

Teachers' Retirement System of the State of Kentucky
Retirement Annuity Trust
Quarterly Investment Performance
Gross Returns
For the Period Ended September 30, 2018

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>
TOTAL PLAN	\$ 20,220,950,549.72	3.00	3.00	9.19	11.38	8.97	9.02	6.61
<i>Policy Benchmark</i>		3.75	3.75	9.09	11.53	8.77	8.65	-
<u>Total Equity</u>	\$ 12,567,293,340.26	3.85	3.85	11.90	15.03	11.09	10.47	7.13
<u>Domestic Equity</u>	\$ 8,070,384,758.49	6.02	6.02	16.44	16.29	13.35	11.96	7.89
<i>S&P 1500 Index</i>		7.35	7.35	17.69	17.26	13.77	12.05	-
<u>All-Cap Equities</u>	\$ 276,757,011.94	6.27	6.27	14.99	-	-	-	-
<i>Russell 3000</i>		7.12	7.12	17.58	-	-	-	-
Fort Washington Focused Equity	\$ 276,757,011.94	6.27	6.27	14.99	-	-	-	-
<u>Large-Cap Equities</u>	\$ 6,638,589,028.16	6.33	6.33	16.39	16.21	13.43	11.80	-
<i>S&P 500 Index</i>		7.71	7.71	17.91	17.31	13.95	11.97	7.41
Todd Asset Large Cap Intrinsic Value (Stocks)	\$ 1,158,054,542.76	4.47	4.47	12.35	15.24	12.58	11.00	8.24
S&P 500 Stock Index Fund	\$ 2,431,246,062.16	7.79	7.79	18.31	17.61	14.20	12.14	7.59
UBS Value Oriented (Global)	\$ 914,125,762.67	3.39	3.39	11.54	14.48	12.48	10.99	7.87
State Street US Premier Growth Equity	\$ 688,999,381.23	8.18	8.18	20.01	18.80	14.89	13.27	-
Todd Asset Intrinsic Value Opportunity (Alpha)	\$ 488,442,373.97	6.11	6.11	14.32	8.69	8.07	11.37	-
UBS Alpha Equity	\$ 275,042,828.96	3.92	3.92	9.32	14.84	13.45	11.11	-
Wellington Large Cap Equity	\$ 682,678,076.41	7.74	7.74	23.62	17.54	15.22	13.15	-
<u>Mid-Cap Equities</u>	\$ 694,589,632.80	4.35	4.35	17.86	16.83	13.36	12.71	-
<i>S&P 400 Index</i>		3.86	3.86	14.21	15.68	11.91	12.49	-
S&P 400 Stock Index Fund	\$ 339,225,684.43	3.84	3.84	14.32	15.69	12.01	12.44	-
Wellington Mid Cap Equity	\$ 355,363,948.37	4.89	4.89	21.87	18.01	14.91	-	-
<u>Small-Cap Equities</u>	\$ 460,449,085.59	3.99	3.99	15.97	18.14	12.99	13.24	-
<i>S&P 600 Index</i>		4.71	4.71	19.08	19.41	13.32	12.86	-
Wellington Small Cap Equity	\$ 201,101,382.58	3.34	3.34	13.41	17.10	12.89	14.53	11.91
S&P 600 Stock Index Fund	\$ 259,347,703.01	4.50	4.50	18.03	18.93	13.10	12.59	-

