



TEACHERS' RETIREMENT SYSTEM

of the State of Kentucky

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GARY L. HARBIN, CPA
Executive Secretary

Quarterly Meeting of the Board of Trustees

A G E N D A

March 20, 2023, 12:30 p.m. ET

Board Called to Order
Roll Call

1. Reports for Consent

1.1. Consideration/Approval of Minutes

1.1.1. Quarterly Meeting, Board of Trustees, December 19, 2022

1.1.2. Special Meeting, Scholarship Committee, December 19, 2022

1.1.3. Special Meeting, Personnel Committee, February 23, 2023

1.1.4. Special Meeting, Insurance Committee, March 7, 2023

1.2. Applications for Retirement and Annuity

1.3. Survivor Benefits

1.4. Life Insurance Benefits

1.5. Refunds

1.6. Interim Financial Statements

2. Report of the Investment Committee

3. Report of the Personnel Committee

4. Report of the Insurance Committee

5. Report of the Governance and Audit Committee

6. Legislative Update

7. Annual Review of Disability Earnings Limitation

8. Executive Secretary's Observations and Comments

General Discussion

Adjournment

The meeting will take place in the boardroom of the
Teachers' Retirement System of the State of Kentucky at
479 Versailles Road, Frankfort, Kentucky.

TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: March 20, 2023

SUBJECT: Reports for Consent

1. Reports for Consent

1.1. Consideration/Approval of Minutes

- 1.1.1. Quarterly Meeting, Board of Trustees, December 19, 2022
- 1.1.2. Special Meeting, Scholarship Committee, December 19, 2022
- 1.1.3. Special Meeting, Personnel Committee, February 23, 2023
- 1.1.4. Special Meeting, Insurance Committee, March 7, 2023

1.2. Applications for Retirement and Annuity

The list of members who retired December 2022 and January and February 2023 is included in the board materials. Attached is a summary of the payments and a comparison to the same period a year ago. Initial retirements for the period included 308 retirees with monthly payments totaling \$887,095.73. During the same period a year ago, 341 retirements resulted in monthly payments totaling \$1,011,688.26.

Recommendation: The board is requested to approve the initial payments listed as reported.

1.3. Survivor Benefits

The list of persons qualifying for survivor benefit payments for the quarter ended December 31, 2022, is included in the board materials. During the period, 13 survivor benefits commenced with a total monthly payment of \$5,387.74.

Recommendation: The board is requested to approve the survivor benefit payments as reported.

1.4. Life Insurance Benefits

The list of payments of life insurance benefits due to death of active and retired teachers for the quarter ended December 31, 2022, is included in the board materials. Fourteen payments to the estates or beneficiaries of active teachers and 267 payments to the estates or beneficiaries of retired teachers combined for a total of \$1,363,000.00. During the same quarter in 2021, 296 payments amounted to \$1,435,000.00.

Recommendation: The board is requested to approve the payment of life insurance benefits as reported.

1.5. Refunds

The report of refunds for the quarter ended December 31, 2022, also is attached. During the quarter, 680 refunds totaled \$5,290,654.89. The refunds are for the following:

Regular withdrawals	641	\$4,636,062.78
Deaths	<u>39</u>	<u>\$654,592.11</u>
Totals	680	\$5,290,654.89

During the same quarter in 2021, 763 refunds totaled \$6,692,031.64.

Recommendation: The board is requested to approve the payment of refunds as reported.

1.6. Interim Financial Statements

Attached are the Interim Financial Statements for the quarter ended December 31, 2022.

Recommendation: The Interim Financial Statements are provided for informational purposes and require no action.

Teachers' Retirement System of Kentucky
Initial Applications for Retirement and Annuity
2022-2023

	December	January	February	Total	Same Period 2022
Handicapped Child	<i>0</i> \$0.00	<i>0</i> \$0.00	<i>0</i> \$0.00	<i>0</i> \$0.00	<i>0</i> \$0.00
Disability Retirement	<i>2</i> \$5,651.79	<i>5</i> \$15,998.43	<i>14</i> \$45,165.67	<i>21</i> \$66,815.89	<i>23</i> \$75,511.08
Service Retirement	<i>58</i> \$147,885.59	<i>159</i> \$484,180.55	<i>69</i> \$186,520.97	<i>286</i> \$818,587.11	<i>315</i> \$928,352.62
Beneficiary of Member Eligible to Retire	<i>1</i> \$1,692.73	<i>0</i> \$0.00	<i>0</i> \$0.00	<i>1</i> \$1,692.73	<i>3</i> \$7,824.56
TOTALS	<i>61</i> \$155,230.11	<i>164</i> \$500,178.98	<i>83</i> \$231,686.64	<i>308</i> \$887,095.73	<i>341</i> \$1,011,688.26

Reports for Consent
Member Account Refunds
For the period October 2022 - December 2022

Active Refunds	Count	Net Refund	Taxes Withheld	Rollovers	Total
October	103	707,491.88	171,416.67	546,604.15	1,425,512.70
November	354	924,261.64	230,897.28	811,771.40	1,966,930.32
December	184	673,361.76	168,340.45	401,917.55	1,243,619.76
Total	641				4,636,062.78

Deceased Refunds	Count	Net Refund	Taxes Withheld	Rollovers	Total
October	8	37,804.78	9,451.21	19,195.86	66,451.85
November	22	197,521.20	19,784.93	153,973.80	371,279.93
December	10	17,896.93	3,934.96	194,893.51	216,860.33
Total	39				654,592.11

Total Refunds	Count	Net Refund	Taxes Withheld	Rollovers	Total
October	111	745,296.66	180,867.88	565,800.01	1,491,964.55
November	376	1,121,782.84	250,682.21	965,745.20	2,338,210.25
December	194	691,258.69	172,275.41	596,811.06	1,460,480.09
Total	680				5,290,654.89

TEACHERS' RETIREMENT SYSTEM

OF THE STATE OF KENTUCKY



INTERIM FINANCIAL STATEMENTS

QUARTER ENDED DECEMBER 31, 2022
(FAIR VALUE - UNAUDITED)

