



# Report to the Investment Committee

Aug. 16, 2024

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- **Summary of investment activity report, June and July 2024**
- **Domestic equity asset class update and outlook**
- **Meketa annual performance review as of June 30, 2024**
- **Callan annual performance review as of June 30, 2024**
- **Meketa Comments**
  - Review and adopt reference benchmark
  - Asset-liability study board survey summary results
- **Proxy Voting Summary for six months ending June 30, 2024**
- **Review of Securities Compliance Policies and Procedures**
  - As required by Section 3307.043 of the Ohio Revised Code
- **Semiannual Derivatives Exposure as of June 30, 2024**
- **Review of June and July 2024 investment transactions**
- **Summary of requests**

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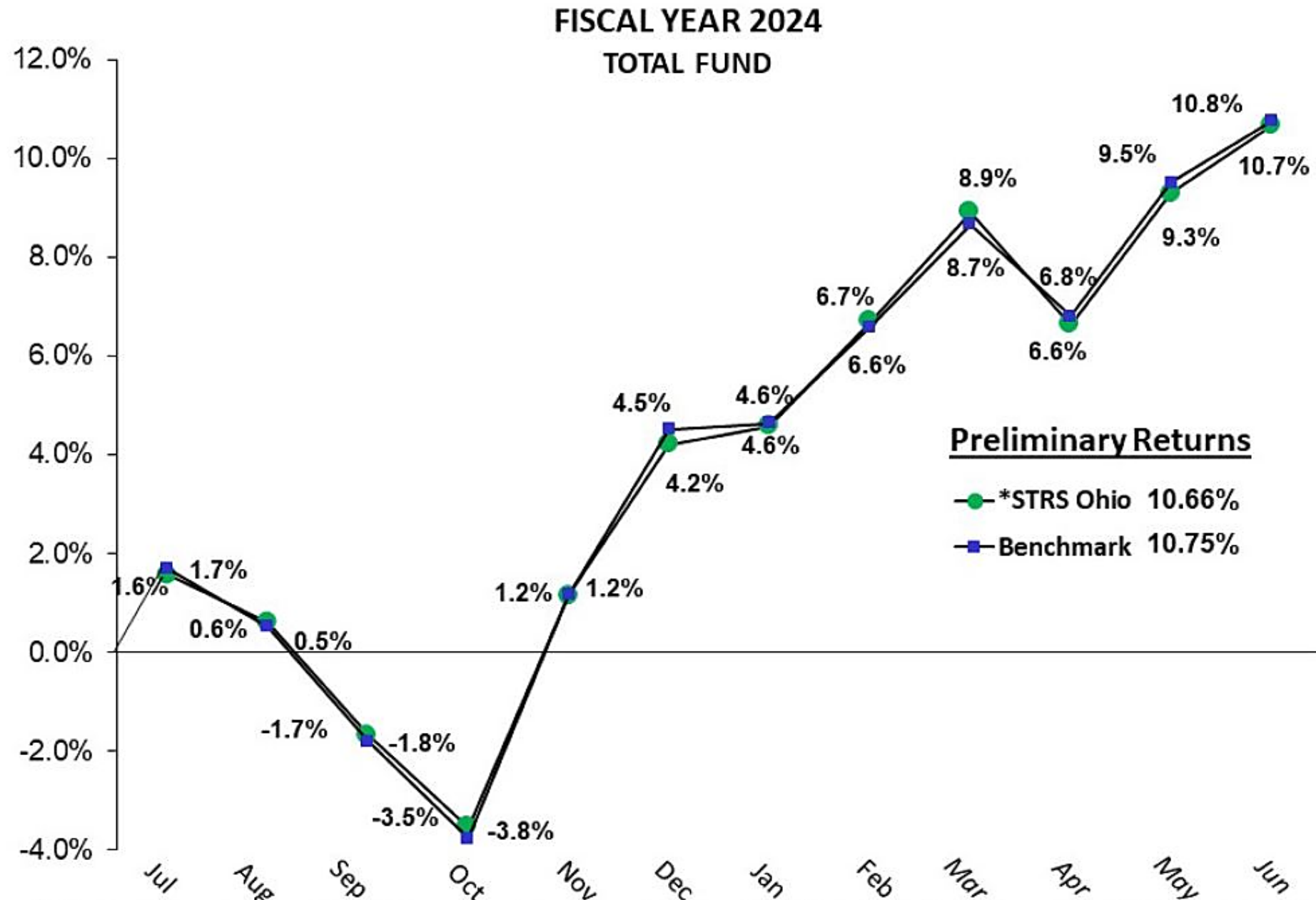


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- **June returns and activity**
- **Fiscal 2024 final results**
- **July returns and activity**

- **The total fund net return for June was +1.07%**
  - Strong returns from domestic equity +3.0%
- **Rebalancing activity**
  - \$620 million removed from domestic equity
  - \$185 million allocated to international equity
- **Total investment assets ended the fiscal year at \$95.3 billion, higher by \$5.2 billion**

# Monthly Benchmark Return and Actual Fiscal YTD Returns



\* Gross returns, except for alternative investments & real estate where the return is net of all external investment management fees and costs, including carried interest and other fund expenses.

- **Total fund net return for fiscal 2024 was 10.53%**
- **Total fund benchmark return was 10.75%**
  - Trailed by 22 basis points net of all investment cost
- **Total fund net return annualized for the past five years was 8.77%**
- **Total fund benchmark return was 8.21%**
  - Value-add net of all investment cost equals +56 basis points per year for five years
- **Long-term returns exceed actuarial rate and benchmark in multiple periods**

- **The preliminary total fund net return for July was +1.2%**
- **Fixed income market returns were strong 2.2%**
  - Domestic equity returns +1.3%, international equity returns +1.7%
- **Rebalancing activity driven by markets**
  - Removed \$230 million from equities and allocated to liquidity reserves
- **Total investment assets ended July at \$96.1 billion, higher by \$800 million in fiscal 2025**



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# Domestic Equities Review

Aug. 16, 2024

- Breakout of portfolios

Russell Top 200 (75%)	Large Cap Passive (LCP) \$9.3 Bn		Factor Index Portfolio	Concentrated Select	Core Analyst Portfolio	Large Cap Value	Large Cap Growth	\$18.3 Bn
Russell Midcap 800 (20%)	Mid Cap Value	Mid Cap Growth						\$4.9 Bn
Russell 2000 (5%)	Small Cap Internal	Small Cap Quant Internal	SC Growth External	SC Value External	SC Value External	SC Core External	SC Micro External	\$1.6 Bn
								\$24.8 Bn

# Performance Fiscal Year 2024



STRS Ohio	24.36%
Russell 3000	23.13%
Relative (Gross)	1.23%
Less: Costs	0.12%
Relative (Net)	1.11%

Over \$200 million in net value added over the benchmark

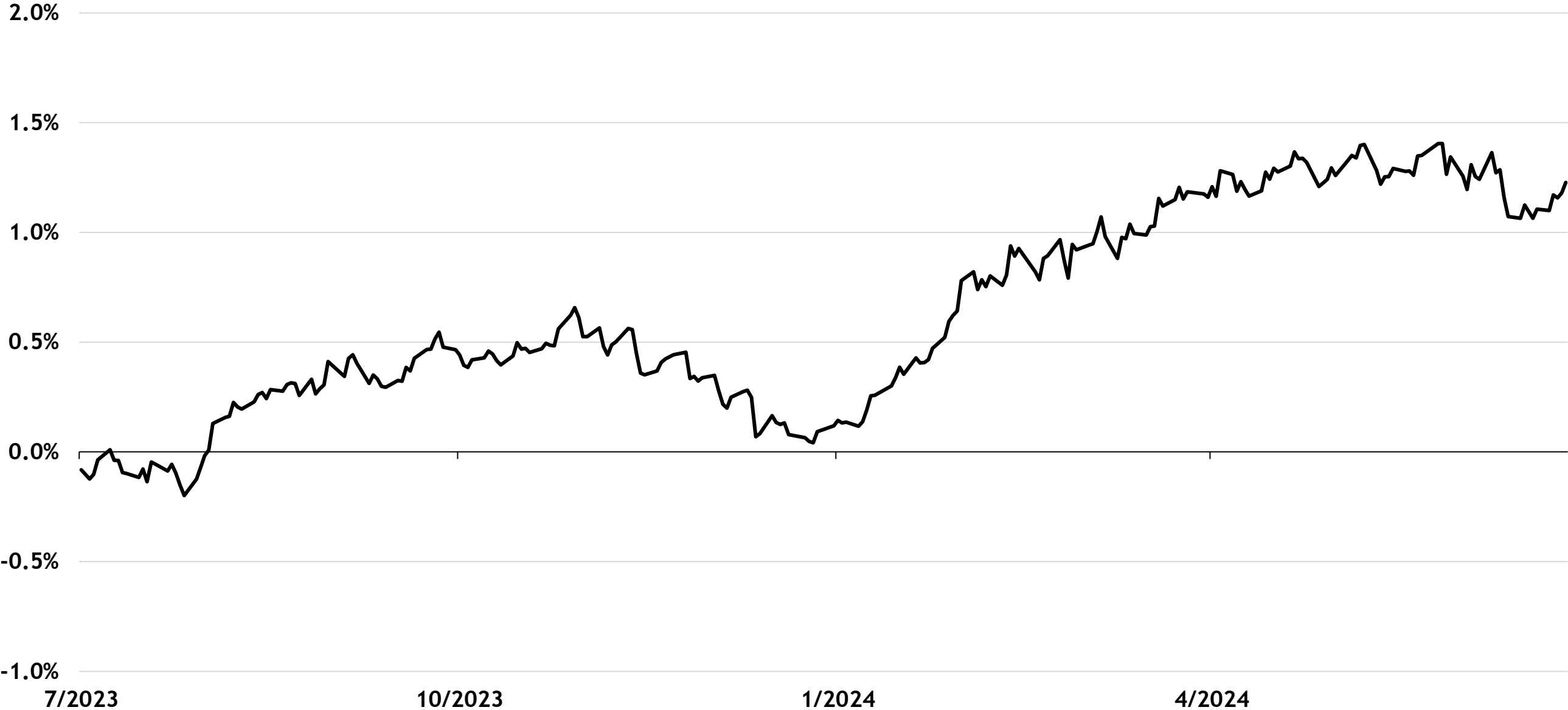
# Trailing Period Performance (Annualized)



	<b>STRS Ohio</b>	<b>Russell 3000</b>	<b>Gross Relative</b>	<b>Meketa Peer Percentile Ranking</b>	<b>Net Relative</b>
1-year	24.36%	23.13%	+1.23%	12	+1.11%
3-years	7.97%	8.05%	-0.08%	19	-0.20%
5-years	14.71%	14.14%	+0.57%	7	+0.45%
10-years	12.45%	12.15%	+0.30%	6	+0.19%

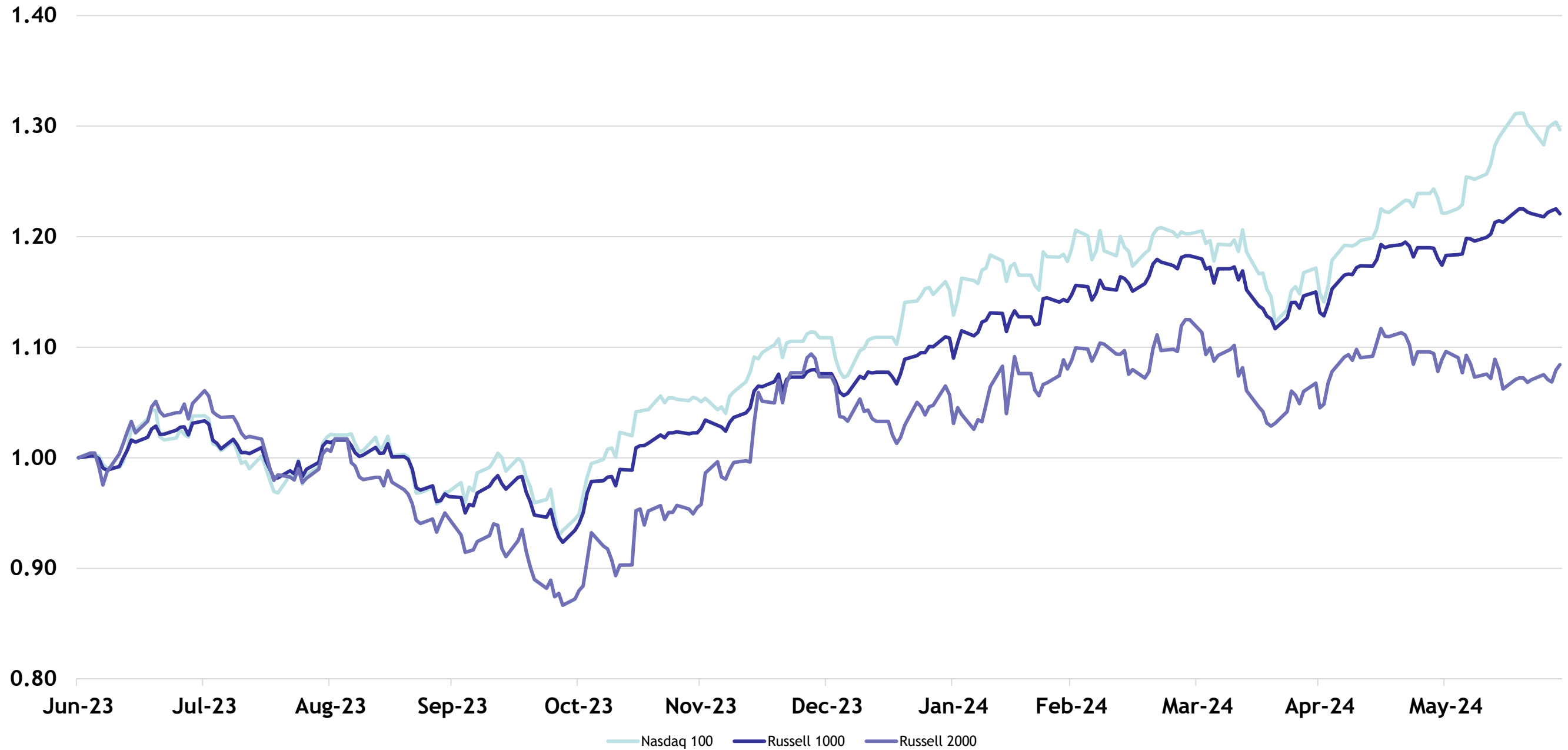
Over \$400 million in net value added over the benchmark over 5 years

# Relative Performance One Year



- **Growth beat value**
  - R1000 Growth 33.5%
  - R1000 Value 13.1%
- **Large cap beat small cap**
  - R1000 23.9%
  - R2000 10.1%
- **Mega caps performed strongly (NVDA, META)**
- **AI related stocks were the major winners**

# Large Cap Growth Outperformed Most of the Year

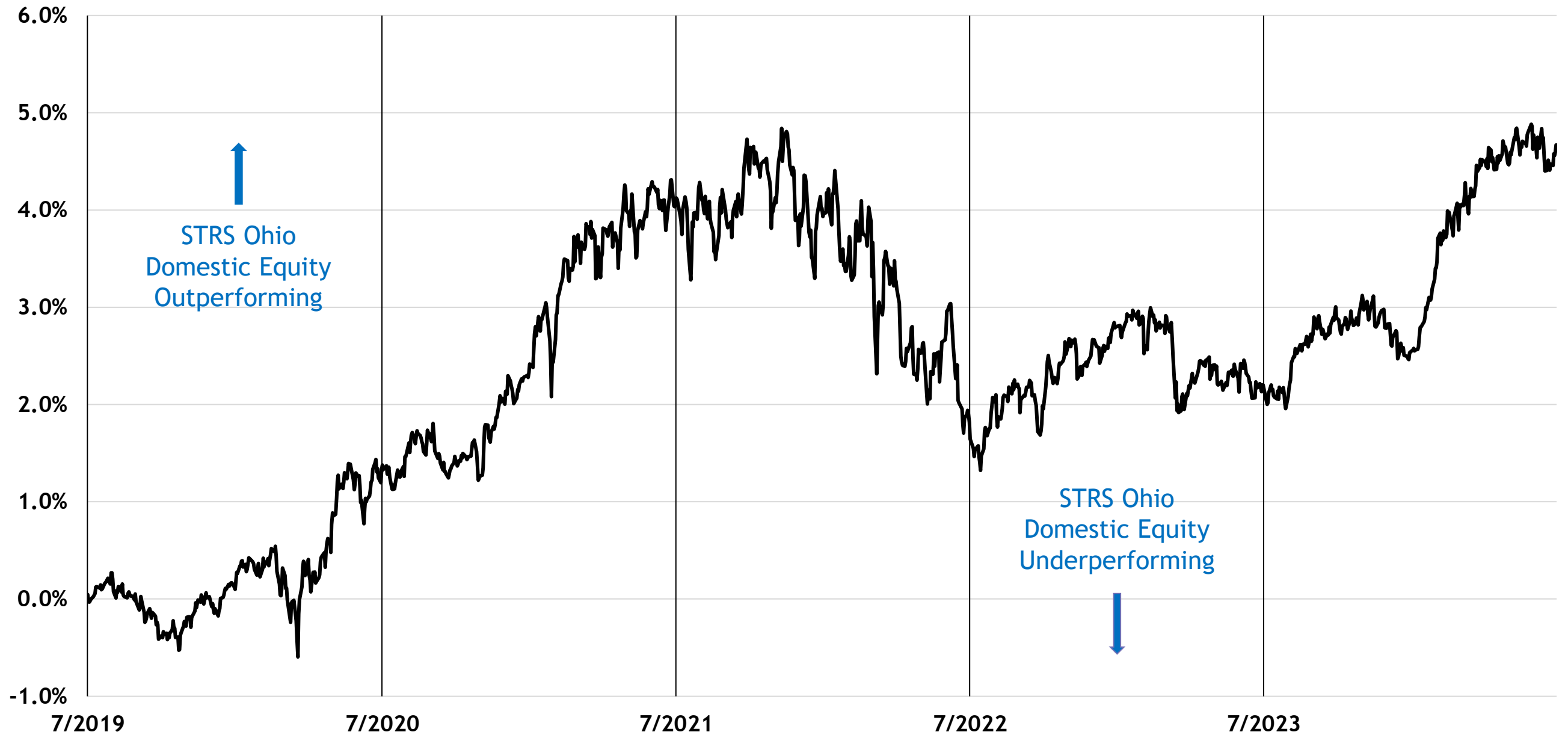




# Russell 3000 Index (Last Five Fiscal Years)



# Relative Performance (Five Years)





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## State Teachers Retirement System of Ohio

As of June 30, 2024

Performance Report

## Agenda

1. Trustee Summary Report
2. Economic & Market Update
3. STRS Ohio Investment Performance
4. Additional Trustee Summary Reports
5. Investment Manager Performance

## Trustee Summary Report

**STRS Ohio Total Fund Report Fiscal  
YTD, 1, 3, 5, 10, & 20 Years**

Periods Ending June, 2024  
Annualized Rates of Return

Experienced Returns	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years
<b>Have returns affected funded ratio?</b>						
1. Total fund return *	10.66%	10.66%	4.73%	8.90%	8.14%	8.07%
2. Actuarial discount rate ***	7.00%	7.00%	7.00%	7.18%	7.41%	7.68%
3. Relative Performance (1-2)	3.66%	3.66%	-2.27%	1.72%	0.74%	0.39%
<b>Has plan been rewarded for capital market risk?</b>						
4. Total fund benchmark return	10.75%	10.75%	4.00%	8.21%	7.61%	7.73%
5. Minimum risk/high cost policy of 91-Day T-Bills	5.40%	5.40%	3.03%	2.16%	1.51%	1.52%
6. Impact of asset mix policy (4-5)	5.35%	5.35%	0.97%	6.05%	6.10%	6.21%
<b>Has plan been rewarded for active management risk?</b>						
7. Active management effect (1-4) *	-0.09%	-0.09%	0.73%	0.69%	0.53%	0.34%
8. Net active management return estimated **	-0.22%	-0.22%	0.60%	0.56%	0.40%	0.22%

\*Gross returns are net of transaction costs and gross of management fees, except for alternative investments & real estate where the return is also net of all external investment management fees and costs, including carried interest and other fund expenses. Certain Meketa returns may differ from STRS due to rounding.

\*\*Net returns are net of all internal and external investment management fees and costs, including carried interest and other fund expenses.

\*\*\*The actuarial rate of return assumption was decreased from 7.45% to 7.00%, effective as of 6/30/2021. The STRS real estate return includes the use of leverage.



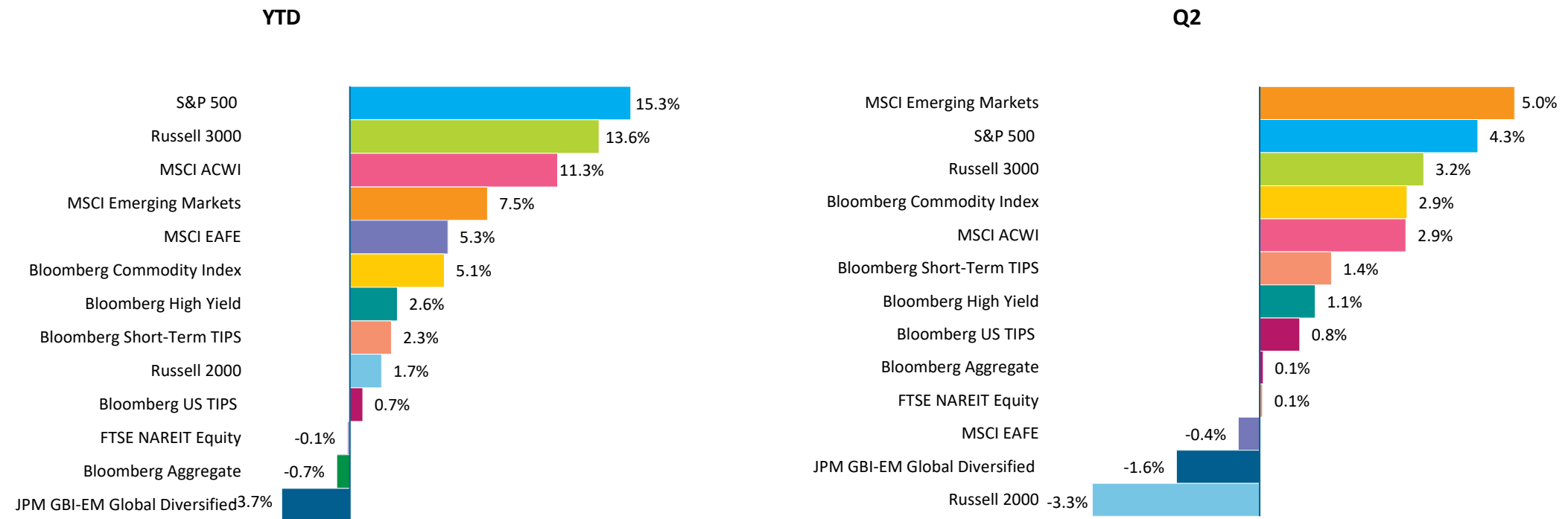
## **Economic and Market Update**

Data as of June 30, 2024

### Commentary

- Softening economic data, increased hopes of interest rate cuts, and ongoing AI optimism drove most asset classes higher in the second quarter.
- While the Fed remains data dependent, improvements in inflation and a cooling labor market may clear the way for several rate cuts this year.
  - Inflation pressures have eased in most countries from their pandemic peaks, but some uncertainty remains and levels are still above most central bank targets. In the second quarter, headline and core inflation measures in the US both fell, with most readings coming in below expectations.
  - The US equity markets (Russell 3000 index) added to its gains in the second quarter, rising 3.2%. Technology continued to drive results in the quarter due to AI demand and investment.
  - Non-US developed equity markets fell in the second quarter (-0.4%) on continued strength in the US dollar and political uncertainty in Europe.
  - Emerging market equities rallied (5.0%), for the quarter. Chinese stocks were up 7.1% as coordinated buying of Chinese exchange traded funds (ETFs) by state-backed financial services companies helped boost stock prices.
  - US interest rates rose over the quarter but finished off their highs. Income offset capital losses though, leading to the broad US bond market rising 0.1% in the second quarter.
- Looking to the rest of this year, the paths of inflation and monetary policy, China's economic disorder and slowing economic growth, and the many looming elections will be key factors.

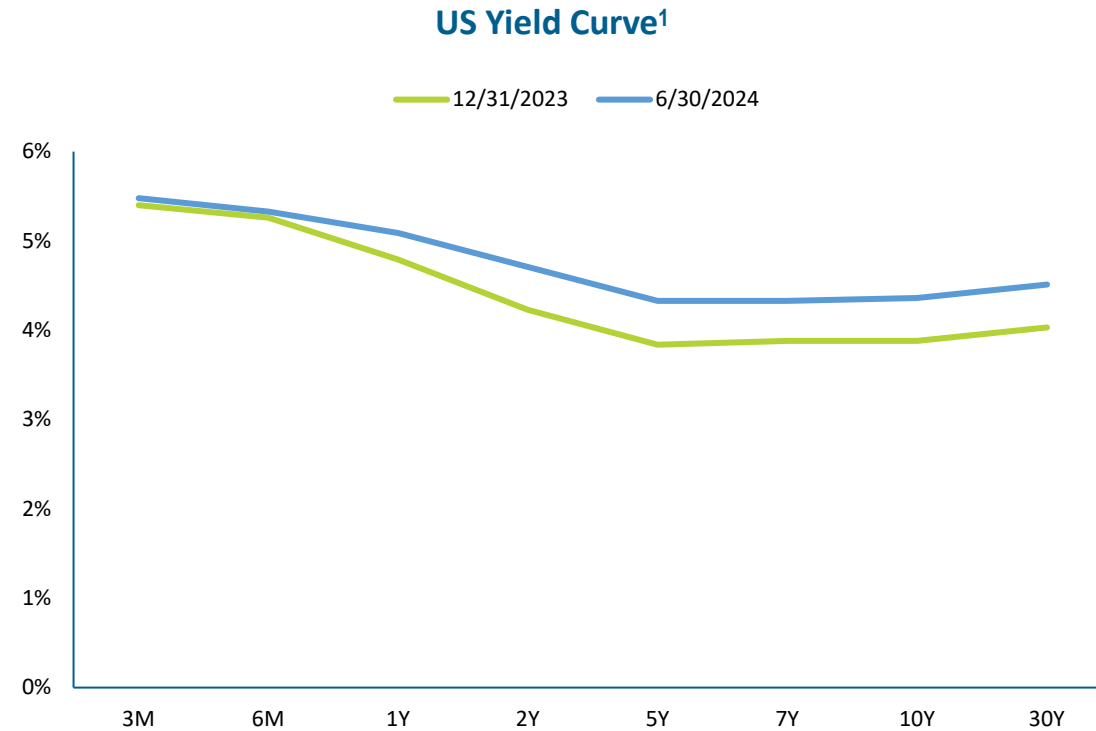
Index Returns<sup>1</sup>



→ Declining inflation, resilient growth, and strong corporate earnings supported most asset classes in the second quarter.

→ Mid-way through 2024, US stocks have significantly outperformed other asset classes on a year-to-date basis.

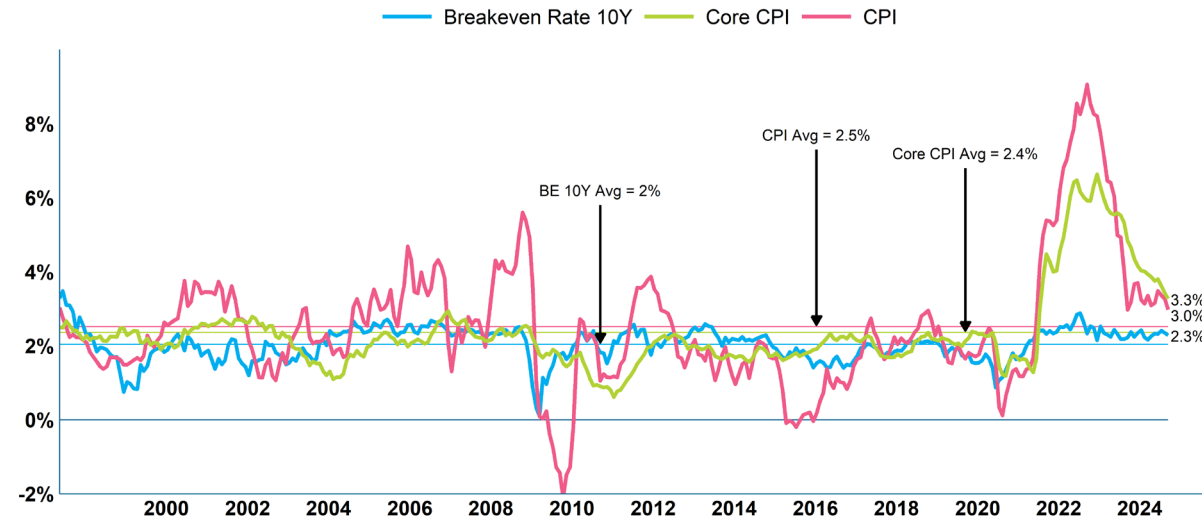
<sup>1</sup> Source: Bloomberg. Data is as of June 30, 2024.



- After rates significantly increased in April on strong inflation data, they then declined in May and June. Chair Powell confirming that the FOMC would not raise rates again this year as economic data appears to be returning to long-run trends led to rates declining from the April highs.
- The more policy sensitive 2-year Treasury yield finished the quarter roughly 0.2% higher at 4.76% but well off its peak of over 5.0%. The 10-year Treasury rose by a similar amount during the quarter finishing at 4.39%; also, off its April peak of 4.68%.
- The yield curve remained inverted at month-end, with the spread between the 2-year and 10-year Treasury at roughly -35 basis points

<sup>1</sup> Source: Bloomberg. Data is as of June 30, 2024.

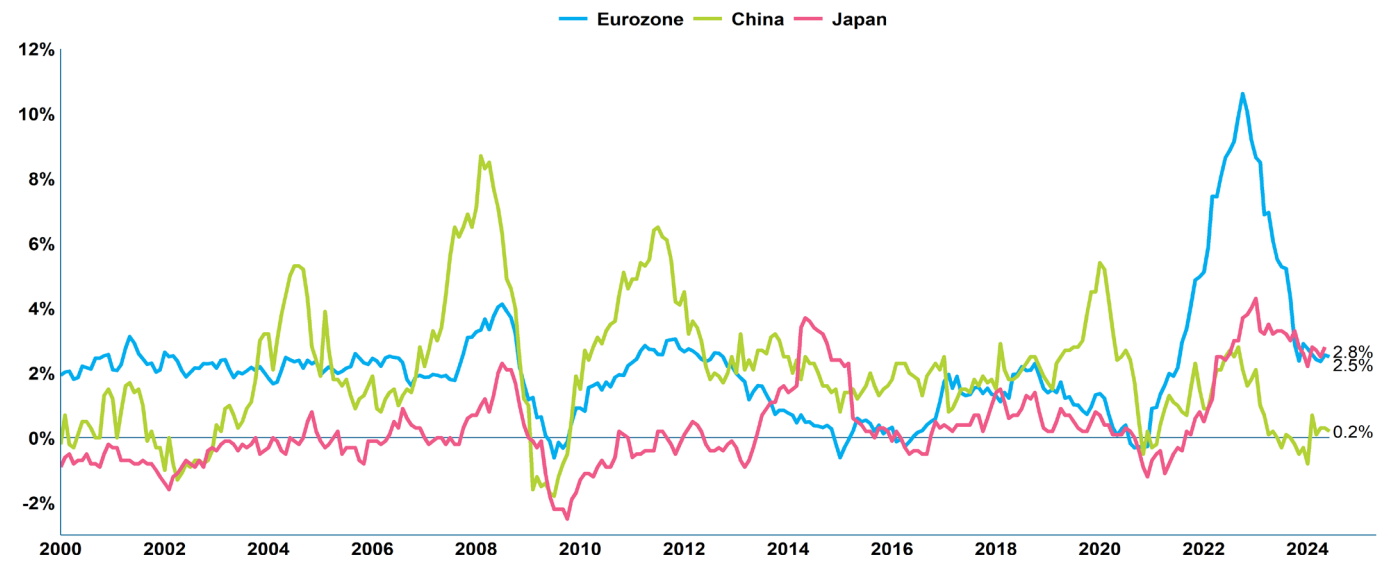
**US Ten-Year Breakeven Inflation and CPI<sup>1</sup>**



- Year-over-year headline inflation continued to fall in June (3.3% to 3.0%) and again came in below expectations. Over the quarter, inflation fell by a total of 0.5%.
- Month-over-month inflation was negative for the first time since March 2020, largely because of price declines in energy and core goods.
- Core inflation (excluding food and energy) also declined in June (3.4% to 3.3%) and came in below expectations. A drop in used car prices, transportation services, and a slowing of the pace of shelter price increases all contributed to the decline.
- Inflation expectations (breakevens) have been volatile, but they finished the quarter largely where they started.

<sup>1</sup> Source: FRED. Data is as June 2024. The CPI and 10 Year Breakeven average lines denote the average values from February 1997 to the present month-end, respectively. Breakeven values represent month-end values for comparative purposes.

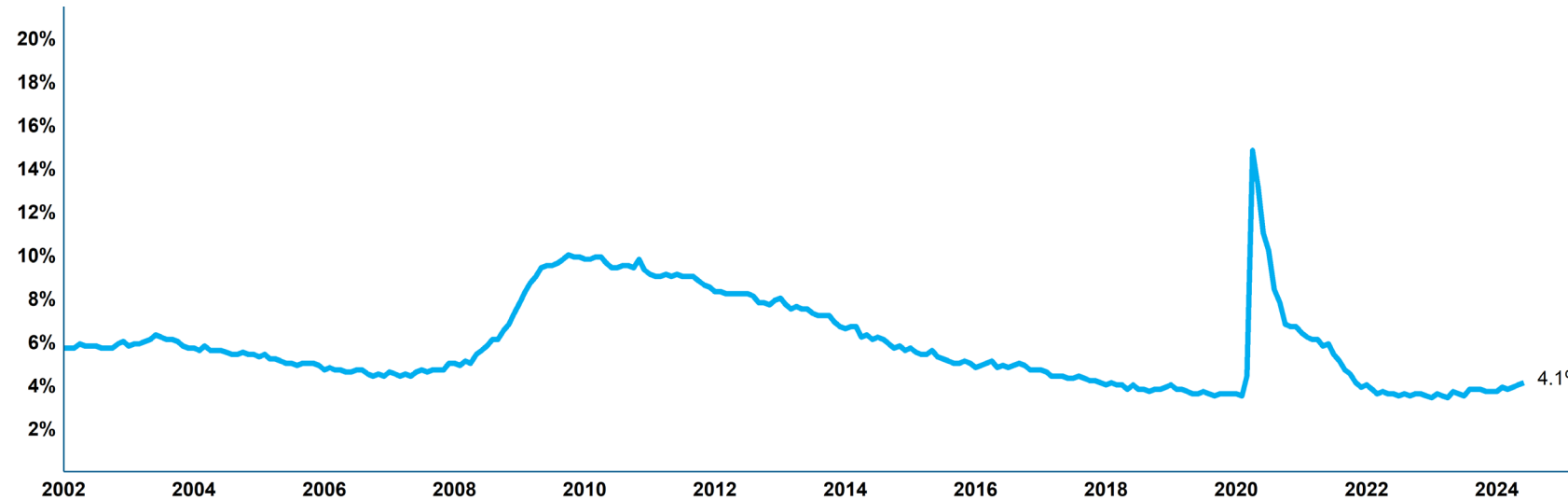
**Global Inflation (CPI Trailing Twelve Months)<sup>1</sup>**



- Outside the US, inflation is also easing from the recent peaks.
- In the eurozone, inflation experienced a dramatic decline last year but remains above the central bank’s 2% target. In June, inflation fell slightly from 2.6% to 2.5% year-over-year.
- Inflation in Japan has slowly dropped from the early 2023 peak of 4.3%, but it remains near levels not seen in a decade. In the most recent reading (May), inflation rose modestly from 2.5% to 2.8% as fuel and utility prices increased.
- China appears to have emerged from deflationary pressures, but inflation levels remain well below other major economies due to slowing economic growth. Annual inflation levels have been positive for the last five readings signaling improvement in domestic demand. The June year-over-year number came in at 0.2%, slightly lower than the prior reading of 0.3%.

<sup>1</sup> Source: Bloomberg. Data is June 30, 2024, except Japan which is as of May 31, 2024.

US Unemployment<sup>1</sup>



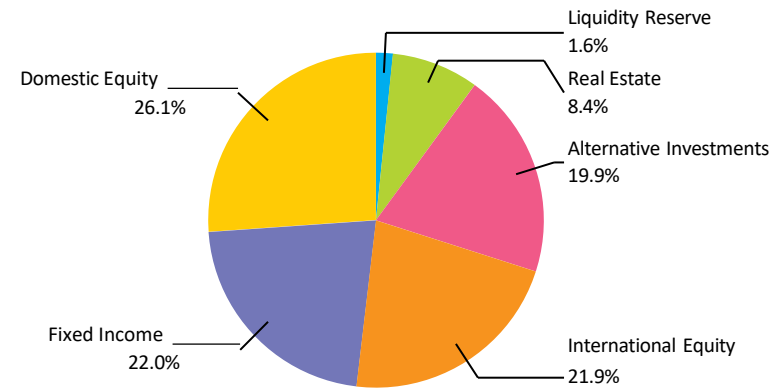
- Overall, the US labor market remains healthy, but there have been some recent signs of softening.
- The unemployment rate came in above expectations in June reaching 4.1%, a level not seen since early 2022. Over the second quarter unemployment increased 0.3%.
- Wage growth remains strong though (around 3.9% annually), and initial claims for unemployment are still subdued.
- Despite significant downward revisions to job gains in April and May, in June the economy added 206,000 jobs (above expectations). The government added the most jobs (70,000), followed by the healthcare sector (49,000).

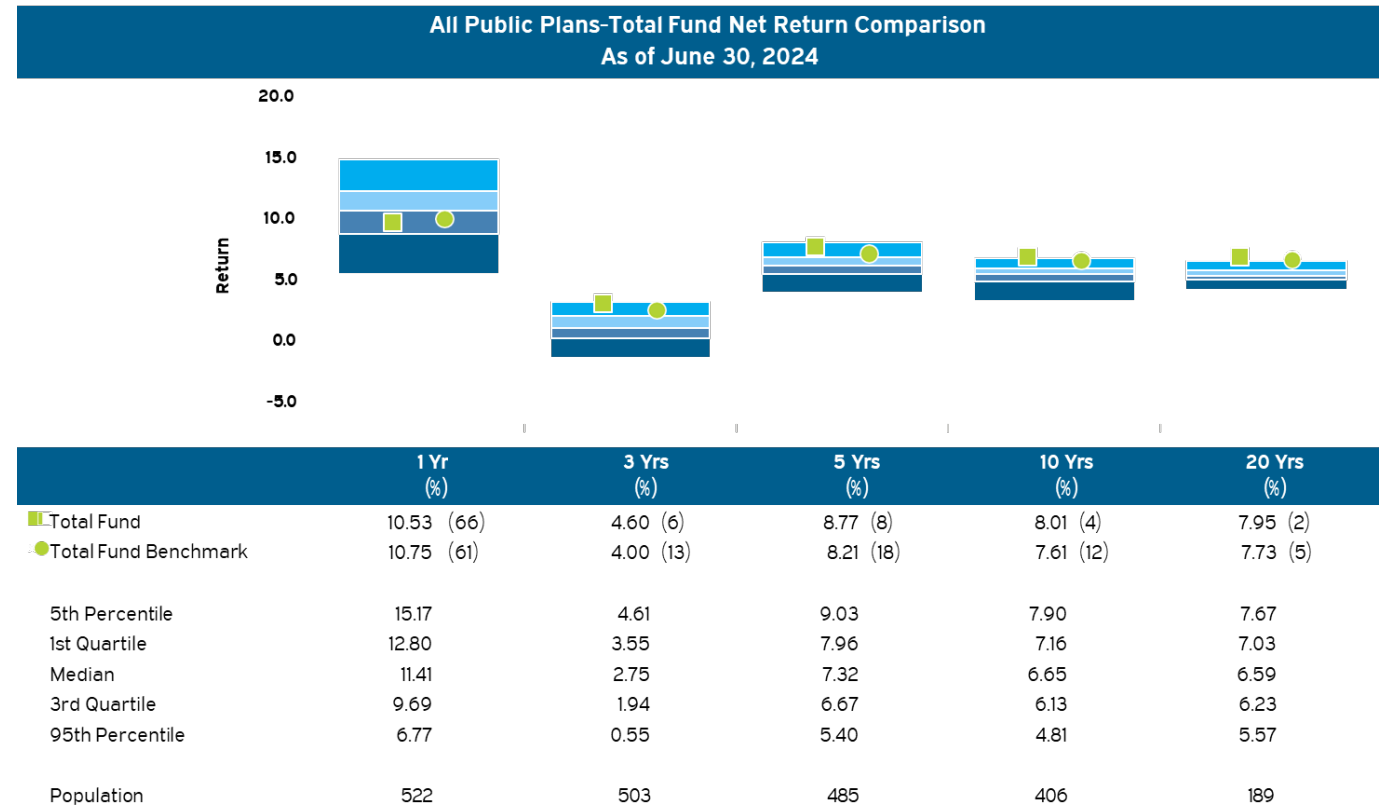
<sup>1</sup> Source: FRED. Data is as June 30, 2024.

## **STRS Ohio Investment Performance**



Asset Allocation vs. Target As of June 30, 2024				
Asset Class	Current Balance (\$M)	Current Allocation (%)	Policy (%)	Difference (%)
Domestic Equity	\$24,880	26.1	26.0	0.1
International Equity	\$20,893	21.9	22.0	-0.1
Fixed Income	\$20,982	22.0	22.0	0.0
Liquidity Reserve	\$1,527	1.6	1.0	0.6
Real Estate	\$8,012	8.4	10.0	-1.6
Alternative Investments	\$18,985	19.9	19.0	0.9
<b>Total</b>	<b>\$95,278</b>	<b>100.0</b>	<b>100.0</b>	<b>0.0</b>





→ For the one-year period as of 6/30/2024, STRS Ohio underperformed the benchmark by 22 basis points and ranked in the 66th percentile of the InvMetrics All Public DB Plans universe.