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<u>International Equity</u>	\$ 4,496,908,581.77	0.02	0.02	4.17	12.63	6.17	7.05	-
<i>MSCI AC World Ex US</i>		<i>0.80</i>	<i>0.80</i>	<i>2.25</i>	<i>10.49</i>	<i>4.60</i>	<i>5.67</i>	-
Todd Asset International Intrinsic Value	\$ 821,200,800.80	0.16	0.16	1.12	8.09	4.21	6.21	-
Baillie Gifford EAFE Fund	\$ 1,167,122,933.63	-3.09	-3.09	5.62	17.64	8.26	9.65	-
UBS All Country World Ex US Equity	\$ 917,764,217.12	2.09	2.09	6.15	12.87	6.16	-	-
Barings All Country World Ex US	\$ 701,972,193.00	2.27	2.27	6.71	13.49	7.38	-	-
Black Rock MSCI ACWI Ex US IMI Index	\$ 797,917,470.48	0.44	0.44	2.14	10.80	4.85	-	-
Todd Asset International Intrinsic Value Opportunity	\$ 90,930,966.74	-1.32	-1.32	-4.89	6.69	-	-	-
<u>Fixed Income</u>	\$ 3,519,641,876.15	0.06	0.06	-0.72	1.94	2.68	4.86	5.04
<i>Barclay's Govt./Credit Index</i>		<i>0.06</i>	<i>0.06</i>	<i>-1.37</i>	<i>1.45</i>	<i>2.23</i>	<i>3.95</i>	<i>4.49</i>
<u>Intermediate</u>								
<i>Barclay's Intermediate Govt/Credit Index</i>		<i>0.21</i>	<i>0.21</i>	<i>-0.96</i>	<i>0.91</i>	<i>1.52</i>	<i>3.22</i>	<i>4.09</i>
Intermediate Bond Fund	\$ 767,428,801.81	0.23	0.23	-0.33	0.98	1.52	3.82	4.47
<u>Broad</u>								
<i>Barclay's Govt./Credit Index</i>		<i>0.06</i>	<i>0.06</i>	<i>-1.37</i>	<i>1.45</i>	<i>2.23</i>	<i>3.95</i>	<i>4.49</i>
Fort Washington Core Fixed Income	\$ 614,910,461.84	0.25	0.25	-1.14	2.62	2.75	4.76	4.85
Broad Market Bond Fund	\$ 681,466,192.42	0.18	0.18	-0.54	1.92	2.81	5.01	5.11
Galliard Capital Management Core Fixed Income	\$ 618,445,897.55	0.10	0.10	-0.87	2.15	3.15	5.00	-
Internal Bond Fund	\$ 166,877,561.16	-0.05	-0.05	0.25	2.31	3.36	4.78	5.16
Tax Shelter Fund	\$ 323,713.53	0.46	0.46	1.45	0.79	0.50	0.31	2.07
<u>Long</u>								
<i>Hybrid Index</i>		<i>-0.12</i>	<i>-0.12</i>	<i>-1.83</i>	<i>2.16</i>	<i>3.28</i>	<i>5.09</i>	<i>5.09</i>
Long Term Bond Fund	\$ 670,189,247.84	-0.41	-0.41	-1.04	2.44	3.67	5.91	5.60

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<u>Real Estate:</u>								
Real Estate Equity	\$ 420,779,551.13	1.91	1.91	10.00	11.14	9.59	8.85	9.04
<i>CPI plus 2%</i>		0.95	0.95	4.32	4.04	3.56	3.45	4.19
<u>Core Real Estate:</u>	\$ 426,689,420.68	2.37	2.37	8.96	9.72	11.39	4.47	-
<i>NCREIF ODCE (VW)</i>		2.09	2.09	8.68	8.80	10.72	5.58	-
Prudential PRISA Fund	\$ 341,962,644.68	1.82	1.82	8.62	9.68	11.36	4.45	-
Carlyle Property Investors	\$ 55,372,293.67	2.70	2.70	8.76	-	-	-	-
TA Realty Core Property Fund	\$ 29,354,482.33	8.50	8.50	-	-	-	-	-
<u>Non-Core Real Estate:</u>	\$ 316,636,585.74	2.75	2.75	14.24	14.05	16.48	-	-
<i>NCREIF Property Index</i>		1.67	1.67	7.16	7.75	9.57	-	-
Carlyle Realty Partners VI	\$ 7,703,496.00	1.67	1.67	1.91	9.74	17.36	-	-
Blackstone Partners VII	\$ 38,011,074.00	0.99	0.99	17.66	12.22	17.25	-	-
Rockwood Capital Real Estate Partners IX	\$ 20,257,133.39	2.95	2.95	18.39	16.81	20.58	-	-
The Realty Associates Fund X	\$ 31,468,501.00	3.14	3.14	16.38	15.23	14.50	-	-
Angelo Gordon Net Lease Realty Fund III	\$ 38,368,941.00	2.46	2.46	10.19	9.47	-	-	-
Carlyle Realty Partners VII	\$ 30,910,605.00	6.21	6.21	18.28	17.56	-	-	-
Landmark Real Estate Partners VII	\$ 30,976,533.00	1.47	1.47	9.32	18.66	-	-	-
Blackstone Partners VIII	\$ 32,535,032.00	2.80	2.80	15.70	17.77	-	-	-
The Realty Associates Fund XI	\$ 51,624,336.00	2.56	2.56	9.96	-	-	-	-
Rockwood Capital Real Estate Partners Fund X	\$ 23,389,899.35	7.18	7.18	14.70	-	-	-	-
Landmark Real Estate Partners VIII	\$ 8,651,660.00	-10.37	-10.37	28.90	-	-	-	-
Carlyle Realty Partners VIII	\$ 2,739,375.00	-107.78	-107.78	-107.36	-	-	-	-