Statements of Plan Net Assets
as of December 31, 2022 and 2021
(Fair Value - Unadjusted & Unaudited)

	Retirement Annuity Trust		Health Insurance Trust		Life Insurance Trust		Other Funds		TOTAL	
	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022
ASSETS										
Cash	\$ 220,754,309	\$ 184,549,188	\$ 151,666,724	\$ 111,362,171	\$ 352,680	\$ 509,582	\$ 42,448	\$ 181,852	\$ 372,816,161	\$ 296,602,793
Receivables										
Contributions	50,526,572	49,630,590	14,111,640	10,344,680	54,426	47,267			64,692,638	60,022,537
State of Kentucky	-	-	-	-	-	-			-	-
Investment Income	49,654,767	45,254,996	3,099,024	3,441,069	290,175	263,725	3,160	2,645	53,047,126	48,962,435
Investment Sales Receivable	6,802,668	5,928,748	1,748,680	1,513,370	-	-			8,551,348	7,442,118
Installment Account Receivable	23,985	70,652							23,985	70,652
Other Receivables	24,667	33,756	37,307,524	37,953,338					37,332,191	37,987,094
Due from Other Funds	5,964,536	3,848,217							5,964,536	3,848,217
Total Receivables	112,997,195	104,766,959	56,266,868	53,252,457	344,601	310,992	3,160	2,645	169,611,824	158,333,053
Investments at Market Value										
Short Term Investments	583,115,513	1,085,847,095	134,680,596	61,795,586	6,407,003	8,972,462	357,865	356,894	724,560,977	1,156,972,037
Bonds and Mortgages	3,029,572,986	3,559,249,569	147,879,283	156,638,557	18,240,939	19,145,214	213,640	280,304	3,195,906,848	3,735,313,644
Stocks	12,832,414,892	16,282,212,342	1,183,720,827	1,415,013,339	48,901,498	67,942,321	427,714	530,678	14,065,464,931	17,765,698,680
Alternative Investments	2,294,938,876	1,941,729,427	203,999,797	194,660,571	4,170,606	2,444,990			2,503,109,279	2,138,834,988
Real Estate	1,855,581,772	1,549,075,065	167,076,307	130,428,051	6,606,630	6,368,179			2,029,264,709	1,685,871,295
Additional Categories	1,921,401,778	1,955,107,191	383,366,287	403,656,311	2,771,139	2,799,525			2,307,539,204	2,361,563,027
Total Investments	22,517,025,817	26,373,220,689	2,220,723,097	2,362,192,415	87,097,815	107,672,691	999,219	1,167,876	24,825,845,948	28,844,253,671
Capital Assets	9,255,981	10,255,925							9,255,981	10,255,925
(net of accumulated depreciation)										
Total Assets	22,860,033,302	26,672,792,761	2,428,656,689	2,526,807,043	87,795,096	108,493,265	1,044,827	1,352,373	25,377,529,914	29,309,445,442
LIABILITIES										
Liabilities										
Accrued Expenses and Other Liabilities	2,084,473	1,598,257	5,769,356	-					7,853,829	1,598,257
State of Kentucky	46,606,097	10,451,801	119,901	15,360,364	62,105	7,460			46,788,103	25,819,625
Investment Purchases Payable	13,399,102	18,499,110	2,740,985	4,118,169	-	-	-	-	16,140,087	22,617,279
Investment Fees Payable	15,073,093	18,620,079	1,610,807	1,643,815	49,320	52,158	-	-	16,733,220	20,316,052
Due to Other Funds	-	-	5,849,474	3,775,247	111,477	70,478	3,585	2,492	5,964,536	3,848,217
Total Liabilities	77,162,765	49,169,247	16,090,523	24,897,595	222,902	130,096	3,585	2,492	93,479,775	74,199,430
NET ASSETS HELD IN TRUST FOR PENSION BENEFITS	\$ 22,782,870,537	\$ 26,623,623,514	\$ 2,412,566,166	\$ 2,501,909,448	\$ 87,572,194	\$ 108,363,169	\$ 1,041,242	\$ 1,349,881	\$ 25,284,050,139	\$ 29,235,246,012

Statements of Changes in Plan Net Assets
For the Six Months Ended December 31, 2022 and 2021
(Fair Value - Unadjusted & Unaudited)

