Oklahoma State Pension Commission
Q2 2021 Executive Summary

Economic and Capital Market Review

> ***"According to the reports on business conditions in this district, received by us during the closing months of 1919, apparently few years opened with brighter business prospects than 1920. Labor was fully employed at the highest wages probably ever known, manufacturing plants were being operated at the greatest possible limit, supplies of goods were small, prices were continually advancing, the public was buying lavishly, and it was generally reported that goods were being consumed as fast as produced. The general opinion was that such business conditions would continue for at least 6 months. These conditions, which had been developing for some months, undoubtedly fostered overbuying and speculation in all kinds of commodities."[1]***
>
> - ***Report of the Federal Reserve Bank of Philadelphia (1921)***

Capital markets, as a whole, produced solid returns during the second quarter of 2021, continuing the trend from the prior year. However, in contrast to the first quarter, asset and sub-asset class returns more closely resembled those that we experienced in 2020. For example, growth-oriented equities substantially outperformed value-oriented equities, while fixed income markets posted solid, mid-single digit returns in response to a broad decline in interest rates. Key market index returns for Q2 2021 can be found in **Figure 1**, below.

Figure 1: Key Market Index Returns
Period Ending June 30, 2021

Index	Asset Class	QTD	CYTD	1 Year	5 Year	10 Year
S&P 500 Index	US Equity	8.55	15.25	40.79	17.65	14.84
MSCI ACW Ex-US Index (Net)	International Equity	5.48	9.16	35.72	11.08	5.45
NCREIF ODCE (AWA) (Net)	Core Real Estate	3.68	5.64	7.09	5.62	8.60
Bloomberg US Agg	US Fixed Income	1.83	-1.61	-0.34	3.03	3.39
Cambridge Private Equity[1]	Private Equity	10.05	10.05	48.11	17.51	14.43
HFRX Absolute Return Index	Hedge Funds	1.80	2.46	6.63	2.59	1.84
Bloomberg Commodity Index	Commodities	13.30	21.15	45.61	2.40	-4.44

[1] Private equity returns are as of March 31, 2021, as returns for June 30, 2021 are not yet available.

The most notable development during the second quarter was a meaningful uptick in inflation. Over the 12-month period ending June 30, 2021, non-seasonally adjusted CPI increased by 5.4%. This rise prompted many investors to question whether higher inflation is a temporary side-effect of increased, post-quarantine business activity, or if it signals a more durable trend. Thus far, market expectations and history suggest that higher inflation is more likely to be temporary. From a historical perspective, the sudden spike in inflation mirrors the experience of the United States during the aftermath of World War I and the Great Influenza. In 1919, many industries experienced supply shocks, as consumer spending rebounded, and businesses scrambled to adjust their supply chains to shift from a war economy back to a peacetime

[1] Seventh Annual Report of the Federal Reserve Board Covering Operations for the Year 1920. Washington, DC: Government Printing Office. (1921): pp. 404.

economy. This resulted in order backlogs, supply shortages, wage pressure, and a corresponding uptick in inflation. The Federal Reserve eventually reacted by raising rediscount rates by 125 basis points in January 1920 and again by 100 basis points in June 1920. As a result, economic activity seized up and inflation declined sharply, which more than erased the gains of 1919.[2]

The modern economy differs from the early 20th century economy in many ways, but the economic responses to the two pandemics show remarkable similarities. During both pandemics, massive fiscal and monetary stimulus counteracted intense downward pressure on economic activity. The main difference is that the impact of stimulus during the Great Influenza was less obvious because it took the form of increased war-related spending that just happened to coincide with the 1918 influenza pandemic. In contrast, fiscal stimulus in 2020 and 2021 was deliberately enacted to offset the negative economic effects of COVID-19. Regardless of intent, however, the effects of both stimulus efforts were nearly identical.

Now that COVID-related fiscal and monetary stimulus is largely behind us, the biggest remaining uncertainty is how the Federal Reserve will respond if elevated levels of inflation persist. In 1919, the Federal Reserve Banks reacted by raising rediscount rates suddenly, aggressively, and with almost no warning. Not only did this extinguish inflation, it prompted a sharp and undesirable reversal (i.e., deflation). In 1920, wholesale prices declined by nearly 30%, and the US economy entered a sharp (but short-lived) depression.[3] While it is inconceivable that the Federal Reserve Board will act in such a reckless manner today, they have signaled quite clearly that they are unwilling to tolerate inflationary pressure beyond that which is considered temporary. It appears that the market believes in Fed's statements, as long-term break-even inflation rates have remained relatively stable despite the recent uptick in inflation over the past year.

