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	2.85	
Difference			1.46	1.46	3.32	3.18	2.13	0.96	0.99	N/A	N/A	
Agincourt Core Fixed Income (SA)	220,222,835	7.65	-4.71	-4.71	-14.59	-14.61	-2.96	0.03	0.87	1.18	N/A	07/01/1998
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.85	
Difference			0.04	0.04	0.02	-0.01	0.30	0.30	0.33	0.29	N/A	
Loomis Sayles Global World Bond (SA)	67,593,846	2.35	-7.61	-7.61	-22.47	-23.42	-6.27	-2.67	-0.41	-1.10	1.14	05/01/2008
FTSE Wrld Gov't Bond Index			-7.61	-7.61	-21.27	-22.14	-7.03	-3.07	-1.29	-1.76	0.26	
Difference			0.00	0.00	-1.20	-1.28	0.76	0.40	0.88	0.66	0.88	
Oaktree Global Credit (SA)	121,705,721	4.23	-0.85	-0.85	-9.66	-9.35	0.26	0.86	3.08	3.30	5.00	01/01/1998
Oaktree Global Credit Custom Index			-0.71	-0.71	-11.35	-11.37	-0.32	0.45	1.06	1.25	N/A	
Difference			-0.14	-0.14	1.69	2.02	0.58	0.41	2.02	2.05	N/A	
Absolute Return	144,855,091	5.03	-0.82	-0.82	-1.25	-1.90	0.40	1.30	1.12	2.40	2.25	12/01/2010
PAAMCO (CF)	4,167,161	0.14	-0.30	-0.30	-0.80	4.32	4.29	2.90	2.40	3.29	N/A	10/01/2002
HFRI FOF: Cnsvt Index			0.26	0.26	-1.30	-0.61	4.75	3.81	3.41	3.66	3.28	
Difference			-0.56	-0.56	0.50	4.93	-0.46	-0.91	-1.01	-0.37	N/A	
Wellington Global Total Return (CF)	81,632,930	2.84	-0.35	-0.35	4.10	2.84	1.94	3.45	N/A	N/A	2.92	12/01/2016
ICE BofAML 3 Mo US T-Bill Index+4%			1.45	1.45	3.61	4.64	4.62	5.20	4.99	4.71	5.13	
Difference			-1.80	-1.80	0.49	-1.80	-2.68	-1.75	N/A	N/A	-2.21	
TCW MetWest Unconstrained (SA)	59,055,000	2.05	-1.59	-1.59	-8.01	-8.47	N/A	N/A	N/A	N/A	-4.23	01/01/2021
ICE BofAML 3 Mo US T-Bill Index+3%			1.21	1.21	2.86	3.64	3.61	4.18	3.98	3.70	3.39	
Difference			-2.80	-2.80	-10.87	-12.11	N/A	N/A	N/A	N/A	-7.62	
Private Credit	24,207,605	0.84	-3.49	-3.49	-4.80	-2.55	9.45	8.91	N/A	N/A	8.74	10/01/2016

During 07/2022, AB EM Strategic Core Equity (CF) was liquidated and Axiom Emerging Markets Equity (SA) was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Real Assets	501,511,481	17.42	0.36	0.36	14.28	22.60	10.67	7.94	7.36	6.98	N/A	01/01/1998
OPPRS Real Assets Blended Benchmark			0.31	0.31	12.36	20.96	11.38	8.14	6.83	5.67	6.49	
Difference			0.05	0.05	1.92	1.64	-0.71	-0.20	0.53	1.31	N/A	
JP Morgan Strategic Property (CF)	200,964,685	6.98	-1.46	-1.46	9.47	18.14	10.47	8.25	8.07	9.47	5.94	11/01/2007
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	5.81	
Difference			-1.77	-1.77	-2.89	-2.82	-0.91	-1.01	-0.80	-0.44	0.13	
Blackstone Property Partners (CF)	206,555,827	7.18	2.43	2.43	19.24	26.38	11.02	9.23	10.10	N/A	10.67	12/01/2014
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	9.69	
Difference			2.12	2.12	6.88	5.42	-0.36	-0.03	1.23	N/A	0.98	
Private Real Estate	93,990,970	3.27	-0.27	-0.27	15.22	25.89	13.19	12.72	11.79	11.64	10.33	08/01/2011
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	10.13	
Difference			-0.58	-0.58	2.86	4.93	1.81	3.46	2.92	1.73	0.20	
Columbus Square (SA)	4,579,708	0.16	2.03	2.03	4.63	5.43	-1.23	1.54	3.76	5.00	N/A	03/01/1995
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	8.46	
Difference			1.72	1.72	-7.73	-15.53	-12.61	-7.72	-5.11	-4.91	N/A	
Long/Short Equity	193,826,853	6.73	-1.18	-1.18	-20.92	-22.39	0.96	1.84	3.03	4.40	4.23	05/01/2012
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	7.19	
Difference			5.64	5.64	4.71	-1.73	-2.79	-2.60	-4.39	-2.88	-2.96	
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	3.18	
Difference			0.32	0.32	-7.13	-9.03	-2.19	-0.27	0.13	1.09	1.05	
Grosvenor Long/Short Equity (CF)	1,893,488	0.07	-7.01	-7.01	-16.24	-12.16	5.42	4.52	4.95	5.77	N/A	09/01/2003
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	3.51	
Difference			-5.51	-5.51	-2.45	1.20	2.27	2.41	2.05	2.46	N/A	
K2 Ascent (CF)	191,933,365	6.67	-1.12	-1.12	-20.98	-22.50	N/A	N/A	N/A	N/A	-1.75	06/01/2020
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	4.30	
Difference			0.38	0.38	-7.19	-9.14	N/A	N/A	N/A	N/A	-6.05	
Private Equity	511,045,751	17.75	-2.99	-2.99	4.50	13.21	27.06	21.65	16.73	15.66	14.25	07/01/2003
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	7.25	
Difference			3.83	3.83	30.13	33.87	23.31	17.21	9.31	8.38	7.00	
Cambridge US Prvt Eq Index			0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	15.26	
Difference			-2.99	-2.99	7.91	10.74	7.31	4.60	0.83	0.34	-1.01	

During 07/2022, AB EM Strategic Core Equity (CF) was liquidated and Axiom Emerging Markets Equity (SA) was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OPPRS Total Fund	2,878,507,551	100.00	-3.69	-3.69	-12.56	-8.76	6.77	6.18	7.14	7.19	6.52	07/01/2005
OPPRS Policy Index			-5.12	-5.12	-18.22	-13.67	3.90	4.44	6.11	5.93	5.62	
Difference			1.43	1.43	5.66	4.91	2.87	1.74	1.03	1.26	0.90	
OPPRS Actual Allocation Index			-4.96	-4.96	-18.09	-13.62	4.05	4.29	5.68	5.84	5.71	
Difference			1.27	1.27	5.53	4.86	2.72	1.89	1.46	1.35	0.81	
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			-5.51	-5.51	-18.13	-16.26	-0.73	-1.32	-0.36	-0.31	-0.98	
All Public Plans-Total Fund Median			-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	6.28	
Rank			24	24	14	15	8	15	29	32	32	
Total Equity	1,752,516,421	60.88	-4.91	-4.91	-18.77	-14.56	8.76	7.72	9.12	9.20	7.47	07/01/2005
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	6.11	
Difference			1.91	1.91	6.86	6.10	5.01	3.28	1.70	1.92	1.36	
IM Global Equity (SA+CF) Median			-6.88	-6.87	-25.17	-20.47	3.92	4.98	7.52	8.27	7.13	
Rank			18	18	20	22	9	16	26	28	36	
US Equity												
Northern Trust Russell 1000 Index (SA)	432,857,618	15.04	-4.61	-4.61	-24.56	-17.19	7.95	N/A	N/A	N/A	N/A	07/01/1998
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	7.01	
Difference			0.00	0.00	0.03	0.03	0.00	N/A	N/A	N/A	N/A	
IM U.S. Large Cap Index Equity (SA+CF) Median			-4.87	-4.87	-23.89	-15.49	8.00	9.01	11.18	11.63	6.96	
Rank			43	43	62	60	55	N/A	N/A	N/A	N/A	
Boston Partners SMID Value Equity (SA)	124,932,138	4.34	-6.15	-6.15	-17.52	-13.58	6.14	N/A	N/A	N/A	N/A	06/01/1997
Russell 2500 Val Index			-4.50	-4.50	-20.41	-15.35	4.52	3.78	7.32	8.41	8.66	
Difference			-1.65	-1.65	2.89	1.77	1.62	N/A	N/A	N/A	N/A	
IM U.S. SMID Cap Value Equity (SA+CF) Median			-4.61	-4.61	-19.12	-13.48	6.56	5.69	8.58	9.91	N/A	
Rank			83	83	37	51	57	N/A	N/A	N/A	N/A	
Silvercrest Small Cap Growth Equity (SA)	108,077,811	3.75	1.89	1.89	-30.47	-30.57	12.80	N/A	N/A	N/A	N/A	01/01/2014
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	5.64	
Difference			1.65	1.65	-1.19	-1.30	9.86	N/A	N/A	N/A	N/A	
IM U.S. Small Cap Growth Equity (SA+CF) Median			-0.70	-0.70	-30.74	-28.76	6.72	8.74	10.66	11.71	8.58	
Rank			17	17	49	61	13	N/A	N/A	N/A	N/A	

During 07/2022, AB EM Strategic Core Equity (CF) was liquidated and Axiom Emerging Markets Equity (SA) was funded. Performance shown for Private Equity is net of fees. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity												
Mondrian International Value Equity (SA)	125,710,421	4.37	-14.19	-14.19	-23.43	-22.86	-3.06	N/A	N/A	N/A	N/A	04/01/2004
MSCI EAFE Val Index (USD) (Gross)			-10.12	-10.12	-20.61	-19.62	-2.20	-2.14	2.04	2.98	3.71	
Difference			-4.07	-4.07	-2.82	-3.24	-0.86	N/A	N/A	N/A	N/A	
IM International Value Equity (SA+CF) Median			-10.25	-10.25	-23.90	-23.65	-0.75	-0.91	3.27	4.34	5.30	
Rank			96	96	45	45	84	N/A	N/A	N/A	N/A	
Barings Focused EAFE Plus Equity (SA)	135,729,428	4.72	-9.90	-9.90	-28.06	-26.44	-2.39	N/A	N/A	N/A	N/A	02/01/2012
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	3.62	
Difference			-0.10	-0.10	-1.88	-1.65	-1.32	N/A	N/A	N/A	N/A	
IM International Value Equity (SA+CF) Median			-9.47	-9.38	-27.45	-25.97	-0.43	0.04	3.97	4.89	5.21	
Rank			61	63	54	55	81	N/A	N/A	N/A	N/A	
Axiom Emerging Markets Equity (SA)	77,098,955	2.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-11.39	08/01/2022
MSCI Emg Mkts Index (USD) (Gross)			-11.42	-11.42	-26.89	-27.80	-1.71	-1.44	4.26	1.42	-11.27	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-0.12	
IM Emerging Markets Equity (SA+CF) Median			-10.21	-10.19	-27.04	-27.47	-0.62	-0.89	4.84	2.41	-10.52	
Rank			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	71	
Wasatch EM Small Cap (SA)	43,237,447	1.50	-4.48	-4.48	-41.33	-37.83	7.10	N/A	N/A	N/A	N/A	08/01/2012
MSCI Emg Mkts Sm Cap Index (USD) (Gross)			-5.03	-5.03	-23.88	-22.76	6.01	1.67	5.07	3.28	4.07	
Difference			0.55	0.55	-17.45	-15.07	1.09	N/A	N/A	N/A	N/A	
IM Emerging Markets Equity (SA+CF) Median			-10.21	-10.19	-27.04	-27.47	-0.62	-0.89	4.84	2.41	2.95	
Rank			12	12	100	94	9	N/A	N/A	N/A	N/A	
Fixed Income												
Bloomberg US Agg Bond Index	578,585,098	20.10	-3.21	-3.21	-11.08	-11.13	-0.80	1.07	1.95	2.29	3.97	07/01/2005
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	2.85	
Difference			1.54	1.54	3.53	3.47	2.46	1.34	1.41	1.40	1.12	
IM U.S. Fixed Income (SA+CF) Median			-2.90	-2.90	-11.80	-11.56	-1.16	0.85	1.54	1.70	3.39	
Rank			57	57	48	48	45	41	38	30	30	
Agincourt Core Fixed Income (SA)	220,222,835	7.65	-4.67	-4.67	-14.50	-14.49	-2.82	N/A	N/A	N/A	N/A	07/01/1998
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.85	
Difference			0.08	0.08	0.11	0.11	0.44	N/A	N/A	N/A	N/A	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.55	-4.55	-14.43	-14.48	-2.70	0.18	1.07	1.37	4.29	
Rank			65	65	54	52	60	N/A	N/A	N/A	N/A	

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Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Loomis Sayles Global World Bond (SA)	67,593,846	2.35	-7.53	-7.53	-22.27	-23.15	-5.95	N/A	N/A	N/A	N/A	05/01/2008
FTSE Wrld Gov't Bond Index			-7.61	-7.61	-21.27	-22.14	-7.03	-3.07	-1.29	-1.76	0.26	
Difference			0.08	0.08	-1.00	-1.01	1.08	N/A	N/A	N/A	N/A	
IM Global Fixed Income (SA+CF) Median			-3.66	-3.66	-16.09	-16.06	-2.23	0.36	2.16	1.70	2.27	
Rank			84	87	89	92	87	N/A	N/A	N/A	N/A	
Oaktree Global Credit (SA)	121,705,721	4.23	-0.69	-0.69	-9.20	-8.73	0.88	1.50	3.72	3.91	5.48	01/01/1998
Oaktree Global Credit Custom Index			-0.71	-0.71	-11.35	-11.37	-0.32	0.45	1.06	1.25	N/A	
Difference			0.02	0.02	2.15	2.64	1.20	1.05	2.66	2.66	N/A	
Absolute Return	144,855,091	5.03	-0.73	-0.73	-0.99	-1.55	0.85	1.85	1.74	2.97	2.73	12/01/2010
PAAMCO (CF)	4,167,161	0.14	-0.08	-0.08	-0.13	5.26	5.24	N/A	N/A	N/A	N/A	10/01/2002
HFRI FOF: Cnsvt Index			0.26	0.26	-1.30	-0.61	4.75	3.81	3.41	3.66	3.28	
Difference			-0.34	-0.34	1.17	5.87	0.49	N/A	N/A	N/A	N/A	
Wellington Global Total Return (CF)	81,632,930	2.84	-0.28	-0.28	4.29	3.10	2.19	N/A	N/A	N/A	N/A	12/01/2016
ICE BofAML 3 Mo US T-Bill Index+4%			1.45	1.45	3.61	4.64	4.62	5.20	4.99	4.71	5.13	
Difference			-1.73	-1.73	0.68	-1.54	-2.43	N/A	N/A	N/A	N/A	
TCW MetWest Unconstrained (SA)	59,055,000	2.05	-1.48	-1.48	-7.70	-8.05	N/A	N/A	N/A	N/A	-3.77	01/01/2021
ICE BofAML 3 Mo US T-Bill Index+3%			1.21	1.21	2.86	3.64	3.61	4.18	3.98	3.70	3.39	
Difference			-2.69	-2.69	-10.56	-11.69	N/A	N/A	N/A	N/A	-7.16	
Private Credit	24,207,605	0.84	-3.49	-3.49	-4.80	-2.55	9.45	8.91	N/A	N/A	8.74	10/01/2016
Real Assets	501,511,481	17.42	0.65	0.65	15.94	24.84	11.90	9.02	8.31	7.86	6.34	01/01/1998
OPPRS Real Assets Blended Benchmark			0.31	0.31	12.36	20.96	11.38	8.14	6.83	5.67	6.49	
Difference			0.34	0.34	3.58	3.88	0.52	0.88	1.48	2.19	-0.15	
JP Morgan Strategic Property (CF)	200,964,685	6.98	-1.27	-1.27	10.11	19.06	11.38	N/A	N/A	N/A	N/A	11/01/2007
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	6.78	
Difference			-1.79	-1.79	-2.97	-3.03	-0.99	N/A	N/A	N/A	N/A	
Blackstone Property Partners (CF)	206,555,827	7.18	2.97	2.97	22.84	31.12	13.13	N/A	N/A	N/A	N/A	12/01/2014
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	10.70	
Difference			2.45	2.45	9.76	9.03	0.76	N/A	N/A	N/A	N/A	
Private Real Estate	93,990,970	3.27	-0.27	-0.27	15.22	25.89	13.19	12.72	11.79	11.64	10.33	08/01/2011
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	11.15	
Difference			-0.79	-0.79	2.14	3.80	0.82	2.48	1.94	0.72	-0.82	

During 07/2022, AB EM Strategic Core Equity (CF) was liquidated and Axiom Emerging Markets Equity (SA) was funded. Performance shown for Private Equity is net of fees. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
Oklahoma Police Pension & Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

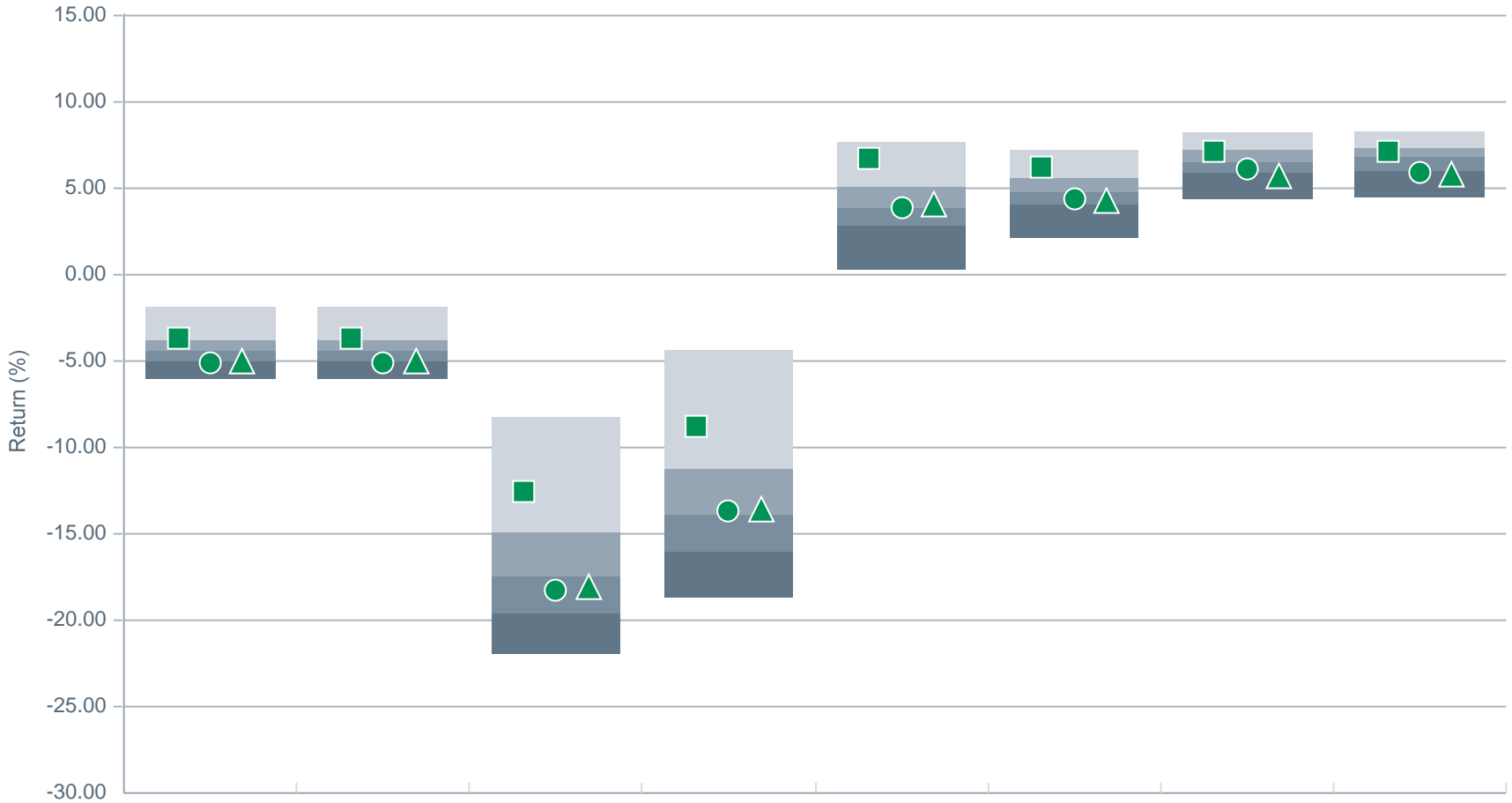
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Columbus Square (SA)	4,579,708	0.16	2.03	2.03	4.63	5.43	-1.23	N/A	N/A	N/A	N/A	03/01/1995
NCREIF ODCE Index (AWA) (Gross)			0.52	0.52	13.08	22.09	12.37	10.24	9.85	10.92	9.49	
Difference			1.51	1.51	-8.45	-16.66	-13.60	N/A	N/A	N/A	N/A	
Long/Short Equity	193,826,853	6.73	-1.18	-1.18	-20.91	-22.39	1.10	2.10	3.35	4.79	4.63	05/01/2012
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	7.19	
Difference			5.64	5.64	4.72	-1.73	-2.65	-2.34	-4.07	-2.49	-2.56	
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	3.18	
Difference			0.32	0.32	-7.12	-9.03	-2.05	-0.01	0.45	1.48	1.45	
Grosvenor Long/Short Equity (CF)	1,893,488	0.07	-6.82	-6.82	-15.72	-11.43	6.23	N/A	N/A	N/A	N/A	09/01/2003
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	3.51	
Difference			-5.32	-5.32	-1.93	1.93	3.08	N/A	N/A	N/A	N/A	
K2 Ascent (CF)	191,933,365	6.67	-1.12	-1.12	-20.98	-22.50	N/A	N/A	N/A	N/A	-1.75	06/01/2020
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	4.30	
Difference			0.38	0.38	-7.19	-9.14	N/A	N/A	N/A	N/A	-6.05	
Private Equity	511,045,751	17.75	-2.99	-2.99	4.50	13.21	27.06	21.65	16.73	15.66	14.25	07/01/2003
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	7.25	
Difference			3.83	3.83	30.13	33.87	23.31	17.21	9.31	8.38	7.00	
Cambridge US Prvt Eq Index			0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	15.26	
Difference			-2.99	-2.99	7.91	10.74	7.31	4.60	0.83	0.34	-1.01	

During 07/2022, AB EM Strategic Core Equity (CF) was liquidated and Axiom Emerging Markets Equity (SA) was funded. Performance shown for Private Equity is net of fees. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01. Total Equity includes Public Equity, Private Equity, and Long/Short Equity.



Oklahoma State Pension Commission
 Oklahoma Police Pension & Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of September 30, 2022



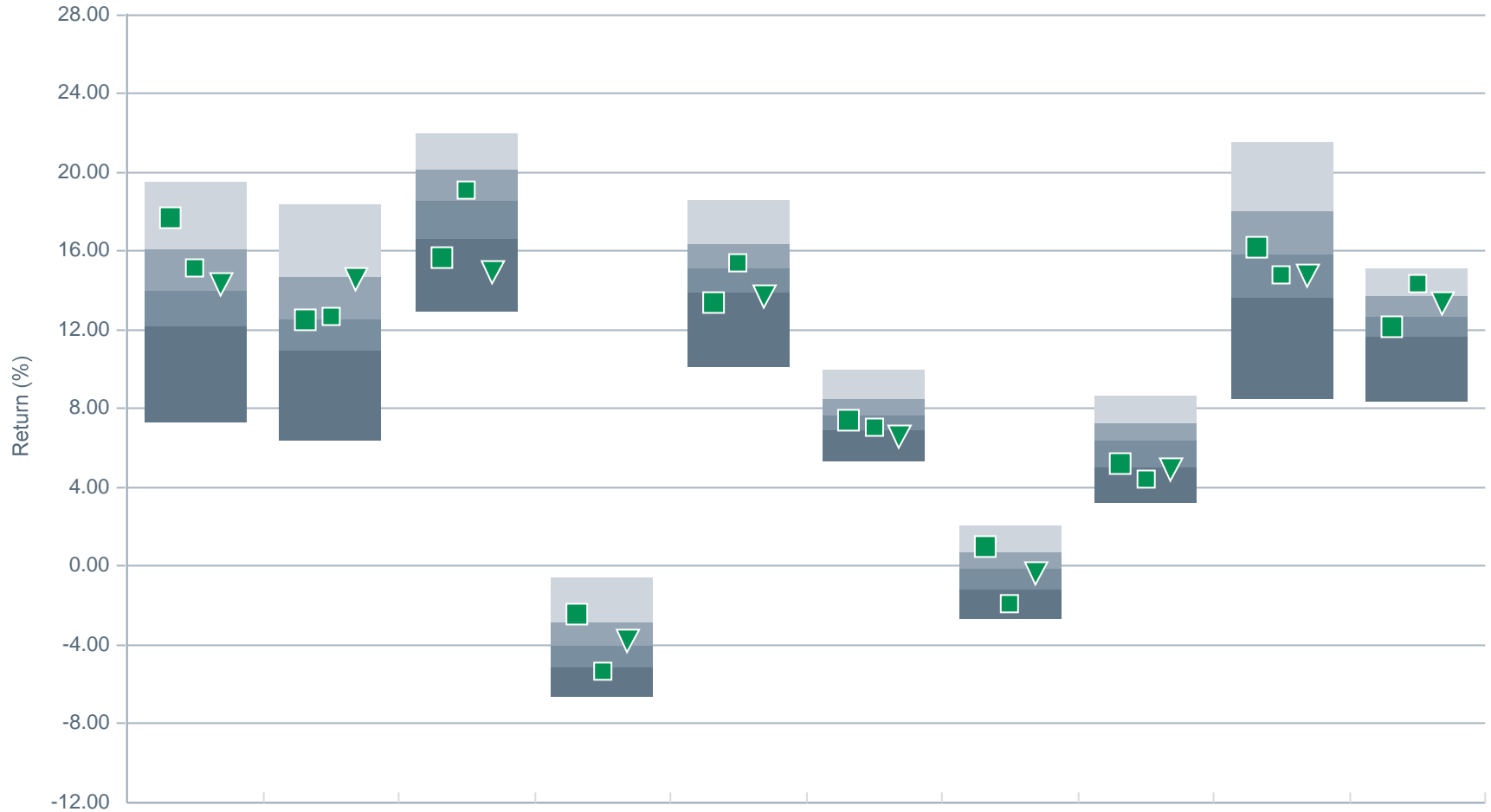
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OPPRS Total Fund	-3.69 (24)	-3.69 (24)	-12.56 (14)	-8.76 (15)	6.77 (8)	6.18 (15)	7.14 (29)	7.19 (32)
● OPPRS Policy Index	-5.12 (79)	-5.12 (79)	-18.22 (57)	-13.67 (49)	3.90 (51)	4.44 (65)	6.11 (69)	5.93 (80)
▲ OPPRS Allocation Index	-4.96 (74)	-4.96 (74)	-18.09 (55)	-13.62 (48)	4.05 (47)	4.29 (70)	5.68 (81)	5.84 (81)
5th Percentile	-1.87	-1.87	-8.24	-4.42	7.64	7.24	8.29	8.30
1st Quartile	-3.73	-3.73	-14.94	-11.26	5.10	5.59	7.20	7.40
Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
3rd Quartile	-5.01	-5.01	-19.61	-16.07	2.81	4.03	5.91	6.06
95th Percentile	-6.07	-6.07	-21.98	-18.65	0.34	2.18	4.35	4.45

