

What’s going on in the marketplace?

Global equity markets advanced on the back of optimism surrounding vaccine distribution and the perceived return to normal that will bring, ushering in an improved outlook for economic growth. In response to the potential for increased global growth, bond yields rose, which led to negative returns in bond markets across the globe.

The KRS investment portfolio returned 1.7% versus the benchmark of 1.2%.

Relative outperformance in the Core Fixed Income, U.S. Equity, and Non-U.S. Equity classes were the main drivers of the overall portfolio performance from a selection perspective. That said, selection effect was broad-based throughout the portfolio. The allocation effect was fairly neutral. The total portfolio benefitted from its overweight to the public equity sectors combined with its underweight to real estate. However, this was offset by the overweight to the core fixed income space in conjunction with the underweight to the real return space.

U.S. Equities

U.S. markets provided a solid 3.1% return for the month per the Russell 3000. Midcaps and small caps provided strong performance during the period (MC: 6.8%; SC: 6.2%), outpacing large caps which returned 2.8% per the S&P 500. While both style biases were positive, value significantly outperformed growth during the month (R3000V: 6.3% vs R3000G: 0.2%).

In February, the KRS U.S. Equity portfolio outpaced the Russell 3000 Index by 60 bps, gaining 3.7% during the month. Overall, stock selection was mixed but skewed positive. The all cap growth portfolio stood out by adding nearly 3% over its benchmark return. The smaller market cap positioning of the portfolio was beneficial as investments in midcap, small, and microcap spaces provided strong positive absolute returns approaching 7% (nearly 8% for microcaps).

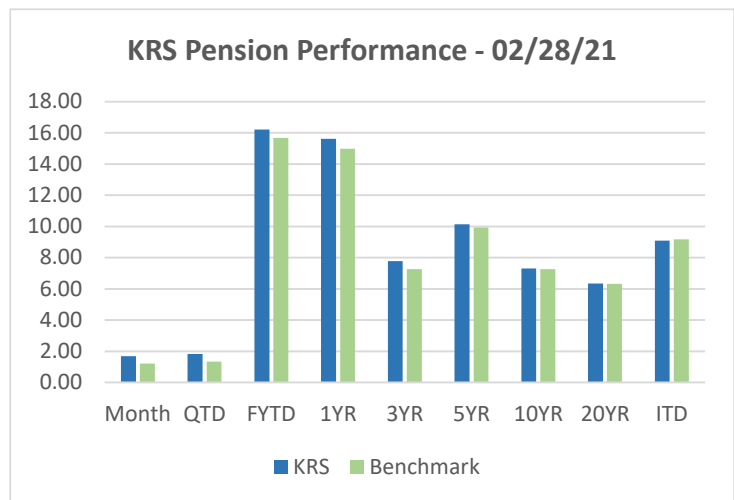
Non-U.S. Equities

Non-U.S. equity markets finished the month ahead, gaining 2.2% according to the MSCI ACWI-Ex US Index. In a reverse from January, developed markets outpaced their emerging market counterparts (MSCI World Ex-US: 2.6% vs MSCI EM: 0.8%). Just as in the U.S., value outpaced growth in both the developed and emerging markets segments.

The KRS Non-U.S. Equity portfolio gained 2.8% during the month, outpacing its benchmark by 60 bps. KRS’ external mandates were mixed in terms of their respective indices. Generally speaking, performance was skewed positively and particularly strong within those strategies with a valued bent.

Fixed Income

In a continuation of January, fixed income markets were mixed during the month with the higher yielding segments (those with more significant credit risk) outperforming those segments that are traditionally considered safer which lost ground. The leveraged loan and high yield markets gained 0.6% and 0.3%, respectively. The intermediate bond market fell -0.8%, followed by the U.S. Aggregate Index, which lost -1.4%.



The KRS Specialty Credit allocation returned 0.4%, trailing its benchmark by 4 bps during the month. From a relative performance perspective, individual mandates were mixed. The KRS Core Fixed Income portfolio lost -24 bps; however, it provided 120 bps of

downside protection versus its benchmark, the Bloomberg Barclays Aggregate (-1.4%). Driving the majority of this outperformance was the allocation to short-term U.S. Corporates, which gained 13 bps.

