

What's going on in the marketplace?

Investor optimism and caution continued to battle during the month of April. In the U.S., solid corporate earnings reports, combined with continued talk of pro-growth tax policy pushed equity markets higher. However, lackluster 1Q GDP, a weak March jobs report, and geopolitical concerns pressured Treasury yields lower. Developed markets outside the U.S. in general enjoyed a good month aided by continued central bank stimulus and the emergence of a pro-EU candidate from the French election. Improved GDP in China provided a tailwind for emerging markets.

U.S. Equities

U.S. equity markets gained a little more than 1% (Russell 3000) on the month. All three market caps provided positive returns, with both large and small caps earning more than 1%, mid caps returned 84 basis points during the period. Growth was in heavy favor over value as evidenced by the Russell 3000 style benchmarks' performance; the Russell 3000 Growth earned 2.25%, while the Russell 3000 Value lost 14 basis points on the month.

The KRS U.S. equity portfolio fell short of the Russell 300 Index (0.78% vs 1.06%) with relative allocation having little effect on performance of the total portfolio for the month. Within the U.S. equity portfolio specifically, the slight overweight coming down the cap spectrum hindered relative performance as mid caps trailed their larger counter parts. From a stock selection perspective, the internal factor based portfolio lost ground to the SP500 as its value bent was not rewarded (0.88% vs 1.03%), and the active mid cap portfolio continued to struggle amongst valuation concerns.

Non-U.S. Equities

Non-U.S. equities rose over 2.3% on the month as developed markets lead the way returning 2.4%. Emerging markets took a breather from their recent outperformance, but still gained roughly 1.7% during the period.

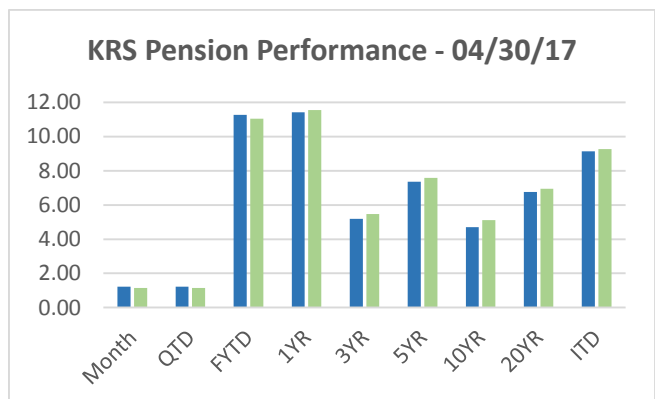
The KRS Non-U.S. equity portfolio performed well from both an absolute and relative perspective. For the month, the portfolio added 55 basis points over the index with all four active concentrated strategies adding value (2.87% vs 2.32%). On the fiscal year (10 months to date), two of the four active mandates have outperformed the index, with the entire Non-U.S. equity portfolio returning 16.38%.

Fixed Income

The KRS Fixed Income portfolio essentially performed inline with its index, returning 1.02%. Performance amongst the individual mandates was mixed. KRS' posture towards high yield was beneficial as the high yield market in general outperformed the majority of fixed income sectors just behind emerging market debt. More specifically, KRS high yield managers performed relatively well adding value over the index, and the opportunistic portfolio added 89 basis points over its index.

Alternative Assets

All sub-asset classes provided positive absolute returns during the month with three of the four adding value over their respective benchmarks and the fourth just trailing its assigned index. The Absolute Return portfolio earned 0.47% versus 0.38%. The Real Estate allocation returned 0.14%, and Private Equity added 0.91%. The Real Return portfolio rose 0.24%, essentially matching the index, falling just 3 basis points shy of its benchmark.



Cash

The cash portfolio performed well during the month (0.07% vs 0.05%). During the month, frictional cash raised as a result of prior month's equity reduction was redeployed into a new U.S. intermediate corporate credit fixed income investment. The cash allocation finished the month within the allowable range and close to target at 2.74%.