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Police Pension & Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

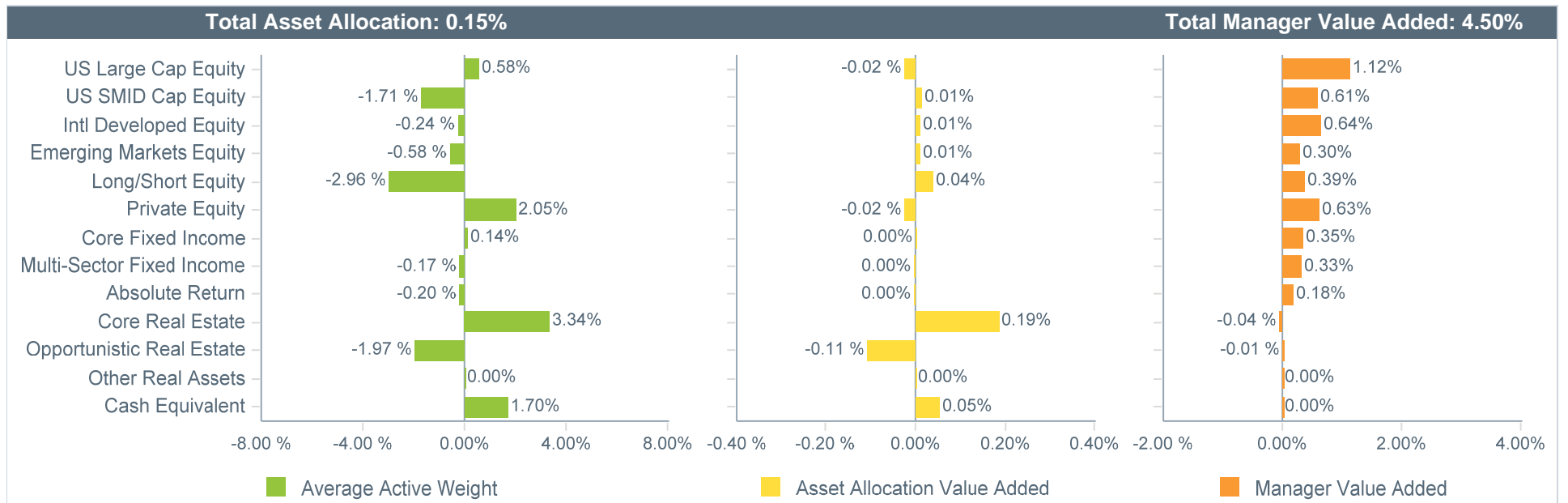
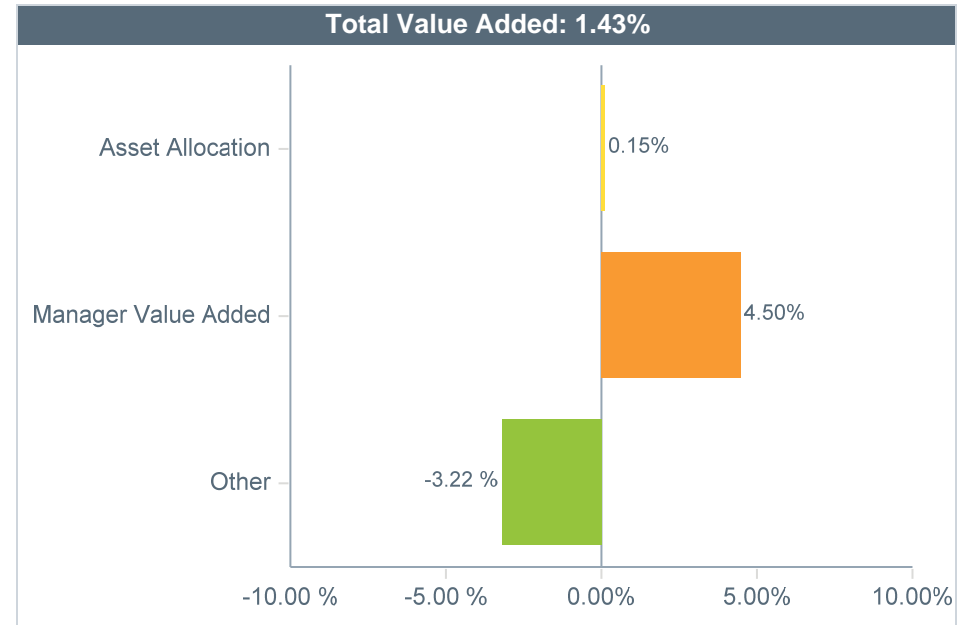
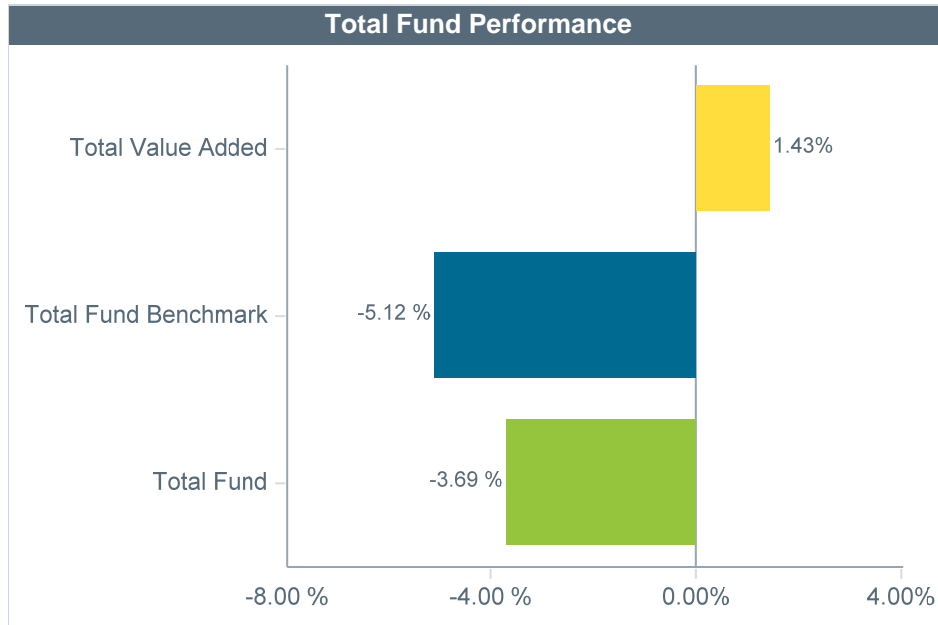
As of September 30, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OPPRS Total Fund	17.71 (13)	12.54 (50)	15.68 (85)	-2.46 (19)	13.40 (83)	7.47 (57)	1.05 (16)	5.20 (74)	16.18 (47)	12.20 (64)
■ OPPRS Policy Index	15.19 (35)	12.66 (49)	19.13 (41)	-5.34 (80)	15.45 (44)	7.07 (72)	-1.93 (87)	4.47 (86)	14.82 (62)	14.35 (16)
▼ OPPRS Allocation Index	14.36 (44)	14.67 (26)	15.02 (90)	-3.70 (44)	13.78 (77)	6.66 (82)	-0.35 (57)	4.97 (79)	14.77 (62)	13.44 (31)
5th Percentile	19.59	18.43	22.06	-0.54	18.60	9.98	2.08	8.68	21.59	15.19
1st Quartile	16.10	14.71	20.19	-2.90	16.44	8.51	0.71	7.24	18.05	13.79
Median	14.01	12.54	18.57	-4.03	15.15	7.69	-0.13	6.34	15.88	12.71
3rd Quartile	12.21	10.94	16.66	-5.11	13.89	6.94	-1.17	5.08	13.66	11.63
95th Percentile	7.35	6.40	12.93	-6.65	10.14	5.33	-2.66	3.24	8.52	8.44

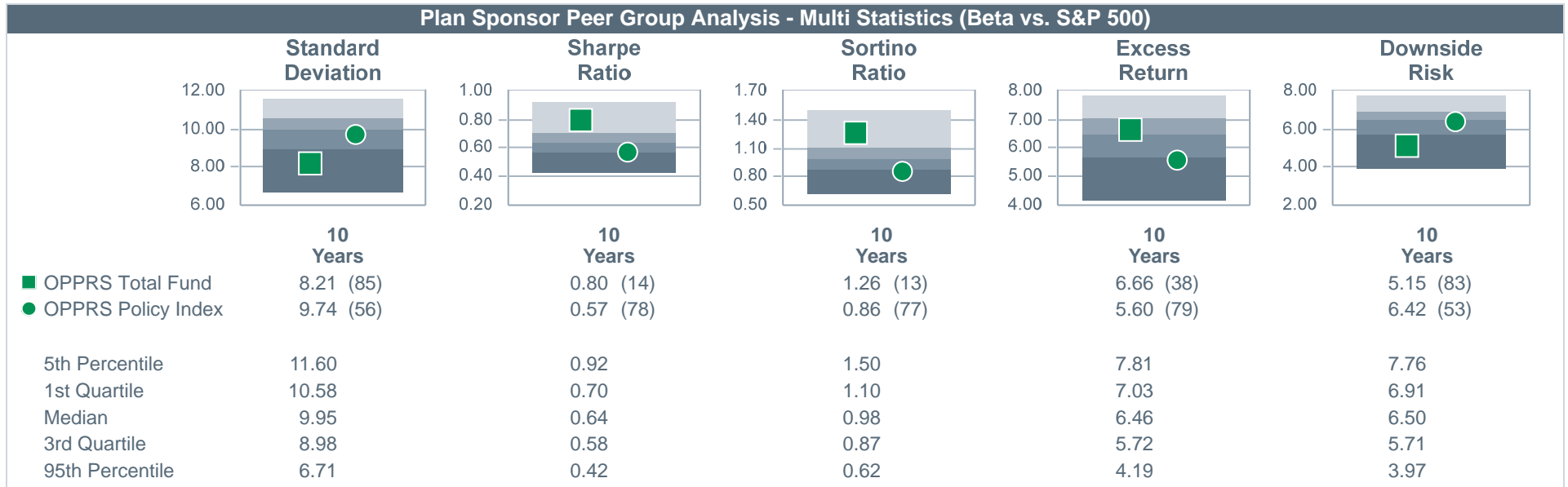
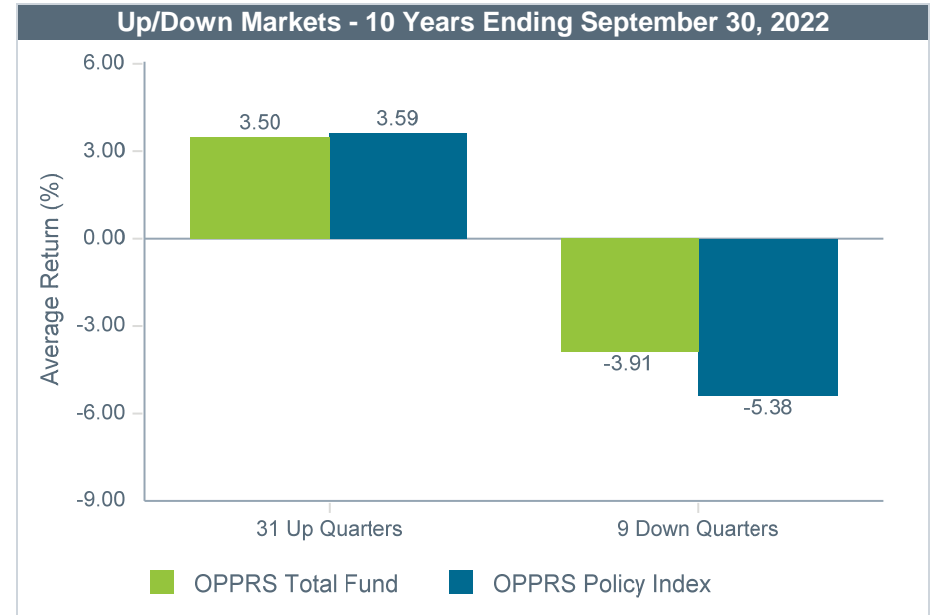
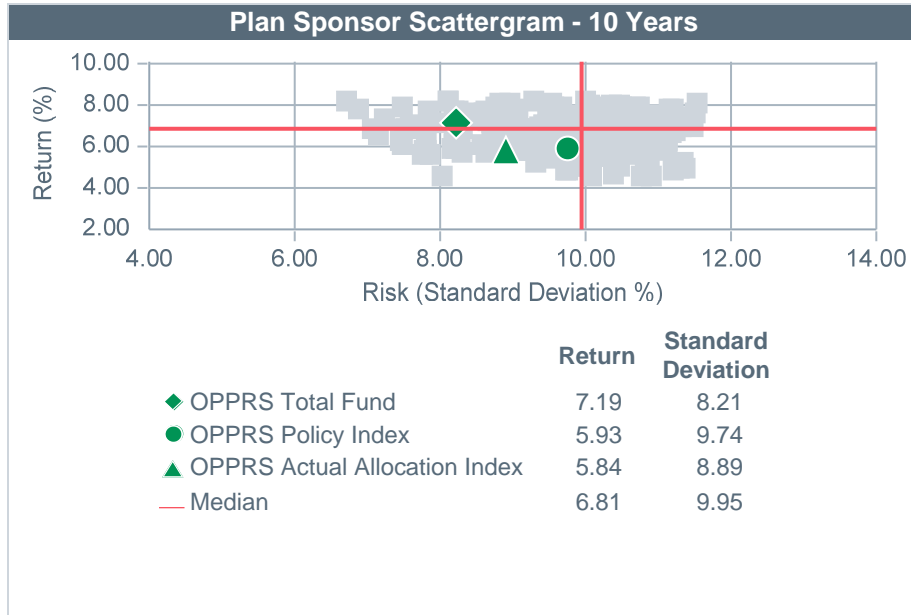
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



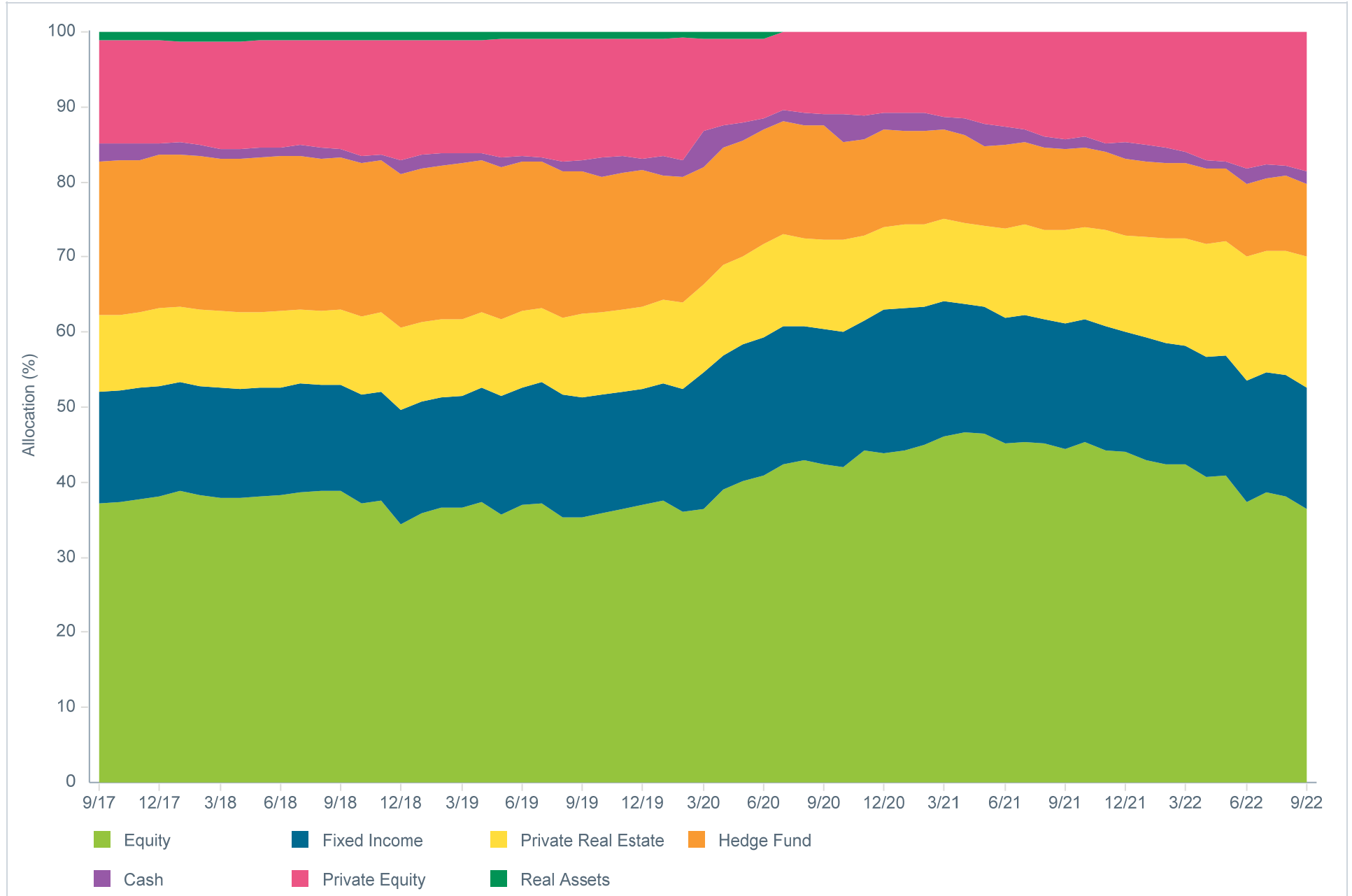


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation. Allocation to Multi-Sector Fixed Income includes Private Credit.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



Allocation to Fixed Income includes Private Credit.

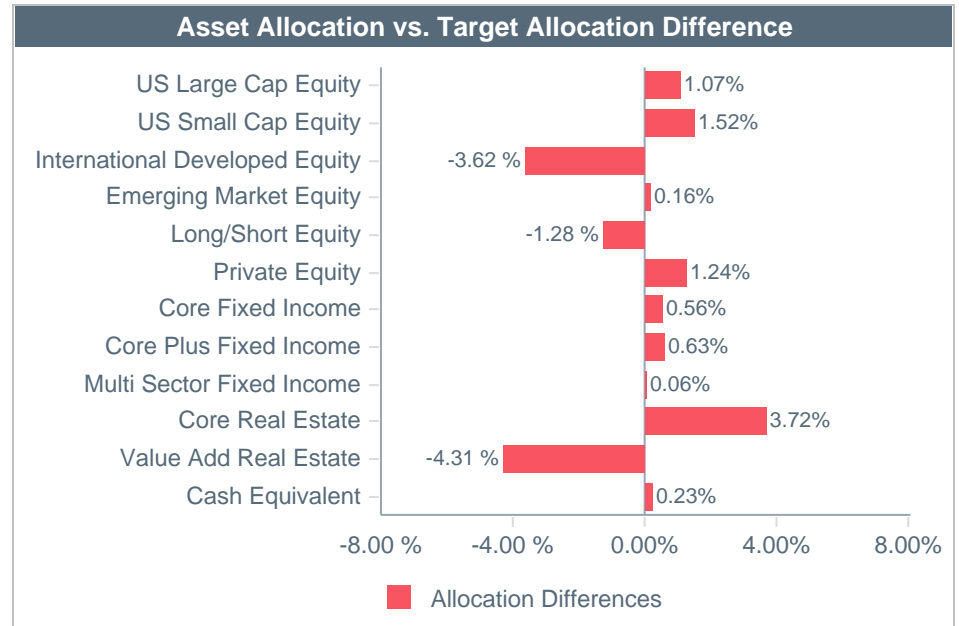


Oklahoma Law Enforcement Retirement System (OLERS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OLERS Total Fund (Net)	-4.63	-4.63	-18.08	-14.97	3.64	3.88	5.59	5.94	14.56	12.26	17.44	-5.30	14.36
OLERS Policy Index	-4.72	-4.72	-17.78	-13.19	4.25	4.89	6.56	6.91	15.57	12.77	19.12	-3.67	13.36
Difference	0.09	0.09	-0.30	-1.78	-0.61	-1.01	-0.97	-0.97	-1.01	-0.51	-1.68	-1.63	1.00
OLERS Actual Allocation Index	-4.59	-4.59	-18.52	-14.26	6.29	5.99	7.36	7.17	14.97	21.57	17.33	-3.47	14.63
Difference	-0.04	-0.04	0.44	-0.71	-2.65	-2.11	-1.77	-1.23	-0.41	-9.31	0.11	-1.83	-0.27
Actuarial Discount Rate (7.5%)	1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Difference	-6.45	-6.45	-23.65	-22.47	-3.86	-3.62	-1.91	-1.56	7.06	4.76	9.94	-12.80	6.86
OLERS Total Fund (Gross)	-4.53	-4.53	-17.81	-14.61	4.10	4.39	6.13	6.48	15.04	12.80	18.07	-4.76	15.00
OLERS Policy Index	-4.72	-4.72	-17.78	-13.19	4.25	4.89	6.56	6.91	15.57	12.77	19.12	-3.67	13.36
Difference	0.19	0.19	-0.03	-1.42	-0.15	-0.50	-0.43	-0.43	-0.53	0.03	-1.05	-1.09	1.64
OLERS Actual Allocation Index	-4.59	-4.59	-18.52	-14.26	6.29	5.99	7.36	7.17	14.97	21.57	17.33	-3.47	14.63
Difference	0.06	0.06	0.71	-0.35	-2.19	-1.60	-1.23	-0.69	0.07	-8.77	0.74	-1.29	0.37
All Public Plans-Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	14.01	12.54	18.57	-4.03	15.15
Rank	56	56	53	57	47	67	69	63	35	47	57	67	53

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OLERS (Law Enforcement)	1,009,667,473	100.00	100.00
US Large Cap Equity	212,773,022	21.07	20.00
US Small Cap Equity	116,321,066	11.52	10.00
International Developed Equity	114,945,544	11.38	15.00
Emerging Market Equity	52,127,799	5.16	5.00
Long/Short Equity	37,580,770	3.72	5.00
Private Equity	113,519,605	11.24	10.00
Core Fixed Income	56,112,937	5.56	5.00
Core Plus Fixed Income	107,293,997	10.63	10.00
Multi Sector Fixed Income	51,086,475	5.06	5.00
Core Real Estate	138,574,879	13.72	10.00
Value Add Real Estate	6,966,757	0.69	5.00
Cash Equivalent	2,364,621	0.23	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OLERS Total Fund	1,009,667,473	100.00	-4.63	-4.63	-18.08	-14.97	3.64	3.88	5.59	5.94	30.53	10/01/1990
OLERS Policy Index			-4.72	-4.72	-17.78	-13.19	4.25	4.89	6.56	6.91	N/A	
Difference			0.09	0.09	-0.30	-1.78	-0.61	-1.01	-0.97	-0.97	N/A	
OLERS Actual Allocation Index			-4.59	-4.59	-18.52	-14.26	6.29	5.99	7.36	7.17	8.14	
Difference			-0.04	-0.04	0.44	-0.71	-2.65	-2.11	-1.77	-1.23	22.39	
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			-6.45	-6.45	-23.65	-22.47	-3.86	-3.62	-1.91	-1.56	23.03	
US Large Cap Equity	212,773,022	21.07	-5.73	-5.73	-26.53	-21.12	6.95	8.40	10.65	11.63	11.24	04/01/2010
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	11.56	
Difference			-0.85	-0.85	-2.66	-5.65	-1.21	-0.84	-0.75	-0.07	-0.32	
Hotchkis Wiley Large Cap Value Equity (SA)	64,213,097	6.36	-7.19	-7.19	-18.17	-13.65	5.32	4.98	8.50	10.15	11.17	11/01/1990
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	10.00	
Difference			-1.57	-1.57	-0.42	-2.29	0.96	-0.31	0.35	0.98	1.17	
NTGI S&P 500 Index (CF)	87,284,999	8.64	-4.88	-4.88	-23.87	-15.48	8.18	9.22	11.38	11.67	9.83	08/01/2008
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	9.83	
Difference			0.00	0.00	0.00	-0.01	0.02	-0.02	-0.02	-0.03	0.00	
Polen Focus Growth (CF)	61,274,926	6.07	-5.33	-5.33	-37.68	-34.48	4.55	N/A	N/A	N/A	10.03	01/01/2019
Russell 1000 Grth Index			-3.60	-3.60	-30.66	-22.59	10.67	12.16	13.74	13.70	14.68	
Difference			-1.73	-1.73	-7.02	-11.89	-6.12	N/A	N/A	N/A	-4.65	
US Small Cap Equity	116,321,066	11.52	-2.07	-2.07	-26.42	-22.24	5.28	4.03	7.29	7.98	N/A	11/01/2009
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	10.22	
Difference			0.12	0.12	-1.32	1.26	0.99	0.48	-0.22	-0.57	N/A	
Kennedy Capital Small Cap Value Equity (SA)	57,734,263	5.72	-2.44	-2.44	-20.98	-12.20	7.73	4.37	8.52	9.39	20.62	02/01/1996
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	8.75	
Difference			2.17	2.17	0.14	5.49	3.01	1.50	1.10	1.45	11.87	
Wellington Small Cap Growth (CF)	58,586,803	5.80	-1.42	-1.42	-31.72	-31.47	2.16	3.17	N/A	N/A	6.26	08/01/2016
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	6.56	
Difference			-1.66	-1.66	-2.44	-2.20	-0.78	-0.43	N/A	N/A	-0.30	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity	167,073,343	16.55	-10.81	-10.81	-28.52	-27.84	-1.67	-0.82	3.17	2.69	N/A	04/01/1994
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	4.46	
Difference			-0.90	-0.90	-2.02	-2.67	-0.15	-0.01	-0.12	-0.32	N/A	
Mondrian International Equity (SA)	60,143,659	5.96	-14.30	-14.30	-23.73	-23.27	-3.56	-2.51	1.40	2.56	3.08	01/01/2005
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	3.65	
Difference			-4.39	-4.39	2.77	1.90	-2.04	-1.70	-1.89	-0.45	-0.57	
Barings Focused Intl Equity (SA)	54,801,885	5.43	-10.00	-10.00	-28.28	-26.74	-2.87	-1.33	2.83	2.54	2.71	02/01/2012
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	3.14	
Difference			-0.09	-0.09	-1.78	-1.57	-1.35	-0.52	-0.46	-0.47	-0.43	
William Blair Emerging Markets Leaders (CF)	37,301,623	3.69	-8.32	-8.32	-29.63	-31.24	-2.27	-0.75	N/A	N/A	3.08	09/01/2016
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	2.06	
Difference			3.25	3.25	-2.47	-3.13	-0.20	1.06	N/A	N/A	1.02	
Wasatch EM Small Cap CI A (CF)	14,826,176	1.47	-4.74	-4.74	-41.81	-38.51	5.77	3.67	5.69	3.42	3.92	07/01/2012
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	1.76	
Difference			6.83	6.83	-14.65	-10.40	7.84	5.48	1.81	2.37	2.16	
Long/Short Equity	37,580,770	3.72	-0.43	-0.43	-20.62	-22.87	-2.34	-0.82	1.06	3.01	2.99	04/01/2010
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	6.92	
Difference			6.39	6.39	5.01	-2.21	-6.09	-5.26	-6.36	-4.27	-3.93	
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	2.75	
Difference			1.07	1.07	-6.83	-9.51	-5.49	-2.93	-1.84	-0.30	0.24	
Grosvenor (CF)	316,850	0.03	-3.56	-3.56	-7.17	-5.41	3.18	2.51	3.47	4.72	3.07	01/01/2008
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	4.27	
Difference			3.26	3.26	18.46	15.25	-0.57	-1.93	-3.95	-2.56	-1.20	
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	1.27	
Difference			-2.06	-2.06	6.62	7.95	0.03	0.40	0.57	1.41	1.80	
Mauna Kea (CF)	37,263,920	3.69	-0.40	-0.40	-19.17	-23.49	N/A	N/A	N/A	N/A	-4.01	08/01/2020
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	1.75	
Difference			6.42	6.42	6.46	-2.83	N/A	N/A	N/A	N/A	-5.76	
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	1.93	
Difference			1.10	1.10	-5.38	-10.13	N/A	N/A	N/A	N/A	-5.94	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Private Equity	113,519,605	11.24	-2.13	-2.13	-0.13	6.30	19.90	16.27	12.87	12.59	9.79	12/01/2001
S&P 500 Index+5%			-3.72	-3.72	-21.03	-11.25	13.57	14.70	16.97	17.29	13.14	
Difference			1.59	1.59	20.90	17.55	6.33	1.57	-4.10	-4.70	-3.35	
Cambridge US Prvt Eq Index			0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	13.96	
Difference			-2.13	-2.13	3.28	3.83	0.15	-0.78	-3.03	-2.73	-4.17	
Fixed Income	214,493,409	21.24	-4.53	-4.53	-15.05	-15.09	-4.04	-1.40	0.21	0.51	N/A	10/01/1990
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	5.08	
Difference			0.22	0.22	-0.44	-0.49	-0.78	-1.13	-0.33	-0.38	N/A	
NTGI Aggregate Index (SA)	56,112,937	5.56	-4.67	-4.67	-14.49	-14.52	-3.23	-0.25	0.55	0.89	2.92	04/01/2004
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	2.88	
Difference			0.08	0.08	0.12	0.08	0.03	0.02	0.01	0.00	0.04	
TCW Core Plus Fixed Income (SA)	107,293,997	10.63	-5.04	-5.04	-15.61	-15.62	-2.68	0.31	1.10	1.60	4.73	12/01/1993
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	4.35	
Difference			-0.29	-0.29	-1.00	-1.02	0.58	0.58	0.56	0.71	0.38	
Loomis Sayles	51,086,475	5.06	-3.36	-3.36	-14.61	-14.77	N/A	N/A	N/A	N/A	-14.10	09/01/2021
Bloomberg US Gov't Crdt Bond Index			-4.56	-4.56	-15.10	-14.95	-3.15	-0.05	0.78	1.02	-14.73	
Difference			1.20	1.20	0.49	0.18	N/A	N/A	N/A	N/A	0.63	
Real Assets	145,541,636	14.41	-0.62	-0.62	9.27	17.19	9.63	7.11	6.72	6.92	N/A	06/01/1999
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	7.93	
Difference			-0.93	-0.93	-3.09	-3.77	-1.75	-2.15	-2.15	-2.99	N/A	
Core Real Estate												
JPMCB Strategic Property (CF)	114,843,351	11.37	-1.47	-1.47	9.42	18.07	10.37	8.15	7.98	9.41	9.57	04/01/2012
NCREIF Property Index			0.57	0.57	9.35	16.08	9.91	8.62	8.45	9.48	9.52	
Difference			-2.04	-2.04	0.07	1.99	0.46	-0.47	-0.47	-0.07	0.05	
UBS Trumbull Property (SA)	18,931,528	1.88	0.00	0.00	7.05	12.27	5.53	4.33	4.78	N/A	6.33	01/01/2013
NCREIF Property Index			0.57	0.57	9.35	16.08	9.91	8.62	8.45	9.48	9.45	
Difference			-0.57	-0.57	-2.30	-3.81	-4.38	-4.29	-3.67	N/A	-3.12	
Colcord Center (CF)	4,800,000	0.48	4.89	4.89	0.72	2.73	5.05	5.78	7.90	5.36	5.35	05/01/2008
Value Add Real Estate	6,966,757	0.69	8.93	8.93	N/A	N/A	N/A	N/A	N/A	N/A	20.90	03/01/2022

