

### What's going on in the marketplace?

Equity investors across the globe experienced a second consecutive month of negative performance. The root cause for weak performance was less attributable to fundamentals of particular sectors or industries, but was more geopolitical in nature with trade tensions also weighing on the markets. The U.S. had announced broad tariffs on aluminum and steel, but later crafted tariffs specifically aimed at China, who fired back with their own set of tariffs against the U.S. While the current tariffs are fairly nominal, the fear of an all-out trade war caused many investors to lose their risk appetite. Investors seeking safety created flows into bond markets putting pressure on yields; rates ultimately backed off their prior month highs.

### U.S. Equities

U.S. equity markets fell approximately -2.0% (Russell 3000) on the month. This was entirely driven by large caps which were down -2.5% (S&P 500). In contrast, both small caps and mid caps provided positive performance, returning 1.3% and 0.9%, respectively. Value outperformed growth, which provided roughly 90 basis points of downside protection (R3000V -1.5%, R3000G -2.4%).

The KRS U.S. Equity portfolio outperformed the Russell 3000 Index and provided over 70 bps of downside protection during the month (-1.3% vs -2.0%). The portfolio's relative performance was driven by stock selection with several of the strategies adding value over their respective indices. The internal factor based portfolio outperformed the S&P 500 by over 200 bps, and two other external mandates outperformed their benchmarks by over 100 bps. Further from an allocation perspective, the overall portfolio is slightly smaller in terms of market cap and tilts slightly towards value which were both tailwinds during the period. The FYTD return for the U.S. equity portfolio now stands at 9.9% versus the benchmark's 10.5% return.

### Non-U.S. Equities

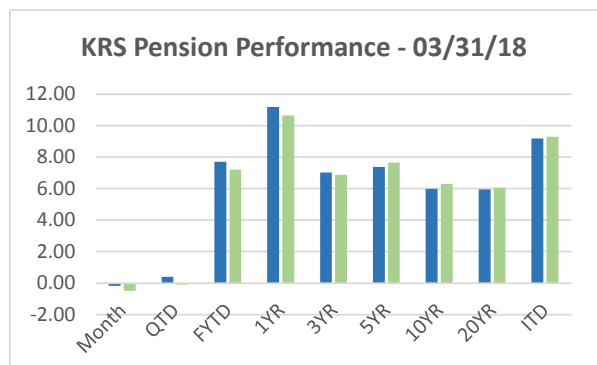
Non-U.S. equities were also weak during the period declining approximately -1.7%, but still held up a little better than U.S. equity markets. Developed and emerging market performance were closely aligned. However, there was a style bias opposite of the U.S. where growth outperformed value by approximately 90 bps.

The KRS Non-U.S. Equity portfolio provided 29 basis points of downside protection during the period, falling -1.4% versus the market return of -1.7%. Relative outperformance was driven primarily by stock selection, with two of the four active managers outperforming the index on average providing nearly 100 basis points of downside protection. In addition, the overweight to the allocation hampered the overall portfolio's performance as Non-U.S. equities were one of the weaker performing asset classes for the period. After nine months, the Non-U.S. equity portfolio has returned 12.9% versus the benchmark return of 10.7%.

### Fixed Income

The fixed income market segments were mixed in terms of performance. The U.S. Aggregate gained 64 bps, intermediate credit was up 0.1%, and the high yield market fell 60 bps. Leveraged loans gained 0.3% during the period.

The KRS Fixed Income portfolio outperformed its benchmark for the month by 14 bps (-0.1% vs -0.1%). Manager selection was mixed; however, having a large portion of the allocation in the intermediate credit space was beneficial as the segment held up well during the period. For the fiscal year, the fixed income portfolio has returned 1.4% versus the benchmark return of 0.8%.



## Alternative Assets

Three of the four sub-asset classes posted positive absolute returns for the month; further, the absolute return and real estate portfolios provided positive relative performance. The Private Equity, Real Estate, Absolute Return and Real Return portfolios returned 3.4%, 2.8%, 1.6%, and -0.5%, respectively. This brought performance for the fiscal year for the Private Equity, Real Estate, Absolute Return, and Real Return portfolios to 11.6%, 8.7%, 5.0%, and 1.7%, respectively.

## Cash

The cash portfolio performed inline during the month (0.14% vs 0.13%). The cash allocation finished the period at 3.47%. The portfolio has provided a 1.4% return so far during the fiscal year.

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### 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 (pg.3).
- 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) 

<p>Private Equity Composite (Pension) Inception (07/01/02) to 06/30/11 60.00% S&amp;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) <b>01/01/16 to Present</b> <b>100.00% Russell 3000 Index + 3% (Qtr Lag)</b></p>	<p>Private Equity Composite (Insurance) Inception (07/01/02) to 06/30/11 80.00% S&amp;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) <b>01/01/16 to Present</b> <b>100.00% Russell 3000 Index + 3% (Qtr Lag)</b></p>
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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.  