	Retirement Annuity Trust		Health Insurance Trust		Life Insurance Trust		Other Funds		TOTAL	
	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022	FY 2023	FY 2022
ADDITIONS										
Contributions										
Employer- State Paid	\$ 497,898,844	\$ 525,649,505	\$ 46,324,100	\$ 23,701,882	\$ 1,112,563	\$ 982,611	\$ -	\$ -	\$ 545,335,507	\$ 550,333,998
Employer- LSD, Other	52,055,304	55,335,244	56,439,338	53,742,382	312,594	271,098	1,204	2,281	108,808,440	109,351,005
Member- Active	166,820,540	162,511,566	67,581,608	66,068,608			3,517		234,405,665	228,580,174
Member- Retired			31,966,272	29,520,617					31,966,272	29,520,617
Recovery Income			55,978,944	67,992,786					55,978,944	67,992,786
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Total Contribution	716,774,688	743,496,315	258,290,262	241,026,275	1,425,157	1,253,709	4,721	2,281	976,494,828	985,778,580
Investment Income/(Loss)										
Net Appreciation/(Depreciation) in										
Fair Value of Investments	201,865,147	927,888,113	36,224,022	103,261,304	204,820	2,006,592	(17,430)	48,934	238,276,559	1,033,204,943
Interest	89,447,903	73,053,214	10,458,140	7,626,172	369,098	277,659	8,399	4,735	100,283,540	80,961,780
Dividends	117,551,194	144,676,608	4,657,484	1,385,061	357,906	404,117	3,552	3,415	122,570,136	146,469,201
Rental Income, Net	10,606,960	9,306,125							10,606,960	9,306,125
Securities Lending, Net	1,307,125	2,153,178			32,141	35,073	355	265	1,339,621	2,188,516
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Gross Investment Income	420,778,329	1,157,077,238	51,339,646	112,272,537	963,965	2,723,441	(5,124)	57,349	473,076,816	1,272,130,565
Less Investment Expense	(35,260,187)	(37,704,716)	(3,644,910)	(3,336,790)	(118,431)	(102,897)	-	-	(39,023,528)	(41,144,403)
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Net Investment Income	385,518,142	1,119,372,522	47,694,736	108,935,747	845,534	2,620,544	(5,124)	57,349	434,053,288	1,230,986,162
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Total Additions	1,102,292,830	1,862,868,837	305,984,998	349,962,022	2,270,691	3,874,253	(403)	59,630	1,410,548,116	2,216,764,742
DEDUCTIONS										
Benefits	1,197,150,928	1,153,728,459			3,079,000	2,938,000	74,713	75,117	1,200,304,641	1,156,741,576
Refunds of Contributions	14,171,952	14,305,172							14,171,952	14,305,172
Under 65 Insurance Expenses			51,060,201	42,558,940					51,060,201	42,558,940
Over 65 Insurance Expenses			111,534,320	105,998,050					111,534,320	105,998,050
Administrative Expense	8,051,783	6,990,898	-	-	-	-	-	-	8,051,783	6,990,898
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Total Deductions	1,219,374,663	1,175,024,529	162,594,521	148,556,990	3,079,000	2,938,000	74,713	75,117	1,385,122,897	1,326,594,636
Net Increase (Decrease)										
	(117,081,833)	687,844,308	143,390,477	201,405,032	(808,309)	936,253	(75,116)	(15,487)	25,425,219	890,170,106
NET ASSETS HELD IN TRUST FOR PENSION BENEFITS										
Beginning of year	22,899,952,370	25,935,779,206	2,269,175,689	2,300,504,416	88,380,503	107,426,916	1,116,358	1,365,368	25,258,624,920	28,345,075,906
Ending of period	\$ 22,782,870,537	\$ 26,623,623,514	\$ 2,412,566,166	\$ 2,501,909,448	\$ 87,572,194	\$ 108,363,169	\$ 1,041,242	\$ 1,349,881	\$ 25,284,050,139	\$ 29,235,246,012
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TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: March 20, 2023

SUBJECT: Report of the Investment Committee

1. Investment Committee Meeting and Actions: New funds approved at the Investment Committee's February 23, 2023, meeting were as follows: an investment in AlpInvest Co-Investment IX of \$50 million from the Retirement Annuity Trust, \$10 million from the Health Insurance Trust and \$500,000 from the Life Insurance Trust; and an investment in Monroe Private Credit TRS of \$130 million from the Retirement Annuity Trust and \$20 million from the Health Insurance Trust. Additionally, Todd Asset Management reviewed its TRS portfolios.

2. Purchases and Disposals: The Report of the Investment Committee for the quarter ended December 31, 2022, is presented for review and approval. During this quarter, 2,075 purchases amounted to \$2,066,508,398.92 and 2,413 disposals amounted to \$2,037,788,076.25. The disposals consisted of 2,090 sales, 287 principal payments and 36 redemptions. While TRS initiates each of these transactions, the custodian of securities is responsible for handling and securing each stock, bond or other type of investment. At the end of the quarter, TRS's invested securities had a book value of \$18,680,393,498.40 and a market value of \$22,517,331,999.02.

3. Staff's Comments on Economic and Market Conditions: During the quarter ended December 31, 2022, equity and fixed income markets delivered improved results while continuing to experience elevated volatility. Global equities ended calendar 2022 with a 19.4% decline, as measured by the MSCI All Countries World Investable Market Index, while bonds fell 13%, as measured by the Bloomberg U.S. Aggregate Bond Index. Similar themes as prior quarters drove capital markets, with investors remaining focused on central bank activity, inflation data and geopolitical turmoil. Some industry observers increased the odds of a global recession in calendar 2023 based on the combination of tightening monetary policy and persistent inflation, as well as continued supply shocks and energy availability concerns in Europe. In contrast, labor markets remained tight. The unemployment rate was 3.5% at quarter-end, though there were some signs of slowing wage growth. While inflation remains a concern for policymakers, recent data showed some signs of abating. The December U.S. Consumer Price Index (CPI) pegged year-over-year inflation at 6.5%, the lowest reading since October 2021. As the impact of its prior rate increases began to show in inflation and other data, the Federal Reserve Open Market Committee (FOMC) began to slow its pace of interest rate hikes. In December, the FOMC raised its key policy rate by only 0.5%, following a series of four straight 0.75% increases. Current market pricing indicates that the federal funds rate is expected to settle in the 5% to 5.5% range in 2023, increasing from the range at quarter end of 4.25% to 4.5%.

International events, including the war in Ukraine, energy price shocks and trade tensions continued to test economic and political relationships across multiple countries and regions. Forecasts of global inflation, similar to the United States, indicate an expectation for moderating

levels. The Organization for Economic Co-operation and Development (OECD) recently estimated inflation of 6.6% among developed countries during calendar 2023, compared to its estimate of 9.4% for 2022. During the quarter, the Bank of Japan made an unexpected move to increase the upper target of its 10-year government bond yield from 0.25% to 0.5%. While Japan's policy interest rate level still trails other major central banks, the move was viewed as a signal that Japan is taking steps away from accommodative policies. Economic news from emerging markets was primarily focused on China, where signs of a softening stance toward pandemic restrictions and past interest rate cuts were viewed as reasons for optimism regarding the country's outlook.

U.S. equity markets experienced a decrease in volatility in the quarter with short-term spikes around CPI release dates and Fed meetings. Returns were positive across market cap and style groups in the quarter. The reversal to growth seen in the prior quarter was short-lived, as value stocks led growth by a wide margin in the quarter. In calendar 2022, value outperformed growth by the largest margin since 2000, with the Russell 3000 Value Index outperforming its growth counterpart by 21%. Energy and utilities were the only sectors that generated positive returns for the year. The energy sector had its best year on record with the S&P 500 Energy Index gaining 65.7%. Overall, this calendar year marked the worst performance of U.S. equities across market cap groups since 2008 and only the third time in the last 15 years that the Russell 3000 Index has generated negative returns. Active managers performed well in the quarter, except for mid-cap growth.