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OLERS Total Fund	1,009,667,473	100.00	-4.53	-4.53	-17.81	-14.61	4.10	4.39	6.13	6.48	7.68	10/01/1990
OLERS Policy Index			-4.72	-4.72	-17.78	-13.19	4.25	4.89	6.56	6.91	N/A	
Difference			0.19	0.19	-0.03	-1.42	-0.15	-0.50	-0.43	-0.43	N/A	
OLERS Actual Allocation Index			-4.59	-4.59	-18.52	-14.26	6.29	5.99	7.36	7.17	8.14	
Difference			0.06	0.06	0.71	-0.35	-2.19	-1.60	-1.23	-0.69	-0.46	
Actuarial Discount Rate (7.5%)			1.82	1.82	5.57	7.50	7.50	7.50	7.50	7.50	7.50	
Difference			-6.35	-6.35	-23.38	-22.11	-3.40	-3.11	-1.37	-1.02	0.18	
All Public Plans-Total Fund Median			-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	7.95	
Rank			56	56	53	57	47	67	69	63	74	
US Large Cap Equity	212,773,022	21.07	-5.66	-5.66	-26.32	-20.84	7.26	8.75	11.02	12.02	11.55	04/01/2010
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	11.56	
Difference			-0.78	-0.78	-2.45	-5.37	-0.90	-0.49	-0.38	0.32	-0.01	
Hotchkis Wiley Large Cap Value Equity (SA)	64,213,097	6.36	-7.06	-7.06	-17.88	-13.27	5.73	5.50	9.02	10.72	11.16	11/01/1990
Russell 1000 Val Index			-5.62	-5.62	-17.75	-11.36	4.36	5.29	8.15	9.17	10.00	
Difference			-1.44	-1.44	-0.13	-1.91	1.37	0.21	0.87	1.55	1.16	
IM U.S. Large Cap Value Equity (SA+CF) Median			-5.72	-5.72	-16.57	-9.64	6.57	6.84	9.31	10.11	10.98	
Rank			81	81	65	77	64	76	56	31	43	
NTGI S&P 500 Index (CF)	87,284,999	8.64	-4.88	-4.88	-23.86	-15.47	8.19	9.24	11.40	11.70	9.85	08/01/2008
S&P 500 Index (Cap Wtd)			-4.88	-4.88	-23.87	-15.47	8.16	9.24	11.40	11.70	9.83	
Difference			0.00	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.02	
IM U.S. Large Cap Index Equity (SA+CF) Median			-4.87	-4.87	-23.89	-15.49	8.00	9.01	11.18	11.63	9.83	
Rank			65	65	34	48	24	30	30	32	39	
Polen Focus Growth (CF)	61,274,926	6.07	-5.23	-5.23	-37.45	-34.15	5.07	N/A	N/A	N/A	10.58	01/01/2019
Russell 1000 Grth Index			-3.60	-3.60	-30.66	-22.59	10.67	12.16	13.74	13.70	14.68	
Difference			-1.63	-1.63	-6.79	-11.56	-5.60	N/A	N/A	N/A	-4.10	
IM U.S. Large Cap Growth Equity (SA+CF) Median			-4.12	-4.12	-31.92	-25.79	7.80	10.52	12.14	12.76	12.14	
Rank			75	75	92	90	85	N/A	N/A	N/A	77	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
US Small Cap Equity	116,321,066	11.52	-1.85	-1.85	-25.93	-21.56	6.19	4.92	8.20	8.82	N/A	11/01/2009
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	10.22	
Difference			0.34	0.34	-0.83	1.94	1.90	1.37	0.69	0.27	N/A	
Kennedy Capital Small Cap Value Equity (SA)	57,734,263	5.72	-2.22	-2.22	-20.51	-11.47	8.69	5.32	9.51	10.38	12.16	02/01/1996
Russell 2000 Val Index			-4.61	-4.61	-21.12	-17.69	4.72	2.87	7.42	7.94	8.75	
Difference			2.39	2.39	0.61	6.22	3.97	2.45	2.09	2.44	3.41	
IM U.S. Small Cap Value Equity (SA+CF) Median			-4.46	-4.46	-19.26	-13.87	6.31	4.24	8.22	9.73	11.12	
Rank			15	15	63	27	20	32	25	27	12	
Wellington Small Cap Growth (CF)	58,586,803	5.80	-1.21	-1.21	-31.29	-30.90	2.98	4.00	N/A	N/A	7.07	08/01/2016
Russell 2000 Grth Index			0.24	0.24	-29.28	-29.27	2.94	3.60	7.12	8.81	6.56	
Difference			-1.45	-1.45	-2.01	-1.63	0.04	0.40	N/A	N/A	0.51	
IM U.S. Small Cap Growth Equity (SA+CF) Median			-0.70	-0.70	-30.74	-28.76	6.72	8.74	10.66	11.71	10.79	
Rank			60	60	57	63	93	95	N/A	N/A	94	
International Equity	167,073,343	16.55	-10.67	-10.67	-27.99	-27.51	-1.17	-0.27	3.75	3.23	N/A	04/01/1994
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	4.46	
Difference			-0.76	-0.76	-1.49	-2.34	0.35	0.54	0.46	0.22	N/A	
IM International Equity (SA+CF) Median			-9.47	-9.38	-27.45	-25.97	-0.43	0.04	3.97	4.89	6.49	
Rank			77	79	54	62	63	56	56	89	N/A	
Mondrian International Equity (SA)	60,143,659	5.96	-14.19	-14.19	-23.43	-22.86	-3.06	-1.98	1.97	3.15	3.57	01/01/2005
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	3.65	
Difference			-4.28	-4.28	3.07	2.31	-1.54	-1.17	-1.32	0.14	-0.08	
IM All ACWI Ex US (SA+CF) Median			-9.32	-9.32	-27.93	-26.10	-0.49	0.32	4.01	4.71	5.03	
Rank			100	100	13	18	90	89	88	88	89	
Barings Focused Intl Equity (SA)	54,801,885	5.43	-9.90	-9.90	-28.06	-26.43	-2.38	-0.76	3.53	3.29	3.44	02/01/2012
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	3.14	
Difference			0.01	0.01	-1.56	-1.26	-0.86	0.05	0.24	0.28	0.30	
IM All ACWI Ex US (SA+CF) Median			-9.32	-9.32	-27.93	-26.10	-0.49	0.32	4.01	4.71	4.88	
Rank			61	61	54	56	84	71	64	83	86	
William Blair Emerging Markets Leaders (CF)	37,301,623	3.69	-8.13	-8.13	-29.19	-30.68	-1.51	0.04	N/A	N/A	3.86	09/01/2016
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	2.06	
Difference			3.44	3.44	-2.03	-2.57	0.56	1.85	N/A	N/A	1.80	
IM Emerging Markets Equity (SA+CF) Median			-10.21	-10.19	-27.04	-27.47	-0.62	-0.89	4.84	2.41	3.00	
Rank			32	32	67	69	65	37	N/A	N/A	33	

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Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Wasatch EM Small Cap CI A (CF)	14,826,176	1.47	-4.42	-4.42	-41.22	-37.67	7.22	5.15	7.22	4.94	5.43	07/01/2012
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	1.76	
Difference			7.15	7.15	-14.06	-9.56	9.29	6.96	3.34	3.89	3.67	
IM Emerging Markets Equity (SA+CF) Median			-10.21	-10.19	-27.04	-27.47	-0.62	-0.89	4.84	2.41	3.07	
Rank			12	12	100	93	9	5	11	11	11	
Long/Short Equity	37,580,770	3.72	-0.43	-0.43	-20.61	-22.86	-2.02	-0.30	1.72	3.77	3.59	04/01/2010
MSCI ACW Index (USD) (Net)			-6.82	-6.82	-25.63	-20.66	3.75	4.44	7.42	7.28	6.92	
Difference			6.39	6.39	5.02	-2.20	-5.77	-4.74	-5.70	-3.51	-3.33	
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	2.75	
Difference			1.07	1.07	-6.82	-9.50	-5.17	-2.41	-1.18	0.46	0.84	
Grosvenor (CF)	316,850	0.03	-3.22	-3.22	-6.17	-4.06	4.49	3.63	4.57	5.79	3.78	01/01/2008
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	1.27	
Difference			-1.72	-1.72	7.62	9.30	1.34	1.52	1.67	2.48	2.51	
Mauna Kea (CF)	37,263,920	3.69	-0.40	-0.40	-19.17	-23.49	N/A	N/A	N/A	N/A	-4.01	08/01/2020
HFRI FOF: Strategic Index			-1.50	-1.50	-13.79	-13.36	3.15	2.11	2.90	3.31	1.93	
Difference			1.10	1.10	-5.38	-10.13	N/A	N/A	N/A	N/A	-5.94	
Private Equity	113,519,605	11.24	-2.13	-2.13	-0.13	6.30	19.90	16.27	12.87	12.59	N/A	10/01/1990
S&P 500 Index+5%			-3.72	-3.72	-21.03	-11.25	13.57	14.70	16.97	17.29	15.74	
Difference			1.59	1.59	20.90	17.55	6.33	1.57	-4.10	-4.70	N/A	
Cambridge US Prvt Eq Index			0.00	0.00	-3.41	2.47	19.75	17.05	15.90	15.32	14.93	
Difference			-2.13	-2.13	3.28	3.83	0.15	-0.78	-3.03	-2.73	N/A	

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Oklahoma State Pension Commission
Oklahoma Law Enforcement Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

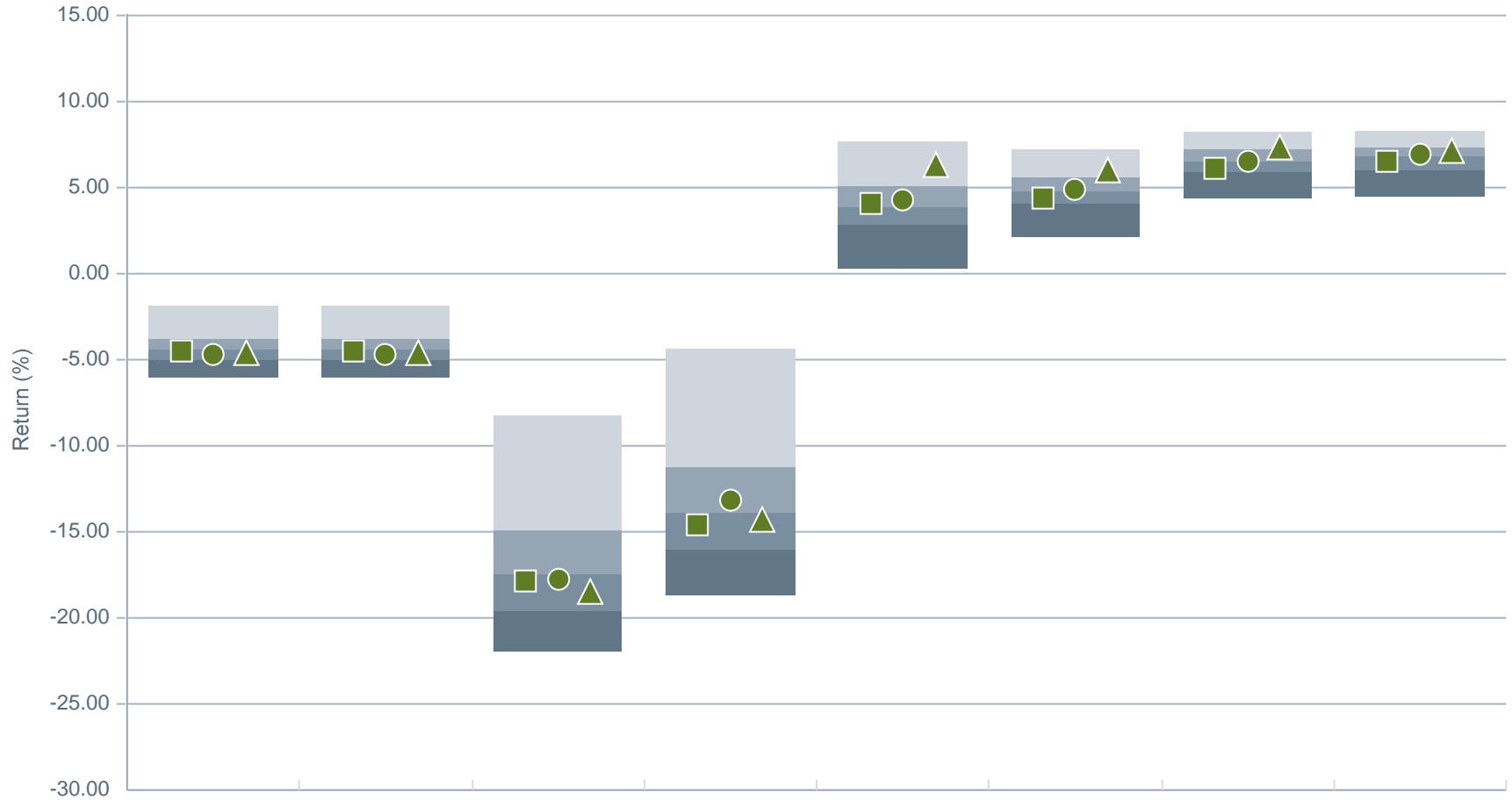
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	214,493,409	21.24	-4.47	-4.47	-14.92	-14.93	-3.83	-1.15	0.46	0.76	5.88	10/01/1990
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	5.08	
Difference			0.28	0.28	-0.31	-0.33	-0.57	-0.88	-0.08	-0.13	0.80	
IM Global Fixed Income (SA+CF) Median			-3.66	-3.66	-16.09	-16.06	-2.23	0.36	2.16	1.70	N/A	
Rank			58	58	43	43	67	68	72	57	N/A	
NTGI Aggregate Index (SA)	56,112,937	5.56	-4.66	-4.66	-14.48	-14.50	-3.20	-0.22	0.57	0.92	2.89	04/01/2004
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	2.88	
Difference			0.09	0.09	0.13	0.10	0.06	0.05	0.03	0.03	0.01	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median			-4.55	-4.55	-14.43	-14.48	-2.70	0.18	1.07	1.37	3.34	
Rank			63	63	53	53	91	92	94	95	97	
TCW Core Plus Fixed Income (SA)	107,293,997	10.63	-4.96	-4.96	-15.40	-15.34	-2.37	0.63	1.43	1.91	5.10	12/01/1993
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	4.35	
Difference			-0.21	-0.21	-0.79	-0.74	0.89	0.90	0.89	1.02	0.75	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			-4.32	-4.32	-14.67	-14.66	-2.34	0.51	1.54	1.81	5.19	
Rank			95	95	68	69	54	38	61	40	56	
Loomis Sayles	51,086,475	5.06	-3.27	-3.27	-14.54	-14.70	N/A	N/A	N/A	N/A	-14.03	09/01/2021
Bloomberg US Gov't Crdt Bond Index			-4.56	-4.56	-15.10	-14.95	-3.15	-0.05	0.78	1.02	-14.73	
Difference			1.29	1.29	0.56	0.25	N/A	N/A	N/A	N/A	0.70	
IM U.S. Broad Market Core+ Fixed Income (SA+CF) Median			-4.32	-4.32	-14.67	-14.66	-2.34	0.51	1.54	1.81	-14.13	
Rank			17	17	46	51	N/A	N/A	N/A	N/A	46	
Real Assets	145,541,636	14.41	-0.46	-0.46	9.87	18.06	10.55	8.03	7.65	7.85	7.46	06/01/1999
NCREIF ODCE Index (AWA) (Net)			0.31	0.31	12.36	20.96	11.38	9.26	8.87	9.91	7.93	
Difference			-0.77	-0.77	-2.49	-2.90	-0.83	-1.23	-1.22	-2.06	-0.47	
Core Real Estate												
JPMCB Strategic Property (CF)	114,843,351	11.37	-1.27	-1.27	10.11	19.06	11.39	9.18	9.02	10.45	10.55	04/01/2012
NCREIF Property Index			0.57	0.57	9.35	16.08	9.91	8.62	8.45	9.48	9.52	
Difference			-1.84	-1.84	0.76	2.98	1.48	0.56	0.57	0.97	1.03	
UBS Trumbull Property (SA)	18,931,528	1.88	0.00	0.00	7.38	12.80	6.21	5.12	5.68	N/A	7.32	01/01/2013
NCREIF Property Index			0.57	0.57	9.35	16.08	9.91	8.62	8.45	9.48	9.45	
Difference			-0.57	-0.57	-1.97	-3.28	-3.70	-3.50	-2.77	N/A	-2.13	
Colcord Center (CF)	4,800,000	0.48	4.89	4.89	0.72	2.73	5.05	5.78	7.90	5.36	5.35	05/01/2008
Value Add Real Estate	6,966,757	0.69	8.93	8.93	N/A	N/A	N/A	N/A	N/A	N/A	20.90	03/01/2022

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Law Enforcement Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of September 30, 2022



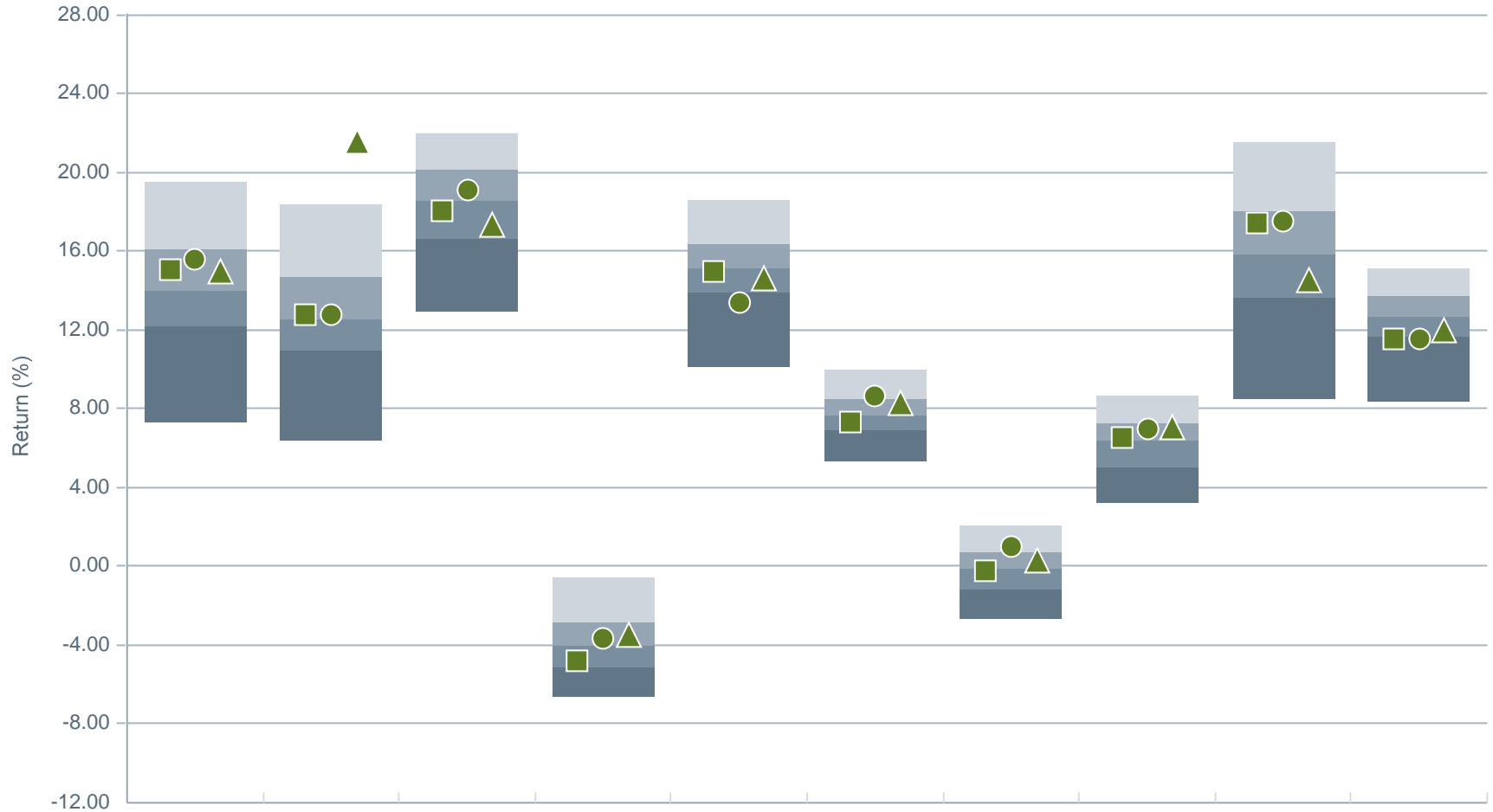
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OLERS Total Fund	-4.53 (56)	-4.53 (56)	-17.81 (53)	-14.61 (57)	4.10 (47)	4.39 (67)	6.13 (69)	6.48 (63)
● OLERS Policy Index	-4.72 (66)	-4.72 (66)	-17.78 (52)	-13.19 (42)	4.25 (41)	4.89 (47)	6.56 (50)	6.91 (42)
▲ OLERS Allocation Index	-4.59 (60)	-4.59 (60)	-18.52 (61)	-14.26 (54)	6.29 (13)	5.99 (18)	7.36 (22)	7.17 (32)
5th Percentile	-1.87	-1.87	-8.24	-4.42	7.64	7.24	8.29	8.30
1st Quartile	-3.73	-3.73	-14.94	-11.26	5.10	5.59	7.20	7.40
Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
3rd Quartile	-5.01	-5.01	-19.61	-16.07	2.81	4.03	5.91	6.06
95th Percentile	-6.07	-6.07	-21.98	-18.65	0.34	2.18	4.35	4.45

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Law Enforcement Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