In summary, there is considerable discussion today about inflation and whether investors should shift their strategy in anticipation of potentially higher rates in the coming years. In general, our advice to clients is to design investment strategies that suit their long-term objectives and resist the temptation to shift the strategy based on short-term disruptions. Therefore, it is our belief that the current uptick in inflation does not warrant reconsideration of investors' long-term investment strategies.

Economic and Market Outlook

The Oklahoma State Pension Plans are designed to exist in perpetuity; therefore, the most important strategic priority is to establish sensible long-term asset allocation targets that maximize expected return without violating risk sensitivities and investment constraints. When viewed in this way, material changes in strategy do not seem advisable because long-term economic and market expectations have not meaningfully changed – even in the midst of a 100-year pandemic.

This philosophy does not suggest that short-term market events should be dismissed. On the contrary, it is important to maintain awareness of current events if only to prepare psychologically for outcomes that will appear shocking (and perhaps even unprecedented) to investors who are uninformed. This is particularly important today because uncertainty appears to be especially pronounced. These uncertainties include the longevity of the pandemic, the speed and nature of the re-opening process, the intensity and duration of inflationary pressures, and the timing and intensity of the Federal Reserve's reaction to all of these developments. Depending upon how these factors play out, markets may become quite volatile, and

[2] Board of Governors of the Federal Reserve System. *Banking & Monetary Statistics, 1914-1941*. (November 1943): pps. 439-441.
[3] Davis, James. *Wholesale Prices, 1890 to 1922: Bulletin of the United States Bureau of Labor Statistics, No. 335*. (June 1923).

it is, therefore, important for investors to prepare psychologically for such a scenario.

In short, while we discourage clients from placing meaningful bets on short-term trends, we strongly encourage them to remain aware of the full range of potential outcomes. It is only by continuously maintaining a deep level of situational awareness that investors can establish the discipline they will need to remain committed to a long-term strategy when faced with persistent temptations to abandon it.

Performance Highlights

Total Fund Performance and Attribution

During the 2nd Quarter of 2021, the Oklahoma State Pension Funds produced strong returns, ranging between 4.9% to 7.2% net of fees. Similar to longer term trends, the primary performance drivers were strong public and private equity returns. Over the trailing year, absolute returns across the seven plans were exceptionally strong, ranging from 23% to 33%. Relative to policy benchmarks, performance was similarly strong, as five out of six plans outperformed their respective policy benchmarks net of fees.[4] 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 materially changed over the past year, which is unsurprising given the relatively short time period of analysis. In the case of the Oklahoma State Pension Funds, only a handful of high-level strategic decisions explain most of the strong performance. The more significant drivers are described below.

1. **High Allocation to Equities** – Overall, the Pension Plans have a high allocation to public and private equity. This is a sensible approach given the Plans' extended time horizons, healthy funded statuses, and relatively strong psychological tolerance for risk. The plans benefitted significantly from these decisions, capturing a substantial portion of the extended bull market in equities.

2. **Bias Toward US Equities** – In general, the Pension Plans are invested more heavily in US equities, which have substantially outperformed international equities for more than 10 years. In general, this strategic tilt drove higher absolute returns and strengthened performance relative to peers.

3. **Avoidance of Dilutive Asset Classes** – Institutional investors are constantly bombarded with marketing pitches on new investment strategies. Despite their claims, many of these strategies primarily add unnecessary portfolio complexity and higher costs without providing commensurate benefits. 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 tradeoffs 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

[4] Net of fees returns are unavailable for the Firefighters plan. All returns shown for the Firefighters plan are gross of fees.

absolute returns and performance relative to peers.

In summary, overall performance of the Oklahoma State Pension Plans is strong because of thoughtful, high-level strategic decisions, coupled with skillful execution. While there will undoubtedly be future periods of time in which these strategies suffer periods of underperformance, over the long term, they appear well-positioned for success in a manner that aligns with the Plans' objectives, risk tolerance, constraints, and unique competitive advantages.

Asset Class Performance – Q2 2021

All major asset classes generated positive returns for the quarter. 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** – US equity generated strong returns for the quarter; however, all plans trailed their respective benchmarks due to a combination of style tilts (i.e., small/mid cap and value) and the relative performance of active managers. US equity returns ranged from approximately 7.0% (Firefighters)[4] to 8.0% (Wildlife). As has been the case in recent quarters, longer term performance over 3-, 5-, 7-, and 10-year periods tended to trail the return produced by a broad indexes of US equities.