Alternative Assets

The diversifying strategy group returned 1.7% during the month, adding 85 bps over its index. Both segments of the allocation provided positive performance. The Real Return portfolio gained 2.0%, while the Real Estate allocation gained 1.2%.

The Private Equity allocation (part of the growth bucket) was flat during the period.

The Opportunistic bucket, which makes up approximately 2.5% of the total fund, gained 1.4% during the month of February.

Cash

The Cash portfolio performed in line with the 3-month T-Bill, returning 1 basis point. This brought the fiscal year return to 8 bps.

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 returns are net of fees beginning with July 2011, and gross of fees for prior data.
- 2) Individual plan allocation and performance (pgs.4&5).
- 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 & Real Return Benchmarks, from one month returns up until five year returns, is equal to the performance of the associated KRS allocations. 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 these investments.

<u>Pension Benchmark Composite 01/01/16 to 08/31/17</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>Pension Benchmark Composite 09/01/17 to 05/31/18 -</u> <u>Transition Period w/Sliding Targets</u> US Equity: Russell 3000 (23.6%) Non US Equity: MSCI AXCI Ex-US IMI (23.2%)	<u>Insurance Benchmark Composite 01/01/16 to 08/31/17</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%) <u>Insurance Benchmark Composite 09/01/17 to 05/31/18 -</u> <u>Transition Period w/Sliding Targets</u> US Equity: Russell 3000 (24.5%) Non US Equity: MSCI AXCI Ex-US IMI (24.5%)
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Global Fixed Income: Barclays Universal Index (9.0%)
 Credit Fixed Income: Barclays US High Yield (9.0%)
 Real Estate: NCREIF ODCE (5.0%)
 Absolute Return: HFRI Diversified FOF (10.0%)
 Real Return<5yrs: Actual Performance
 Real Return>5yrs: CPI+3% (8%)
 Private Equity<5Yrs: Actual Performance
 Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
 Cash: Cit Grp 3-mos Treasury Bill (2.2%)
Pension Benchmark Composite 06/01/18 to 07/31/18
 US Equity: Russell 3000 (17.0%)
 Non US Equity: MSCI AXCI Ex-US IMI (21.0%)
 Global Fixed Income: Barclays Universal Index (13.0%)
 Credit Fixed Income: Barclays US High Yield (12.4%)
 Real Estate: NCREIF ODCE (5.0%)
 Absolute Return: HFRI Diversified FOF (10.0%)
 Real Return<5yrs: Actual Performance
 Real Return>5yrs: CPI+3% (10.0%)
 Private Equity<5Yrs: Actual Performance
 Private Equity>5Yrs: Russell 3000 Index+3% (9.4%)
 Cash: Cit Grp 3-mos Treasury Bill (2.2%)
Pension Benchmark Composite 07/31/18 to 12/31/20
 US Equity: Russell 3000 (18.2%)
 Non US Equity: MSCI AXCI Ex-US IMI (18.2%)
 Core Fixed Income: Barclays US Aggregate (14.8%)
 Specialty Credit/High Yield FI: Custom Benchmark (15.0%)
 Real Estate: NCREIF ODCE (5.0%)
 Absolute Return: HFRI Diversified FOF (3.0%)
 Real Return<5yrs: Actual Performance
 Real Return>5yrs: CPI+3% (15.0%)
 Private Equity<5Yrs: Actual Performance
 Private Equity>5Yrs: Russell 3000 Index+3% (9.4%)
 Cash: Cit Grp 3-mos Treasury Bill (1.4%)
Pension Benchmark Composite 01/01/21 to Present
 US Equity: Russell 3000 (20.6%)
 Non US Equity: MSCI AXCI Ex-US IMI (20.6%)
 Core Fixed Income: Barclays US Aggregate (12.2%)
 Specialty Credit/High Yield FI: Custom Benchmark (15.0%)
 Real Estate: NCREIF ODCE (10.0%)
 Real Return<5yrs: Actual Performance
 Real Return>5yrs: CPI+3% (10.0%)
 Private Equity<5Yrs: Actual Performance
 Private Equity>5Yrs: Russell 3000 Index+3% (9.4%)
 Cash: Cit Grp 3-mos Treasury Bill (2.2%)