Growth managers across the market cap spectrum struggled to provide downside protection in calendar 2022, while value and core managers were broadly successful.

Developed international markets meaningfully outperformed their domestic counterparts in the quarter with the MSCI Europe, Australasia and Far East (EAFE) Index realizing a 17.3% return for the period. Value stocks rebounded back into favor, outperforming growth in a reversal from the prior quarter, while large-cap continued its outperformance over small-cap stocks. All developed market countries and sectors were positive for the quarter with Europe and financials leading markets higher. Overall, market trends pointed to investors anticipating moderating inflation and easing of rate hikes despite the ongoing uncertainty led by the conflict in Ukraine and near-term recession fears.

The Bloomberg U.S. Aggregate Index finished the quarter with a 1.9% return to finish calendar 2022 with a 13% decline, the most negative calendar year on record for the index. The year was defined by rising interest rates, as Treasury yields rose 2.36% to 3.9% as measured by the 10-year U.S. Treasury yield. The FOMC aggressively hiked the federal funds rate in response to persistent inflation over the year, resulting in a yield curve that is notably higher across maturities and inverted between short-term and long-term Treasury interest rates. U.S. investment grade corporate bonds returned 3.4% in the quarter; however, despite the gain for the quarter, the index declined 15.3% for calendar 2022 as measured by the Bloomberg U.S. Credit Index. Lower interest rate sensitivity helped non-investment grade corporate credit relatively outperform investment grade over the year despite seeing its second worst year with a decline of 11.2% as measured by the Bloomberg U.S. High Yield Index.

Core private real estate declined 5% in the quarter, as reported by the NFI-ODCE Index, based on a 5.8% price depreciation that partially was offset by an 0.8% gain in income. The income return continues to trend at the lower end of historical levels while price appreciation turned significantly negative. Investors of publicly traded real estate significantly outperformed their private market counterparts by a meaningful margin. Current market conditions have led to a period of elevated volatility and a resetting of pricing assumptions. Bid-ask spreads remain wide with the number of deals completed decreasing compared to previous quarters. The current elevated inflationary environment, coupled with rising interest rates, is contributing to cap rate expansion, increased discount rates and compression in real estate yields. Traditional sectors with strong fundamentals, such as industrial and residential, have fared better than the office and hospitality sectors. The retail sector has performed better than many would have anticipated due, in part, to the sector having been through a resetting of valuation assumptions in prior years. Additionally, non-traditional sectors, such as self-storage, life science and medical office properties outperformed their traditional counterparts.

4. Performance: Investment performance was strong for the quarter ending December 31, 2022, with public assets outperforming private assets. The Retirement Annuity Trust's portfolio returned 6.3%, compared to the policy index return of 7.02%. TRS's domestic equities returned 8.06%, outperforming the S&P 1500 Stock index that increased 7.79% for the quarter. TRS's international stocks returned 16.06% and outperformed the MSCI All Country ex-U.S. index that returned 14.37% for the quarter. Real estate was up 0.92%. TRS's fixed income returned 1.66%, underperforming the Bloomberg Barclays Gov/Credit Bond index which gained 1.8% for the quarter. Additional categories returned 2.06%, and private equity declined 0.41% for the quarter.

Recommendation: The board is recommended to accept and ratify the Report of the Investment Committee.

Teachers' Retirement System of the State of Kentucky
Retirement Annuity Trust
Quarterly Investment Performance
Gross Returns
For the Period Ended December 31, 2022

FINAL

	Market Value	Last Qtr	FYTD	1-Year	3-Year*	5-Year*	10-Year*	20-Year*
TOTAL PLAN	\$ 22,517,331,999.02	6.30	1.91	-12.89	5.14	6.17	8.34	7.38
Policy Benchmark		7.02	1.76	-12.85	4.98	6.06	8.07	-
Total Equity	\$ 12,986,806,845.24	10.51	3.89	-19.42	5.13	6.39	10.06	8.62
Domestic Equity	\$ 8,810,569,982.97	8.06	3.60	-19.53	7.11	8.50	12.14	9.76
<i>S&P 1500 Index</i>		7.79	2.66	-17.78	7.59	9.15	12.40	9.79
All-Cap Equities	\$ 496,975,282.84	7.30	3.24	-17.70	10.35	10.36	-	-
<i>Russell 3000 Index</i>		7.18	2.40	-19.21	7.07	8.79	-	-
Large-Cap Equities	\$ 7,144,935,383.64	7.94	3.35	-19.83	7.28	8.80	12.28	-
<i>S&P 500 Index</i>		7.56	2.31	-18.11	7.66	9.42	12.56	-
Mid-Cap Equities	\$ 703,832,357.01	10.05	6.21	-18.63	4.57	6.23	11.18	-
<i>S&P 400 Index</i>		10.78	8.05	-13.06	7.23	6.71	10.78	-
Small-Cap Equities	\$ 464,826,959.48	7.79	3.98	-18.11	4.82	5.49	10.80	-
<i>S&P 600 Index</i>		9.19	3.51	-16.10	5.80	5.88	10.82	-
International Equity	\$ 4,176,236,862.27	16.06	4.55	-19.23	1.12	2.35	5.54	-
<i>MSCI AC World Ex US</i>		14.37	3.16	-15.57	0.53	1.36	4.28	-
Fixed Income	\$ 3,276,342,322.70	1.66	-2.73	-13.04	-2.04	0.62	1.61	3.77
<i>Bloomberg Barclays Govt/Credit Index</i>		1.80	-2.84	-13.58	-2.57	0.21	1.16	3.19
Real Estate	\$ 1,855,581,771.52	0.92	3.52	16.89	12.59	10.88	11.04	9.96
In House Real Estate Equity	\$ 402,120,071.65	1.40	2.67	4.45	4.70	5.48	7.32	8.13
<i>CPI plus 2%</i>		0.95	1.95	8.55	7.00	5.84	4.62	4.48
Core Real Estate	\$ 956,813,307.99	1.73	5.85	21.85	14.26	11.78	11.81	-
<i>NCREIF ODCE (VW) Index</i>		-4.97	-4.47	7.47	9.93	8.68	10.10	-
Non-Core Real Estate	\$ 496,648,391.88	-1.00	0.16	20.16	17.34	14.68	15.57	-
<i>NCREIF Property Index</i>		-3.50	-2.95	5.52	8.06	7.46	8.82	-
Private Equity	\$ 1,818,674,072.34	-0.41	-1.64	5.66	18.13	15.71	14.44	-
Mature Private Equity	\$ 978,877,250.14	-0.47	-1.15	7.93	17.21	14.18	12.40	-
<i>S&P 500 Index plus 3%</i>		8.36	3.83	-15.65	10.89	12.71	15.94	-
Private Equity < 5 Years	\$ 839,796,822.20	-0.20	-2.00	5.65	21.42	18.09	-	-
Timberland	\$ 476,264,803.97	0.20	0.67	7.87	2.38	0.83	3.30	-
<i>NCREIF Timberland Index</i>		4.89	7.39	12.90	7.51	5.37	5.80	-
Additional Categories	\$ 1,966,943,943.38	2.06	0.18	-5.83	2.95	4.07	4.60	-
<i>B of A Merrill Lynch U.S. High Yield Master II Index</i>		3.97	3.26	-11.24	-0.28	2.09	3.93	-
Cash (Unallocated)	\$ 136,718,239.87	0.88	1.37	1.71	0.70	1.24	0.77	1.40
<i>90 Day T-Bill</i>		0.84	1.31	1.46	0.72	1.26	0.75	1.23