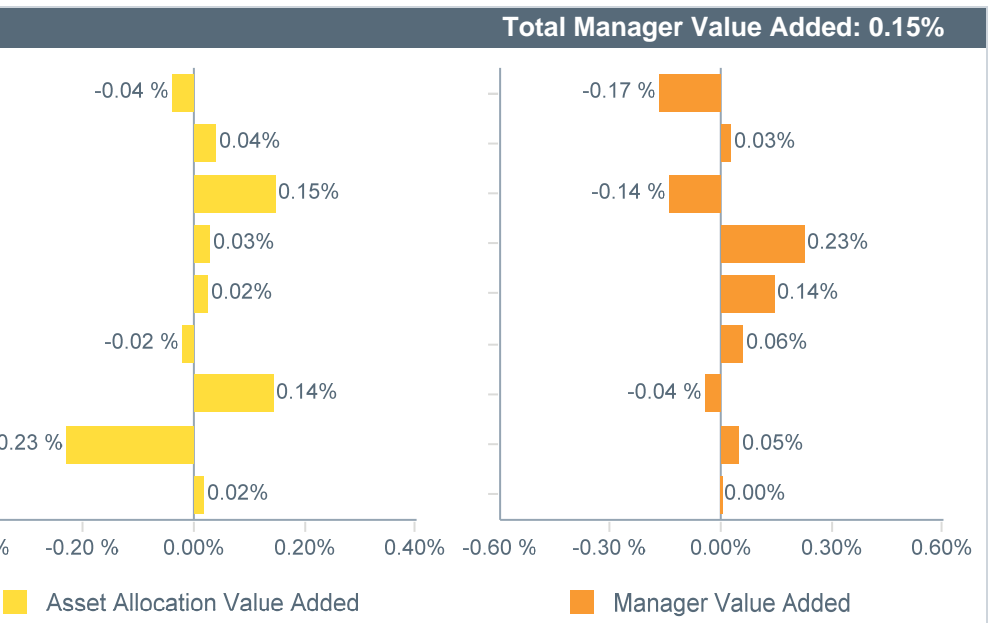
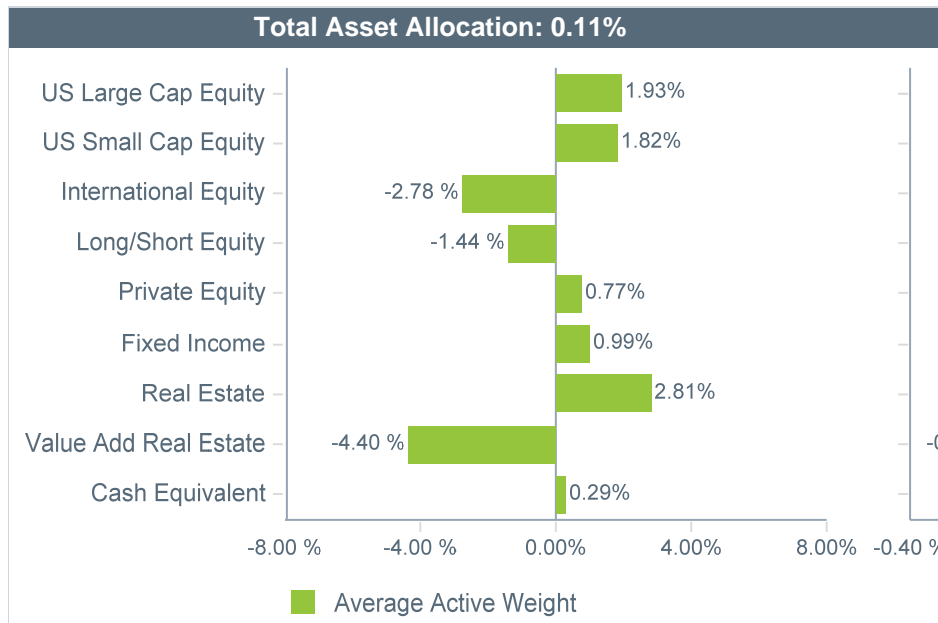
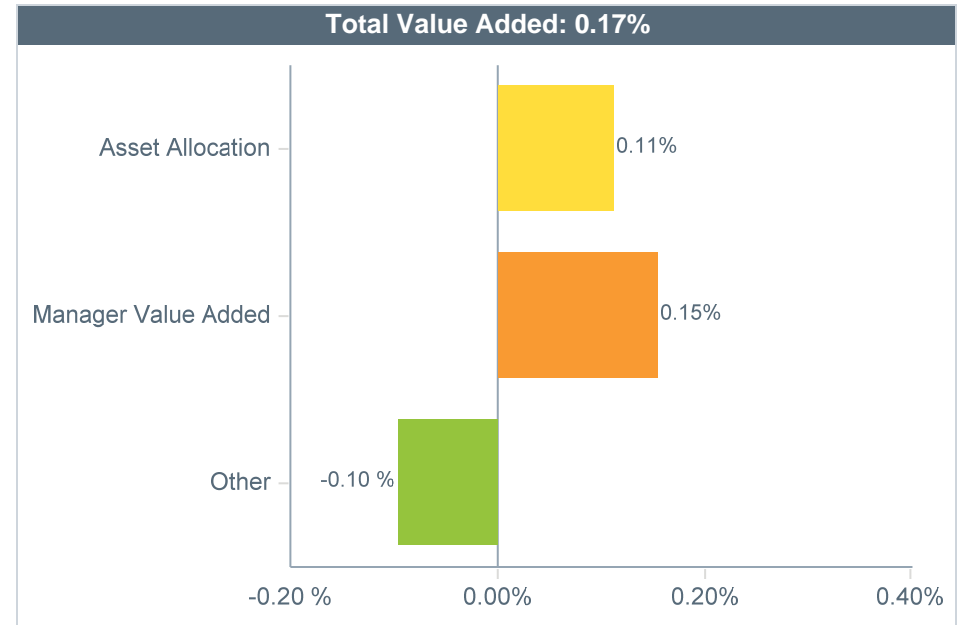
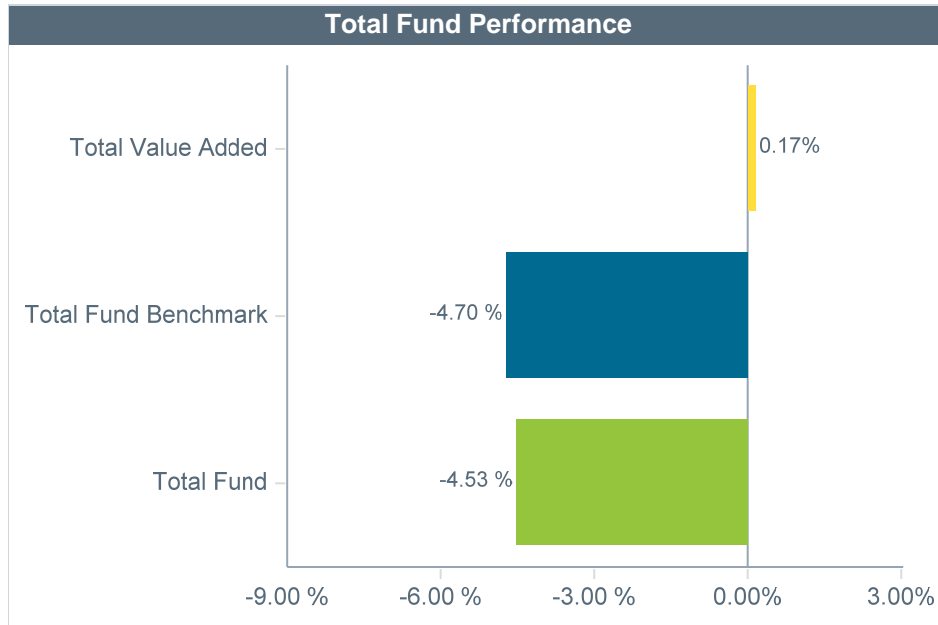
As of September 30, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OLERS Total Fund	15.04 (35)	12.80 (47)	18.07 (57)	-4.76 (67)	15.00 (53)	7.38 (62)	-0.25 (54)	6.51 (46)	17.46 (31)	11.56 (76)
● OLERS Policy Index	15.57 (30)	12.77 (47)	19.12 (42)	-3.67 (43)	13.36 (83)	8.64 (23)	1.00 (18)	7.01 (31)	17.53 (31)	11.57 (76)
▲ OLERS Allocation Index	14.97 (36)	21.57 (1)	17.33 (67)	-3.47 (38)	14.63 (61)	8.27 (33)	0.33 (36)	7.07 (29)	14.59 (65)	12.03 (67)
5th Percentile	19.59	18.43	22.06	-0.54	18.60	9.98	2.08	8.68	21.59	15.19
1st Quartile	16.10	14.71	20.19	-2.90	16.44	8.51	0.71	7.24	18.05	13.79
Median	14.01	12.54	18.57	-4.03	15.15	7.69	-0.13	6.34	15.88	12.71
3rd Quartile	12.21	10.94	16.66	-5.11	13.89	6.94	-1.17	5.08	13.66	11.63
95th Percentile	7.35	6.40	12.93	-6.65	10.14	5.33	-2.66	3.24	8.52	8.44

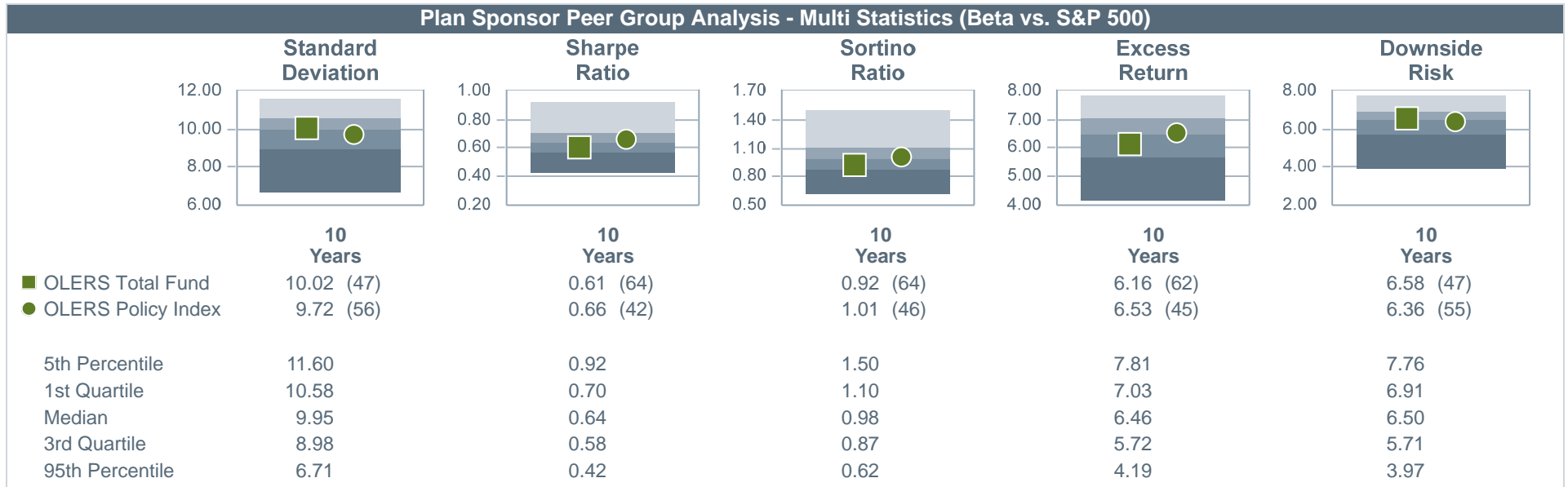
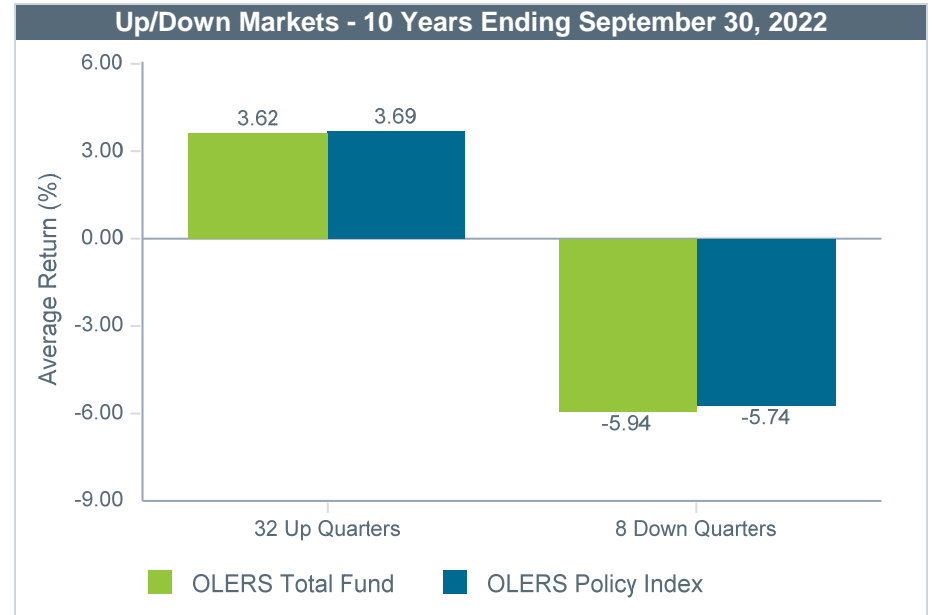
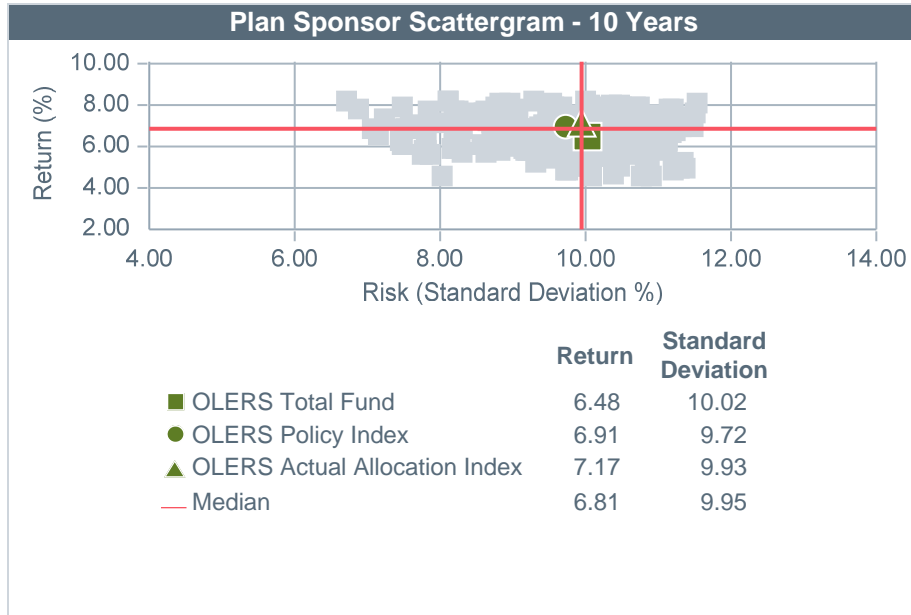
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.





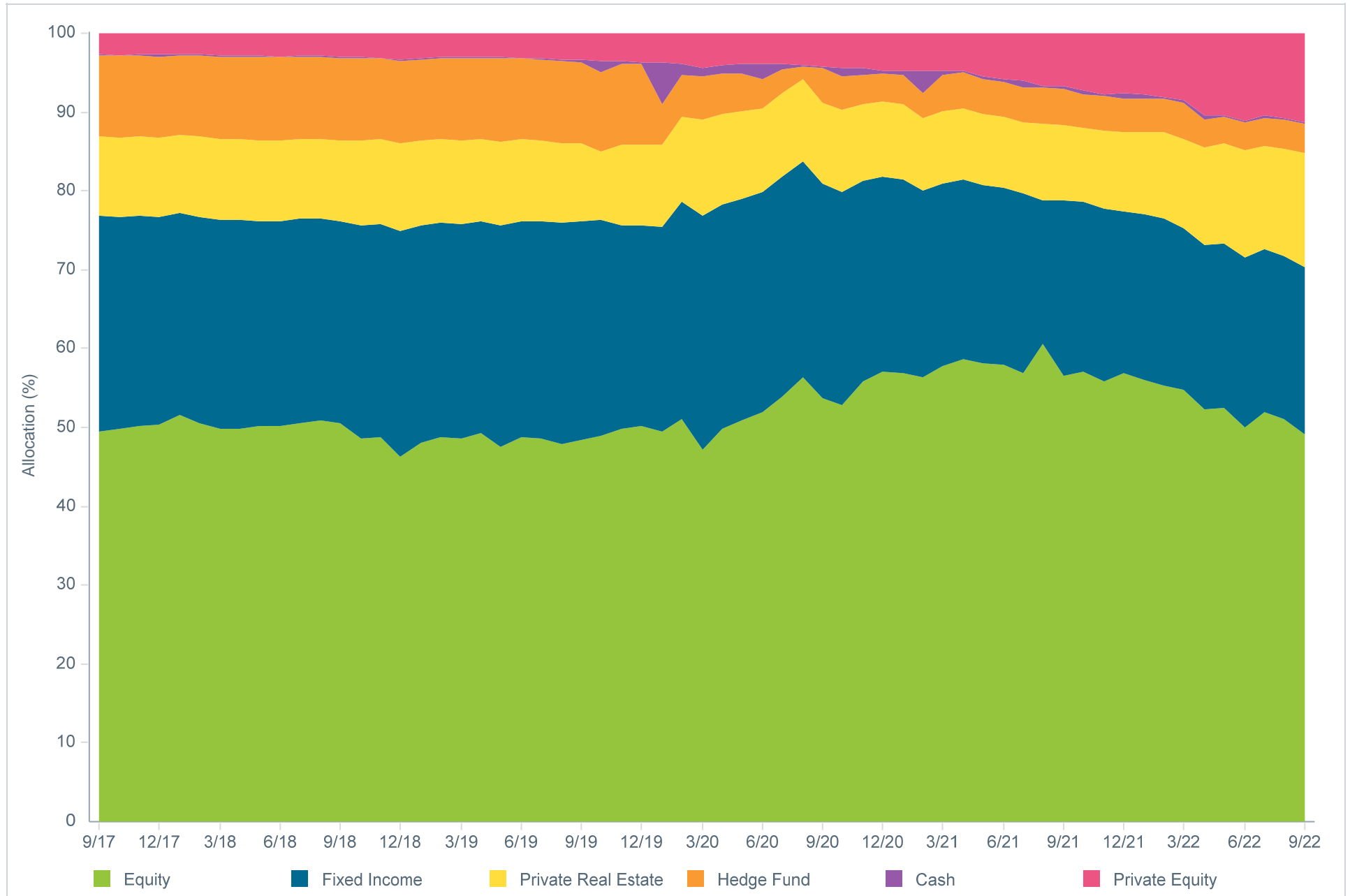
Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.





Uniform Retirement System for Justices & Judges (URSJJ)

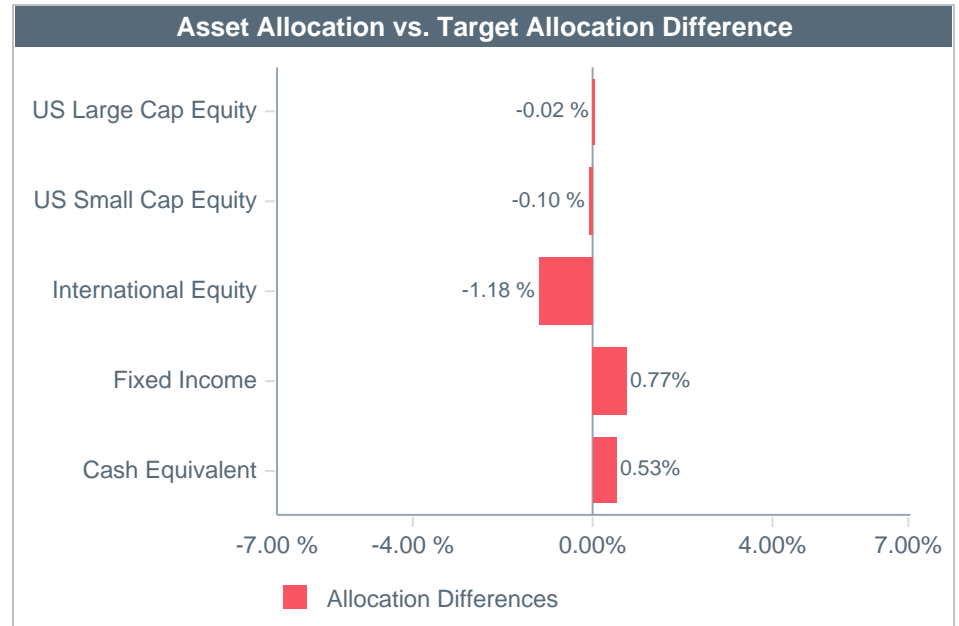


Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges
 Total Fund Summary

As of September 30, 2022

	Performance (%)												
	Trailing								Calendar Year				
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
URSJJ Total Fund (Net)	-6.11	-6.11	-22.60	-19.31	1.91	3.38	5.73	5.96	12.08	15.06	21.36	-6.43	16.85
URSJJ Policy Index	-6.15	-6.15	-22.36	-19.10	1.91	3.45	5.82	5.97	11.54	15.19	21.51	-6.09	16.86
Difference	0.04	0.04	-0.24	-0.21	0.00	-0.07	-0.09	-0.01	0.54	-0.13	-0.15	-0.34	-0.01
URSJJ Actual Allocation Index	-6.11	-6.11	-22.45	-19.14	3.05	3.98	6.12	6.19	12.10	18.70	21.01	-6.52	16.63
Difference	0.00	0.00	-0.15	-0.17	-1.14	-0.60	-0.39	-0.23	-0.02	-3.64	0.35	0.09	0.22
Actuarial Discount Rate (6.5%)	1.59	1.59	4.84	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
Difference	-7.70	-7.70	-27.44	-25.81	-4.59	-3.12	-0.77	-0.54	5.58	8.56	14.86	-12.93	10.35
URSJJ Total Fund (Gross)	-6.11	-6.11	-22.58	-19.28	1.95	3.42	5.77	6.00	12.12	15.10	21.40	-6.38	16.89
URSJJ Policy Index	-6.15	-6.15	-22.36	-19.10	1.91	3.45	5.82	5.97	11.54	15.19	21.51	-6.09	16.86
Difference	0.04	0.04	-0.22	-0.18	0.04	-0.03	-0.05	0.03	0.58	-0.09	-0.11	-0.29	0.03
URSJJ Actual Allocation Index	-6.11	-6.11	-22.45	-19.14	3.05	3.98	6.12	6.19	12.10	18.70	21.01	-6.52	16.63
Difference	0.00	0.00	-0.13	-0.14	-1.10	-0.56	-0.35	-0.19	0.02	-3.60	0.39	0.14	0.26
All Public Plans-Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	14.01	12.54	18.57	-4.03	15.15
Rank	96	96	98	98	87	86	80	77	77	22	11	92	18

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
URSJJ (Judges)	331,829,855	100.00	100.00
US Large Cap Equity	112,761,763	33.98	34.00
US Small Cap Equity	19,572,654	5.90	6.00
International Equity	88,982,637	26.82	28.00
Fixed Income	108,747,750	32.77	32.00
Cash Equivalent	1,765,051	0.53	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Uniform Retirement System for Justices & Judges
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
URSJJ Total Fund	331,829,855	100.00	-6.11	-6.11	-22.60	-19.31	1.91	3.38	5.73	5.96	N/A	06/01/1986
URSJJ Policy Index			-6.15	-6.15	-22.36	-19.10	1.91	3.45	5.82	5.97	8.18	
Difference			0.04	0.04	-0.24	-0.21	0.00	-0.07	-0.09	-0.01	N/A	
URSJJ Actual Allocation Index			-6.11	-6.11	-22.45	-19.14	3.05	3.98	6.12	6.19	7.76	
Difference			0.00	0.00	-0.15	-0.17	-1.14	-0.60	-0.39	-0.23	N/A	
Actuarial Discount Rate (6.5%)			1.59	1.59	4.84	6.50	6.50	6.50	6.50	6.50	6.50	
Difference			-7.70	-7.70	-27.44	-25.81	-4.59	-3.12	-0.77	-0.54	N/A	
US Equity	132,334,417	39.88	-4.20	-4.20	-24.64	-18.14	7.48	8.19	10.64	11.18	N/A	10/01/1989
URSJJ US Equity Custom Index			-4.25	-4.25	-24.64	-18.16	7.47	8.23	10.66	11.20	N/A	
Difference			0.05	0.05	0.00	0.02	0.01	-0.04	-0.02	-0.02	N/A	
BlackRock Russell 1000 Index (CF)	112,761,763	33.98	-4.55	-4.55	-24.58	-17.18	7.98	9.02	11.18	11.63	12.43	07/01/2009
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	13.01	
Difference			0.06	0.06	0.01	0.04	0.03	0.02	0.03	0.03	-0.58	
BlackRock Russell 2000 Index (CF)	19,572,654	5.90	-2.16	-2.16	-25.03	-23.42	4.37	3.67	7.68	8.74	10.99	07/01/2009
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	10.84	
Difference			0.03	0.03	0.07	0.08	0.08	0.12	0.17	0.19	0.15	
International Equity	88,982,637	26.82	-9.86	-9.86	-26.27	-24.90	-1.27	-0.56	3.56	3.26	N/A	05/01/1994
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	4.72	
Difference			-0.06	-0.06	-0.09	-0.11	-0.20	-0.22	-0.22	-0.22	N/A	
BlackRock MSCI ACWI Ex US (CF)	88,982,637	26.82	-9.86	-9.86	-26.27	-24.90	-1.27	-0.56	3.56	3.26	3.39	10/01/2009
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	3.52	
Difference			-0.06	-0.06	-0.09	-0.11	-0.20	-0.22	-0.22	-0.22	-0.13	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Uniform Retirement System for Justices & Judges
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	108,747,750	32.77	-5.41	-5.41	-16.64	-16.15	-3.08	0.20	0.95	1.18	N/A	10/01/1989
URSJJ Fixed Income Custom Index			-5.47	-5.47	-16.33	-15.75	-3.41	-0.15	0.66	0.90	N/A	
Difference			0.06	0.06	-0.31	-0.40	0.33	0.35	0.29	0.28	N/A	
BlackRock US Fixed Income (SA)	53,805,836	16.21	-4.73	-4.73	-14.82	-14.85	-2.97	-0.05	0.78	1.11	N/A	06/01/2000
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.94	
Difference			0.02	0.02	-0.21	-0.25	0.29	0.22	0.24	0.22	N/A	
MetWest US Fixed Income (SA)	32,494,561	9.79	-5.06	-5.06	-15.22	-15.30	-2.65	0.30	1.00	1.36	N/A	09/01/2001
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.38	
Difference			-0.31	-0.31	-0.61	-0.70	0.61	0.57	0.46	0.47	N/A	
Hoisington US Long Duration Fixed Income (SA)	9,680,381	2.92	-10.38	-10.38	-31.84	-29.40	-9.55	-1.72	-0.45	0.49	N/A	10/01/1991
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	4.75	
Difference			-5.63	-5.63	-17.23	-14.80	-6.29	-1.45	-0.99	-0.40	N/A	
BlackRock TIPS (CF)	12,766,971	3.85	-5.14	-5.14	-13.56	-11.56	0.88	2.05	2.34	1.09	2.80	03/01/2010
Bloomberg US Trsy US TIPS Index			-5.14	-5.14	-13.61	-11.57	0.79	1.95	2.21	0.98	2.76	
Difference			0.00	0.00	0.05	0.01	0.09	0.10	0.13	0.11	0.04	

Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Uniform Retirement System for Justices & Judges
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
URSJJ Total Fund	331,829,855	100.00	-6.11	-6.11	-22.58	-19.28	1.95	3.42	5.77	6.00	7.89	06/01/1986
URSJJ Policy Index			-6.15	-6.15	-22.36	-19.10	1.91	3.45	5.82	5.97	8.18	
Difference			0.04	0.04	-0.22	-0.18	0.04	-0.03	-0.05	0.03	-0.29	
URSJJ Actual Allocation Index			-6.11	-6.11	-22.45	-19.14	3.05	3.98	6.12	6.19	7.76	
Difference			0.00	0.00	-0.13	-0.14	-1.10	-0.56	-0.35	-0.19	0.13	
Actuarial Discount Rate (7.0%)			1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			-7.82	-7.82	-27.79	-26.28	-5.05	-3.58	-1.23	-1.00	0.89	
All Public Plans-Total Fund Median			-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	8.14	
Rank			96	96	98	98	87	86	80	77	67	
US Equity	132,334,417	39.88	-4.20	-4.20	-24.63	-18.13	7.49	8.20	10.65	11.19	9.20	10/01/1989
URSJJ US Equity Custom Index			-4.25	-4.25	-24.64	-18.16	7.47	8.23	10.66	11.20	N/A	
Difference			0.05	0.05	0.01	0.03	0.02	-0.03	-0.01	-0.01	N/A	
All Public Plans-US Equity Segment Median			-4.86	-4.86	-24.16	-17.32	6.94	7.71	9.96	10.61	N/A	
Rank			22	22	61	56	36	37	32	33	N/A	
BlackRock Russell 1000 Index (CF)	112,761,763	33.98	-4.55	-4.55	-24.58	-17.18	7.98	9.03	11.19	11.64	12.43	07/01/2009
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	13.01	
Difference			0.06	0.06	0.01	0.04	0.03	0.03	0.04	0.04	-0.58	
IM U.S. Large Cap Core Equity (SA+CF) Median			-4.84	-4.84	-23.04	-15.41	7.63	8.80	10.82	11.68	12.97	
Rank			40	40	69	68	44	43	41	55	81	
BlackRock Russell 2000 Index (CF)	19,572,654	5.90	-2.16	-2.16	-25.02	-23.41	4.37	3.69	7.70	8.76	11.02	07/01/2009
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	10.84	
Difference			0.03	0.03	0.08	0.09	0.08	0.14	0.19	0.21	0.18	
IM U.S. Small Cap Core Equity (SA+CF) Median			-2.94	-2.94	-23.35	-19.39	6.24	5.89	8.86	10.31	12.53	
Rank			33	33	66	84	79	82	79	85	92	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Uniform Retirement System for Justices & Judges
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
International Equity	88,982,637	26.82	-9.86	-9.86	-26.26	-24.88	-1.26	-0.54	3.59	3.29	4.73	05/01/1994
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	4.72	
Difference			-0.06	-0.06	-0.08	-0.09	-0.19	-0.20	-0.19	-0.19	0.01	
All Public Plans-Intl. Equity Segment Median			-9.65	-9.65	-27.15	-25.84	0.00	0.49	4.27	4.55	N/A	
Rank			61	61	36	45	78	80	82	98	N/A	
BlackRock MSCI ACWI Ex US (CF)	88,982,637	26.82	-9.86	-9.86	-26.26	-24.88	-1.26	-0.54	3.59	3.29	3.45	11/01/2009
MSCI ACW Ex US Index (USD) (Gross)			-9.80	-9.80	-26.18	-24.79	-1.07	-0.34	3.78	3.48	3.64	
Difference			-0.06	-0.06	-0.08	-0.09	-0.19	-0.20	-0.19	-0.19	-0.19	
IM All ACWI Ex US (SA+CF) Median			-9.32	-9.32	-27.93	-26.10	-0.49	0.32	4.01	4.71	4.80	
Rank			61	61	37	37	62	67	63	82	87	
Fixed Income	108,747,750	32.77	-5.40	-5.40	-16.61	-16.07	-3.00	0.29	1.03	1.27	5.81	10/01/1989
OPERS Fixed Income Custom Index			-5.47	-5.47	-16.33	-15.75	-3.41	-0.15	0.66	0.90	N/A	
Difference			0.07	0.07	-0.28	-0.32	0.41	0.44	0.37	0.37	N/A	
BlackRock US Fixed Income (SA)	53,805,836	16.21	-4.73	-4.73	-14.78	-14.79	-2.90	0.03	0.86	1.19	4.19	06/01/2000
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.94	
Difference			0.02	0.02	-0.17	-0.19	0.36	0.30	0.32	0.30	0.25	
IM U.S. Broad Market Fixed Income (SA+CF) Median			-4.43	-4.43	-14.50	-14.51	-2.54	0.31	1.22	1.58	4.58	
Rank			81	81	61	61	75	81	85	86	84	
MetWest US Fixed Income (SA)	32,494,561	9.79	-5.05	-5.05	-15.18	-15.13	-2.53	0.41	1.10	1.47	4.31	09/01/2001
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	3.38	
Difference			-0.30	-0.30	-0.57	-0.53	0.73	0.68	0.56	0.58	0.93	
IM U.S. Broad Market Fixed Income (SA+CF) Median			-4.43	-4.43	-14.50	-14.51	-2.54	0.31	1.22	1.58	4.05	
Rank			95	95	74	72	49	44	66	59	29	
Hoisington US Long Duration Fixed Income (SA)	9,680,381	2.92	-10.35	-10.35	-31.76	-29.30	-9.43	-1.59	-0.32	0.63	6.77	10/01/1991
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	4.75	
Difference			-5.60	-5.60	-17.15	-14.70	-6.17	-1.32	-0.86	-0.26	2.02	
IM U.S. Long Duration (SA+CF) Median			-8.82	-8.82	-28.91	-27.53	-6.37	-0.60	1.67	1.93	N/A	
Rank			100	100	99	96	100	100	100	100	N/A	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges
 Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

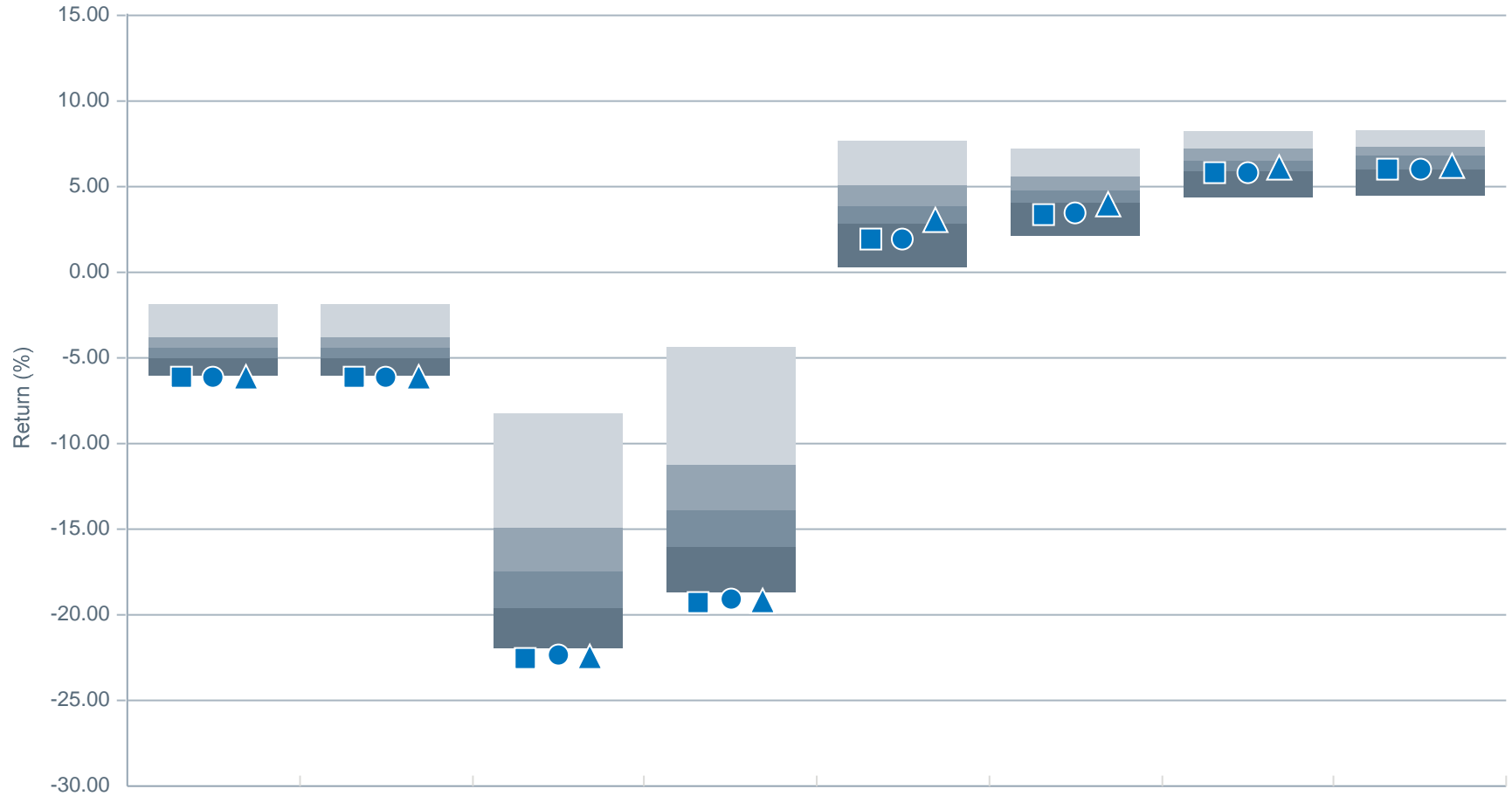
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
BlackRock TIPS (CF)	12,766,971	3.85	-5.14	-5.14	-13.55	-11.55	0.89	2.06	2.35	1.10	2.81	03/01/2010
Bloomberg US Trsy US TIPS Index			-5.14	-5.14	-13.61	-11.57	0.79	1.95	2.21	0.98	2.76	
Difference			0.00	0.00	0.06	0.02	0.10	0.11	0.14	0.12	0.05	
IM U.S. TIPS (SA+CF) Median			-5.02	-5.02	-13.40	-11.43	0.95	2.13	2.32	1.19	2.80	
Rank			59	59	63	64	54	52	38	64	46	

Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of September 30, 2022



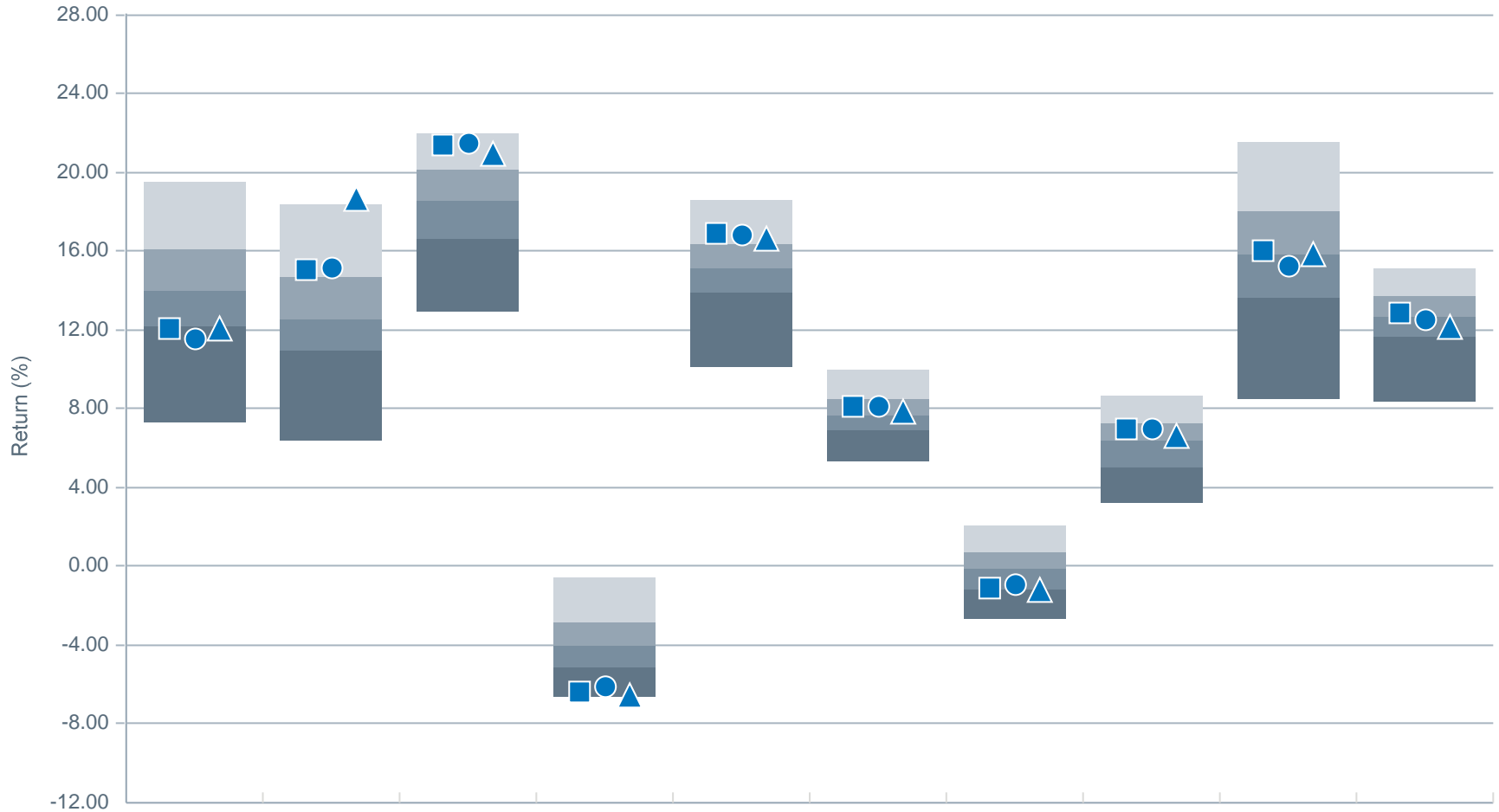
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ URSJJ Total Fund	-6.11 (96)	-6.11 (96)	-22.58 (98)	-19.28 (98)	1.95 (87)	3.42 (86)	5.77 (80)	6.00 (77)
● URSJJ Policy Index	-6.15 (96)	-6.15 (96)	-22.36 (98)	-19.10 (97)	1.91 (88)	3.45 (86)	5.82 (78)	5.97 (78)
▲ URSJJ Allocation Index	-6.11 (96)	-6.11 (96)	-22.45 (98)	-19.14 (97)	3.05 (71)	3.98 (77)	6.12 (69)	6.19 (72)
5th Percentile	-1.87	-1.87	-8.24	-4.42	7.64	7.24	8.29	8.30
1st Quartile	-3.73	-3.73	-14.94	-11.26	5.10	5.59	7.20	7.40
Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
3rd Quartile	-5.01	-5.01	-19.61	-16.07	2.81	4.03	5.91	6.06
95th Percentile	-6.07	-6.07	-21.98	-18.65	0.34	2.18	4.35	4.45

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Uniform Retirement System for Justices & Judges vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

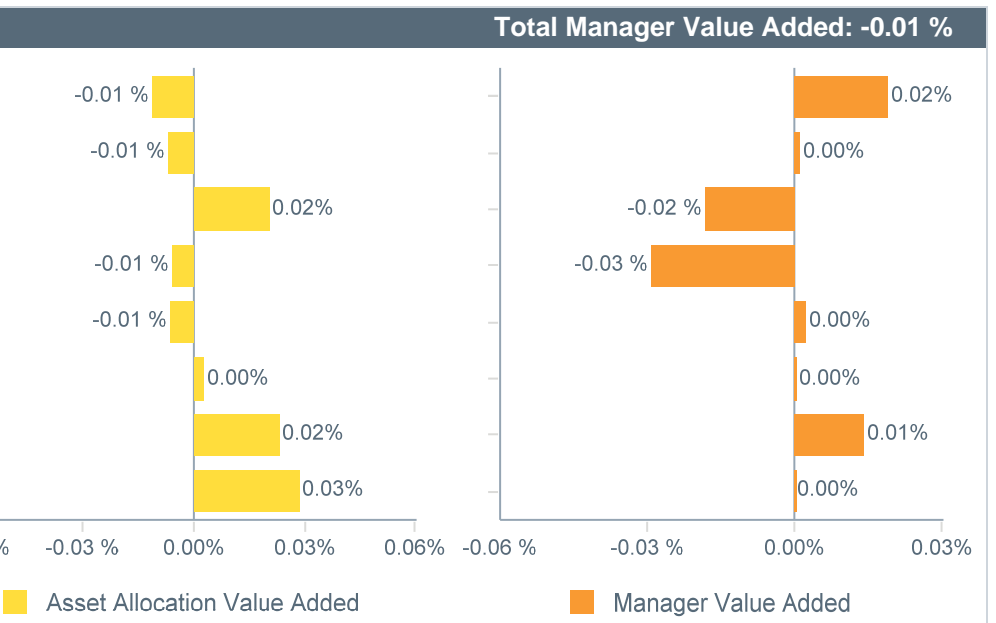
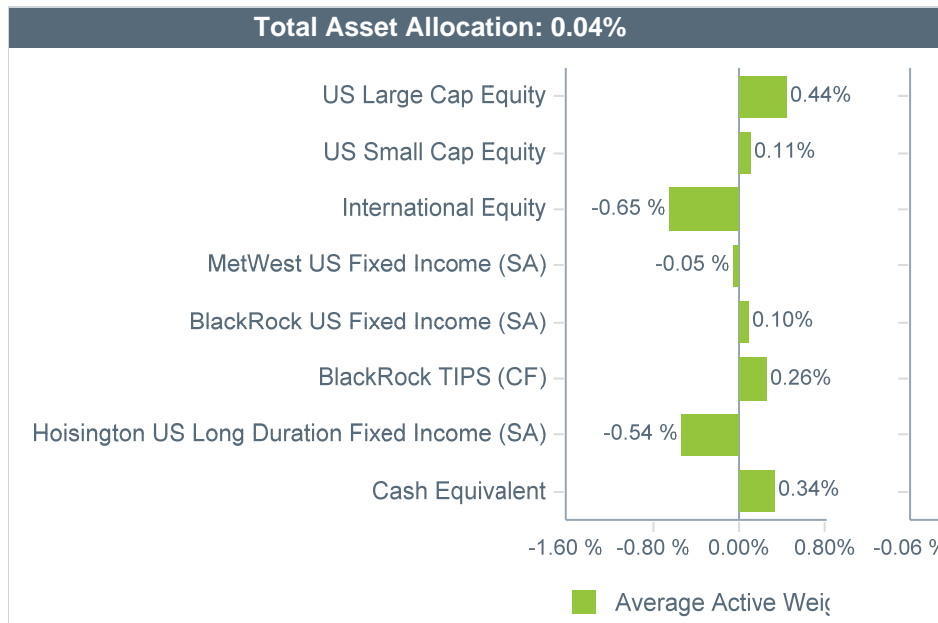
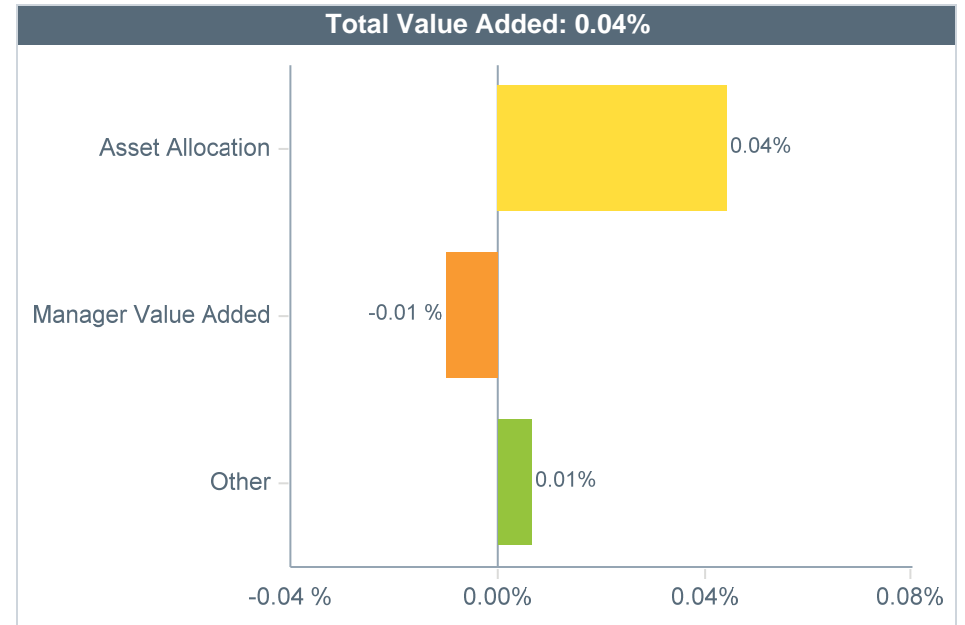
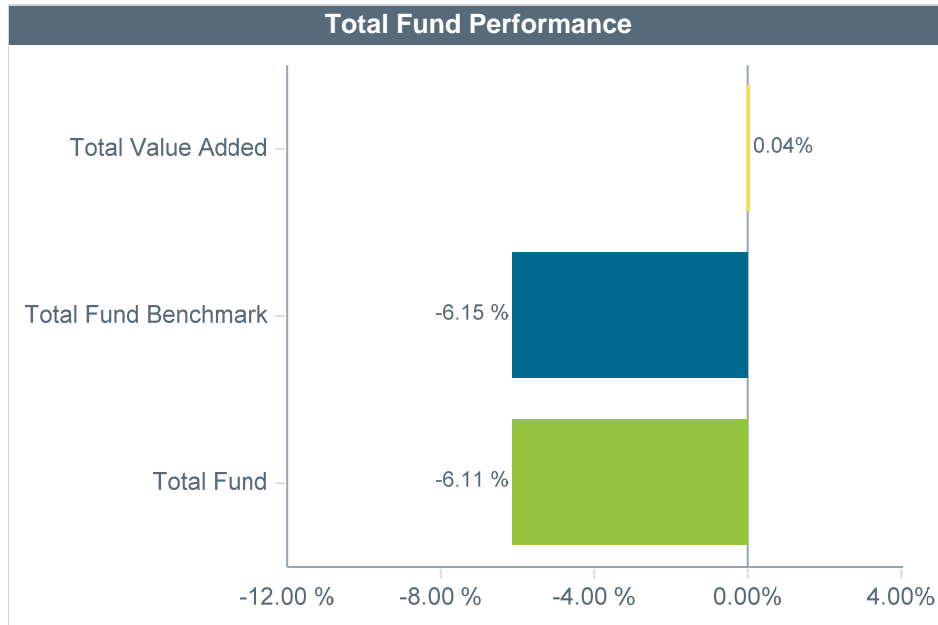
As of September 30, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ URSJJ Total Fund	12.12 (77)	15.10 (22)	21.40 (11)	-6.38 (92)	16.89 (18)	8.09 (39)	-1.07 (74)	7.00 (32)	16.01 (49)	12.91 (43)
● URSJJ Policy Index	11.54 (82)	15.19 (21)	21.51 (10)	-6.09 (90)	16.86 (18)	8.12 (38)	-0.89 (70)	7.00 (31)	15.27 (57)	12.52 (56)
▲ URSJJ Allocation Index	12.10 (78)	18.70 (4)	21.01 (16)	-6.52 (94)	16.63 (22)	7.90 (46)	-1.19 (76)	6.67 (42)	15.87 (51)	12.14 (65)
5th Percentile	19.59	18.43	22.06	-0.54	18.60	9.98	2.08	8.68	21.59	15.19
1st Quartile	16.10	14.71	20.19	-2.90	16.44	8.51	0.71	7.24	18.05	13.79
Median	14.01	12.54	18.57	-4.03	15.15	7.69	-0.13	6.34	15.88	12.71
3rd Quartile	12.21	10.94	16.66	-5.11	13.89	6.94	-1.17	5.08	13.66	11.63
95th Percentile	7.35	6.40	12.93	-6.65	10.14	5.33	-2.66	3.24	8.52	8.44

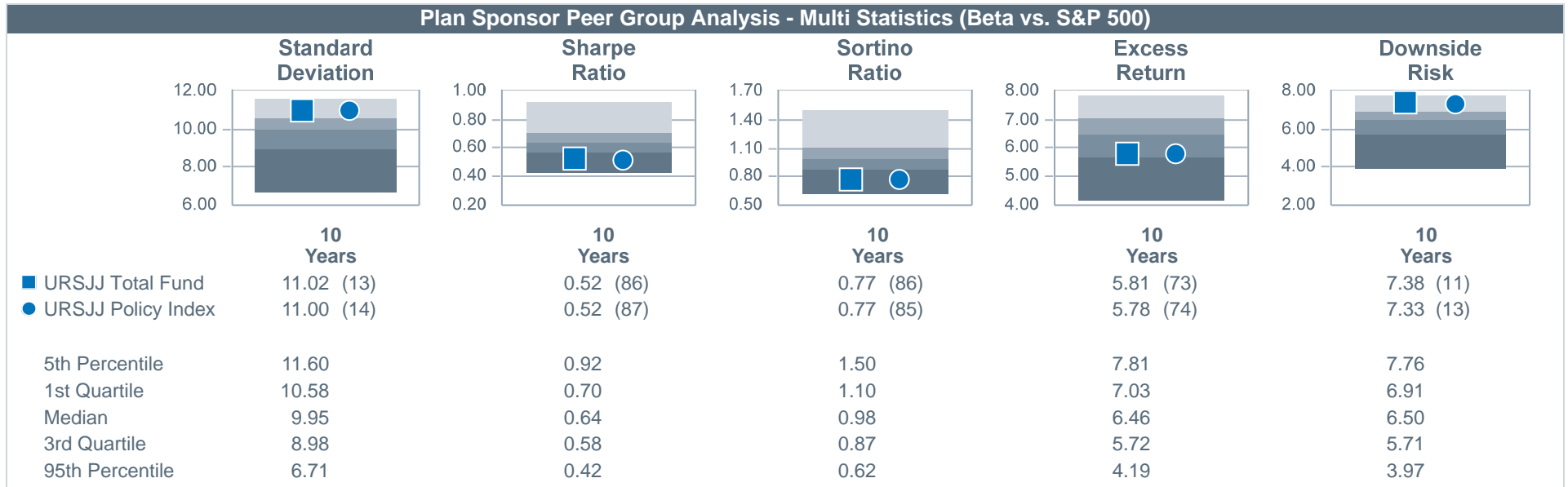
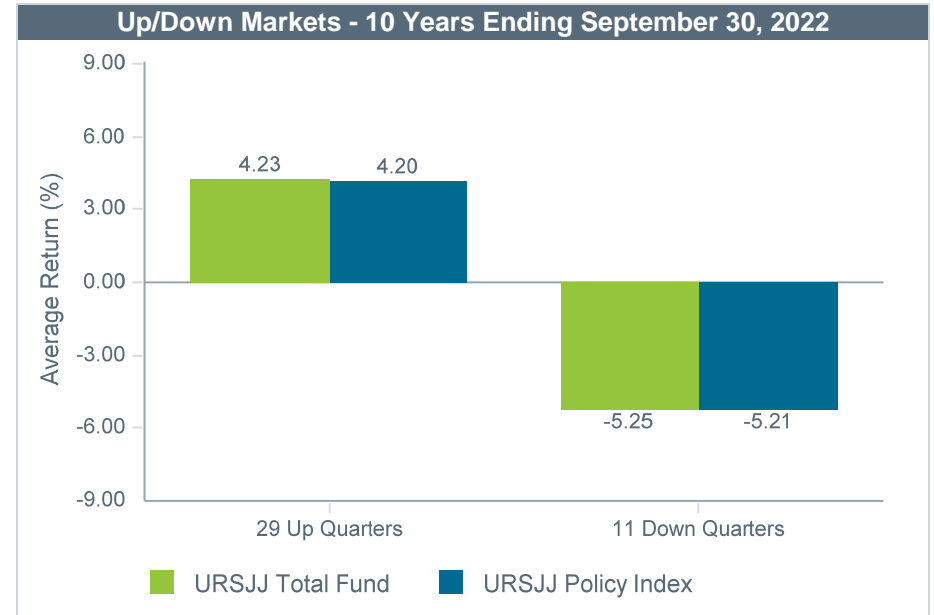
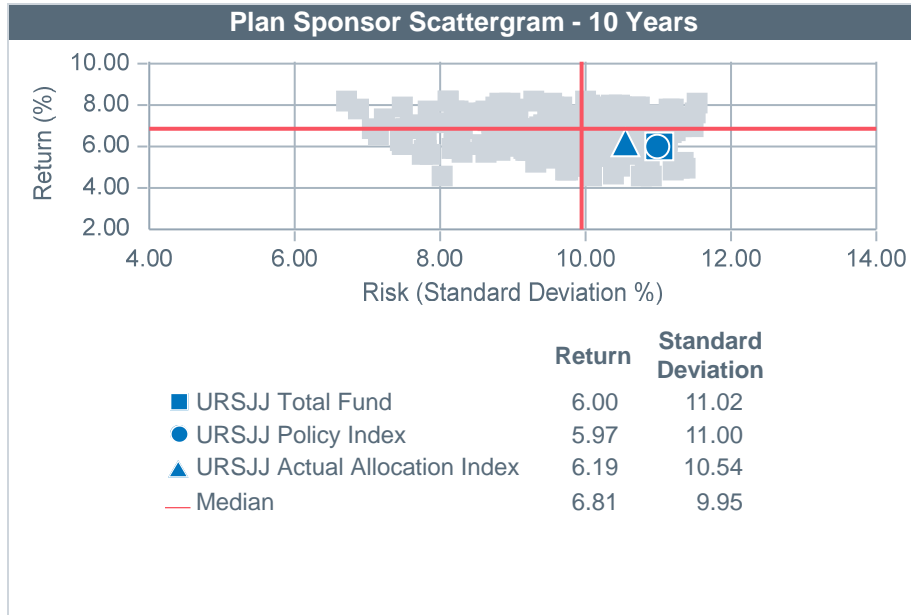
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.