Global Fixed Income: Barclays Universal Index (8.0%)
 Credit Fixed Income: Barclays US High Yield (8.0%)
 Real Estate: NCREIF ODCE (5.0%)
 Absolute Return: HFRI Diversified FOF (10.0%)
 Real Return<5yrs: Actual Performance
 Real Return>5yrs: CPI+3% (8%)
 Private Equity<5Yrs: Actual Performance
 Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
 Cash: Cit Grp 3-mos Treasury Bill (2.0%)
Insurance Benchmark Composite 06/01/18 to 07/31/18
 US Equity: Russell 3000 (17.9%)
 Non US Equity: MSCI AXCI Ex-US IMI (21.9%)
 Global Fixed Income: Barclays Universal Index (13.0%)
 Credit Fixed Income: Barclays US High Yield (11.0%)
 Real Estate: NCREIF ODCE (5.0%)
 Absolute Return: HFRI Diversified FOF (10.0%)
 Real Return<5yrs: Actual Performance
 Real Return>5yrs: CPI+3% (10.0%)
 Private Equity<5Yrs: Actual Performance
 Private Equity>5Yrs: Russell 3000 Index+3% (9.2%)
 Cash: Cit Grp 3-mos Treasury Bill (2.0%)
Insurance Benchmark Composite 07/31/18 to 12/31/20
 US Equity: Russell 3000 (18.75%)
 Non US Equity: MSCI AXCI Ex-US IMI (18.75%)
 Core Fixed Income: Barclays US Aggregate (5.0%)
 Specialty Credit/High Yield FI: Custom Benchmark (13.5%)
 Real Estate: NCREIF ODCE (10.0%)
 Absolute Return: HFRI Diversified FOF (3.0%)
 Real Return<5yrs: Actual Performance
 Real Return>5yrs: CPI+3% (15.0%)
 Private Equity<5Yrs: Actual Performance
 Private Equity>5Yrs: Russell 3000 Index+3% (15.0%)
 Cash: Cit Grp 3-mos Treasury Bill (1.0%)
Insurance Benchmark Composite 01/01/21 to Present
 US Equity: Russell 3000 (21.75%)
 Non US Equity: MSCI AXCI Ex-US IMI (21.75%)
 Core Fixed Income: Barclays US Aggregate (10.0%)
 Specialty Credit/High Yield FI: Custom Benchmark (15.0%)
 Real Estate: NCREIF ODCE (10.0%)
 Real Return<5yrs: Actual Performance
 Real Return>5yrs: CPI+3% (10.0%)
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 Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
 Cash: Cit Grp 3-mos Treasury Bill (1.5%)

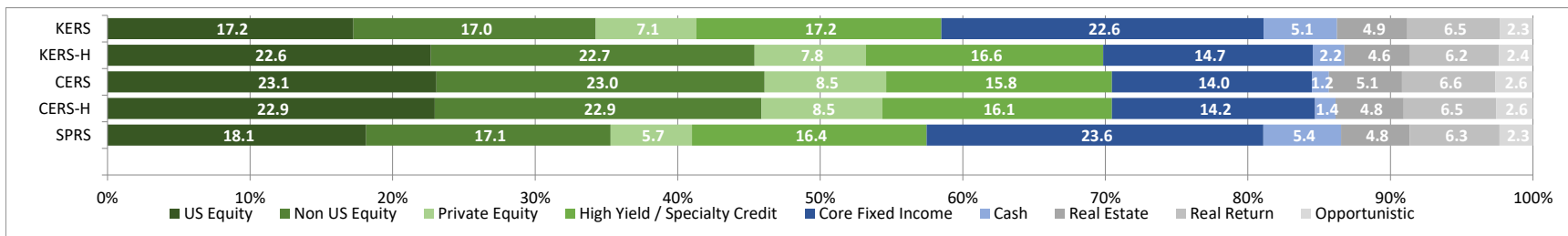
**Fund composite benchmark is a roll-up of individual plans, which may differ from one another.