Total Trust Gross Return for 30-year period* 7.62

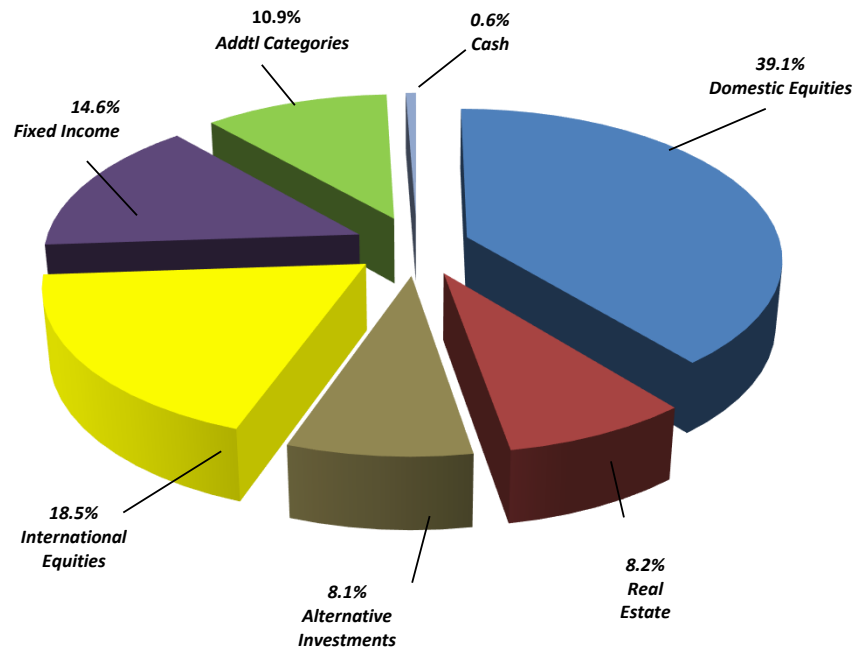
*Returns are annualized for periods longer than one year

** Prior to July 1, 2008, TRS did not benchmark overall fund performance. Effective July 1, 2008, the Board of Trustees approved a Policy Index that represents the returns of appropriate benchmarks for the various asset classes weighted by the mid-point of the strategic range for the current fiscal year.

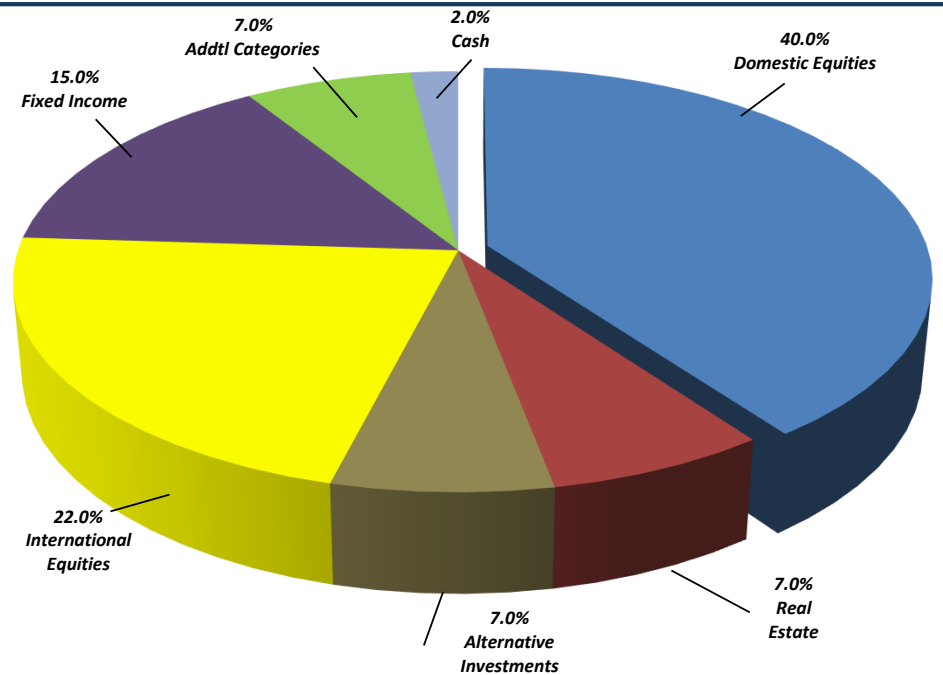
Teachers' Retirement System of Kentucky
Quarterly Investment Update
For the period ended December 31, 2022