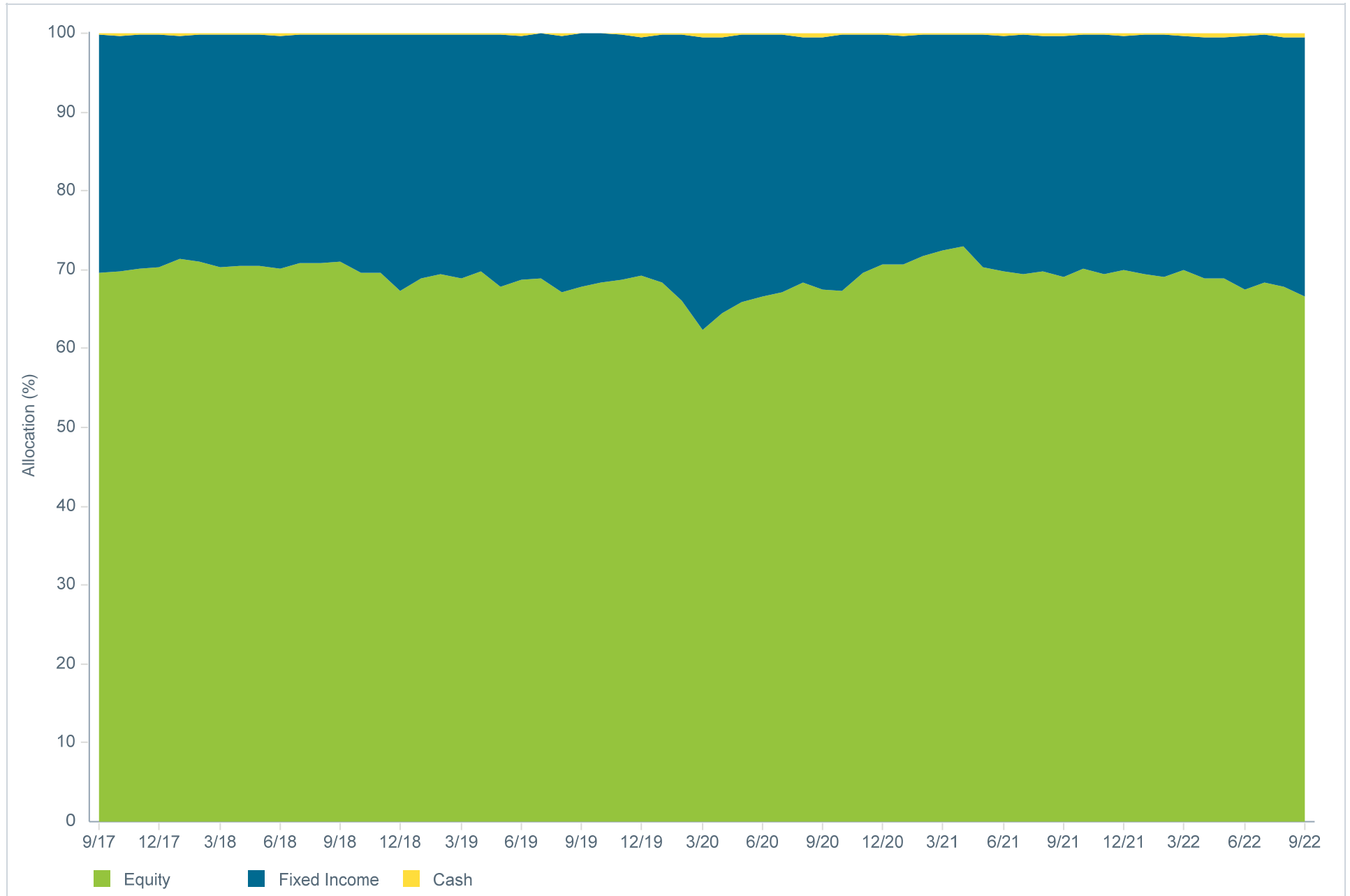
Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



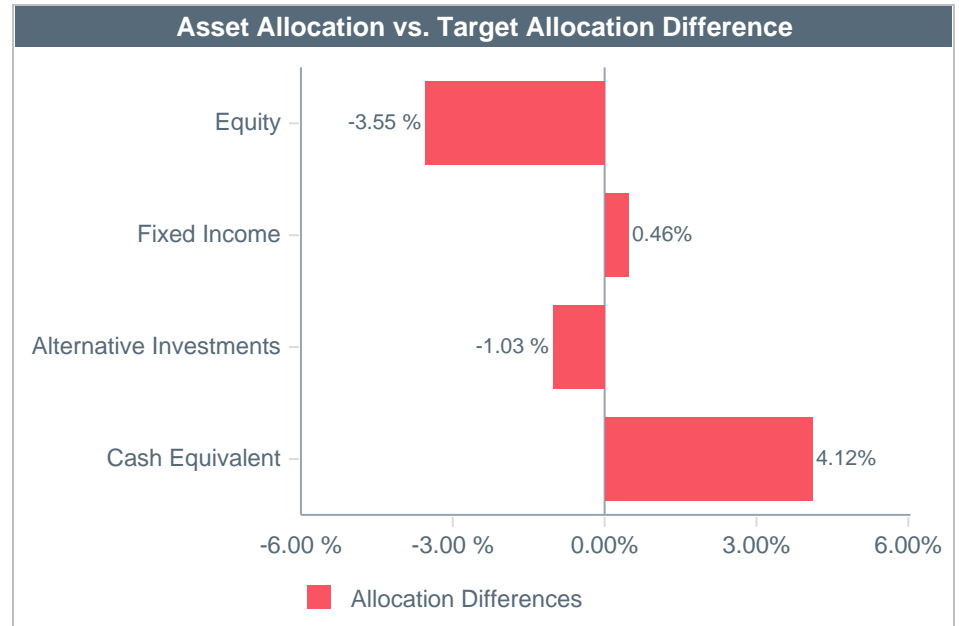


Oklahoma Wildlife Conservation Retirement System (OWCRS)



	Performance (%)												
	Trailing							Calendar Year					
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	2021	2020	2019	2018	2017
OWCRS Total Fund (Net)	-5.18	-5.18	-19.76	-16.50	1.95	3.78	5.36	5.74	11.58	13.00	19.21	-3.85	13.93
OWCRS Policy Index	-4.20	-4.20	-20.18	-17.22	1.25	2.67	4.67	4.97	10.35	12.67	17.53	-4.95	12.96
Difference	-0.98	-0.98	0.42	0.72	0.70	1.11	0.69	0.77	1.23	0.33	1.68	1.10	0.97
OWCRS Actual Allocation Index	-4.35	-4.35	-19.77	-17.16	1.84	3.81	5.79	5.91	10.43	13.21	20.53	-3.71	14.38
Difference	-0.83	-0.83	0.01	0.66	0.11	-0.03	-0.43	-0.17	1.15	-0.21	-1.32	-0.14	-0.45
Actuarial Discount Rate (7.0%)	1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Difference	-6.89	-6.89	-24.97	-23.50	-5.05	-3.22	-1.64	-1.26	4.58	6.00	12.21	-10.85	6.93
OWCRS Total Fund (Gross)	-5.09	-5.09	-19.55	-16.22	2.26	4.06	5.61	5.98	11.95	13.34	19.46	-3.68	14.13
OWCRS Policy Index	-4.20	-4.20	-20.18	-17.22	1.25	2.67	4.67	4.97	10.35	12.67	17.53	-4.95	12.96
Difference	-0.89	-0.89	0.63	1.00	1.01	1.39	0.94	1.01	1.60	0.67	1.93	1.27	1.17
OWCRS Actual Allocation Index	-4.35	-4.35	-19.77	-17.16	1.84	3.81	5.79	5.91	10.43	13.21	20.53	-3.71	14.38
Difference	-0.74	-0.74	0.22	0.94	0.42	0.25	-0.18	0.07	1.52	0.13	-1.07	0.03	-0.25
All Public Plans-Total Fund Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	14.01	12.54	18.57	-4.03	15.15
Rank	77	77	74	77	84	75	82	78	79	39	37	43	71

Asset Allocation vs. Target Allocation			
	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)
OWCRS (Wildlife)	111,991,999	100.00	100.00
Equity	68,816,016	61.45	65.00
Fixed Income	28,512,547	25.46	25.00
Alternative Investments	10,047,335	8.97	10.00
Cash Equivalent	4,616,101	4.12	0.00



Parentheses contain percentile ranks. Allocations shown may not sum up to 100% exactly due to rounding. Please see the Addendum for custom index definitions and additional Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OWCRS Total Fund	111,991,999	100.00	-5.18	-5.18	-19.76	-16.50	1.95	3.78	5.36	5.74	5.04	01/01/2006
OWCRS Policy Index			-4.20	-4.20	-20.18	-17.22	1.25	2.67	4.67	4.97	5.18	
Difference			-0.98	-0.98	0.42	0.72	0.70	1.11	0.69	0.77	-0.14	
OWCRS Actual Allocation Index			-4.35	-4.35	-19.77	-17.16	1.84	3.81	5.79	5.91	5.54	
Difference			-0.83	-0.83	0.01	0.66	0.11	-0.03	-0.43	-0.17	-0.50	
Actuarial Discount Rate (7.0%)			1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			-6.89	-6.89	-24.97	-23.50	-5.05	-3.22	-1.64	-1.26	-1.96	
Equity	68,816,016	61.45	-5.68	-5.68	-23.76	-18.24	4.32	6.21	8.82	9.85	7.38	01/01/2006
OWCRS Equity Custom Index			-4.74	-4.74	-24.36	-19.87	4.27	4.54	7.72	N/A	N/A	
Difference			-0.94	-0.94	0.60	1.63	0.05	1.67	1.10	N/A	N/A	
iShares:Russell 1000 L/C Idx;K (BRGKX)	5,363,139	4.79	-4.64	-4.64	-24.60	-17.24	7.37	8.59	10.82	11.33	8.53	03/01/2020
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	9.18	
Difference			-0.03	-0.03	-0.01	-0.02	-0.58	-0.41	-0.33	-0.27	-0.65	
Vanguard S-C Id;Inst (VSCIX)	4,079,287	3.64	-2.59	-2.59	-23.88	-21.15	4.81	5.27	8.27	9.52	7.99	12/01/2005
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	6.91	
Difference			-0.40	-0.40	1.22	2.35	0.52	1.72	0.76	0.97	1.08	
Bank of Oklahoma Managed Equity (SA)	44,097,396	39.38	-4.40	-4.40	-22.43	-14.76	N/A	N/A	N/A	N/A	14.76	04/01/2020
Russell 3000 Index			-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	15.95	
Difference			0.06	0.06	2.19	2.87	N/A	N/A	N/A	N/A	-1.19	
Vanguard Dev Mkt;Adm (VTMGX)	4,999,476	4.46	-10.44	-10.44	-27.69	-25.53	-1.26	-0.63	3.22	4.04	3.23	09/01/1999
MSCI Wrld Ex US Index (USD) (Net)			-9.20	-9.20	-26.23	-23.91	-1.21	-0.39	3.21	3.62	3.25	
Difference			-1.24	-1.24	-1.46	-1.62	-0.05	-0.24	0.01	0.42	-0.02	
Dodge & Cox Intl Stck;I (DODFX)	3,753,389	3.35	-10.69	-10.69	-19.64	-17.77	0.23	-1.49	3.13	4.16	0.85	03/01/2014
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	1.11	
Difference			-0.78	-0.78	6.86	7.40	1.75	-0.68	-0.16	1.15	-0.26	
MFS Intl New Discv;R6 (MIDLX)	3,755,632	3.35	-8.74	-8.74	-28.84	-29.06	-3.35	-0.63	3.39	4.25	2.20	03/01/2014
MSCI ACW Ex US Grth Index (USD) (Net)			-9.37	-9.37	-31.84	-30.22	-1.38	0.18	4.09	3.95	2.24	
Difference			0.63	0.63	3.00	1.16	-1.97	-0.81	-0.70	0.30	-0.04	

During 09/2022, Neub Berman L/S;Inst (NLSIX) was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Invesco Dev Mkt;R6 (ODVIX)	2,767,698	2.47	-9.76	-9.76	-32.55	-35.29	-6.23	-3.17	3.02	1.01	0.49	06/01/2013
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	0.91	
Difference			1.81	1.81	-5.39	-7.18	-4.16	-1.36	-0.86	-0.04	-0.42	
Fixed Income	28,512,547	25.46	-3.99	-3.99	-13.89	-14.01	-2.48	0.29	0.62	0.91	2.40	01/01/2006
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	2.94	
Difference			0.76	0.76	0.72	0.59	0.78	0.56	0.08	0.02	-0.54	
Bank of Oklahoma Managed Fixed Income (SA)	13,579,187	12.13	-4.30	-4.30	-14.21	-14.43	-3.08	-0.16	0.21	0.53	2.22	12/01/2005
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	2.98	
Difference			0.45	0.45	0.40	0.17	0.18	0.11	-0.33	-0.36	-0.76	
MetWest:Total Rtn;I (MWTIX)	2,519,654	2.25	-5.18	-5.18	-16.24	-16.32	-3.26	-0.18	0.59	1.26	-0.09	08/01/2017
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-0.18	
Difference			-0.43	-0.43	-1.63	-1.72	0.00	0.09	0.05	0.37	0.09	
PIMCO:Income;Inst (PIMIX)	5,539,579	4.95	-1.86	-1.86	-10.85	-10.70	-0.25	1.24	3.22	4.05	1.48	08/01/2017
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-0.18	
Difference			2.89	2.89	3.76	3.90	3.01	1.51	2.68	3.16	1.66	
PIMCO:Intl Bd (DH);Inst (PFORX)	3,102,544	2.77	-2.41	-2.41	-10.65	-10.95	-2.49	0.75	1.97	2.71	-3.33	03/01/2020
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-5.20	
Difference			2.34	2.34	3.96	3.65	0.77	1.02	1.43	1.82	1.87	

During 09/2022, Neub Berman L/S;Inst (NLSIX) was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Net of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Alternative Investments	10,047,335	8.97	-5.05	-5.05	-13.17	-10.84	-0.33	1.41	3.63	1.90	2.23	12/01/2010
OWCRS Alternatives Custom Index			-0.22	-0.22	-6.80	-6.40	4.19	3.10	3.29	N/A	N/A	
Difference			-4.83	-4.83	-6.37	-4.44	-4.52	-1.69	0.34	N/A	N/A	
First Eagle:Global;I (SGIIX)	3,305,073	2.95	-7.99	-7.99	-17.31	-14.10	1.89	2.90	5.70	5.54	3.11	08/01/2017
MSCI Wrld Index (USD) (Net)			-6.19	-6.19	-25.42	-19.63	4.56	5.30	7.91	8.11	5.61	
Difference			-1.80	-1.80	8.11	5.53	-2.67	-2.40	-2.21	-2.57	-2.50	
Calamos:Mkt Neut Inc;I (CMNIX)	3,407,792	3.04	-0.19	-0.19	-7.16	-5.72	1.25	2.42	3.25	2.97	2.41	08/01/2017
Bloomberg US Govt/Credit Bond Index			-4.56	-4.56	-15.10	-14.95	-3.15	-0.05	0.78	1.02	0.03	
Difference			4.37	4.37	7.94	9.23	4.40	2.47	2.47	1.95	2.38	
Neub Berman L/S;Inst (NLSIX)	3,334,470	2.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10/01/2022
HFRX Equity Hedge Index			-0.08	-0.08	-4.80	-2.27	4.65	2.84	3.16	3.24	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

During 09/2022, Neub Berman L/S;Inst (NLSIX) was funded. Performance shown is net of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
OWCRS Total Fund	111,991,999	100.00	-5.09	-5.09	-19.55	-16.22	2.26	4.06	5.61	5.98	5.26	01/01/2006
OWCRS Policy Index			-4.20	-4.20	-20.18	-17.22	1.25	2.67	4.67	4.97	5.18	
Difference			-0.89	-0.89	0.63	1.00	1.01	1.39	0.94	1.01	0.08	
OWCRS Actual Allocation Index			-4.35	-4.35	-19.77	-17.16	1.84	3.81	5.79	5.91	5.54	
Difference			-0.74	-0.74	0.22	0.94	0.42	0.25	-0.18	0.07	-0.28	
Actuarial Discount Rate (7.0%)			1.71	1.71	5.21	7.00	7.00	7.00	7.00	7.00	7.00	
Difference			-6.80	-6.80	-24.76	-23.22	-4.74	-2.94	-1.39	-1.02	-1.74	
All Public Plans-Total Fund Median			-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81	6.10	
Rank			77	77	74	77	84	75	82	78	88	
Equity	68,816,016	61.45	-5.62	-5.62	-23.62	-18.04	4.54	6.34	8.91	9.91	7.42	01/01/2006
OWCRS Equity Custom Index			-4.74	-4.74	-24.36	-19.87	4.27	4.54	7.72	N/A	N/A	
Difference			-0.88	-0.88	0.74	1.83	0.27	1.80	1.19	N/A	N/A	
iShares:Russell 1000 L/C Idx;K (BRGKX)	5,363,139	4.79	-4.60	-4.60	-24.51	-17.11	7.53	8.76	10.99	11.49	8.70	03/01/2020
Russell 1000 Index			-4.61	-4.61	-24.59	-17.22	7.95	9.00	11.15	11.60	9.18	
Difference			0.01	0.01	0.08	0.11	-0.42	-0.24	-0.16	-0.11	-0.48	
IM U.S. Large Cap Equity (MF) Median			-4.98	-4.98	-25.86	-18.42	6.74	8.30	10.26	10.75	7.79	
Rank			39	39	42	42	37	42	32	31	35	
Vanguard S-C Id;Inst (VSCIX)	4,079,287	3.64	-2.58	-2.58	-23.85	-21.12	4.85	5.31	8.32	9.57	8.03	12/01/2005
Russell 2000 Index			-2.19	-2.19	-25.10	-23.50	4.29	3.55	7.51	8.55	6.91	
Difference			-0.39	-0.39	1.25	2.38	0.56	1.76	0.81	1.02	1.12	
IM U.S. Small Cap Core Equity (MF) Median			-4.48	-4.48	-23.02	-18.44	4.60	3.57	6.98	8.28	6.78	
Rank			23	23	64	77	47	16	21	18	9	
Bank of Oklahoma Managed Equity (SA)	44,097,396	39.38	-4.37	-4.37	-22.34	-14.62	N/A	N/A	N/A	N/A	14.93	04/01/2020
Russell 3000 Index			-4.46	-4.46	-24.62	-17.63	7.70	8.62	10.90	11.39	15.95	
Difference			0.09	0.09	2.28	3.01	N/A	N/A	N/A	N/A	-1.02	
Vanguard Dev Mkt;Adm (VTMGX)	4,999,476	4.46	-10.42	-10.42	-27.65	-25.47	-1.19	-0.56	3.29	4.11	3.30	09/01/1999
MSCI Wrld Ex US Index (USD) (Net)			-9.20	-9.20	-26.23	-23.91	-1.21	-0.39	3.21	3.62	3.25	
Difference			-1.22	-1.22	-1.42	-1.56	0.02	-0.17	0.08	0.49	0.05	
IM All ACWI Ex US (MF) Median			-10.18	-10.18	-28.73	-27.17	-1.63	-0.88	2.93	3.32	3.85	
Rank			54	54	36	28	41	40	39	25	64	

During 09/2022, Neub Berman L/S;Inst (NLSIX) was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Dodge & Cox Intl Stck;I (DODFX)	3,753,389	3.35	-10.55	-10.55	-19.26	-17.24	0.87	-0.86	3.78	4.82	1.49	03/01/2014
MSCI ACW Ex US Index (USD) (Net)			-9.91	-9.91	-26.50	-25.17	-1.52	-0.81	3.29	3.01	1.11	
Difference			-0.64	-0.64	7.24	7.93	2.39	-0.05	0.49	1.81	0.38	
IM ACWI Ex US Core (MF) Median			-10.38	-10.38	-28.18	-26.10	-1.65	-0.91	2.78	3.20	0.98	
Rank			57	57	1	1	11	48	22	3	26	
MFS Intl New Discv;R6 (MIDLX)	3,755,632	3.35	-8.52	-8.52	-28.33	-28.40	-2.45	0.29	4.34	5.22	3.15	03/01/2014
MSCI ACW Ex US Grth Index (USD) (Net)			-9.37	-9.37	-31.84	-30.22	-1.38	0.18	4.09	3.95	2.24	
Difference			0.85	0.85	3.51	1.82	-1.07	0.11	0.25	1.27	0.91	
IM ACWI Ex US Growth (MF) Median			-9.49	-9.49	-34.76	-33.41	-1.27	-0.09	3.52	3.87	1.83	
Rank			28	28	24	22	73	45	32	25	27	
Invesco Dev Mkt;R6 (ODVIX)	2,767,698	2.47	-9.57	-9.57	-32.12	-34.74	-5.45	-2.37	3.87	1.85	1.32	06/01/2013
MSCI Emg Mkts Index (USD) (Net)			-11.57	-11.57	-27.16	-28.11	-2.07	-1.81	3.88	1.05	0.91	
Difference			2.00	2.00	-4.96	-6.63	-3.38	-0.56	-0.01	0.80	0.41	
IM Emerging Markets Equity (MF) Median			-11.00	-11.00	-29.27	-29.88	-2.54	-2.37	3.31	0.91	0.53	
Rank			32	32	72	79	85	50	38	28	31	

During 09/2022, Neub Berman L/S;Inst (NLSIX) was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Fixed Income	28,512,547	25.46	-3.87	-3.87	-13.64	-13.70	-2.21	0.46	0.74	0.99	2.45	01/01/2006
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	2.94	
Difference			0.88	0.88	0.97	0.90	1.05	0.73	0.20	0.10	-0.49	
Bank of Oklahoma Managed Fixed Income (SA)	13,579,187	12.13	-4.16	-4.16	-14.02	-14.20	-2.88	0.05	0.44	0.75	2.42	12/01/2005
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	2.98	
Difference			0.59	0.59	0.59	0.40	0.38	0.32	-0.10	-0.14	-0.56	
IM U.S. Broad Market Fixed Income (SA+CF) Median			-4.43	-4.43	-14.50	-14.51	-2.54	0.31	1.22	1.58	3.68	
Rank			32	32	30	35	73	79	100	100	100	
MetWest:Total Rtn;I (MWTIX)	2,519,654	2.25	-5.07	-5.07	-15.96	-15.94	-2.83	0.26	1.03	1.71	0.35	08/01/2017
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-0.18	
Difference			-0.32	-0.32	-1.35	-1.34	0.43	0.53	0.49	0.82	0.53	
IM U.S. Broad Market Core+ Fixed Income (MF) Median			-4.43	-4.43	-15.30	-15.42	-2.91	-0.20	0.83	1.11	-0.09	
Rank			85	85	67	64	46	23	35	19	24	
PIMCO:Income;Inst (PIMIX)	5,539,579	4.95	-1.73	-1.73	-10.51	-10.24	0.39	2.07	4.13	5.02	2.32	08/01/2017
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-0.18	
Difference			3.02	3.02	4.10	4.36	3.65	2.34	3.59	4.13	2.50	
IM Multi-Sector General Bond (MF) Median			-2.77	-2.77	-13.89	-13.83	-1.55	0.52	2.09	2.05	0.61	
Rank			19	19	23	23	9	3	1	1	2	
PIMCO:Intl Bd (DH);Inst (PFORX)	3,102,544	2.77	-2.28	-2.28	-10.30	-10.49	-1.95	1.30	2.53	3.27	-2.80	03/01/2020
Bloomberg US Agg Bond Index			-4.75	-4.75	-14.61	-14.60	-3.26	-0.27	0.54	0.89	-5.20	
Difference			2.47	2.47	4.31	4.11	1.31	1.57	1.99	2.38	2.40	
IM International Fixed Income (MF) Median			-6.68	-6.68	-20.28	-20.96	-7.21	-4.26	-1.90	-2.07	-8.65	
Rank			3	3	5	5	3	1	1	1	3	

During 09/2022, Neub Berman L/S;Inst (NLSIX) was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
Oklahoma Wildlife Conservation Retirement System
Asset Allocation & Performance - Gross of Fees

