## TEACHERS' RETIREMENT SYSTEM OF KENTUCKY

#### **BOARD OF TRUSTEES**

**ARTHUR GREEN** Chairperson, Elkton JAY MORGAN, Ph.D. Vice Chairperson, Murray MARY ADAMS Brodhead **HOLLIS GRITTON** Union **RONALD L. SANDERS** Hodgenville **IOSH UNDERWOOD** Tollesboro ALISON WRIGHT Georgetown **EX OFFICIO** State Treasurer **Chief State School Officer** 



Serving Kentucky Teachers Since 1940

Quarterly Meeting of the TRS Board of Trustees

AGENDA

December 19, 2016, 10 a.m.

- Meeting Called to Order
- Roll Call
- 1. Reports for Consent
  - 1.1. Consideration/Approval of Minutes
    - 1.1.1. Quarterly Meeting of the Board of Trustees held September 19, 2016
    - 1.1.2. Special Meeting of the Board of Trustees held November 21, 2016
    - 1.1.3. Special Meeting of the Insurance Committee held September 19, 2016
  - 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 Scholarship Committee
- 4. Report of the Legislative Committee
- 5. Edumedics Contract Renewal
- 6. Report of the Personnel Committee
- 7. Executive Secretary's Observations and Comments
- General Discussion
- Adjournment

The meeting will take place in the Boardroom of the Teachers' Retirement System of Kentucky, 479 Versailles Road, Frankfort, KY.

GARY L. HARBIN, CPA Executive Secretary (502) 848-8500 TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA

DATE: December 19, 2016

SUBJECT: Reports for Consent

## 1.1. Consideration/Approval of Minutes

- 1.1.1. Quarterly Meeting of the Board of Trustees held September 19, 2016
- 1.1.2. Special Meeting of the Board of Trustees held November 21, 2016
- 1.1.3. Special Meeting of the Insurance Committee held September 19, 2016

#### 1.2. Applications for Retirement and Annuity

For the period September, October and November 2016, initial retirements included 353 retirees with monthly payments totaling \$975,565.36. During the same period last year, there were 370 retirements with monthly payments totaling \$1,058,688.97.

Attached is a summary of initial applications for retirement and annuity and a comparison to the same period last year. The list of members retiring during the period will be available for examination at the meeting.

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

#### 1.3. Survivor Benefits

For the period July 1 through September 30, 2016, there were 7 persons qualifying for survivor benefits with a total monthly payment of \$2,013.83.

The list of persons qualifying for survivor benefit payments during the period will be available for examination at the meeting.

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

#### 1.4. Life Insurance Benefits

For the period July 1 through September 30, 2016, there were 8 payments of life insurance benefits for active teachers and 295 payments for retired teachers for total payments of \$1,491,000. During the same quarter in 2015, there were 281 payments in the amount of \$1,342,000.

The list of payments of life insurance benefits due to death of active and retired teachers during the period will be available for examination at the meeting.

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

## 1.5. Refunds

There were 854 refunds during the period July 1 through September 30, 2016 totaling \$8,592,352.68. The refunds are for the following categories:

Regular withdrawals	816	\$ 7,876,176.81
Deaths	38	<u>\$ 716,175.87</u>
Totals	854	\$ 8,592,352.68

During the same period in 2015, there were 1,110 refunds totaling \$10,676,750.14.

The report of refunds for the period is attached.

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 September 30, 2016.

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

		<i>tucky Teach</i> pplications		ent System ent and Ann	uity
	September	October	November	Total	Same Period 2015
Handicapped	0	0	<i>0</i>	0	<i>0</i>
Child	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Disability	<b>9</b>	<i>11</i>	<b>10</b>	30	30
Retirement	\$24,502.65	\$30,140.28	\$29,057.30	\$83,700.23	\$81,368.58
Service	<b>120</b>	<b>119</b>	<b>81</b>	320	338
Retirement	\$361,069.57	\$317,804.92	\$203,103.05	\$881,977.54	\$967,949.43
Beneficiary of Member Eligible to Retire	<i>1</i> \$3,664.54	<i>1</i> \$3,278.85	<i>1</i> \$2,944.20	3 \$9,887.59	2 \$9,370.96
TOTALS	<i>130</i>	<i>131</i>	92	353	370
	\$389,236.76	\$351,224.05	\$235,104.55	\$975,565.36	\$1,058,688.97

## **Reports for Consent Member Account Refunds** For the period July 2016 - September 2016

Active Refunds	Count	Net Refund	<b>Taxes Withheld</b>	Rollovers	Total
July	215	1,366,621.65	337,942.40	961,761.53	2,666,325.58
August	290	1,561,365.62	389,161.84	401,699.52	2,352,226.98
September	312	1,492,366.17	372,490.64	992,767.44	2,857,624.25
Total	816				7,876,176.81

Deceased Refunds	Count	Net Refund	<b>Taxes Withheld</b>	Rollovers	Total
July	20	166,865.60	40,385.18	4,894.55	214,145.33
August	3	11,072.15	390.34	251,561.62	263,024.11
September	15	125,090.92	30,971.00	80,944.51	239,006.43
Total	38				716,175.87

Total Refunds	Count	Net Refund	<b>Taxes Withheld</b>	Rollovers	Total
July	235	1,533,487.25	378,327.58	966,656.08	2,880,470.91
August	293	1,572,437.77	389,552.18	653,261.14	2,615,251.09
September	327	1,617,457.09	403,461.64	1,073,711.95	3,096,630.68
Total	854				8,592,352.68

Monday, December 19, 2016

Teachers' Retirement System of Kentucky



## OF THE STATE OF KENTUCKY



INTERIM FINANCIAL STATEMENTS

QUARTER ENDED SEPTEMBER 30, 2016 (UNAUDITED)