NOTES:

- 1) Returns displayed are "net". For the purposes of this report, total fund return information is net of fees and expenses, with audited data beginning in July 2011. At the manager level (detailed return sheets pgs.4-5), returns are net of fees beginning with July 2011, and gross of fees for prior data.
- 2) Individual plan allocation and performance (pg.6).
- 3) Prior to January 1, 2014, the inception date for the Private Equity asset class was stated as 10/1/1990 for Pension Fund and 6/1/2001 for Insurance Fund. Prior to 07/01/02, the characteristics of the allocation, and the benchmark itself, were more closely aligned with Real Estate. As such, it is not appropriate to report this portion of the return stream within the Private Equity allocation, whose true inception date has been determined to be 07/01/02 based on funding the Systems' first private equity mandate. The portion of the original return streams that are no longer reported within the Private Equity allocation (Pension from 10/1/90 to 06/30/02; Insurance 06/01/01 to 06/30/02) are reported within the Fund Level performance figures.
- 4)

Private Equity Composite (Pension) Inception (07/01/02) to 06/30/11 60.00% S&P 1500 Composite Index 40.00% Barclays US Corporate High Yield Index 07/01/11 to 12/31/15 100.00% Russell 3000 Index + 4% (Qtr Lag) 01/01/16 to Present 100.00% Russell 3000 Index + 3% (Qtr Lag)	Private Equity Composite (Insurance) Inception (07/01/02) to 06/30/11 80.00% S&P 1500 Composite Index 20.00% Barclays US Corporate High Yield Index 07/01/11 to 12/31/15 100.00% Russell 3000 Index + 4% (Qtr Lag) 01/01/16 to Present 100.00% Russell 3000 Index + 3% (Qtr Lag)
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- 5) The Private Equity Benchmark, from one month returns up until five year returns, is equal to the performance of the KRS Private Equity allocation. Given there is not appropriate benchmark to use for short term performance evaluation, this will allow greater focus on longer term returns, which is more appropriate given the long term nature of private equity investments.
- 6)