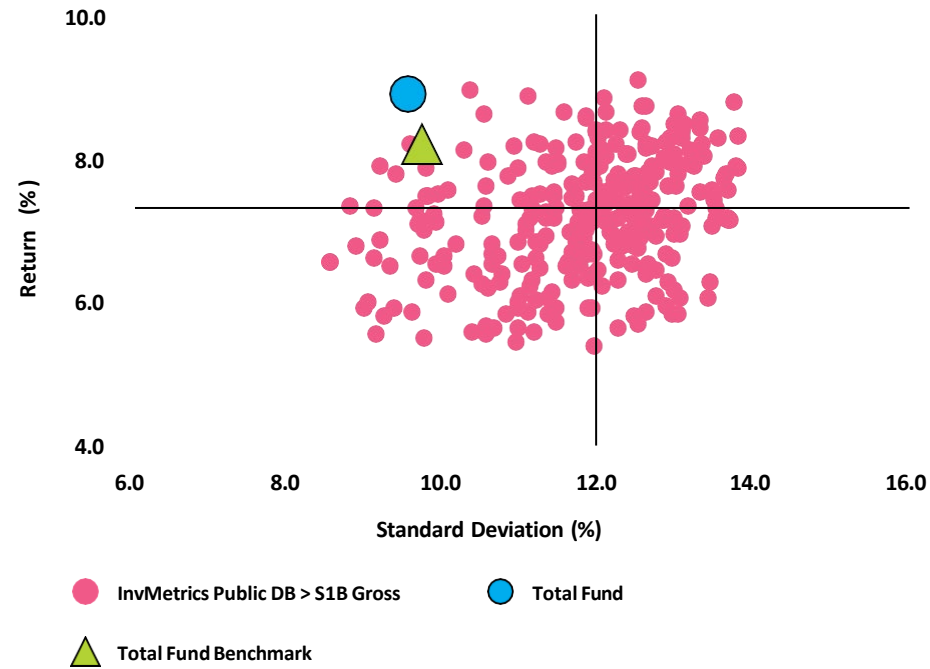
→ For the five-year period as of 6/30/2024, STRS Ohio outpaced the benchmark by 56 basis points and ranked in the 9th percentile of the InvMetrics All Public DB Plans universe.

→ For the ten-year period as of 6/30/2024, STRS Ohio outpaced the benchmark by 40 basis points and ranked in the 4th percentile of the InvMetrics All Public DB Plans universe.

Certain Meketa returns may differ from STRS due to rounding.

Parentheses contain percentile rankings. Calculation based on monthly periodicity. Universe is All Public Plans–Total Fund.

**Annualized Return vs. Annualized Standard Deviation 5 Years Ending June 30, 2024**

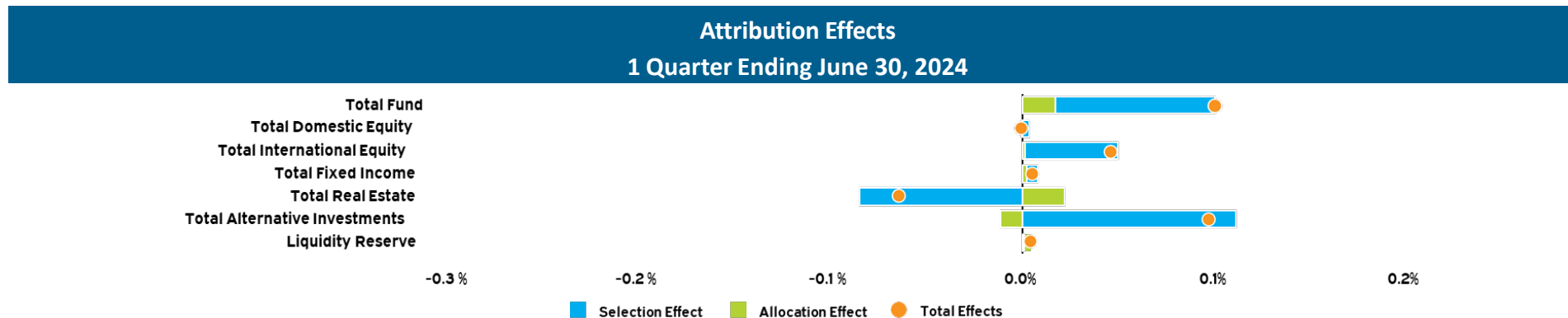


	Return	Standard Deviation
Total Fund	8.90 (7)	9.53 (12)
Total Fund Benchmark	8.21 (23)	9.72 (14)
All Public DB Plans Median	7.49	11.67

- For the five-year period as of June 30th, 2024, STRS Ohio posted an annualized return of 8.90%, versus the 8.21% return of the total fund benchmark.
- STRS Ohio’s trailing five-year return ranked at the 7th percentile, while exhibiting less risk than the median of the InvMetrics All Public DB Plans (“risk” as measured by Standard Deviation).

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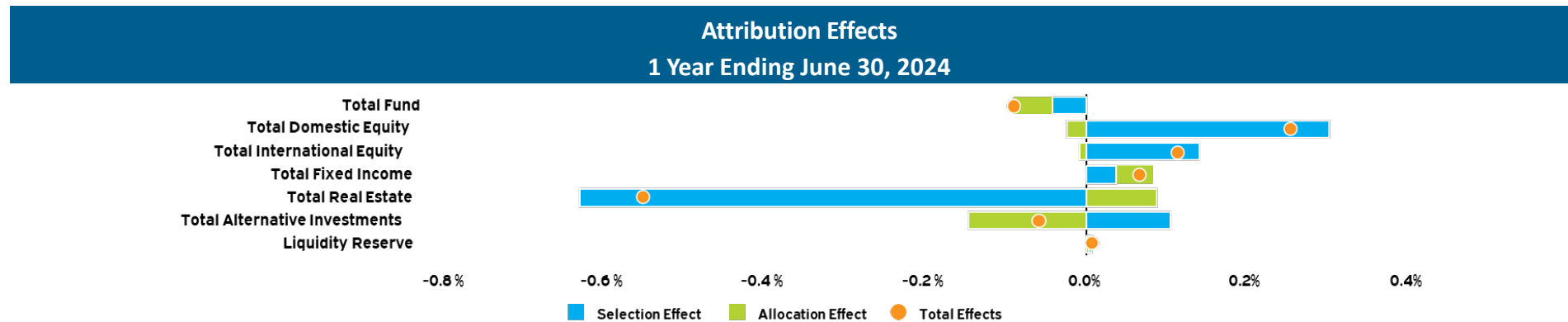
Attribution Summary 1 Quarter Ending June 30, 2024								
	Actual Weight (%)	Index Weight (%)	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Total Effects (%)
Total Domestic Equity	26.03	26.00	3.22	3.22	0.00	0.00	0.00	0.00
Total International Equity	21.99	22.00	1.55	1.35	0.20	0.05	0.00	0.05
Total Fixed Income	21.98	22.00	0.30	0.28	0.01	0.01	0.00	0.00
Total Real Estate	8.55	10.00	-1.21	-0.21	-1.00	-0.09	0.02	-0.06
Total Alternative Investments	20.13	19.00	1.89	1.35	0.55	0.11	-0.01	0.10
Liquidity Reserve	1.32	1.00	1.36	1.32	0.04	0.00	0.00	0.00
<b>Total Fund</b>	<b>100.00</b>	<b>100.00</b>	<b>1.57</b>	<b>1.47</b>	<b>0.10</b>	<b>0.08</b>	<b>0.02</b>	<b>0.10</b>



- Over the recent quarter, the Total Fund outpaced its benchmark by 10 basis points.
- While selection within Alternative Investments and International Equity contributed to excess returns, selection within Real Estate detracted from relative performance at the margin.
- Asset allocation differences from target and selection both contributed to performance over this short period.

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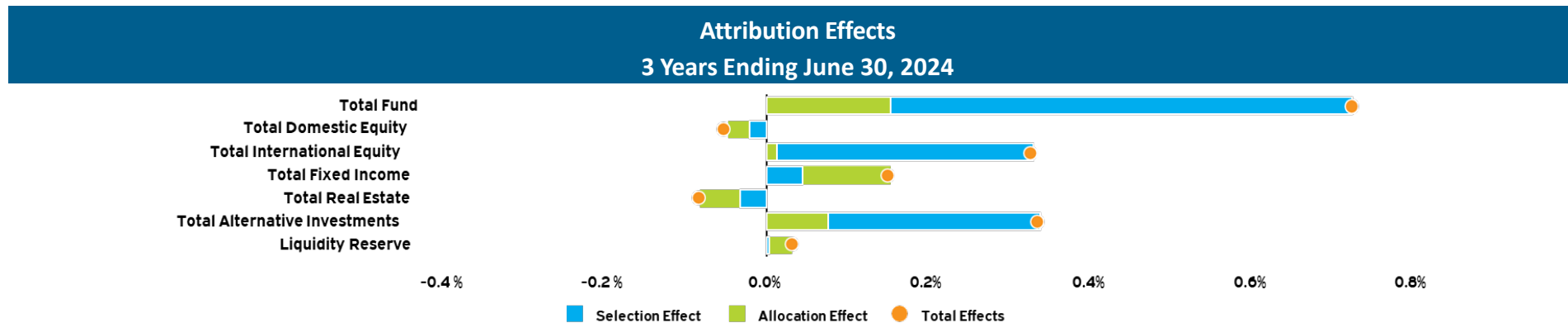
Attribution Summary 1 Year Ending June 30, 2024								
	Actual Weight (%)	Index Weight (%)	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Total Effects (%)
Total Domestic Equity	25.92	26.00	24.35	23.12	1.23	0.30	-0.03	0.25
Total International Equity	21.97	22.00	14.87	14.28	0.59	0.14	-0.01	0.11
Total Fixed Income	20.66	22.00	3.63	3.52	0.10	0.04	0.05	0.07
Total Real Estate	9.28	10.00	-9.44	-3.41	-6.03	-0.63	0.09	-0.55
Total Alternative Investments	20.77	19.00	6.85	6.47	0.38	0.10	-0.15	-0.06
Liquidity Reserve	1.39	1.00	5.64	5.40	0.23	0.00	0.00	0.01
<b>Total Fund</b>	<b>100.00</b>	<b>100.00</b>	<b>10.66</b>	<b>10.75</b>	<b>-0.09</b>	<b>-0.04</b>	<b>-0.05</b>	<b>-0.09</b>



- Over the trailing one-year period, the Fund lagged its benchmark by 9 basis points.
- Selection within Real Estate and an overweight to Alternative Investments detracted from relative performance over the period. Selection within Domestic Equity, International Equity, Alternative Investments, and Fixed Income, as well as an underweight to Fixed Income, contributed to excess returns.
- Both selection and asset allocation detracted from performance over this relatively short period.

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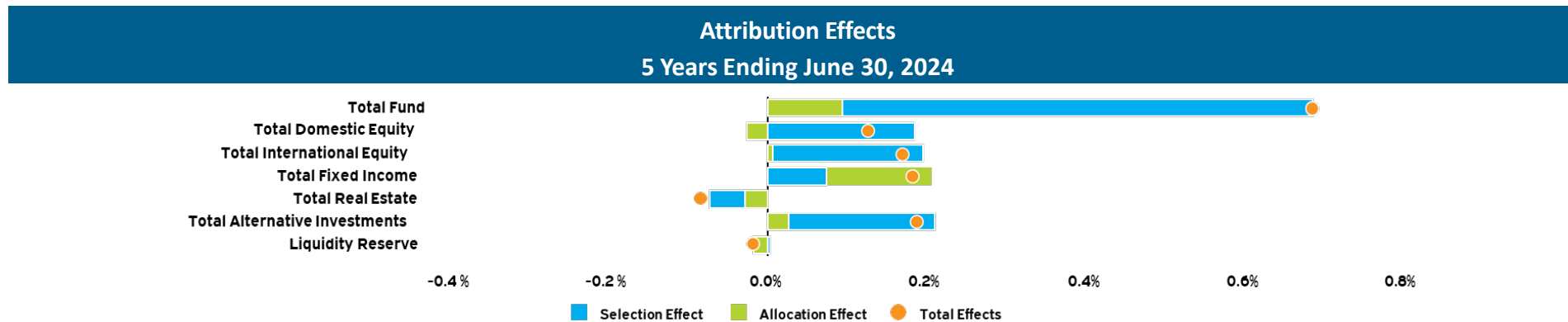
Attribution Summary 3 Years Ending June 30, 2024								
	Actual Weight (%)	Index Weight (%)	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Total Effects (%)
Total Domestic Equity	26.61	26.75	7.97	8.05	-0.08	-0.02	-0.03	-0.05
Total International Equity	22.05	22.33	5.71	4.26	1.45	0.32	0.01	0.33
Total Fixed Income	19.33	21.58	-2.19	-2.41	0.22	0.04	0.11	0.15
Total Real Estate	9.66	10.00	1.62	2.30	-0.68	-0.03	-0.05	-0.08
Total Alternative Investments	20.91	18.33	7.63	6.37	1.26	0.26	0.08	0.33
Liquidity Reserve	1.44	1.00	3.20	3.03	0.17	0.00	0.03	0.03
<b>Total Fund</b>	<b>100.00</b>	<b>100.00</b>	<b>4.73</b>	<b>4.00</b>	<b>0.72</b>	<b>0.57</b>	<b>0.15</b>	<b>0.72</b>



- Over the trailing three-year period, the Total Fund outpaced its benchmark by 73 basis points.
- Selection within International Equity and Alternative Investments, as well as an underweight to Fixed Income, contributed to excess returns, while both Real Estate and Domestic Equity detracted from relative performance at the margin.
- Asset allocation differences from target and selection both contributed to performance over this short period.

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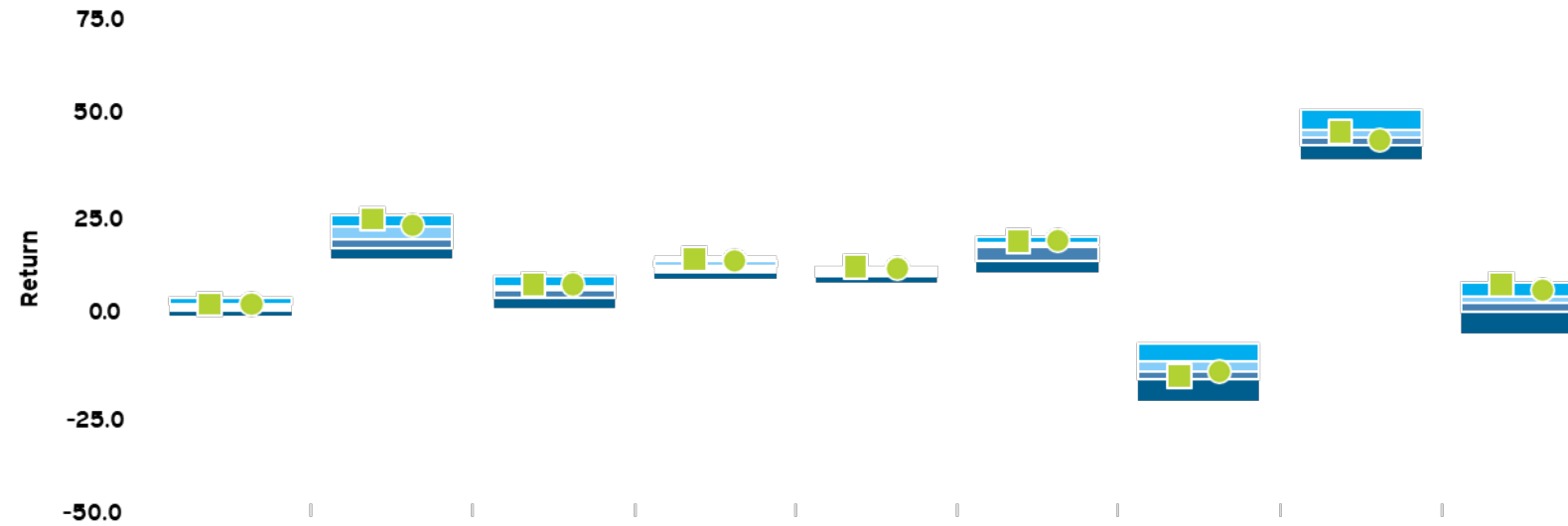
Attribution Summary 5 Years Ending June 30, 2024								
	Actual Weight (%)	Index Weight (%)	Wtd. Actual Return (%)	Wtd. Index Return (%)	Excess Return (%)	Selection Effect (%)	Allocation Effect (%)	Total Effects (%)
Total Domestic Equity	27.20	27.25	14.71	14.14	0.57	0.19	-0.03	0.13
Total International Equity	22.14	22.60	8.53	7.79	0.74	0.19	0.01	0.17
Total Fixed Income	19.67	21.35	0.46	0.18	0.28	0.07	0.13	0.18
Total Real Estate	9.56	10.00	3.00	3.82	-0.82	-0.04	-0.03	-0.08
Total Alternative Investments	19.80	17.80	12.34	11.55	0.79	0.18	0.03	0.19
Liquidity Reserve	1.63	1.00	2.23	2.16	0.07	0.00	-0.02	-0.02
<b>Total Fund</b>	<b>100.00</b>	<b>100.00</b>	<b>8.90</b>	<b>8.21</b>	<b>0.68</b>	<b>0.59</b>	<b>0.09</b>	<b>0.68</b>



- Over the trailing five-year period, the Fund outpaced its benchmark by 69 basis points.
- Selection within Alternative Investments, International Equity, Domestic Equity, and Fixed Income, as well as an underweight to Fixed Income, contributed to excess returns. Real Estate was the primary detractor at the margin over the period.
- Asset allocation differences from target and selection both contributed to performance over this period.

Gross returns are net of transaction costs and gross of management fees, except for alternative investments & real estate where the return is also net of all external investment management fees and costs, including carried interest and other fund expenses. Certain Meketa returns may differ from STRS due to rounding.

## All Public Plans > S1B-US Equity Segment Gross Return Comparison As of June 30, 2024

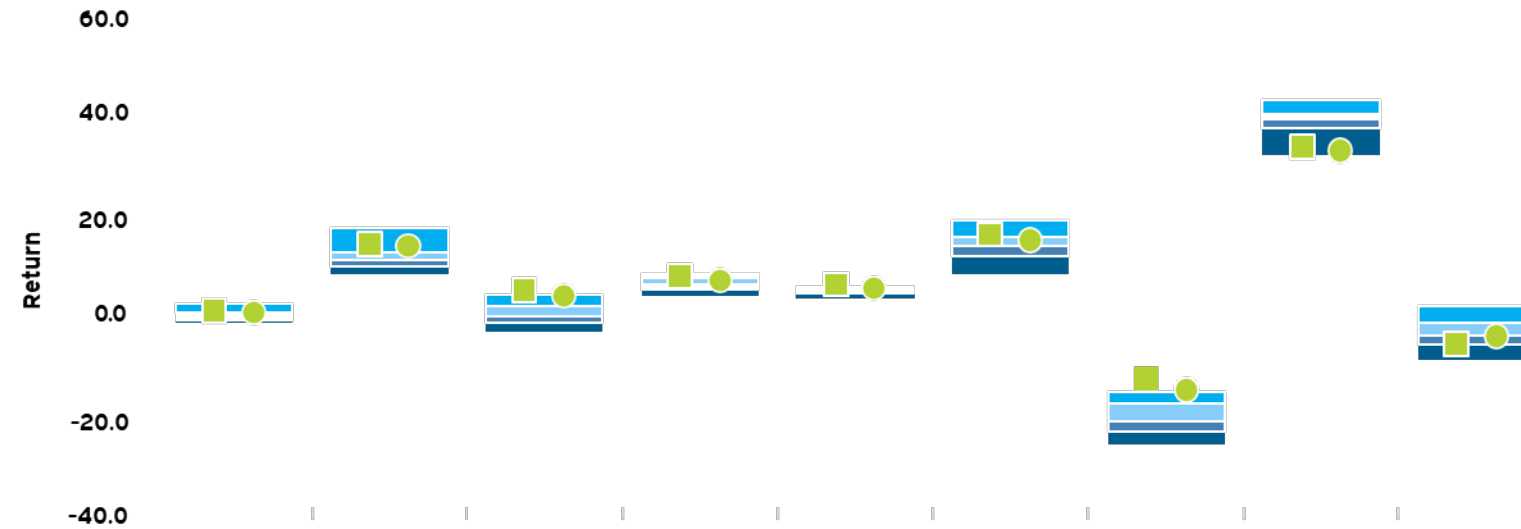


	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	FY 2023 (%)	FY 2022 (%)	FY 2021 (%)	FY 2020 (%)
■ Total Domestic Equity	3.22 (21)	24.35 (12)	7.97 (19)	14.71 (7)	12.45 (6)	18.94 (13)	-14.90 (63)	46.29 (32)	7.87 (10)
● Domestic Equity Benchmark	3.22 (21)	23.13 (20)	8.05 (19)	14.14 (20)	12.15 (14)	18.95 (13)	-13.86 (53)	44.16 (55)	6.53 (21)
5th Percentile	4.37	25.40	9.80	14.94	12.55	20.08	-7.02	51.78	8.58
1st Quartile	2.97	22.47	7.59	13.75	11.56	18.51	-11.36	46.66	5.16
Median	2.00	19.27	6.44	12.37	10.88	17.29	-13.71	44.54	3.42
3rd Quartile	1.42	16.85	4.46	11.38	9.83	14.11	-15.64	42.74	1.32
95th Percentile	0.13	14.32	2.28	9.54	8.32	11.20	-21.40	39.44	-4.29
Population	53	51	48	42	37	47	52	53	52

Parentheses contain percentile rankings. FY refers to Fiscal Year.  
Calculation based on monthly periodicity. Universe is All Public Plans > \$1B-US Equity Segment.



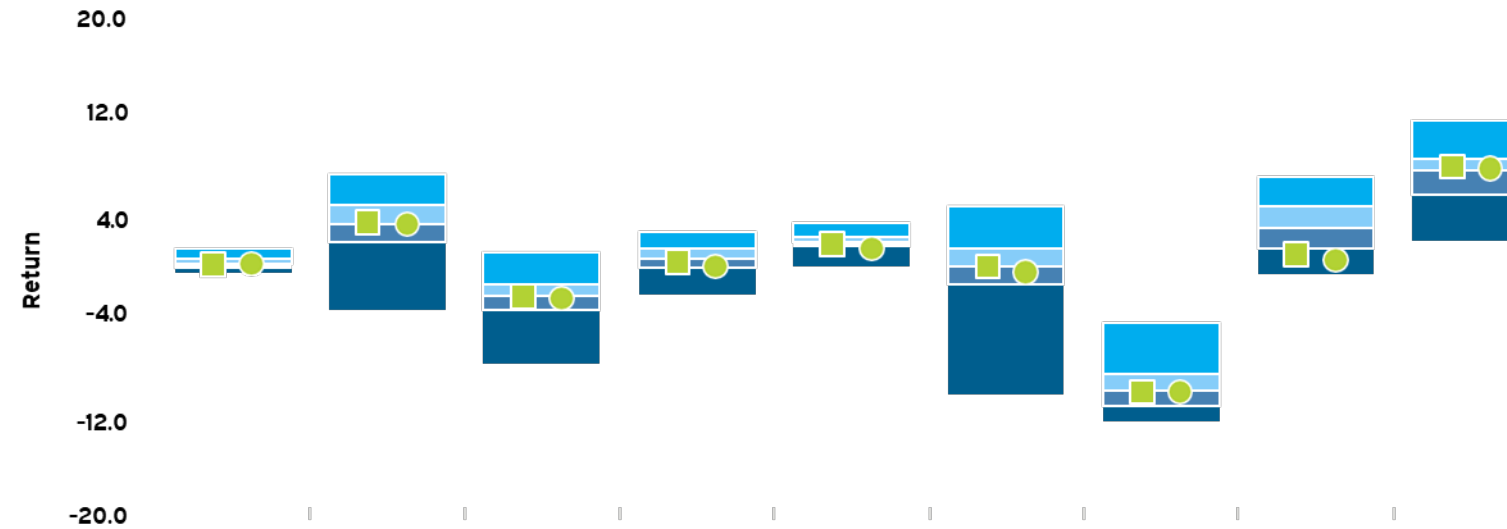
## All Public Plans > \$1B-Intl. Equity Segment Gross Return Comparison As of June 30, 2024



	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	FY 2023 (%)	FY 2022 (%)	FY 2021 (%)	FY 2020 (%)
■ Total International Equity	1.55 (20)	14.87 (15)	5.71 (4)	8.53 (11)	6.76 (1)	16.60 (21)	-11.80 (3)	34.39 (93)	-5.17 (78)
● International Blended Benchmark	1.35 (25)	14.28 (17)	4.26 (9)	7.79 (28)	5.94 (18)	15.43 (40)	-14.09 (4)	33.23 (94)	-3.63 (56)
5th Percentile	2.69	18.01	4.90	8.94	6.49	19.67	-14.71	43.15	2.33
1st Quartile	1.34	13.34	2.50	7.88	5.56	16.46	-16.96	40.54	-0.90
Median	0.41	11.43	0.35	6.80	5.22	14.20	-20.50	39.59	-3.30
3rd Quartile	-0.31	10.50	-0.82	5.94	4.68	12.51	-22.67	37.82	-5.09
95th Percentile	-0.70	8.85	-2.61	4.49	3.99	8.97	-24.88	32.50	-8.38
Population	53	52	51	46	42	50	54	54	54

Parentheses contain percentile rankings. FY refers to Fiscal Year.  
Calculation based on monthly periodicity. Universe is All Public Plans > \$1B-Intl. Equity Segment.

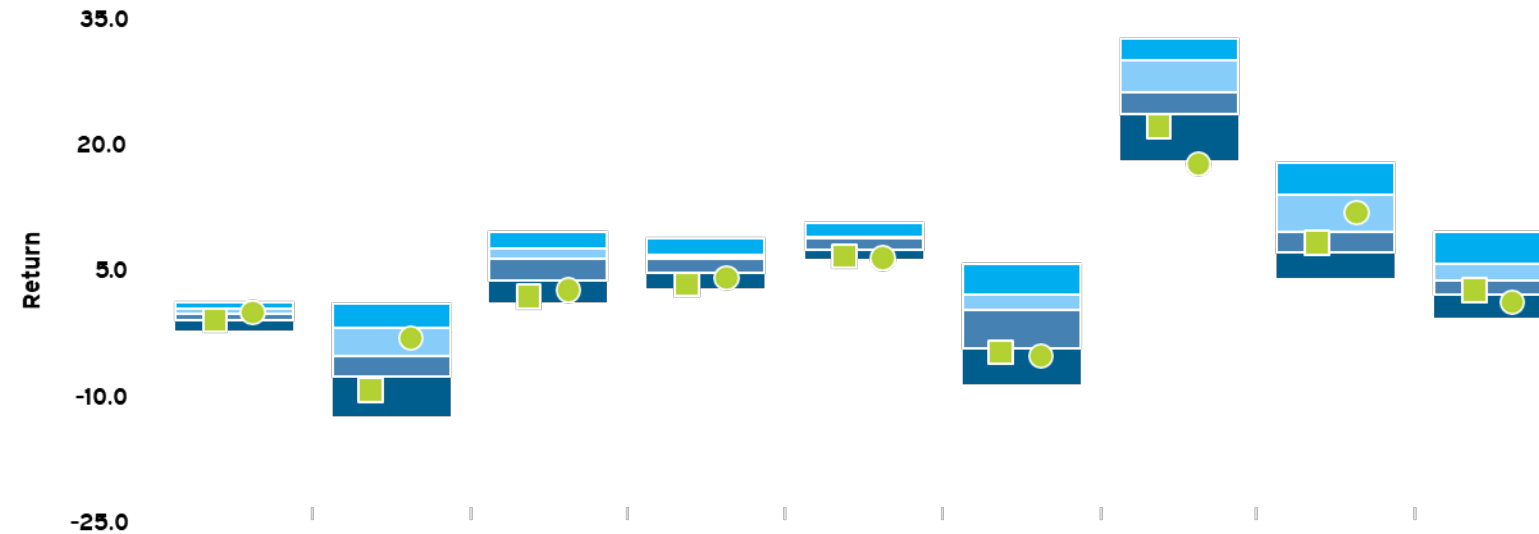
## All Public Plans > S1B-US Fixed Income Segment Gross Return Comparison As of June 30, 2024



	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	FY 2023 (%)	FY 2022 (%)	FY 2021 (%)	FY 2020 (%)
■ Total Fixed Income	0.30 (54)	3.63 (44)	-2.19 (53)	0.46 (68)	1.87 (62)	0.09 (54)	-9.79 (53)	1.16 (80)	8.10 (44)
● Fixed Income Blended Benchmark	0.28 (55)	3.52 (50)	-2.41 (62)	0.18 (73)	1.64 (78)	-0.35 (60)	-9.90 (59)	0.57 (87)	7.93 (47)
5th Percentile	1.55	7.44	1.25	2.79	3.62	4.86	-4.33	7.31	11.79
1st Quartile	0.75	5.09	-1.27	1.54	2.59	1.62	-8.47	4.87	8.79
Median	0.33	3.52	-2.18	0.80	2.04	0.18	-9.72	3.15	7.85
3rd Quartile	0.08	2.12	-3.34	0.07	1.74	-1.30	-10.95	1.56	5.94
95th Percentile	-0.34	-3.39	-7.56	-2.14	0.14	-9.93	-12.30	-0.46	2.19
Population	55	53	51	45	41	52	54	57	55

Parentheses contain percentile rankings. FY refers to Fiscal Year.  
Calculation based on monthly periodicity. Universe is All Public Plans > \$1B-US Fixed Income Segment.

## All Public Plans > \$1B-Real Estate Segment Gross Return Comparison As of June 30, 2024



	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	FY 2023 (%)	FY 2022 (%)	FY 2021 (%)	FY 2020 (%)
■ Total Real Estate	-1.21 (79)	-9.44 (91)	1.62 (88)	3.00 (92)	6.31 (95)	-4.99 (78)	21.96 (81)	8.01 (58)	2.28 (74)
● Real Estate Blended Benchmark	-0.21 (44)	-3.41 (34)	2.30 (82)	3.82 (85)	6.28 (95)	-5.51 (80)	17.30 (98)	11.64 (39)	0.91 (85)
5th Percentile	1.02	0.77	9.17	8.55	10.38	5.50	32.47	17.62	9.33
1st Quartile	0.25	-2.24	7.42	6.63	8.86	1.92	29.83	13.85	5.46
Median	-0.46	-5.53	6.27	6.22	8.58	-0.03	25.95	9.27	3.50
3rd Quartile	-1.08	-7.82	3.58	4.60	7.12	-4.41	23.32	6.79	2.02
95th Percentile	-2.37	-12.72	0.87	2.59	6.27	-8.83	17.93	3.81	-0.92
Population	44	38	35	26	14	38	39	35	34

Parentheses contain percentile rankings. FY refers to Fiscal Year.  
Calculation based on monthly periodicity. Universe is All Public Plans > \$1B-Real Estate Segment.

## **Additional Trustee Summary Reports**

Gross and Net Total Fund Returns

Periods Ending June, 2024  
Annualized Rates of Return

Gross and net total fund return

- 1. Total fund return \*
- 2. External alternative & real estate mgmt. fees reflected in line 1 \*\*
- 3. Gross total fund return (1 + 2)
- 4. Total investment management costs
- 5. Net total fund return (3-4) \*\*\*

	Fiscal YTD	1 Year	3 Year	5 Year	10 Year	20 Year
1. Total fund return *	10.66%	10.66%	4.73%	8.90%	8.14%	8.07%
2. External alternative & real estate mgmt. fees reflected in line 1 **	0.25%	0.25%	0.23%	0.23%	0.22%	0.18%
3. Gross total fund return (1 + 2)	10.91%	10.91%	4.96%	9.13%	8.36%	8.25%
4. Total investment management costs	0.38%	0.38%	0.36%	0.36%	0.35%	0.30%
5. Net total fund return (3-4) ***	10.53%	10.53%	4.60%	8.77%	8.01%	7.95%

\*Gross returns are net of transaction costs and gross of management fees, except for alternative investments & real estate where the return is also net of all external investment management fees and costs, including carried interest and other fund expenses. Certain Meketa returns may differ from STRS due to rounding.

\*\*Includes management fees net of fee waivers/rebates and does not include carried interest of other fund expenses.

\*\*\*Net returns are net of all internal and external investment management fees and costs, including carried interest and other fund expenses.

Total Investment Management Costs

	2023 Investment Management Costs *			Dec. 2023 Assets (Billions)
	Fees to Assets Managed (bps)	Fees to Total Fund (bps)	Fees (\$000's)	
<b>Total Investment Management Costs *</b>				
Externally Managed:				
Alternative Investments	106	22	\$ 197,660	\$ 18.7
Real Estate	157	3	\$ 25,258	\$ 1.8
All Other External Managers **	42	6	\$ 52,764	\$ 13.3
Internal Managers	13	7	\$ 64,969	\$ 57.9
<b>Total Investment Management Costs *</b>	<b>38</b>	<b>38</b>	<b>\$ 340,651</b>	<b>\$ 91.6</b>

\*Annual fees are based upon the preliminary CEM investment report for calendar year 2023. Investment management costs include internal investment department salaries, incentive compensation, benefits, external manager fees, the allocation of ITS costs, overhead expenses, oversight, custodial & other costs. Investment management costs exclude carried interest and other fund expenses.

\*\* Includes fixed income, domestic equity, and international equity external manager fees.

Trailing Asset Class Performance							
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Total Fund</b>	<b>95,277,744,658</b>	<b>100.00</b>	<b>1.57</b>	<b>10.66</b>	<b>4.73</b>	<b>8.90</b>	<b>8.14</b>
<i>Total Fund Benchmark</i>			<i>1.47</i>	<i>10.75</i>	<i>4.00</i>	<i>8.21</i>	<i>7.61</i>
Over/Under			0.10	-0.09	0.73	0.69	0.53
<b>Total Domestic Equity</b>	<b>24,879,665,623</b>	<b>26.11</b>	<b>3.22</b>	<b>24.35</b>	<b>7.97</b>	<b>14.71</b>	<b>12.45</b>
<i>Domestic Equity Benchmark</i>			<i>3.22</i>	<i>23.13</i>	<i>8.05</i>	<i>14.14</i>	<i>12.15</i>
Over/Under			0.00	1.22	-0.08	0.57	0.30
<b>Total International Equity</b>	<b>20,892,595,738</b>	<b>21.93</b>	<b>1.55</b>	<b>14.87</b>	<b>5.71</b>	<b>8.53</b>	<b>6.76</b>
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>4.26</i>	<i>7.79</i>	<i>5.94</i>
Over/Under			0.20	0.59	1.45	0.74	0.82
<b>Total Fixed Income</b>	<b>20,981,519,416</b>	<b>22.02</b>	<b>0.30</b>	<b>3.63</b>	<b>-2.19</b>	<b>0.46</b>	<b>1.87</b>
<i>Fixed Income Blended Benchmark</i>			<i>0.28</i>	<i>3.52</i>	<i>-2.41</i>	<i>0.18</i>	<i>1.64</i>
Over/Under			0.02	0.11	0.22	0.28	0.23
<b>Total Real Estate</b>	<b>8,011,803,807</b>	<b>8.41</b>	<b>-1.21</b>	<b>-9.44</b>	<b>1.62</b>	<b>3.00</b>	<b>6.31</b>
<i>Real Estate Blended Benchmark</i>			<i>-0.21</i>	<i>-3.41</i>	<i>2.30</i>	<i>3.82</i>	<i>6.28</i>
Over/Under			-1.00	-6.03	-0.68	-0.82	0.03
<b>Total Alternative Investments</b>	<b>18,984,778,751</b>	<b>19.93</b>	<b>1.89</b>	<b>6.85</b>	<b>7.63</b>	<b>12.34</b>	<b>10.39</b>
<i>Alternative Investments Blended Benchmark</i>			<i>1.35</i>	<i>6.47</i>	<i>6.37</i>	<i>--</i>	<i>--</i>
Over/Under			0.54	0.38	1.26	--	--
<b>Liquidity Reserve</b>	<b>1,527,381,323</b>	<b>1.60</b>	<b>1.36</b>	<b>5.64</b>	<b>3.20</b>	<b>2.23</b>	<b>1.57</b>
<i>Liquidity Reserve Index</i>			<i>1.32</i>	<i>5.40</i>	<i>3.03</i>	<i>2.16</i>	<i>1.51</i>
Over/Under			0.04	0.24	0.17	0.07	0.06

Gross returns are net of transaction costs and gross of management fees, except for alternative investments & real estate where the return is also net of all external investment management fees and costs, including carried interest and other fund expenses. Certain Meketa returns may differ from STRS due to rounding. Fiscal year begins July 1.