Statements of Plan Net Assets
as of September 30, 2016 and 2015
( Book Basis - Unadjusted )

	Def Benefi	ined it Plan	Health Insurance Plans		Life Insurance Plan		Other Funds		TOTAL		
	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015	
ASSETS											
Cash	\$ 100,924,323	\$ 134,987,558	\$ 24,724,855	\$ 26,074,482	\$-	\$ 147,680	\$ 165,482	\$ 50,246	\$ 125,814,660	\$ 161,259,966	
Receivables											
State of Kentucky	22,766,523	26,885,159	1,359,808	2,580,839	54,392	61,789			24,180,723	29,527,787	
Investment Income	39,619,872	40,683,260	1,333,953	1,289,669	1,090,402	999,217	2,417	2,434	42,046,644	42,974,580	
Investment Sales Receivable	64,417,573	96,535,521	1,175,952	748,660	-	-			65,593,525	97,284,181	
Installment Account Receivable	523,664	468,755							523,664	468,755	
Other Receivables	81,004	96,208	33,477,371	28,785					33,558,375	124,993	
Due from Other Funds	3,719,997	4,248,808							3,719,997	4,248,808	
<b>Total Receivables</b>	131,128,633	168,917,711	37,347,084	4,647,953	1,144,794	1,061,006	2,417	2,434	169,622,928	174,629,104	
Investments at Book Value											
Short Term Investments	334,988,427	623,249,066	25,605,101	22,290,496	2,036,401	3,076,225	408,505	422,444	363,038,434	649,038,231	
Bonds and Mortgages	2,533,665,456	2,737,363,647	61,044,247	41,689,630	81,697,070	80,891,040	199,485	199,485	2,676,606,258	2,860,143,802	
Stocks	8,186,475,018	8,137,893,655	307,014,398	277,006,391			185,574	185,574	8,493,674,990	8,415,085,620	
Alternative Investments	795,425,429	695,850,781	25,375,440	10,659,970					820,800,869	706,510,751	
Real Estate	823,890,655	758,397,918	25,294,366	7,656,108					849,185,021	766,054,026	
Additional Categories	1,355,211,519	1,292,834,056	151,871,023	136,597,613					1,507,082,542	1,429,431,669	
<b>Total Investments</b>	14,029,656,504	14,245,589,123	596,204,575	495,900,208	83,733,471	83,967,265	793,564	807,503	14,710,388,114	14,826,264,099	
Capital Assets	16,973,670	14,906,438							16,973,670	14,906,438	
( net of accumulated depreciation )											
Total Assets	14,278,683,130	14,564,400,830	658,276,514	526,622,643	84,878,265	85,175,951	961,463	860,183	15,022,799,372	15,177,059,607	
LIABILITIES											
Liabilities											
Accounts Payable	1,166,764	-	19,811	-	360,852				1,547,427		
Contributions Not Posted	26,674,381	23,732,493		19,636,579					26,674,381	43,369,072	
Investment Purchases Payable	64,073,483	26,890,898	3,148,921	961,625			-	-	67,222,404	27,852,523	
Investment Fees Payable	11,447,198	10,975,711	709,100	328,327			-	-	12,156,298	11,304,038	
Due to Other Funds	1,935,385	-	1,747,115	4,222,896	36,837	25,306	661	606	3,719,998	4,248,808	
Revenues Collected in Advance	-	-	2,032,051	4,899,365					2,032,051	4,899,365	
Total Liabilities	105,297,211	61,599,102	7,656,998	30,048,792	397,689	25,306	661	606	113,352,559	91,673,806	
NET ASSETS HELD IN TRUST FOR PENSION BENEFITS	\$ 14,173,385,919	\$ 14,502,801,728	\$ 650,619,516	\$ 496,573,851	\$ 84,480,576	\$ 85,150,645	\$ 960,802	\$ 859,577	\$ 14,909,446,813	\$ 15,085,385,801	