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<u>Alternative Investments</u>								
<u>Private Equity</u>	\$ 1,142,940,291.03	4.34	4.34	17.76	12.54	13.56	11.07	-
<u>Mature Private Equity</u>	\$ 416,959,634.35	5.13	5.13	16.05	9.61	12.09	-	-
<i>S&P 500 plus 3%</i>		<i>8.51</i>	<i>8.51</i>	<i>21.45</i>	<i>20.83</i>	<i>17.37</i>	-	-
KKR & Co Fund 2006	\$ 7,058,287.00	18.80	18.80	18.21	13.69	15.09	11.87	-
Chrysalis Ventures Fund III	\$ 13,155,774.00	-5.33	-5.33	-8.35	-8.27	-2.15	-0.19	-
Fort Washington Fund V	\$ 6,705,305.00	3.41	3.41	12.47	6.98	11.72	11.47	-
KKR European III	\$ 20,263,977.00	7.55	7.55	26.12	18.16	20.28	6.32	-
Fort Washington Fund VI	\$ 21,246,898.00	4.33	4.33	20.88	12.65	16.73	14.53	-
Riverstone/Carlyle E&P Fund IV	\$ 22,231,956.00	4.17	4.17	4.59	-1.11	-4.12	5.41	-
Alinda Infrastructure Fund II	\$ 25,822,393.00	1.04	1.04	-9.40	-2.25	5.09	-	-
Capital South Partners III	\$ 861,349.00	-4.50	-4.50	9.84	5.83	15.47	-	-
Landmark Equity Partners XIV	\$ 7,101,231.00	1.03	1.03	0.96	0.12	6.06	-	-
Lexington Capital Partners VII	\$ 9,155,098.00	-0.55	-0.55	11.43	9.50	12.57	-	-
Stepstone Pioneer Capital III	\$ 15,101,172.00	6.89	6.89	23.01	11.95	14.83	-	-
Oaktree Mezzanine Fund III	\$ 1,195,961.00	4.76	4.76	57.62	25.32	21.64	-	-
JP Morgan Maritime Fund	\$ 33,647,808.41	3.25	3.25	12.65	-9.21	0.54	-	-
Audax Mezzanine Fund III	\$ 5,490,911.80	0.68	0.68	3.52	10.95	11.16	-	-
Hellman & Friedman VII	\$ 67,923,941.00	4.96	4.96	35.55	37.79	31.72	-	-
Oaktree European Principal Fund III	\$ 17,745,643.00	-4.12	-4.12	14.04	14.13	13.98	-	-
NGP Natural Resources X	\$ 26,203,950.00	7.56	7.56	20.87	12.36	8.61	-	-
Riverstone E&P Fund V	\$ 20,345,932.00	9.24	9.24	18.76	1.12	7.16	-	-
APAX VIII	\$ 38,663,612.60	6.03	6.03	19.67	15.87	17.36	-	-
Actis Global Fund IV	\$ 42,036,146.00	15.96	15.96	17.44	6.94	13.84	-	-
Audax Private Equity Fund IV	\$ 15,002,288.54	0.00	0.00	6.80	13.65	15.76	-	-

