

March  
2016

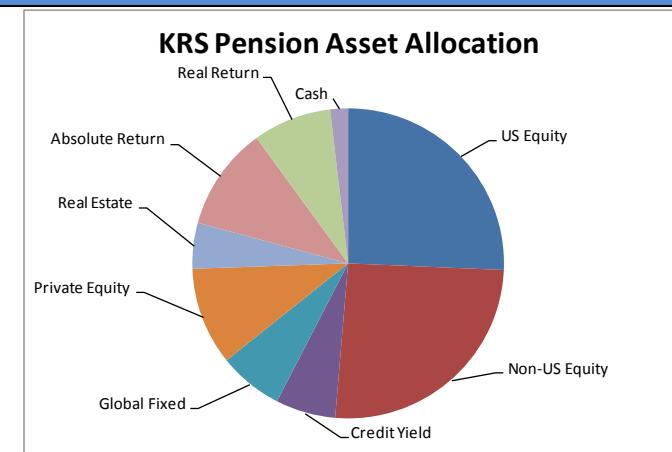
## KRS MONTHLY PERFORMANCE UPDATE

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

After a painful start to 2016, global markets bounced back in March. Equities performed well both internationally and domestically, with emerging markets leading the pack and posting a 13.26% gain for the month (MSCI Emerging Markets Index). The large gain in EM stocks caused international markets to slightly out-pace most domestic indices, with the MSCI ACWI Ex US earning 8.21%. This recovery was due to the returning of investor confidence after the U.S. dollar began to pull back from its gains, and oil prices began to increase.

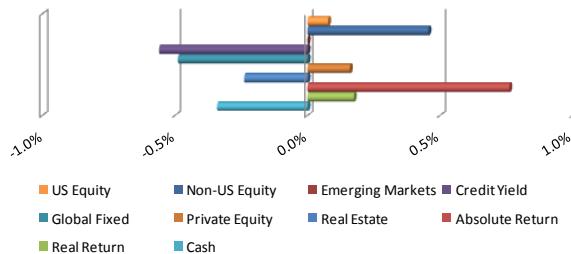
Domestic equities were no exception to the March recovery, as shown by the S&P 500 Index returning 6.78% for the month. Small caps outperformed large caps, returning 7.98% (Russell 2000 Index).

Stock market gains did not hinder the performance of Fixed Income. The Barclay U.S. Aggregate Bond Index was up 0.92% for March, while the Barclay U.S. Corporate High Yield Index earned 4.44%. These gains were mainly due to improvements in credit spreads, as buyers became more confident and interest rates remained relatively unchanged.



	March	1-Yr	3-Yr	5-Yr	10-Yr
Total Fund	4.36	-1.00	4.86	5.38	4.82
Benchmark	4.67	-1.08	5.53	5.71	5.21

### KRS Pension Relative Weights



### What added value this month?

**PENSION** – From a manager selection standpoint, the pension portfolio was able to add relative value in the U.S. Equity and Real Return portfolios. The largest manager contribution to the portfolio came from Real Return, which was able to outperform its benchmark by 153 basis points. The U.S. Equity portfolio outperformed the benchmark by 25 basis points, adding significant manager contribution as well.

From an allocation standpoint, the pension portfolio benefited from an overweight to U.S. Equity and Non U.S. Equity due to their relatively strong performance versus the performance of the overall pension portfolio. The portfolio also benefited from an underweight to Fixed Income and Real Estate evidenced by their relatively weaker performance compared to the total portfolio. In total, the pension portfolio returned 4.36% in March versus the benchmark return of 4.67%.

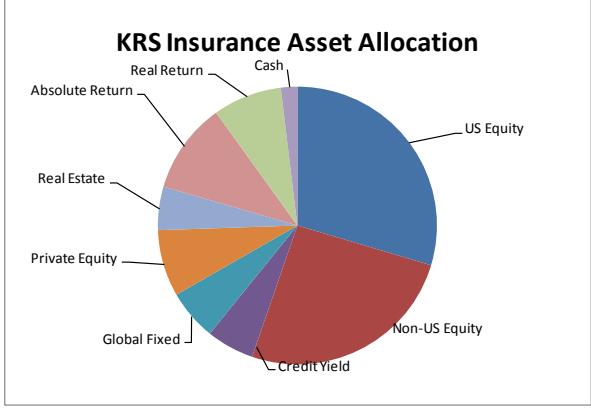
**INSURANCE** – Like the pension portfolio, the insurance portfolio had positive contribution from manager selection in U.S. Equity and Real Return. The Real Return portfolio outperformed the benchmark by 129 basis points, which had the greatest contribution to the total portfolio. The U.S. Equity portfolio also added quite a bit of value for the month, outperforming its benchmark by 26 basis points.