	Defi Benefi		-	dical nce Plan		ife nce Plan		her nds	TO	ſAL
ADDITIONS Contributions	2016	2015	2016	2015	2016	2015	2016	2015	2016	2015
Employer- State Paid Employer- LSD, Other Member- Active Member- Retired Recovery Income	\$ 222,618,688 4,314,331 39,507,939	\$ 101,832,347 32,488,043 41,268,183	\$ 13,052,407 11,744,646 14,575,582 14,590,634 4,781,208	\$ 2,746,717 1,926,335 8,470,862 14,303,982 5,048,928	\$ 86,908 18,449	\$ 123,781	\$ 220,001	\$ - -	\$ 235,758,003 16,297,427 54,083,521 14,590,634 4,781,208	\$ 104,702,845 34,414,378 49,739,045 14,303,982 5,048,928
Total Contribution	266,440,958	175,588,573	58,744,477	32,496,824	105,357	123,781	220,001		325,510,793	208,209,178
Investment Income (at book value) Net Gain/(Loss) on Investment Sales	60,261,197	81,841,057	383,174	(1,124,971)	(10,362)	(6,200)			60,634,009	80,709,886
Interest	42,130,270	47,388,112	1,115,059	(1,124,971) 1,947,621	(10,362) 842,125	828,368	372	- 98	44,087,826	50,164,199
Dividends	40,025,581	47,558,367	506,122	1,947,021	842,125	828,308	1,132	1,236	44,087,826	47,559,603
Rental Income, Net	7,698,551	7,579,363	500,122	-			1,132	1,230	40,552,855 7,698,551	7,579,363
Securities Lending, Net	365,794	591,563			270	117	6	82	366,070	591,762
Gross Investment Income	150,481,393	184,958,462	2,004,355	822,650	832,033	822,285	1,510	1,416	153,319,291	186,604,813
Less Investment Expense	(12,311,850)	(12,735,208)	(746,216)	(564,861)					(13,058,066)	(13,300,069)
Net Investment Income	138,169,543	172,223,254	1,258,139	257,789	832,033	822,285	1,510	1,416	140,261,225	173,304,744
Total Additions	404,610,501	347,811,827	60,002,616	32,754,613	937,390	946,066	221,511	1,416	465,772,018	381,513,922
DEDUCTIONS										
Benefits	478,473,881	456,323,921			1,486,000	1,332,000	58,597	19,679	480,018,478	457,675,600
Refunds of Contributions	8,936,781	10,966,823							8,936,781	10,966,823
Under 65 Insurance Expenses			31,407,735	32,792,220					31,407,735	32,792,220
Over 65 Insurance Expenses			40,180,560	35,141,722					40,180,560	35,141,722
Administrative Expense	3,224,219	2,938,658	1,749,202	880,016	-	-	-	-	4,973,421	3,818,674
Total Deductions	490,634,881	470,229,402	73,337,497	68,813,958	1,486,000	1,332,000	58,597	19,679	565,516,975	540,395,039
Net Increase (Decrease)	(86,024,380)	(122,417,575)	(13,334,881)	(36,059,345)	(548,610)	(385,934)	162,914	(18,263)	(99,744,957)	(158,881,117)
NET ASSETS HELD IN TRUST										
FOR PENSION BENEFITS Beginning of year	14,259,410,299	14,625,219,303	663,954,397	532,633,196	85,029,186	85,536,579	797,888	877,840	15,009,191,770	15,244,266,918
Ending of period	\$ 14,173,385,919	\$ 14,502,801,728	\$    650,619,516	\$   496,573,851	\$ 84,480,576 =======	\$ 85,150,645 ======	\$ 960,802 	\$ 859,577	\$ 14,909,446,813	\$    15,085,385,801 =======

#### Statements of Changes in Plan Net Assets For the Three Months Ended September 30, 2016 and 2015 ( Book Basis - Unadjusted )

TO:	Board of Trustees Teachers' Retirement System of Kentucky
FROM:	Gary L. Harbin, CPA
DATE:	December 19, 2016
SUBJECT:	Report of the Investment Committee

1. <u>Investment Committee Meeting and Actions</u>: The investments approved at the November 10, 2016 Investment Committee meeting are as follows: \$50 million from the Retirement Annuity Trust Fund and \$10 million from the Medical Insurance Trust Fund to Landmark Equity Partners XVI, L.P.; \$50 million from the Retirement Annuity Trust Fund and \$10 million from the Medical Insurance Trust Fund to Landmark Real Estate Partners VIII, L.P.; \$200 million from the Retirement Annuity Trust Fund and \$30 million from the Medical Insurance Trust Fund to Fort Washington Focused Equity. Additionally, outside managers Wellington Asset Management and State Street Global Advisors reported to the Committee on their respective portfolios.

2. <u>Purchases and Disposals</u>: The Report of the Investment Committee for the quarter ended September 30, 2016 is presented for review and approval. During this quarter, there were 2,390 purchases amounting to \$2,794,439,499.15 and 2,215 disposals amounting to \$2,904,229,651.00. The disposals consisted of 1,803 sales, 370 principal payments and 42 redemptions. While the TRS investment office 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, the System's invested securities had a book value of \$14,128,047,727.00 and a market value of \$17,278,554,401.62.

3. <u>Staff's comments on the economic and market conditions</u>: The quarter ended September 30, 2016 was generally positive for risk assets. Global equity and credit markets rallied with both developed and emerging markets adding to gains realized earlier in the year. July was a particularly strong month for equities as volatility sparked by the UK referendum vote in June subsided. Government bond returns were mainly flat during the third quarter, though long duration assets in the US underperformed other global developed markets as the market began to price in a Federal Reserve interest rate hike. Commodity returns were mixed during the quarter, with energy and agricultural commodities giving back prior gains while precious metals performed well. Domestically, the S&P 1500 Index ended the quarter up 4.0%, while the System's international benchmark, the MSCI ACWX ex US Index gained 7.0%.

US equity markets returns were positive across all market capitalizations and styles. In an environment of muted volatility, there was a notable reversal in sector performance as incomeoriented stocks posted negative returns. For example, telecom services and utilities sectors within the S&P 500 returned -5.6% and -5.9%, respectively. Despite negative third quarter performance, these sectors remain top contributors to overall index performance for the year-to-date. More economically sensitive sectors, such as technology, industrials and financials outperformed during the third quarter. As a result, high beta investment styles led all other factor styles, with the S&P 500 High Beta Index returning 12.2%. Growth moderately outperformed value with the Russell 3000 Growth Index returning 4.9% versus 3.9% for the Russell 3000 Value Index. Year-to-date, value indices continue to outperform growth across all sizes and styles. The Russell Microcap Index returned 11.2%, which established micro-cap as the best performing cap range during the quarter. Smaller-cap indices have also performed well year-to-date, led by the Russell 2000 Value index, which has returned 15.5% in 2016.

After a weak second quarter, developed international markets saw strong, positive returns in the third quarter, on both an absolute basis and relative to the broad US equity market. The style trend reversed, with value outperforming growth stocks and small-cap outperforming large-cap. Country returns were largely positive with only a few in the red. Emerging markets continued their rally for the year and outperformed all other equity regions. In contrast to developed markets, small-cap stocks in emerging markets, while returning 7.6% in Q3, could not keep pace with the rally in larger stocks. China and Brazil were key contributors to overall performance. China's second quarter GDP growth rate of 6.7% exceeded consensus estimates, while sentiment around Brazil improved following the removal of President Dilma Rousseff. Finally, OPEC agreed to limit output, which should provide short-term support for emerging market countries heavily tied to the price of oil.

