

What’s going on in the marketplace?

The year began with a decline in global stocks. Higher rates of Covid-19, combined with new lockdowns and vaccine delays in some countries led to nervousness amongst investors, who questioned how these realities would affect economic recoveries. In general, U.S. bonds fell as Treasury yields increased; however, they outperformed their global counterparts.

The KRS investment portfolio returned 0.2% versus the benchmark of 0.1%.

Relative outperformance in the Core Fixed Income, U.S. Equity, and Specialty Credit asset classes bolstered the overall portfolio performance from a selection perspective, which offset weakness in the Non-U.S. Equity portfolio. Allocation decisions had little effect on relative performance during the month.

U.S. Equities

U.S. markets fell -0.4% during the month per the Russell 3000. This can be attributed to weakness in the large cap space, which declined just over -1.0%. Small and mid-caps provided solid returns during the period (SC: 5.0% vs MC: 1.5%). Both style biases lost ground during the period; growth held up slightly better than value (R3000G: -0.4% vs R3000V: -0.5%).

During the month, the KRS U.S. Equity portfolio provided 25 bps of downside protection, falling -0.2% versus the Russell 3000 Index return of -0.4%. Overall, stock selection was weak with the exception of the internal factor based portfolio, which provided 9 bps of protection over the S&P 500. The smaller market cap positioning of the portfolio was beneficial as investments in both the small and microcap space provided strong positive absolute returns.

Non-U.S. Equities

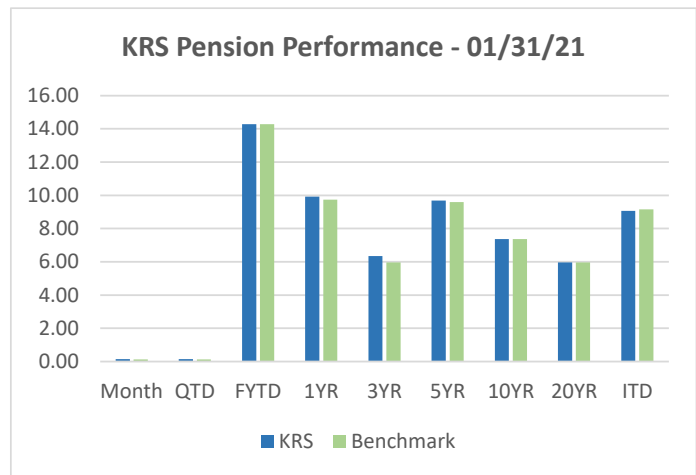
Non-U.S. equity markets finished the month slightly ahead, gaining 22 bps according to the MSCI ACWI-Ex US Index. Emerging markets significantly outpaced their developed market counterparts (MSCI EM: 3.1% vs MSCI World Ex-US: -1.1%). Unlike the U.S. markets where the style bias was fairly muted, growth outpaced value in the international markets, especially in the emerging markets.

The KRS Non-U.S. Equity portfolio fell -0.7% during the month, trailing its benchmark by 86 bps. KRS’ external mandates trailed their respective indices across the board; this was most notable in the MSCI ACWI Ex-US strategies. The growth tilt within the emerging market portion of the portfolio was one of the few bright spots during the period.

Fixed Income

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 1.2% and 0.3%, respectively. The intermediate bond market fell -0.3%, followed by the U.S. Aggregate Index, which lost -0.7%.

The KRS Specialty Credit allocation returned 0.8%, outpacing its benchmark by 7 bps during the month. From a relative performance perspective, individual mandates were mixed. The KRS Core Fixed Income portfolio gained 18 bps, outpacing the Bloomberg Barclays Aggregate (0.2% vs -0.7%). Driving the majority of this outperformance was the allocation to short-term U.S. Corporates, which gained 6 bps, and relative outperformance of the individual strategy utilized by KRS, returning 34 bps during the month.



Alternative Assets

The diversifying strategy group returned 0.5% during the month, adding 42 bps over its index. Both segments of the allocation provided positive performance. The Real Return portfolio gained 44 bps, while the Real Estate allocation gained 8 bps.

The Private Equity allocation (part of the growth bucket) performed well, providing a 1.4% return during the period.