## Investment Manager Performance



Trailing Investment Manager Performance							
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Total Fund</b>	<b>95,277,744,658</b>	<b>100.00</b>	<b>1.57</b>	<b>10.66</b>	<b>4.73</b>	<b>8.90</b>	<b>8.14</b>
<i>Total Fund Benchmark</i>			<i>1.47</i>	<i>10.75</i>	<i>4.00</i>	<i>8.21</i>	<i>7.61</i>
<b>Total Domestic Equity</b>	<b>24,879,665,623</b>	<b>26.11</b>	<b>3.22</b>	<b>24.35</b>	<b>7.97</b>	<b>14.71</b>	<b>12.45</b>
<i>Domestic Equity Benchmark</i>			<i>3.22</i>	<i>23.13</i>	<i>8.05</i>	<i>14.14</i>	<i>12.15</i>
<i>eV All US Equity Median</i>			<i>-1.02</i>	<i>15.81</i>	<i>5.92</i>	<i>11.50</i>	<i>10.24</i>
<b>Total 1000 Equity</b>	<b>22,526,509,874</b>	<b>23.64</b>	<b>3.83</b>	<b>25.73</b>	<b>9.01</b>	<b>15.33</b>	<b>12.80</b>
<i>Russell 1000 Index</i>			<i>3.57</i>	<i>23.88</i>	<i>8.74</i>	<i>14.61</i>	<i>12.51</i>
<i>eV US Large Cap Equity Median</i>			<i>1.41</i>	<i>20.81</i>	<i>8.38</i>	<i>13.48</i>	<i>11.73</i>
<b>Total Internal 1000 Equity</b>	<b>22,526,509,874</b>	<b>23.64</b>	<b>3.83</b>	<b>25.73</b>	<b>9.06</b>	<b>15.39</b>	<b>12.83</b>
<i>eV US Large Cap Equity Median</i>			<i>1.41</i>	<i>20.81</i>	<i>8.38</i>	<i>13.48</i>	<i>11.73</i>
STRS Analyst Select Fund	3,355,452,138	3.52	4.18	25.53	10.00	15.35	11.71
<i>Russell 1000 Index</i>			<i>3.57</i>	<i>23.88</i>	<i>8.74</i>	<i>14.61</i>	<i>12.51</i>
<i>eV US Large Cap Core Equity Median</i>			<i>2.93</i>	<i>23.11</i>	<i>8.96</i>	<i>14.22</i>	<i>12.22</i>
STRS Concentrated Select Fund	919,053,478	0.96	0.61	18.88	5.82	10.70	10.54
<i>Russell 1000 Index</i>			<i>3.57</i>	<i>23.88</i>	<i>8.74</i>	<i>14.61</i>	<i>12.51</i>
<i>eV US Large Cap Equity Median</i>			<i>1.41</i>	<i>20.81</i>	<i>8.38</i>	<i>13.48</i>	<i>11.73</i>
STRS Large Cap Passive Quantitative	9,347,670,322	9.81	5.73	27.47	10.92	16.40	13.77
<i>Russell Top 200 Index</i>			<i>5.73</i>	<i>27.42</i>	<i>10.90</i>	<i>16.38</i>	<i>13.76</i>
<i>eV US Large Cap Equity Median</i>			<i>1.41</i>	<i>20.81</i>	<i>8.38</i>	<i>13.48</i>	<i>11.73</i>
STRS Integrated Factor Index	982,167,989	1.03	-2.83	14.67	5.37	10.52	--
<i>Russell 1000 Index</i>			<i>3.57</i>	<i>23.88</i>	<i>8.74</i>	<i>14.61</i>	<i>--</i>
<i>eV US Large Cap Equity Median</i>			<i>1.41</i>	<i>20.81</i>	<i>8.38</i>	<i>13.48</i>	<i>--</i>

Asset Allocation & Performance | As of June 30, 2024

	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
STRS Large Cap Value	1,543,696,151	1.62	-1.63	15.48	6.99	10.61	9.48
<i>Large Cap Value Custom Index</i>			-2.17	13.06	5.52	9.01	8.23
<i>eV US Large Cap Value Equity Median</i>			-1.12	16.02	7.54	11.17	9.60
STRS Large Cap Growth	3,317,761,315	3.48	8.73	42.89	11.44	20.25	17.02
<i>Large Cap Growth Blended Index</i>			8.33	33.48	11.28	19.34	16.33
<i>eV US Large Cap Growth Equity Median</i>			5.76	31.29	8.71	16.69	15.03
STRS Mid Cap Value	2,180,658,150	2.29	-0.91	13.95	5.59	10.58	7.56
<i>Russell Midcap Value Index</i>			-3.40	11.98	3.65	8.49	7.60
<i>eV US Mid Cap Value Equity Median</i>			-4.11	12.48	6.07	10.27	8.54
STRS Mid Cap Growth	880,050,331	0.92	-0.66	23.81	1.11	11.11	11.65
<i>Russell Midcap Growth Index</i>			-3.21	15.05	-0.08	9.93	10.51
<i>eV US Mid Cap Growth Equity Median</i>			-3.50	12.40	-0.69	10.10	10.89
<b>Total 2000 Equity</b>	<b>2,275,697,499</b>	<b>2.39</b>	<b>-2.48</b>	<b>12.14</b>	<b>-0.76</b>	<b>9.11</b>	<b>9.06</b>
<i>Russell 2000 Index</i>			-3.28	10.06	-2.58	6.94	7.00
<i>eV US Small Cap Core Equity Median</i>			-2.98	11.40	2.29	9.82	8.86
<b>Total Internal 2000 Equity</b>	<b>859,387,670</b>	<b>0.90</b>	<b>-2.96</b>	<b>13.22</b>	<b>0.38</b>	<b>8.07</b>	<b>7.79</b>
<i>Russell 2000 Index</i>			-3.28	10.06	-2.58	6.94	7.00
<i>eV US Small Cap Core Equity Median</i>			-2.98	11.40	2.29	9.82	8.86
STRS Small Cap Select	404,391,949	0.42	-3.60	14.15	2.64	9.13	6.84
<i>Russell 2000 Index</i>			-3.28	10.06	-2.58	6.94	7.00
<i>eV US Small Cap Core Equity Median</i>			-2.98	11.40	2.29	9.82	8.86

Asset Allocation & Performance | As of June 30, 2024

	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
STRS Quantitative 2000	454,995,721	0.48	-2.38	12.41	-1.09	7.38	7.95
<i>Russell 2000 Index</i>			-3.28	10.06	-2.58	6.94	7.00
<i>eV US Small Cap Core Equity Median</i>			-2.98	11.40	2.29	9.82	8.86
<b>Total External 2000 Equity</b>	<b>1,416,309,829</b>	<b>1.49</b>	<b>-2.19</b>	<b>11.55</b>	<b>-1.47</b>	<b>9.66</b>	<b>9.79</b>
<i>Russell 2000 Index</i>			-3.28	10.06	-2.58	6.94	7.00
<i>eV US Small Cap Equity Median</i>			-2.88	11.38	2.00	9.48	8.87
<b>Small Cap Core</b>	<b>436,237,111</b>	<b>0.46</b>	<b>-3.22</b>	<b>18.14</b>	<b>2.86</b>	<b>13.10</b>	<b>10.55</b>
<i>Russell 2000 Index</i>			-3.28	10.06	-2.58	6.94	7.00
<i>eV US Small Cap Core Equity Median</i>			-2.98	11.40	2.29	9.82	8.86
Fuller & Thaler Core	323,281,717	0.34	-3.14	24.52	7.72	16.22	13.28
<i>Russell 2000 Index</i>			-3.28	10.06	-2.58	6.94	7.00
<i>eV US Small Cap Core Equity Median</i>			-2.98	11.40	2.29	9.82	8.86
Fuller & Thaler Micro-Cap	112,955,394	0.12	-3.45	1.03	-9.12	5.17	4.30
<i>Russell 2000 Index</i>			-3.28	10.06	-2.58	6.94	7.00
<i>eV US Small Cap Core Equity Median</i>			-2.98	11.40	2.29	9.82	8.86
<b>Small Cap Value</b>	<b>625,632,565</b>	<b>0.66</b>	<b>-2.71</b>	<b>9.11</b>	<b>0.59</b>	<b>8.38</b>	<b>7.87</b>
<i>Russell 2000 Value Index</i>			-3.64	10.90	-0.53	7.07	6.23
<i>eV US Small Cap Value Equity Median</i>			-3.08	12.69	3.73	9.85	7.96
Chartwell	273,842,301	0.29	-2.54	11.11	3.55	6.81	6.77
<i>Russell 2000 Value Index</i>			-3.64	10.90	-0.53	7.07	6.23
<i>eV US Small Cap Value Equity Median</i>			-3.08	12.69	3.73	9.85	7.96

Asset Allocation & Performance | As of June 30, 2024

	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Neuberger Berman	351,790,264	0.37	-2.84	7.34	-1.91	9.78	8.87
<i>Russell 2000 Value Index</i>			-3.64	10.90	-0.53	7.07	6.23
<i>eV US Small Cap Value Equity Median</i>			-3.08	12.69	3.73	9.85	7.96
<b>Small Cap Growth</b>	<b>354,440,152</b>	<b>0.37</b>	<b>0.17</b>	<b>7.27</b>	<b>-9.91</b>	<b>6.05</b>	<b>10.78</b>
<i>Russell 2000 Growth Index</i>			-2.92	9.14	-4.86	6.17	7.39
<i>eV US Small Cap Growth Equity Median</i>			-2.34	9.47	-2.69	8.20	10.09
Weatherbie Capital 2000 Growth	354,440,152	0.37	0.17	7.27	-9.91	6.05	11.74
<i>Russell 2000 Growth Index</i>			-2.92	9.14	-4.86	6.17	7.39
<i>eV US Small Cap Growth Equity Median</i>			-2.34	9.47	-2.69	8.20	10.09
<b>Total International Equity</b>	<b>20,892,595,738</b>	<b>21.93</b>	<b>1.55</b>	<b>14.87</b>	<b>5.71</b>	<b>8.53</b>	<b>6.76</b>
<i>International Blended Benchmark</i>			1.35	14.28	4.26	7.79	5.94
<i>eV ACWI ex-US All Cap Equity Median</i>			0.33	10.10	0.16	6.04	4.62
<b>Total EAFE</b>	<b>10,689,386,955</b>	<b>11.22</b>	<b>0.15</b>	<b>15.61</b>	<b>8.01</b>	<b>9.73</b>	<b>7.49</b>
<i>MSCI World ex USA 50% Hedged</i>			0.42	14.59	6.58	8.84	6.60
<i>eV Non-US Diversified All Cap Eq Median</i>			0.29	11.17	1.82	6.90	5.38
<b>Total Internal EAFE</b>	<b>4,411,127,756</b>	<b>4.63</b>	<b>0.31</b>	<b>15.99</b>	<b>7.55</b>	<b>8.82</b>	<b>6.40</b>
<i>MSCI World ex USA 50% Hedged</i>			0.42	14.59	6.58	8.84	6.60
<i>eV Non-US Diversified All Cap Eq Median</i>			0.29	11.17	1.82	6.90	5.38
STRS Structured EAFE	2,188,126,653	2.30	0.49	14.78	6.88	9.11	6.92
<i>MSCI World ex USA 50% Hedged</i>			0.42	14.59	6.58	8.84	6.60
<i>eV Non-US Diversified All Cap Eq Median</i>			0.29	11.17	1.82	6.90	5.38

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	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
STRS EAFE Quantitative	2,223,001,104	2.33	0.09	17.03	8.03	8.46	5.87
<i>MSCI World ex USA 50% Hedged</i>			0.42	14.59	6.58	8.84	6.60
<i>eV Non-US Diversified All Cap Eq Median</i>			0.29	11.17	1.82	6.90	5.38
<b>Total External EAFE</b>	<b>6,278,259,199</b>	<b>6.59</b>	<b>0.05</b>	<b>15.36</b>	<b>8.38</b>	<b>10.51</b>	<b>8.52</b>
<i>MSCI World ex USA 50% Hedged</i>			0.42	14.59	6.58	8.84	6.60
<i>eV Non-US Diversified All Cap Eq Median</i>			0.29	11.17	1.82	6.90	5.38
Arrowstreet Capital	2,188,609,054	2.30	-0.56	20.69	11.04	13.16	9.92
<i>MSCI ACWI ex USA IMI 50% Hedged</i>			0.32	14.21	5.79	8.63	6.40
<i>eV Non-US Diversified All Cap Eq Median</i>			0.29	11.17	1.82	6.90	5.38
AllianceBernstein EAFE Value	1,551,026,354	1.63	-0.24	15.66	8.90	9.19	6.50
<i>MSCI World ex USA 50% Hedged</i>			0.42	14.59	6.58	8.84	6.60
<i>eV Non-US Diversified All Cap Eq Median</i>			0.29	11.17	1.82	6.90	5.38
MFS	2,538,623,791	2.66	0.78	11.46	5.93	8.96	8.90
<i>MSCI World ex USA 50% Hedged</i>			0.42	14.59	6.58	8.84	6.60
<i>eV Non-US Diversified All Cap Eq Median</i>			0.29	11.17	1.82	6.90	5.38
<b>Total Emerging</b>	<b>2,917,336,596</b>	<b>3.06</b>	<b>5.97</b>	<b>16.76</b>	<b>-1.53</b>	<b>4.40</b>	<b>3.87</b>
<i>MSCI Emerging Markets (Net)</i>			5.00	12.55	-5.07	3.10	2.79
<i>eV Emg Mkts All Cap Equity Median</i>			4.41	12.37	-3.98	4.51	4.31
<b>Total Internal Emerging</b>	<b>2,586,464,335</b>	<b>2.71</b>	<b>6.18</b>	<b>17.66</b>	<b>0.00</b>	<b>5.38</b>	<b>4.58</b>
<i>MSCI Emerging Markets (Net)</i>			5.00	12.55	-5.07	3.10	2.79
<i>eV Emg Mkts All Cap Equity Median</i>			4.41	12.37	-3.98	4.51	4.31
STRS Active Emerging Combined	1,787,880,732	1.88	5.65	17.14	0.75	5.99	4.87
<i>MSCI Emerging Markets (Net)</i>			5.00	12.55	-5.07	3.10	2.79

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	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
STRS Emerging Market Quantitative	798,583,603	0.84	7.40	18.85	-1.74	3.99	3.67
<i>MSCI Emerging Markets (Net)</i>			<i>5.00</i>	<i>12.55</i>	<i>-5.07</i>	<i>3.10</i>	<i>2.79</i>
<b>Total External Emerging</b>	<b>330,872,261</b>	<b>0.35</b>	<b>4.34</b>	<b>10.43</b>	<b>-7.44</b>	<b>0.55</b>	<b>1.53</b>
<i>MSCI Emerging Markets (Net)</i>			<i>5.00</i>	<i>12.55</i>	<i>-5.07</i>	<i>3.10</i>	<i>2.79</i>
<i>eV Emg Mkts All Cap Equity Median</i>			<i>4.41</i>	<i>12.37</i>	<i>-3.98</i>	<i>4.51</i>	<i>4.31</i>
Genesis	330,872,261	0.35	4.34	10.43	-7.44	1.84	2.54
<i>MSCI Emerging Markets (Net)</i>			<i>5.00</i>	<i>12.55</i>	<i>-5.07</i>	<i>3.10</i>	<i>2.79</i>
<i>eV Emg Mkts All Cap Equity Median</i>			<i>4.23</i>	<i>11.64</i>	<i>-5.05</i>	<i>3.62</i>	<i>3.52</i>
<b>Total Global Ex-US</b>	<b>7,069,181,225</b>	<b>7.42</b>	<b>1.94</b>	<b>13.04</b>	<b>5.23</b>	<b>8.28</b>	<b>6.65</b>
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>4.26</i>	<i>7.79</i>	<i>5.94</i>
<i>MSCI AC World ex USA (Net)</i>			<i>0.96</i>	<i>11.62</i>	<i>0.46</i>	<i>5.55</i>	<i>3.84</i>
<i>eV Non-US Diversified All Cap Eq Median</i>			<i>0.29</i>	<i>11.17</i>	<i>1.82</i>	<i>6.90</i>	<i>5.38</i>
<b>Total Internal Global Ex-US</b>	<b>3,728,501,291</b>	<b>3.91</b>	<b>2.65</b>	<b>13.98</b>	<b>7.15</b>	<b>9.33</b>	<b>7.13</b>
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>4.26</i>	<i>7.79</i>	<i>5.94</i>
<i>MSCI AC World ex USA (Net)</i>			<i>0.96</i>	<i>11.62</i>	<i>0.46</i>	<i>5.55</i>	<i>3.84</i>
<i>eV Non-US Diversified All Cap Eq Median</i>			<i>0.29</i>	<i>11.17</i>	<i>1.82</i>	<i>6.90</i>	<i>5.38</i>
STRS International Value	3,596,161,126	3.77	2.68	14.00	7.19	9.35	7.14
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>4.26</i>	<i>7.79</i>	<i>5.94</i>
<i>MSCI AC World ex USA (Net)</i>			<i>0.96</i>	<i>11.62</i>	<i>0.46</i>	<i>5.55</i>	<i>3.84</i>
<i>eV Non-US Diversified All Cap Eq Median</i>			<i>0.29</i>	<i>11.17</i>	<i>1.82</i>	<i>6.90</i>	<i>5.38</i>
STRS International Analyst	132,340,165	0.14	1.78	13.70	--	--	--
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>--</i>	<i>--</i>	<i>--</i>
<i>MSCI AC World ex USA (Net)</i>			<i>0.96</i>	<i>11.62</i>	<i>--</i>	<i>--</i>	<i>--</i>
<i>eV Non-US Diversified All Cap Eq Median</i>			<i>0.29</i>	<i>11.17</i>	<i>--</i>	<i>--</i>	<i>--</i>

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	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Total External Global Ex-US</b>	<b>3,340,679,934</b>	<b>3.51</b>	<b>1.22</b>	<b>12.11</b>	<b>2.92</b>	<b>7.14</b>	<b>6.23</b>
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>4.26</i>	<i>7.79</i>	<i>5.94</i>
<i>MSCI AC World ex USA (Net)</i>			<i>0.96</i>	<i>11.62</i>	<i>0.46</i>	<i>5.55</i>	<i>3.84</i>
<b>Global Ex-US Standard</b>	<b>2,881,454,625</b>	<b>3.02</b>	<b>1.10</b>	<b>11.33</b>	<b>3.18</b>	<b>7.26</b>	<b>6.29</b>
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>4.26</i>	<i>7.79</i>	<i>5.94</i>
<i>MSCI AC World ex USA (Net)</i>			<i>0.96</i>	<i>11.62</i>	<i>0.46</i>	<i>5.55</i>	<i>3.84</i>
Lazard	736,943,251	0.77	-1.53	7.61	3.26	6.12	5.36
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>4.26</i>	<i>7.79</i>	<i>5.94</i>
<i>MSCI AC World ex USA (Net)</i>			<i>0.96</i>	<i>11.62</i>	<i>0.46</i>	<i>5.55</i>	<i>3.84</i>
Wellington International Opportunities	1,120,319,569	1.18	3.29	14.95	3.43	8.57	7.27
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>4.26</i>	<i>7.79</i>	<i>5.94</i>
<i>MSCI AC World ex USA (Net)</i>			<i>0.96</i>	<i>11.62</i>	<i>0.46</i>	<i>5.55</i>	<i>3.84</i>
William Blair	1,024,191,804	1.07	0.72	10.24	--	--	--
<i>International Blended Benchmark</i>			<i>1.35</i>	<i>14.28</i>	<i>--</i>	<i>--</i>	<i>--</i>
<i>MSCI AC World ex USA (Net)</i>			<i>0.96</i>	<i>11.62</i>	<i>--</i>	<i>--</i>	<i>--</i>
<b>Global Ex-US Small Cap</b>	<b>459,225,309</b>	<b>0.48</b>	<b>1.98</b>	<b>17.31</b>	<b>2.39</b>	<b>--</b>	<b>--</b>
<i>MSCI ACWI ex USA Small Cap 50% Hedged</i>			<i>1.57</i>	<i>14.14</i>	<i>1.69</i>	<i>--</i>	<i>--</i>
Acadian	258,563,317	0.27	4.37	23.66	6.50	--	--
<i>MSCI ACWI ex USA Small Cap 50% Hedged</i>			<i>1.57</i>	<i>14.14</i>	<i>1.69</i>	<i>--</i>	<i>--</i>
American Century	138,370,697	0.15	-0.76	9.13	-2.90	--	--
<i>MSCI ACWI ex USA Small Cap 50% Hedged</i>			<i>1.57</i>	<i>14.14</i>	<i>1.69</i>	<i>--</i>	<i>--</i>
Wellington Small Cap	62,291,295	0.07	-1.74	14.24	1.71	--	--
<i>MSCI ACWI ex USA Small Cap 50% Hedged</i>			<i>1.57</i>	<i>14.14</i>	<i>1.69</i>	<i>--</i>	<i>--</i>

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	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Total Fixed Income</b>	<b>20,981,519,416</b>	<b>22.02</b>	<b>0.30</b>	<b>3.63</b>	<b>-2.19</b>	<b>0.46</b>	<b>1.87</b>
<i>Fixed Income Blended Benchmark</i>			<i>0.28</i>	<i>3.52</i>	<i>-2.41</i>	<i>0.18</i>	<i>1.64</i>
<b>Liquid Treasury Portfolio</b>	<b>4,780,765,742</b>	<b>5.02</b>	<b>0.58</b>	<b>3.41</b>	<b>-1.36</b>	<b>0.34</b>	<b>--</b>
<i>Blmbg. U.S. Treasury: Intermediate</i>			<i>0.58</i>	<i>3.37</i>	<i>-1.41</i>	<i>0.28</i>	<i>--</i>
<b>Core Fixed Income</b>	<b>16,200,753,674</b>	<b>17.00</b>	<b>0.21</b>	<b>3.58</b>	<b>-2.43</b>	<b>0.43</b>	<b>1.89</b>
<i>Blmbg. U.S. Universal Index</i>			<i>0.19</i>	<i>3.47</i>	<i>-2.68</i>	<i>0.11</i>	<i>1.63</i>
<i>Global Bond Median</i>			<i>-1.02</i>	<i>2.60</i>	<i>-4.41</i>	<i>-1.35</i>	<i>0.45</i>
<b>STRS Fixed Income</b>	<b>14,246,544,696</b>	<b>14.95</b>	<b>0.09</b>	<b>2.69</b>	<b>-2.81</b>	<b>0.03</b>	<b>1.53</b>
<b>High-Yield</b>	<b>807,820,720</b>	<b>0.85</b>	<b>1.32</b>	<b>10.57</b>	<b>2.10</b>	<b>4.31</b>	<b>4.67</b>
<i>Blmbg. U.S. High Yield Index</i>			<i>1.09</i>	<i>10.44</i>	<i>1.64</i>	<i>3.92</i>	<i>4.31</i>
<i>High Yield Bond Median</i>			<i>1.42</i>	<i>10.72</i>	<i>2.27</i>	<i>4.23</i>	<i>4.47</i>
BNY Mellon	134,058,112	0.14	1.09	10.39	1.68	--	--
<i>Blmbg. U.S. High Yield Index</i>			<i>1.09</i>	<i>10.44</i>	<i>1.64</i>	<i>--</i>	<i>--</i>
<i>High Yield Bond Median</i>			<i>1.42</i>	<i>10.72</i>	<i>2.27</i>	<i>--</i>	<i>--</i>
JP Morgan	191,062,845	0.20	1.31	10.14	3.06	--	--
<i>Blmbg. U.S. High Yield Index</i>			<i>1.09</i>	<i>10.44</i>	<i>1.64</i>	<i>--</i>	<i>--</i>
<i>High Yield Bond Median</i>			<i>1.42</i>	<i>10.72</i>	<i>2.27</i>	<i>--</i>	<i>--</i>
PGIM	183,347,374	0.19	1.08	10.76	1.91	--	--
<i>Blmbg. U.S. High Yield Index</i>			<i>1.09</i>	<i>10.44</i>	<i>1.64</i>	<i>--</i>	<i>--</i>
<i>High Yield Bond Median</i>			<i>1.42</i>	<i>10.72</i>	<i>2.27</i>	<i>--</i>	<i>--</i>
PIMCO	299,352,389	0.31	1.57	10.84	1.86	4.23	4.87
<i>Blmbg. U.S. High Yield Index</i>			<i>1.09</i>	<i>10.44</i>	<i>1.64</i>	<i>3.92</i>	<i>4.31</i>
<i>High Yield Bond Median</i>			<i>1.42</i>	<i>10.72</i>	<i>2.27</i>	<i>4.23</i>	<i>4.47</i>



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	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Emerging Debt</b>	<b>1,146,388,258</b>	<b>1.20</b>	<b>0.92</b>	<b>10.05</b>	<b>-0.72</b>	<b>1.28</b>	<b>3.21</b>
<i>Emerging Debt Index</i>			<i>0.67</i>	<i>7.95</i>	<i>-2.22</i>	<i>0.47</i>	<i>2.52</i>
<i>Emerging Markets Bond Median</i>			<i>0.50</i>	<i>10.24</i>	<i>-0.87</i>	<i>1.68</i>	<i>2.87</i>
Fidelity Institutional Asset Management	435,422,296	0.46	1.06	10.96	-0.21	1.43	3.52
<i>Emerging Debt Index</i>			<i>0.67</i>	<i>7.95</i>	<i>-2.22</i>	<i>0.47</i>	<i>2.52</i>
<i>Emerging Markets Bond Median</i>			<i>0.50</i>	<i>10.24</i>	<i>-0.87</i>	<i>1.68</i>	<i>2.87</i>
MFS	487,554,059	0.51	0.73	9.15	-0.86	--	--
<i>Emerging Debt Index</i>			<i>0.67</i>	<i>7.95</i>	<i>-2.22</i>	<i>--</i>	<i>--</i>
<i>Emerging Markets Bond Median</i>			<i>0.50</i>	<i>10.24</i>	<i>-0.87</i>	<i>--</i>	<i>--</i>
Payden & Rygel	223,301,440	0.23	1.08	10.42	-1.38	--	--
<i>Emerging Debt Index</i>			<i>0.67</i>	<i>7.95</i>	<i>-2.22</i>	<i>--</i>	<i>--</i>
<i>Emerging Markets Bond Median</i>			<i>0.50</i>	<i>10.24</i>	<i>-0.87</i>	<i>--</i>	<i>--</i>
<b>Liquidity Reserve</b>	<b>1,527,381,323</b>	<b>1.60</b>	<b>1.36</b>	<b>5.64</b>	<b>3.20</b>	<b>2.23</b>	<b>1.57</b>
<i>Liquidity Reserve Index</i>			<i>1.32</i>	<i>5.40</i>	<i>3.03</i>	<i>2.16</i>	<i>1.51</i>
<i>Money Market-Tax-Free Median</i>			<i>0.91</i>	<i>3.58</i>	<i>2.12</i>	<i>1.56</i>	<i>1.16</i>

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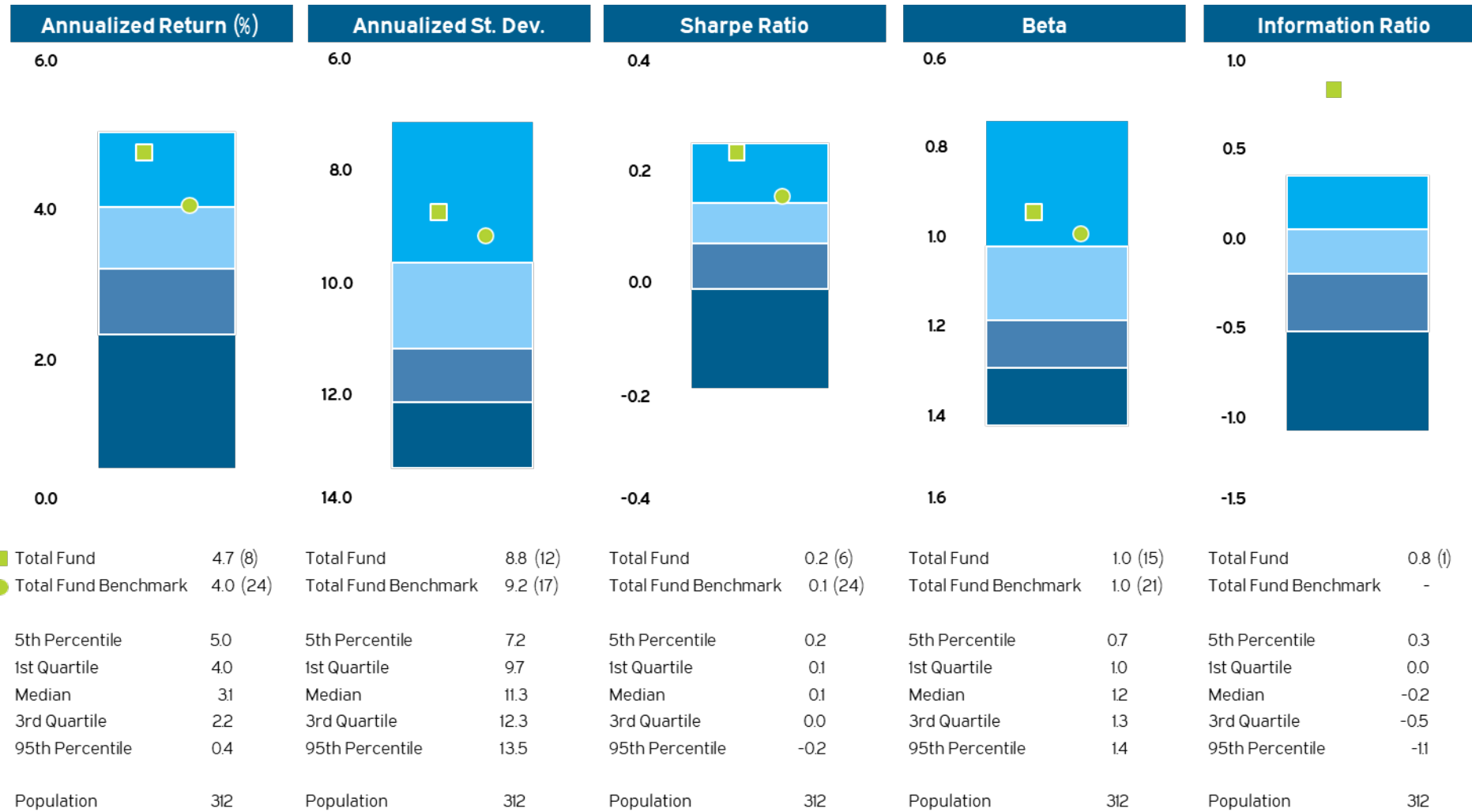
	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Total Real Estate</b>	<b>8,011,803,807</b>	<b>8.41</b>	<b>-1.21</b>	<b>-9.44</b>	<b>1.62</b>	<b>3.00</b>	<b>6.31</b>
<i>Real Estate Blended Benchmark</i>			<i>-0.21</i>	<i>-3.41</i>	<i>2.30</i>	<i>3.82</i>	<i>6.28</i>
<b>Private Real Estate</b>	<b>6,639,512,885</b>	<b>6.97</b>	<b>-1.57</b>	<b>-12.30</b>	<b>1.50</b>	<b>2.38</b>	<b>6.10</b>
<b>Direct Real Estate</b>	<b>5,226,057,664</b>	<b>5.49</b>	<b>-1.95</b>	<b>-14.39</b>	<b>0.20</b>	<b>1.71</b>	<b>5.60</b>
<i>NCREIF Property Index</i>			<i>-0.26</i>	<i>-5.53</i>	<i>2.33</i>	<i>3.39</i>	<i>6.07</i>
East Region (Private RE)	1,853,045,417	1.94	-0.08	-8.80	0.41	0.04	2.03
<i>NCREIF Property Index</i>			<i>-0.26</i>	<i>-5.53</i>	<i>2.33</i>	<i>3.39</i>	<i>6.07</i>
Midwest Region (Private RE)	813,430,271	0.85	-2.75	-15.10	-5.28	-1.68	3.61
<i>NCREIF Property Index</i>			<i>-0.26</i>	<i>-5.53</i>	<i>2.33</i>	<i>3.39</i>	<i>6.07</i>
South Region (Private RE)	881,200,000	0.92	0.94	-0.40	9.49	9.55	11.59
<i>NCREIF Property Index</i>			<i>-0.26</i>	<i>-5.53</i>	<i>2.33</i>	<i>3.39</i>	<i>6.07</i>
West Region (Private RE)	1,678,381,976	1.76	-4.97	-25.15	-1.86	1.55	7.79
<i>NCREIF Property Index</i>			<i>-0.26</i>	<i>-5.53</i>	<i>2.33</i>	<i>3.39</i>	<i>6.07</i>
<b>Commingled Funds Real Estate</b>	<b>1,413,455,221</b>	<b>1.48</b>	<b>-0.08</b>	<b>-3.13</b>	<b>7.31</b>	<b>5.14</b>	<b>8.47</b>
<i>NCREIF Property Index</i>			<i>-0.26</i>	<i>-5.53</i>	<i>2.33</i>	<i>3.39</i>	<i>6.07</i>
Opportunity Fund (Private RE)	425,058,277	0.45	-0.07	-8.19	7.36	6.18	8.70
<i>NCREIF Property Index</i>			<i>-0.26</i>	<i>-5.53</i>	<i>2.33</i>	<i>3.39</i>	<i>6.07</i>
International (Private RE)	825,495,528	0.87	-0.13	-0.50	7.35	4.49	8.68
<i>NCREIF Property Index</i>			<i>-0.26</i>	<i>-5.53</i>	<i>2.33</i>	<i>3.39</i>	<i>6.07</i>
Specialty Real Estate Funds (Private RE)	162,901,416	0.17	0.13	-3.32	7.70	6.63	--
<i>NCREIF Property Index</i>			<i>-0.26</i>	<i>-5.53</i>	<i>2.33</i>	<i>3.39</i>	<i>--</i>

Asset Allocation & Performance | As of June 30, 2024

	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Public Real Estate</b>	<b>1,372,290,922</b>	<b>1.44</b>	<b>0.32</b>	<b>7.54</b>	<b>0.55</b>	<b>4.05</b>	<b>5.99</b>
<i>FTSE NAREIT Equity REIT Index</i>			<i>0.06</i>	<i>7.79</i>	<i>0.30</i>	<i>3.90</i>	<i>5.90</i>
<b>REITs - Active (Public RE)</b>	<b>980,522,740</b>	<b>1.03</b>	<b>0.10</b>	<b>7.51</b>	--	--	--
<i>FTSE NAREIT Equity REIT Index</i>			<i>0.06</i>	<i>7.79</i>	--	--	--
<b>External REIT</b>	<b>391,768,182</b>	<b>0.41</b>	<b>0.88</b>	<b>7.59</b>	--	--	--
<i>FTSE NAREIT Equity REIT Index</i>			<i>0.06</i>	<i>7.79</i>	--	--	--
CenterSquare Investment Management	158,196,488	0.17	0.75	8.59	--	--	--
<i>FTSE NAREIT Equity REIT Index</i>			<i>0.06</i>	<i>7.79</i>	--	--	--
Heitman	127,791,560	0.13	1.07	6.30	--	--	--
<i>FTSE NAREIT Equity REIT Index</i>			<i>0.06</i>	<i>7.79</i>	--	--	--
Principal Asset Management	105,780,134	0.11	0.84	7.72	--	--	--
<i>FTSE NAREIT Equity REIT Index</i>			<i>0.06</i>	<i>7.79</i>	--	--	--
<b>Total Alternative Investments</b>	<b>18,984,778,751</b>	<b>19.93</b>	<b>1.89</b>	<b>6.85</b>	<b>7.63</b>	<b>12.34</b>	<b>10.39</b>
<i>Alternative Investments Blended Benchmark</i>			<i>1.35</i>	<i>6.47</i>	<i>6.37</i>	--	--
<b>Private Equity</b>	<b>9,577,051,179</b>	<b>10.05</b>	<b>1.02</b>	<b>3.44</b>	<b>5.24</b>	<b>15.29</b>	<b>14.21</b>
<i>Private Equity Benchmark</i>			<i>1.13</i>	<i>4.83</i>	<i>6.25</i>	--	--
Domestic Private Equity	5,280,793,830	5.54	1.80	7.25	8.84	17.52	15.65
<i>Private Equity Benchmark</i>			<i>1.13</i>	<i>4.83</i>	<i>6.25</i>	--	--
Domestic Venture Capital	2,707,602,190	2.84	-1.35	-4.40	-0.40	13.18	12.03
<i>Private Equity Benchmark</i>			<i>1.13</i>	<i>4.83</i>	<i>6.25</i>	--	--
Global Private Equity	1,585,787,458	1.66	2.62	4.79	5.01	13.20	13.77
<i>Private Equity Benchmark</i>			<i>1.13</i>	<i>4.83</i>	<i>6.25</i>	--	--

Asset Allocation & Performance | As of June 30, 2024

	Market Value (\$)	% of Portfolio	QTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
<b>Opportunistic/Diversified</b>	<b>9,407,727,572</b>	<b>9.87</b>	<b>2.80</b>	<b>10.58</b>	<b>10.15</b>	<b>8.94</b>	<b>6.51</b>
<i>Opportunistic/Diversified Blended Benchmark</i>			<i>1.54</i>	<i>7.96</i>	<i>6.85</i>	<i>--</i>	<i>--</i>
Opportunistic	8,769,382,749	9.20	2.75	10.30	10.90	9.85	7.75
<i>Opportunistic Benchmark</i>			<i>1.62</i>	<i>7.92</i>	<i>7.83</i>	<i>--</i>	<i>--</i>
Diversified	638,344,823	0.67	3.43	14.74	7.21	5.99	4.28
<i>Diversified Benchmark</i>			<i>0.44</i>	<i>8.50</i>	<i>1.97</i>	<i>--</i>	<i>--</i>



Gross returns are net of transaction costs and gross of management fees, except for alternative investments & real estate where the return is also net of all external investment management fees and costs, including carried interest and other fund expenses. Certain Meketa returns may differ from STRS due to rounding. Universe is All Public DB Plans.

	Risk Return Statistics			
	3 Yrs (%)		5 Yrs (%)	
	Total Fund	Total Fund Benchmark	Total Fund	Total Fund Benchmark
<b>RETURN SUMMARY STATISTICS</b>				
Maximum Return	4.9	5.1	7.9	7.7
Minimum Return	-5.3	-5.5	-7.7	-7.8
Return	4.7	4.0	8.9	8.2
Excess Return	2.0	1.4	6.9	6.3
Excess Performance	0.7	0.0	0.7	0.0
<b>RISK SUMMARY STATISTICS</b>				
Beta	1.0	1.0	1.0	1.0
Up Capture	98.8	100.0	101.0	100.0
Down Capture	92.8	100.0	95.7	100.0
<b>RISK/RETURN SUMMARY STATISTICS</b>				
Standard Deviation	8.8	9.2	9.5	9.7
Sortino Ratio	0.3	0.2	1.1	1.0
Alpha	0.9	0.0	0.8	0.0
Sharpe Ratio	0.2	0.1	0.7	0.6
Excess Risk	8.7	9.1	9.6	9.8
Tracking Error	0.8	0.0	0.7	0.0
Information Ratio	0.8	-	0.9	-
<b>CORRELATION STATISTICS</b>				
R-Squared	1.0	1.0	1.0	1.0
Actual Correlation	1.0	1.0	1.0	1.0

Gross returns are net of transaction costs and gross of management fees, except for alternative investments & real estate where the return is also net of all external investment management fees and costs, including carried interest and other fund expenses. Certain Meketa returns may differ from STRS due to rounding.

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

- Summary of investment activity report, June and July 2024
- Domestic equity asset class update and outlook
- Meketa annual performance review as of June 30, 2024
- **Callan annual performance review as of June 30, 2024**
- **Meketa Comments**
  - Review and adopt reference benchmark
  - Asset-liability study board survey summary results
- **Proxy Voting Summary for six months ending June 30, 2024**
- **Review of Securities Compliance Policies and Procedures**
  - As required by Section 3307.043 of the Ohio Revised Code
- **Semiannual Derivatives Exposure as of June 30, 2024**
- **Review of June and July 2024 investment transactions**
- **Summary of requests**





August 16, 2024

## State Teachers Retirement System of Ohio

Quarterly Alternative Investment Portfolio  
Performance Summary

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**Pete Keliuotis, CFA**  
Executive Vice President

**David Smith, CFA, CTP**  
Senior Vice President

**Tony Lissuzzo, CFA**  
Senior Vice President

**Daniel Brown**  
Assistant Vice President

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## Executive Summary

The STRS Ohio Alternatives Portfolio has improved the risk-adjusted returns of the total fund through added diversification benefits and strong performance.

- **Overview**

- The Alternative Investments (or “Alternatives”) program has 20+ year history
- The program is diversified by strategy type and is designed to provide both return enhancement and risk mitigation. The components of the Alternative Program include:
  - Private Equity:
    - *Investments in private, non-liquid companies that provide high return potential relative to public market asset classes*
  - Opportunistic / Diversified (or “O/D”):
    - *Opportunistic: Investments are expected to provide both return enhancement and downside protection in equity bear markets*
    - *Diversified: uncorrelated, liquid strategies, expected to provide diversification benefits for the total fund*

- **Performance Comments**

- The Total Alternative Investments Program has positively contributed to total fund performance over the trailing 20-year period
- The Private Equity and Opportunistic Portfolios have performed well relative to private market counterparts, ranking solidly in the second quartile of relevant peer groups
- The Alternatives Program has primarily been self-funded over the last ten years

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## Total Alternative Investments

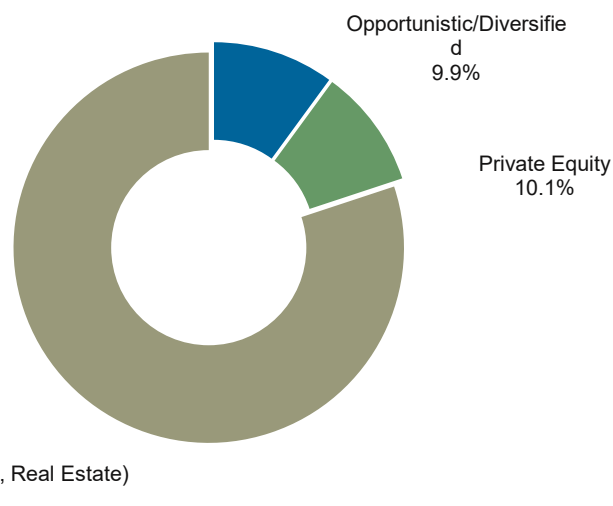
# STRS Ohio Alternative Investments

Private Equity and O/D segments differ in terms of risk/return expectation, providing diversification benefits to the STRS Ohio Total Fund

The following tables illustrate total current and potential exposure by Private Equity and Opportunistic/Diversified, as of June 30, 2024 in USD millions.

## Total Fund Portfolio Composition

Net Asset Value



## Alternatives Portfolio Composition

Net Asset Value



Traditional (Stocks, Bonds, Real Estate)  
80.1%

Portfolio Exposure by Strategy Type	Net Asset Value <sup>1</sup>	%	Unfunded Commitment <sup>1</sup>	%	Potential Exposure	%	5 Year TWR <sup>2</sup>	10 Year TWR <sup>2</sup>
Private Equity	\$9,577	50.4%	\$2,905	42.9%	\$12,482	48.5%	15.29%	14.21%
Opportunistic/Diversified	\$9,408	49.6%	\$3,859	57.1%	\$13,267	51.5%	8.94%	6.51%
<b>Total Alternatives Program</b>	<b>18,985</b>	<b>100.0%</b>	<b>\$6,764</b>	<b>100.0%</b>	<b>\$25,749</b>	<b>100.0%</b>	<b>12.34%</b>	<b>10.39%</b>

In \$ millions

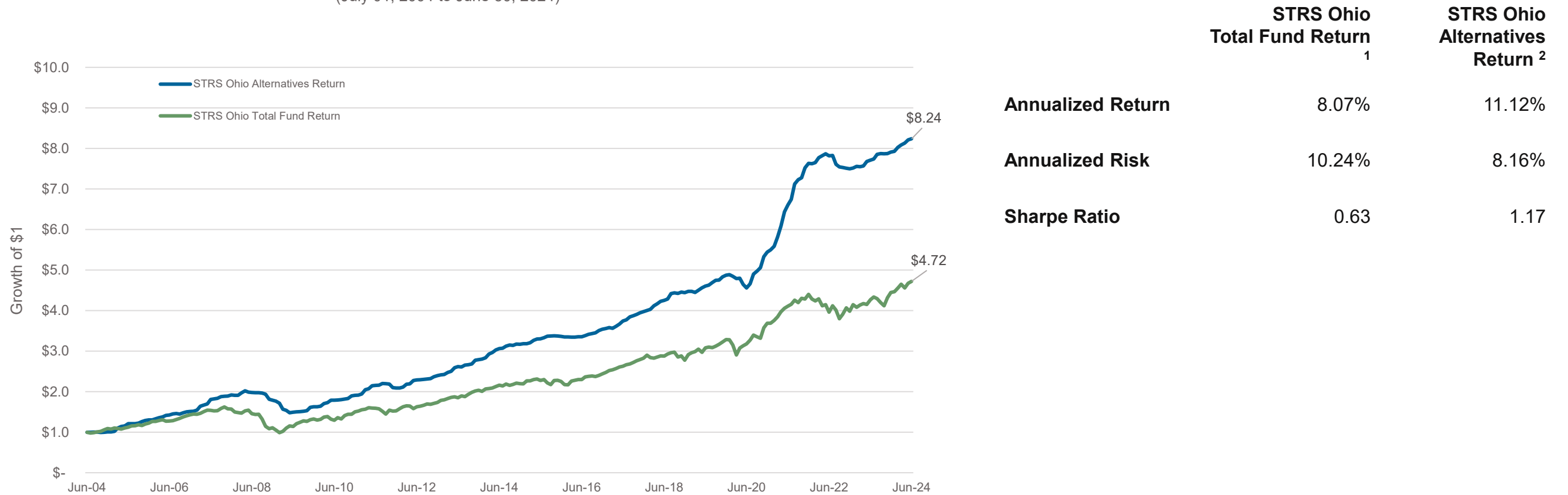
<sup>1</sup> Source is Hamilton Lane.

