

relative performance, most notably in the KERS and KERS-H plans. All three plans were helped by their overweight cash positions during a volatile market period. Partially offsetting positive relative outperformance, was the underweight to both the Real Return and Real Estate allocations.

For the fiscal year-to-date, the KPPA Pension Trust portfolio gained 2.05%, outperforming the benchmark return of 0.36% while the KRS Pension Composite returned 1.43%. The KERS and SPRS Pension portfolios returned 1.19% and 1.73%, against a benchmark return of 0.47%. The KERS-H Pension portfolio gained 2.15% while its benchmark returned 0.43%. All three funds outperformed due to similar attribution drivers. Relative outperformance was driven by solid performance in the Private Equity, Core Fixed Income, and Public Equities portfolios, most notably within the international strategies. The portfolios benefitted from their overweights to cash during a volatile period. The underweights to Real Estate and Real Return partially offset relative outperformance for all three plans.

**Global equity markets** were weaker during the month of December, as evidenced by the MSCI ACWI Index returning -3.94%. Domestic markets were significantly weaker than their Non-US market counterparts (R3000: -5.86% versus MSCI ACWI Ex-US: -0.62%). This brought the fiscal year return for global equity markets to 2.28%.

**US equity markets** fell -5.86% during the month (Russell 3000), while the KPPA portfolio fared slightly better, returning -5.43%. All market segments were significantly weaker; with value holding up better than growth (R3000V: -7.58% versus R3000G: -4.18%). Despite the negative absolute return, individual strategies provided positive relative performance.

For the first two quarters of the fiscal year, the KPPA US Equity portfolio gained 2.96% compared with its benchmark return of 2.40%. During the period, mid-caps significantly outperformed both their small and large cap counterparts (MC: 8.05% versus R2000: 3.91% versus SP500: 2.31%). Value significantly outperformed growth (5.95% versus -1.13%) during the period. The KPPA portfolio's relative outperformance has been driven by its slight overweight down market cap and tilt value.

**NonUS equity markets** returned -0.62% (MSCI ACWI Ex-US) during the month. Developed markets returned -0.45% (MSCI World Ex-US) during the period while emerging markets fell -1.45% (MSCI EM). The KPPA portfolio lost -0.70% during the month, trailing the index by 8bps. Relative underperformance was driven by stock selection, as most individual mandates struggled.

Fiscal year-to-date, Non-US markets rose 3.09%. Developed markets significantly outperformed their emerging market counterparts (5.66% versus -2.99%). The KPPA portfolio returned 4.65%, thanks to strong relative performance amongst the individual strategies, in particular the relative value and emerging market mandates.

**The specialty credit portfolio** outperformed its benchmark during the month, returning 0.53% versus -0.10%. The High Yield market declined (-0.62%) as spreads reversed in a continuation of the risk-off sentiment and rates rose. The leveraged loan segment of the market held up better as the Morningstar LSTA Leveraged Loan Index gained 0.42% during the month as quality outperformed better combined with less sensitive rate profile. During the first half of the fiscal year, the portfolio underperformed its benchmark, gaining 2.30% versus 3.85%. Individual strategy relative performance has been mixed fiscal year to date, especially with private market pricing playing catch-up, but continues to produce strong relative performance over longer periods.