The Opportunistic bucket, which makes up approximately 2.6% of the total fund, gained 1.2% during the month of January.

Cash

The Cash portfolio performed in line with the 3-month T-Bill, returning 1 basis point. This brought the fiscal year return to 7 bps.

NOTES:

- 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.
- Individual plan allocation and performance (pgs.4&5).
- 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.
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| Private Equity Composite (Pension) | Private Equity Composite (Insurance) |
| Inception (07/01/02) to 06/30/11 | Inception (07/01/02) to 06/30/11 |
| 60.00% S&P 1500 Composite Index | 80.00% S&P 1500 Composite Index |
| 40.00% Barclays US Corporate High Yield Index | 20.00% Barclays US Corporate High Yield Index |
| 07/01/11 to 12/31/15 | 07/01/11 to 12/31/15 |
| 100.00% Russell 3000 Index + 4% (Qtr Lag) | 100.00% Russell 3000 Index + 4% (Qtr Lag) |
| 01/01/16 to Present | 01/01/16 to Present |
| 100.00% Russell 3000 Index + 3% (Qtr Lag) | 100.00% Russell 3000 Index + 3% (Qtr Lag) |
- 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>	<u>Insurance Benchmark Composite 01/01/16 to 08/31/17</u>
US Equity: Russell 3000 (25.6%)	US Equity: Russell 3000 (26.5%)
Non US Equity: MSCI AXCI Ex-US IMI (25.2%)	Non US Equity: MSCI AXCI Ex-US IMI (26.5%)
Global Fixed Income: Barclays Universal Index (6.8%)	Global Fixed Income: Barclays Universal Index (6.0%)
Credit Fixed Income: Barclays US High Yield (7.2%)	Credit Fixed Income: Barclays US High Yield (6.0%)
Real Estate: NCREIF ODCE (5.0%)	Real Estate: NCREIF ODCE (5.0%)
Absolute Return: HFRI Diversified FOF (10.0%)	Absolute Return: HFRI Diversified FOF (10.0%)
Real Return: Allocation Specific (8.0%)	Real Return: Allocation Specific (8.0%)
Private Equity<5Yrs: Actual Performance	Private Equity<5Yrs: Actual Performance
Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)	Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
Cash: Cit Grp 3-mos Treasury Bill (2.2%)	Cash: Cit Grp 3-mos Treasury Bill (2.0%)
<u>Pension Benchmark Composite 09/01/17 to 05/31/18 - Transition Period w/Sliding Targets</u>	<u>Insurance Benchmark Composite 09/01/17 to 05/31/18 - Transition Period w/Sliding Targets</u>
US Equity: Russell 3000 (23.6%)	US Equity: Russell 3000 (24.5%)
Non US Equity: MSCI AXCI Ex-US IMI (23.2%)	Non US Equity: MSCI AXCI Ex-US IMI (24.5%)
Global Fixed Income: Barclays Universal Index (9.0%)	Global Fixed Income: Barclays Universal Index (8.0%)
Credit Fixed Income: Barclays US High Yield (9.0%)	Credit Fixed Income: Barclays US High Yield (8.0%)
Real Estate: NCREIF ODCE (5.0%)	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%)

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%)
 Private Equity<5Yrs: Actual Performance
 Private Equity>5Yrs: Russell 3000 Index+3% (10.0%)
 Cash: Cit Grp 3-mos Treasury Bill (1.5%)

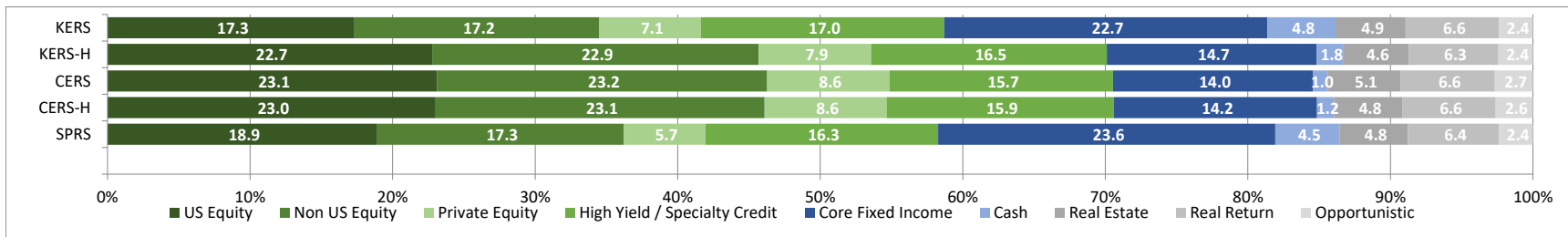
**Fund composite benchmark is a roll-up of individual plans, which may differ from one another.