There was little interest rate movement during the quarter amid uncertainty around whether the Fed would raise rates. After rates came down in the second quarter, the Treasury yield curve moved slightly higher, detracting from the performance of rate-sensitive fixed income. Credit spreads tightened for the quarter, led by a continued resurgence of energy and commodity credits.

4. <u>Performance</u>: Financial markets were strong for the quarter ended September 30, 2016. The System's total assets returned 4.4% for the quarter, outperforming the Policy Index which returned 3.9%. The System's domestic stocks gained 5.5%, outperforming the S&P 1500 Stock Index which returned 4.0% for the quarter. The System's international stocks gained 8.0%, outperforming the MSCI All Country ex US Index which had a return of 7.0% for the quarter. Alternatives and additional categories were positive contributors. The System's bonds gained .6%, and real estate provided strong returns for the quarter.

Recommendation: The Executive Secretary recommends that the Board accept and ratify the Report of the Investment Committee.

# **INVESTMENT PERFORMANCE**

## TRS RETURNS AS OF SEPT. 30, 2016

	Quarter	FYTD	1-Year	3-Year	5-Year	10-Year
Returns	4.34%	4.34%	9.22%	6.62%	10.47%	6.08%



Over the last 30 years, the compounded return has been 8.15% (Gross)

## INVESTMENT PERFORMANCE TOTAL RETURN (%) for periods ending September 30, 2016

	Market Value Millions \$	Quarter Ending <u>9/30/2016</u>	One Year*	Three Years*	Five <u>Years*</u>	Ten <u>Years*</u>	Fifteen <u>Years*</u>	Twenty Years*
Total Plan	17 070 6	4.4	9.6	6.8	10.7	6.3	6.4	6.9
Policy Index**	17,278.6	4.4	11.5	6.9	10.7	0.3	- 0.4	0.9
Stocks								
Total Stocks	10,940.9	6.3	12.0	7.6	14.0	6.1	6.7	7.6
Large Cap Stocks	6,357.3	5.6	12.3	10.3	16.2	7.3	-	-
S & P 500 Index		3.9	15.4	11.2	16.4	7.2	7.1	7.9
Mid Cap Stocks	694.4	4.2	12.9	9.8	17.3	8.2		
S & P 400 Index		4.1	15.3	9.4	16.5	9.1		-
Small Cap Stocks	414.7	6.6	16.7	9.2	18.3	8.8		
S & P 600 Index	31507	7.2	18.1	9.0	17.9	8.7	-	
Domestic Stocks	7,466.4	5.5	12.6	10.2	16.4	7.4	7.5	8.2
S & P Blended Index***	1,400.1	4.0	15.5	10.9	16.4	7.4	7.2	8.0
International Stocks	3,474.5	8.0	10.6	1.5	8.1	3.0	-	
MSCI AC World (Ex US)	0,414.0	7.0	9.8	0.6	6.5	2.6	-	-
Fixed Income								
Fixed Income	2,873.4	0.6	6.3	4.6	4.0	5.7	5.6	6.2
Barclays Govt/Credit Index		0.4	5.9	4.2	3.2	4.9	4.9	5.7
Triple Net Lease Real Estate	389.7	2.0	9.4	8.0	8.1	8.2	8.5	8.8
CPI + 2%		1.0	3.5	3.1	3.3	3.8	4.0	4.1
Core Real Estate	296.7	1.9	12.8	13.5	12.7			
NCREIF ODCE		2.1	10.1	12.5	12.4	-	-	-
Non-Core Real Estate	264.0	2.8	16.4	18.9	21.2			
NCREIF Property Index		1.8	9.2	11.3	11.2	-	-	-
Cash (Unallocated)	169.5	0.1	0.3	0.2	0.2	1.2	1.6	2.6
90 day Treasury Bill		0.1	0.2	0.1	0.1	0.9	1.3	2.2
Alternative Investments								
Timberland Investments	201.1	0.6	2.2	5.5	5.3	•		•
NCREIF Timberland Index		0.7	3.3	7.6	6.9			
Private Equity Investments****	752.6	1.6	2.9	10.9	10.5			
Additional Categories								
Special Situations Fund	46.3	-5.8	-23.8	-4.4	-0.4	-	•	
High Yield Bond KTRS Credit Fund	322.3 253.3	4.6	10.4 -0.2	4.6 2.0	7.3 6.7	•		-
Oaktree Opportunites Fund IX, LP	47.9	4.8	-0.2	2.3	0.7	-		
Oaktree Opportunites Fund X, LP	4.2	15.5	25.2	-				
AG Select Partners Advantage Fund LP	1.2	22.5	-9.2		-			
B of A Merrill Lynch High Yield Master II		5.5	12.8	5.3	8.2	-	-	-
Shenkman Capital Management	169.6	2.9	4.7	3.3	-	-	-	
Highbridge Principle Strategies III	38.5	2.2	5.3	8.1	-			
Golub Capital Pearls 11	131.1	1.3	5.7	5.7	•	•	•	(•)
Oaktree European Dislocation Fund, LP Marathon Eur Credit Opp Fund II	9.8 56.8	2.7 0.3	10.4 6.6					
Oaktree European Capital Solutions	17.0	-2.2	0.0					
Marathon Eur Credit Opp Fund III	35.0	2.7						
S & P LSTA Leverage Loan Index		3.1	5.5	3.4	-		-	
Babson Capital European Loan Fund	102.4	3.2	6.7	-				
CS Institutional WELLI, no USD, hedged to EUR (USD version)		2.7	6.3	-	•	-	•	-
Columbia High Yield Bond Fund	155.3	3.9			•	•	•	•
B of A Merrill Lynch High Yield Constrained Index		5.5		·	•	•	•	•

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\*Annualized \*\* Prior to 7/1/2008 TRS did not benchmark overall fund performance. \*\*\* Total Domestic Equity is benchmarked to a S & P Blended Index. Total domestic equity was benchmarked

to the S & P 500 through the fiscal year ending 6/30/2007. As of 7/1/2007 total domestic equity is benchmarked

to the S & P 1500 Index since the System's domestic stock mix is most comparable to this index.

for this is that these investments have a minimum investment horizon of ten years and there is no market benchmark that would be expected to track these types of assets in their early years. Beginning five years after the first capital call, investments in this class shall be benchmarked versus the S & P 500 plus 3%, which is the System's long-term expected return for this asset class.