2. **International Equity** – International equity returns generated positive absolute and mixed relative returns across the pension plan portfolios. Second quarter returns ranged from approximately 4.7% (Law Enforcement) to 6.4% (Firefighters).[4] The use of active management in this asset class continues to generate meaningful value over long time periods as well, and five out of the six plans with dedicated international equity buckets outperformed their respective indices over time periods beyond 5 years. The Police plan measures total domestic and international equity against a broad, global benchmark of equities, and has outperformed over most trailing periods.

3. **Fixed Income** – Fixed income produced solid low- to mid-single digit returns for the quarter, as yields declined and spreads contracted during the second quarter. Returns ranged from approximately 1.7% (Wildlife) to 3.7% (Teachers). Relative performance was strong, with six out of seven plans outperforming the Bloomberg US Aggregate Bond Index. Over longer periods of time, as measured by 7- and 10-year periods, most plans are exceeding or roughly flat against the index.

4. **Real Estate** – Real estate returns were generally positive for the quarter, but were relatively weak over the trailing year. The asset class continues to struggle more so than others from the impact of the COVID-19 pandemic. The retail sector remains the hardest hit sector due to business closures throughout the country. Conversely, those sectors involved in e-commerce saw an increase in demand resulting from COVID-19. Warehousing saw the strongest returns of all sectors over the last year, with additional strong returns in the Industrial and Self-Storage sectors.

5. **Hedge Funds** – Hedge funds generated mixed returns in the second quarter. Returns ranged from a low of approximately -7.1% (Firefighters)[4] to a high of 3.2%. (Police). On a relative basis, all plans investing in Hedge Funds suffered, with underperformance ranging from approximately -4.2% (Police) to -9.0% (Firefighters).

6. **Private Equity** – Private equity produced exceptional 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.

Overall performance of the pension plans was solid for the quarter in both absolute and relative terms. As a result, the 5-Year and 10-Year return and risk-adjusted returns for most plans continue to compare favorably relative to indices and peers. Updated 5-Year and 10-Year return metrics are provided 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 June 30, 2021

Plan	5-Year Return Net of Fees	10-Year Return Net of Fees	10-Year Rank vs. All Public Plans[5]
Firefighters (Gross of Fees)[6]	13.55	10.62	3rd
Teachers	12.16	9.97	4th
Public Employees	11.57	9.20	25th
Judges	11.57	9.08	34th
Law Enforcement	10.74	8.54	49th
Wildlife	10.49	8.36	53rd
Police	10.37	8.12	55th

Figure 4: 10-Year Risk-Adjusted Returns for Oklahoma Pension Plans

Ranked by Sharpe Ratio as of June 30, 2021

Plan	Sharpe Ratio	10-Year Rank vs. All Public Plans
Firefighters	0.97	14th
Police	0.95	18th
Wildlife	0.90	38th
Teachers	0.88	42nd
Public Employees	0.85	54th
Law Enforcement	0.84	55th
Judges	0.84	56th

[5] 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.
[6] The Firefighters Pension Plan only reports gross of fees returns.

Individual Plan Performance Highlights

Oklahoma Teachers' Retirement System (OTRS)

Detailed performance of the OTRS plan begins on **page 39** of the performance report. As of June 30, 2021, the market value of assets for OTRS was approximately **$21.96 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OTRS Annualized Net-of-Fees Returns

Period Ending June 30, 2021

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OTRS Total Fund (Net)	**7.22**	**11.97**	**32.95**	**32.95**	**12.12**	**12.16**	**8.63**	**9.97**
OTRS Policy Index	5.82	10.10	31.33	31.33	13.31	12.35	9.16	9.86
Difference	1.40	1.87	1.62	1.62	-1.19	-0.19	-0.53	0.11
OTRS Actual Allocation Index	6.01	10.66	32.08	32.08	13.00	12.21	9.23	9.93
Difference	1.21	1.31	0.87	0.87	-0.88	-0.05	-0.60	0.04
All Public Plans – Total Fund Median	5.27	8.68	26.49	26.49	11.40	10.91	8.21	8.61
Rank	3	4	4	4	23	10	21	4

Commentary

The OTRS Total Fund returned 7.22% for the quarter, outperforming the policy index by 121 basis points. Over long-term periods, the Plan provided mixed returns relative to its policy index; however, the Plan outperformed its policy index by 11 basis points over the 10-year period. Relative to a broad group of pension plans, the Plan has ranked in the top quartile over all trailing periods up to 10 years. Favorable peer rankings were heavily influenced by the higher allocation to public equities (and US equity in particular) relative to other public plans. Returns relative to the policy and actual allocation index have been strong over the last year, boosted by strong active management in US equity. The largest source of underperformance over the quarter is the Real Estate allocation, which lagged its benchmark by 212 basis points. International equity returns continue to improve over the past year, outperforming the MSCI ACW Ex-US IM Index by 267 basis points.