<sup>2</sup> STRS Ohio Alternative Investments returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

# STRS Ohio 20-Year Performance: Alternatives and STRS Ohio Total Fund

STRS Ohio Alternatives have enhanced Total Fund return and reduced Total Fund risk over the last 20 years

Contribution of Alternative Investments to STRS  
20-Year Total Fund Performance  
(July 01, 2004 to June 30, 2024)



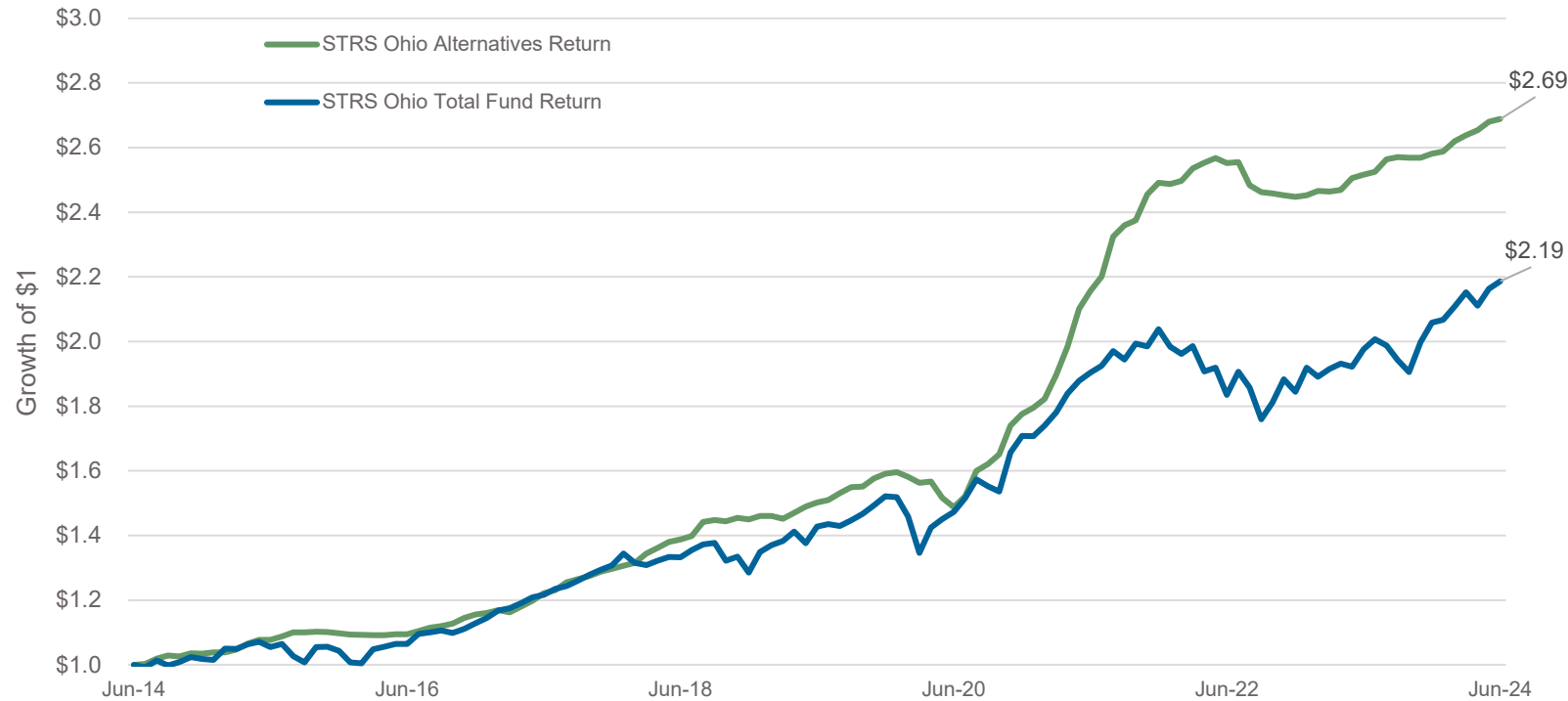
<sup>1</sup> The Total Fund return shown includes Alternative Investments & Real Estate where the return is also net of all external investment management fees and costs, including carried interest and other fund expenses.

<sup>2</sup> STRS Ohio Alternative Investments returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

# STRS Ohio 10-Year Performance: Alternatives and STRS Ohio Total Fund

As of June 30, 2024

STRS Ohio 10-Year Alternative Investment Performance – Time-Weighted Returns  
(July 01, 2014 – June 30, 2024)



STRS Ohio Alternatives Performance  
Annualized Returns ending June 30, 2024<sup>1</sup>

	STRS Ohio Alternatives	STRS Ohio Total Fund	Alternatives Blended Benchmark
<b>Last 10 years</b>	10.39%	8.14%	
<b>Last 5 years</b>	12.34%	8.90%	
<b>Last 3 years</b>	7.63%	4.73%	6.37%
<b>Last 1 year</b>	6.85%	10.66%	6.47%
<b>Last Quarter</b>	1.89%	1.57%	1.35%
<b>Risk (10-Yr)</b>	7.02%	8.75%	
<b>Sharpe Ratio (10-Yr)</b>	1.27	0.76	

- STRS Ohio Alternatives return exceeds STRS Ohio Total Fund return in all time periods except the last one year.
- STRS Ohio Alternatives return exceeds the STRS Ohio Alternative Investment Blended Benchmark over the last quarter, last one-year and last three-year periods since it has been adopted.

<sup>1</sup> STRS Ohio Alternatives Investments returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

# STRS Ohio Portfolio Risk Dashboard

		STRS Ohio Private Equity	STRS Ohio Opportunistic/Diversified	STRS Ohio Total Alternative Investments
Organizational Risk (Based on Stoplight Report)	»	4.0	4.0	4.0
Portfolio Performance (Performance vs. Benchmark)	»	3.5	3.0	3.3
Manager Selection (Based on Stoplight Report)	»	4.0	5.0	4.5
Diversification (Returns by Vintage NAV)	»	4.0	4.0	4.0
Liquidity (Days Liquidity by Strategy)	»	5.0	3.1 (Opp) / 4.2 (Div)	4.1

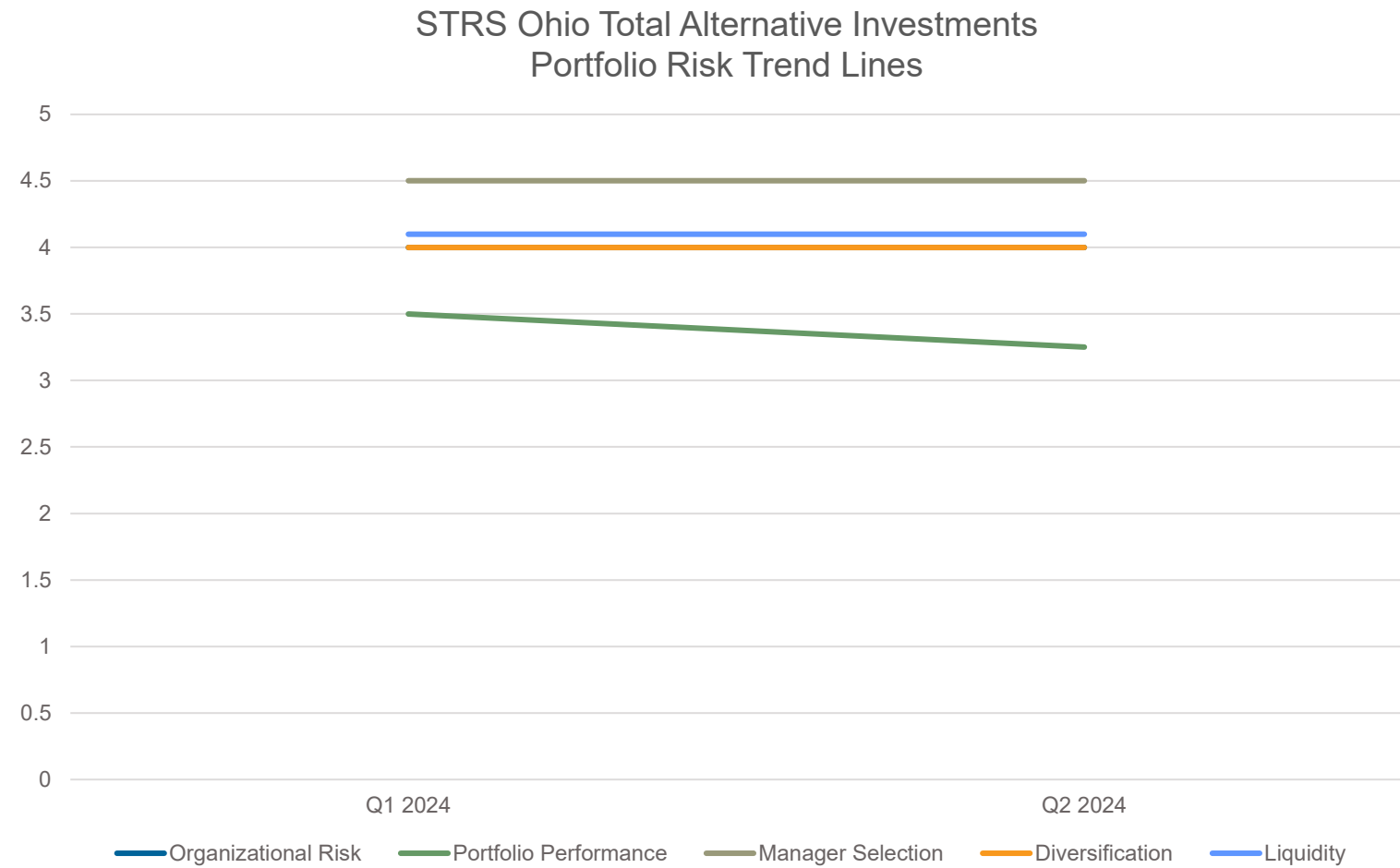
- Risk Dashboard objective is to monitor, assess, track and efficiently communicate risk using multiple parameters.
- Parameters must be quantitatively measured and tracked over time to help identify trends.
- Liquidity risk scoring for PE based on DPI performance. Opportunistic based on weighted average of redemption period and DPI performance. Diversified based on weighted average of redemption period.

### Risk Dashboard Ratings Legend

- 5 All performance metrics above median; all stoplights in green.
- 4 One to two performance metrics third quartile; one to two stoplights in yellow.
- 3 At least one performance metric fourth quartile or one spotlight in red; the remainder above median or green stoplights.
- 2 Most performance metrics below median; all stoplights yellow and red.
- 1 All performance metrics below median; all stoplights in the red.

<sup>1</sup> STRS Ohio Alternatives Investments returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

# STRS Ohio Portfolio Risk Trend Lines



<sup>1</sup> STRS Ohio Alternatives Investments returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.



# STRS Ohio Portfolio Risk Trend Lines

STRS Ohio Total Private Equity Portfolio Risk Trend Lines



STRS Ohio Total Opportunistic/Diversified Portfolio Risk Trend Lines



<sup>1</sup> STRS Ohio Alternatives Investments returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

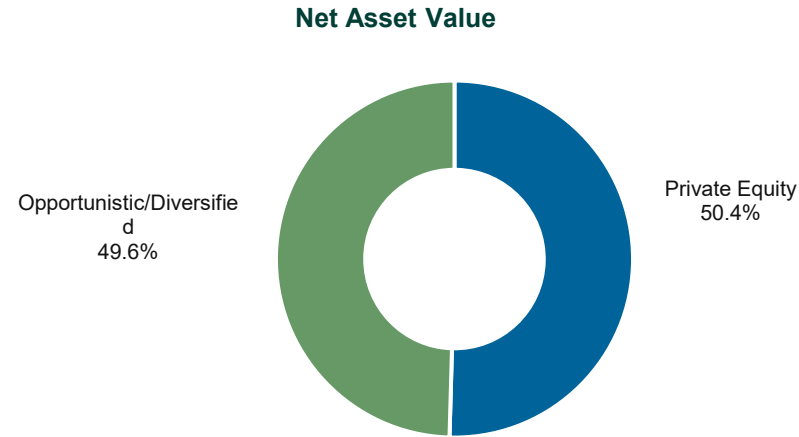
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## Private Equity

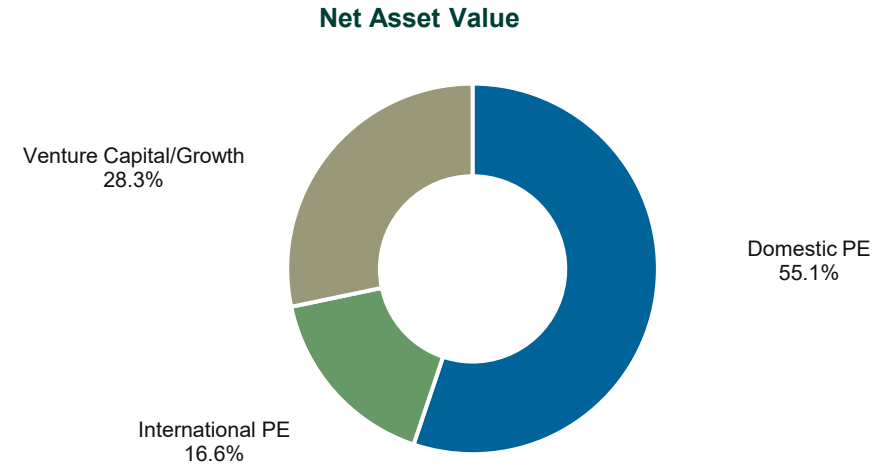
# STRS Ohio Private Equity Investments

The following tables illustrate total current and potential exposure by Private Equity and Opportunistic/Diversified, as of June 30, 2024 in USD millions.

## Alternatives Portfolio Composition



## Private Equity Portfolio Composition



Portfolio Exposure by Strategy Type	Net Asset Value <sup>1</sup>	%	Unfunded Commitment <sup>1</sup>	%	Potential Exposure	%	5 Year TWR <sup>2</sup>	10 Year TWR <sup>2</sup>
Domestic Private Equity	\$5,281	55.1%	\$2,222	76.9%	\$7,503	60.1%	17.52%	15.65%
International Private Equity	\$1,586	16.6%	\$446	15.4%	\$2,032	16.3%	13.20%	13.77%
Venture Capital/Growth	\$2,708	28.3%	\$236	8.1%	\$2,944	23.6%	13.18%	12.03%
Stock Distribution	\$3	0.0%	-	-	\$3	0.0%	-	-
<b>Total Private Equity Program</b>	<b>\$9,578</b>	<b>100.0%</b>	<b>\$2,905</b>	<b>100.0%</b>	<b>\$12,482</b>	<b>100.0%</b>	<b>15.29%</b>	<b>14.21%</b>

In \$ millions

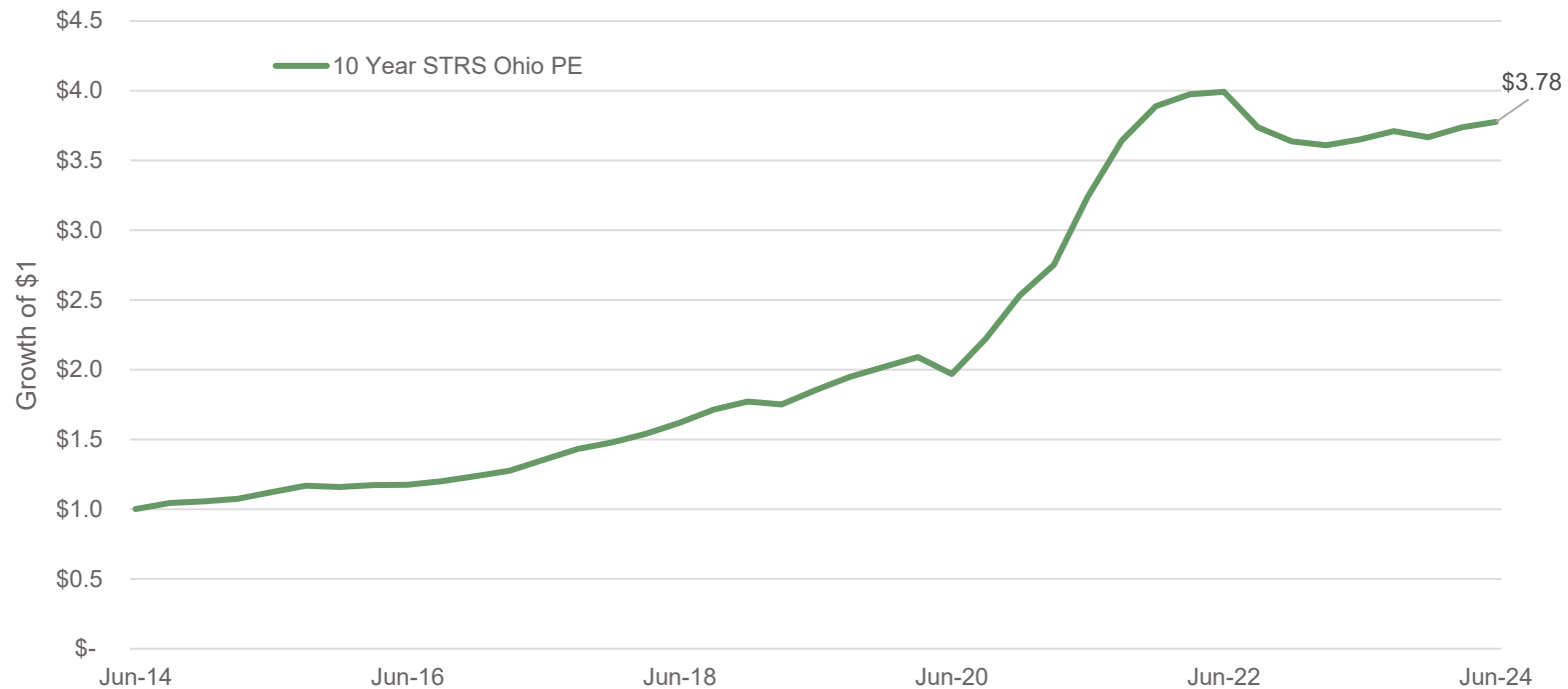
<sup>1</sup> Source is Hamilton Lane.

<sup>2</sup> STRS Ohio Private Equity returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

# STRS Ohio Private Equity Performance

As of June 30, 2024

10-Year Private Equity Performance: Time-Weighted Returns  
(July 01, 2014 to June 30, 2024)



STRS Ohio Private Equity Performance  
Annualized Returns ending June 30, 2024<sup>1</sup>

	STRS Ohio Private Equity	STRS Ohio Private Equity Benchmark
Last 10 years	14.21%	
Last 5 years	15.29%	
Last 3 years	5.24%	6.25%
Last 1 year	3.44%	4.83%
Last Quarter	1.02%	1.13%
Risk (10-Yr)	9.63%	
Sharpe Ratio (10-Yr)	1.32	

- STRS Ohio Private Equity returns trail the Private Equity Benchmark for the last three-year , last one year, and last quarter.

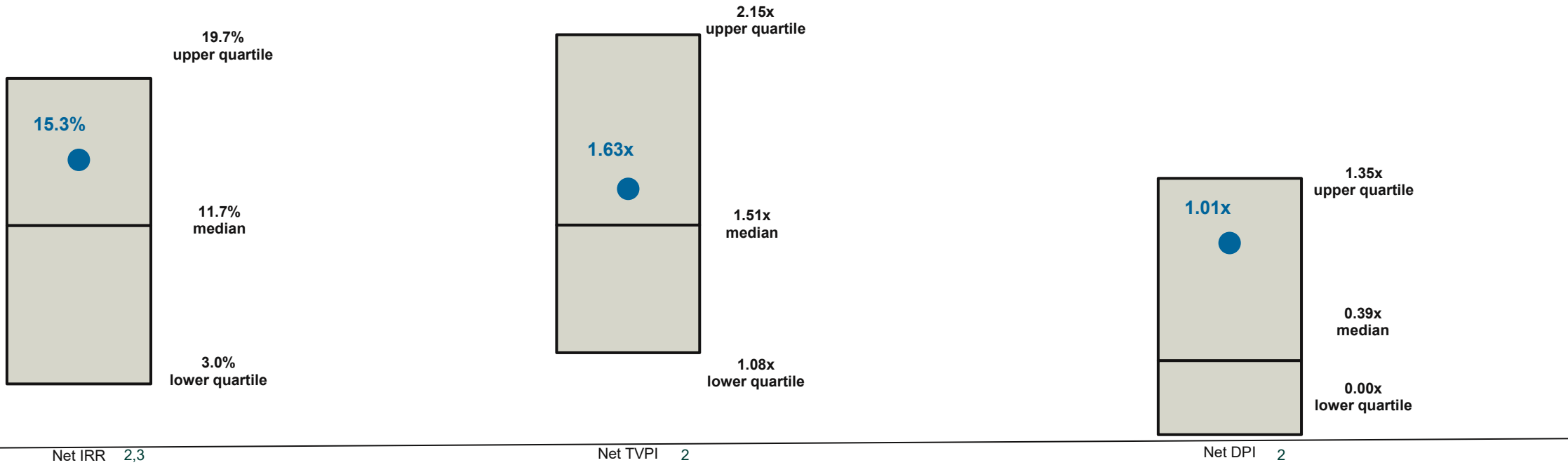
<sup>1</sup> STRS Ohio Private Equity returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

<sup>2</sup> Reflects time period the new Private Equity benchmark has been in place.

# STRS Ohio Private Equity 10-Year Relative Performance

10-year performance of the STRS Ohio PE Program ranks solidly in the second quartile in terms of net IRR, net TVPI, and net DPI

10-Year Private Equity Relative Performance <sup>1</sup>  
(July 01, 2014 to June 30, 2024)

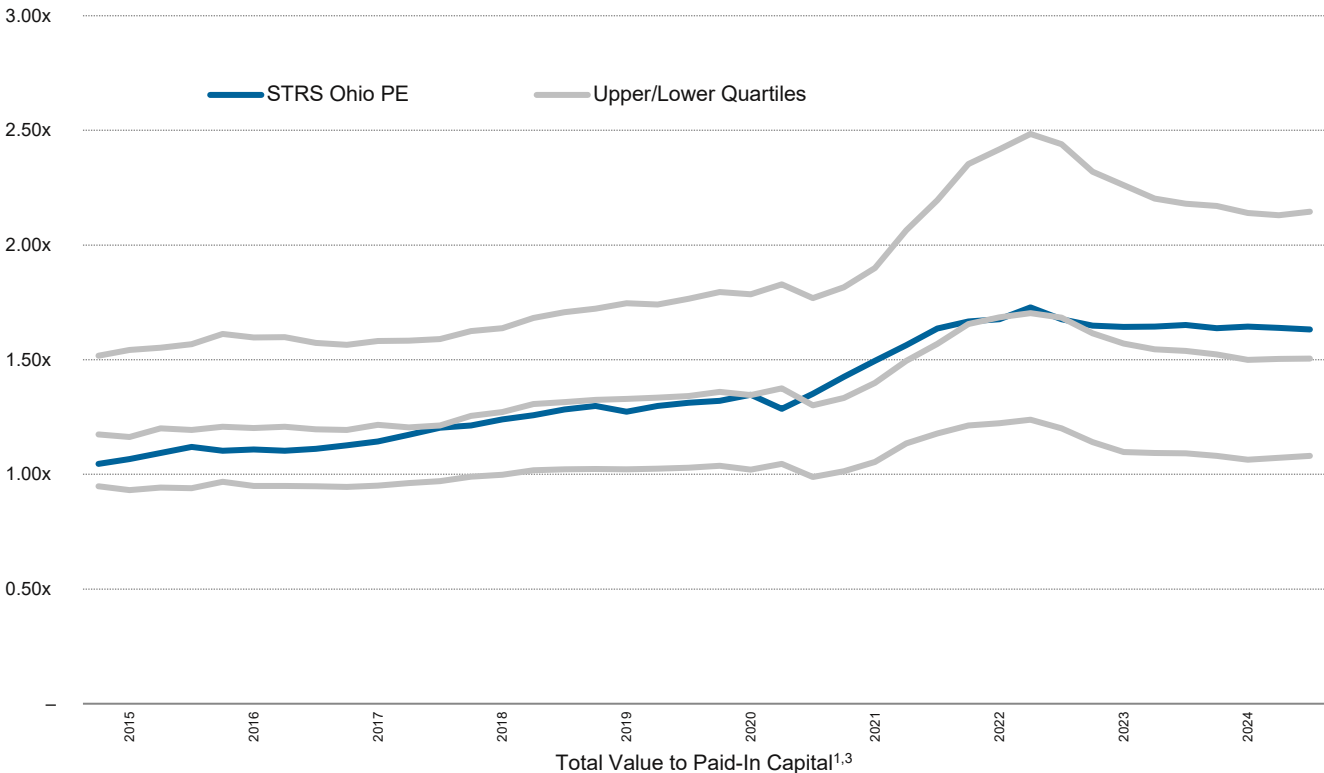
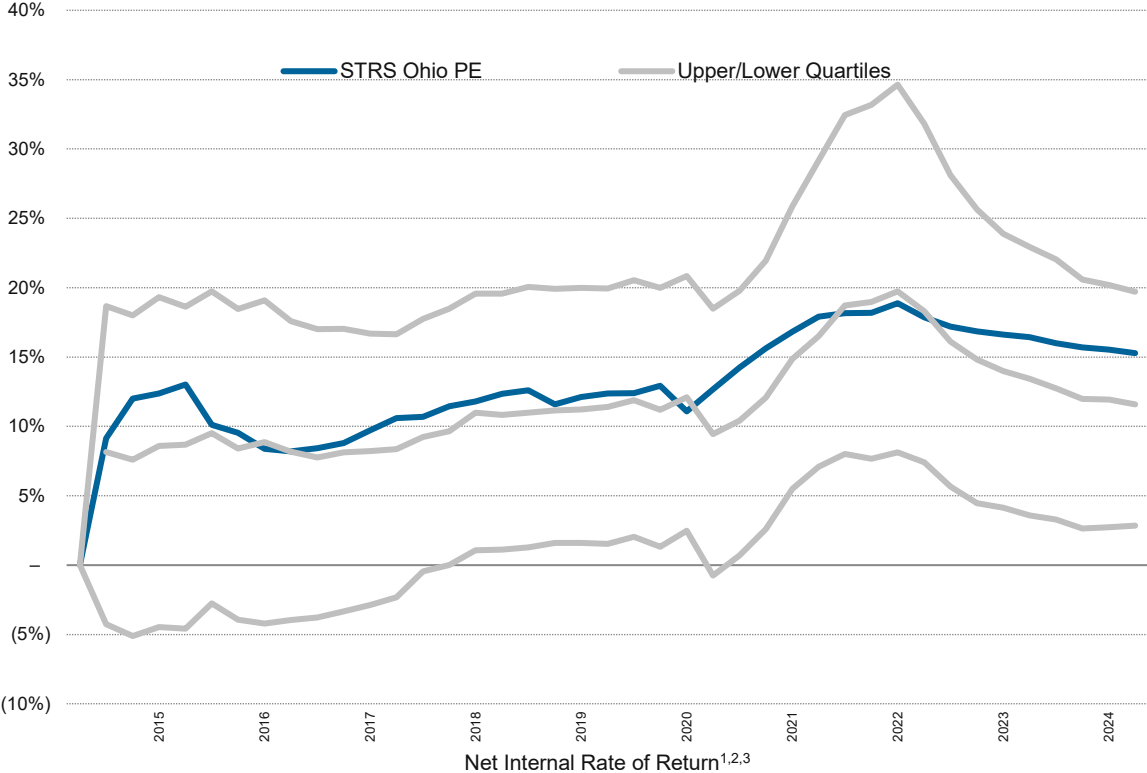


<sup>1</sup> Quartile Rankings against the Global Private Equity LSEG/Cambridge database.  
<sup>2</sup> STRS Ohio Private Equity returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.  
<sup>3</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.

# STRS Ohio Private Equity Investments 10-Year Performance Trends

Progression of the STRS Ohio Private Equity Program over the past 10 years has been positive, with the program consistently ranking in the second quartile across net IRR and net TVPI performance metrics

The following charts reflect the progression over time of various performance metrics of the fund relative to the respective top, median and lower quartiles of the LSEG/Cambridge private equity peer group.



Source: Hamilton Lane, LSEG/Cambridge.  
<sup>1</sup> STRS Ohio Private Equity returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.  
<sup>2</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.  
<sup>3</sup> Quartile Rankings against the Private Equity peer group includes Global Buyout, Growth Equity, and Venture Capital funds from the LSEG/Cambridge database.

# STRS Ohio Private Equity 10-Year Performance by Portfolio

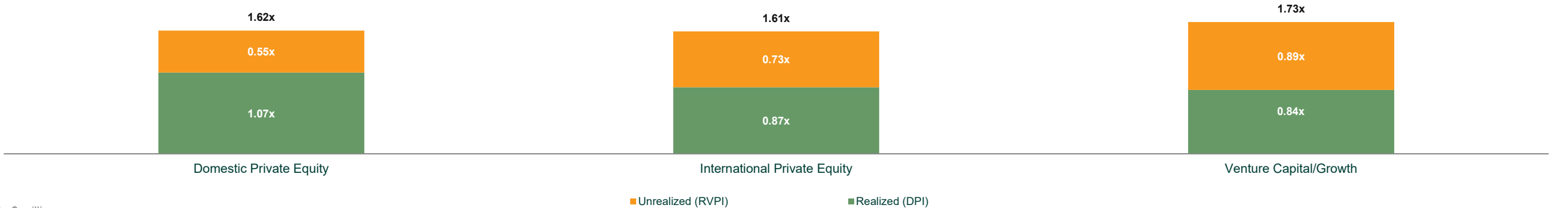
The following table reflects private equity performance by strategy type over a rolling 10-year period. Net IRR and TVPI quartile rankings are relative to a peer group from the LSEG/Cambridge database.

Portfolio Exposure by Strategy Type	Commitment <sup>1</sup>	Funded Amount <sup>1</sup>	Unfunded Commitment <sup>1</sup>	Distributions <sup>1</sup>	Net Asset Value <sup>1</sup>	10 Year TWR <sup>2</sup>	10 Year Net IRR <sup>2,3</sup>	TVPI <sup>2</sup>	DPI <sup>2</sup>	TVPI/IRR Quartile <sup>4</sup>	Performance Status
Domestic Private Equity	\$12,144	\$6,331	\$2,222	\$10,252	\$5,281	15.65%	16.74%	1.62x	1.07x	3 <sup>rd</sup> /2 <sup>nd</sup>	●
International Private Equity	\$2,579	\$1,900	\$446	\$1,889	\$1,586	13.77%	14.29%	1.61x	0.87x	3 <sup>rd</sup> /2 <sup>nd</sup>	●
Venture Capital/Growth	\$3,803	\$1,963	\$236	\$2,553	\$2,708	12.03%	12.55%	1.73x	0.84x	2 <sup>nd</sup> /2 <sup>nd</sup>	●
Stock Distribution	-	-	-	-	\$3	-	-	-	-	-	-
<b>Total Private Equity</b>	<b>\$18,527</b>	<b>\$10,193</b>	<b>\$2,905</b>	<b>\$14,739</b>	<b>\$9,577</b>	<b>14.21%</b>	<b>15.27%</b>	<b>1.63x</b>	<b>1.01x</b>	<b>2<sup>nd</sup>/2<sup>nd</sup></b>	<b>●</b>

Net IRR by Strategy



Net TVPI by Strategy



In \$ millions.

<sup>1</sup> Source is Hamilton Lane.

<sup>2</sup> STRS Ohio Private Equity returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

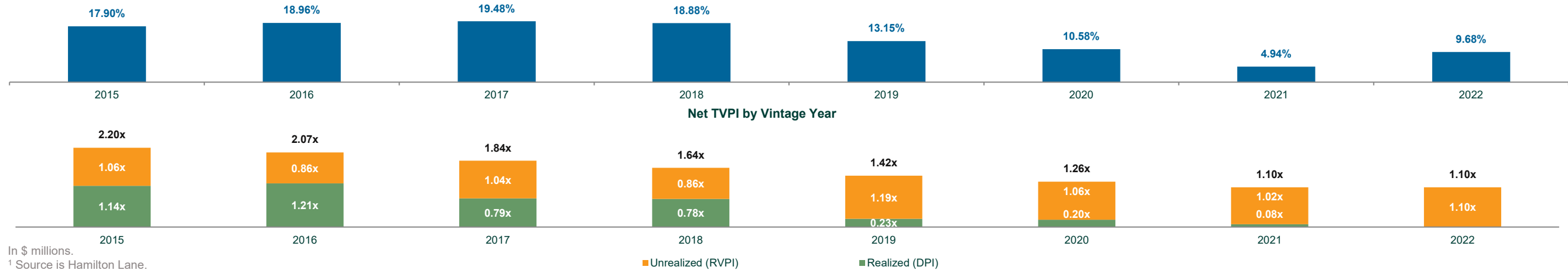
<sup>3</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.

<sup>4</sup> Quartile Rankings against the Global Private Equity LSEG/Cambridge database.

# STRS Ohio Private Equity Portfolio Summary Performance by Vintage Year

The following table reflects private equity vintage year performance over a 10-year period. Quartile ranks for vintage years less than five years old are labelled as not meaningful. Net IRR and TVPI quartile rankings are relative to a peer group from the LSEG/Cambridge database.

Portfolio Exposure by Vintage Year	Commitment <sup>1</sup>	Funded Amount <sup>1</sup>	Unfunded Commitment <sup>1</sup>	Distributions <sup>1</sup>	Net Asset Value <sup>1</sup>	DPI <sup>2</sup>	TVPI <sup>2</sup>	TVPI Quartile <sup>2,3</sup>	Net IRR <sup>2,4</sup>	IRR Quartile <sup>3</sup>	Performance Status
2015	\$775	\$783	\$65	\$893	\$828	1.14x	2.20x	2 <sup>nd</sup>	17.90%	2 <sup>nd</sup>	●
2016	\$992	\$1,055	\$89	\$1,275	\$906	1.21x	2.07x	2 <sup>nd</sup>	18.96%	2 <sup>nd</sup>	●
2017	\$1,588	\$1,526	\$250	\$1,208	\$1,595	0.79x	1.84x	3 <sup>rd</sup>	19.48%	2 <sup>nd</sup>	●
2018	\$2,006	\$2,033	\$168	\$1,585	\$1,752	0.78x	1.64x	2 <sup>nd</sup>	18.88%	2 <sup>nd</sup>	●
2019	\$1,708	\$1,429	\$225	\$328	\$1,703	0.23x	1.42x	2 <sup>nd</sup>	13.15%	3 <sup>rd</sup>	●
2020	\$410	\$300	\$61	\$61	\$316	0.20x	1.26x	2 <sup>nd</sup>	10.58%	2 <sup>nd</sup>	●
2021	\$835	\$643	\$210	\$49	\$659	0.08x	1.10x	2 <sup>nd</sup>	4.94%	2 <sup>nd</sup>	●
2022	\$875	\$177	\$710	\$1	\$195	0.01x	1.10x	2 <sup>nd</sup>	9.68%	2 <sup>nd</sup>	●
2023	\$580	\$38	\$577	\$0	\$37	0.01x	0.91x	NM	NM	NM	-
2024	\$130	\$17	\$113	\$0	\$19	0.00x	1.11x	NM	NM	NM	-



In \$ millions.

<sup>1</sup> Source is Hamilton Lane.

<sup>2</sup> STRS Ohio Private Equity returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

<sup>3</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.

<sup>4</sup> Quartile Rankings against the Global Private Equity LSEG/Cambridge database.



# STRS Ohio Private Equity 10-Year Performance by General Partner

The following table reflects aggregate 10-year performance of the top ten STRS Ohio GP relationships by NAV. Net IRR and TVPI quartile rankings are relative to a peer group from the LSEG/Cambridge database. Organization status is reflective of Callan's opinion of stability and health of each investment manager.

Portfolio Exposure by General Partner	Organization Status	Performance Status	Commitments <sup>1</sup>	Funded Amount <sup>1</sup>	Uncalled <sup>1</sup>	Distributed <sup>1</sup>	NAV <sup>1</sup>	Net IRR <sup>2,3</sup>	Net TVPI <sup>2</sup>	IRR/TVPI Quartiles <sup>4</sup>
Thoma Bravo	●	●	\$1,085	\$1,221	\$244	\$1,485	\$1,060	24.16%	2.02x	1 <sup>st</sup> / 2 <sup>nd</sup>
Bain Capital/Ventures	●	●	\$1,361	\$568	\$39	\$1,280	\$541	14.91%	1.68x	3 <sup>rd</sup> / 3 <sup>rd</sup>
Tiger Iron Capital *	●	●	\$450	\$364	\$88	\$11	\$504	9.28%	1.42x	3 <sup>rd</sup> / 3 <sup>rd</sup>
GCM Grosvenor	●	●	\$875	\$631	\$135	\$1,426	\$467	45.10%	2.12x	1 <sup>st</sup> / 2 <sup>nd</sup>
TA Associates	●	●	\$502	\$421	\$86	\$361	\$460	27.95%	1.87x	1 <sup>st</sup> / 1 <sup>st</sup>
Francisco Partners	●	●	\$690	\$333	\$198	\$681	\$441	23.86%	2.45x	1 <sup>st</sup> / 1 <sup>st</sup>
Silver Lake Partners	●	●	\$468	\$376	\$41	\$415	\$423	17.62%	1.83x	2 <sup>nd</sup> / 2 <sup>nd</sup>
Commonfund	●	●	\$245	\$161	\$7	\$376	\$411	20.26%	3.05x	2 <sup>nd</sup> / 2 <sup>nd</sup>
General Catalyst	●	●	\$272	\$231	\$13	\$143	\$407	18.49%	2.10x	1 <sup>st</sup> / 1 <sup>st</sup>
H.I.G. Capital	●	●	\$544	\$349	\$225	\$102	\$361	12.72%	1.33x	3 <sup>rd</sup> / 3 <sup>rd</sup>

## Stoplight Review Legend

- Above median performance or less than three years old; no organizational concerns
- Two performance metrics third quartile; organizational issues to monitor
- At least one performance metric in the fourth quartile; significant organizational issues
- No observations or updates to report

In \$ millions.

Refer to the Peer Group Definitions slide in the Appendix for individual benchmarks used.

\* Less than 10 years of history. Net IRR and TVPI represent since inception returns from STRS Ohio first commitment to the GP.

<sup>1</sup> Source is Hamilton Lane.

<sup>2</sup> STRS Ohio Private Equity returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

<sup>3</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.

<sup>4</sup> Quartile Rankings against the Global Private Equity LSEG/Cambridge database.

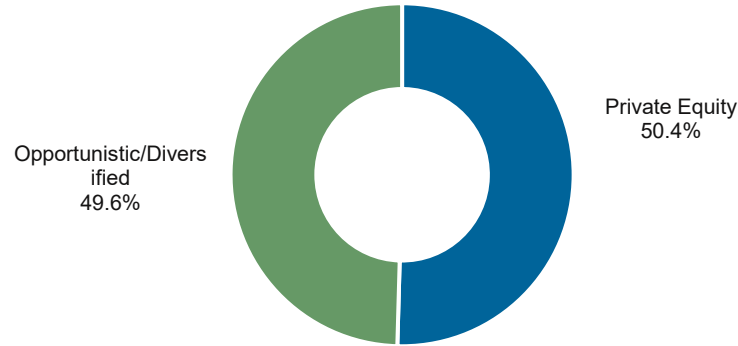
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## Opportunistic/Diversified

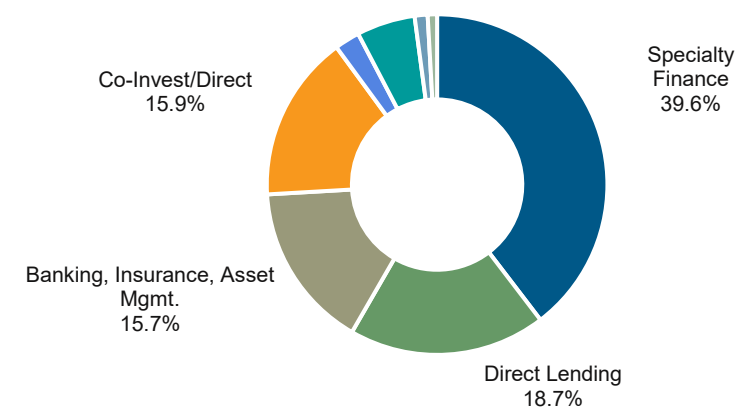
# STRS Ohio Opportunistic/Diversified Investments

The following tables illustrate total current and potential exposure by Private Equity and Opportunistic/Diversified, as of June 30, 2024, in USD millions.