## **Teachers' Retirement System of Kentucky**

Quarterly Investment Update

For the period ended September 30, 2016

FINAL		Fiscal					
(\$ in millions)	QTD	Y-T-D	1-Year <sup>(2)</sup>	3-Years <sup>(2)</sup>	5-Years(2)	10-Years <sup>(2)</sup>	20-Years <sup>(2)</sup>
Total Fund							
KTRS	4.4%	4.4%	9.6%	6.8%	10.7%	6.3%	6.9%
Policy Index <sup>(1)</sup>	3.9%	3.9%	11.5%	6.9%	10.4%	-	-
Equities							
Domestic Equities	5.5%	5.5%	12.6%	10.2%	16.4%	7.4%	8.2%
S & P Blended Index (3)	4.0%	4.0%	15.5%	10.9%	16.4%	7.4%	8.0%
International Equities (4)	8.0%	8.0%	10.6%	1.5%	8.1%	3.0%	
MSCI EAFE	6.5%	6.5%	7.1%	0.9%	7.9%	2.3%	
MSCI AC World (Ex US)	7.0%	7.0%	9.8%	0.6%	6.5%	2.6%	
Total Equities	6.3%	6.3%	12.0%	7.6%	14.0%	6.1%	7.6%
Fixed Income							
Total Fixed Income	0.6%	0.6%	6.3%	4.6%	4.0%	5.7%	6.2%
Barclays Govt/Credit Index	0.4%	0.4%	5.9%	4.2%	3.2%	4.9%	5.7%
Real Estate							
Non-Core Real Estate NCREIF Index	2.8% 1.8%	2.8% 1.8%	16.4% 9.2%	18.9% 11.3%	21.2% 11.2%	-	
Core Real Estate	1.8%	1.8%	9.2%	11.5%	12.7%	-	
NCREIF ODCE	2.1%	2.1%	10.1%	12.5%	12.4%	-	
Triple Net Lease	2.0%	2.0%	9.4%	8.0%	8.1%	8.2%	8.8%
CPI plus 2%	1.0%	1.0%	3.5%	3.1%	3.3%	3.8%	4.1%
Alternative Investments							
Private Equity <sup>(5)</sup>	1.6%	1.6%	2.9%	10.9%	10.5%	-	
Timberland	0.6%	0.6%	2.2%	5.5%	5.3%	-	
NCREIF Timberland Index	0.7%	0.7%	3.3%	7.6%	6.9%	÷.	
Additional Categories							
Additional Categories	3.0%	3.0%	4.0%	3.7%	7.4%	-	
B of A Merrill Lynch High Yield Master II	5.5%	5.5%	12.8%	5.3%	8.2%	-	

(1) Prior to July 1, 2008, KTRS did not benchmark overall fund performance. Effective July 1, 2008, the Board of Trustees approved a Policy Index which 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.

(2) Annualized

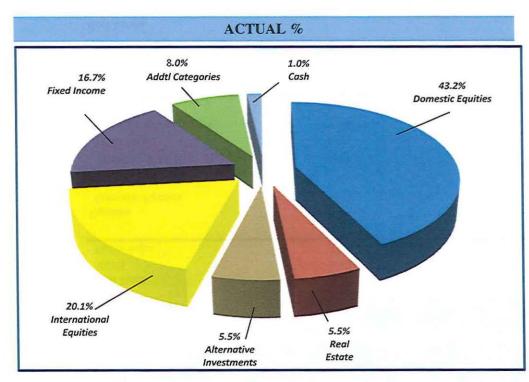
(1) Total Domestic Equity is benchmarked to a S&P Blended Index. Total domestic equity was benchmarked to the S&P 500 through the fiscal year ending 6/30/2007. As of 7/1/2007, domestic equity is benchmarked to the S&P 1500 index since the System's domestic stock mix is most comparable to this index.

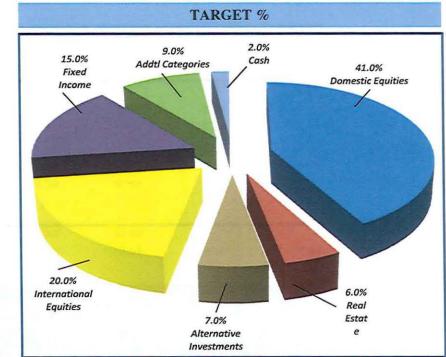
<sup>(4)</sup> As of 09/30/16 20.3% of Total International Equities were invested in emerging markets.

(5) For a period of five years private equity investments will be benchmarked against their own returns. The primary reason for this is that these investments have a minimum investment horizon of ten years and there is no market benchmark that would be expected to track these types of assets in their early years. Beginning five years after the first capital call, investments in this class shall be benchmarked versus the & P 500 plus 3%, which is the System's long-term expected return for this asset class.