In summary, while the OTRS Plan performance trailed its policy index by 119 basis points over the past three years, performance has improved over the last year and remains strong over the 10-year period. The Plan has continued to produce strong returns relative to peers over all trailing periods. On a risk-adjusted basis, the Plan has ranked above median relative to other public plans and at median against other Oklahoma plans, as illustrated in **Figure 3** 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 June 30, 2021, the market value of assets for OPERS was approximately **$12.51 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OPERS Annualized Net-of-Fees Returns

Period Ending June 30, 2021

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OPERS Total Fund (Net)	**5.60**	**8.65**	**27.82**	**27.82**	**12.33**	**11.57**	**8.64**	**9.20**
OPERS Policy Index	5.57	8.01	26.94	26.94	12.37	11.59	8.69	9.07
Difference	0.03	0.64	0.88	0.88	-0.04	-0.02	-0.05	0.13
OPERS Actual Allocation Index	5.69	8.55	27.49	27.49	14.44	12.75	9.52	9.56
Difference	-0.09	0.10	0.33	0.33	-2.11	-1.18	-0.88	-0.36
All Public Plans – Total Fund Median	5.27	8.68	26.49	26.49	11.40	10.91	8.61	8.37
Rank	32	49	30	30	21	28	31	25

Commentary

The OPERS Total Fund provided returns in line with its policy index over all periods, and also ranked around the top third over all periods relative to a broad peer group of public plans. In aggregate, active management added value on a net of fees basis over the last year. This observation is supported by the outperformance of the plan versus the actual allocation index over the same period. The source of active manager value added varied by asset class. In general, US large cap equity managers contributed to relative performance, while US small cap managers detracted. International equity and fixed income managers generally outperformed their respective indices over most trailing periods.

In summary, the OPERS plan has generated solid long term returns relative to its policy index and peers over all trailing periods. On a risk-adjusted basis, the Plan has ranked slightly below median relative to other public plans and 5th 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 noted earlier, net of fees returns for the Firefighters plan are not available. As of June 30, 2021, the market value of assets for OFPRS was approximately **$3.72 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OFPRS Annualized Gross-of-Fees Returns
Period Ending June 30, 2021

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OFPRS Total Fund (Gross)	**5.69**	**9.61**	**31.79**	**31.79**	**13.89**	**13.55**	**10.57**	**10.62**
OFPRS Policy Index	6.54	10.53	29.17	29.17	13.38	12.53	9.97	10.46
Difference	-0.85	-0.92	2.62	2.62	0.51	1.02	0.60	0.16
OFPRS Actual Allocation Index	6.06	9.60	28.45	28.45	13.35	12.86	9.73	10.16
Difference	-0.37	0.01	3.34	3.34	0.54	0.69	0.84	0.46
All Public Plans – Total Fund Median	5.27	8.68	26.49	26.49	11.40	10.91	8.21	8.61
Rank	27	27	7	7	6	3	2	3

Commentary

The Firefighter's plan generated the strongest long-term return among the seven Oklahoma pension plans both on an absolute and risk-adjusted basis. In terms of absolute returns, the Plan exceeded its policy and actual allocation index over virtually all trailing periods and ranked in the top decile relative to a broad peer group of public plans over all trailing periods greater than 1 year. Over the trailing ten years, on a risk-adjusted basis, the Plan ranked in the 14th percentile relative to a broad peer group of public pension plans and 1st among the group of seven Oklahoma pension plans. Although performance is undoubtedly strong for the plan, it is overstated relative to other pension plans due to the absence of net-of-fees reporting.