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - NET RETURNS - 01/31/21

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	14,374,323,242.90	100.00	0.15	0.15	14.28	9.92	6.34	9.69	7.36	5.97	9.07
KY Ret. Blended Index				0.12	0.12	14.29	9.74	5.96	9.60	7.37	5.96	9.15
GROWTH	7/1/2018	9,863,970,812.82	68.62	0.08	0.08	19.62	13.36					9.88
Growth Custom Benchmark				-0.42	-0.42	22.93	15.38					11.29
PUBLIC EQUITY	4/1/1984	6,262,143,047.89	43.56	-0.44	-0.44	24.83	17.57	7.97	13.72	8.95	5.93	10.65
Global Equity Blended Index				-0.14	-0.14	25.05	17.51	7.72	13.79	8.93	5.91	10.49
US PUBLIC	4/1/1984	3,139,748,628.13	21.84	-0.19	-0.19	24.78	19.34	11.63	15.94	12.82	7.39	11.56
KY Domestic Equity Blend				-0.44	-0.44	24.68	20.48	12.38	16.68	13.51	7.86	11.66
EQUITY NON US	7/1/2000	3,122,394,419.76	21.72	-0.70	-0.70	24.88	15.50	4.74	11.68	5.54	4.91	3.92
KY Ret.Int'l Eq. Blended Index				0.16	0.16	25.39	14.44	3.04	10.78	5.17	4.96	3.99
PRIVATE EQUITY	7/1/2002	1,137,318,995.43	7.91	1.38	1.38	16.34	11.49	11.24	11.35	12.34		11.11
Russell 3000 + 3%(Qtr Lag)				1.38	1.38	16.34	11.49	11.24	11.35	14.91		11.56
HIGH YIELD / SPECIALTY CREDIT	7/1/2017	2,464,508,769.50	17.15	0.83	0.83	9.81	4.63	5.35				5.83
High Yield Custom Benchmark				0.76	0.76	10.56	5.61	5.13				5.17
FIXED INCOME / LIQUIDITY	7/1/2018	2,569,955,620.75	17.88	0.17	0.17	2.60	3.77					5.06
Liquidity Custom Benchmark				-0.67	-0.67	0.53	4.42					6.25
CORE FIXED INCOME	7/1/2013	2,282,118,618.86	15.88	0.18	0.18	2.96	5.03	4.99	3.83			3.71
Bloomberg Barclays US Aggregate				-0.72	-0.72	0.57	4.72	5.49	4.00			3.73
CASH	1/1/1988	287,837,001.89	2.00	0.01	0.01	0.07	0.46	1.71	1.51	0.91	1.82	3.44
Citigroup Treasury Bill-3 Month				0.01	0.01	0.06	0.45	1.53	1.16	0.60	1.40	3.01
DIVERSIFYING STRATEGIES	7/1/2018	1,941,240,363.23	13.50	0.47	0.47	9.10	2.23					4.28
Diversifying Strategies Custom				0.05	0.05	3.13	4.10					4.25
REAL ESTATE	7/1/1984	582,124,508.28	4.05	0.08	0.08	3.38	4.82	9.05	9.60	9.84	7.01	6.27
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	6.24
REAL RETURN	7/1/2011	983,936,998.45	6.85	0.44	0.44	12.22	0.11	1.58	5.34			3.42
Pension Real Return Custom Benchmark				0.44	0.44	12.22	0.11	1.58	5.34			2.55
OPPORTUNISTIC	7/1/2018	375,178,856.50	2.61	1.15	1.15	14.21	4.51					8.30
S&P LSTA Leveraged Loan Index				1.19	1.19	9.39	3.77					4.20