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - NET RETURNS - 02/28/21

Structure	Inception	Market Value	% of Total	Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD
TOTAL FUND	4/1/1984	14,580,980,112.73	100.00	1.69	1.83	16.20	15.62	7.77	10.13	7.30	6.35	9.10
KY Ret. Blended Index				1.21	1.33	15.67	14.98	7.27	9.93	7.27	6.33	9.17
GROWTH	7/1/2018	10,061,448,198.91	69.00	2.19	2.27	22.23	22.06					10.45
Growth Custom Benchmark				3.64	3.20	27.40	25.31					12.42
PUBLIC EQUITY	4/1/1984	6,460,499,868.70	44.31	3.27	2.81	28.91	32.22	10.66	14.54	8.96	6.62	10.72
Global Equity Blended Index				2.67	2.52	28.39	31.32	10.22	14.50	8.85	6.55	10.54
US PUBLIC	4/1/1984	3,251,194,140.49	22.30	3.73	3.54	29.44	35.22	14.59	16.76	12.80	8.11	11.64
KY Domestic Equity Blend				3.13	2.67	28.58	35.33	14.97	17.41	13.44	8.51	11.73
EQUITY NON US	7/1/2000	3,209,305,728.21	22.01	2.80	2.08	28.38	28.92	7.19	12.49	5.61	5.63	4.04
KY Ret.Int'l Eq. Blended Index				2.20	2.37	28.15	27.24	5.44	11.47	5.11	5.63	4.09
PRIVATE EQUITY	7/1/2002	1,113,103,119.36	7.63	-0.01	1.37	16.34	11.18	11.29	11.34	12.12		11.06
Russell 3000 + 3%(Qtr Lag)				-0.01	1.37	16.34	11.18	11.29	11.34	15.94		12.20
HIGH YIELD / SPECIALTY CREDIT	7/1/2017	2,487,845,210.85	17.06	0.44	1.27	10.30	5.33	5.23				5.82
High Yield Custom Benchmark				0.48	1.24	11.09	7.58	5.41				5.18
FIXED INCOME / LIQUIDITY	7/1/2018	2,576,333,658.83	17.67	-0.21	-0.05	2.39	2.67					4.81
Liquidity Custom Benchmark				-1.34	-2.00	-0.82	1.31					5.51
CORE FIXED INCOME	7/1/2013	2,271,855,151.20	15.58	-0.24	-0.06	2.71	3.81	5.15	3.65			3.63
Bloomberg Barclays US Aggregate				-1.44	-2.15	-0.89	1.38	5.32	3.55			3.49
CASH	1/1/1988	304,478,507.63	2.09	0.01	0.02	0.08	0.26	1.64	1.50	0.91	1.80	3.43
Citigroup Treasury Bill-3 Month				0.01	0.01	0.07	0.33	1.49	1.16	0.60	1.38	3.01
DIVERSIFYING STRATEGIES	7/1/2018	1,579,831,616.36	10.83	1.71	2.02	10.80	5.71					4.74
Diversifying Strategies Custom				0.86	0.90	4.03	4.75					4.46
REAL ESTATE	7/1/1984	586,299,066.46	4.02	1.23	1.31	4.65	6.20	9.52	9.86	9.92	7.20	6.29
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index ^A				0.00	0.00	-1.49	0.52	4.25	5.69	9.26	6.63	6.22
REAL RETURN	7/1/2011	993,532,549.90	6.81	2.00	2.45	14.47	5.60	3.02	5.75			3.60
Pension Real Return Custom Benchmark				2.00	2.45	14.47	5.60	3.02	5.75			2.74
OPPORTUNISTIC	7/1/2018	363,936,724.00	2.50	1.39	2.55	15.79	5.32					8.59
S&P LSTA Leveraged Loan Index				0.59	1.78	10.03	5.78					4.29

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - PLAN NET RETURNS - 02/28/21