As of September 30, 2022

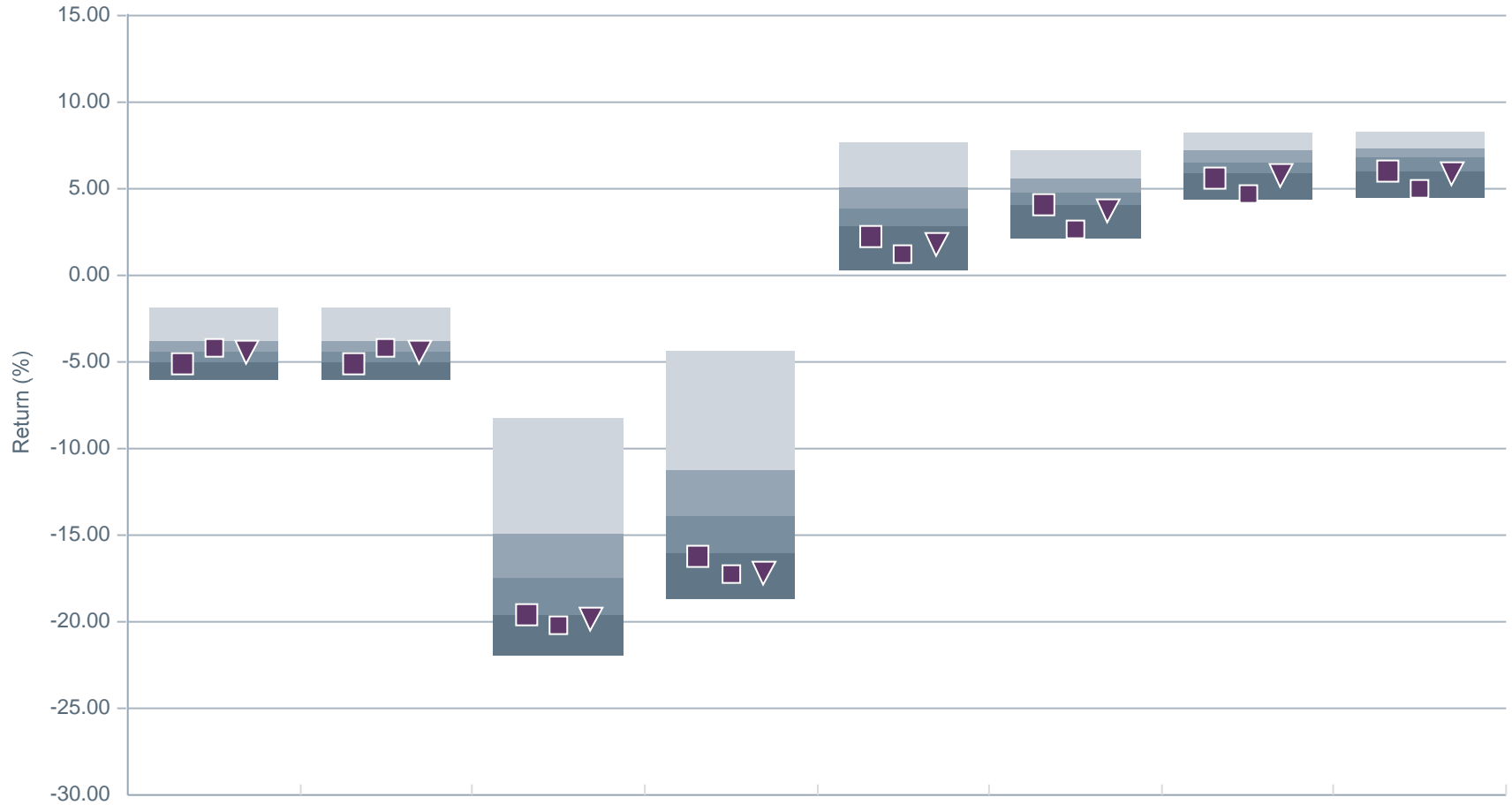
	Allocation		Performance (%)									
	Market Value (\$)	%	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years	Since Incep.	Inception Date
Alternative Investments	10,047,335	8.97	-4.82	-4.82	-12.58	-10.02	0.39	1.85	3.95	2.12	2.42	12/01/2010
OWCRS Alternatives Custom Index			-0.22	-0.22	-6.80	-6.40	4.19	3.10	3.29	N/A	N/A	
Difference			-4.60	-4.60	-5.78	-3.62	-3.80	-1.25	0.66	N/A	N/A	
First Eagle:Global;I (SGIIX)	3,305,073	2.95	-7.80	-7.80	-16.77	-13.35	2.76	3.78	6.60	6.44	3.99	08/01/2017
MSCI Wrld Index (USD) (Net)			-6.19	-6.19	-25.42	-19.63	4.56	5.30	7.91	8.11	5.61	
Difference			-1.61	-1.61	8.65	6.28	-1.80	-1.52	-1.31	-1.67	-1.62	
Calamos:Mkt Neut Inc;I (CMNIX)	3,407,792	3.04	0.08	0.08	-6.50	-4.82	2.23	3.43	4.27	4.00	3.43	08/01/2017
Bloomberg US Govt/Credit Bond Index			-4.56	-4.56	-15.10	-14.95	-3.15	-0.05	0.78	1.02	0.03	
Difference			4.64	4.64	8.60	10.13	5.38	3.48	3.49	2.98	3.40	
Neub Berman L/S;Inst (NLSIX)	3,334,470	2.98	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10/01/2022
HFRX Equity Hedge Index			-0.08	-0.08	-4.80	-2.27	4.65	2.84	3.16	3.24	N/A	
Difference			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

During 09/2022, Neub Berman L/S;Inst (NLSIX) was funded. Performance shown is gross of fees. Performance is annualized for periods greater than one year. Manager inception dates shown represent the first full month following initial funding. Please see the Addendum for custom index definitions and additional comments. Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Wildlife Conservation Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

As of September 30, 2022



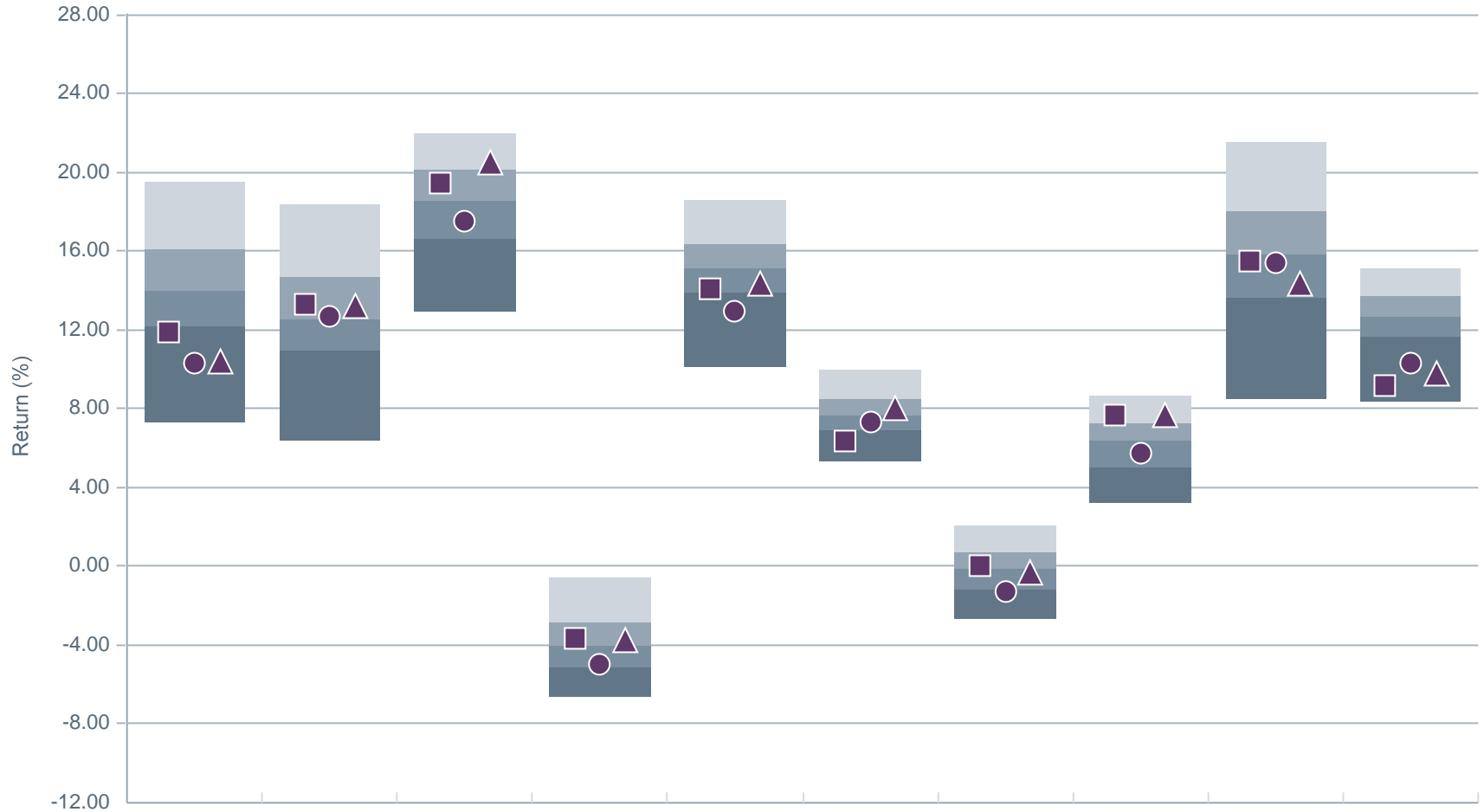
	QTD	FYTD	CYTD	1 Year	3 Years	5 Years	7 Years	10 Years
■ OWCERS Total Fund	-5.09 (77)	-5.09 (77)	-19.55 (74)	-16.22 (77)	2.26 (84)	4.06 (75)	5.61 (82)	5.98 (78)
■ OWCERS Policy Index	-4.20 (43)	-4.20 (43)	-20.18 (84)	-17.22 (87)	1.25 (92)	2.67 (94)	4.67 (93)	4.97 (92)
▼ OWCERS Allocation Index	-4.35 (50)	-4.35 (50)	-19.77 (79)	-17.16 (87)	1.84 (88)	3.81 (80)	5.79 (79)	5.91 (80)
5th Percentile	-1.87	-1.87	-8.24	-4.42	7.64	7.24	8.29	8.30
1st Quartile	-3.73	-3.73	-14.94	-11.26	5.10	5.59	7.20	7.40
Median	-4.37	-4.37	-17.48	-13.91	3.92	4.78	6.56	6.81
3rd Quartile	-5.01	-5.01	-19.61	-16.07	2.81	4.03	5.91	6.06
95th Percentile	-6.07	-6.07	-21.98	-18.65	0.34	2.18	4.35	4.45

Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.
 Oklahoma State Pension Commission fiscal year begins on 07/01.



Oklahoma State Pension Commission
 Oklahoma Wildlife Conservation Retirement System vs. All Public Plans-Total Fund
 Plan Sponsor Peer Group Analysis

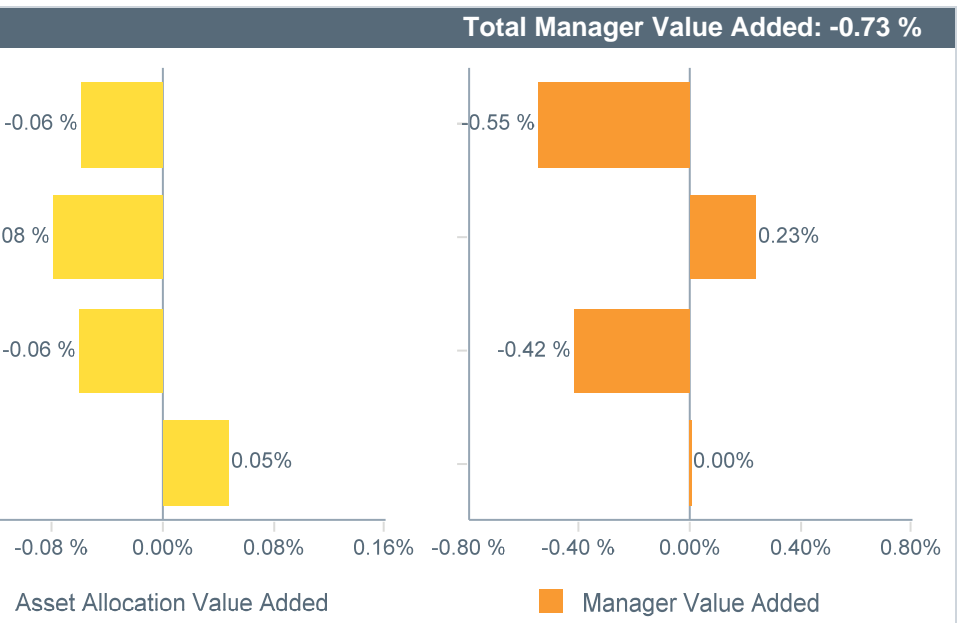
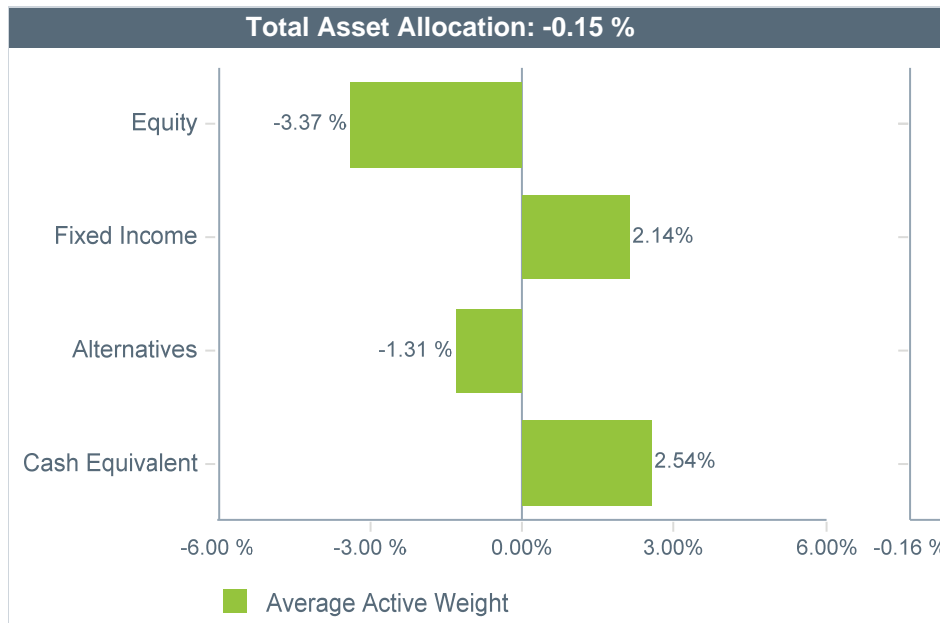
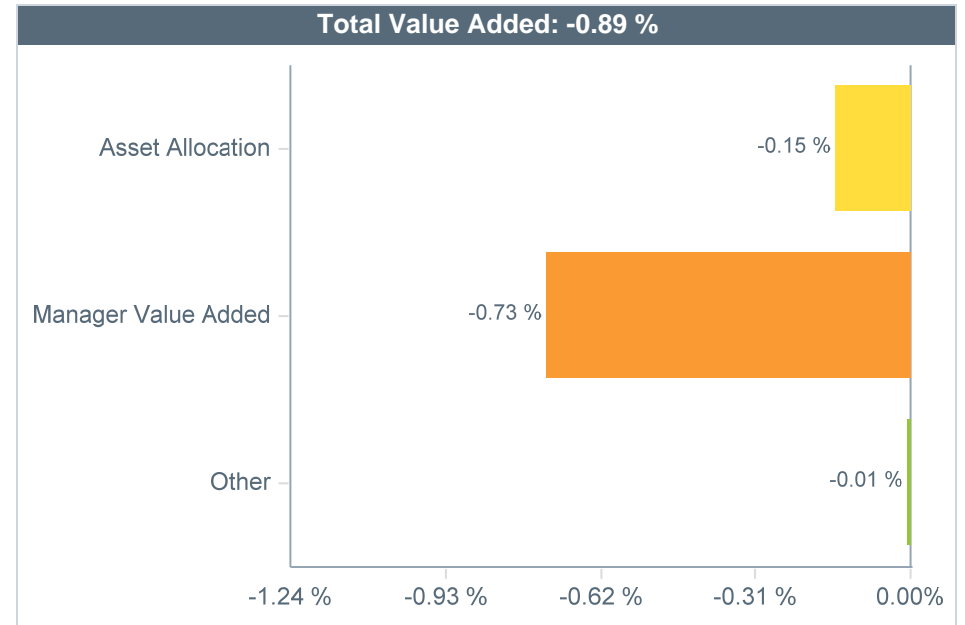
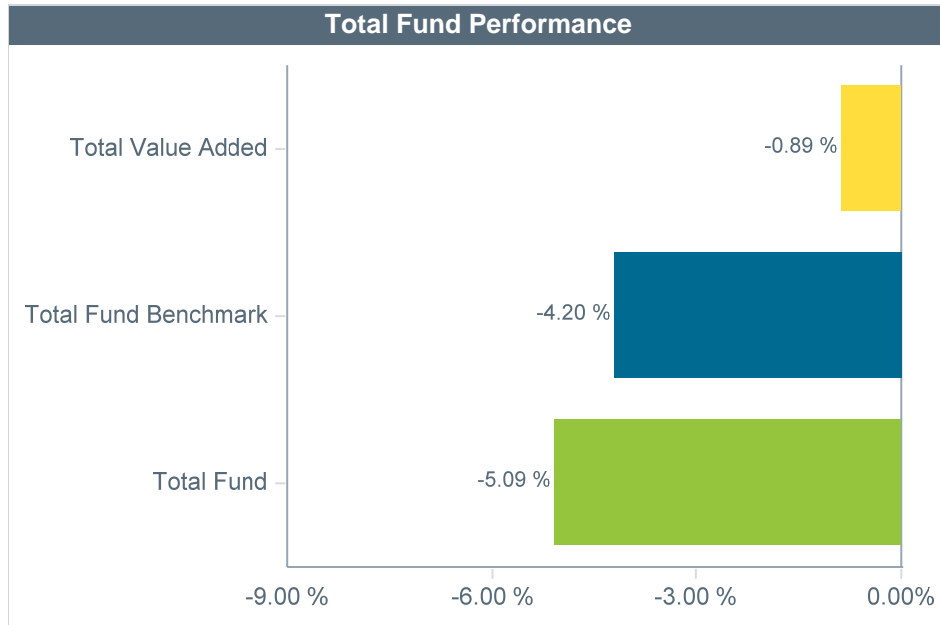
As of September 30, 2022



	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
■ OWCERS Total Fund	11.95 (79)	13.34 (39)	19.46 (37)	-3.68 (43)	14.13 (71)	6.39 (86)	0.05 (45)	7.71 (16)	15.51 (55)	9.15 (94)
● OWCERS Policy Index	10.35 (90)	12.67 (49)	17.53 (64)	-4.95 (72)	12.96 (86)	7.34 (63)	-1.27 (77)	5.80 (63)	15.43 (56)	10.29 (87)
▲ OWCERS Allocation Index	10.43 (89)	13.21 (42)	20.53 (20)	-3.71 (44)	14.38 (66)	8.04 (41)	-0.28 (55)	7.68 (17)	14.39 (67)	9.78 (91)
5th Percentile	19.59	18.43	22.06	-0.54	18.60	9.98	2.08	8.68	21.59	15.19
1st Quartile	16.10	14.71	20.19	-2.90	16.44	8.51	0.71	7.24	18.05	13.79
Median	14.01	12.54	18.57	-4.03	15.15	7.69	-0.13	6.34	15.88	12.71
3rd Quartile	12.21	10.94	16.66	-5.11	13.89	6.94	-1.17	5.08	13.66	11.63
95th Percentile	7.35	6.40	12.93	-6.65	10.14	5.33	-2.66	3.24	8.52	8.44

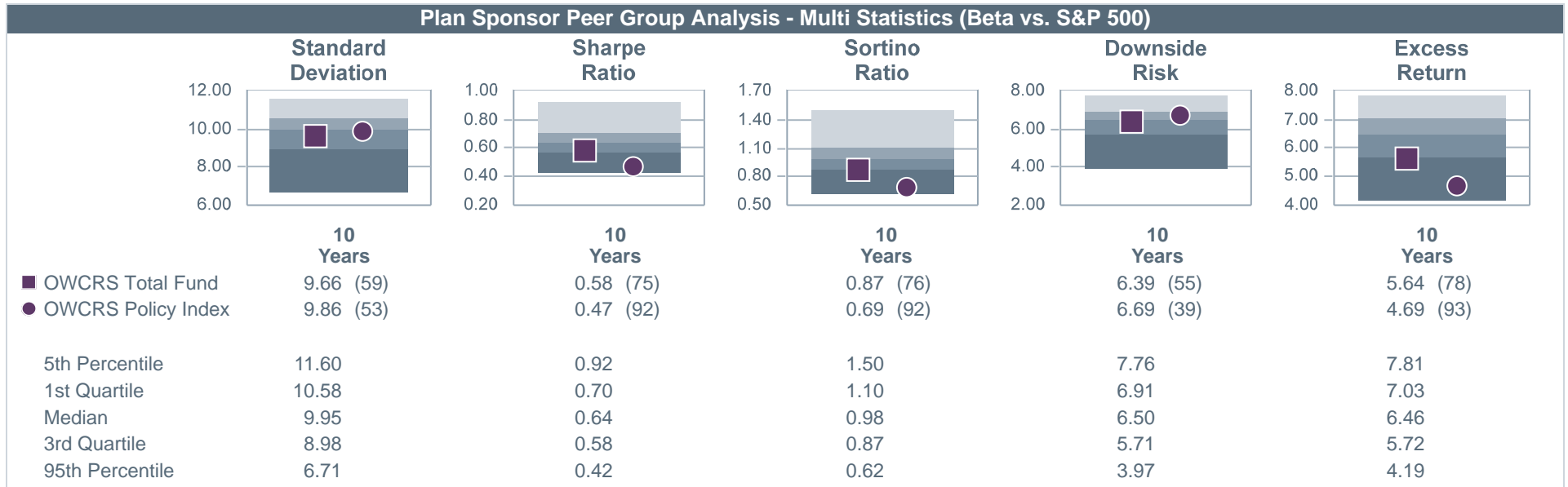
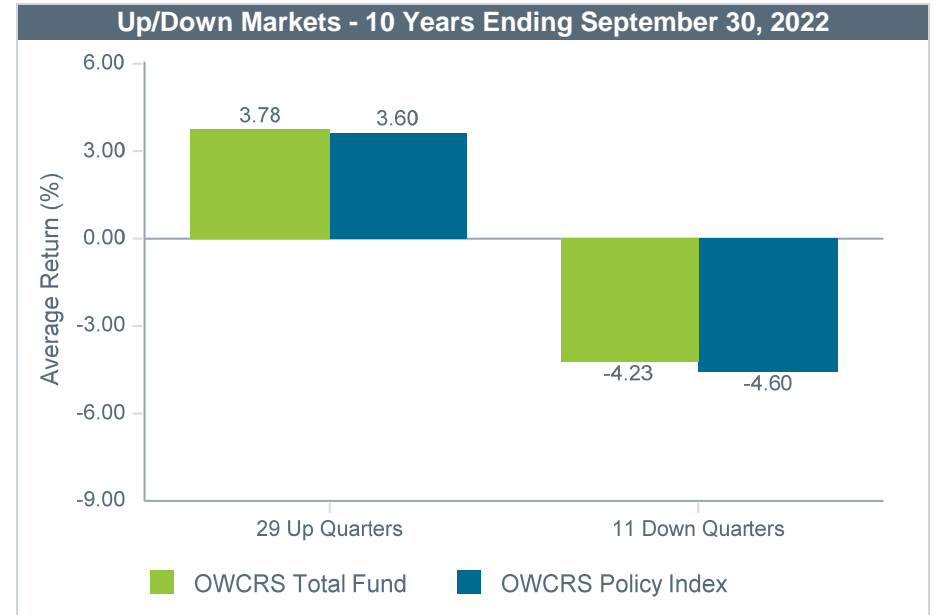
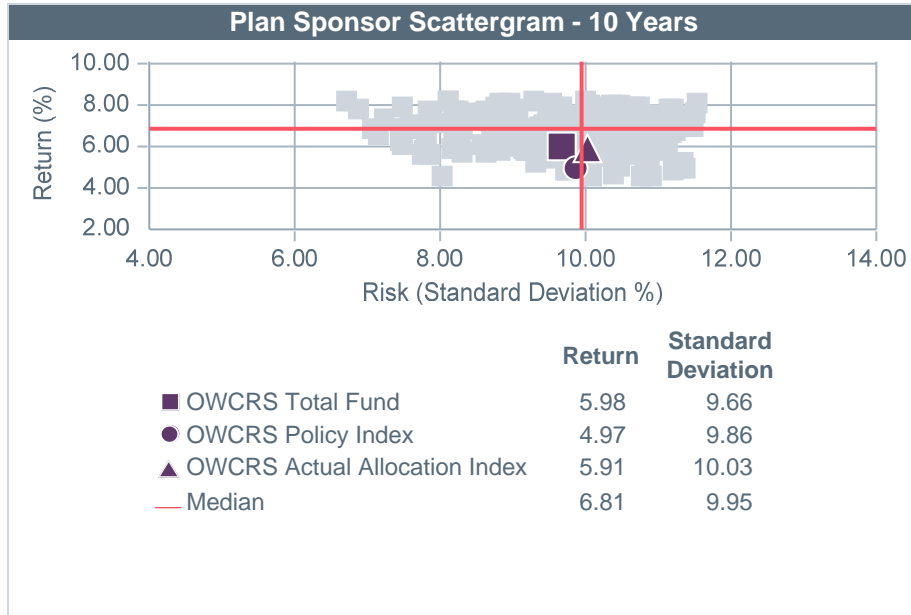
Performance shown is gross of fees. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



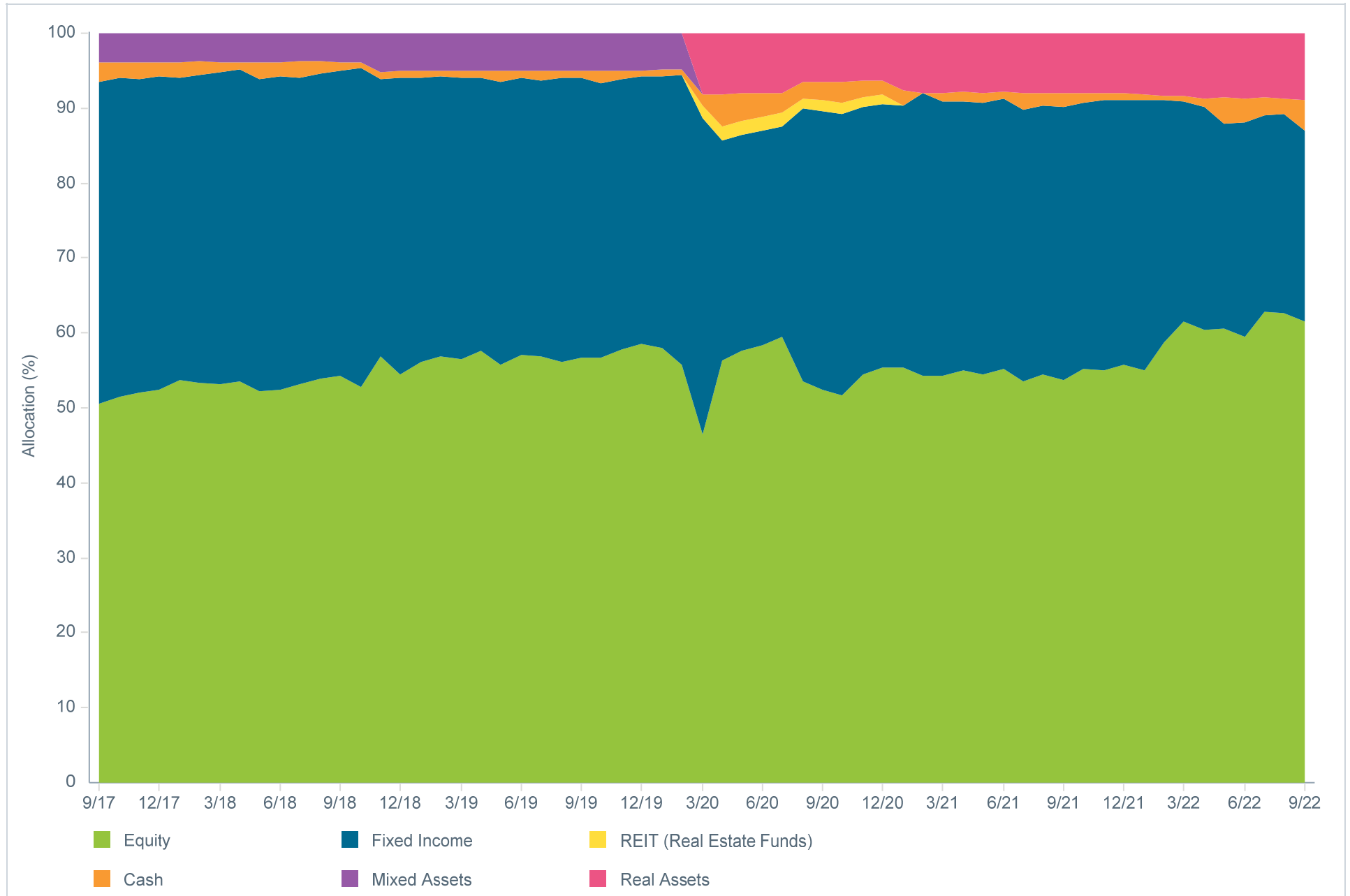


Performance shown is gross of fees. Calculation is based on monthly periodicity. See Glossary for additional information regarding the Total Fund Attribution calculation.





