

Teachers' Retirement System of the State of Kentucky

Public Pension Oversight Board

Aug. 22, 2023

Investment Performance

Retirement Annuity Trust Unaudited Returns as of June 30, 2023

Preliminary

| | Qtr. | 1-year | 3-year | 5-year | 10-year | 20-year |
|-----------|--------|--------|---------|---------|---------|---------|
| Gross | 3.78% | 10.61% | 8.68% | 7.54% | 8.49% | 7.45% |
| Benchmark | 4.25% | 11.79% | 9.31% | 7.9% | 8.44% | N/A |
| Aon Rank | Top 7% | Top 6% | Top 50% | Top 25% | Top 11% | N/A |
| Net | 3.61% | 10.26% | 8.39% | 7.24% | 8.22% | 7.32% |

30-year compounded gross return





Investment Performance

Health Insurance Trust Unaudited Returns as of June 30, 2023

Preliminary

| | Qtr. | 1-year | 3-year | 5-year | 10-year |
|-----------|-------|--------|--------|--------|---------|
| Gross | 3.99% | 11.94% | 10.07% | 7.86% | 7.71% |
| Benchmark | 4.09% | 11.53% | 9.24% | 7.27% | N/A |
| Net | 3.81% | 11.56% | 9.74% | 7.5% | 7.39% |



Cash Flow Update

Retirement Annuity Trust

| | FY 2023 | FY 2022 |
|--|-------------------|-------------------|
| Cash Inflows | | |
| Member contributions | \$ 368,500,000 | \$ 357,000,000 |
| Employer contributions/appropriations | 1,146,600,000 | 1,679,600,000 |
| Investment income (Net of any asset gains/losses) | 383,400,000 | 359,600,000 |
| Total Cash Inflows | 1,898,500,000 | 2,396,200,000 |
| Cash Outflows | | |
| Benefit payments/refunds | 2,420,000,000 | 2,332,600,000 |
| Administrative expense | 12,900,000 | 12,000,000 |
| Total Outflows | 2,432,900,000 | 2,344,600,000 |
| Net cash flow before asset gain/(losses)* | (534,400,000) | 51,600,000 |
| Investment gains or losses (realized and unrealized) | 1,883,500,000 | (3,087,400,000) |
| Net plan assets | | 111 |
| Beginning of fiscal year | \$ 22,900,000,000 | \$ 25,935,800,000 |
| At end of period | \$ 24,246,900,000 | \$ 22,900,000,000 |
| *Appreciation/depreciation in fair value does not generate cash inflows or outflows. | | |

Cash Flow Update

Health Insurance Trust

| | FY 2023 | FY 2022 |
|--|-----------------|---------------------|
| Cash Inflows | | |
| Member contributions | \$ 213,200,00 | 00 \$ 206,400,000 |
| Employer contributions/appropriations | 220,600,00 | 151,800,000 |
| Recovery income | 135,700,00 | 144,700,000 |
| Investment income (net of any asset gains/losses) | 28,900,00 | 00 12,600,000 |
| Total Cash Inflows | 598,400,00 | 515,500,000 |
| Cash Outflows | | |
| Benefit payments/refunds | 326,300,00 | 312,600,000 |
| Administrative expense | 2,100,00 | 2,100,000 |
| Total Cash Outflows | 328,400,00 | 314,700,000 |
| Net cash flow before asset gain/(losses)* | 270,000,00 | 200,800,000 |
| Investment gains or losses (realized and unrealized) | 211,300,00 | 00 (232,100,000) |
| Net plan assets | |)TD |
| Beginning of fiscal year | \$ 2,269,200,00 | 00 \$ 2,300,500,000 |
| At end of period | \$ 2,752,600,00 | 00 \$ 2,269,200,000 |
| *Appreciation/depreciation in Fair Value does not generate cash inflows or outflows. | | |

Asset Allocation

Retirement Annuity Fiscal Year 2023 Review, FY 2024 Adjustments

| Class | June 30, 2023 | Target | Range |
|-------------------------|---------------|---------------|--------|
| U.S. equity | 39% | 40% | 32-48% |
| Non-U.S. equity | 21.4% | 22% | 16-27% |
| Fixed income | 13% | 15% | 8-22% |
| Real estate | 7.4% | 7% | 4-10% |
| Alternative investments | 8% | 7% | 4-10% |
| Additional categories | 10.3% | 7% | 4-15% |
| Cash equivalents | 0.9% | 2% | 1-5% |

Only range change for FY 2024 is the lower end of domestic large cap, but overall range for domestic equity was unchanged. Additional categories target increased 3% for reclassification of timber; and equity targets reduced to offset the change. FY 2023 percentages are unaudited. TRS

Trends

Health Insurance Trust Shared Responsibility Contribution Detail

| Fiscal | State | Other Employers | Members/ Retirees |
|--------|-----------------|--------------------|----------------------|
| 2009 | \$ 153 | \$ 11 | \$ 25 |
| 2010 | 147 | 12 | 26 |
| 2011 | 176 | 12 | 35 |
| 2012 | 154 | 20 | 44 |
| 2013 | 130 | 37 | 58 |
| 2014 | 105 | 52 | 74 |
| 2015 | 68 | 78 | 101 |
| 2016 | 74 | 104 | 128 |
| 2017 | 75 | 105 | 129 |
| 2018 | 81 | 106 | 131 |
| 2019 | 76 | 107 | 132 |
| 2020 | 77 | 107 | 134 |
| 2021 | 78 | 107 | 128 |
| 2022 | 31 | 120 | 146 |
| 2023 | 85 F: 12022: | 123 | 150 |

In millions. Fiscal 2023 is unadjusted and unaudited.