Although the most significant drivers of performance relative to the Oklahoma plans were the asset allocation decisions, the plan also benefitted from active management value-added over all trailing periods, although his is to some extent overstated given the absence of net of fees reporting. In the US equity portfolio, active manager performance was mixed relative to their respective benchmarks over the last year, with small cap value managers struggling to keep pace with their benchmark. Over the past year, the portfolio also benefitted from a higher weighting to small cap equity relative to a broad US equity index. International equity outperformance was even more substantial, with the composite outperforming the index by 530 basis points over the past year. The fixed income portfolio also added significantly to performance over the past year, providing excess return of 536 basis points. Overall, the Firefighter's plan continues to perform exceptionally well relative to peers, benchmarks, and other Oklahoma plans.

Oklahoma Police Pension & Retirement System (OPPRS)

Detailed performance of the OPPRS plan begins on **page 93** of the performance report. As of June 30, 2021, the market value of assets for OPPRS was approximately **$3.24 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OPPRS Annualized Net-of-Fees Returns

Period Ending June 30, 2021

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OPPRS Total Fund (Net)	**5.81**	**10.45**	**28.00**	**28.00**	**10.79**	**10.37**	**7.71**	**8.12**
OPPRS Policy Index	5.84	8.68	25.07	25.07	11.37	10.55	7.45	8.37
Difference	-0.03	1.77	2.93	2.93	-0.58	-0.18	0.26	-0.25
OPPRS Actual Allocation Index	5.71	8.25	24.53	24.53	12.53	11.34	8.27	8.58
Difference	0.10	2.20	3.47	3.47	-1.74	-0.97	-0.56	-0.46
All Public Plans – Total Fund Median	5.27	8.68	26.49	26.49	11.40	10.91	8.21	8.61
Rank	20	10	27	27	55	53	52	55

Commentary

The Police Plan provided absolute returns that ranked near median and generally trailed both the policy index and actual allocation index over all trailing periods longer than 3 years. It should be noted, however, that performance is heavily influenced by the intentional decision to reduce downside risk in the portfolio to protect the funded status of the plan. The risk-adjusted returns of the portfolio are more favorable and are consistent with this objective. As illustrated in **Figure 3** on page 4, the OPPRS 10-year Sharpe ratio is ranked 2nd relative to other Oklahoma Plans and in the 18th percentile relative to a broad peer group of public plans. Thus, on a risk-adjusted based, the OPPRS plan has performed relatively well over the long term and in a manner that is consistent with the stated objectives. In terms of return drivers relative to benchmarks, performance has varied, but the plan has performed roughly consistent with benchmarks overall.

In summary, the OPPRS plan has generally lagged the performance of peers and other Oklahoma pension plans in terms of absolute returns but still exceeded its required return of 7.5% over all trailing periods. On the other hand, the Plan has ranked relatively well on a risk-adjusted basis, which is consistent with its stated intention of managing a portfolio with less sensitivity to downside risk.

Oklahoma Law Enforcement Retirement System (OLERS)

The detailed performance of the OLERS plan begins on **page 108** of the performance report. As of June 30, 2021, the market value of assets for OLERS was approximately **$1.24 Billion**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OLERS Annualized Net-of-Fees Returns
Period Ending June 30, 2021

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OLERS Total Fund (Net)	**5.27**	**10.00**	**27.91**	**27.91**	**10.64**	**10.74**	**7.88**	**8.54**
OLERS Policy Index	5.44	9.25	26.06	26.06	11.61	11.10	8.69	9.14
Difference	-0.17	0.75	1.85	1.85	-0.97	-0.36	-0.81	-0.60
OLERS Actual Allocation Index	5.33	9.45	27.40	27.40	12.08	11.27	8.74	9.03
Difference	-0.06	0.55	0.51	0.51	-1.44	-0.53	-0.86	-0.49
All Public Plans – Total Fund Median	5.27	8.68	26.49	26.49	11.40	10.91	8.21	8.61
Rank	48	16	29	29	64	50	57	49

Commentary

The Law Enforcement Plan generated a 10-year absolute return that ranked 5th relative to other Oklahoma Pension Plans and near or slightly below median relative to a broad peer group of public plans over all trailing periods greater than 3 years. Active management has been a drag on performance over most time periods, but has improved over the last year. Recent outperformance was driven primarily by US equity, which ended the year with a 52.68% return, outperforming the S&P 500 Index by 1,189 basis points. Emerging markets equity also provided strong performance, outperforming the MSCI Emerging Markets Index by 441 basis points over the last year. The biggest detractor from performance stemmed from the long/short equity allocation, which consists of two hedge funds-of-funds. Over the past year, the combined performance of these two funds underperformed by 2,029 basis points.