## **Teachers' Retirement System of Kentucky** Quarterly Investment Update For the period ended September 30, 2016

(\$ in millions)	\$'s	Actual %	Target %	Strategic Ranges
Domestic Equities	\$7,466.4	43.2%	41.0%	34.0 - 48.0%
Real Estate	950.4	5.5%	6.0%	4.0 - 8.0%
Alternative Inv.	953.7	5.5%	7.0%	4.0 - 10.0%
International Equities	3,474.5	20.1%	20.0%	17.0 - 23.0%
Fixed Income	2,873.4	16.7%	15.0%	12.0 - 19.0%
Addtl Categories	1,390.7	8.0%	9.0%	6.0 - 12.0%
Cash	\$169.5	1.0%	2.0%	1.0 - 3.0%
Total	\$17,278.6	100.0%	100.0%	





## INVESTMENT REPORT QUARTER ENDED September 30, 2016

## INVESTMENT ACTIVITY:

### PURCHASES:

- 421 Cash Equivalents
- 83 Fixed Income Securities
- 1,344 Equity Securities
  - 17 Real Estate
  - 67 Alternative Investments
- 458 Additional Categories
- 2,390 **Total Purchases**

#### DISPOSALS:

- 328 Short-Term Pool
- 71 Fixed Income Securities
- 368 Principal Paydowns
- 28 Redemptions/Maturities
- 1,065 Equity Securities 23 Real Estate

  - 93 Alternative Investments
  - 223 Additional Categories
  - 2 Additional Principal Paydowns
  - 7 Additional Redemptions/Maturities
- 2,499 **Total Disposals**

\$ 945,066,881.25 850,101,490.45 12,624,672.29 45,027,421.92 866, 125, 022.64 20,637,564.00 37,048,791.07 120,214,301.78 1,280.50 7,385,225.10 \$2,904,229,651.00

VALUE OF PORTFOLIO:

- PAR **\$14.2 BILLION**
- **\$14.1 BILLION** BOOK
- MARKET **\$17.3 BILLION**

- \$ 770,325,755.69 917,356,550.50 863,494,978.39 26,518,236.01 50,865,626.12
- 165,878,352.44 \$2,794,439,499.15

## TRS PORTFOLIO VALUES (In Dollars)

PAR VALUE

LAU ALOL					
Short Term Fixed Income Stock Real Estate Alternative Investments Additional Categories Total	<u>9-30-15</u> 398,995,010 2,857,784,699 8,253,605,668 760,535,497 695,850,781 <u>1,350,513,554</u> 14,317,285,209	<u>12-31-15</u> 277,279,649 2,875,069,009 8,353,669,948 797,842,621 727,730,846 <u>1,296,130,481</u> 14,327,722,554	<u>3-31-16</u> 216,384,640 2,739,619,435 8,372,995,833 801,504,770 757,566,489 <u>1,372,054,498</u> 14,260,125,665	<u>6-30-16</u> 294,405,676 2,639,684,392 8,352,936,002 818,009,983 781,608,594 <u>1,388,848,807</u> 14,275,493,454	<u>9-30-16</u> 169,532,983 2,649,635,548 8,298,570,840 825,179,635 795,425,429 <u>1,456,302,722</u> 14,194,647,157
BOOK VALUE					
BOOK VALUE	9-30-15	12-31-15	3-31-16	6-30-16	9-30-16
Short Term	398,995,010	277,279,649	216,384,640	294,405,676	169,532,983
Fixed Income	2,880,864,140	2,898,547,490	2,759,831,343	2,661,000,357	2,667,511,899
Stock	8,253,605,668	8,353,669,948	8,372,995,834	8,352,936,002	8,298,570,840
Real Estate	758,397,918	797,842,621	801,504,770	818,009,983	823,890,655
Alternative Investments	695,850,781	727,730,846	757,566,489	781,608,594	795,425,429
Additional Categories	1,353,733,591	1,281,604,801	1,336,587,550	1,329,877,267	1,373,115,921
Total	14,341,447,108	14,336,675,355	14,244,870,626	14,237,837,879	14,128,047,727
MARKET VALUE					
	9-30-15	12-31-15	3-31-16	6-30-16	9-30-16
Short Term	398,995,010	277,279,649	216,384,640	294,405,677	169,532,983
Fixed Income	3,026,661,542	3,002,216,800	2,931,367,551	2,878,918,409	2,873,428,223
Stock	10,118,629,855	10,647,958,694	10,494,970,704	10,430,896,942	10,940,897,629
Real Estate	841,438,921	900,614,442	916,830,773	940,860,202	950,324,669
Alternative Investments	870,901,250	896,410,588	913,587,831	932,813,350	953,713,170
Additional Categories	1,319,251,105	1,227,678,401	1,286,195,270	1,319,326,624	1,390,657,727
Total	16,575,877,683	16,952,158,574	16,759,336,769	16,797,221,204	17,278,554,401

#### TOTAL BV INVESTED AT 6/30/16

\$ 14,237,837,878.85

July Activity				
	Purchases	705,861,751.03		
	Disposals	(711,289,079.44)		
	Paydowns	(2,635,608.00)		
	Redemptions	(12,943,001.38)		
	Short-Term Pool Net	10,103,681.06		
			•	(10,902,256.73)
August Activity				
	Purchases	754,660,843.53		
	Disposals	(668,054,673.67)		
	Paydowns	(2,954,157.15)		
	Redemptions	(14,048,793.01)		
	Short-Term Pool Net	(112,028,674.24)		
			-	(42,425,454.54)
September Activity				
	Purchases	563,591,148.90		
	Disposals	(514,783,416.83)		
	Paydowns	(7,033,187.64)		
	Redemptions	(25,420,852.63)		
	Short-Term Pool Net	(72,816,132.38)		
				(56,462,440.58)
TOTAL BV INVESTED AT 9/30/16			\$	14,128,047,727.00