**Alternatives Portfolio Composition**  
Net Asset Value



**O/D Portfolio Composition**  
Net Asset Value



	Portfolio Exposure by Strategy Type	Net Asset Value <sup>1</sup>	%	Unfunded Commitment <sup>1</sup>	%	Potential Exposure	%	5 Year TWR <sup>2</sup>	10 Year TWR <sup>2</sup>
<b>Opportunistic</b>	Specialty Finance	\$3,727	39.6%	\$1,784	46.2%	\$5,511	41.5%	7.85%	9.02%
	Direct Lending	\$1,761	18.7%	\$943	24.4%	\$2,704	20.4%	-	-
	Co-Invest/Direct	\$1,492	15.9%	\$581	15.0%	\$2,073	15.6%	15.28%	-
	Banking, Insurance, & Asset Mgmt.	\$1,482	15.7%	\$445	11.5%	\$1,927	14.5%	16.80%	15.40%
	Natural Resources	\$225	2.4%	\$51	1.3%	\$275	2.1%	4.39%	(2.27%)
	Infrastructure	\$83	0.9%	\$56	1.4%	\$139	1.1%	4.72%	4.38%
	Public-Private Investment Funds	-	-	-	-	-	-	-	-
<b>Diversified</b>	Liquid Alternatives	\$523	5.6%	-	-	\$523	3.9%	7.33%	-
	Hedge Funds	\$116	1.2%	-	-	\$116	0.9%	1.87%	2.05%
	<b>Total Opportunistic/Diversified</b>	<b>\$9,408</b>	<b>100.0%</b>	<b>\$3,859</b>	<b>100.0%</b>	<b>\$13,267</b>	<b>100.0%</b>	<b>8.94%</b>	<b>6.51%</b>

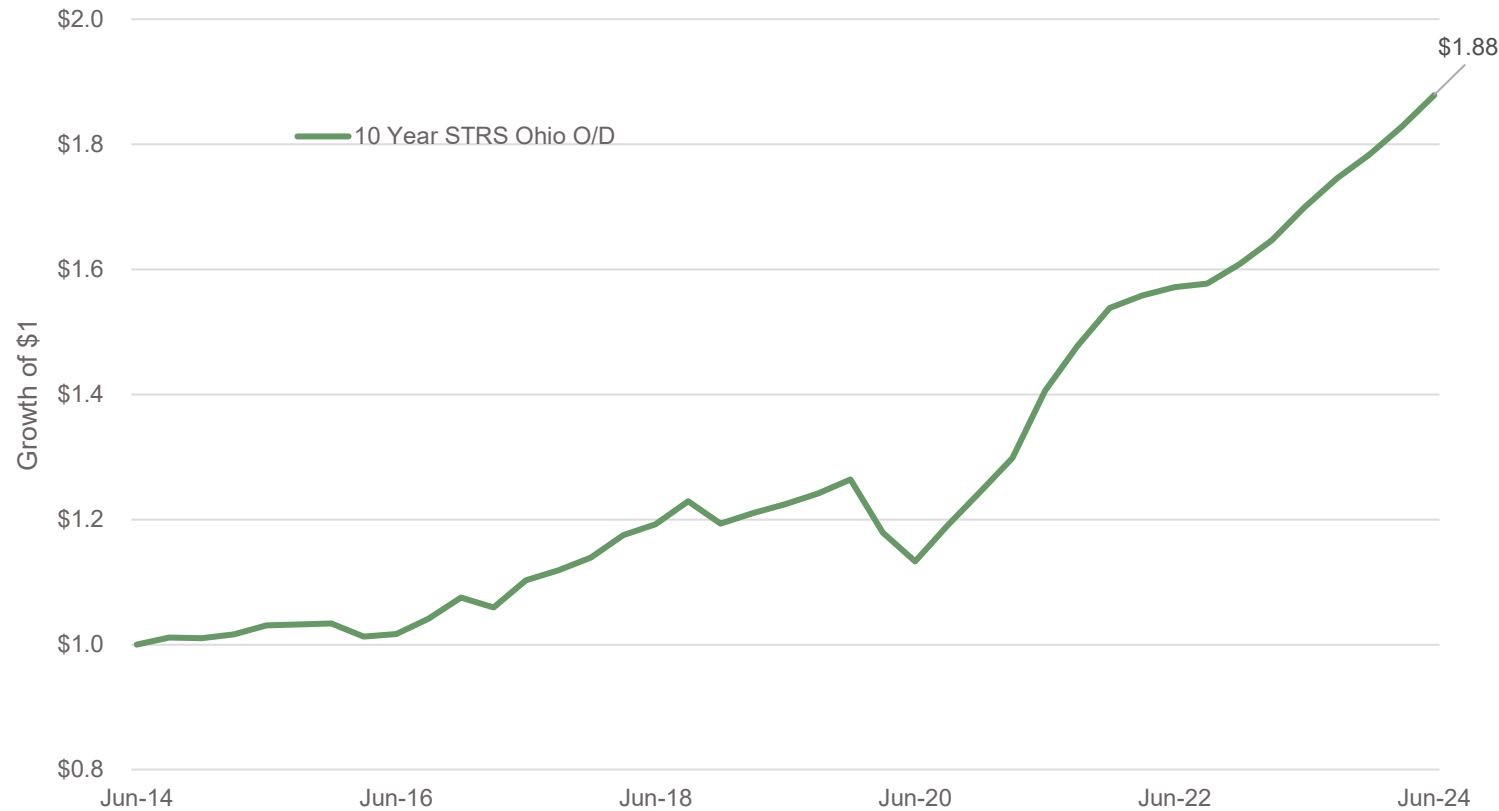
In \$ millions.

<sup>1</sup> Source is Hamilton Lane.

<sup>2</sup> STRS Ohio Private Equity returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

# STRS Ohio 10-Year Opportunistic/Diversified Performance

10-Year O/D Performance: Time-Weighted Returns  
(July 1, 2014 to June 30, 2024)



STRS Ohio O/D Performance  
Annualized Returns ending June 30, 2024

	STRS Ohio O/D	STRS Ohio O/D Benchmark
<b>Last 10 years</b>	6.51%	
<b>Last 5 years</b>	8.94%	
<b>Last 3 years</b>	10.15%	6.85%
<b>Last 1 year</b>	10.58%	7.96%
<b>Last Quarter</b>	2.80%	1.54%
<b>Risk (10-Yr)</b>	5.24%	
<b>Sharpe Ratio (10-Yr)</b>	0.95	

- STRS Ohio O/D returns exceed the O/D Benchmark over the last three-year, last one-year, and last quarter.

<sup>1</sup> STRS Ohio Opportunistic/Diversified returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

<sup>2</sup> Reflects time period the new Opportunistic/Diversified benchmark has been in place.

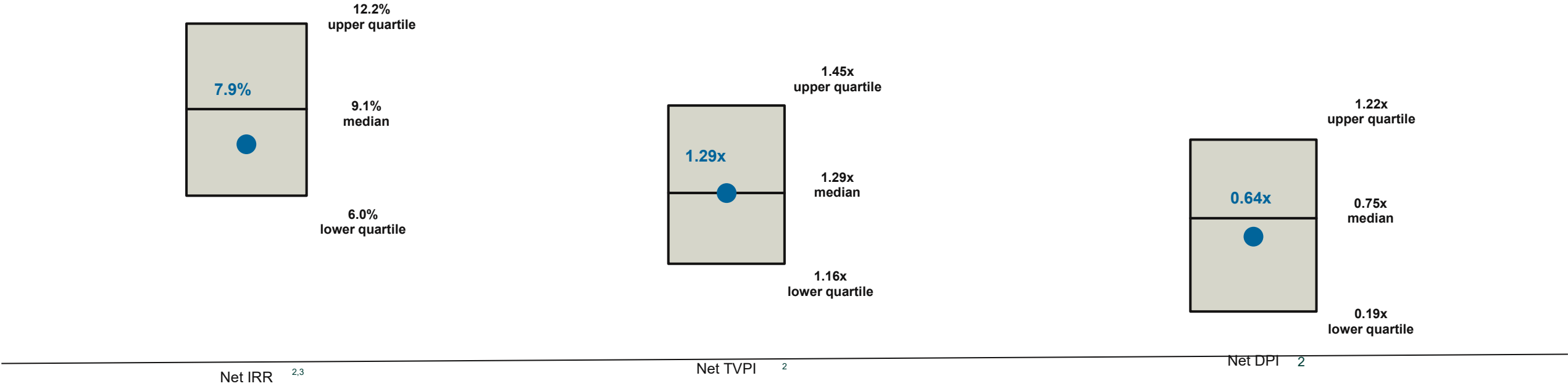
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## Opportunistic

# STRS Ohio Opportunistic 10-Year Relative Performance

The STRS Ohio Opportunistic Portfolio ranks near the median across all performance metrics

10-Year Opportunistic Relative Performance<sup>1</sup>  
(July 01, 2014 to June 30, 2024)

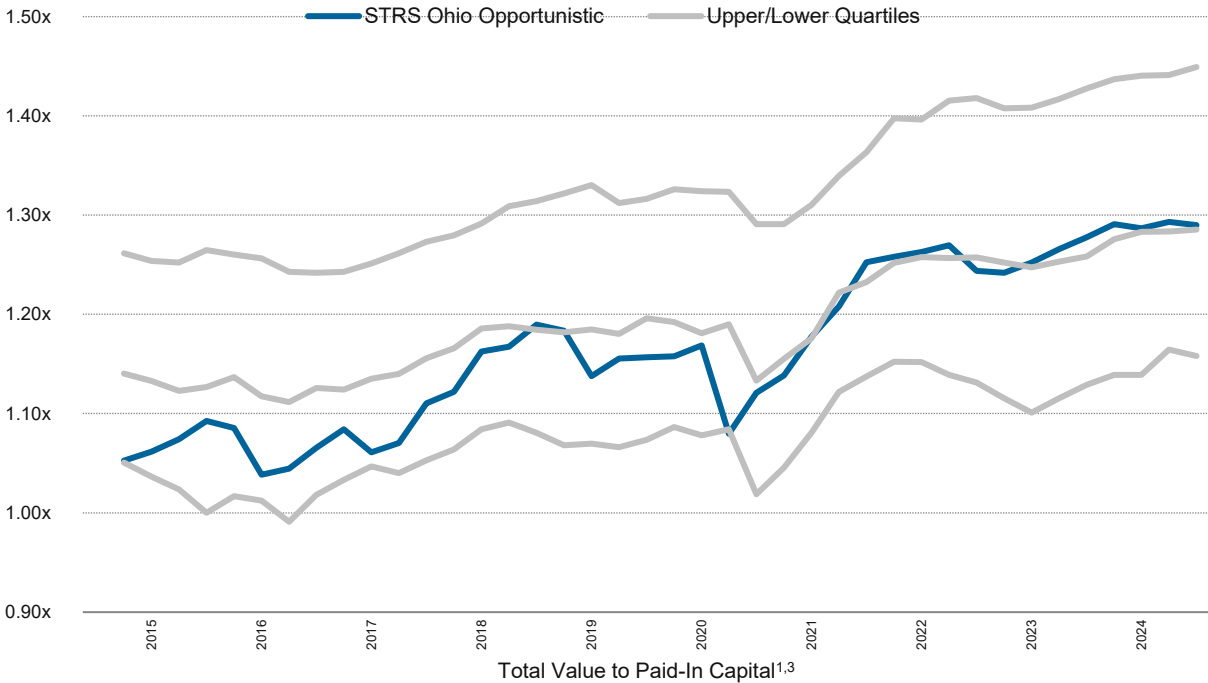
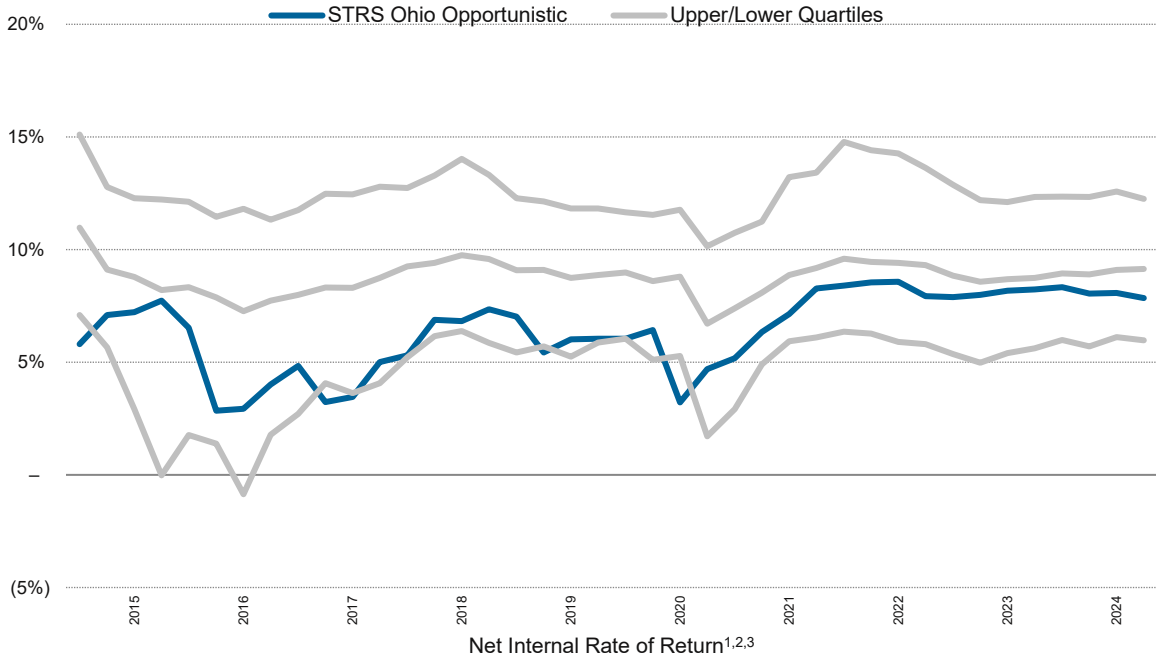


- The Opportunistic portfolio has generated 3<sup>rd</sup> quartile performance in terms of net IRR and DPI. The portfolio ranks at the median in terms of net TVPI.
- The lower net DPI is due to the increasing allocation to the Opportunistic/Diversified strategy during the 10-year period.

Source: Hamilton Lane, LSEG/Cambridge.  
<sup>1</sup> Quartile Rankings against the Global Private Credit LSEG/Cambridge database.  
<sup>2</sup> STRS Ohio Opportunistic returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.  
<sup>3</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.

# STRS Ohio Opportunistic Investments 10-Year Performance Trends

The following charts reflect the progression over time of various performance metrics of the fund relative to the respective top, median and lower quartiles of the LSEG/Cambridge private credit peer group.



Source: Hamilton Lane, LSEG/Cambridge.  
<sup>1</sup> STRS Ohio Opportunistic returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.  
<sup>2</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.  
<sup>3</sup> Quartile Rankings against the Private Credit peer group includes Senior Debt, Credit Opportunities, and Subordinated Debt funds from the LSEG/Cambridge database.

# STRS Ohio Opportunistic 10-Year Performance by Portfolio

The following table reflects Opportunistic performance by strategy type since inception. Net IRR and TVPI quartile rankings are relative to a peer group from the LSEG/Cambridge database.

Portfolio Exposure by Strategy Type	Commitments <sup>1</sup>	Funded Amount <sup>1</sup>	Unfunded Commitment <sup>1</sup>	Distributions <sup>1</sup>	Net Asset Value <sup>1</sup>	10 Year TWR <sup>2</sup>	10 Year Net IRR <sup>2,3</sup>	TVPI <sup>2</sup>	DPI <sup>2</sup>	TVPI/IRR Quartile <sup>4</sup>	Performance Status
Specialty Finance	\$6,231	\$4,958	\$1,784	\$3,710	\$3,727	9.02%	9.34%	1.28x	0.64x	2 <sup>nd</sup> /2 <sup>nd</sup>	●
Direct Lending *	\$2,954	\$2,622	\$943	\$1,737	\$1,761	-	8.13%	1.29x	0.64x	2 <sup>nd</sup> /3 <sup>rd</sup>	●
Banking and Insurance	\$1,424	\$1,293	\$445	\$1,315	\$1,482	15.40%	14.25%	1.72x	0.81x	1 <sup>st</sup> /1 <sup>st</sup>	●
Co-Invest/Direct *	\$1,760	\$1,524	\$581	\$681	\$1,492	-	15.06%	1.38x	0.45x	1 <sup>st</sup> /1 <sup>st</sup>	●
Natural Resources	\$1,039	\$611	\$51	\$812	\$225	(2.27%)	(4.94%)	0.74x	0.58x	4 <sup>th</sup> /4 <sup>th</sup>	●
Infrastructure	\$325	\$99	\$56	\$134	\$83	4.38%	13.14%	1.38x	0.85x	1 <sup>st</sup> /1 <sup>st</sup>	●
Public-Private Funds	\$188	\$8	-	\$61	-	-	16.04%	1.35x	1.35x	-	-
<b>Total Opportunistic</b>	<b>\$13,945</b>	<b>\$11,114</b>	<b>\$3,859</b>	<b>\$8,449</b>	<b>\$8,769</b>	<b>7.75%</b>	<b>7.85%</b>	<b>1.29x</b>	<b>0.64x</b>	<b>2<sup>nd</sup>/3<sup>rd</sup></b>	<b>●</b>

Net IRR by Strategy



Net TVPI by Strategy



\* Less than 10 years of history. Net IRR, Net TVPI, and TWR represent since inception returns from STRS Ohio's first commitment to the portfolio strategy.

<sup>1</sup> Source is Hamilton Lane.

<sup>2</sup> STRS Ohio Opportunistic returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

<sup>3</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.

<sup>4</sup> Quartile Rankings against the Private Credit peer group includes Senior Debt, Credit Opportunities, and Subordinated Debt funds from the LSEG/Cambridge database.



# STRS Ohio Opportunistic Performance by Vintage Year

The following table reflects Opportunistic vintage year performance over a rolling 10-year period. Only mature vintages, defined as four years and up, are shown. Net IRR and TVPI quartile rankings are relative to a peer group from the LSEG/Cambridge database.

Portfolio Exposure by Vintage Year	Commitment <sup>1</sup>	Funded Amount <sup>1</sup>	Unfunded Commitment <sup>1</sup>	Distributions <sup>1</sup>	Net Asset Value <sup>1</sup>	DPI <sup>2</sup>	TVPI <sup>2</sup>	TVPI Quartile <sup>3</sup>	Net IRR <sup>2,4</sup>	IRR Quartile <sup>3</sup>	Stoplight Status
2015	\$1,559	\$1,631	\$317	\$1,216	\$1,150	0.75x	1.45x	2 <sup>nd</sup>	9.37%	2 <sup>nd</sup>	●
2016	\$195	\$235	\$46	\$140	\$177	0.60x	1.35x	3 <sup>rd</sup>	8.97%	2 <sup>nd</sup>	●
2017	\$417	\$473	\$43	\$394	\$268	0.83x	1.25x	3 <sup>rd</sup>	5.60%	4 <sup>th</sup>	●
2018	\$1,417	\$1,436	\$393	\$960	\$1,179	0.67x	1.49x	1 <sup>st</sup>	13.66%	1 <sup>st</sup>	●
2019	\$1,862	\$1,741	\$589	\$1,017	\$1,381	0.58x	1.37x	2 <sup>nd</sup>	12.70%	2 <sup>nd</sup>	●
2020	\$1,166	\$1,029	\$336	\$512	\$770	0.50x	1.25x	2 <sup>nd</sup>	11.50%	2 <sup>nd</sup>	●
2021	\$2,424	\$1,772	\$877	\$337	\$1,730	0.19x	1.16x	NM	9.32%	NM	-
2022	\$1,311	\$839	\$513	\$132	\$831	0.16x	1.15x	NM	8.73%	NM	-
2023	\$551	\$264	\$460	\$124	\$214	0.47x	1.27x	NM	NM	NM	-
2024	\$50	\$10	\$40	\$0	\$10	0.01x	1.03x	NM	NM	NM	-

Net IRR by Vintage Year



Net TVPI by Vintage Year



<sup>1</sup> Source is Hamilton Lane.

<sup>2</sup> STRS Ohio Opportunistic returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

<sup>3</sup> Quartile Rankings against the Private Credit peer group includes Senior Debt, Credit Opportunities, and Subordinated Debt funds from the LSEG/Cambridge database.

<sup>4</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.

■ Unrealized (RVPI)

■ Realized (DPI)

# STRS Ohio Opportunistic 10-Year Performance by General Partner

The following table reflects aggregate 10-year performance of the top 10 STRS Ohio Opportunistic GP relationships by NAV. Net IRR and TVPI quartile rankings are relative to a peer group from the LSEG/Cambridge database. Organization status is reflective of Callan's opinion of stability and health of each investment manager.

Portfolio Exposure by General Partner	Organization Status	Performance Status	Committed <sup>1</sup>	Funded Amount <sup>1</sup>	Uncalled <sup>1</sup>	Distributed <sup>1</sup>	NAV <sup>1</sup>	Net IRR <sup>2,3</sup>	Net TVPI <sup>2</sup>	IRR/TVPI Quartiles <sup>4</sup>
Sixth Street Partners	●	●	\$1,685	\$1,409	\$554	\$1,276	\$964	9.71%	1.35x	2 <sup>nd</sup> /2 <sup>nd</sup>
Blue Owl Capital *	●	●	\$778	\$701	\$317	\$466	\$822	16.46%	1.84x	1 <sup>st</sup> /1 <sup>st</sup>
Ares Management Corporation	●	●	\$1,295	\$834	\$256	\$813	\$678	11.61%	1.39x	2 <sup>nd</sup> /1 <sup>st</sup>
Reverence Capital Partners *	●	●	\$599	\$558	\$176	\$488	\$653	23.36%	2.04x	1 <sup>st</sup> /1 <sup>st</sup>
Oaktree Capital Management	●	●	\$526	\$445	\$125	\$302	\$367	8.44%	1.37x	3 <sup>rd</sup> /2 <sup>nd</sup>
TPG Angelo Gordon	●	●	\$416	\$431	\$33	\$183	\$333	9.71%	1.19x	3 <sup>rd</sup> /2 <sup>nd</sup>
Fortress Investment Group LLC *	●	●	\$500	\$475	\$196	\$308	\$279	11.83%	1.23x	2 <sup>nd</sup> /3 <sup>rd</sup>
Neuberger Berman *	●	●	\$203	\$234	\$16	\$12	\$272	11.91%	1.21x	2 <sup>nd</sup> /1 <sup>st</sup>
Stone Point Capital *	●	●	\$300	\$236	\$72	\$35	\$271	12.23%	1.30x	2 <sup>nd</sup> /1 <sup>st</sup>
Cerberus Capital *	●	●	\$350	\$226	\$152	\$58	\$243	11.13%	1.33x	2 <sup>nd</sup> /2 <sup>nd</sup>

### Stoplight Review Legend

- Above median performance or less than three years old; no organizational concerns
- Two performance metrics third quartile; organizational issues to monitor
- At least one performance metric in the fourth quartile; significant organizational issues
- No observations or updates to report

\*Less than 10 years of history. Net IRR and TVPI represent since inception returns from STRS Ohio's first commitment to the GP.

<sup>1</sup> Source is Hamilton Lane.

<sup>2</sup> STRS Ohio Opportunistic returns are presented net of all external investment management fees and costs, including carried interest and other fund expenses.

<sup>3</sup> IRRs are calculated by HL using the XIRR method and have not been calculated by the GPs.

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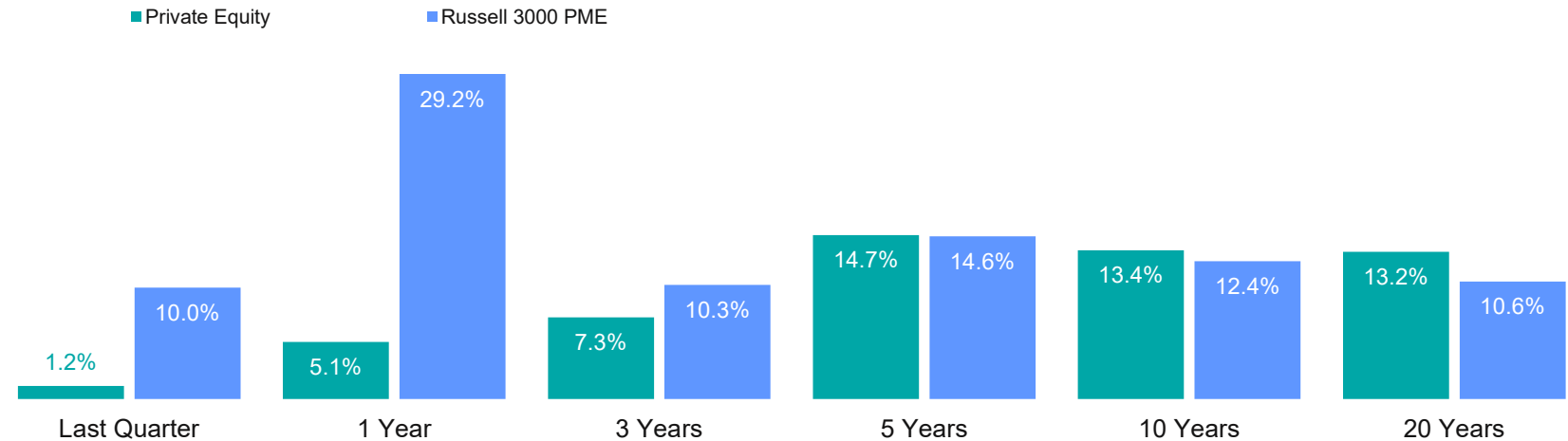
## Private Equity Market Overview

# Private Equity Trends

## Performance

- Public equity’s exceptional start to 2024 (led by the “Magnificent Seven” technology stocks) has left private equity in its wake.
- Due to the “smoothing effect”, private equity does not experience the sharp rises and falls that drive the public markets over the short term.
- Over the long term, private equity consistently outperforms public equity by 2%-3%.
- By strategy, buyouts continue to see solid short-term performance. Venture capital finally saw positive performance for the quarter, driven by a recovery in late-stage venture, which saw multiple up rounds lift valuations.

Net IRRs as of 3/31/24



Net IRRs by Strategy as of 3/31/2024

Strategy	Last Quarter	1 Year	3 Years	5 Years	10 Years	20 years
Venture Capital	1.4%	-1.5%	0.6%	16.1%	15.3%	12.5%
Growth Equity	1.0%	3.9%	3.5%	14.2%	13.3%	13.4%
Buyouts	1.1%	7.6%	10.8%	15.4%	13.8%	14.1%
Mezzanine	1.8%	10.4%	11.1%	11.5%	10.9%	11.3%
Credit Opportunities	1.9%	8.2%	8.8%	8.4%	7.3%	9.2%
Control-Oriented Distressed	0.8%	4.5%	12.9%	13.8%	11.0%	11.3%
<b>Private Equity</b>	<b>1.2%</b>	<b>5.1%</b>	<b>7.3%</b>	<b>14.7%</b>	<b>13.4%</b>	<b>13.2%</b>

Source: LSEG/Cambridge. PME: Public Market Equivalent

# Private Equity Trends

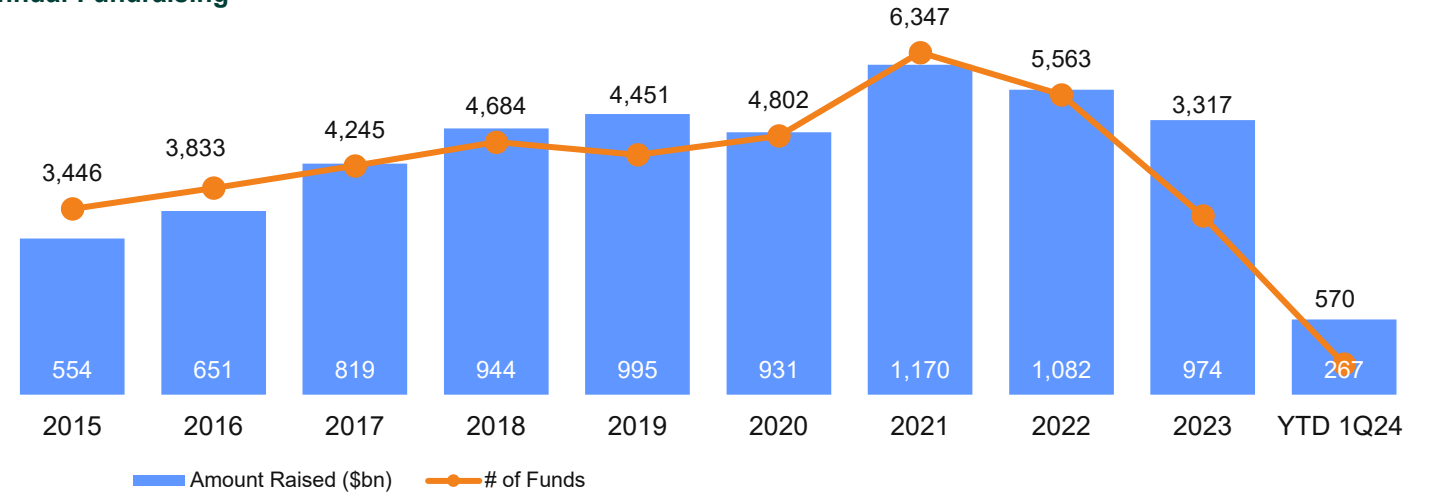
## Fundraising

- The 2023 vintage year experienced the full impact of the denominator effect, with sharp declines in fundraising for the year. The number of funds raised dropped by ~50% from the highs of 2021–22.
- Heading into 2024, fundraising continues to fall. The number of funds raised in 1Q24 is down by 42% compared to 1Q23, although the dollar amount raised is consistent. As was the case in 2023, capital continues to concentrate with larger funds.
- Fundraising is typically lag indicator as it reflects prior changes in deal activity and exit activity. Any recovery in deal and exit activity does not immediately translate to fundraising, but may take multiple quarters or even years.

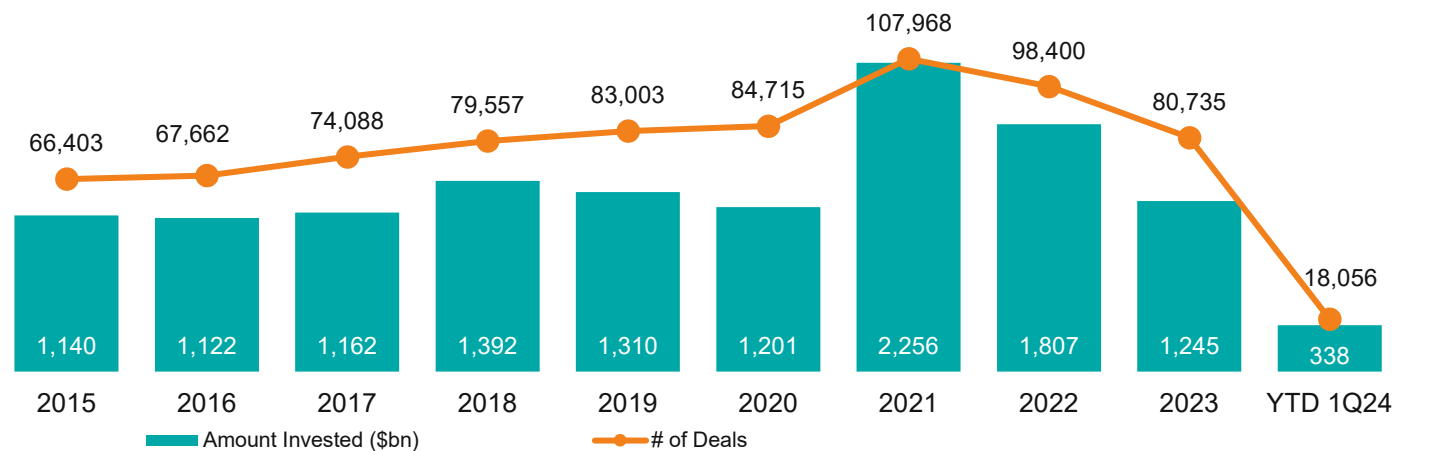
## Deal Activity

- At the start of 2024, deal activity and exit activity has seen some recovery after hitting its trough in mid-2023.
- A sharper snapback in activity has yet to occur, but new capital is being deployed consistently from quarter to quarter.

Annual Fundraising



Annual Deal Activity



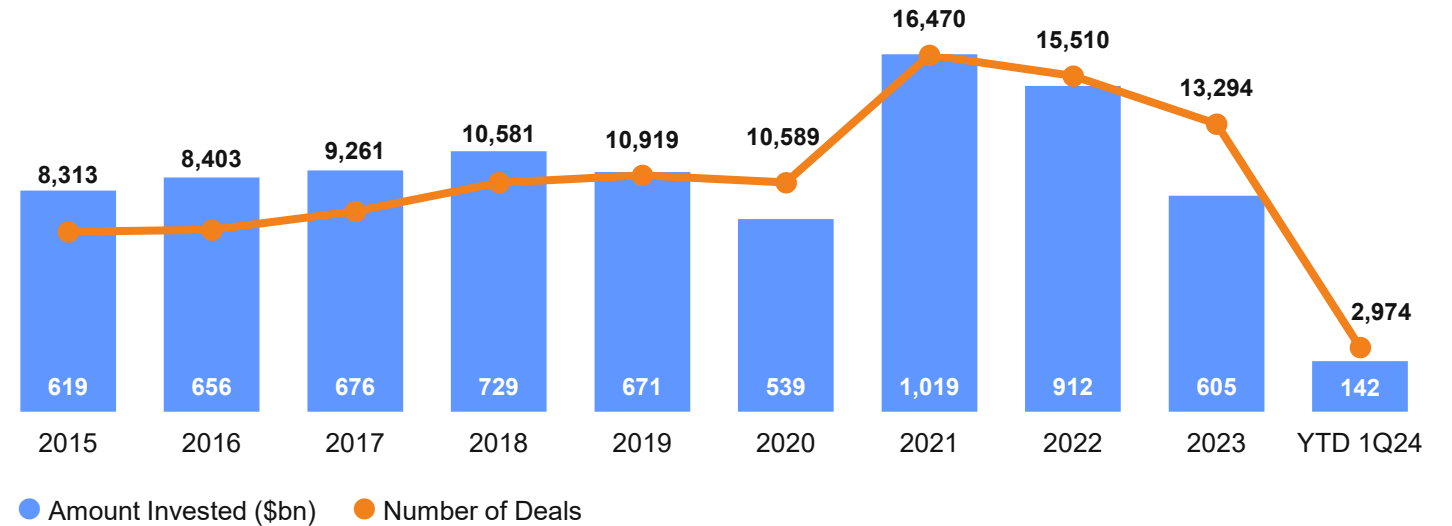
Source: PitchBook

# Private Equity Trends

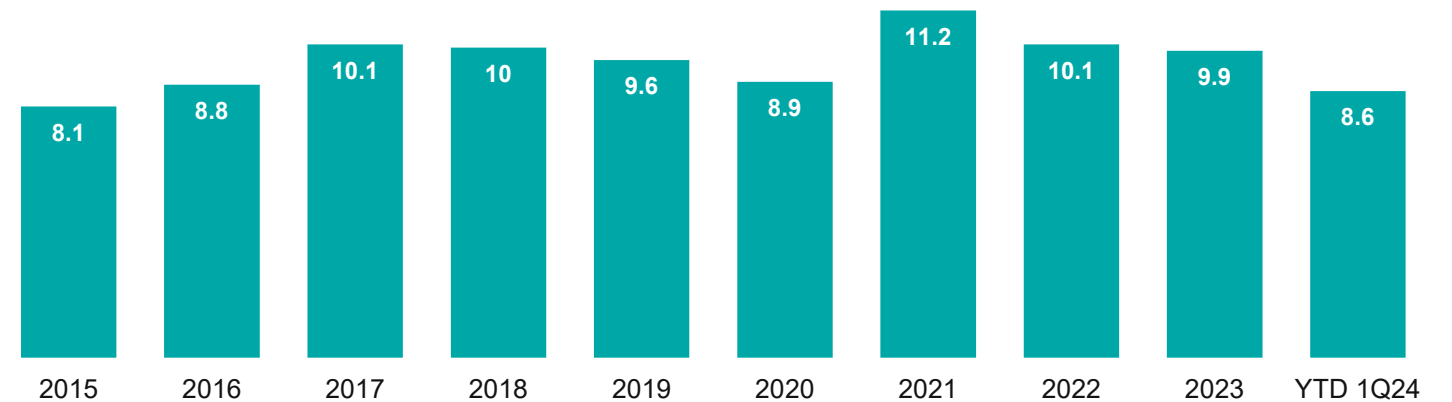
## Buyout

- 2023 represented the trough in buyout dealmaking, with early 2024 seeing improved liquidity conditions and higher public markets comps.
- Buyout activity was up by 7% in 1Q24 compared to 4Q23. Lower valuations, reflecting higher interest rates and a narrowing of the bid-ask spread, have led to greater activity.
- Buyout valuations dropped to their lowest levels in nearly 10 years. These valuations are sensitive to changes in interest rates – as the cost of borrowing rises, it is harder to justify high valuations.

Buyouts Investments



Buyout Valuations (EV/EBITDA Multiples)



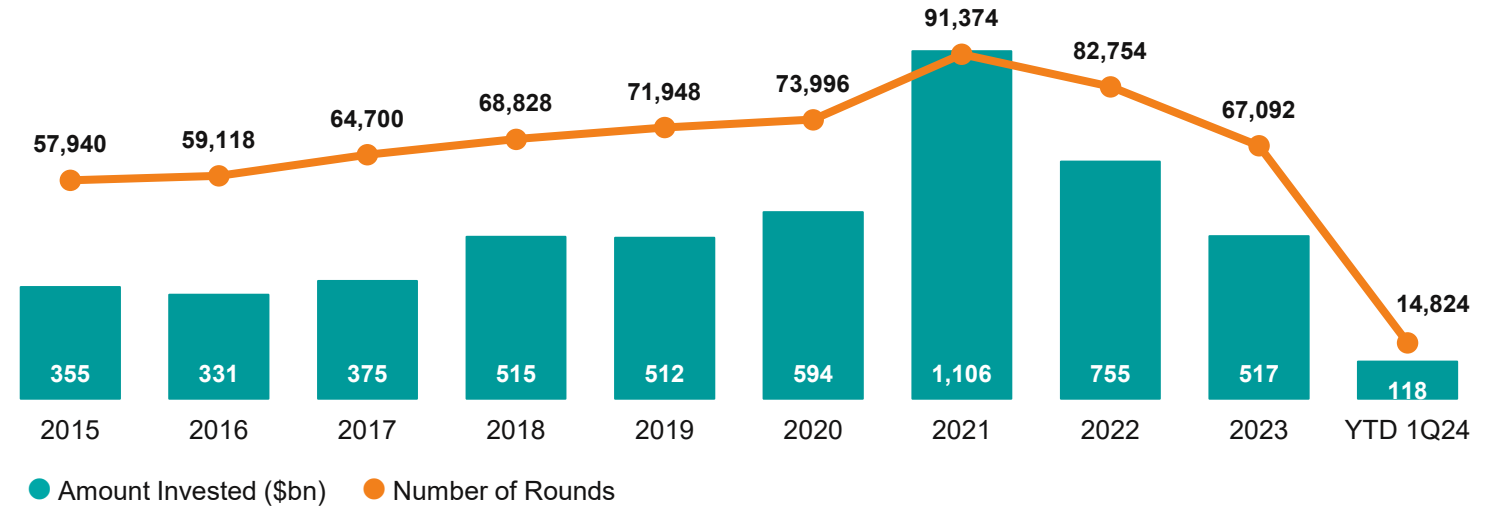
Source: PitchBook.

# Private Equity Trends

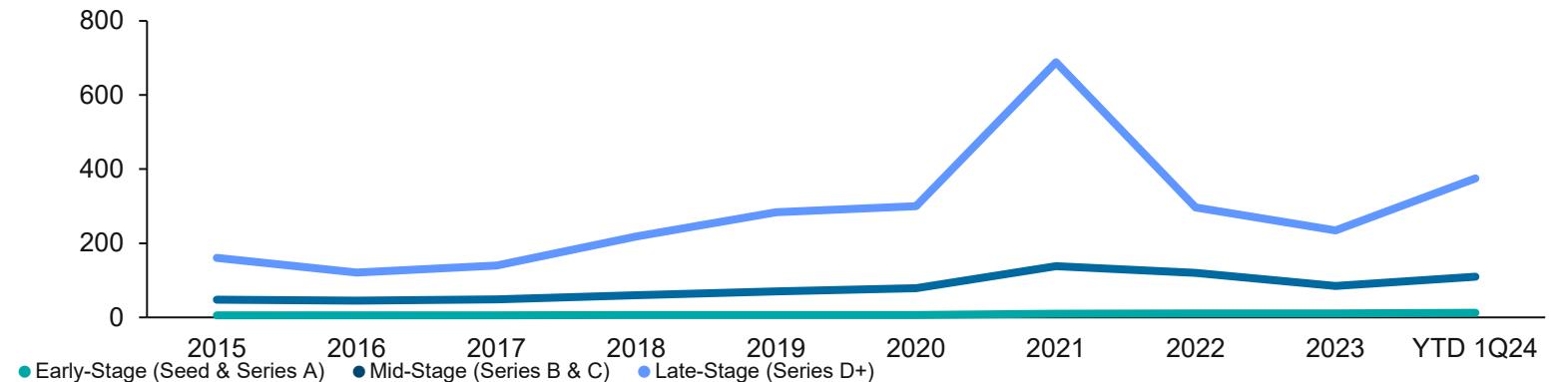
## Venture Capital & Growth Equity

- Venture capital and growth equity have shown mixed signs of recovery but no large snapback, yet.
- 1Q24 deal activity was down by 9% from 4Q23. While venture capital activity was steady, there was a significant slowdown in growth equity, with no large growth equity deals during the quarter.
- 1Q24 exhibited a notable recovery in late-stage valuations. Although deal activity is not as strong in terms of volume this year, the deals that do happen tend to be at up rounds. The first quarter saw 16 financing rounds valued over \$1 billion.
- Similarly, early-stage valuations in 2024 also increased by 21% from the prior year. More capital is being concentrated in larger rounds across all stages.

Venture Capital & Growth Equity Investments



Venture Capital & Growth Equity Median Valuations (\$bn)



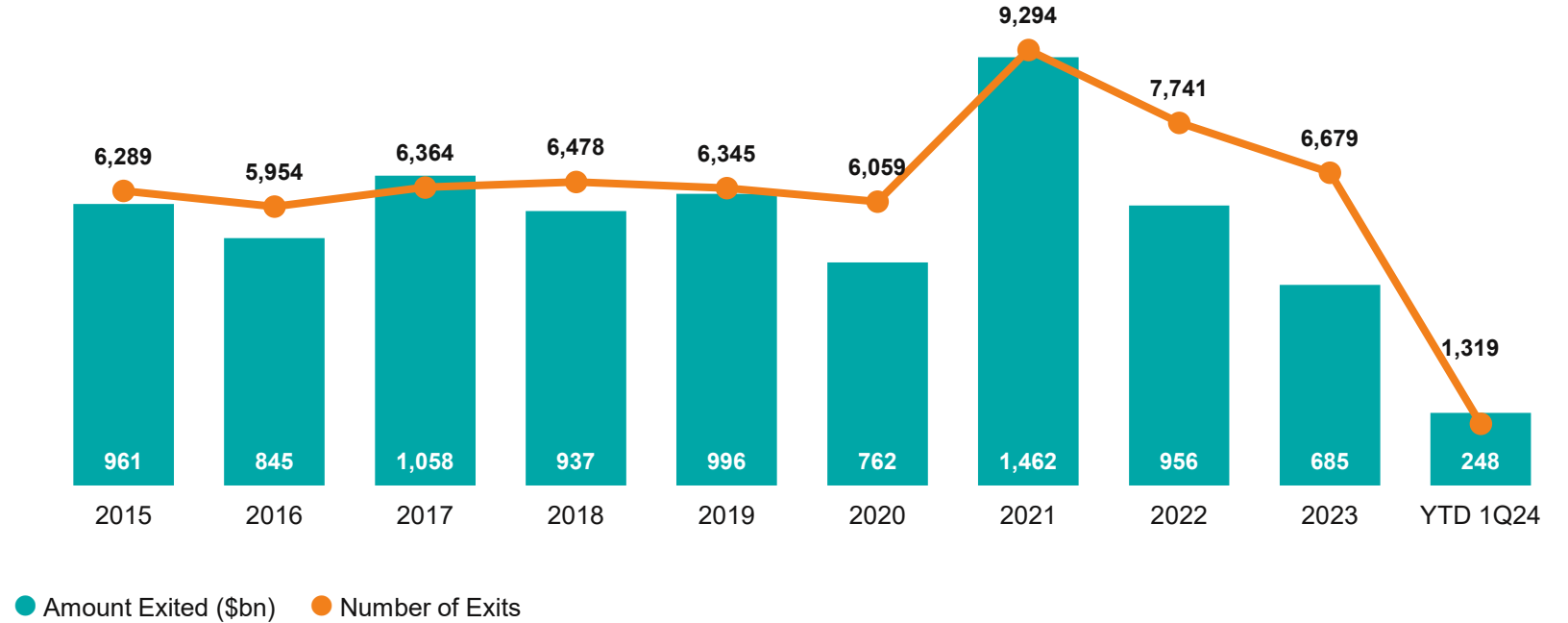
Source: PitchBook.