In summary, the OLERS Plan has been mixed relative to peers and lagged other Oklahoma plans in terms of absolute returns over various trailing periods, although relative returns have improved over the last year. The Plan has also ranked in line with peers on a risk-adjusted basis, as represented by a Sharpe ratio that ranks in the 55th percentile relative to peers.

Uniform Retirement System for Justices & Judges (URSJJ)

Detailed performance of the URSJJ plan begins on **page 124** of the performance report. As of June 30, 2021, the market value of assets for URSJJ was approximately **$433.47 Million**. A high-level summary of Total Plan Performance and brief commentary is provided below.

URSJJ Annualized Net-of-Fees Returns
Period Ending June 30, 2021

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years
URSJJ Total Fund (Net)	**5.68**	**8.53**	**27.62**	**27.62**	**12.33**	**11.57**	**8.64**	**9.08**
URSJJ Policy Index	5.57	8.01	26.94	26.94	12.39	11.60	8.70	9.08
Difference	0.11	0.52	0.68	0.68	-0.06	-0.03	-0.06	0.00
URSJJ Actual Allocation Index	5.70	8.54	27.45	27.45	14.39	12.71	9.39	9.57
Difference	-0.02	-0.01	0.17	0.17	-2.06	-1.14	-0.75	-0.49
All Public Plans – Total Fund Median	5.27	8.68	26.49	26.49	11.40	10.91	8.21	8.61
Rank	27	54	35	35	24	29	34	34

Commentary

The Judges Plan generated a 10-year absolute return that ranked 4th relative to other Oklahoma Pension Plans, and in the 34th percentile relative to a broad peer group of public plans over the trailing 10 years. Strong returns relative to peers was aided by a modest tilt toward US equity relative to international equity, as well as a dedicated small cap US equity allocation. The Plan also benefitted from strong relative performance in its fixed income portfolio over the long term, a large portion of which stemmed from its allocation to Hoisington US Long Duration Fixed Income. This strategy is interesting in that it rotates the portfolio between long duration fixed income securities and cash depending upon expectations of interest rate movements. The fund continues to benefit from the substantial decline in yields over the past 10 years, although it has significantly detracted from returns over the past year due to the recent increase in interest rates.

Overall, the URSJJ Plan performed well over the past 10 years relative to a broad peer group of public plans and roughly average relative to other Oklahoma plans. On a risk-adjusted basis, the Plan performed slightly below median over the past 10 years relative to peers (with a Sharpe ratio ranking in the 56th percentile) and ranked 7th relative to Oklahoma Plans.

Oklahoma Wildlife Conservation Retirement System (OWCRS)

Detailed performance of the OWCRS plan begins on **page 136** of the performance report. As of June 30, 2021, the market value of assets for OWCRS was approximately **$141.67 Million**. A high-level summary of Total Plan Performance and brief commentary is provided below.

OWCRS Annualized Net-of-Fees Returns

Period Ending June 30, 2021

	QTD	CYTD	FYTD	1 Year	3 Years	5 Years	7 Years	10 Years
OWCRS Total Fund (Net)	**4.85**	**7.59**	**22.82**	**22.82**	**11.22**	**10.49**	**8.09**	**8.36**
OWCRS Policy Index	3.73	7.07	23.55	23.55	10.15	9.40	7.13	8.02
Difference	1.12	0.52	-0.73	-0.73	1.07	1.09	0.96	0.34
OWCRS Actual Allocation Index	3.84	7.74	25.47	25.47	12.01	10.99	8.64	8.80
Difference	1.01	-0.15	-2.65	-2.65	-0.79	-0.50	-0.55	-0.44
All Public Plans – Total Fund Median	5.27	8.68	26.49	26.49	11.40	10.91	8.21	8.61
Rank	68	75	81	81	48	57	47	53

Commentary

The Wildlife Plan provided 10-year absolute returns that ranked 6th relative to other Oklahoma Pension Plans, but roughly at median relative to a broad peer group of public plans over all trailing periods of at least three or more years. Strong returns relative to peers was aided by a heavy allocation to public equity over the long term. Over the past year, active managers tended to lag their respective indices.

Overall, the OWCRS Plan performed in line with, or slightly better than, a broad peer group of public plans over all periods greater than 3 years. On a risk-adjusted basis, the Plan also performed well over the past 10 years relative to peers (with a Sharpe ratio ranking in the 38th percentile) and ranking 3rd 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 that 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.