Performance shown is gross of fees. Calculation is based on quarterly periodicity. Parentheses contain percentile ranks. Please see the Addendum for custom index definitions and additional comments.



Addendum & Glossary



Performance Comments:

- Fiscal year begins on 07/01.
- RVK began monitoring the assets of Oklahoma State Pension Commission as of 07/01/2020. Prior historical data on market values and performance was provided by the prior investment consultant and/or custodian bank.
- Manager inception dates shown reflect the first full month of performance following initial funding.
- Mutual fund performance prior to 07/01/2020 or client inception is product specific.
- Manager inception dates shown represent the first full month following initial funding.
- Indices show N/A for since inception returns when the fund contains more history than the corresponding benchmark.
- Net of fees performance show N/A for since inception returns when the fund contains more gross of fees performance history.
- During 07/2022, AB EM Strategic Core Equity (CF) was liquidated. Axiom Emerging Markets Equity (SA) and OFP Centerbridge Real Estate II were funded.
- During 08/2022, NT ACWI Ex US Investable Market Fund (CF) was funded. Neumeier Poma Small Cap Equity (SA), Shapiro Enhanced Small Cap Equity (SA), and Wasatch Small Cap Core Growth (SA) were liquidated.
- During 09/2022, Invesco VI Global Real Estate Fund, Riverside Micro Cap Fund VI LP, and Neuberman L/S;Inst; (NLSIX) were funded.

Custom Index Comments:

- The active **Actual Allocation Index** of each plan is calculated monthly based on beginning of period investment weights applied to the corresponding primary benchmark return.
- **OTRS Policy Index:** OTRS's passive, policy index is calculated monthly and currently consists of 38.3% Russell 3000 Index, 16.7% MSCI ACW ex US IMI (USD) (Net), 22% OTRS Fixed Income Custom Index, 10% OTRS Real Estate Custom Index, and 8% Russell 2000 Index+4%, and 5% S&P/LSTA Leveraged Loan 100 Index +3%. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OTRS Fixed Income Custom Index** is calculated monthly and currently consists of 70% Bloomberg US Agg Bond Index and 30% ICE BofAML US High Yield Master II Constrained Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OTRS Real Estate Custom Index** is calculated monthly and currently consists of 50% NCREIF ODCE (AWA) (Net) (Monthly) and 50% NCREIF ODCE (AWA) (Net) (Monthly) +1%. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPERS Policy Index:** OPERS's passive, policy index is calculated monthly and currently consists of 40% OPERS US Equity Custom Index, 28% MSCI ACW ex US Index (USD) (Net), and 32% OPERS Fixed Income Custom Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPERS US Equity Custom Index** is calculated monthly and currently consists of 85% Russell 1000 Index and 15% Russell 2000 Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPERS Fixed Income Custom Index** is calculated monthly and current consists of 78% Bloomberg US Agg Bond Index, 11% FTSE Treasury Index - 20+ Yr Index, and 11% Bloomberg US Treasury US TIPS Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPPRS Policy Index:** OPRRS's passive, policy index is calculated monthly and currently consists of 47% Russell 3000 Index, 15% MSCI ACW ex US Index (USD) (Net), 13% Bloomberg US Agg Bond Index, 7% Bloomberg Global Agg ex US Index (USD) (Unhedged), 10% NCREIF ODCE Index (AWA) (Net) (Monthly), and 8% Other Assets on a net fee basis. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPPRS Policy Index:** OPRRS's passive, policy index is calculated monthly and currently consists of 65% MSCI ACW Index (USD) (Net), 20% Bloomberg US Universal Bond Index, and 15% NCREIF ODCE Index (AWA) (Net) (Monthly). From 07/01/2020 through 01/31/2021, it consisted of 60% MSCI ACW Index (USD) (Net), 25% Bloomberg US Universal Bond Index, and 15% NCREIF ODCE Index (AWA) (Net) (Monthly). Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OPPRS Real Assets Blended Index:** is calculated monthly and current consists of 100% NCREIF ODCE Index (AWA) (Net) (Monthly). From 01/01/2016 through 08/31/2019, it consisted of 67% NCREIF ODCE Index (AWA) (Net) (Monthly) and 33% Bloomberg Commodity Index (TR). From 08/01/2014 through 12/31/2015, it consisted of 50% NCREIF ODCE Index (AWA) (Net) (Monthly) and 50% Bloomberg Commodity Index (TR). Prior to 08/01/2014, the index consisted of 100% NCREIF ODCE Index (AWA) (Net) (Monthly).
- **Oaktree Global Credit Custom Index** is calculated monthly and current consists of 50% ICE BofAML Global High Yield Index and 50% Credit Suisse Leveraged Loan Index.
- **OLERS Policy Index:** OLERS's passive, policy index is calculated monthly and currently consists of 35% S&P 500 Index (Cap Weighted), 10% Russell 2000 Index, 20% MSCI ACW ex US Index (USD) (Net), 20% Bloomberg US Agg Bond Index, and 15% NCREIF ODCE Index (AWA) (Net) (Monthly). From 07/01/2020 through 01/31/2021, it consisted of 35% S&P 500 Index (Cap Weighted), 10% Russell 2000 Index, 15% MSCI ACW ex US Index (USD) (Net), 30% Bloomberg US Agg Bond Index, and 10% NCREIF ODCE Index (AWA) (Net) (Monthly). Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OLERS Real Assets Blended Index:** is calculated monthly and current consists of 100% NCREIF ODCE Index (AWA) (Net) (Monthly).
- **URSJJ Policy Index:** URSJJ's passive, policy index is calculated monthly and currently consists of 40% URSJJ US Equity Custom Index, 28% MSCI ACW ex US Index (USD) (Net), and 32% URSJJ Fixed Income Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.

- **URSJJ US Equity Custom Index** is calculated monthly and current consists of 85% Russell 1000 Index and 15% Russell 2000 Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **URSJJ Fixed Income Custom Index** is calculated monthly and current consists of 78% Bloomberg US Agg Bond Index, 11% FTSE Treasury Index - 20+ Yr Index, and 11% Bloomberg US Treasury US TIPS Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OWCRS Policy Index:** OWCRS's passive, policy index is calculated monthly and currently consists of 65% OWCRS Equity Custom Index, 25% Bloomberg US Agg Bond Index, and 10% HFRI FoF Composite Index. From 07/01/2020 through 12/01/2021, it consisted of 50% OWCRS Equity Custom Index, 40% Bloomberg US Agg Bond Index, and 10% HFRI FoF Composite Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OWCRS Equity Custom Index** is calculated monthly and current consists of 25% MSCI EAFE Index (USD) (Net), 25% S&P 500 Index (Cap Weighted), 25% Russell 2000 Index, and 25% S&P Mid Cap 400 Index (Gross) (Cap Weighted). Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **OWCRS Alternatives Custom Index** is calculated monthly and currently consists of 100% HFRI FoF Composite Index. Performance prior to 07/01/2020 was calculated by the prior investment consultant.
- **Vanguard Spl Sm Cap Val Index** consists of S&P Sm Cap 600 Val Index through 05/16/03; MSCI US Sm Cap Val Index through 04/16/13; and CRSP US Sm Cap Val Index thereafter.

Glossary

Active Return - The difference between the investment manager/composite performance relative to the performance of an appropriate market benchmark.

Active Share - Measures the degree to which the holdings of a fund differ from the holdings of the benchmark. Active share is calculated by taking the sum of the absolute value of the differences of the weight of each holding in the fund versus the weight of each holding in the benchmark and dividing by two.

Alpha - A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. It is a measure of the portfolio's historical performance not explained by movements of the market or a portfolio's non-systematic return.

Alpha Ratio - A measure of a portfolio's non-systematic return per unit of downside risk. It is measured by dividing the alpha of a portfolio by the downside risk. The non-systematic return is a measure of a portfolio's historical performance not explained by movements of the market.

Average Quality - Bond quality ratings are reported using the investment managers' and the index providers' preferred rating agency. *Average Quality for managers unable to provide this statistic is instead provided by Morningstar; if unavailable on Morningstar, it has been estimated using a credit quality distribution provided by the manager.* There are two primary rating agencies in the US. *Moody's* assigns ratings on a system that employs up to four symbols (consisting of letters and numbers), such as, Aaa, Aa2, etc., with Aaa being the highest or safest rating. *Standard & Poor's (S&P)* employs a system that uses + and - along with letters, such as AAA, AA+, etc. The two rating agencies' systems are summarized below:

<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>	<u>S&P</u>	<u>Moody's</u>	<u>Explanation</u>
Higher Credit Quality – Investment Grade			Lower Credit Quality – Below Investment Grade		
AAA	Aaa	Prime/Highest credit quality	BB+	Ba1	Speculative/Low credit quality
AA+	Aa1	High credit quality	BB	Ba2	
AA	Aa2		BB-	Ba3	
AA-	Aa3		B+	B1	Highly speculative
A+	A1	Upper-medium credit quality	B	B2	
A	A2		B-	B3	
A-	A3		CCC+	Caa1	Substantial credit/default risk
BBB+	Baa1	Lower-medium credit quality	CCC	Caa2	Extremely speculative
BBB	Baa2		CCC-	Caa3	
BBB-	Baa3		CC	Ca	Vulnerable to default
			C	Ca	
			D	C	In default

Benchmark Effect - The difference between the blended return of each respective managers' benchmark within a composite and the composite's benchmark return.

Beta - A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of a portfolio's non-diversifiable or systematic risk.

Box Plots - A graphical representation of the distribution of observations. From top to bottom, the four boxes represent the spread between the maximum value and the minimum value in each quartile. A quartile represents the values that divide the observations into four quarters (i.e., 1st quartile, 2nd quartile, 3rd quartile, and 4th quartile). The median observation is where the 2nd quartile and 3rd quartile meet.

Buy and Hold Attribution - At the beginning of the time period under analysis, the manager and benchmark portfolios are broken down into segments (i.e., styles, sectors, countries, and regions) based on the desired type of attribution. The formula assumes zero turn-over to the manager and benchmark portfolios throughout the period and calculates the segment returns ("buy and hold returns") to arrive at performance attribution. Due to portfolio turnover, buy and hold attribution may not accurately represent quarterly performance relative to the benchmark. Country, region, sector, and style allocations are as of the date one quarter prior to the reporting date, and the returns shown are for those segments throughout the quarter reported. Due to disclosure guidelines set by each investment manager, equity characteristics shown are as of the most recent date available. The following is the methodology for segment classification:

Sector - Attribution is calculated using the Global Industry Classification Standard (GICS), which is a detailed and comprehensive structure for sector and industry analysis. Stocks are classified by their primary sector as defined by S&P Capital IQ data. Attribution to "other" is the result of securities based in industries that do not fit into any GICS classification.

Country/Region - Attribution is calculated using the Morgan Stanley Capital International (MSCI) region standards. Stocks are classified by their domicile country/region, as defined by S&P Capital IQ data, and thus may differ from the classification of the investment manager and/or index provider. Attribution to "other" is the result of securities based in countries/regions that do not fit into any MSCI classification.

Style - Stocks are classified into the following style boxes: large/mid/small vs. growth/neutral/value. Stocks are classified along large/mid/small categories at the time of the Russell index rebalancing, using the index market cap boundaries as cutoff points. Stocks are classified along growth/neutral/value categories at the time of the Russell index rebalancing, using the price/book ratio as supplied by S&P Capital IQ. Stocks in the Russell 3000 Index portfolio are sorted by price/book ratio; names with the highest price/book ratio that make up 1/3 of the total market capitalization are assigned to the growth category, and names that make up the subsequent 1/3 of the total market capitalization are assigned to the neutral category, while the balance of the names are assigned to the value category. Stocks are unclassified when there is not enough data to determine a size and style metric.

Portfolio Characteristics and Buy and Hold Attribution reports utilize product-specific data for all mutual funds and commingled funds.

Capital Markets Review -

Breakeven Inflation - Measures the expected inflation rate at each stated maturity by taking the difference between the real yield of the inflation-linked maturity curve and the yield of the closest nominal Treasury maturity.

Consumer Confidence - Measures domestic consumer confidence as defined by the degree of optimism on the state of the economy that consumers express through saving and spending.

Consumer Price Index (CPI) - Measures the change in the price level of consumer goods and services.



Glossary

- Federal Funds Rate** - The interest rate at which a depository institution lends funds maintained at the Federal Reserve to another depository institution overnight. It is one of the most influential interest rates in the US economy, since it affects monetary and financial conditions, which in turn have a bearing on key aspects of the broad economy including employment, growth and inflation.
- Option-Adjusted Spread** - Measures the flat spread of an index or bond to the Treasury yield curve after removing the effect of any embedded options.
- Purchasing Managers Index (PMI)** - Measures economic activity by surveying purchasing managers on a monthly basis as to whether business conditions have improved, worsened, or stayed the same.
- Real Gross Domestic Product (Real GDP)** - An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year.
- Unemployment Rate** - The percentage of the total labor force that is unemployed but actively seeking employment.
- US Dollar Total Weighted Index** - Measures the value of the US Dollar relative to a basket of other world currencies. It is calculated as the weighted geometric mean of the dollar's value versus the EUR, GBP, CAD, SEK, CHF, and JPY.
- VIX** - Measures the implied volatility of S&P 500 Index options by looking at the market's expectation of the S&P 500 Index volatility over the next 30 day period. Commonly referred to as the "fear index" or the "fear gauge."
- Cash Flow Effect** – The composite's active return minus the sum of each managers' active return minus the benchmark effect.
- Consistency** - The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. The higher the consistency figure, the more value a manager has contributed to the product's performance.
- Convexity** - A measure of the shape of the curve that describes the relationship between bond prices and bond yields.
- Correlation** - A statistical measure of the relationship between asset class returns. A value of 1.00 is a perfect correlation; that is, the asset classes always move in the same direction. A value of -1.00 indicates a perfect negative correlation, in which the asset classes always move in opposite directions of each other. A value of 0 indicates there is no relationship between the direction of returns of the two asset classes. Correlation calculations only consider the direction of changes relative to two variables and not the magnitude of those changes.
- Coupon Rate** - The percentage rate of interest paid on a bond or fixed income security; it is typically paid twice per year.
- Current Yield** - The annual income of a security divided by the security's current price.
- Down Market Capture** - Down market by definition is negative benchmark return and down market capture represents the ratio in % terms of the average portfolios return over the benchmark during the down market period. The lower the value of the down market capture the better the product's performance.
- Downside Risk** - A measure similar to standard deviation that focuses only on the negative movements of the return series. It is calculated by taking the standard deviation of the negative returns for the selected periodicity. The higher the factor, the riskier the product.
- Earnings Per Share** - It is backward looking, calculated using the one year current EPS divided by the one year EPS five years ago.
- Effective Duration** - The approximate percentage change in a bond's price for a 100 basis point change in yield.
- Excess Return vs. Market** - Average of the monthly arithmetic difference between the manager's return and the benchmark return over a specified time period, shown on an annualized basis.
- Excess Return vs. Risk Free** - Average of the monthly arithmetic difference between the manager's return and the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) over a specified time period, shown on an annualized basis.
- Excess Risk** - A measure of the standard deviation of a portfolio's performance relative to the risk-free return.
- Expense Ratios** - Morningstar is the source for mutual fund expense ratios.
- Gain/Loss** - The net increase or decrease in the market value of a portfolio excluding its Net Cash Flow for a given period.
- Indices** - All indices and related information are considered intellectual property and are licensed by each index provider. The indices may not be copied, used, or distributed without the index provider's prior written approval. Index providers make no warranties and bear no liability with respect to the indices, any related data, their quality, accuracy, suitability, and/or completeness.
- Information Ratio** - Measured by dividing the active rate of return by the tracking error. The higher the information ratio, the more value-added contribution by the manager.
- Liability Driven Investing (LDI)** - A method to optimally structure asset investments relative to liabilities. The change in liabilities is estimated by the Ryan Labs Generic PPA Index of appropriate duration for that Plan. This benchmark is based on generic data and is therefore an approximation. RVK is not an actuarial firm, and does not have actuarial expertise.
- Estimated Funded Status** - The estimated ratio of a Plan's assets relative to its future liabilities. This is calculated by dividing the Plan's asset market value by the estimated present value of its liabilities. The higher the estimated funded status, the better the Plan's ability to cover its projected benefit obligations. An estimated funded status of 100% indicates a Plan that is fully funded.
- Estimated PV of Liabilities** - An estimate of a Plan's future liabilities in present value terms. The beginning of the period liability is provided by the Plan's actuary. The period-end present value liability estimate provided in this report is derived by applying the estimated percentage change generated using the Ryan Labs Generic PPA Index with duration similar to that reported on the most recent actuarial valuation report.
- Duration of Liabilities** - The sensitivity of the value of a Plan's liabilities to changes in interest rates, as calculated by the Plan's actuary.
- Duration of Assets** - The dollar-weighted average duration of all the individual Plan assets.
- Estimated Plan Hedge Ratio** - The estimate of how well a Plan's investment portfolio is hedged against changes in interest rates - a primary driver of funded status movements. This is calculated by dividing the dollar-weighted values of both the Plan asset duration by the liability duration and

Glossary

multiplying by the estimated funded status. An estimated plan hedge ratio of zero indicates that the Plan's liabilities have not been hedged, whereas a value of one indicates fully hedged.

Modified Duration - The approximate percentage change in a bond's price for a 100 basis point change in yield, assuming the bonds' expected cash flows do not change.

Mutual Fund Performance - Whenever possible, manager performance is extended for any share class that does not have 10 years of history. Using Morningstar's methodology, a single ticker within the same fund family (often the oldest share class) is chosen to append historical performance.

Net Cash Flow - The sum, in dollars, of a portfolio's contributions and withdrawals. This includes all management fees and expenses only when performance shown is gross of fees.

Peer Groups -

Plan Sponsor Peer Groups - RVK utilizes the Mellon Analytical Solutions Trust Universe along with the Investment Metrics Plan Sponsor Universe. The combined Mellon Analytical Solutions Trust Universe and Investment Metrics Plan Sponsor Universe is used for comparison of total fund composite results and utilizes actual client performance compiled from consultant and custodian data. The Plan Sponsor Peer Group database includes performance and other quantitative data for over 2,100 plans which include corporate, endowment, foundation, public, and Taft Hartley plans.

Investment Manager Peer Groups - RVK utilizes Investment Metrics' Peer Groups for investment manager peer comparison and ranking. The Investment Metrics Peer Group database includes performance and other quantitative data for over 840 investment management firms and 29,000 investments products, across more than 160 standard peer groups. Mutual Fund Peer Groups are net of fees.

Percentile Rankings - Percentile rank compares an individual fund's performance with those of other funds within a defined peer group of managers possessing a similar investment style. Percentile rank identifies the percentage of a fund's peer group that has a higher return (or other comparative measurement) than the fund being ranked. Conversely, 100 minus the individual fund's ranking will identify the percentage of funds within the peer group that have a lower return than the fund being ranked.

1 - Highest Statistical Value 100 - Lowest Statistical Value

Example: American Funds AMCP;R-4 (RAFEX) is ranked in the 4th percentile within the IM US Equity Large-Cap Growth Funds (MF) Peer Group for the Sharpe Ratio. Within the IM US Equity Large-Cap Growth Funds peer group, 4% of the other funds performed better than American Funds AMCP;R-4 (RAFEX), while 96% of the funds performed worse.

Performance Methodology - RVK calculates performance for investment managers and composites using different methodologies.

Investment Managers - Performance is calculated for interim periods between all large external cash flows for a given month and geometrically linked to calculate period returns. An external cash flow is defined as cash, securities, or assets that enter or exit a portfolio. RVK defines a "large cash flow" as a net aggregate cash flow of $\geq 10\%$ of the beginning-period portfolio market value or any cash flow that causes RVK calculated performance to deviate from manager/custodian reported performance in excess of 5 basis points for a given month.

Composites - The Modified Dietz methodology is utilized to calculate asset class, sub-asset class, and total fund composite performance. The Modified Dietz method calculates a time-weighted total rate of return that considers the timing of external cash flows; however, it does not utilize interim period performance to mitigate the impact of significant cash in- and outflows to the composite.

RVK calculates performance beginning with the first full month following inception. Since inception performance may vary from manager reported performance due to RVK using the first full month of returns as the inception date. Performance for both managers and composites is annualized for periods greater than one year.

Portfolio Characteristics - Due to disclosure guidelines set by each investment manager, portfolio characteristics shown are as of the most recent date available.

Price to Earnings Ratio - The ratio valuing a company's current share price relative to its trailing 12-month per-share earnings (EPS).

Private Equity Quartile Ranks - Private Equity quartile ranks are generated using vintage year peer group data provided by Thomson Reuters, and are based on each fund's annualized, since inception internal rate of return (IRR). Three Private Equity peer groups are available via Thomson Reuters: Buyout, Venture, and All Private Equity. Ranks are available quarterly, at a one-quarter lag.

R-Squared - The percentage of a portfolio's performance explained by the behavior of the appropriate benchmark. High R-Squared means a higher correlation of the portfolio's performance to the appropriate benchmark.

Return - Compounded rate of return for the period.

% Return - The time-weighted rate of return of a portfolio for a given period.

Risk Free Benchmark - ICE BofAML 3 Mo US T-Bill Index unless specified otherwise.



Glossary

RVK Liquidity Rating - A qualitative method for determining the relative amount of liquidity in a portfolio. The characteristics considered when determining relative liquidity include trading volume, gates for redemption, leverage, nature of transactions, and pricing mechanisms. The RVK Liquidity Rating is calculated using beginning of month investment weights applied to each corresponding asset class liquidity rating.

<u>Asset Class</u>	<u>RVK Liquidity Rating</u>	<u>Asset Class</u>	<u>RVK Liquidity Rating</u>
<u>Liquid Investments</u>		<u>Less Liquid Investments</u>	
T-Bills and Treasuries	100	Fixed Income Plus Sector	50
Cash Equivalents	98	Stable Value (Plan Sponsor Directed)	50
TIPS	95	Hedge Funds of Funds	35
US Large Cap Equity	95		
Diversified Real Return	93		
Stable Value (Participant Directed)	91		
Global Equity	90	<u>Not Liquid Investments</u>	
Non-US Large Cap Equity	90	Core Real Estate	25
Global Tactical Asset Allocation	88	Core Plus Real Estate	15
MLPs	85	Non-Core Real Estate	5
US Mid Cap Equity	85	Private Equity Funds of Funds	5
US SMid Cap Equity	85		
US Small Cap Equity	85		
REITs	85		
Non-US Small Cap Equity	85		
Emerging Markets Equity	85		
Core Fixed Income	85		
Core Plus Fixed Income	80		

Sector Allocation - Negative fixed income sector allocation reflects manager's use of derivatives, short selling, or interest rate swaps.

Sharpe Ratio - Represents the excess rate of return over the risk-free return (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise), divided by the standard deviation of the excess return to the risk free asset. The result is the absolute rate of return per unit of risk. The higher the value, the better the product's historical risk-adjusted performance.

Simple Alpha - The difference between the manager's return and the benchmark's return.

Spread Duration - The approximate percentage change in a bond's price for a 100 basis point change in its spread over a Treasury of the same maturity.

Standard Deviation - A statistical measure of the range of a portfolio's performance. The variability of a return around its average return over a specified time period.

Thematic Classification - Represents dedicated manager allocations; as such, thematic allocations are approximations. RVK categorizes the following asset classes as Alpha, Capital Appreciation, Capital Preservation, and Inflation:

<u>Alpha</u>	<u>Capital Appreciation</u>	<u>Capital Preservation</u>	<u>Inflation</u>
Absolute Return Strategies	Public Equity	Core Fixed Income	TIPS
Currency Overlay	Private Equity	CMBS Fixed Income	Bank Loans
	Preferred Securities	Asset Backed Fixed Income	Core Real Estate
	High Yield	Domestic Core Plus Fixed Income	Real Return
	Convertible Fixed Income	Mortgage Backed Fixed Income	Inflation Hedges
	TALF Funds	International Developed Fixed Income	REITs
	Distressed Debt	Cash Equivalents	Commodities
	Emerging Market Fixed Income	Stable Value	
	Value Added Real Estate		
	Opportunistic Real Estate		

Time Period Abbreviations - **QTD** - Quarter-to-Date. **CYTD** - Calendar Year-to-Date. **FYTD** - Fiscal Year-to-Date. **YOY** - Year Over Year.

Total Fund Attribution - The Investment Decision Process (IDP) model provides an approach to evaluating investment performance that applies to all asset classes and investment styles. The IDP model is based on a top-down hierarchy framework of investment decisions, with each decision contributing to the overall profit or loss. The IDP approach starts from the strategic asset allocation and follows the flow of the investments down to the manager's skill.

Strategic Asset Allocation (SAA) - The percentage return gained or lost from the long-term strategic asset allocation decision, the most significant determinant of long-term performance. SAA is the product of the target asset allocation multiplied by the corresponding benchmark returns.

Tactical Asset Allocation (TAA) - The percentage return gained or lost from not having been precisely allocated at the target asset allocation mix, whether by deviations that are tactical in nature or a by-product of moving towards the target mix. TAA is the product of the actual asset allocation multiplied by the broad asset class benchmarks, less the SAA.

Style Selection (SS) - The percentage return gained or lost from intentional style biases within each asset class (e.g. value rather than core or overweight to emerging markets relative to benchmark). SS is the product of the actual manager allocation within each asset class multiplied by their specific benchmark, less TAA.

Manager's Skill (MS) - The percentage return gained or lost from manager value added relative to their specific benchmark. MS is the product of the actual manager allocation multiplied by their achieved excess return.

Total Fund Beta - Total Fund Beta is calculated using the S&P 500 as the benchmark. It represents a measure of the sensitivity of the total fund to movements in the S&P 500 and is a measure of the Total Fund's non-diversifiable or systematic risk.



Glossary

Tracking Error - A measure of the standard deviation of a portfolio's performance relative to the performance of an appropriate market benchmark.

Treynor Ratio - Similar to Sharpe ratio, but focuses on beta rather than excess risk (standard deviation). Treynor ratio represents the excess rate of return over the risk-free rate (i.e., ICE BofAML 3 Mo US T-Bill Index unless specified otherwise) divided by the beta. The result is the absolute rate of return per unit of risk. The higher the value, the better historical risk-adjusted performance.

Unit Value - The dollar value of a portfolio, assuming an initial nominal investment of \$100, growing at the compounded rate of %Return for a given period.

Up Market Capture - Up market by definition is positive benchmark return and up market capture represents the ratio in % terms of the average portfolio's return over the benchmark during the up market period. The higher the value of the up market capture the better the product's performance.

Yield to Maturity - The rate of return achieved on a bond or other fixed income security assuming the security is bought and held to maturity and that the coupon interest paid over the life of the bond will be reinvested at the same rate of return. The 30-Day SEC Yield is similar to the Yield to Maturity and is reported for mutual funds.

Yield to Worst - The bond yield calculated by using the worst possible yield taking into consideration all call, put, and optional sink dates.

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