(\$ in millions)	\$'s	12/31/2022 Actual %	9/30/2022 Actual %	Target %	Strategic Ranges
Domestic Equities	\$8,810.6	39.1%	38.5%	40.0%	32.0 - 48.0%
Real Estate	1,855.6	8.2%	8.4%	7.0%	4.0 - 10.0%
Alternative Inv.	1,818.7	8.1%	10.2%	7.0%	4.0 - 10.0%
International Equities	4,176.2	18.5%	17.0%	22.0%	16.0 - 27.0%
Fixed Income	3,276.3	14.6%	16.1%	15.0%	8.0 - 22.0%
Addtl Categories	2,443.2	10.9%	9.0%	7.0%	4.0 - 15.0%
Cash	136.7	0.6%	0.8%	2.0%	1.0 - 5.0%
Total	\$22,517.3	100.0%	100.0%	100.0%	

ACTUAL %



TARGET %



*Teachers' Retirement System of the State of Kentucky
Health Insurance Trust
Quarterly Investment Performance
Gross Returns
For the Period Ended December 31, 2022*

FINAL

	<u>Market Value</u>	<u>Last Qtr</u>	<u>FYTD</u>	<u>1-Year</u>	<u>3-Year*</u>	<u>5-Year*</u>	<u>10-Year*</u>	<u>20-Year*</u>
<u>TOTAL PLAN</u>	\$ 2,220,723,096.51	5.63	2.86	-11.27	5.67	6.26	7.17	-
<i>Policy Benchmark</i>		6.66	1.86	-13.25	4.67	5.46	-	-
<u>Total Equity</u>	\$ 1,199,418,053.50	9.45	4.89	-18.68	4.76	5.59	8.43	
<u>Domestic Equity</u>	\$ 776,303,193.77	7.05	6.10	-36.20	1.51	4.59	-	-
<i>S&P 500 Index</i>		7.56	2.31	-18.11	7.66	9.42	-	-
<i>Russell 3000</i>		7.18	2.40	-19.21	7.07	8.79		
<u>International Equities</u>	\$ 423,114,859.73	14.36	14.36					-
<i>MSCI AC World ex USA IMI Index</i>		14.23	3.28					-
<u>Fixed Income</u>	\$ 173,098,200.59	1.66	-1.68	-9.60	-1.00	1.13	1.31	-
<i>Barclays Government Credit</i>		1.80	-2.84	-13.58	-2.57	0.21	1.16	-
<u>Real Estate:</u>	\$ 167,076,306.92	-0.10	3.32	23.14	18.40	14.89	-	-
<u>Core Real Estate</u>	\$ 88,866,164.57	1.11	6.11	24.19	16.39	13.24	-	-
<i>NCREIF ODCE (VW)</i>		-4.97	-4.47	7.47	9.93	8.68	-	-
<u>Non-Core Real Estate</u>	\$ 78,210,142.35	-1.48	0.43	22.00	20.19	16.36	-	-
<i>NCREIF Property Index</i>		-3.50	-2.95	5.52	8.06	7.46	-	-
<u>Private Equity</u>	\$ 203,999,796.86	-0.82	-2.27	6.19	20.26	16.73	17.43	-
<u>Mature Private Equity</u>	\$ 89,508,788.19	-0.76	-0.79	15.42	20.23	18.74	16.16	-
<i>S&P 500 plus 3%</i>		8.36	3.83	-15.65	10.89	12.71	15.94	-
<u>Private Equity < 5 Years</u>	\$ 114,491,008.67	-0.61	-3.00	0.03	17.03	14.41	-	-
<u>Additional Categories:</u>	\$ 399,882,982.32	2.41	0.62	-7.11	2.25	3.61	4.13	-
<i>B of A Merrill Lynch High Yield Master II</i>		3.97	3.26	-11.24	-0.28	2.09	3.93	-
<u>Cash (Unallocated):</u>	\$ 77,247,756.32	0.87	1.43	2.66	1.02	1.47	0.88	-
<i>90 Day T-Bill</i>		0.84	1.31	1.46	0.72	1.26	0.75	-

*Returns are annualized for periods longer than one year

** Prior to July 1, 2015, TRS did not benchmark overall fund performance. Effective July 1, 2015, the Board of Trustees approved a Policy Index that represents the returns of appropriate benchmarks for the various asset classes weighted by the mid point of the strategic range for the current fiscal year.