\* KTRS 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, \$344,090.16 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	351,682,361
+ Pending Receivable	344,090
Net	352,026,451

## INVESTMENT ACTIVITY July 1, 2016 -- September 30, 2016

Total Book Value Invested @ 7/1/16 Purchases:			\$	14,237,837,878.85	
		¢			
421	Cash Equivalents	\$	770,325,755.69		
83	Fixed Income Securities		917,356,550.50		
1344	Equity Securities		863,494,978.39		
17	Real Estate		26,518,236.01		
67	Alternative Investments		50,865,626.12		
458	Additional Categories		165,878,352.44		
2390	Total Purchases			\$	2,794,439,499.15
Disposa	ls:				
328	Cash Equivalents	\$	945,066,881.25		
71	Fixed Income Securities		850,101,490.45		
368	368Principal Paydowns12,621,672.29				
28	28Redemptions / Maturities45,027,421.92				
1065	065 Equity Securities 866,125,022.64				
23	Real Estate		20,637,564.00		
93	Alternative Investments		37,048,791.07		
223	Additional Categories		120,214,301.78		
2	Additional Principal Paydowns		1,280.50		
14	Additional Redemptions / Maturities		7,385,225.10		
2215	 Total Disposals		, ,	\$	2,904,229,651.00
				Ŧ	,, -,
Total Book Value Invested @ 9/30/16		\$	14,128,047,727.00		
-				-	
Total Par Value Invested @ 9/30/16				\$	14,194,647,156.55
Total Ma	arket Value Invested @ 9/30/16			\$	17,278,554,401.62

\* KTRS 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, \$344,090.16 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	351,682,361
Pending Receivable	344,090
Net	352,026,451
let	352,0

TO:	Board of Trustees of the Teachers' Retirement System of the State of Kentucky
FROM:	Gary L. Harbin, CPA
DATE:	December 19, 2016

SUBJECT: Scholarship Committee

The Scholarship Committee will meet on Monday, December 19, 2016 prior to the board meeting to consider scholarship awards for 2017-2018.

Background: Ms. Losey was a retired teacher from Northern Kentucky who taught for 30 years in the Campbell County school district. Ms. Losey passed away in 1997, but during her retired years she was most appreciative of the benefits she received from TRS and left more than \$400,000 to TRS in her Will. The Board of Trustees used these funds to establish a scholarship fund in Ms. Losey's name.

In the past, the board awarded a \$2,000 scholarship to each of the eight public universities in Kentucky (for a total of \$16,000 per year). The universities select the recipient who is to be a student majoring in education who:

- 1. Is a graduate of a Kentucky public high school;
- 2. Is a junior or senior in college majoring in education;
- 3. Is a full-time student;
- 4. Maintains a GPA of 2.8 on a 4.0 scale

Additionally, the board has also awarded a \$2,000 scholarship for tuition, books and fees to a Campbell County High School senior who intends to major in education in a Kentucky public university. This student must have an average GPA in high school of 2.8 on a 4.0 scale.

The committee will also receive a report from investment staff concerning funds available for scholarship awards.

The committee will make a report and recommendations to the board concerning scholarships at the board meeting.

Recommendation: This report is for the information of the board.

TO:	Board of Trustees of the Teachers' Retirement System of the State of Kentucky
FROM:	Gary L. Harbin, CPA
DATE:	December 19, 2016
SUBJECT:	Report of the Legislative Committee

The Legislative Committee will have a special meeting on December 19, 2016, prior to the regular quarterly meeting of the board. The committee will present a report to the board during the regular quarterly meeting.

TO:	Board of Trustees of the Teachers' Retirement System of the State of Kentucky
FROM:	Gary L. Harbin, CPA
DATE:	December 19, 2016
SUBJECT:	Edumedics Contract Renewal

For the last three years, Edumedics has conducted a pilot care management program for TRS retirees with health insurance through the MEHP. Edumedics has focused on retirees diagnosed with diabetes or the combined diagnosis of hypertension and hyperlipidemia. The goal of the program was to improve healthcare through clinical intervention and to reduce the costs associated with these chronic illnesses.

In the fall of 2016, TRS staff performed an evaluation to determine whether to continue the program for the 2017 plan year. In short, retirees participating in the program have benefited from the clinical intervention, and costs associated with the treatment of chronic illness were reduced. However, participation in the program by retirees has been short of goals. Edumedics estimated that 600 retirees would be in the program by December 31, 2016, but only 350 retirees are currently participating.

TRS negotiated a new fee arrangement that reduces the monthly cost of the program. Staff will be at the meeting to describe other terms and address questions.

Recommendation: Staff recommends contracting with Edumedics for a care management program for the 2017 plan year at \$25 per enrolled member per month.

TO:	Board of Trustees of the Teachers' Retirement System of the State of Kentucky
FROM:	Gary L. Harbin, CPA
DATE:	December 19, 2016
SUBJECT:	Report of the Personnel Committee

The Personnel Committee will have a special meeting on December 19, 2016, prior to the regular quarterly meeting of the board. The committee will present a report to the board during the regular quarterly meeting.

TO:	Board of Trustees of the Teachers' Retirement System of the State of Kentucky
FROM:	Gary L. Harbin, CPA
DATE:	December 19, 2016
SUBJECT:	Executive Secretary's Observations and Comments

1. <u>2016 Award For Administration from the Public Pension Coordinating Council</u>: The Public Pension Coordinating Council awarded the Certificate of Achievement to TRS for 2016 for implementing and maintaining high professional standards in administering the affairs of the system. The award is based on compliance with principles judged to underlie exemplary retirement system achievements in the areas of investment, disclosure, actuarial valuation, financial reporting and benefits. These principles are widely acknowledged to be marks of excellence for retirement systems and represent the highest standards of excellence in the public pension industry.