From an allocation standpoint, the insurance portfolio benefited from an overweight to U.S. equity due to the relatively strong performance of the overall domestic equity market. The Insurance portfolio also benefited from an underweight to Fixed Income due to Fixed Income markets underperforming the overall portfolio in March. In total, the insurance portfolio returned 4.70% for the month compared to the benchmark's 5.00% return.

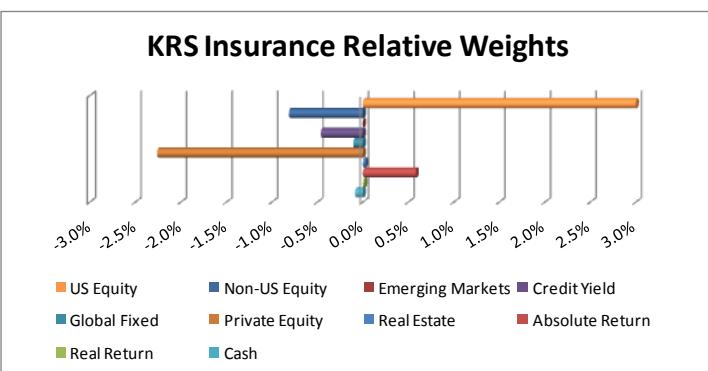
## What detracted this month?

**PENSION** – The largest detractors from a manager selection standpoint came from the Fixed Income, Non U.S. Equity, and Absolute Return portfolios. Fixed Income was the largest detractor, underperforming the benchmark by 147 basis points. The Non U.S. Equity and Absolute Return portfolios underperformed their benchmarks by 55 and 43 basis points, respectively.

From an allocation perspective the pension portfolio suffered from an overweight to the Absolute Return and Real Return portfolios as indicated by these asset classes relatively weak benchmark returns. All other asset classes contributed positively from an allocation perspective in March.



	March	1-Yr	3-Yr	5-Yr	10-Yr
Total Fund	4.70	-0.88	4.56	4.55	4.03
Benchmark	5.00	-0.58	5.87	5.76	4.66



**INSURANCE** – From a manager selection standpoint detractors from performance came from the Fixed Income, Non U.S. Equity, Real Estate, and Absolute Return portfolios. Fixed Income was the largest detractor, underperforming its benchmark by 151 basis points in March. Non U.S. Equity, Real Estate, and Absolute Return underperformed by 59, 31, and 44 basis points, respectively.

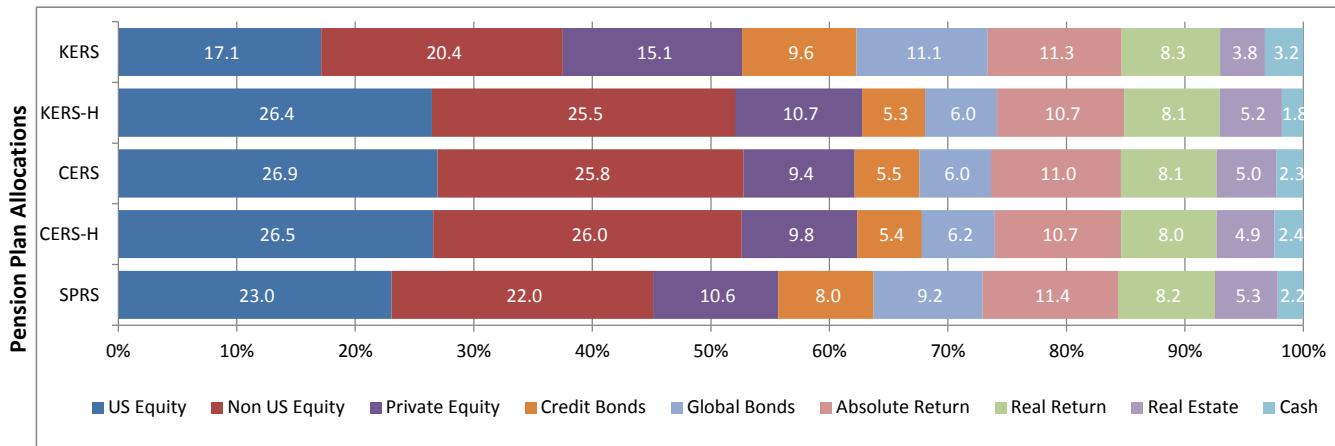
From an allocation standpoint, the insurance portfolio suffered from an overweight to Non U.S. Equity as indicated by the strong performance of international equities when compared to the overall insurance portfolio performance. The insurance portfolio also suffered from an overweight to Absolute Return due to the relatively weak performance of the overall Hedge Fund market in March.