# Private Equity Trends

## Exits

- In 2023, private equity exits declined dramatically by over 50% compared to their all-time record in 2021
- Exit activity is up so far in 2024, by 15% compared to early 2023.
- This rebound is driven solely by M&A activity, and even more specifically, by two large exits: Chr. Hansen (biotech) Shinwa Vanes (semiconductors).
- IPO activity remains depressed, and the public offerings that do occur tend to be smaller in scale.

Private Equity Exits



Source: PitchBook.



# Private Equity Trends

## Largest Funds Closed in 1Q24

Fund	Amount (\$b)	Strategy
EQT X	\$23.7	Buyout
Lexington Capital Partners X	\$22.7	Secondaries
Eighth Civen Fund	\$14.5	Buyout

## Largest Exits in 1Q24

Company	Amount (\$b)	Industry
Chr. Hansen	\$67.7	Healthcare
Shinwa Vanes	\$53.9	Business Products and Services (B2B)
Karuna Therapeutics	\$13.8	Healthcare

## Largest Buyouts in 1Q24

Company	Amount (\$b)	Industry
Telecom Italia	\$23.8	Business Products and Services (B2B)
Worldpay	\$12.5	Information Technology
Wanda Commercial Management	\$8.3	Business Products and Services (B2B)

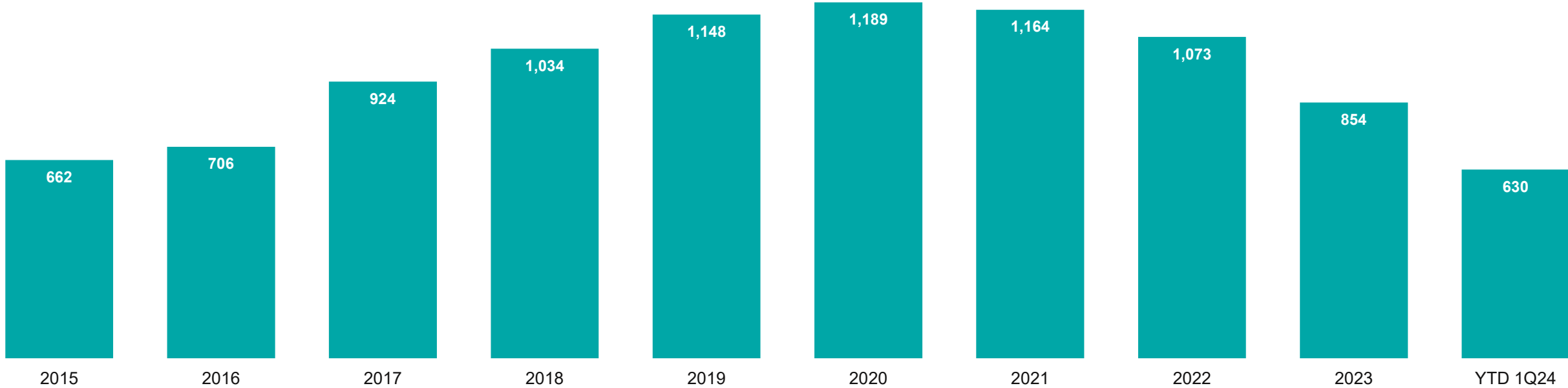
## Largest Venture & Growth Equity Investments in 1Q24

Company	Amount (\$b)	Industry
Anthropic	\$4.0	Business Products and Services (B2B)
Equinox Fitness	\$2.2	Consumer Products & Services (B2C)
Phoenix Tower International	\$1.4	Information Technology

Source: PitchBook.

# Private Equity Trends

Private Equity Dry Powder (\$billions)



Source: PitchBook.

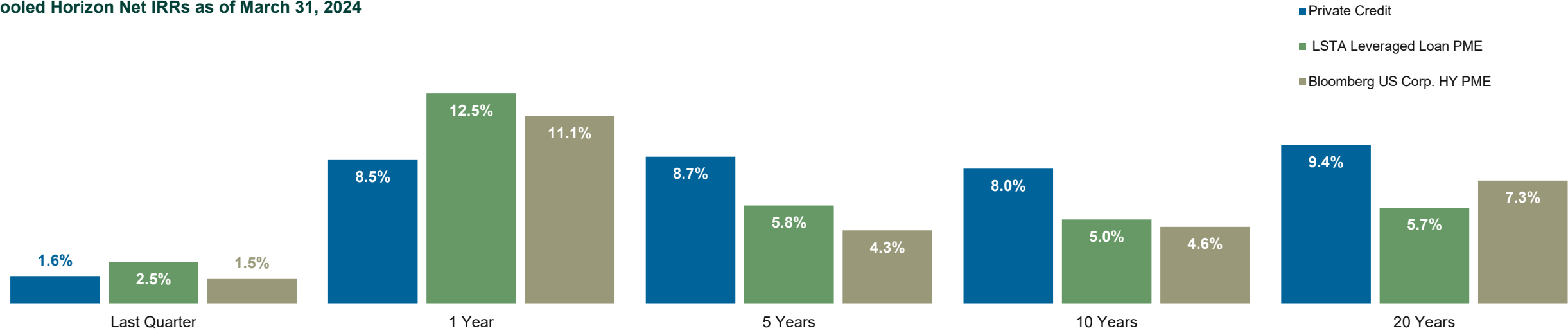
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## Private Credit Market Overview

# Private Credit Market Overview

Has outperformed leveraged loans over 5, 10, and 20 years ended 1Q24

Pooled Horizon Net IRRs as of March 31, 2024



Pooled Horizon Net IRRs by Strategy as of March 31, 2024

Strategy	Last Quarter	1 Year	5 Years	10 Years	20 Years
Senior Debt	0.7	7.7	7.0	7.0	7.2
Subordinated	1.8	10.4	11.6	10.9	11.3
Credit Opportunities	1.9	8.2	8.4	7.3	9.2
<b>Total Private Credit</b>	<b>1.6</b>	<b>8.5</b>	<b>8.7</b>	<b>8.0</b>	<b>9.4</b>

- Private credit performance varies across sub-asset class and underlying return drivers. Over the past 10 years the asset class has generated a net IRR of 8.0%, outperforming leveraged loans as of Mar. 31, 2024. Higher-risk strategies have performed better than lower-risk strategies.

Source: LSEG/Cambridge

# Private Credit Fundraising Landscape

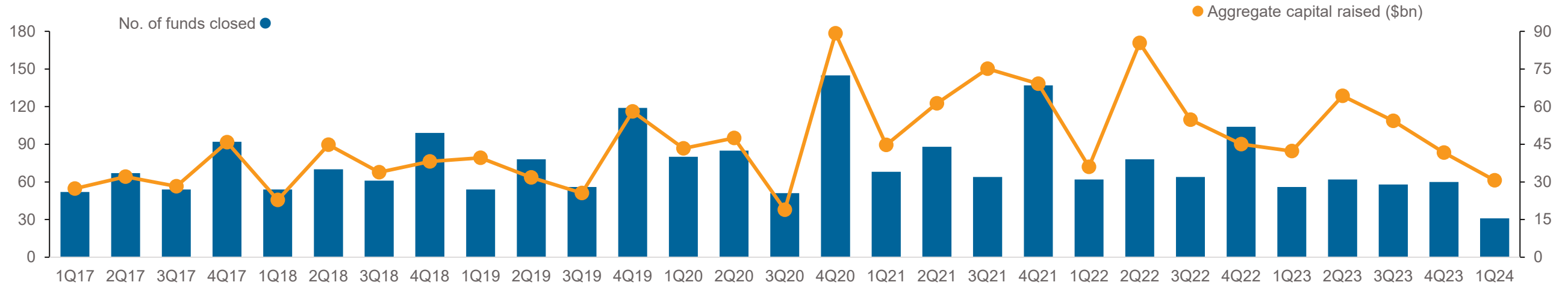
Activity continued to be relatively slow in 1Q24

- Private credit stayed in high demand among Callan clients, and a number of large DB plans are looking to increase their allocations from 2%–3% to 5%–10%.
- While we always work to build out diversified client portfolios, we think there is particularly interesting relative value in middle market direct lending with an emphasis on unique capital solutions. We also view asset-based lending as an attractive opportunity set.
- We are seeing an uptick in stress for some individual names in direct lending portfolios due to a combination of input cost inflation and increased interest expense.

## Largest Funds Holding Closes in Q1 2024

Name	Amount (\$millions)	Strategy
Benefit Street partners Debt Fund V	\$4,700	Direct Lending
Pemberton Strategic Credit Fund III	\$2,500	Direct Lending
Ares Australia & New Zealand Credit Fund	\$1,700	Direct Lending
PineBridge Private Credit III	\$1,700	Direct Lending

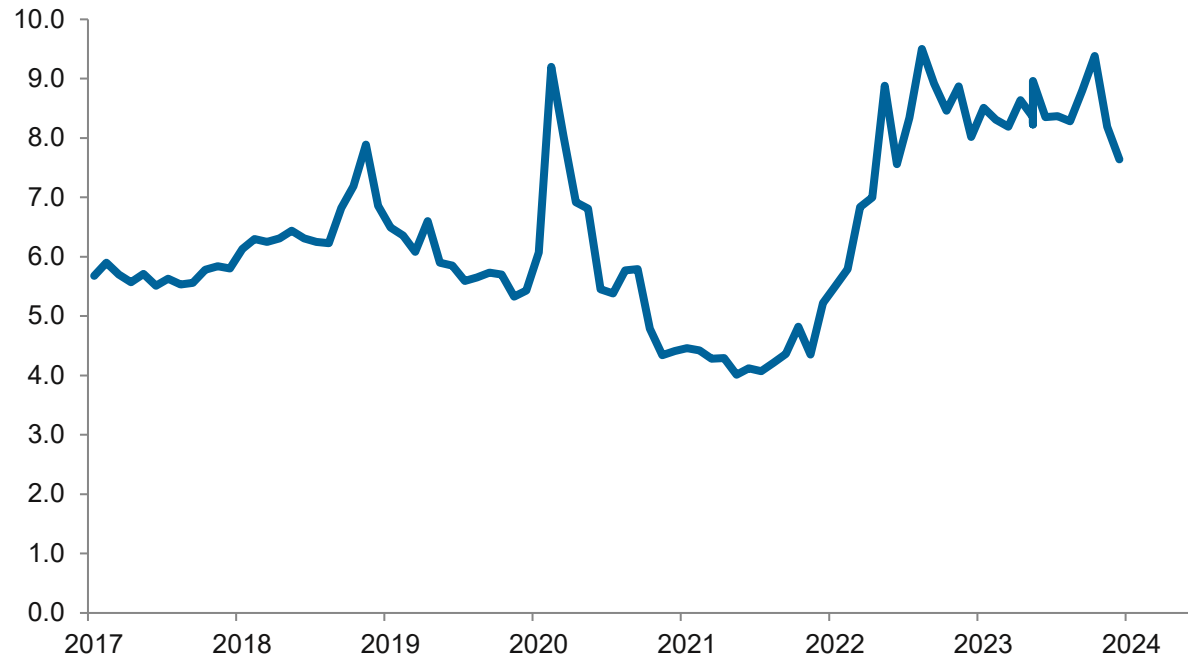
## Quarterly Private Debt Fundraising



Source: Preqin

# 1Q 2024 Yield Spreads

High Yield Effective Yields Ended 03/31/24



US Corporate High Yield Spreads Ended 03/31/24

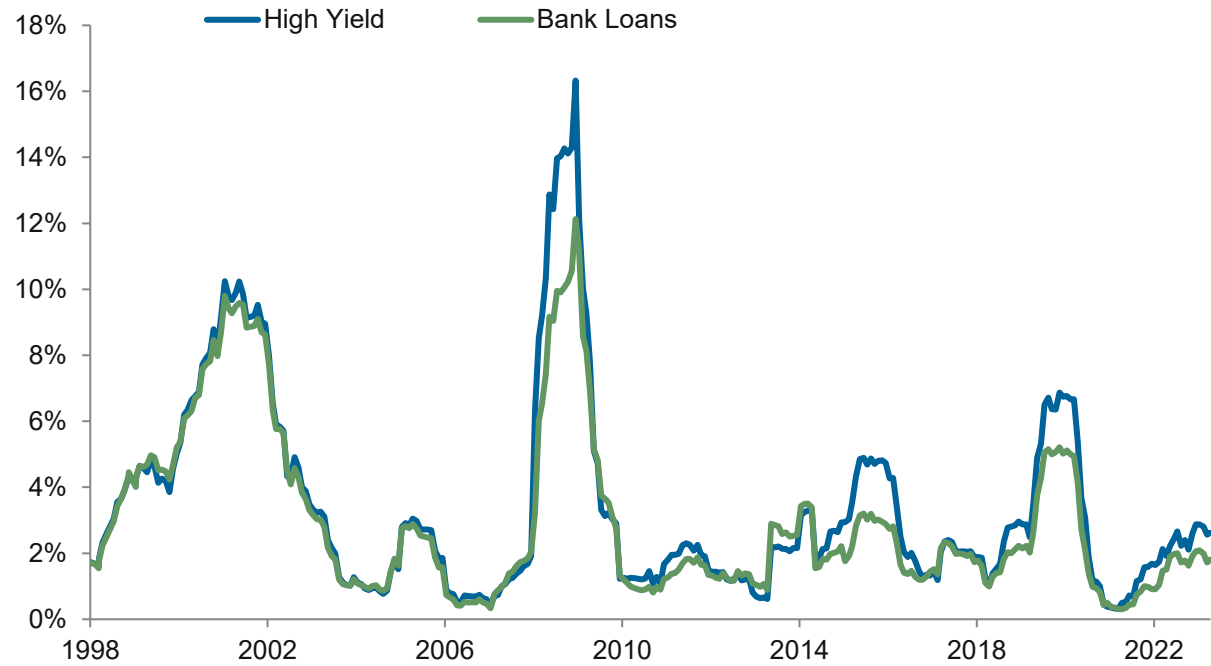


- U.S. sub-investment grade corporate yields rose dramatically at the beginning of 2022 with yields peaking in September. This was a combination of higher interest rates due to tighter Fed policy and a widening of high yield spreads. Effective yields continued to drop in the first quarter of 2024.
- Spreads contracted during the first quarter of 2024, a continuation from late 2023, due to stronger credit conditions as the U.S. economic outlook improved.

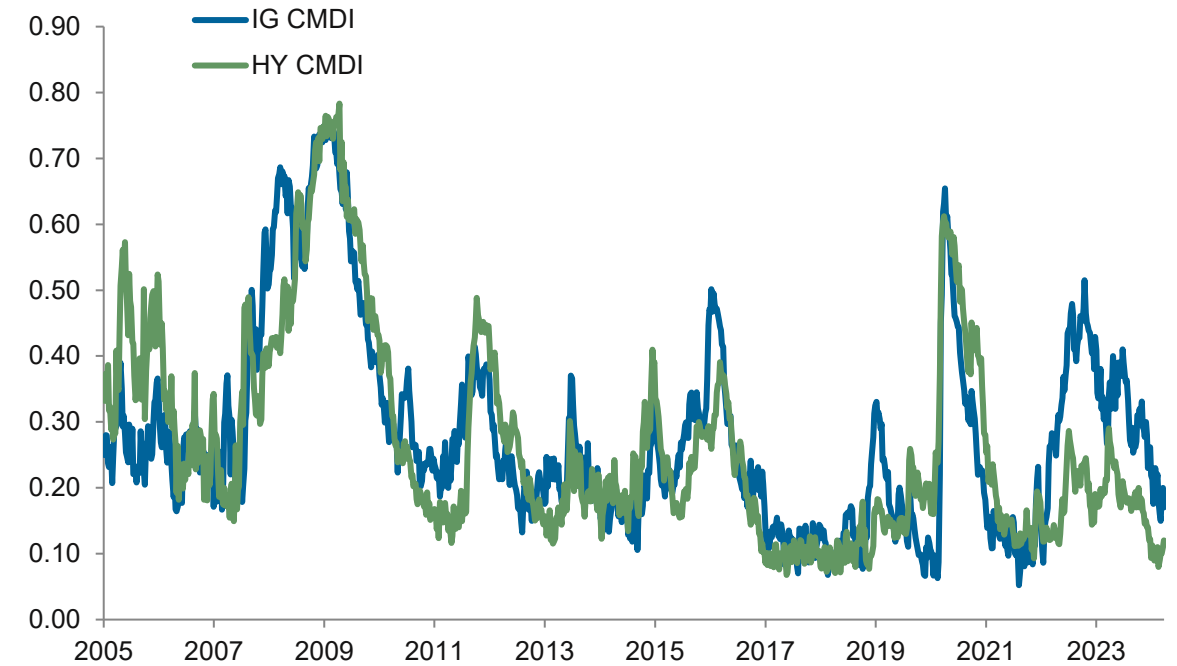
Sources: Bank of America, Federal Reserve Bank of St. Louis. Bloomberg Barclays

# 1Q 2024 Distressed and Opportunistic Debt

US Corporate Default Rates Ended 03/31/24



Corporate Bond Market Distress Index (CMDI) Ended 03/31/24

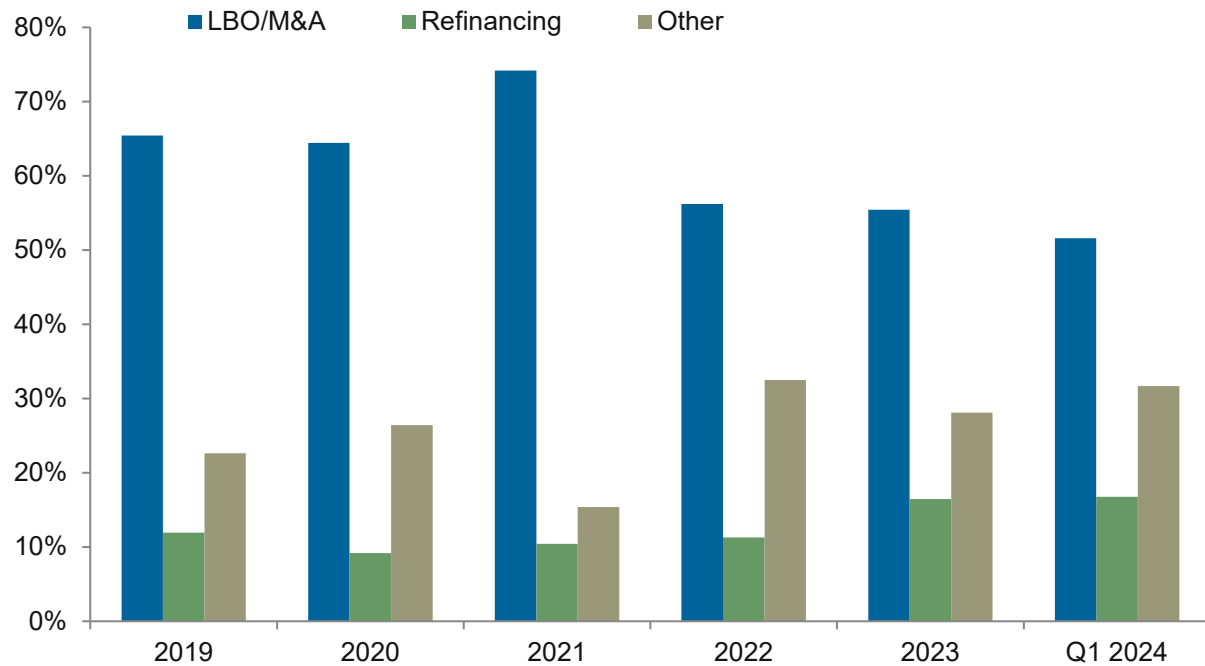


- Default rates for U.S. corporate bonds and loans in 2024 continue to slightly rise but remain in the historical average of 3% – 4%.
- The Corporate Bond Market Distress Index (CMDI) rose rapidly during 2022, especially for investment grade bonds, but has fallen since then. In 2024, both the IG distress and HY bond indicator continue to fall, a trend that has proceeded since last year.

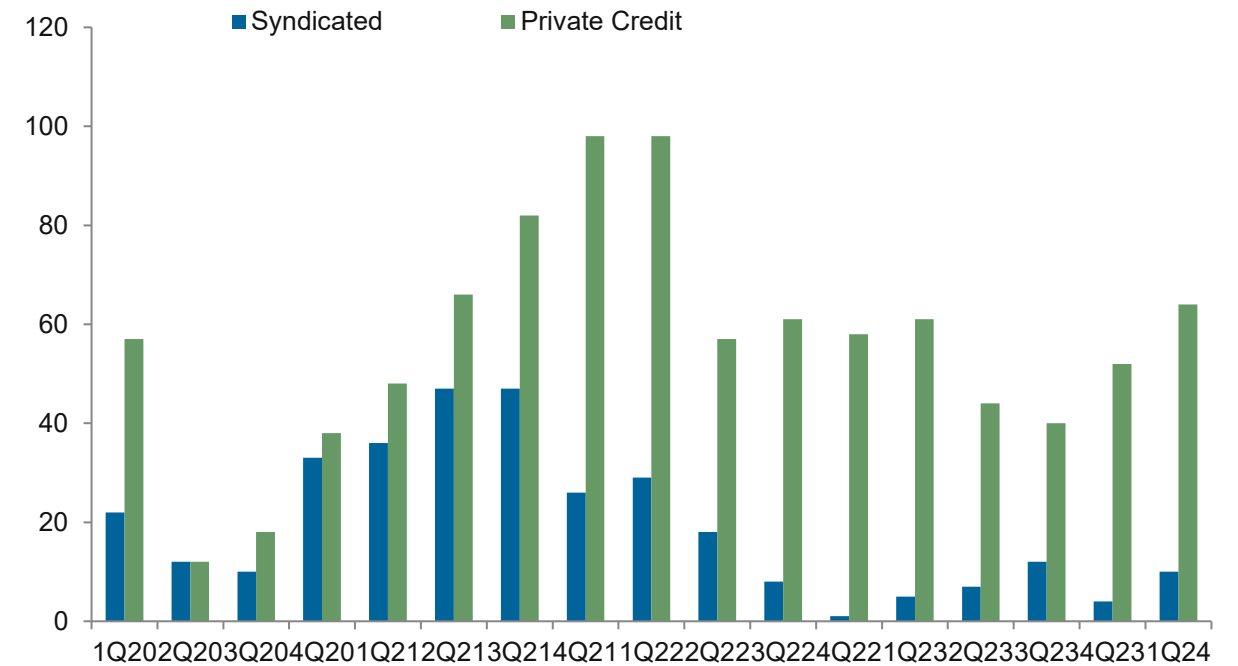
Source: Federal Reserve Bank of New York, JPM

# 1Q 2024 LBO Financings

Private Debt, Use of Proceeds Ended 03/31/24



Financed LBOs (BSL vs Private Debt) Ended 03/31/24



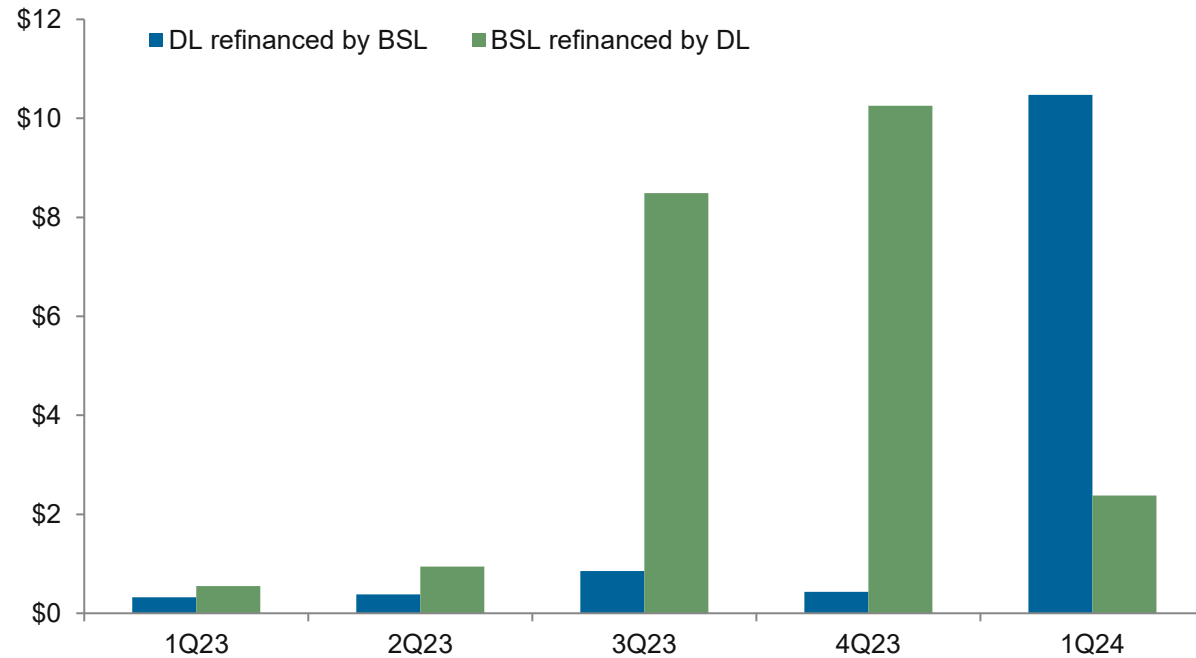
- No different from past quarters and years, leveraged buyouts financed with private credit continued to grow in the first quarter of 2024. Despite this increase, the volume of leveraged buyouts financed with syndicated loans versus private credit loans was much more in the first quarter. This was mainly due to two mega deals.
- Second-lien loans have had a reemergence in 2024, mainly a byproduct of the LBO activity thus far. Second-lien issuance has already exceeded the total from 2023.

Source: Pitchbook

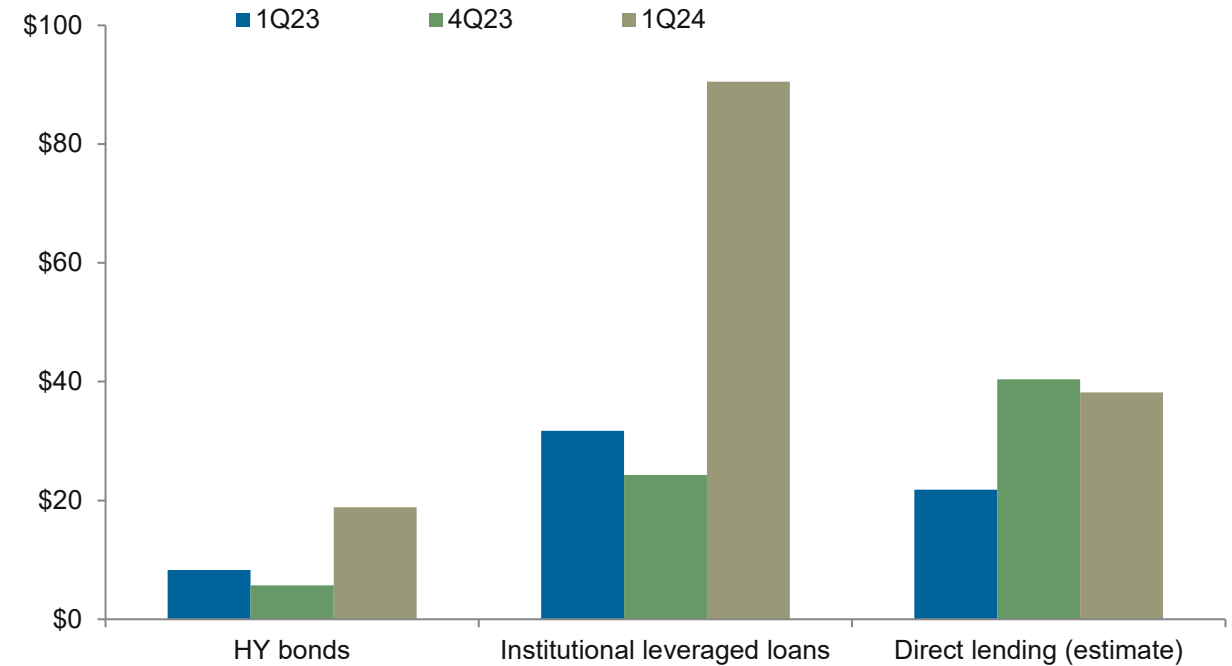


# 1Q 2024 Borrowing & Refinancings Volume

Syndicated Loans & Direct Lending Takeouts



New-issue Volume for PE-backed borrowers



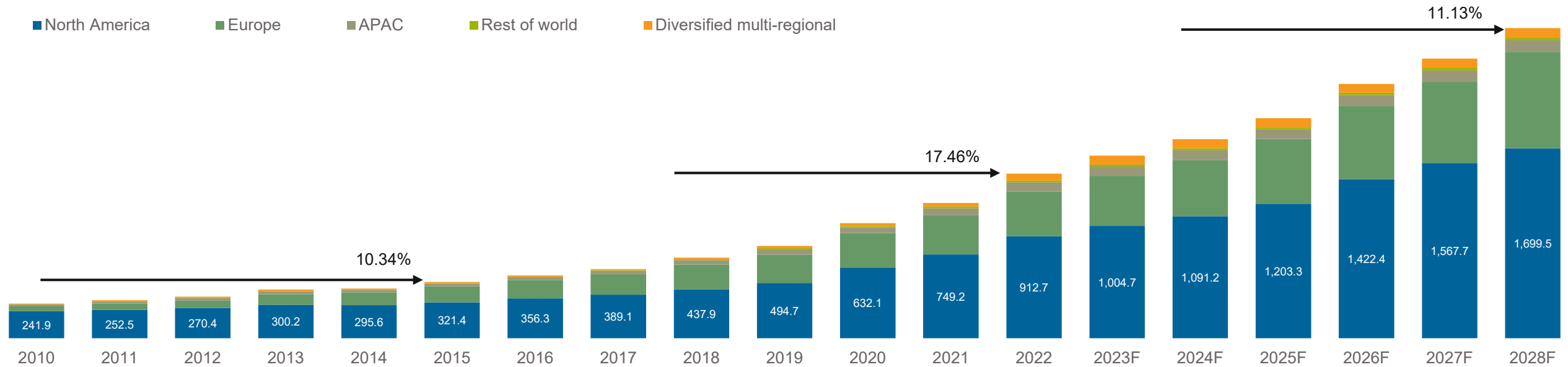
- In late 2023, the syndicated loan market has showed signs of reopening, even for lower rated refinancings. Early 2024 as no different with this trend continuing to accelerate.
- In Q1 2024, many companies pivoted their borrowings from the syndicated loan markets due to the lower cost of capital. This resulted in a quiet period for private capital in 2024.

Source: Pitchbook

# Projected Private Credit Market Growth by Strategy

- Private credit AUM stood at over \$1.5 trillion at the end of 2023, with Preqin forecasting the asset class will grow to over \$2.5 trillion by 2028 at a 11.13% CAGR from 2023 to 2028.
- Direct lending is expected to grow steadily through 2028 as investors increase their private credit allocations. Distressed exposure should grow a bit more slowly with other strategies such as opportunistic, special situations, and other niche diversifiers growing more quickly.

Private Debt AUM\* by Primary Region Focus



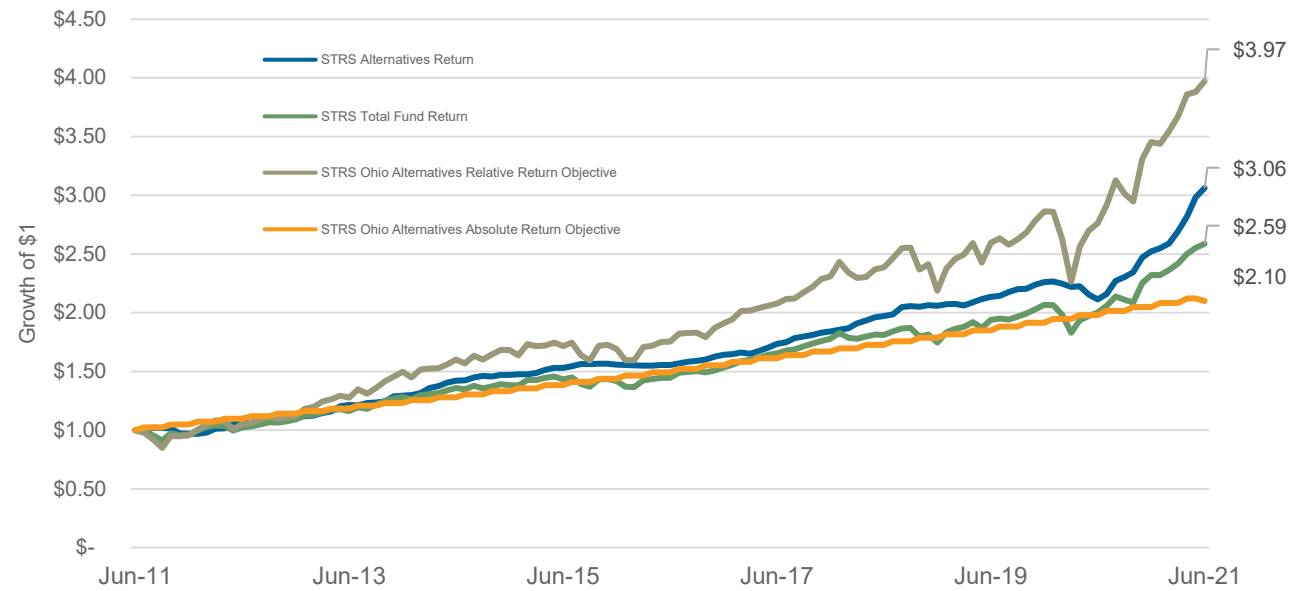
\*AUM figures exclude funds denominated in Yuan Renminbi  
Source: Preqin

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## Appendix

# STRS Ohio Alternatives Performance (Private Equity + O/D)

STRS Ohio Alternative Investment Performance  
Ten Years: June 30, 2011 to June 30, 2021 <sup>1,2</sup>



STRS Ohio Alternative Investments Performance Comparison  
Annualized Periods ending June 2021

	STRS Ohio Alternatives	STRS Ohio Total Fund	STRS Ohio Alternatives Relative Return Objective <sup>2</sup>	STRS Ohio Alternatives Absolute Return Objective <sup>2,3</sup>
<b>Last 10 years</b>	11.84%	9.97%	14.79%	7.81%
<b>Last 5 years</b>	14.52%	12.34%	17.77%	7.27%
<b>Last 3 years</b>	15.83%	12.62%	18.55%	7.09%
<b>Fiscal Year 2021</b>	44.99%	29.28%	43.91%	7.09%
<b>Risk (10-Yr)</b>	4.91%	7.80%	14.15%	
<b>Sharpe Ratio (10-Yr)</b>	2.30	1.21	1.00	

- STRS Ohio Alternatives returns exceed STRS Ohio Total Fund returns in all time periods.
- STRS Ohio Alternatives returns have meaningfully exceeded long-term Absolute Return Objectives over all time periods
- STRS Ohio Alternatives returns meaningfully exceeded the Relative Return Objective in FY2021
- STRS Ohio Alternatives returns have lagged the Relative Return Objective in longer term historical periods due to lower-risk / lower yielding Opportunistic/Diversified (or “O/D”) returns (as described on a later slide), but STRS Ohio Alternatives have provided a better long-term risk-adjusted return than the Relative Return Objective as illustrated above by the significantly lower volatility and significantly higher Sharpe Ratio over the 10-year period.

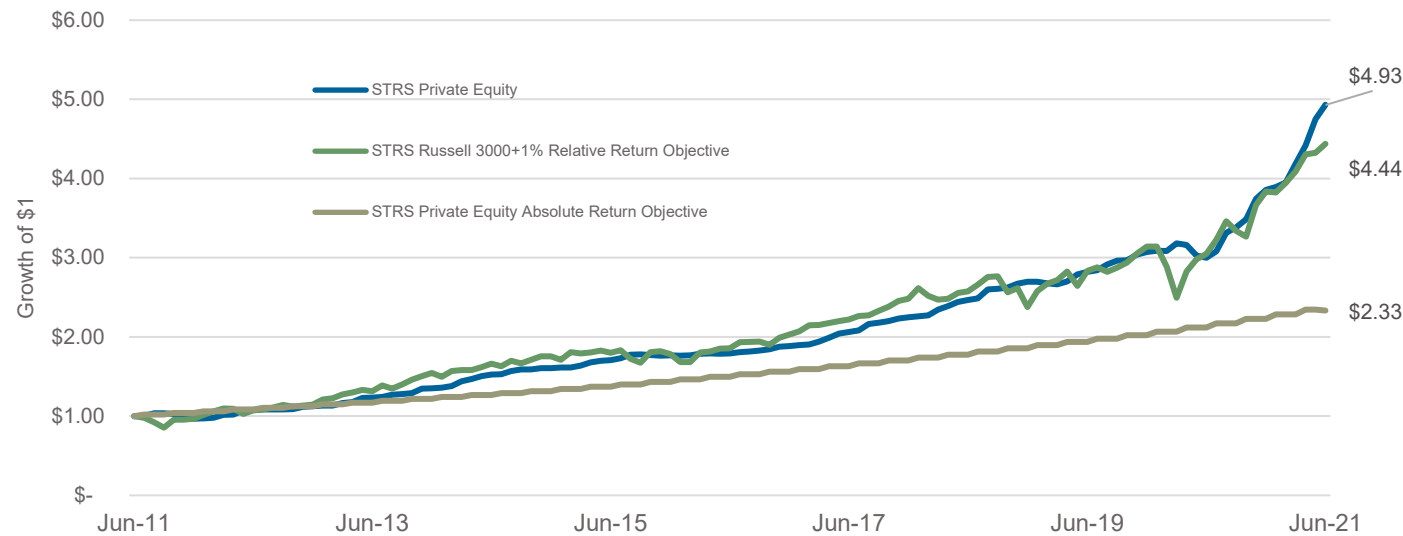
<sup>1</sup> STRS Ohio Alternatives returns are always presented net of all management fees, fund expenses and carried interest.

<sup>2</sup> STRS Ohio measured Alternatives performance relative to the Alternatives Relative Return Objective and the Alternatives Absolute Return Objective through 6/30/2021.

<sup>3</sup> Higher returns over longer periods reflect Objectives from earlier STRS Ohio Asset Allocation Studies.

# STRS Ohio Private Equity Performance

STRS Ohio Private Equity Performance  
Ten Years: June 30, 2011 to June 30, 2021 <sup>1,2,3,4</sup>



STRS Ohio Private Equity Performance  
Annualized Periods ending June 2021 <sup>1,2</sup>

	STRS Ohio Alternatives	STRS Ohio Alternatives Relative Return Objective <sup>2,3</sup>	STRS Ohio Alternatives Absolute Return Objective <sup>2,4</sup>
<b>Last 10 years</b>	17.29%	16.06%	8.83%
<b>Last 5 years</b>	22.47%	19.05%	8.32%
<b>Last 3 years</b>	25.96%	19.90%	8.15%
<b>Fiscal Year 2021</b>	64.48%	45.56%	8.15%
<b>Risk (10-Yr)</b>	6.53%	14.14%	
<b>Sharpe Ratio (10-Yr)</b>	2.56	1.10	

- STRS Ohio Private Equity returns exceed Absolute Return Objectives for all time periods
- STRS Ohio Private Equity returns outperformed the Relative Return Objective in all time periods
- STRS Ohio Private Equity returns have also generated significantly better risk-adjusted returns than the Relative Return Objective as illustrated above by the significantly lower volatility and significantly higher Sharpe Ratio over the 10-year period

<sup>1</sup> STRS Ohio PE returns are always presented net of all management fees, fund expenses and carried interest.