<p><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&lt;5Yrs: Actual Performance Private Equity&gt;5Yrs: Russell 3000 Index+3% (10.0%) Cash: Cit Grp 3-mos Treasury Bill (2.2%) <u>Pension Benchmark Composite 09/01/17 to Present</u> US Equity: Russell 3000 (23.6%) Non US Equity: MSCI AXCI Ex-US IMI (23.2%) 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&lt;5yrs: Actual Performance Real Return&gt;5yrs: CPI+3% (8%) Private Equity&lt;5Yrs: Actual Performance Private Equity&gt;5Yrs: Russell 3000 Index+3% (10.0%) Cash: Cit Grp 3-mos Treasury Bill (2.2%)</p>	<p><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&lt;5Yrs: Actual Performance Private Equity&gt;5Yrs: Russell 3000 Index+3% (10.0%) Cash: Cit Grp 3-mos Treasury Bill (2.0%) <u>Insurance Benchmark Composite 09/01/17 to Present</u> US Equity: Russell 3000 (24.5%) Non US Equity: MSCI AXCI Ex-US IMI (24.5%) 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&lt;5yrs: Actual Performance Real Return&gt;5yrs: CPI+3% (8%) Private Equity&lt;5Yrs: Actual Performance Private Equity&gt;5Yrs: Russell 3000 Index+3% (10.0%) Cash: Cit Grp 3-mos Treasury Bill (2.0%)</p>
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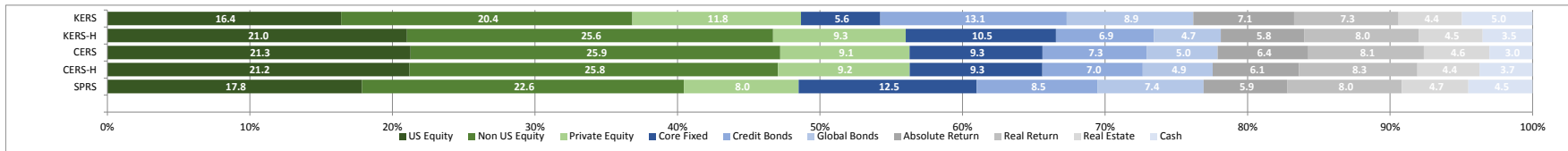
\*\*Fund composite benchmark is a roll-up of individual plans, which may differ from one another.