## 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)**
- 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) Pension Benchmark Composite 01/01/14 to 12/31/15  
 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 Univeral 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%)
- Pension Benchmark Composite 01/01/16 to Present  
 US Equity: Russell 3000 (25.6%)  
 Non US Equity: MSCI AXCI Ex-US IMI (25.2%)  
 Global Fixed Income: Barclays Univeral 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%)
- Insurance Benchmark Composite 01/01/14 to 12/31/15  
 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 Univeral 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%)
- Insurance Benchmark Composite 01/01/16 to Present  
 US Equity: Russell 3000 (26.5%)  
 Non US Equity: MSCI AXCI Ex-US IMI (26.5%)  
 Global Fixed Income: Barclays Univeral 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%)

KRS - PENSION									
	Market Value	Month	FYTD	1 YR	3 YR	5 YR	10 YR	ITD	
<b>KERS</b>	<b>\$ 1,979,929,473.75</b>	<b>3.38</b>	<b>-2.48</b>	<b>-1.44</b>	<b>4.40</b>	<b>5.10</b>	<b>4.68</b>	<b>9.01</b>	
KY Ret. KERS Plan Index		3.96	-1.02	-0.14	5.69	5.81	5.26	9.21	
<b>KERS- H</b>	<b>\$ 524,487,363.19</b>	<b>4.51</b>	<b>-1.65</b>	<b>-0.84</b>	<b>4.78</b>	<b>5.33</b>	<b>4.80</b>	<b>9.05</b>	
KY Ret. KERS Haz Plan Index		4.77	-2.12	-1.35	5.30	5.57	5.14	9.18	
<b>CERS</b>	<b>\$ 6,084,129,064.49</b>	<b>4.54</b>	<b>-2.14</b>	<b>-1.39</b>	<b>4.50</b>	<b>5.15</b>	<b>4.71</b>	<b>9.02</b>	
KY Ret. CERS Plan Index		4.84	-2.22	-1.51	5.25	5.54	5.12	9.17	
<b>CERS- H</b>	<b>\$ 1,986,708,583.75</b>	<b>4.61</b>	<b>-1.73</b>	<b>-0.97</b>	<b>4.80</b>	<b>5.34</b>	<b>4.80</b>	<b>9.05</b>	
KY Ret. CERS Haz Plan Index		4.82	-2.20	-1.47	5.26	5.55	5.13	9.17	
<b>SPRS</b>	<b>\$ 211,663,007.44</b>	<b>3.98</b>	<b>-2.90</b>	<b>-2.10</b>	<b>4.37</b>	<b>5.08</b>	<b>4.67</b>	<b>9.01</b>	
KY Ret. SPRS Plan Index		4.41	-1.99	-1.21	5.32	5.58	5.15	9.18	



KRS - INSURANCE									
	Market Value	Month	FYTD	1 YR	3 YR	5 YR	10 YR	ITD	
<b>KERS INS</b>	<b>\$ 645,783,687.86</b>	<b>4.78</b>	<b>-1.90</b>	<b>-1.42</b>	<b>4.11</b>	<b>4.28</b>	<b>3.89</b>	<b>7.17</b>	
KY Ins. KERS Plan Index		5.23	-2.23	-1.70	5.24	5.38	4.47	7.58	
<b>KERS - H INS</b>	<b>\$ 429,842,643.65</b>	<b>4.72</b>	<b>-1.67</b>	<b>-1.07</b>	<b>4.57</b>	<b>4.55</b>	<b>4.03</b>	<b>7.22</b>	
KY Ins. KERS Haz Plan Index		5.13	-1.98	-1.35	5.39	5.47	4.51	7.60	
<b>CERS INS</b>	<b>\$ 1,873,409,302.53</b>	<b>4.66</b>	<b>-1.48</b>	<b>-0.83</b>	<b>4.64</b>	<b>4.60</b>	<b>4.05</b>	<b>7.23</b>	
KY Ins. CERS Plan Index		5.06	-1.80	-1.09	5.50	5.53	4.55	7.61	
<b>CERS - H INS</b>	<b>\$ 1,036,258,895.39</b>	<b>4.68</b>	<b>-1.34</b>	<b>-0.67</b>	<b>4.69</b>	<b>4.62</b>	<b>4.07</b>	<b>7.23</b>	
KY Ins. CERS Haz Plan Index		5.05	-1.79	-1.08	5.51	5.54	4.55	7.61	
<b>SPRS INS</b>	<b>\$ 158,869,490.21</b>	<b>4.61</b>	<b>-1.40</b>	<b>-0.73</b>	<b>4.66</b>	<b>4.60</b>	<b>4.06</b>	<b>7.23</b>	
KY Ins. SPRS Plan Index		5.05	-1.76	-1.01	5.54	5.56	4.56	7.61	