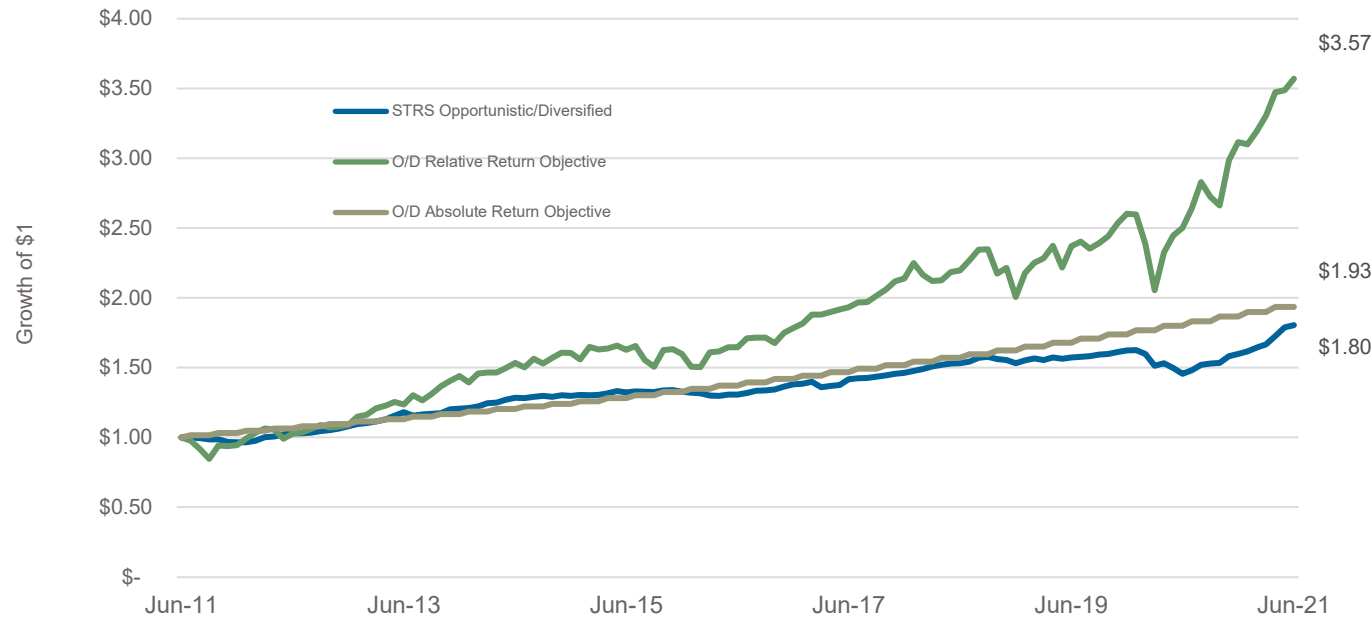
<sup>2</sup> STRS Ohio measured Private Equity performance relative to the Private Equity Relative Return Objective and the Private Equity Absolute Return Objective through 06/30/2021.

<sup>3</sup> STRS Ohio Private Equity Relative Return Objective equals the Russell 3000 Equity Index plus 1% per year.

<sup>4</sup> STRS Ohio Private Equity Absolute Return Objective is based upon a 10.70% Objective starting fiscal 2007, a 9.00% Objective starting fiscal 2013 and an 8.15% Objective starting fiscal 2018.

# STRS Ohio Opportunistic/Diversified (O/D) Performance

STRS Ohio O/D Performance  
Ten Years: June 30, 2011 to June 30, 2021 <sup>1,2,3,4</sup>



STRS Ohio Private Equity Performance  
Annualized Periods ending June 2021 <sup>1,2</sup>

	STRS Ohio Opportunistic/Diversified <sup>2</sup>	STRS Ohio O/D Relative Return Objective <sup>3</sup>	STRS Ohio O/D Absolute Return Objective <sup>4</sup>
<b>Last 10 years</b>	6.08%	13.57%	6.79%
<b>Last 5 years</b>	6.69%	16.73%	6.48%
<b>Last 3 years</b>	5.64%	17.57%	6.35%
<b>Fiscal Year 2021</b>	24.07%	42.78%	6.35%
<b>Risk (10-Yr)</b>	4.23%	14.15%	
<b>Sharpe Ratio (10-Yr)</b>	1.30	0.92	

- STRS Ohio Opportunistic/Diversified returns have trailed Relative Return Objectives over all periods shown but have exceeded the Absolute Return Objective in two of the four time periods shown. STRS Ohio Private Equity returns outperformed the Relative Return Objective in all time periods
- The Relative Return Objective underperformance is due primarily to (1) very strong public US stock returns over the last 10 years, (2) an investment emphasis on credit assets within Opportunistic and (3) an emphasis on lower risk Diversified strategies within O/D that have caused lower returns, which collectively made the Relative Return Objective difficult to outperform.

<sup>1</sup> STRS Ohio O/D returns are always presented net of all management fees, fund expenses and carried interest.

<sup>2</sup> STRS Ohio measured O/D performance relative to the O/D Relative Return Objective and the O/D Absolute Return Objective through 06/30/2021.

<sup>3</sup> STRS Ohio O/D Relative Return Objective equals the Russell 3000 Equity Index minus 1% per year.

<sup>4</sup> STRS Ohio O/D Absolute Return Objective is based upon a 7.50% Objective starting in fiscal 2009, a 7.00% Objective beginning fiscal 2013 and an 6.35% Objective beginning fiscal 2018.

# Alternatives Program Benchmark Definitions

## Total Fund Benchmarks – Time-Weighted

Alternative Investments Blended Benchmark	Effective July 1, 2022, the Alternative Investment Blended Benchmark consist of the Private Equity Benchmark multiplied by 47.4% plus the Opportunistic/diversified Blended Benchmark multiplied by 52.6%. From July 1, 2021 to June 30, 2022 the Alternative Investment Blended Benchmark consisted of the Private Equity Benchmark multiplied by 41.2% plus the Opportunistic/diversified Blended Benchmark multiplied by 58.8%.
Alternative Investments Blended Relative Return Objective	Through June 30, 2021, the Alternative Investments Blended Relative Return Objective is calculated monthly using a blend of the Private Equity and Opportunistic/Diversified Relative Return Objectives based on the policy weights in effect during the respective periods.
Alternative Investments Absolute Return Objective	Through June 30, 2021, the absolute return objective for Total Alternative Investments is 7.09% (Blended), Private Equity is 8.15%, and Opportunistic/Diversified is 6.35%, all of which are based on the 2017 Asset Liability Study.
Private Equity Benchmark	The Private Equity Benchmark is the Cambridge Associates Private Equity and Venture Capital Index one quarter lagged to be consistent with external fund reporting effective July 1, 2021.
Private Equity Absolute Return Objective	Through June 30, 2021, the absolute return objective for Private Equity is 8.15%, based on the 2017 Asset Liability Study.
Private Equity Relative Return Objective	Through June 30, 2021, the Private Equity Relative Return Objective is calculated monthly and is the Russell 3000 Index plus 1%.
Opportunistic/Diversified Blended Benchmark	The Opportunistic/Diversified blended benchmark consists of the actual Opportunistic Investments Portfolio weight multiplied by the Cambridge Associates Private Credit Index one quarter lagged to be consistent with external fund reporting plus the actual weight of the Diversified Investments Portfolio multiplied by the HFRI Fund of Funds Composite Index, which is a monthly index where subsequent revisions will be reflected in the following period effective July 1, 2021. The HFR Indices are being used under license from HFR Holdings, LLC, which does not approve of or endorse any of the products or the contents discussed in this material.
Opportunistic/Diversified Absolute Return Objective	Through June 30, 2021, the absolute return objective for Opportunistic/Diversified is 6.35%, based on the 2017 Asset Liability Study.
Opportunistic/Diversified Relative Return Objective	Through June 30, 2021, the Opportunistic Relative Return Objective is calculated monthly and is the Russell 3000 Index minus 1%.

## Alternative Investments Peer Groups

Private Equity	LSEG/Cambridge database, includes vintage years 2007-2024, Global Buyout, Growth Equity, and Venture Capital strategy types
Opportunistic	LSEG/Cambridge database, includes vintage years 2009-2024, Global Credit Opportunities, Senior Debt, and Subordinated Debt

# Private Equity Peer Group Definitions

## General Partner

Thoma Bravo	2012-2016, 2018, 2020-2022 US Buyout
Bain Capital	2007-2009, 2014-2015, 2017-2019 US Venture Capital and Buyout
Tiger Iron	2018-2019 US Venture Capital
Grosvenor	2007-2008, 2010, 2014-2015 US Buyout
Silver Lake	2007, 2013, 2017-2020 US Buyout
TA Associates	2010, 2016, 2019, 2020, 2021 Global Buyout and Growth Equity
Commonfund	2010, 2012, 2013, 2015 Global Venture Capital
Francisco Partners	2011, 2015-2016, 2018, 2020, 2022 US Buyout
General Catalyst	2011, 2013, 2016, 2018, 2020-2021 US Venture Capital
H.I.G. Capital	2014-2015, 2017, 2022 Global Buyout

## Strategy

Domestic Private Equity	2007-2024 US Buyout
Venture Capital/Growth	2007-2024 US Venture Capital
International Private Equity	2007-2024 Non-US Buyout
Total Private Equity	2007-2024 Global Buyout, Growth Equity, Venture Capital

Vintage Year	Global Buyout, Venture Capital, Growth Equity
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# Opportunistic/Diversified Peer Group Definitions

## General Partner

Sixth Street Partners	2011, 2012, 2014, 2015, 2018-2022 Credit Opportunities
Blue Owl Capital	2014-2015, 2017-2018, 2020, 2022, 2023 Credit Opportunities, Senior Debt, Subordinated Debt
Ares Management Corporation	2012, 2017-2023 Credit Opportunities, Senior Debt
Reverence Capital Partners	2014, 2019, 2020, 2021, 2023 Credit Opportunities, Senior Debt, Subordinated Debt
Oaktree Capital Management	2011, 2013, 2015-2018 Credit Opportunities
TPG Angelo Gordon	2019-2022 Credit Opportunities, Senior Debt, Subordinated Debt
Fortress Investment Group LLC	2014, 2018-2020, 2023 Credit Opportunities
Neuberger Berman	2021 Credit Opportunities
Stone Point Capital	2020-2023 Subordinated Debt, Senior Debt, Buyout
Cerberus Capital	2018, 2019, 2022 Credit Opportunities

## Strategy

Specialty Finance	2011-2024 Credit Opportunities
Direct Lending	2011, 2014-2024 Senior Debt
Banking and Insurance	2014, 2015, 2017-2024 Credit Opportunities, Senior Debt, Subordinated Debt
Co-Investment/Direct	2018-2024 Subordinated Debt, Credit Opportunities, Senior Debt
Energy and Natural Resources	2010, 2012, 2013-2015, 2017-2020 Private Energy
Infrastructure	2009, 2013, 2020-2022 Infrastructure
Total Opportunistic	2009 - 2024 Credit Opportunities, Senior Debt, Subordinated Debt

Vintage Year	Credit Opportunities, Senior Debt, Subordinated Debt
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- Summary of investment activity report, June and July 2024
- Domestic equity asset class update and outlook
- Meketa annual performance review as of June 30, 2024
- Callan annual performance review as of June 30, 2024
- **Meketa Comments**
  - Review and adopt reference benchmark
  - Asset-liability study board survey summary results
- Proxy Voting Summary for six months ending June 30, 2024
- Review of Securities Compliance Policies and Procedures
  - As required by Section 3307.043 of the Ohio Revised Code
- Semiannual Derivatives Exposure as of June 30, 2024
- Review of June and July 2024 investment transactions
- Summary of requests



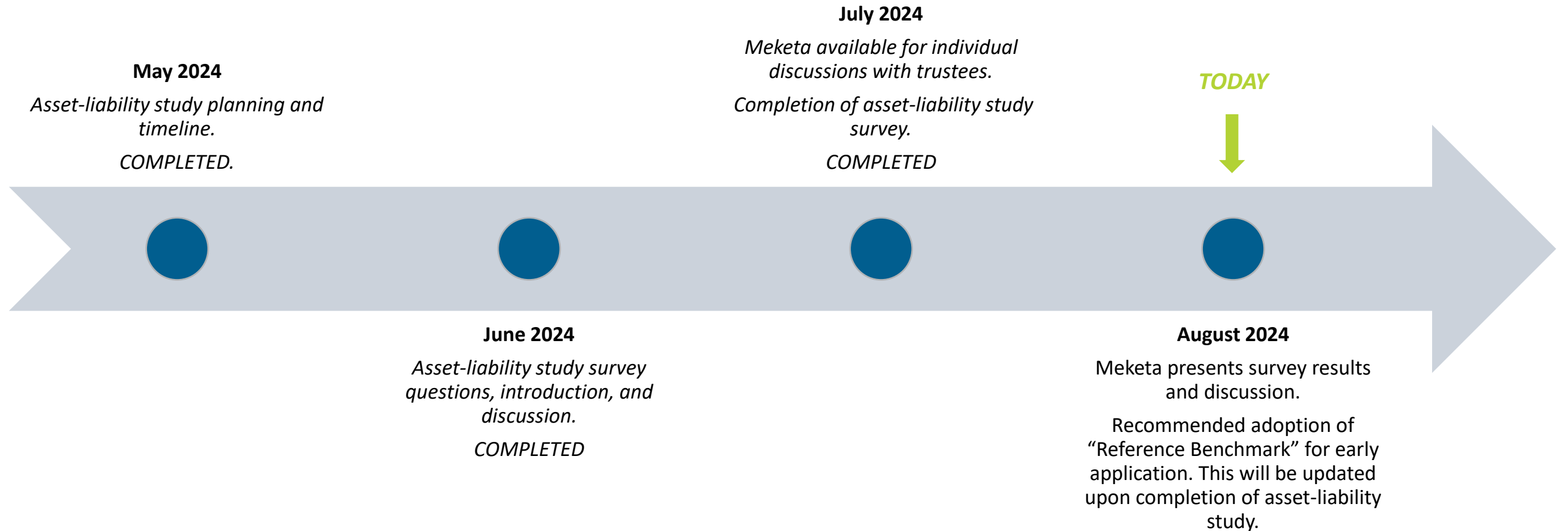
INVESTMENT GROUP

# State Teachers Retirement System of Ohio

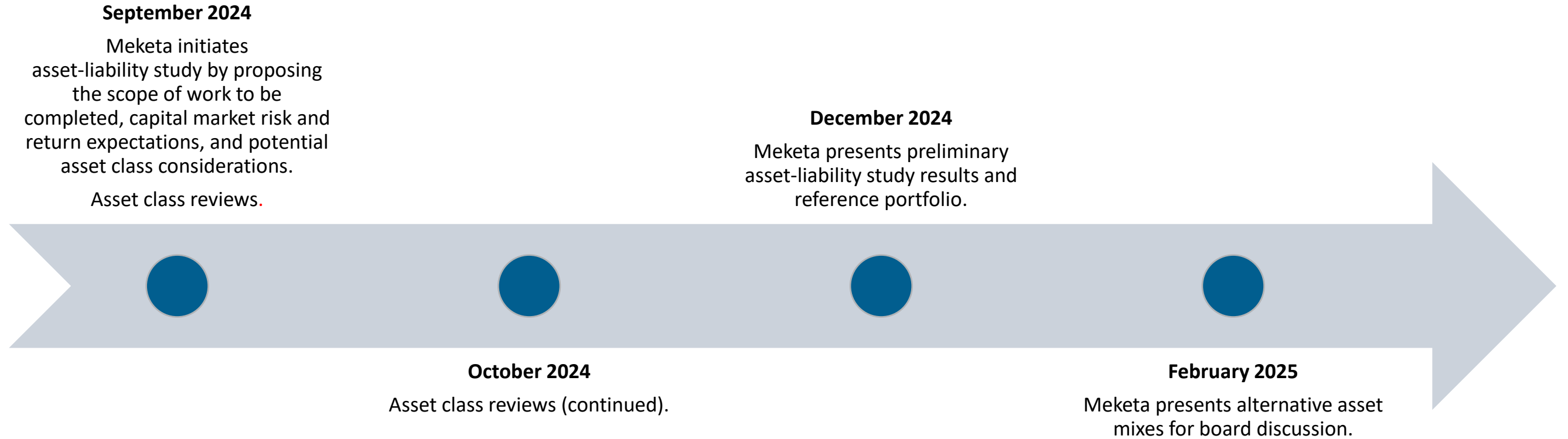
August 16, 2024

Risk and Implementation Survey  
- Results -

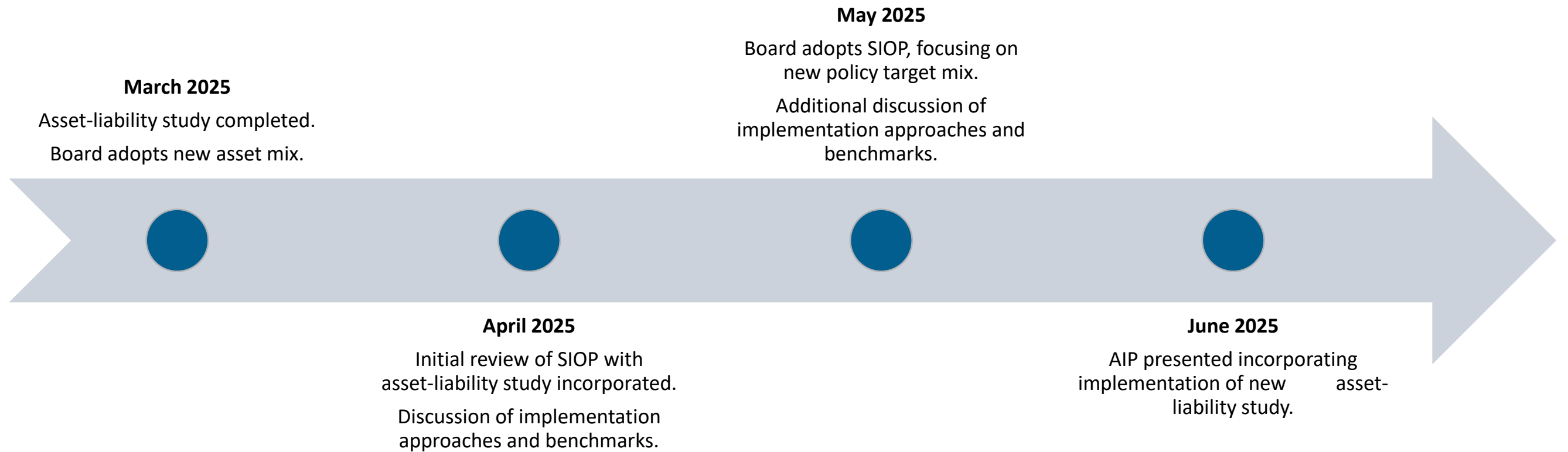
**Asset-Liability Study Timeline | May - August 2024**



**Asset-Liability Study Timeline | September 2024 – February 2025**



**Asset-Liability Study Timeline | March – June 2025**



Reference Portfolio Benchmark

→ For most public pension portfolios, a reference portfolio benchmark with weights of 60-70% equity and 30-40% fixed income aligns with their overall volatility expectations.

		Potential Reference Portfolio Options			
	STRS Ohio Total Portfolio	60% MSCI ACWI / 40% Bloomberg Aggregate	65% MSCI ACWI / 35% Bloomberg Aggregate	67% MSCI ACWI / 33% Bloomberg Aggregate	70% MSCI ACWI / 30% Bloomberg Aggregate
Expected Return*	7.04%	6.41%	6.53%	6.58%	6.64%
Expected Volatility*	11.76%	10.71%	11.48%	11.79%	12.25%



*Recommendation*

→ For STRS Ohio, a 67% MSCI ACWI / 33% Bloomberg Aggregate mix closely aligns with the volatility expectations of the Board-approved asset allocation.

→ **Meketa recommends that the STRS Ohio Board adopt the Reference Portfolio Benchmark.**

\*Based on 2024 10-year Meketa Capital Market Assumptions

## Survey Takeaways



## Introduction

- This presents the responses to the *Risk and Implementation Survey* for the 2024/2025 Asset-Liability Study.
- Additional dialogue during the presentation will enhance the takeaways and utility of the exercise.
- The results of the survey serve as a foundation for the asset-liability modeling process. They begin to frame the inputs (e.g., classes and constraints) and output goals (e.g., key metrics and characteristics) of the process.

## Key Takeaways

- For the vast majority of topics, there is a moderate-to-high level of consensus among STRS Trustees.
- Areas of investment focus:
  - Continue making funding progress with the goal of outperforming the actuarial rate, which in-turn will achieve SBP-related budgets.
  - Explore the pros/cons of passive management within Public Equity and Public Fixed Income.
  - Subject to diversification and risk/return goals, maintain some level of exposure to private markets asset classes.
  - Pursue a portfolio of similar risk level (compared to current policy) but also explore portfolios with less risk.

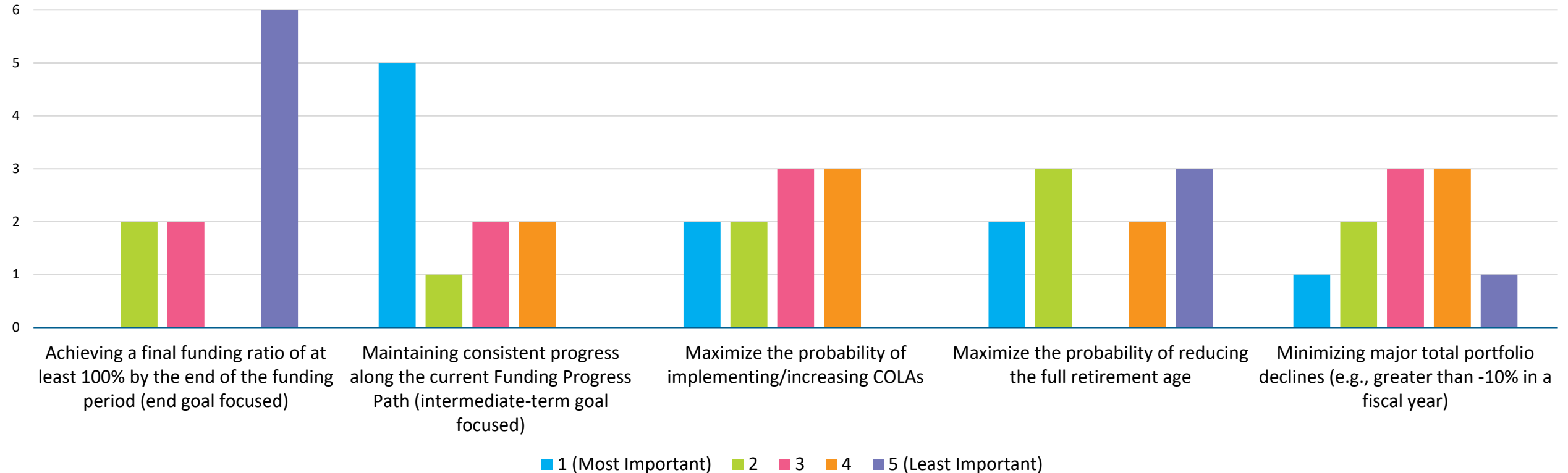
### Additional Takeaways from Meketa

- There is far more agreement in the survey results than what comes through during Board meeting discussions.
- Geopolitical conflict is an area of concern for Trustees; however, it is a risk that is extremely challenging to diversify away from (i.e., it is a systemic risk for most portfolios pursuing actuarial returns near 7%).
- A focus (from a subset of Trustees) on the S&P 500 as a point of comparison is concerning.
  - Similarly, the viewpoint that a Global portfolio is inferior to a US-centric portfolio may be a byproduct of hindsight bias.
  - Avoiding contradictions related to market efficiency will be a key concept for STRS Ohio.
- Certain viewpoints on downside funded ratio thresholds may be unrealistic if the global capital markets were to experience significantly deteriorating economic conditions.
  - Relatedly, the belief (by a subset of Trustees) that the plan sponsors would increase contributions rates during a market crisis scenario may also be impractical.
- Meketa and STRS should explore additional mechanisms to improve portfolio/asset class understanding (e.g., *Alternative Investments*).

## **Survey Questions and Results**

**Objectives Section**

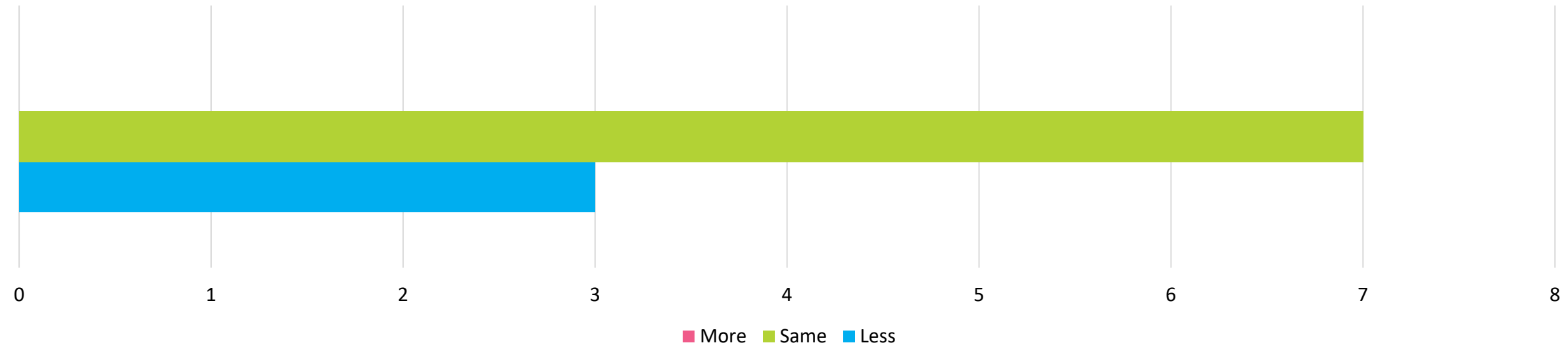
1. Please rank the following objectives in order of importance with 1 being most important and 5 being least important.



→ Consistent funding progress and SBP-related topics were the most important among Trustees. It is important to recognize that these are linked with one another (i.e., consistent funding progress will lead to SBP budgets).

**Risk Appetite Section**

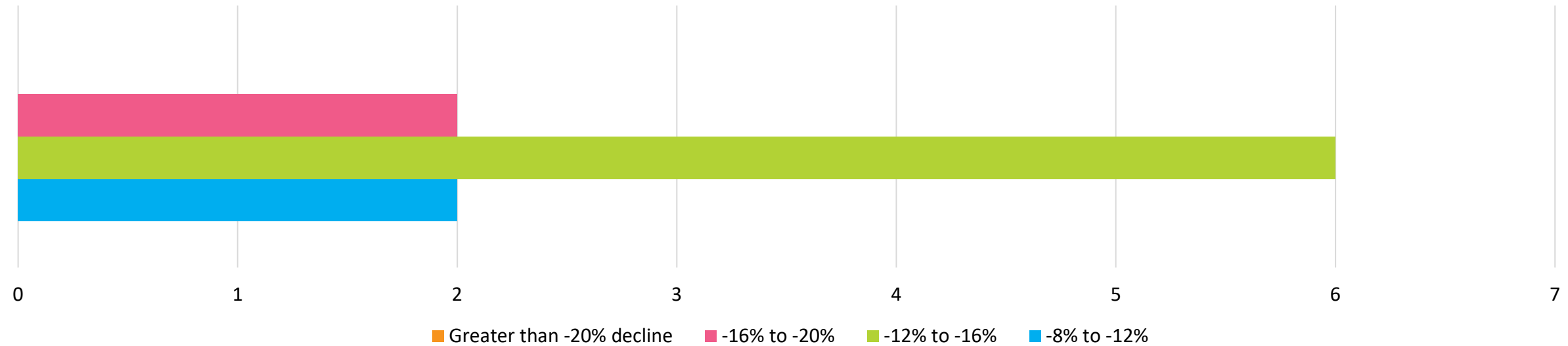
- 2. To achieve long-term goals, should STRS be taking more, less, or the same amount of investment risk (compared to current long-term policy) in the portfolio?



- High degree of consensus that the current long-term policy exhibits the appropriate amount of risk for STRS Ohio.
- “Less risk” portfolios will also be explored in the modeling process.

**Risk Appetite Section**

3. What is considered to be a bad but not necessarily a catastrophic investment year to the respondent?



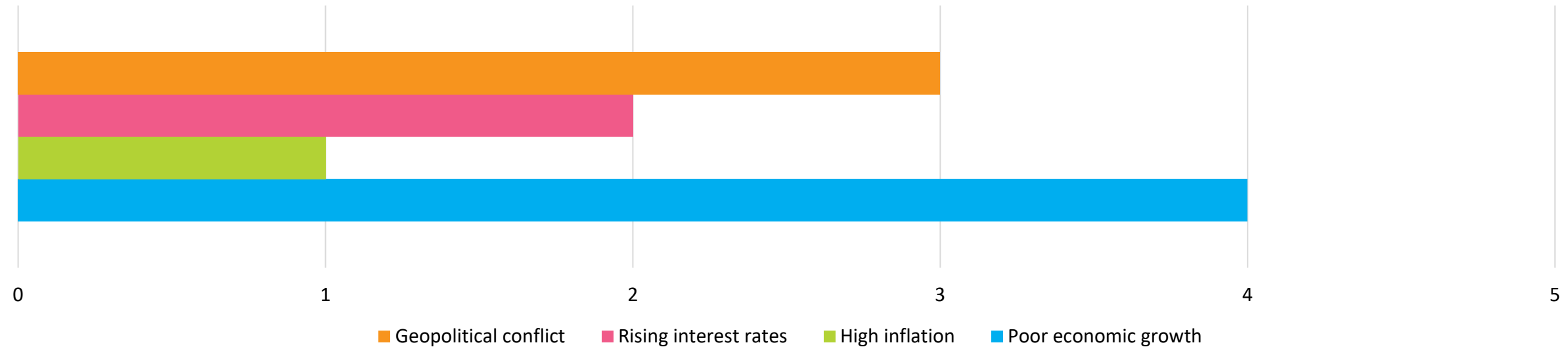
→ General consensus that -12% to -16% would be a bad but not necessarily catastrophic investment year.

→ This represents the loss of roughly three fiscal years.

→ With the current long-term policy portfolio, an annual loss of -12% or more is roughly a 5% chance.

**Risk Appetite Section**

4. I am most concerned with which of the following macroeconomic issues (and its impact on STRS) over the next 1-5 years?

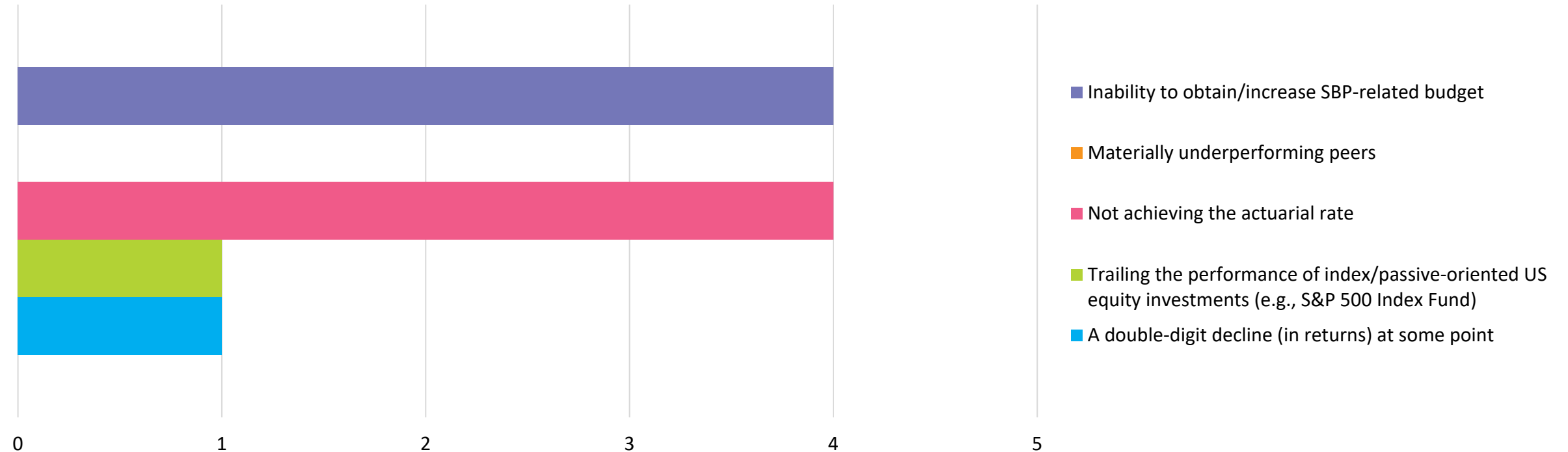


→ Poor economic growth and geopolitical conflict are the two primary concerns for Trustees over the next 1-5 years.

→ Discussion will occur regarding how the current and potential portfolios may be exposed to or otherwise mitigate these risks.

**Risk Appetite Section**

5. Which of the following outcomes is of the greatest concern over the next 10 years?



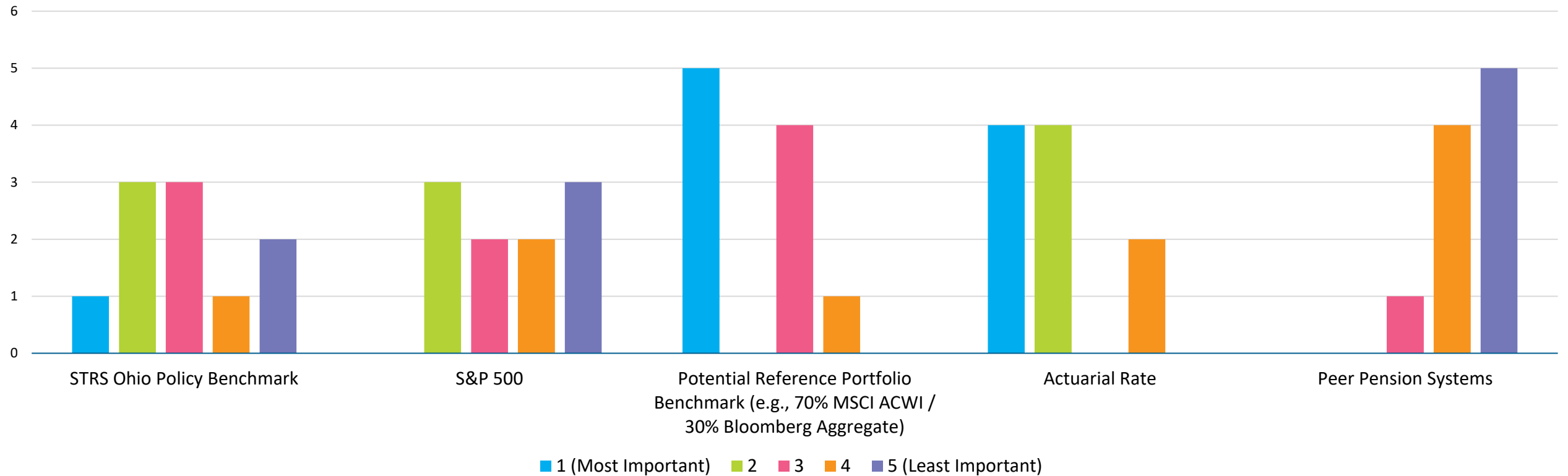
→ Not achieving the actuarial rate and inability to obtain/increase SBP-related budget are the primary Trustee concerns over the next 1-10 years.

→ As previously discussed, these are interrelated.



**Risk Appetite Section**

6. Rank the following “benchmarks” in order of what you would prefer to not see STRS “underperform” over a 1-5 year horizon. (1 = the benchmark you view as most critical, 5 = the benchmark you view as least relevant)

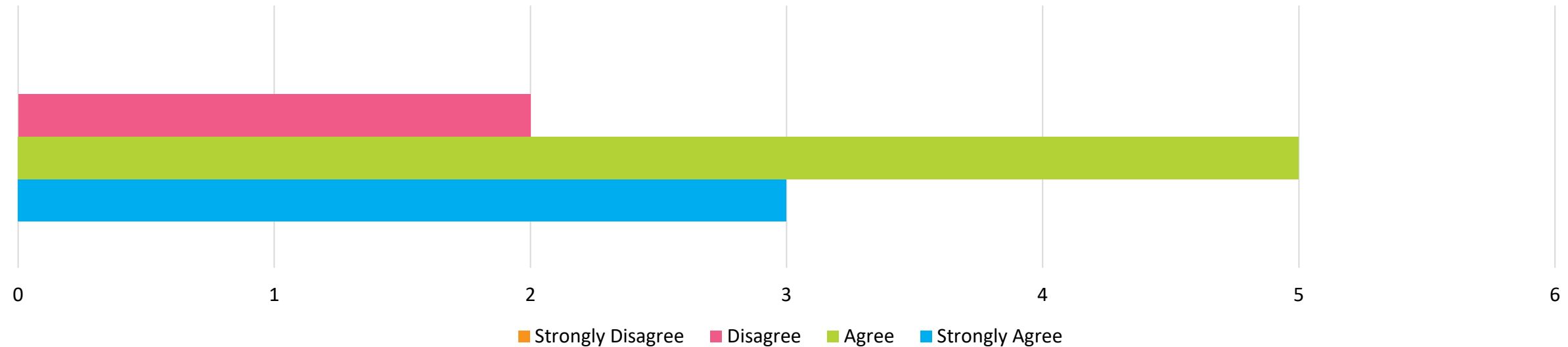


→ Reference Portfolio Benchmark and Actuarial Rate are the most pertinent gauges of performance success.

→ From Meketa’s perspective, a focus on the S&P 500 by some Trustees is a concern and will be discussed.

**Risk Mitigation Section**

7. “Treadwater” is an appropriate metric to examine when discussing potential asset allocation options and their corresponding metrics.

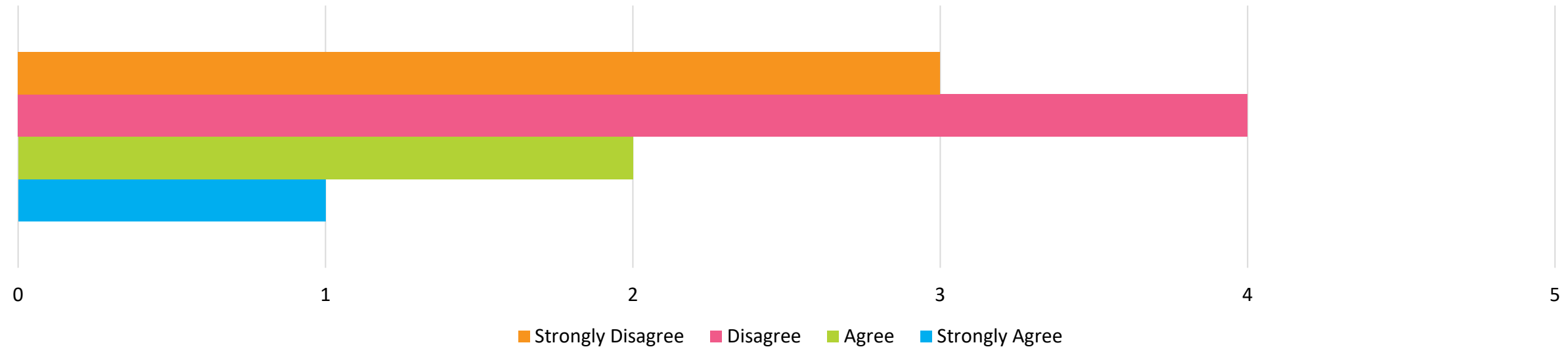


→ Consensus among Trustees exists that “treadwater” is an appropriate metric to examine.

→ Meketa will reaffirm this importance and examine this metric when analyzing potential new policy portfolios.

**Risk Mitigation Section**

8. During a market crisis, it is expected that the plan sponsor will increase its contribution rate to support STRS.

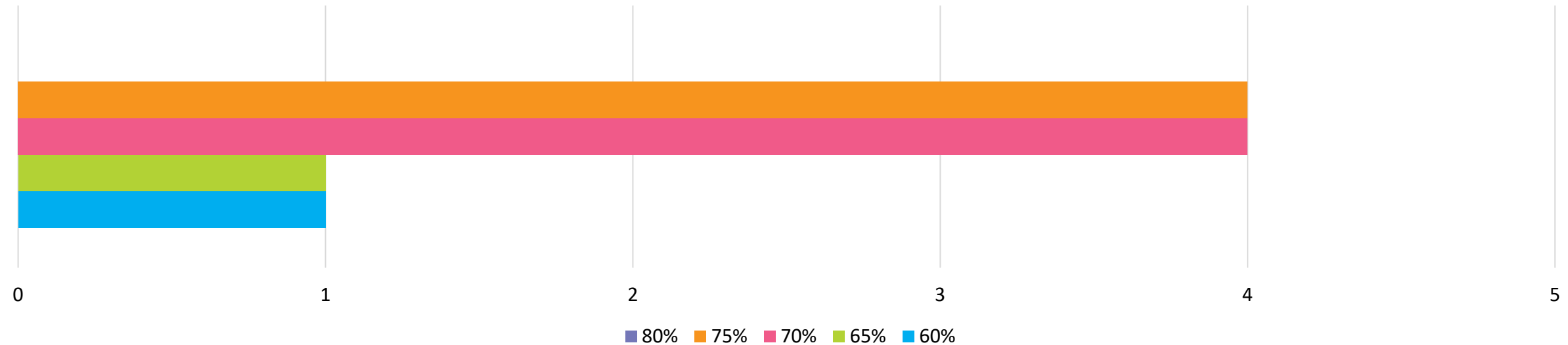


→ General consensus that the plan sponsor will not increase contribution rates to support STRS during a market crisis.

→ From Meketa’s perspective, not relying on a “backstop” is an important foundation for constructing the portfolio.

**Risk Mitigation Section**

9. Based on an estimated current funded ratio of 81.3% (June 30, 2023), what is the minimum funded ratio the STRS should be willing to accept in a market crisis scenario (i.e., very rapid deterioration in economic conditions)?

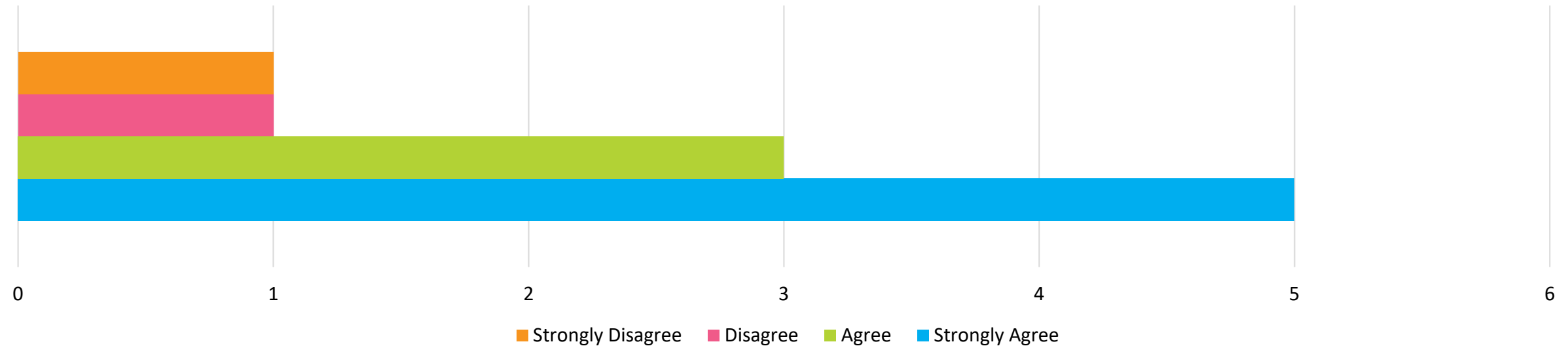


→ A funded ratio decline of ~6-11% is the collective viewpoint on what STRS should be willing to accept during a market crisis scenario.