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - PLAN NET RETURNS - 01/31/21

Plan	Inception	Market Value	% of Total	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD
KERS		2,623,560,565.46	100.00	0.21	8.36	13.01	10.18	6.40	9.00	7.13	5.86	9.01
KY Ret. KERS Plan Index				0.05	8.82	12.65	8.92	5.88	8.94	7.13	5.84	9.09
KERS- H		795,713,332.80	100.00	0.12	9.78	14.49	9.90	6.26	9.69	7.37	5.98	9.07
KY Ret. KERS Haz Plan Index				0.13	10.11	14.66	10.00	6.04	9.79	7.38	5.96	9.16
CERS		7,942,672,377.31	100.00	0.13	9.90	14.62	9.87	6.29	9.82	7.39	5.98	9.08
KY Ret. CERS Plan Index				0.13	10.11	14.66	10.00	6.04	9.82	7.38	5.96	9.16
CERS- H		2,690,278,069.66	100.00	0.13	9.89	14.61	9.86	6.27	9.79	7.39	5.98	9.08
KY Ret. CERS Haz Plan Index				0.13	10.11	14.66	10.00	6.04	9.81	7.38	5.96	9.16
SPRS		322,098,904.34	100.00	0.20	8.40	12.72	9.64	6.19	9.15	7.01	5.80	8.97
KY Ret. SPRS Plan Index				0.05	8.82	12.65	8.92	5.75	9.18	7.12	5.83	9.08



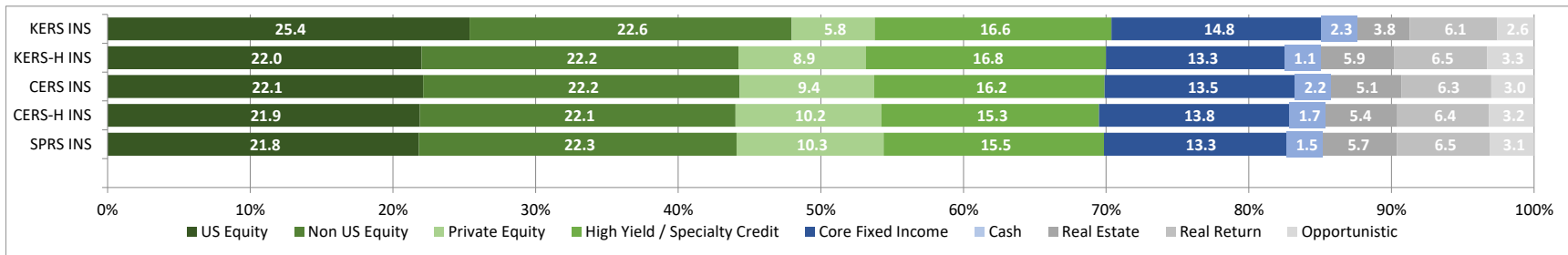
Note: The above chart displays the average monthly allocation.

KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - NET RETURNS - 01/31/21

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	6,323,198,111.00	100.00	0.15	0.15	14.47	9.54	6.17	9.78	6.99	5.37	7.50
KY Ret. Blended Index				0.13	0.13	14.50	9.73	5.92	9.77	7.47	5.54	7.82
GROWTH	7/1/2018	4,471,326,651.05	70.71	0.11	0.11	19.40	12.33					9.25
Growth Custom Benchmark				-0.42	-0.42	22.93	15.38					11.29
PUBLIC EQUITY	7/1/1992	2,825,497,615.64	44.68	-0.44	-0.44	24.83	17.47	7.89	13.70	8.87	6.03	8.99
Global Equity Blended Index				-0.14	-0.14	25.06	17.49	7.69	13.77	8.89	5.60	8.79
US PUBLIC	7/1/1992	1,428,497,102.91	22.59	-0.21	-0.21	24.75	19.22	11.58	15.94	12.77	7.48	10.14
KY Domestic Equity Blend				-0.44	-0.44	24.68	20.48	12.38	16.68	13.48	7.54	10.12
EQUITY NON US	4/1/2000	1,397,000,512.73	22.09	-0.68	-0.68	24.92	15.41	4.61	11.57	5.38	5.27	3.88
KY Ret.Int'l Eq. Blended Index				0.16	0.16	25.39	14.44	3.04	10.78	5.18	4.62	3.24
PRIVATE EQUITY	7/1/2002	547,878,954.73	8.66	1.55	1.55	15.30	6.70	9.46	11.05	12.80		9.86
Russell 3000 + 3%(Qtr Lag)				1.55	1.55	15.30	6.70	9.46	11.05	14.94		11.06
HIGH YIELD / SPECIALTY CREDIT	7/1/2017	1,097,950,080.68	17.36	0.83	0.83	9.62	4.28	5.15				5.51
Bloomberg Barclays US High Yield				0.76	0.76	10.56	5.61	5.13				5.17
FIXED INCOME / LIQUIDITY	7/1/2018	997,666,823.51	15.78	0.13	0.13	2.53	3.60					4.95
Liquidity Custom Benchmark				-0.67	-0.67	0.53	4.42					6.25
CORE FIXED INCOME	7/1/2013	872,593,904.85	13.80	0.15	0.15	2.90	4.58	4.81	3.75			3.38
Bloomberg Barclays US Aggregate				-0.72	-0.72	0.57	4.72	5.49	4.00			3.73
CASH	7/1/1992	125,072,918.66	1.98	0.01	0.01	0.07	0.37	1.51	1.24	0.75	1.61	2.54
Citigroup Treasury Bill-3 Month				0.01	0.01	0.06	0.45	1.53	1.16	0.60	1.40	2.42
DIVERSIFYING STRATEGIES	7/1/2018	854,754,443.16	13.52	0.41	0.41	9.18	3.17					4.77
Diversifying Strategies Custom				0.05	0.05	3.13	4.10					4.25
REAL ESTATE	5/1/2009	246,490,206.98	3.90	0.07	0.07	3.43	4.98	9.18	9.78	9.91		9.10
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^				0.00	0.00	-1.49	0.52	4.25	5.69	9.26		5.41
REAL RETURN	7/1/2011	417,220,852.68	6.60	0.28	0.28	11.93	1.77	2.33	5.45			3.42
Pension Real Return Custom Benchmark				0.28	0.28	11.93	1.77	2.33	5.45			2.82
OPPORTUNISTIC	7/1/2018	191,043,383.50	3.02	1.15	1.15	14.21	4.51					8.30
S&P LSTA Leveraged Loan Index				1.19	1.19	9.39	3.77					4.20

KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - PLAN NET RETURNS - 01/31/21

Plan	Inception	Market Value	% of Total	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	ITD
KERS INS		1,179,497,604.87	100.00	0.02	10.10	14.76	10.22	5.97	9.60	6.76	5.25	7.43
KY Ins. KERS Plan Index				0.13	10.22	14.50	9.79	5.93	9.91	7.37	5.48	7.79
KERS - H INS		578,218,386.27	100.00	0.15	9.68	14.34	9.15	5.97	9.67	6.93	5.34	7.48
KY Ins. KERS Haz Plan Index				0.13	10.22	14.50	9.79	5.98	9.89	7.40	5.50	7.80
CERS INS		2,861,215,644.52	100.00	0.18	9.73	14.37	9.38	6.16	9.77	7.01	5.38	7.50
KY Ins. CERS Plan Index				0.13	10.22	14.50	9.79	5.98	9.85	7.41	5.51	7.81
CERS - H INS		1,478,128,317.16	100.00	0.19	9.73	14.41	9.35	6.17	9.80	7.04	5.39	7.51
KY Ins. CERS Haz Plan Index				0.13	10.22	14.50	9.79	5.98	9.85	7.42	5.51	7.81
SPRS INS		226,138,163.32	100.00	0.20	9.92	14.64	9.91	6.35	9.90	7.09	5.41	7.52
KY Ins. SPRS Plan Index				0.13	10.22	14.50	9.79	5.98	9.85	7.42	5.51	7.81



Note: The above chart displays the average monthly allocation.