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<u>Private Equity < 5 Years</u>	\$ 725,980,656.68	3.96	3.96	19.80	15.22	14.65	-	-
Landmark Equity Partners XV	\$ 12,926,792.00	4.96	4.96	25.12	15.55	-	-	-
Fort Washington Fund VIII	\$ 26,206,840.00	2.57	2.57	14.04	14.65	-	-	-
Carlyle Global Financial Service Partners II	\$ 26,483,935.00	1.38	1.38	23.35	16.03	-	-	-
Public Pension Capital LLC	\$ 67,989,199.39	3.15	3.15	26.19	20.33	-	-	-
NGP Natural Resources XI	\$ 51,905,814.00	6.83	6.83	20.04	18.03	-	-	-
Gavea Investments Fund V	\$ 7,332,742.07	-11.99	-11.99	13.26	16.43	-	-	-
Oaktree Mezzanine Fund IV	\$ 17,850,503.00	2.71	2.71	9.90	9.40	-	-	-
Lexington Capital Partners VIII	\$ 21,894,733.00	2.48	2.48	27.21	20.87	-	-	-
KKR European Fund IV	\$ 39,475,828.00	2.42	2.42	28.87	5.58	-	-	-
IFM Global Infrastructure	\$ 137,212,198.35	8.00	8.00	20.91	13.62	-	-	-
Carlyle Europe Partners IV	\$ 45,696,128.00	-0.99	-0.99	28.27	18.07	-	-	-
Audax Private Equity Fund V	\$ 17,859,855.00	0.73	0.73	1.25	-	-	-	-
Fort Washington Fund IX	\$ 9,102,135.00	4.41	4.41	5.02	-	-	-	-
Fort Washington Fund IX-K	\$ 11,195,749.00	6.30	6.30	5.33	-	-	-	-
Hellman & Friedman Fund VIII	\$ 36,166,386.00	1.70	1.70	21.29	-	-	-	-
Riverstone E&P Fund VI	\$ 38,337,508.00	1.62	1.62	12.86	-	-	-	-
Audax Mezzanine Fund IV	\$ 7,088,804.31	3.45	3.45	18.03	-	-	-	-
JP Morgan Maritime Fund II	\$ 20,377,597.55	1.66	1.66	16.14	-	-	-	-
APAX IX	\$ 23,936,541.00	4.43	4.43	18.34	-	-	-	-
Oaktree European Principal Fund IV	\$ 32,258,235.00	6.79	6.79	10.60	-	-	-	-
KKR Americas Fund XII	\$ 7,089,662.00	5.49	5.49	-38.50	-	-	-	-
NGP Natural Resources XII	\$ 10,303,943.00	10.20	10.20	-	-	-	-	-
Carlyle Global Financial Service Partners III	\$ 7,286,864.00	2.38	2.38	-	-	-	-	-
JP Morgan Global Transport Income Fund	\$ 50,002,663.01	0.01	0.01	-	-	-	-	-
APAX Digital Fund	\$ 1.00	-	-	-	-	-	-	-
<u>Timberland:</u>	\$ 187,022,035.96	1.22	1.22	-5.76	1.04	3.47	3.37	-
<i>NCREIF Timberland Index</i>		<i>1.02</i>	<i>1.02</i>	<i>4.00</i>	<i>3.52</i>	<i>6.00</i>	<i>4.01</i>	
Hancock Bluegrass LLC - Oregon	\$ 34,292,484.00	1.26	1.26	9.17	9.49	10.34	-	-
Molpus Lake Superior Timberlands (Michigan)	\$ 92,234,607.84	1.07	1.07	-8.28	-5.00	1.44	2.71	-
Molpus Lake Superior Timberlands (Hiwassee)	\$ 7,813,976.60	0.78	0.78	-8.91	0.37	-0.30	-1.34	-
Molpus Seven States	\$ 52,680,967.52	1.52	1.52	-8.94	8.26	4.77	-	-

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<u>Additional Categories:</u>	\$ 1,408,380,234.21	2.58	2.58	5.27	5.94	5.00	-	-
<i>B of A Merrill Lynch High Yield Master II</i>		2.44	2.44	2.94	8.19	5.54	-	-
<u>Evergreen Funds:</u>								
Fort Washington High Yield Bond Fund	\$ 320,049,185.84	2.20	2.20	2.33	7.06	4.90	-	-
Marathon/TRS Credit Fund	\$ 343,953,946.88	2.35	2.35	2.63	4.94	4.21	-	-
Shenkman Capital Management	\$ 259,516,158.43	2.20	2.20	5.45	5.14	4.11	-	-
Golub Capital Pearls 11 LLC	\$ 1.00	2.14	2.14	8.23	6.75	6.31	-	-
Barings Capital European Loan Fund	\$ 102,300,000.00	2.57	2.57	5.95	6.71	-	-	-
Columbia High Yield Bond Fund	\$ 172,320,823.09	2.89	2.89	1.71	-	-	-	-
<u>Non-Evergreen Funds:</u>								
Avenue Special Situations Fund VI	\$ 8,141,870.00	3.43	3.43	15.75	-7.26	-1.77	-	-
Oaktree Opportunities Fund IX	\$ 40,061,899.00	3.95	3.95	10.31	7.04	6.06	-	-
Highbridge Principal Strategies III	\$ 20,849,575.45	2.34	2.34	7.46	6.95	7.96	-	-
Angelo Gordon Select Partners Advantage Fund	\$ 68,534.00	7.39	7.39	5.97	1.39	2.51	-	-
Oaktree European Dislocation Fund	\$ 2,370,736.00	-2.87	-2.87	17.34	15.54	-	-	-
Marathon European Credit Opportunities Fund II	\$ 44,280,443.63	4.48	4.48	22.33	12.99	-	-	-
Oaktree Opportunities Fund X	\$ 22,368,028.00	7.11	7.11	18.69	26.42	-	-	-
Oaktree European Capital Solutions Fund	\$ 17,744,992.00	-1.15	-1.15	10.01	-	-	-	-
Marathon European Credit Opportunities Fund III	\$ 51,859,969.89	4.30	4.30	13.38	-	-	-	-
Oaktree Opportunities Fund X(b)	\$ 2,494,071.00	-0.47	-0.47	-	-	-	-	-
<u>Short Term:</u>								
Cash (Unallocated)	\$ 231,567,214.56	0.54	0.54	1.71	0.92	0.58	0.40	2.10
<i>90 Day T-Bill</i>		0.49	0.49	1.59	0.80	0.50	0.32	1.82

Total Plan Gross Return for 30-year period* 8.45

*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.