<u>Pension Benchmark Composite 01/01/14 to 12/31/15</u> US Equity: Russell 3000 (20.5%) Non US Equity: MSCI AXCI Ex-US (20.0%) Emerging Market: MSCI Emerging Markets (2.9%) Fixed Income: Barclays Universal Index (19.3%) Real Estate: NCREIF ODCE (4.5%) Absolute Return: HFRI Diversified FOF (10.0%) Real Return: Allocation Specific (10.0%) Private Equity<5Yrs: Actual Performance Private Equity>5Yrs: Russell 3000 Index+4% (10.0%) Cash: Cit Grp 3-mos Treasury Bill (2.8%) <u>Pension Benchmark Composite 01/01/16 to Present</u> US Equity: Russell 3000 (25.6%) Non US Equity: MSCI AXCI Ex-US IMI (25.2%) Global Fixed Income: Barclays Universal Index (6.8%) Credit Fixed Income: Barclays US High Yield (7.2%) Real Estate: NCREIF ODCE (5.0%) Absolute Return: HFRI Diversified FOF (10.0%) Real Return: Allocation Specific (8.0%) Private Equity<5Yrs: Actual Performance Private Equity>5Yrs: Russell 3000 Index+3% (10.0%) Cash: Cit Grp 3-mos Treasury Bill (2.2%)	<u>Insurance Benchmark Composite 01/01/14 to 12/31/15</u> US Equity: Russell 3000 (20.0%) Non US Equity: MSCI AXCI Ex-US (20.0%) Emerging Market: MSCI Emerging Markets (4.0%) Fixed Income: Barclays Universal Index (20.0%) Real Estate: NCREIF ODCE (5.0%) Absolute Return: HFRI Diversified FOF (10.0%) Real Return: Allocation Specific (10.0%) Private Equity<5Yrs: Actual Performance Private Equity>5Yrs: Russell 3000 Index+4% (10.0%) Cash: Cit Grp 3-mos Treasury Bill (1.0%) <u>Insurance Benchmark Composite 01/01/16 to Present</u> US Equity: Russell 3000 (26.5%) Non US Equity: MSCI AXCI Ex-US IMI (26.5%) Global Fixed Income: Barclays Universal Index (6.0%) Credit Fixed Income: Barclays US High Yield (6.0%) Real Estate: NCREIF ODCE (5.0%) Absolute Return: HFRI Diversified FOF (10.0%) Real Return: Allocation Specific (8.0%) Private Equity<5Yrs: Actual Performance Private Equity>5Yrs: Russell 3000 Index+3% (10.0%) Cash: Cit Grp 3-mos Treasury Bill (2.0%)
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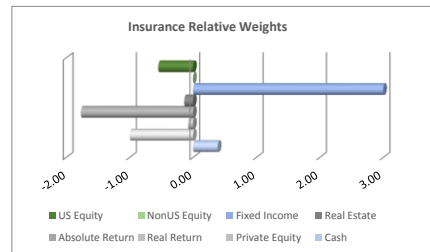
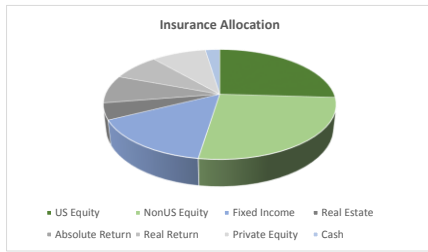
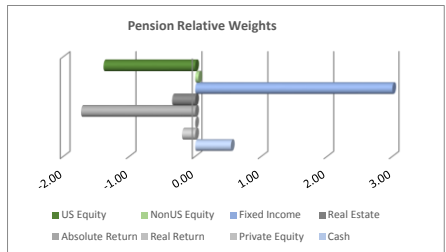
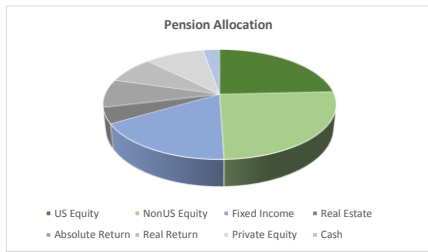
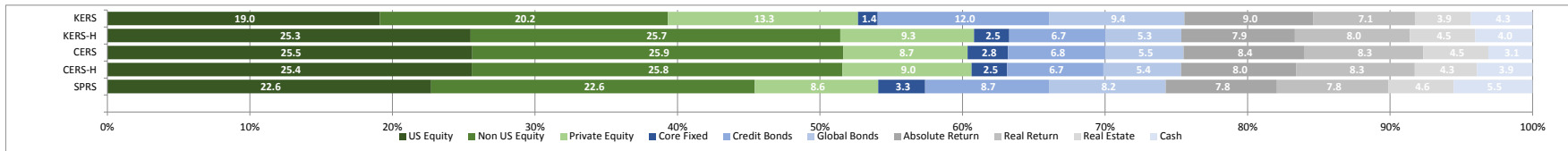
**Fund composite benchmark is a roll-up of individual plans, which may differ from one another.