Trends

Retirement Annuity Trust Contribution Detail

| Fiscal | State Unfunded Liability Payment | State Employer Fixed | Other Employers Fixed | Members Fixed |
|--------|-------------------------------------|-------------------------|--------------------------|------------------|
| 2017 | \$ 611 | \$ 370 | \$ 79 | \$ 314 |
| 2018 | 592 | 377 | 79 | 319 |
| 2019 | 669 | 382 | 72 | 321 |
| 2020 | 658 | 391 | 86 | 325 |
| 2021 | 669 | 392 | 87 | 328 |
| 2022 | 1,172 | 398 | 109 | 357 |
| 2023 | 632 | 412 | 112 | 366 |
| 2024 | 651 | 423 | 115 | 375 |
| 2025 | 810 | 432 | 118 | 384 |
| 2026 | 907 | 443 | 121 | 394 |

In millions. Fiscal 2023 is unadjusted and unaudited. FY 2024 through 2026 are based on budget and estimates.

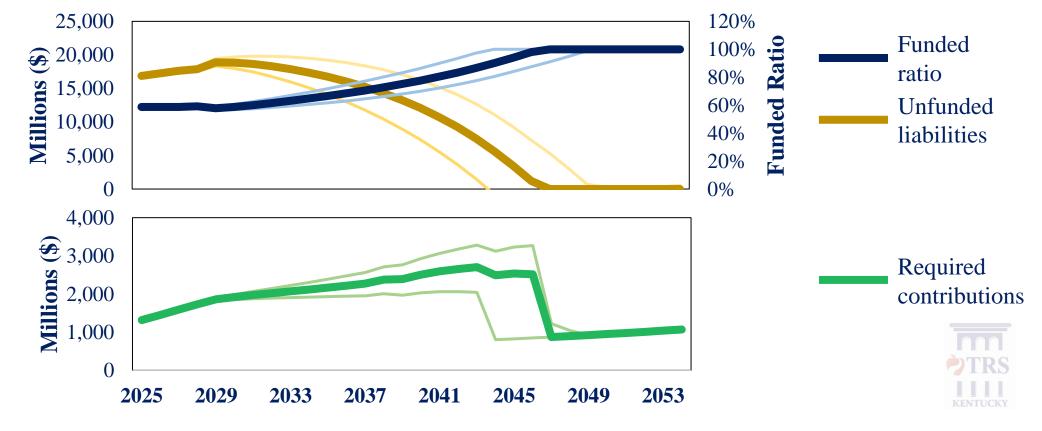


Actuarial 30-Year Projections

At Full Funding, TRS Required Contributions Decrease

Actuary's retirement annuity projections at assumed 7.1% investment return.

Thick lines show projections; thin lines show projections adjusted for investment returns 1% higher and lower.



Trends

Ten-Year State/Other Employer Contributions

| Fiscal | Retirement A | nnuity Trust | Health Inst | urance Trust | | Total | |
|--------|--------------|--------------|-------------|--------------|---------|--------|----------|
| riscai | State | Other | State | Other | State | Other | Combined |
| 2017 | \$ 981 | \$ 79 | \$ 75 | \$ 105 | \$1,056 | \$ 184 | \$ 1,240 |
| 2018 | 970 | 79 | 81 | 106 | 1,051 | 185 | 1,236 |
| 2019 | 1,051 | 72 | 76 | 107 | 1,127 | 179 | 1,306 |
| 2020 | 1,048 | 86 | 77 | 107 | 1,125 | 193 | 1,318 |
| 2021 | 1,060 | 87 | 78 | 107 | 1,138 | 194 | 1,332 |
| 2022 | 1,570 | 109 | 31 | 120 | 1,601 | 229 | 1,830 |
| 2023 | 1,044 | 112 | 85 | 123 | 1,129 | 235 | 1,364 |
| 2024 | 1,073 | 115 | 103 | 126 | 1,176 | 241 | 1,417 |
| 2025 | 1,242 | 118 | 103 | 130 | 1,345 | 248 | 1,593 |
| 2026 | 1,351 | 121 | 111 | 133 | 1,462 | 254 | 1,716 |

In millions. Fiscal 2023 is unadjusted and unaudited. FY 2024 through 2026 are based on budget and estimates.

Does not include employee/retiree contributions.



2024-26 Budget Request

| | Actual | Preliminary | Preliminary |
|---------------------------------------|-------------|-------------|-------------|
| | FY 2024 | FY 2025 | FY 2026 |
| Pension | 650,706,000 | 809,940,000 | 907,250,000 |
| State's Shared Responsibility Portion | 77,700,000 | 76,900,000 | 84,200,000 |

Fiscal 2025 begins the assumed return reduction to 7.1% from 7.5%.





Our Members Come First!

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Protecting & Preserving Teachers' Retirement Benefits