Teachers' Retirement System of Kentucky

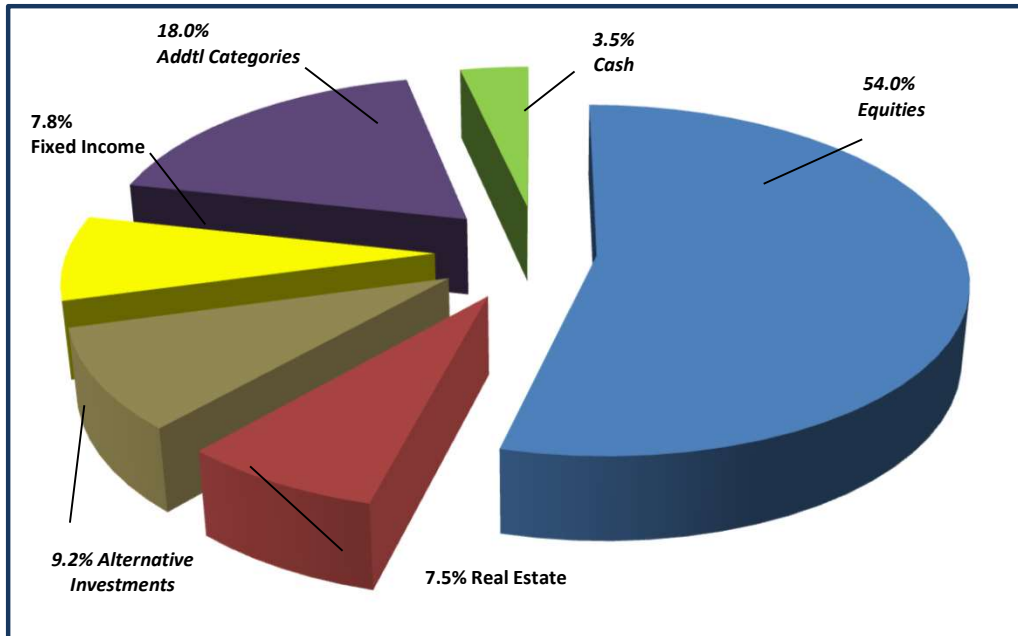
Insurance Trust Fund

Quarterly Investment Update

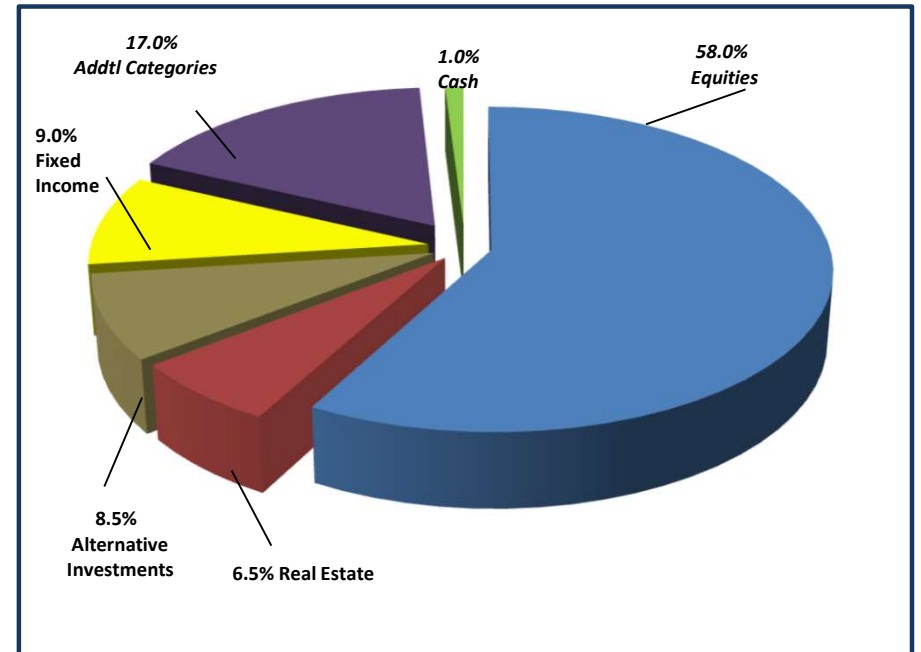
For the period ended December 31, 2022

(\$ in thousands)	\$'s	12/31/2022 Actual %	9/30/2022 Actual %	Target %	Strategic Ranges
Equities	\$1,199,418.0	54.0%	54.3%	58.0%	51.0 - 64.0%
Real Estate	\$167,076.3	7.5%	7.8%	6.5%	4.0 - 12.0%
Alternative Inv.	\$203,999.8	9.2%	9.7%	8.5%	5.0 - 12.0%
Fixed Income	\$173,098.2	7.8%	8.5%	9.0%	6.0 - 14.0%
Addtl Categories	\$399,883.0	18.0%	18.7%	17.0%	14.0 - 25.0%
Cash	\$77,247.8	3.5%	1.0%	1.0%	0.0 - 5.0%
Total	<u>\$2,220,723.1</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	

ACTUAL %



TARGET %



TOTAL BV INVESTED AT 09/30/22

\$ 18,651,673,175.73

October Activity

Purchases	547,556,346.66	
Disposals	(619,906,902.95)	
Paydowns	(1,314,321.23)	
Redemptions	(19,291,414.43)	
Short-Term Pool Net	<u>80,948,492.93</u>	(12,007,799.02)

November Activity

Purchases	499,948,793.42	
Disposals	(382,322,540.83)	
Paydowns	(1,250,458.94)	
Redemptions	(11,896,270.27)	
Short-Term Pool Net	<u>(126,559,520.56)</u>	(22,079,997.18)

December Activity

Purchases	319,277,590.40	
Disposals	(215,414,018.15)	
Paydowns	(1,318,942.46)	
Redemptions	(7,279,460.45)	
Short-Term Pool Net	<u>(32,457,050.47)</u>	62,808,118.87

TOTAL BV INVESTED AT 12/31/22

\$ 18,680,393,498.40

* TRS recognizes investment transactions on the date they occur. Transaction settlements, generally, occur days following transactions. The interim period between transaction date and settlement date represents a "pending period". At the time this statement was produced, (\$6,596,428) in net transactions had occurred but had not settled. The statement does not include either expected cash receipts or disbursements associated with these pending trades. Upon settlement of these pending transactions, the net effect would be as follows:

Total Short Term	\$ 583,421,694
- Pending Payable	<u>6,596,428</u>
Net	<u>\$ 576,825,266</u>

INVESTMENT ACTIVITY

October 1, 2022 -- December 31, 2022

Total Book Value Invested @ 10/1/22 \$ 18,651,673,175.73

Purchases:

354	Cash Equivalents	\$	699,717,564.40	
96	Fixed Income Securities		270,369,739.61	
2	Principal Paydowns		8,104.04	
0	Additional Redemptions / Maturities		-	
1316	Equity Securities		499,142,657.11	
35	Real Estate		137,873,132.16	
118	Alternative Investments		214,292,683.97	
154	Additional Categories		245,104,517.63	
2075	Total Purchases			\$ 2,066,508,398.92

Disposals:

283	Cash Equivalents	\$	777,785,642.50	
173	Fixed Income Securities		397,851,558.78	
287	Principal Paydowns		3,891,826.67	
33	Redemptions / Maturities		36,563,760.15	
1267	Equity Securities		504,938,051.61	
37	Real Estate		27,984,091.23	
150	Alternative Investments		101,247,323.76	
180	Additional Categories		185,622,436.55	
0	Additional Principal Paydowns		-	
3	Additional Redemptions / Maturities		1,903,385.00	
2413	Total Disposals			\$ 2,037,788,076.25