→ This decline is similar to what STRS experienced after the early-2000s Tech Bubble, however, STRS’s funded ratio declined by over 20% after the Global Financial Crisis.

**Risk Mitigation Section**

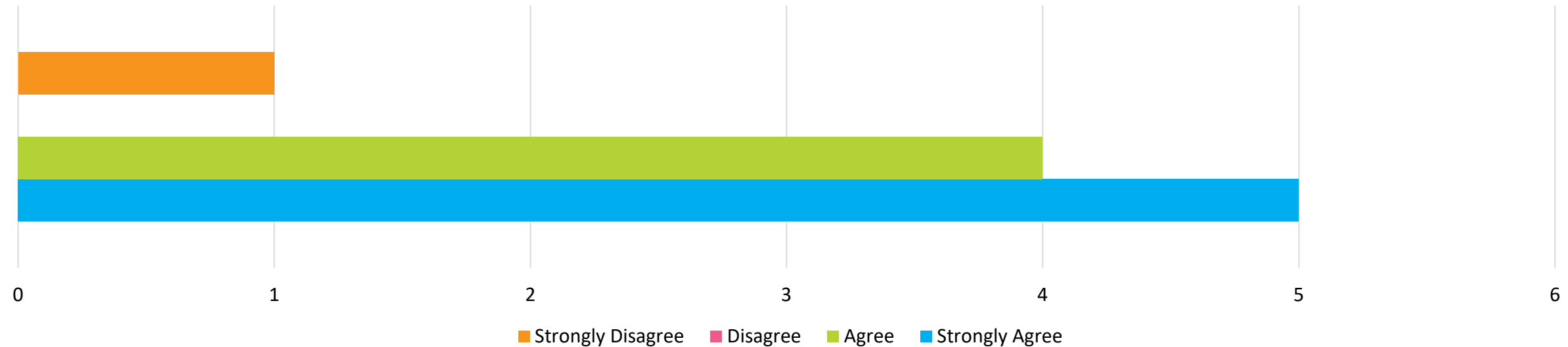
10. There are asset classes other than Public Equity and Public Fixed Income that can help STRS stabilize progress along the Funding Progress Path.



→ Strong Trustee consensus that utilizing additional asset classes (i.e., more than just Public Equity and Public Fixed Income) can improve the diversification of the STRS Ohio investment portfolio.

**Risk Mitigation Section**

11. The cash-flow position of STRS (e.g., net positive contributions or net negative benefit payments) is a key consideration when constructing an investment portfolio.

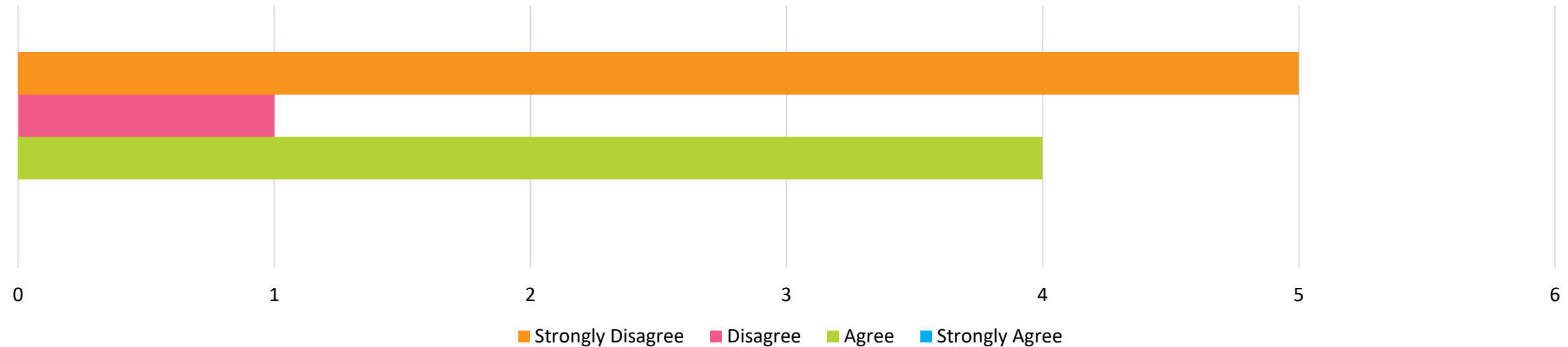


→ STRS Trustees view the cash-flow position of STRS as a critical consideration.

→ Meketa believes the one “strongly disagree” answer was an input error, and the intended answer was “strongly agree”.

**Implementation Section**

12. It is straight-forward to understand what can and cannot be included in the *Alternative Investments* class.

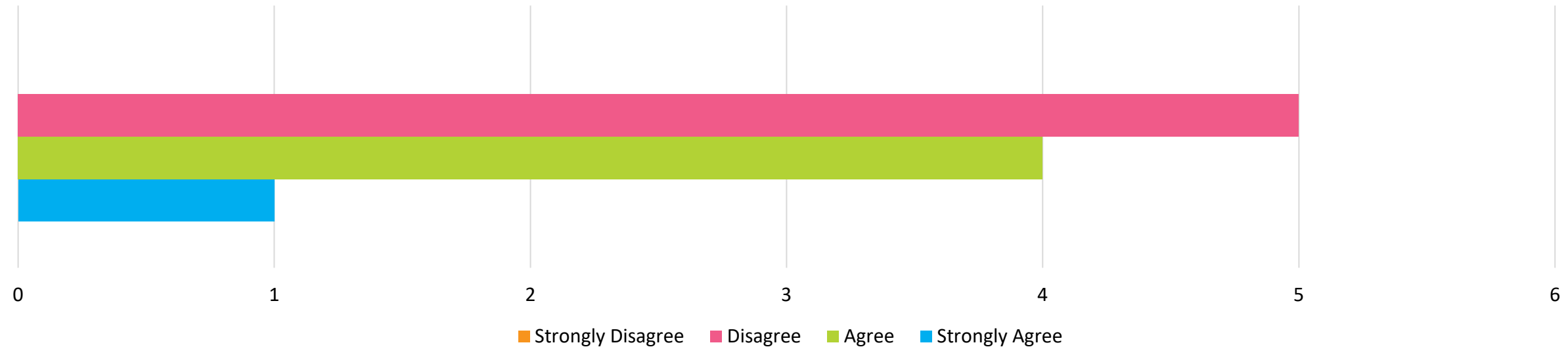


→ A slight majority of Trustees find it unclear what can and cannot be included in the *Alternative Investments* class.

→ Improving the naming conventions and asset class delineations will be an additional goal of the asset-liability study.

**Implementation Section**

13. A globally diversified portfolio (e.g., US, non-US developed, and emerging markets) offers a better forward-looking risk-adjusted portfolio than a US-centric portfolio.



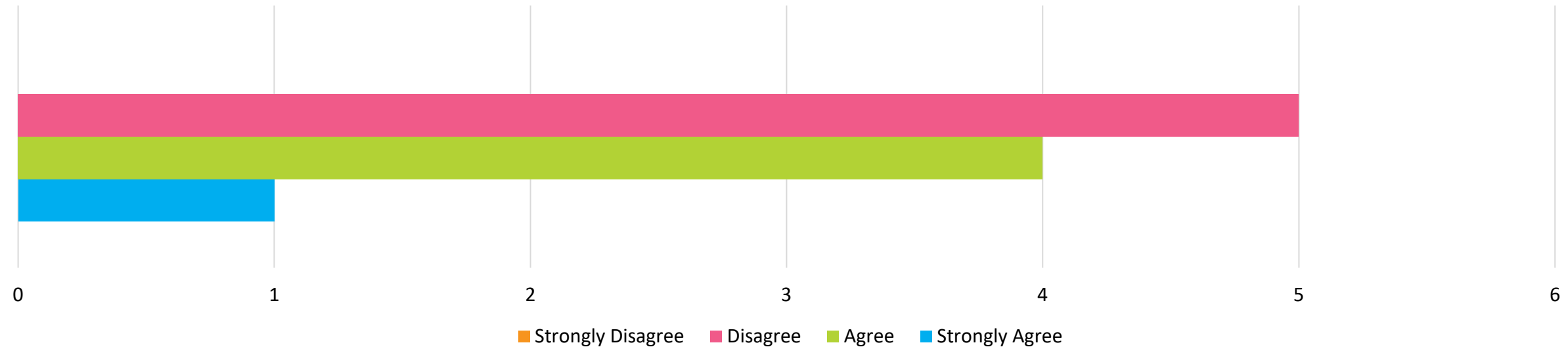
→ Trustees exhibited mixed viewpoints on the efficacy of a global portfolio vs. a US-centric portfolio.

→ This will be a key discussion/education item during the asset-liability study.



**Implementation Section**

14. Different strategies and/or asset classes are interchangeable if they share similar risk factor exposures and portfolio functions.

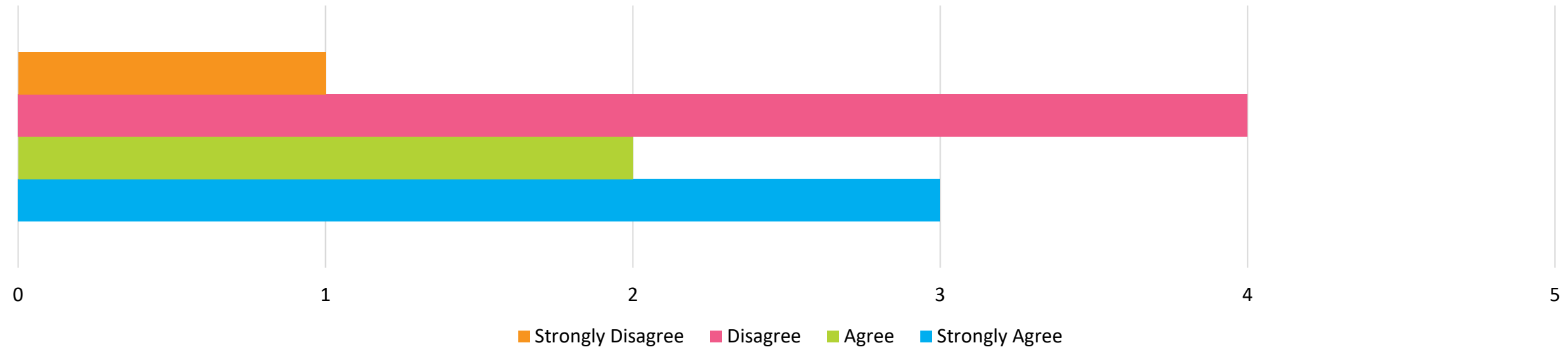


→ Trustee viewpoints also differ on the topic of strategy/asset class interchangeability.

→ For STRS, this concept is more related to interpreting investment results and implementation decisions as opposed to restructuring the portfolio.

**Implementation Section**

15. Opportunistic investments can add value.

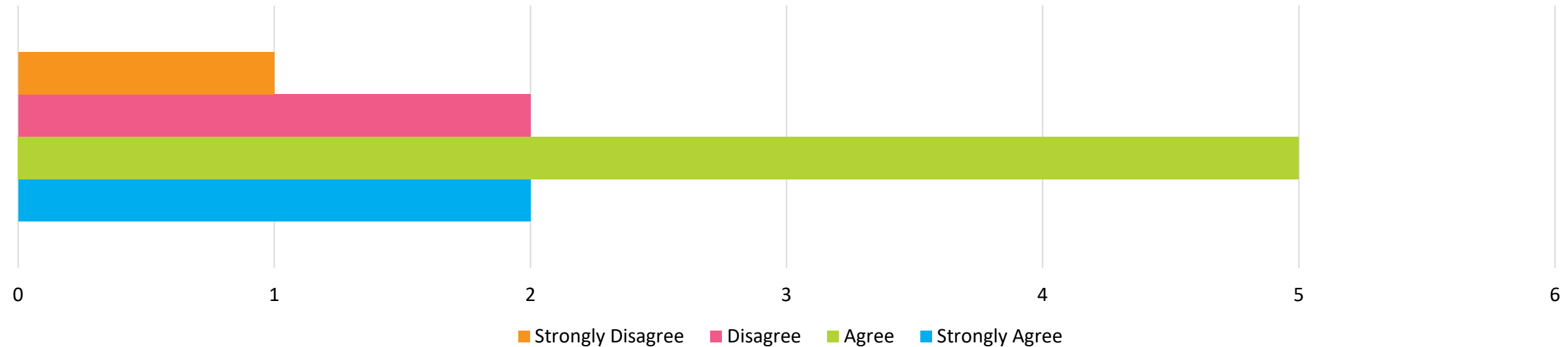


→ No clear consensus regarding the added value of “opportunistic” investments.

→ This concept, and the wide variety of implementation variations among peer systems, will be discussed with Trustees.

**Implementation Section**

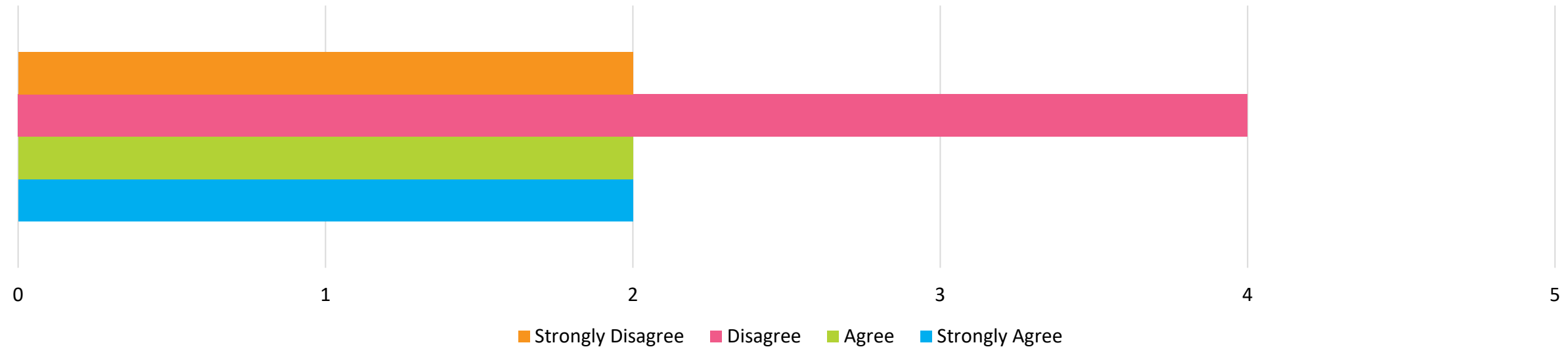
16. High fee strategies are worthwhile if they produce high net-of-fee returns (e.g., a strategy with a 1% management fee and an 8.5% expected net-of-fee return is preferred to a strategy with a 10 basis point management fee and an 8.3% expected net-of-fee return, assuming similar levels of risk)



→ Trustee feedback is generally in favor of pursuing high fee strategies when the net-of-fee results are expected to be attractive.

**Implementation Section**

17. Illiquid strategies typically return more than similar-risk, liquid strategies (e.g., private equity typically returns more than public equity on a risk-adjusted basis).

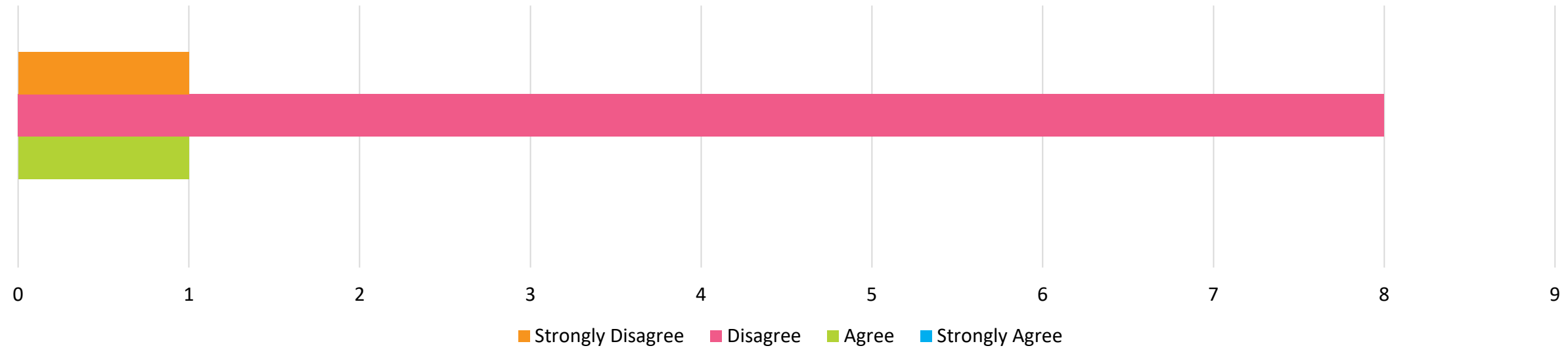


→ Trustee feedback generally indicates that illiquid strategies are not expected to outperform comparable liquid strategies. This may contradict the answers to the prior question (#16).

→ This will be a topic of discussion during the asset-liability study, as there may still be other reasons to maintain allocations to illiquid strategies.

**Implementation Section**

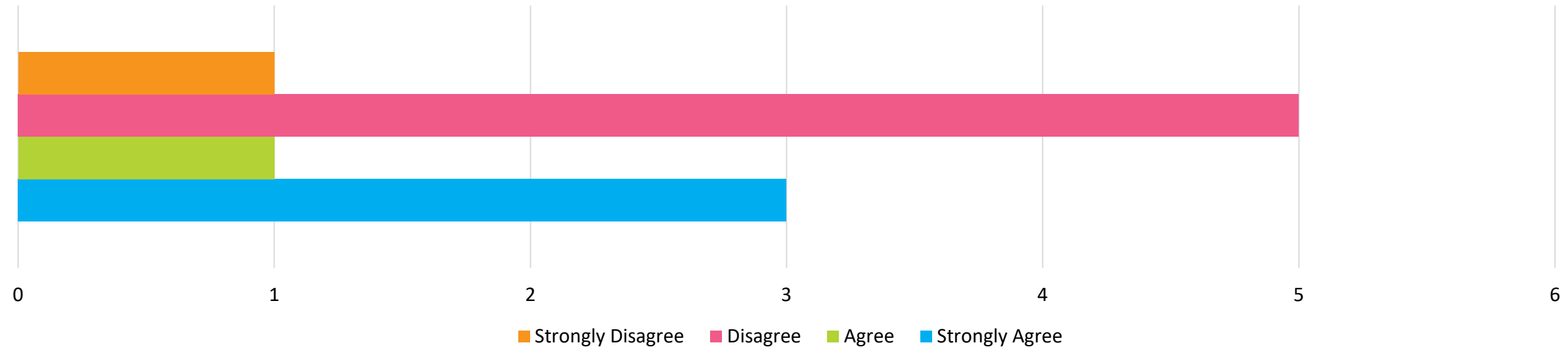
18. Producing a return pattern that is different than peers is a risk (given a similar long-term return).



→ Strong consensus that peer-relative results are not the primary area of focus for STRS.

**Implementation Section**

19. There are segments within the global capital markets that are inefficient and offer the opportunity for added value by active management.

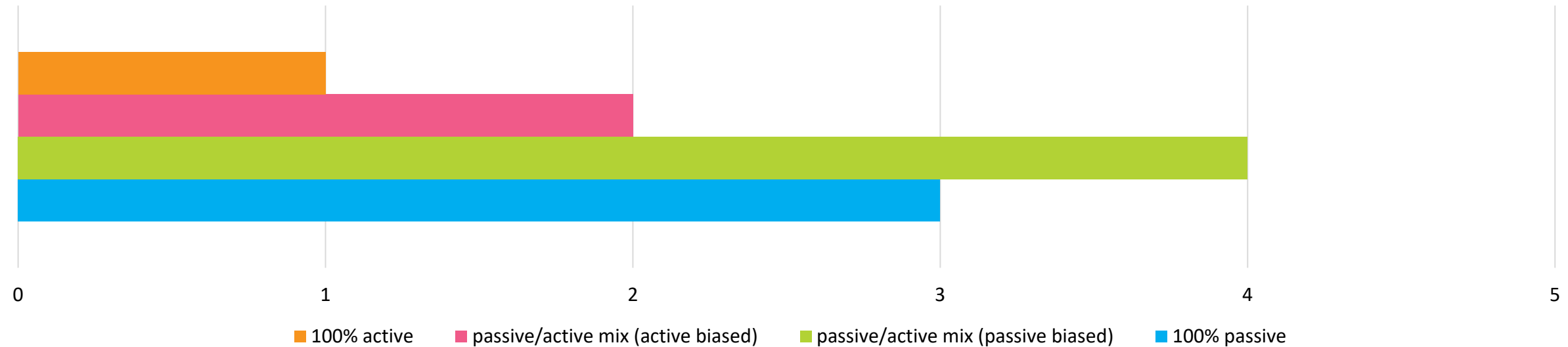


→ STRS Trustees, on average, believe that global capital markets are efficient, and that active management is not expected to be additive.

→ This is an important belief that will require STRS Ohio to not contradict with other decisions.

**Implementation Section**

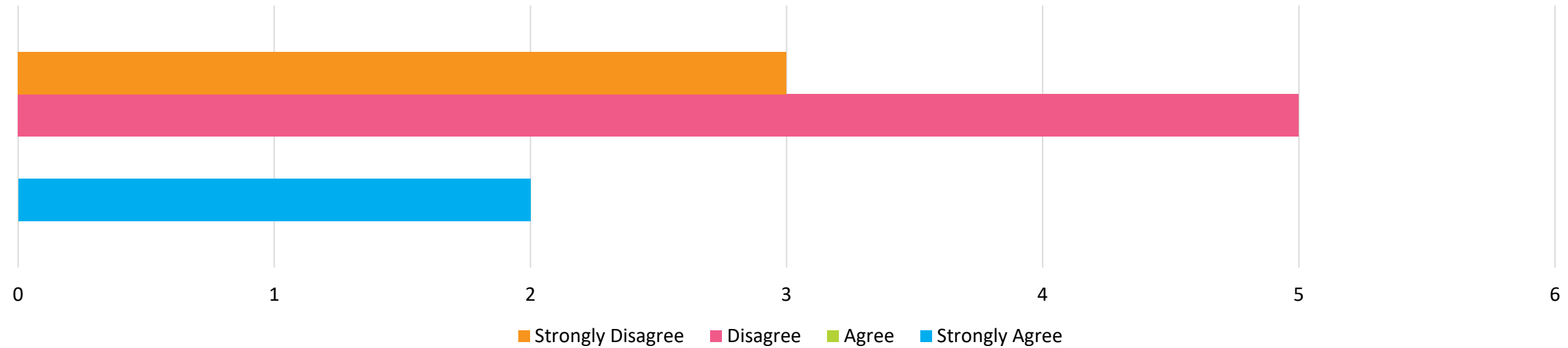
20. For Public Equity and Public Fixed Income, which implementation approach would you prefer?



→ Strong consensus from Trustees that STRS Ohio should explore passive management within Public Equity and Public Fixed Income.

**Implementation Section**

21. If an asset class cannot be invested in passively, STRS Ohio should not invest in it.



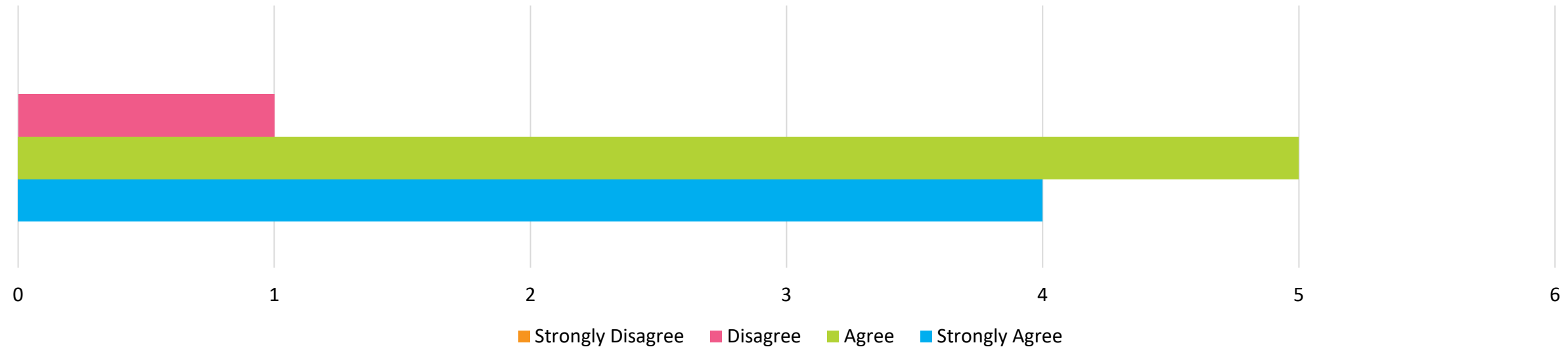
→ Strong consensus that STRS Ohio should maintain exposure to asset classes that cannot be invested in passively.

→ This implies there is a desire to maintain some level of exposure to private markets asset classes.



**Implementation Section**

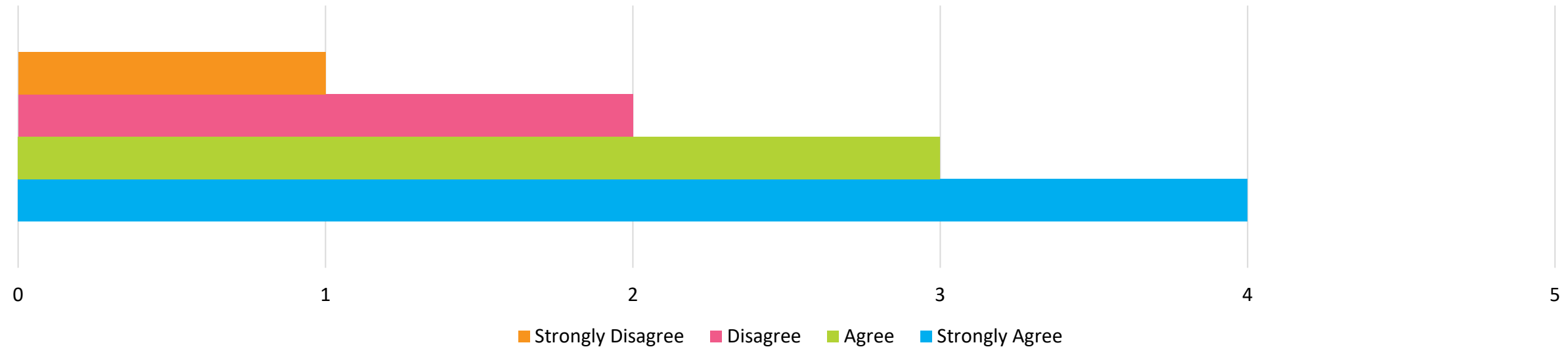
22. There are asset classes and/or strategies that STRS Ohio does not currently utilize that we would like to learn about for potential inclusion in the portfolio in the future.



→ Trustees overwhelming indicate a desire to explore additional asset classes/strategies for the potential inclusion in the portfolio.

**Implementation Section**

23. I understand the difference between asset allocation and implementation, as well as the roles/responsibilities of the major parties (trustees, staff, consultant) on the respective topics.



→ The majority of STRS Trustees indicate they understand asset allocation vs. implementation as well as roles/responsibilities of the major parties.

→ Given the importance of this topic, this will be further discussed throughout the asset-liability study.

## Conclusion and Next Steps

- These survey results serve as a foundational guide for the asset-liability modelling process. The preferences and viewpoints of the Trustees will be built into the model and its corresponding output.
- For the vast majority of topics, there is a moderate-to-high level of consensus among STRS Trustees.
- Areas of investment focus:
  - Continue making funding progress with the goal of outperforming the actuarial rate, which in-turn will achieve SBP-related budgets.
  - Explore the pros/cons of passive management within Public Equity and Public Fixed Income.
  - Subject to diversification and risk/return goals, maintain some level of exposure to private markets asset classes.
  - Pursue a portfolio of similar risk level (compared to current policy) but also explore portfolios with less risk.
- Next steps
  - Throughout the asset-liability study process, the results from the survey will be revisited and decisions will be compared to survey results in order to ensure consistency.

WE HAVE PREPARED THIS REPORT (THIS “REPORT”) FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE “RECIPIENT”).

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

INFORMATION USED TO PREPARE THIS REPORT WAS OBTAINED FROM INVESTMENT MANAGERS, CUSTODIANS, AND OTHER EXTERNAL SOURCES. WHILE WE HAVE EXERCISED REASONABLE CARE IN PREPARING THIS REPORT, WE CANNOT GUARANTEE THE ACCURACY OF ALL SOURCE INFORMATION CONTAINED HEREIN.

CERTAIN INFORMATION CONTAINED IN THIS REPORT MAY CONSTITUTE “FORWARD - LOOKING STATEMENTS,” WHICH CAN BE IDENTIFIED BY THE USE OF TERMINOLOGY SUCH AS “MAY,” “WILL,” “SHOULD,” “EXPECT,” “AIM”, “ANTICIPATE,” “TARGET,” “PROJECT,” “ESTIMATE,” “INTEND,” “CONTINUE” OR “BELIEVE,” OR THE NEGATIVES THEREOF OR OTHER VARIATIONS THEREON OR COMPARABLE TERMINOLOGY. ANY FORWARD - LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION ARE BASED UPON CURRENT ASSUMPTIONS. CHANGES TO ANY ASSUMPTIONS MAY HAVE A MATERIAL IMPACT ON FORWARD LOOKING STATEMENTS, FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS. ACTUAL RESULTS MAY THEREFORE BE MATERIALLY DIFFERENT FROM ANY FORECASTS, PROJECTIONS, VALUATIONS, OR RESULTS IN THIS PRESENTATION.

PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

- Summary of investment activity report, June and July 2024
- Domestic equity asset class update and outlook
- Meketa annual performance review as of June 30, 2024
- Callan annual performance review as of June 30, 2024
- **Meketa Comments**
  - Review and adopt reference benchmark
  - Asset-liability study board survey summary results
- **Proxy Voting Summary for six months ending June 30, 2024**
- **Review of Securities Compliance Policies and Procedures**
  - As required by Section 3307.043 of the Ohio Revised Code
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- **Mid-year update for the six-month period ending June 30, 2024**
- **No Proxy Voting Policy recommendations at this time**
- **Formal annual policy review occurs each February**
- **Prior board-approved policy implemented late March 2024**

# Proxy Voting Summary for Six Months Ending June 30, 2024



- “Busy season,” during the six-month period:

- 4,871 meetings
- 7,127 ballots
- 53,748 proposals voted

NUMBER OF MEETINGS:	4,871
BALLOTS VOTED:	7,127

MANAGEMENT PROPOSALS	Number of Times Issues Appeared on a Ballot	STRS Ohio Voted "FOR"	STRS Ohio Voted "AGAINST"	STRS Ohio Voted "ABSTAIN"	STRS Ohio Voted "WITHHOLD"	STRS Ohio Voted "TAKE NO ACTION"	STRS Ohio Voted "OTHER"	STRS Ohio Voted "WITH MGMT"	Percentage (%) of Voting "WITH MGMT"	STRS Ohio Voted "AGAINST MGMT"	Percentage (%) of Voting "AGAINST MGMT"
Audit	3,253	3,075	165	1	1	11	-	3,076	95%	166	5%
Capitalization	2,906	2,506	400	-	-	-	-	2,506	86%	400	14%
Company Articles	1,008	844	162	-	-	2	-	844	84%	162	16%
Compensation	6,284	5,076	1,020	-	2	21	165	5,226	83%	1,037	17%
Corporate Governance	-	-	-	-	-	-	-	-	0%	-	0%
Director Election	26,008	21,692	1,882	215	2,125	94	-	21,918	84%	3,996	15%
Director Related	4,669	4,106	469	68	11	15	-	4,178	89%	476	10%
Environmental/Social (blended)	92	91	-	-	-	1	-	91	99%	-	0%
Environmental	19	18	-	1	-	-	-	18	95%	1	5%
Miscellaneous	299	274	25	-	-	-	-	274	92%	25	8%
Routine/Procedural	101	32	65	3	-	1	-	100	99%	-	0%
Non-Routine Business	733	680	53	-	-	-	-	680	93%	53	7%
Routine Business	5,937	5,710	215	-	-	12	-	5,726	96%	199	3%
Social	129	116	12	-	-	1	-	116	90%	12	9%
Strategic Transactions	496	342	152	1	-	1	-	342	69%	153	31%
Takeover Related	276	259	14	-	-	3	-	259	94%	14	5%
<b>Total</b>	<b>52,210</b>	<b>44,821</b>	<b>4,634</b>	<b>289</b>	<b>2,139</b>	<b>162</b>	<b>165</b>	<b>45,354</b>	<b>87%</b>	<b>6,694</b>	<b>13%</b>

SHAREHOLDER PROPOSALS	Number of Times Issues Appeared on a Ballot	STRS Ohio Voted "FOR"	STRS Ohio Voted "AGAINST"	STRS Ohio Voted "ABSTAIN"	STRS Ohio Voted "WITHHOLD"	STRS Ohio Voted "TAKE NO ACTION"	STRS Ohio Voted "OTHER"	STRS Ohio Voted "WITH MGMT"	Percentage (%) of Voting "WITH MGMT"	STRS Ohio Voted "AGAINST MGMT"	Percentage (%) of Voting "AGAINST MGMT"
Audit	127	108	16	3	-	-	-	126	99%	1	1%
Capitalization	-	-	-	-	-	-	-	-	0%	-	0%
Company Articles	33	15	13	-	-	5	-	24	73%	4	12%
Compensation	79	36	40	-	-	3	-	41	52%	35	44%
Corporate Governance	65	62	2	-	-	1	-	12	18%	52	80%
Director Election	454	284	111	5	21	33	-	398	88%	23	5%
Director Related	121	85	33	-	-	3	-	78	64%	40	33%
Environmental/Social (blended)	87	43	42	-	-	2	-	43	49%	42	48%
Environmental	161	69	92	-	-	-	-	92	57%	69	43%
Miscellaneous	95	55	40	-	-	-	-	90	95%	5	5%
Routine/Procedural	-	-	-	-	-	-	-	-	0%	-	0%
Non-Routine Business	34	16	18	-	-	-	-	18	53%	16	47%
Routine Business	66	19	47	-	-	-	-	47	71%	19	29%
Social	216	138	71	-	-	7	-	77	36%	132	61%
Strategic Transactions	-	-	-	-	-	-	-	-	0%	-	0%
Takeover Related	-	-	-	-	-	-	-	-	0%	-	0%
<b>Total</b>	<b>1,538</b>	<b>930</b>	<b>525</b>	<b>8</b>	<b>21</b>	<b>54</b>	<b>-</b>	<b>1,046</b>	<b>68%</b>	<b>438</b>	<b>28%</b>
<b>GRAND TOTAL</b>	<b>53,748</b>	<b>45,751</b>	<b>5,159</b>	<b>297</b>	<b>2,160</b>	<b>216</b>	<b>165</b>	<b>46,400</b>	<b>86%</b>	<b>7,132</b>	<b>13%</b>

• All proposals were voted in accordance with STRS Ohio

## Proxy Voting Guidelines

- “Phone Book” – providing detail on all proposals voted is available



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STATE TEACHERS  
RETIREMENT SYSTEM  
OF OHIO

## Memo

To: STRS Ohio Board  
From: Matt Worley   
Date: August 16, 2024  
Subject: Report on Review of Securities Compliance Policies and Procedures

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The chief investment officer is given the responsibility under Ohio Revised Code Section 3307.043 to reasonably supervise the staff to prevent violations of the state and federal securities laws. As part of that responsibility, the chief investment officer is obligated to:

1. institute policies and procedures reasonably expected to prevent and detect violations of state and federal securities laws; and
2. undertake an annual review as to the adequacy of those policies and procedures and the effectiveness of their implementation.

On the attached sheet, I have listed the policies and procedures in place that implement the requirements of Section 3307.043 and have identified any updates to those policies and procedures that have occurred in the last year.

This memo is to report to you that I have undertaken a review of those policies and procedures and I have determined that they are adequate and effective.

## Securities Compliance Policies and Procedures

- I. Portfolio management processes
  - A. Statement of Investment Objective – Board policy (updated 02/2024)
  - B. Statement of Fund Governance – Board policy (updated 02/2024)
  - C. Investment Staff Guidelines and Procedures – Staff Guidelines (updated 07/24)
  - D. Proxy Voting Policy – Board policy (updated 03/2024)
  - E. Portfolio Statements of Characteristics – Staff guidelines (updated 07/2024)
  - F. The STRS Ohio Qualified Independent Representative Policy (updated 07/2024)
  
- II. Trading Practices
  - A. Broker Evaluation including: Best Execution Guidelines, Investment Protection Principles, Brokerage Commission Policy, Ohio and Emerging Brokerage Firm Procedures and Ohio Investment Manager and Broker Policy and Program, Soft Dollar Policy – (updated 06/2024)
  
- III. Conduct of STRS Ohio Staff Regarding Investments
  - A. Personal Trading Guidelines and Ethics Policy (as contained in the STRS Ohio Associate Guidelines)
  - B. CFA Code of Ethics and Standards of Professional Conduct – CFA Institute
  - C. MNPI (Material Non-Public Information) Policy – Staff Policy (updated 08/2023)

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# Semiannual Derivatives Exposure as of June 30, 2024



## STRS Ohio Derivative Exposure

As of  
June 30, 2024

Derivatives have been an efficient and cost-effective tool for managing the total STRS Ohio assets. They are used to the limited extent as provided for by the *Statement of Investment Objectives and Policy*. The staff plans to continue the effective usage of derivatives.

Derivative Investment Description	Derivative Position Exposure	% of Total Fund	Policy Investment Maximum (% of Total Fund)
<b>International</b>			
MSCI EAFE Futures	\$ 160,157,720	0.17%	
MSCI Emerging Futures	\$ 39,882,530	0.04%	
Equity Swaps	\$ 855,022,246	0.90%	
External Managers	\$ 14,769,106	0.01%	
Warrants & Rights	\$ 263	0.00%	
<b>Total International</b>	<b>\$ 1,069,831,865</b>	<b>1.12%</b>	<b>10%</b>
<b>Domestic Equities</b>			
Domestic Equity Swaps	\$ 0	0.00%	
S&P 500 Index Futures	\$ 71,779,500	0.07%	
Russell 2000 Index Futures	\$ 5,678,750	0.01%	
Call Options (bought)*	\$ 0	0.00%	
Put Options (sold)*	\$ 0	0.00%	
Warrants & Rights	\$ 1,080,450	0.00%	
<b>Total Domestic Equities</b>	<b>\$ 78,538,700</b>	<b>0.08%</b>	<b>10%</b>
<b>Real Estate</b>			
	\$ 0	0.00%	
<b>Total Real Estate</b>	<b>\$ 0</b>	<b>0.00%</b>	<b>1%</b>
<b>Fixed Income</b>			
External Managers	\$ 83,017,201	0.09%	
<b>Total Fixed Income</b>	<b>\$ 83,017,201</b>	<b>0.09%</b>	<b>5%</b>
<b>Alternative Investments</b>			
Liquid Alt. – External Mgrs.	\$ 14,491,064	0.01%	
Liquid Alt. – OTC Swaps	\$ 26,622,342	0.03%	
<b>Total Alternative Investments</b>	<b>\$ 41,113,406</b>	<b>0.04%</b>	<b>10%</b>
<b>Total Derivative Position Exposure</b>	<b>\$ 1,272,501,172</b>	<b>1.33%</b>	
<b>TOTAL FUND</b>	<b>\$ 95,277,744,658</b>		

\* The absolute value of the option market value is used.

Footnote on hedging derivatives: Derivatives that reduce risk (hedge) are not included in the above totals. STRS Ohio has hedged \$18.9 billion of currency exposure through forward contracts. This amount essentially reflects the Investment Policy benchmark in which the neutral position for currencies is 50% hedged for developed markets. Within the opportunistic/diversified portfolio of Alternative Investments, STRS Ohio utilizes options & futures with a combined notional value of \$1.4 billion to hedge \$229 million of equity risk in the liquid alternatives theme.

# Semiannual Derivatives Exposure as of June 30, 2024



## STRS Ohio Derivative Exposure by Month

	Jan. 2024	Feb. 2024	Mar. 2024	Apr. 2024	May. 2024	Jun. 2024	Policy Limits
International	0.92%	0.93%	0.93%	0.93%	0.93%	1.12%	10%
Domestic Equities	0.12%	0.12%	0.12%	0.64%	0.28%	0.08%	10%
Real Estate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1%
Fixed Income	0.10%	0.11%	0.10%	0.09%	0.09%	0.09%	5%
Alternative Investments	0.05%	0.05%	0.04%	0.05%	0.05%	0.04%	10%
Total Fund	1.19%	1.21%	1.19%	1.71%	1.35%	1.33%	

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- **Domestic equity asset class update and outlook**
- **Meketa annual performance review as of June 30, 2024**
- **Callan annual performance review as of June 30, 2024**
- **Meketa Comments**
  - Review and adopt reference benchmark
  - Asset-liability study board survey summary results
- **Proxy Voting Summary for six months ending June 30, 2024**
- **Review of Securities Compliance Policies and Procedures**
  - As required by Section 3307.043 of the Ohio Revised Code
- **Semiannual Derivatives Exposure as of June 30, 2024**
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- **Summary of requests**

# Report to the Investment Committee

Aug. 16, 2024



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