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - NET RETURNS - 03/31/18

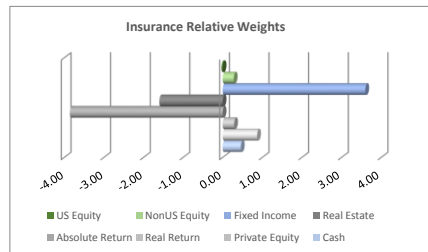
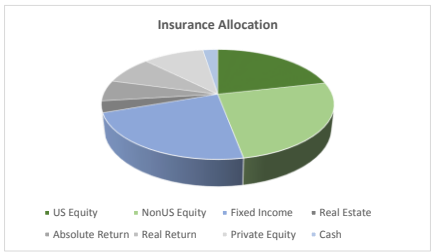
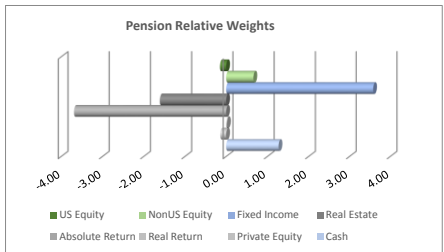
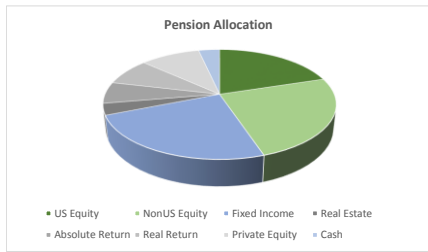
Structure	Benchmark	Inception	Market Value	% of Total	Month		QTD		Fiscal YTD		1 Year		3 Years		5 Years		10 Years		20 Years		ITD	
					KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark	KRS	Benchmark
TOTAL FUND	KY Ret. Blended Index	4/1/1984	12,307,010,066.98	100.00	-0.17	-0.49	0.41	-0.10	7.72	7.21	11.19	10.65	7.02	6.87	7.38	7.64	5.98	6.29	5.95	6.06	9.19	9.30
US PUBLIC	KY Domestic Equity Blend	4/1/1984	2,480,003,011.21	20.15	-1.25	-2.01	-0.70	-0.64	9.89	10.48	12.80	13.81	9.45	10.22	12.26	13.03	9.34	9.72	6.86	6.94	11.32	11.35
EQUITY NON US	KY Ret.Int'l Eq. Blended Index	7/1/2000	3,035,065,839.12	24.66	-1.38	-1.67	0.18	-1.06	12.89	10.73	19.97	17.43	7.94	6.79	7.34	6.44	3.87	3.32			3.42	3.74
PUBLIC EQUITY	Global Equity Blended Index	4/1/1984	5,515,068,850.33	44.81	-1.32	-1.84	-0.25	-0.85	11.43	10.62	16.42	15.62	8.47	8.16	9.39	9.14	6.54	6.17	5.78	5.53	10.65	10.48
FIXED INCOME	KY Ret. Fixed Blended Index	4/1/1984	2,962,918,731.60	24.08	0.09	-0.05	-0.25	-1.13	1.43	0.79	3.11	2.65	3.96	4.46	3.67	3.83	4.85	4.67			7.56	7.36
REAL RETURN	PENSION REAL RETURN CUSTOM BM	7/1/2011	986,707,055.78	8.02	0.00	0.00	-0.51	-0.51	1.74	1.74	2.39	2.39	3.27	3.27	1.80	1.80					3.81	2.58
ABSOLUTE RETURN	HFRF Fund of Funds Diversified Index - 1 Month Ar	4/1/2010	777,101,458.10	6.31	-0.01	-0.42	1.58	0.57	4.94	5.08	5.40	5.47	2.11	1.99	4.13	3.59					4.21	3.15
REAL ESTATE	NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	7/1/1984	417,131,412.20	3.39	2.74	1.85	2.78	1.85	8.73	5.04	11.16	6.66	10.01	9.42	9.25	10.52	8.10	4.07	6.25	7.93	6.08	6.44
PRIVATE EQUITY	Russell 3000 + 3%(Qtr Lag)	7/1/2002	1,213,536,884.46	9.86	3.28	3.28	3.37	3.37	11.63	11.63	17.85	17.85	11.57	11.57	12.98	12.98	8.32	13.29			11.18	11.47
CASH ACCOUNT	Citigroup Treasury Bill-3 Month	1/1/1988	427,551,549.93	3.47	0.14	0.13	0.53	0.35	1.44	0.89	1.67	1.07	0.98	0.49	0.74	0.31			2.39	1.92	3.61	3.15

KENTUCKY RETIREMENT SYSTEMS - PENSION FUND - PLAN NET RETURNS - 03/31/18

Plan	Benchmark	Inception	Market Value	% of Total	Month		3 Months		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		2,032,755,137.76	100.00	-0.2	-0.35	0.30	-0.11	6.80	6.44	10.07	9.65	6.31	6.54	6.97	7.31	5.78	6.12	5.85	5.98	9.12	9.25
KERS-H	KY Ret. KERS Haz Plan Index		644,450,569.52	100.00	-0.17	-0.53	0.40	-0.10	7.83	7.51	11.34	11.01	7.15	6.93	7.45	7.60	6.01	6.26	5.97	6.05	9.20	9.29
CERS	KY Ret. CERS Plan Index		7,029,417,665.19	100.00	-0.17	-0.53	0.42	-0.10	7.90	7.51	11.40	11.00	7.16	6.90	7.46	7.59	6.02	6.26	5.97	6.05	9.20	9.29
CERS-H	KY Ret. CERS Haz Plan Index		2,342,844,180.63	100.00	-0.15	-0.53	0.42	-0.10	7.88	7.51	11.38	11.00	7.19	6.90	7.47	7.59	6.03	6.26	5.97	6.05	9.20	9.29
SPRS	KY Ret. SPRS Plan Index		257,542,512.62	100.00	-0.24	-0.40	0.23	-0.10	6.95	6.82	10.15	10.06	6.11	6.50	7.32	7.32	5.70	6.13	5.81	5.98	9.10	9.25



Note: The above chart displays the average monthly allocation.