Plan	Inception	Market Value	% of Total	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD
KERS		2,659,601,540.16	100.00	1.38	4.44	14.57	14.83	7.59	9.38	7.04	6.22	9.03
KY Ret. KERS Plan Index				1.00	3.70	13.78	13.31	7.01	9.21	7.01	6.20	9.09
KERS- H		809,899,965.19	100.00	1.73	5.27	16.47	15.88	7.73	10.15	7.32	6.36	9.10
KY Ret. KERS Haz Plan Index				1.26	4.51	16.12	15.45	7.40	10.14	7.29	6.34	9.17
CERS		8,054,123,987.48	100.00	1.77	5.41	16.65	15.83	7.78	10.29	7.34	6.37	9.11
KY Ret. CERS Plan Index				1.26	4.51	16.12	15.45	7.40	10.17	7.29	6.34	9.17
CERS- H		2,730,707,955.81	100.00	1.75	5.38	16.61	15.79	7.75	10.25	7.34	6.37	9.11
KY Ret. CERS Haz Plan Index				1.26	4.51	16.12	15.45	7.40	10.16	7.29	6.34	9.17
SPRS		326,646,656.32	100.00	1.42	4.45	14.32	14.39	7.45	9.54	6.93	6.17	8.99
KY Ret. SPRS Plan Index				1.00	3.70	13.78	13.31	6.93	9.46	7.00	6.20	9.09



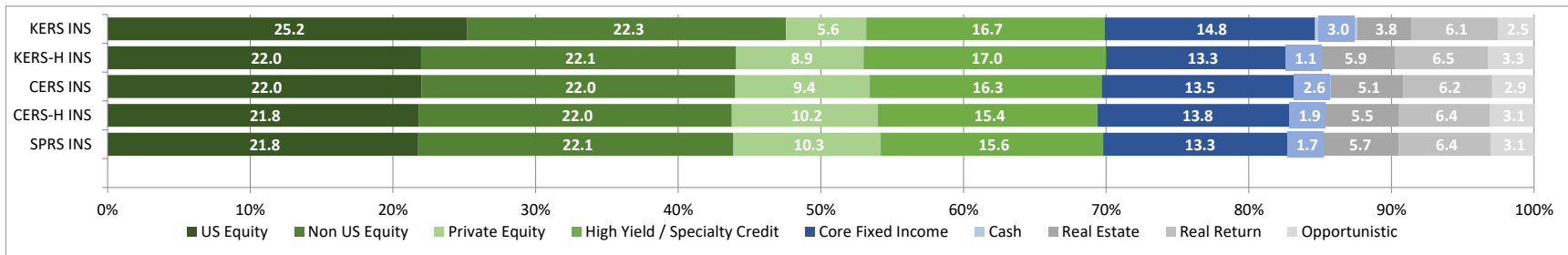
Note: The above chart displays the average monthly allocation.

KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - NET RETURNS - 02/28/21

Structure	Inception	Market Value	% of Total	Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD
				KRS	KRS	KRS	KRS	KRS	KRS	KRS	KRS	KRS
TOTAL FUND	4/1/1987	6,426,785,966.32	100.00	1.68	1.84	16.39	15.35	7.61	10.23	6.88	5.70	7.53
KY Ret. Blended Index				1.20	1.34	15.88	15.01	7.25	10.11	7.29	5.91	7.84
GROWTH	7/1/2018	4,560,490,050.07	70.96	2.14	2.25	21.95	20.95					9.81
Growth Custom Benchmark				3.64	3.20	27.40	25.31					12.42
PUBLIC EQUITY	7/1/1992	2,916,464,559.40	45.38	3.27	2.81	28.91	32.23	10.57	14.51	8.90	6.64	9.09
Global Equity Blended Index				2.66	2.52	28.39	31.29	10.18	14.48	8.81	6.21	8.86
US PUBLIC	7/1/1992	1,480,438,261.59	23.04	3.72	3.50	29.39	35.19	14.53	16.76	12.81	8.09	10.25
KY Domestic Equity Blend				3.13	2.67	28.58	35.33	14.97	17.41	13.44	8.21	10.21
EQUITY NON US	4/1/2000	1,436,026,297.81	22.34	2.81	2.11	28.43	28.93	7.05	12.37	5.42	5.98	4.01
KY Ret.Int'l Eq. Blended Index				2.20	2.37	28.15	27.24	5.44	11.47	5.08	5.29	3.33
PRIVATE EQUITY	7/1/2002	536,253,637.55	8.34	-0.30	1.24	14.95	6.00	9.40	10.98	12.50		9.80
Russell 3000 + 3%(Qtr Lag)				-0.30	1.24	14.95	6.00	9.40	10.98	15.91		11.70
HIGH YIELD / SPECIALTY CREDIT	7/1/2017	1,107,771,853.12	17.24	0.43	1.26	10.09	4.92	5.01				5.50
Bloomberg Barclays US High Yield				0.48	1.24	11.09	7.58	5.41				5.18
FIXED INCOME / LIQUIDITY	7/1/2018	1,012,133,479.22	15.75	-0.21	-0.08	2.31	2.51					4.71
Liquidity Custom Benchmark				-1.34	-2.00	-0.82	1.31					5.51
CORE FIXED INCOME	7/1/2013	868,563,158.82	13.51	-0.25	-0.10	2.64	3.39	4.94	3.57			3.30
Bloomberg Barclays US Aggregate				-1.44	-2.15	-0.89	1.38	5.32	3.55			3.49
CASH	7/1/1992	143,570,320.40	2.23	0.01	0.02	0.08	0.25	1.47	1.23	0.75	1.58	2.53
Citigroup Treasury Bill-3 Month				0.01	0.01	0.07	0.33	1.49	1.16	0.60	1.38	2.41
DIVERSIFYING STRATEGIES	7/1/2018	669,194,628.38	10.41	1.60	1.80	10.70	6.23					5.16
Diversifying Strategies Custom				0.86	0.90	4.03	4.75					4.46
REAL ESTATE	5/1/2009	248,083,594.26	3.86	1.16	1.23	4.64	6.30	9.62	10.04	9.98		9.14
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^				0.00	0.00	-1.49	0.52	4.25	5.69	9.26		5.37
REAL RETURN	7/1/2011	421,111,034.12	6.55	1.86	2.14	14.01	6.73	3.63	5.81			3.59
Pension Real Return Custom Benchmark				1.86	2.14	14.01	6.73	3.63	5.81			2.99
OPPORTUNISTIC	7/1/2018	185,318,821.00	2.88	1.39	2.55	15.79	5.32					8.59
S&P LSTA Leveraged Loan Index				0.59	1.78	10.03	5.78					4.29

KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - PLAN NET RETURNS - 02/28/21

Plan	Inception	Market Value	% of Total	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD
KERS INS		1,204,075,979.52	100.00	1.80	5.27	16.83	16.49	7.46	10.07	6.66	5.59	7.46
KY Ins. KERS Plan Index				1.21	4.58	15.89	15.08	7.27	10.26	7.19	5.86	7.81
KERS - H INS		586,314,327.13	100.00	1.68	5.37	16.26	14.90	7.42	10.11	6.82	5.67	7.51
KY Ins. KERS Haz Plan Index				1.21	4.58	15.89	15.08	7.32	10.23	7.22	5.87	7.82
CERS INS		2,907,006,044.94	100.00	1.65	5.33	16.26	15.13	7.59	10.21	6.90	5.71	7.54
KY Ins. CERS Plan Index				1.21	4.58	15.89	15.08	7.31	10.19	7.23	5.88	7.82
CERS - H INS		1,499,991,865.95	100.00	1.65	5.40	16.29	15.01	7.60	10.24	6.93	5.72	7.54
KY Ins. CERS Haz Plan Index				1.21	4.58	15.89	15.08	7.31	10.19	7.23	5.88	7.82
SPRS INS		229,397,752.23	100.00	1.66	5.48	16.54	15.52	7.79	10.34	6.97	5.75	7.56
KY Ins. SPRS Plan Index				1.21	4.58	15.89	15.08	7.31	10.19	7.24	5.88	7.83



Note: The above chart displays the average monthly allocation.