Total Book Value Invested @ 12/31/22 \$ 18,680,393,498.40

Total Par Value Invested @ 12/31/22 \$ 18,718,861,975.74

Total Market Value Invested @ 12/31/22 \$ 22,517,331,999.02

* TRS recognizes investment transactions on the date they occur. Transaction settlements, generally, occur days following transactions. The interim period between transaction date and settlement date represents a "pending period". At the time this statement was produced, (\$6,596,428) in net transactions had occurred but had not settled. The statement does not include either expected cash receipts or disbursements associated with these pending trades. Upon settlement of these pending transactions, the net effect would be as follows:

Total Short Term	\$	583,421,694
- Pending Payable		6,596,428
Net	\$	<u>576,825,266</u>

TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: March 20, 2023

SUBJECT: Report of the Personnel Committee

The Personnel Committee met February 23, 2023, to review the performance of the executive secretary. The Personnel Committee recommended that the executive secretary receive the same allowed salary increase available to TRS employees.

Recommendation: The Personnel Committee recommends that the board approves and ratifies the report of the Personnel Committee.

TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: March 20, 2023

SUBJECT: Report of the Insurance Committee

The Insurance Committee met March 7, 2023, to review a proposed pilot program with TrueDataRx related to the cost and clinical effectiveness of specific medications.

The pilot program would provide participants in the TRS Medicare Eligible Health Plan (MEHP) with the option of switching to some medications at no cost to the MEHP retiree through the prescription coverage administered by Express Scripts. This will be done with the involvement of the Know Your Rx Coalition (KYRx). The science behind this pilot program is comparative effectiveness research, which has been used internationally for many years. This prioritizes proven, lower-cost medications over newer, higher-cost medications that in some cases are less effective than the existing options. Staff believes that the results will benefit retirees' health and result in savings both for the participating retirees and TRS.

Recommendation: The Insurance Committee recommends that the board approve the pilot program for comparative effectiveness research with TruDataRx.

TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: March 20, 2023

SUBJECT: Report of the Governance and Audit Committee

The Governance and Audit Committee will have a special meeting on March 20, 2023, prior to the quarterly board meeting. The committee will report to the board during the quarterly meeting.

TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: March 20, 2023

SUBJECT: Legislative Update

During the meeting, staff will report on the 2023 regular session of the Kentucky General Assembly.

TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: March 20, 2023

SUBJECT: Annual Review of Disability Earnings Limitation

KRS 161.661(12) allows the board to increase the disability earnings limitation by the percentage increase in the annual average of the Consumer Price Index (CPI) for all urban consumers for the most recent calendar year as published by the Federal Bureau of Labor Statistics (BLS) not to exceed 5%. The board periodically reviews whether the limitation should be increased to account for inflation. Most recently, the board authorized increasing the disability earnings limitation to \$44,877 effective for calendar year 2022. In January 2023, the BLS published the CPI for all urban consumers for calendar 2022 as a 6.5% increase.

Recommendation: The board is recommended to increase the disability earnings limitation by 5% to \$47,121 effective for calendar year 2023 as allowed under KRS 161.661(12).

TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: March 20, 2023

SUBJECT: Executive Secretary's Observations and Comments

1. Statement of Financial Disclosure Due Saturday, April 15: Each member of the board must file a Statement of Financial Disclosure with the Executive Branch Ethics Commission by Saturday, April 15.

2. Member Nominating Committee: The Member Nominating Committee, consisting of representatives from the 12 KEA districts and one retiree representative, met on February 18. The committee nominated candidates for two positions on the board with terms beginning on July 1. The positions on the board are for an active teacher and lay member.

In the election for the active teacher seat, current trustee, Alison Wright, of Georgetown, was nominated for the first position on the ballot, and Aletha Fields of Louisville, was nominated for the second position.

In the election for the lay member seat, Paul Bruce, of Louisville, was nominated for the first position on the ballot, and Thomas Hatton, of Frankfort, was nominated for the second position on the ballot.

Again, this year, members of TRS will be able to vote electronically for the trustee positions. The electronic ballot will be available on Pathway to members from April 1 through April 16. Thereafter, paper ballots will be mailed to all active and retired members who did not vote by electronic ballot. The paper ballots must be postmarked by May 31. Electronic and paper ballots will be tallied by the state education commissioner, and the results will be announced at the board's June 19 quarterly meeting.

3. Junita Losey Scholarship Fund Update: Checks for scholarships in the amount of \$2,000 have been sent to each of the eight public universities in Kentucky. TRS is expecting responses from the universities that the scholarship money has been received. Recipients may apply scholarship funds toward tuition, books or fees.

In addition, the Campbell County Schools district selects a student in May who intends to enroll in one of Kentucky's public universities and major in education to receive the Losey Scholarship. The student must enroll in a Kentucky public university in the fall and then notify TRS to verify enrollment. At that time, a check in the amount of \$1,000 is sent to the university where the student is enrolled. Upon completing the first university semester, the student is to inform TRS whether the student remains in compliance with the scholarship criteria. If so, TRS then will distribute another \$1,000 check to the university.

4. Executive Secretary's Meetings: The executive secretary has had meetings with several groups recently and will report to the board concerning the following:

Jan. 18, 2023	Meeting with Tom Lussier with Public Sector Health Care Roundtable
Jan. 19, 2023	Meeting with Macquarie Asset Management
Jan. 25, 2023	Meeting with Cavanaugh Macdonald
Jan. 25, 2023	Meeting with new state budget director's TRS contact, Teresa Sanders
Feb. 8-9, 2023	Attend Public Sector Health Care Roundtable annual board meeting
Feb. 15, 2023	Meeting with Todd Asset Management
Feb. 18, 2023	Attend Member Nominating Committee meeting
Feb. 23, 2023	Meeting with Kentucky State Treasurer's office
March 3, 2023	NCTR Education Committee meeting
March 7, 2023	Attend KYRx board meeting

5. Next Meeting: The next quarterly meeting of the board will be Monday, June 19.