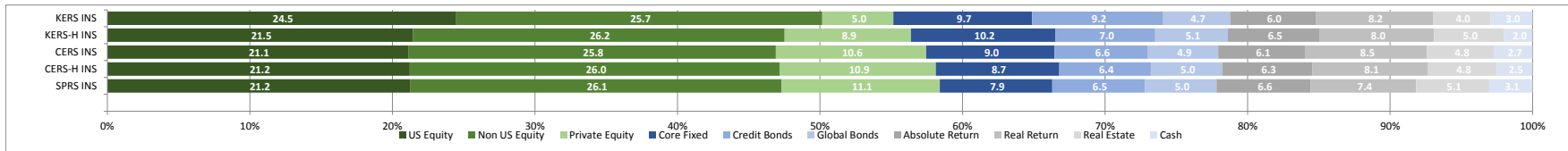


KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - NET RETURNS - 03/31/18

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	5,098,233,564.75	100.00	-0.12	-0.42	0.48	0.02	8.02	7.60	11.56	11.17	7.29	7.20	7.33	7.91	5.32	5.82	5.31	5.56	7.50	7.86
US PUBLIC	KY Domestic Equity Blend	7/1/1992	1,094,842,458.85	21.47	-1.25	-2.01	-0.70	-0.64	9.86	10.48	12.85	13.81	9.81	10.22	12.42	13.03	9.24	9.56	6.65	6.39	9.67	9.55
EQUITY NON US	KRS Ins.Int'l Eq Blend	4/1/2000	1,303,874,675.00	25.58	-1.48	-1.67	0.07	-1.06	12.77	10.73	19.81	17.43	7.85	6.79	7.21	6.44	3.51	2.97			3.40	2.87
PUBLIC EQUITY	Global Equity Blended Index	7/1/1992	2,398,717,133.85	47.05	-1.37	-1.84	-0.31	-0.85	11.34	10.62	16.33	15.63	8.65	8.20	9.50	9.14	6.31	5.96	5.60	5.20	8.82	8.60
FIXED INCOME	KRS Ins. Fixed Blended Index	7/1/1992	1,151,954,027.72	22.60	0.11	-0.05	-0.19	-1.13	1.40	0.79	2.95	2.65	3.84	4.46	3.21	3.83	4.41	4.42	5.99	5.94	6.39	6.34
REAL RETURN	INSURANCE REAL RET CUSTOM BM	7/1/2011	422,617,227.77	8.29	0.10	0.10	-0.32	-0.32	1.79	1.79	2.46	2.46	3.09	3.09	1.57	1.57					3.54	2.68
ABSOLUTE RETURN	HFRF Fund of Funds Diversified Index - 1 Month Ar	4/1/2010	313,275,462.85	6.14	0.02	-0.42	1.58	0.57	4.98	5.08	5.42	5.47	2.13	1.99	4.13	3.59					4.15	3.15
REAL ESTATE	NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	5/1/2009	173,093,827.85	3.40	2.69	1.85	2.73	1.85	8.68	5.04	11.08	6.66	10.09	9.42	9.30	10.52					9.22	5.92
PRIVATE EQUITY	Russell 3000 + 3% (Qtr Lag)	7/1/2002	513,181,132.79	10.07	4.29	4.29	4.41	4.41	13.14	13.14	19.75	19.75	14.13	14.13	15.23	15.23	10.62	12.63			10.11	10.89
CASH ACCOUNT	Citigroup Treasury Bill-3 Month	7/1/1992	125,591,912.99	2.46	0.14	0.13	0.37	0.35	1.12	0.89	1.35	1.07	0.70	0.49	0.51	0.31	0.51	0.31	2.10	1.92	2.65	2.51

KENTUCKY RETIREMENT SYSTEMS - INSURANCE FUND - PLAN NET RETURNS - 03/31/18

Plan	Benchmark	Inception	Market Value	% of Total	Month		3 Months		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		828,402,057.14	100.00	-0.43	-0.42	0.12	0.02	7.24	7.68	10.64	11.05	6.86	7.02	6.91	7.70	5.12	5.71	5.21	5.51	7.43	7.83
KERS-H INS	KY Ins. KERS Haz Plan Index		511,536,120.81	100.00	-0.16	-0.42	0.43	0.02	7.91	7.69	11.42	11.17	7.20	7.06	7.32	7.74	5.32	5.73	5.31	5.52	7.50	7.83
CERS INS	KY Ins. CERS Plan Index		2,313,164,730.37	100.00	-0.05	-0.42	0.54	0.02	8.14	7.69	11.69	11.24	7.34	7.10	7.40	7.77	5.36	5.74	5.33	5.53	7.51	7.84
CERS-H INS	KY Ins. CERS Haz Plan Index		1,256,679,756.99	100.00	-0.03	-0.42	0.58	0.02	8.21	7.69	11.79	11.24	7.43	7.10	7.45	7.77	5.38	5.74	5.34	5.53	7.52	7.84
SPRS INS	KY Ins. SPRS Plan Index		188,450,900.88	100.00	-0.03	-0.42	0.60	0.02	8.25	7.69	11.85	11.24	7.41	7.11	7.43	7.78	5.37	5.75	5.34	5.53	7.51	7.84



Note: The above chart displays the average monthly allocation.