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - NET RETURNS - 04/30/17

Structure	Benchmark	Inception	Market Value	% of Total	Month		QTD		Fiscal YTD		1 Year		3 Years		5 Years		10 Years		20 Years		ITD	
					KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark
TOTAL FUND	KY Ret. Blended Index	4/1/1984	11,581,961,920.78	100.00	1.23	1.15	1.23	1.15	11.27	11.05	11.41	11.55	5.19	5.47	7.35	7.59	4.71	5.12	6.75	6.94	9.14	9.27
US PUBLIC	KY Domestic Equity Blend	4/1/1984	2,804,125,244.19	24.21	0.78	1.06	0.78	1.06	15.84	16.26	17.89	18.58	9.24	10.10	12.84	13.57	7.01	7.30	8.02	8.11	11.27	11.28
EQUITY NON US	KY Ret.Int'l Eq. Blended Index	7/1/2000	2,924,632,987.36	25.25	2.87	2.32	2.87	2.32	16.38	16.71	12.15	13.09	1.84	1.34	6.10	5.64	1.52	1.23			2.66	3.10
PUBLIC EQUITY	Global Equity Blended Index	4/1/1984	5,728,758,231.55	49.46	1.83	1.68	1.83	1.68	16.16	16.57	15.06	15.94	5.23	5.19	9.00	8.88	4.15	3.89	6.81	6.63	10.51	10.36
FIXED INCOME	KY Ret. Fixed Blended Index	4/1/1984	1,970,843,809.68	17.02	1.02	0.99	1.02	0.99	5.87	5.77	7.43	7.56	4.57	5.42	4.50	4.22	5.39	5.40	5.99	5.98	7.71	7.52
REAL RETURN	PENSION REAL RETURN CUSTOM BM	7/1/2011	927,131,634.78	8.00	0.24	0.27	0.24	0.27	7.10	3.67	10.28	6.97	2.48	1.75	2.47	2.59					4.05	2.90
ABSOLUTE RETURN	HFRF Fund of Funds Diversified Index - 1 Month Ar	4/1/2010	957,478,033.86	8.27	0.47	0.38	0.47	0.38	5.44	5.29	5.74	6.21	1.71	1.97	4.69	3.39					4.06	2.85
REAL ESTATE	NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	7/1/1984	538,189,801.35	4.65	0.14	0.00	0.14	0.00	7.61	5.72	9.58	7.79	8.99	11.04	9.27	11.16	7.01	4.84	5.93	8.29	5.92	6.42
PRIVATE EQUITY	Russell 3000 + 3%(Qtr Lag)	7/1/2002	1,135,045,568.88	9.80	0.91	0.91	0.91	0.91	7.78	7.78	8.37	8.37	8.95	8.95	12.18	12.18	6.45	10.25			10.75	10.76
CASH ACCOUNT	Citigroup Treasury Bill-3 Month	1/1/1988	317,576,235.05	2.74	0.07	0.05	0.07	0.05	0.83	0.32	0.91	0.37	0.49	0.16	0.48	0.12	1.13	0.58	2.57	2.11	3.67	3.22

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - PLAN NET RETURNS - 04/30/17

Plan	Benchmark	Inception	Market Value	% of Total	Month		QTD		Fiscal YTD		1 Year		3 Years		5 Years		10 Years		20 Years		ITD	
					KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark
KERS	KY Ret. KERS Plan Index	1974	593,480.40	100.00	1.08	1.07	1.08	1.07	9.93	9.83	10.16	10.50	4.77	5.13	7.13	7.43	4.60	5.05	6.70	6.90	9.11	9.25
KERS-H	KY Ret. KERS Haz Plan Index	590,226,974.23	100.00	1.24	1.17	1.24	1.17	11.23	11.31	11.29	11.75	5.24	5.15	7.39	7.48	4.73	5.07	6.76	6.91	9.15	9.25	
CERS	KY Ret. CERS Plan Index	6,599,416,498.51	100.00	1.26	1.17	1.26	1.17	11.61	11.38	11.73	11.84	5.28	5.16	7.40	7.48	4.73	5.07	6.77	6.91	9.15	9.25	
CERS-H	KY Ret. CERS Haz Plan Index	2,183,013,917.34	100.00	1.25	1.17	1.25	1.17	11.52	11.35	11.62	11.80	5.32	5.15	7.41	7.47	4.74	5.07	6.77	6.91	9.15	9.25	
SPRS	KY Ret. SPRS Plan Index	242,071,873.90	100.00	1.12	1.11	1.12	1.11	10.44	10.54	10.67	11.13	4.53	5.00	6.97	7.38	4.52	5.02	6.66	6.89	9.08	9.24	



KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - NET RETURNS - 04/30/17

Structure	Benchmark	Inception	Market Value	% of Total	Month		QTD		Fiscal YTD		1 Year		3 Years		5 Years		10 Years		20 Years		ITD	
					KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark
TOTAL FUND	KY Ins. Blended Index	4/1/1987	4,657,279,966.86	100.00	1.33	1.27	1.33	1.27	11.57	11.33	11.86	11.92	5.37	5.84	7.18	7.73	3.75	4.28	6.16	6.52	7.39	7.78
US PUBLIC	KY Domestic Equity Blend	7/1/1992	1,208,529,119.22	25.95	0.83	1.06	0.83	1.06	15.91	16.26	18.03	18.58	9.65	10.10	13.03	13.57	6.93	7.22	7.85	7.62	9.55	9.39
EQUITY NON US	KRS Ins.Int'l Eq Blend	4/1/2000	1,234,077,019.89	26.50	2.83	2.32	2.83	2.32	16.53	16.71	12.06	13.09	1.74	1.34	5.97	5.64	1.50	0.88			2.67	2.20
PUBLIC EQUITY	Global Equity Blended Index	7/1/1992	2,442,606,139.11	52.45	1.83	1.69	1.83	1.69	16.28	16.58	15.29	15.91	5.56	5.24	9.13	8.84	4.04	3.74	6.67	6.37	8.58	8.37
FIXED INCOME	KRS Ins. Fixed Blended Index	7/1/1992	705,927,978.55	15.16	0.96	0.99	0.96	0.99	5.30	5.77	7.26	7.56	3.98	5.42	4.07	4.22	5.58	5.60	6.43	6.39	6.55	6.52
REAL RETURN	INSURANCE REAL RET CUSTOM BM	7/1/2011	368,860,372.33	7.92	0.31	0.35	0.31	0.35	6.23	3.39	9.25	6.54	2.32	1.85	2.18	2.65					3.73	2.96
ABSOLUTE RETURN	HFRF Fund of Funds Diversified Index - 1 Month Ar	4/1/2010	383,068,181.63	8.23	0.51	0.38	0.51	0.38	5.41	5.29	5.69	6.21	1.76	1.97	4.72	3.39					3.99	2.85
REAL ESTATE	NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	5/1/2009	226,551,232.30	4.86	0.01	0.00	0.01	0.00	8.06	5.72	10.12	7.79	9.25	11.04	8.90	11.16					8.89	5.76
PRIVATE EQUITY	Russell 3000 + 3% (Qtr Lag)	7/1/2002	418,977,091.75	9.00	1.87	1.87	1.87	1.87	8.52	8.52	10.70	10.70	12.78	12.78	14.24	14.24	8.78	9.49			9.57	10.14
CASH ACCOUNT	Citigroup Treasury Bill-3 Month	7/1/1992	111,528,195.00	2.39	0.07	0.05	0.07	0.05	0.47	0.32	0.54	0.37	0.34	0.16	0.35	0.12	0.83	0.58	2.27	2.11	2.70	2.57

KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - PLAN NET RETURNS - 04/30/17

Plan	Benchmark	Inception	Market Value	% of Total	Month		QTD		Fiscal YTD		1 Year		3 Years		5 Years		10 Years		20 Years		ITD	
					KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark
KERS INS	KY Ins. KERS Plan Index	740,587,615.50	100.00	1.39	1.22	1.39	1.22	11.82	11.80	12.05	12.40	5.15	5.40	6.95	7.53	3.64	4.19	6.11	6.47	7.35	7.74	
KERS-H INS	KY Ins. KERS Haz Plan Index	476,873,700.66	100.00	1.34	1.24	1.34	1.24	11.65	11.57	11.95	12.16	5.32	5.43	7.20	7.55	3.76	4.20	6.17	6.48	7.39	7.75	
CERS INS	KY Ins. CERS Plan Index	2,109,195,833.41	100.00	1.30	1.26	1.30	1.26	11.49	11.42	11.80	12.01	5.40	5.45	7.22	7.57	3.77	4.20	6.17	6.48	7.40	7.75	
CERS-H INS	KY Ins. CERS Haz Plan Index	1,157,394,527.07	100.00	1.32	1.26	1.32	1.26	11.50	11.41	11.80	12.00	5.46	5.46	7.24	7.57	3.78	4.20	6.18	6.48	7.40	7.75	
SPRS INS	KY Ins. SPRS Plan Index	174,762,194.00	100.00	1.34	1.26	1.34	1.26	11.52	11.40	11.78	11.99	5.40	5.47	7.22	7.58	3.77	4.21	6.17	6.48	7.40	7.75	