Unfortunately, this year, for the fifth consecutive year, TRS was not awarded the Public Pension Coordinating Council Certificate of Achievement for funding. Failure to qualify for the award reflects the state's continued underfunding of TRS's retirement annuity plan.

The Public Pension Coordinating Council is a confederation of the National Council on Teacher Retirement, the National Association of State Retirement System Administrators and the National Conference on Public Employee Retirement Systems.

2. <u>Certificate of Achievement for Excellence in Financial Reporting</u>: On July 21, 2016, TRS received notice that, for the 28th consecutive year, it received an Award for Financial Reporting Achievement for its Comprehensive Annual Financial Report (CAFR). This award, presented by the Government Finance Officers Association of the United States and Canada, is given to those governmental units and retirement systems that achieve the highest standards in government accounting and finance reporting. This certificate highlights the standards used in providing transparent information that is comparable to that information presented by other public plans.

3. <u>Report on Internal Controls</u>: At the Trustee workshop, TRS's external auditor reported to the board on three control issues for information technology systems. TRS management has begun addressing the issues with programing changes and implementing reviews and monitoring of limited access to the systems.

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

September 20, 2016	Meeting with external auditor
September 29, 2016	Meeting with communications consultant
October 5-6, 2016	Meetings with AON Hewitt consultants

October 10, 2016	Meeting with communications consultant
October 14, 2016	Meeting with communications consultant
October 18, 2016	Meeting with Ft. Washington representatives
October 19, 2016	Conference call with YouScript representatives
October 24, 2016	Meeting with Todd Asset Management
October 27, 2016	Attended Interim Joint Committee on Appropriations and Revenue
November 1, 2016	Conference call with AON Hewitt
November 2, 2016	Conference call with Ft. Washington Advisory Committee
November 3, 2016	Meeting with PFM consultants
November 4, 2016	Conference call with Ft. Washington Advisory Committee
November 7, 2016	Conference call with investment experts
November 7, 2016	Conference call with AON Hewitt representatives
November 14, 2016	Presentation to KRTA Legislative Committee
November 16, 2016	Presentation to KEDC
November 17, 2016	Meeting with LRC staff
November 18, 2016	Conference call with AON Hewitt representatives
November 22, 2016	Conference call with Ft. Washington Advisory Committee
November 28, 2016	Conference call with Chrysalis Ventures
November 30, 2016	Meeting with Bob Kellerman, Stoll, Keenon, Ogden
December 2, 2016	Meeting with Todd Assessment Management
December 5, 2016	Meeting with Teresa Sanders, State Budget Office
December 6, 2016	Meeting with Tim Fyffe, Public Pension Oversight Board
December 12-15, 2016	Presented TRS Retirement Basics to TRS staff
December 14, 2016	Attended KEA-R Holiday Luncheon
December 15, 2016	Meeting with IT consultants regarding security testing of Pathway

5. <u>2017 Board of Trustees Meeting Dates</u>: Dates for the Board of Trustees meetings for 2017 are listed below. The meetings will begin at 12:30 p.m., Eastern Time and will be held in the TRS Boardroom.

Monday, March 20 Monday, June 19 Monday, September 18 Monday, December 18

The annual Trustee Workshop is tentatively scheduled for November 20, 2017.

6. <u>Amendment to the Board Governance Manual</u>: Staff recommends adding a list of reports required by statute to the appendices of the Board Governance Manual. Examples of reports required by statute are the financial audit, actuarial reports, investment reports and information for legislative committees. The list will describe the report, due date and the TRS position responsible for ensuring delivery.

Executive Secretary's Recommendation: Items 1 through 5 of the Executive Secretary's report are for the information of the board and require no action.

Regarding Item 6 of the Executive Secretary's report, the Executive Secretary recommends that the board authorize staff to amend the Board Governance Manual to include a list of reports required by statute.



## Public Pension Coordinating Council

# Recognition Award for Administration 2016

Presented to

## Teachers' Retirement System of the State of Kentucky

In recognition of meeting professional standards for plan administration as set forth in the Public Pension Standards.

Presented by the Public Pension Coordinating Council, a confederation of

National Association of State Retirement Administrators (NASRA) National Conference on Public Employee Retirement Systems (NCPERS) National Council on Teacher Retirement (NCTR)

alan Helinkle

Alan H. Winkle Program Administrator



Government Finance Officers Association 203 N. LaSalle Street - Suite 2700 Chicago, IL 60601

Phone (312) 977-9700 Fax (312) 977-4806

July 21, 2016

Gary Harbin Executive Secretary Teachers' Retirement System of the State of Kentucky 479 Versailles Road Frankfort KY 40601

Dear Mr. Harbin:

We are pleased to notify you that your comprehensive annual financial report for the fiscal year ended June 30, 2015 qualifies for a Certificate of Achievement for Excellence in Financial Reporting. The Certificate of Achievement is the highest form of recognition in governmental accounting and financial reporting, and its attainment represents a significant accomplishment by a government and its management

An award for the Certificate of Achievement has been mailed to:

#### Mark E. Whelan Chief Financial Officer

We hope that you will arrange for a formal presentation of the Certificate and Award of Financial Reporting Achievement, and that appropriate publicity will be given to this notable achievement. A sample news release is enclosed to assist with this effort. In addition, details of recent recipients of the Certificate of Achievement and other information about Certificate Program results are available in the "Awards Program" area of our website, www.gfoa.org.

We hope that your example will encourage other government officials in their efforts to achieve and maintain an appropriate standard of excellence in financial reporting.

Sincerely, Government Finance Officers Association

Stephen J Jauthiei

Stephen J. Gauthier, Director Technical Services Center

SJG/ds