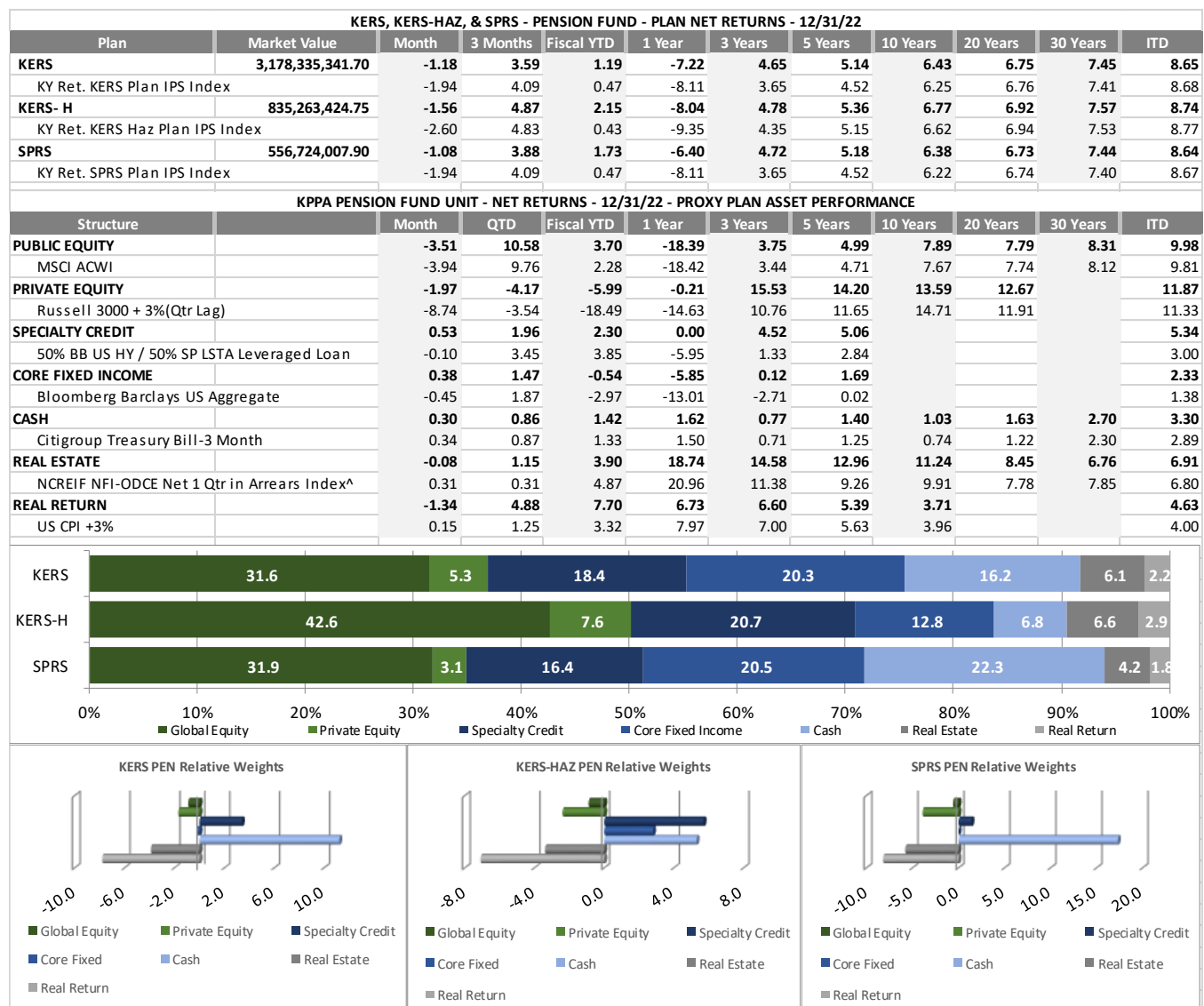
**The core fixed income portfolio** gained 38bps compared to the Bloomberg Aggregate Index return of -0.45%. Relative outperformance was attributable to positioning within the allocation; the portfolios remain underweight overall duration given rising rates and elevated volatility. Both shorter-term and intermediate credit market segments held up better. For the fiscal year, the portfolio returned -0.54% compared to the benchmark return of -2.97%.

**The private equity allocation** fell -1.97% during the month, bringing the fiscal year return to -5.99%. Trailing public marks have significantly affected the overall performance of the portfolio, the 1-year return crossed into negative territory, now at -0.21% as of 12/31/22.

**The real return portfolio** fell -1.34% during the month, compared to its benchmark return of 0.15%. As with several of the previous month, performance was driven by the MLP portion of the portfolio (approximately 40% of the allocation); the investment was down -4.81%. For the fiscal year, the portfolio has returned 7.70%, bringing the 1-year return to 6.73%.

**Real estate** remained relatively flat during the month, falling 8bps. The latest quarter performance of 1.15% brought the 1-year return to 18.74% versus 20.96%. The portfolio has benefitted from recent strength in industrial, multi-family, student housing, and storage properties.

**The cash portfolio** returned 0.30% during the month compared with the 3-month T-bill's 0.34%. This brought the fiscal year return to 1.42% (versus 1.33%).

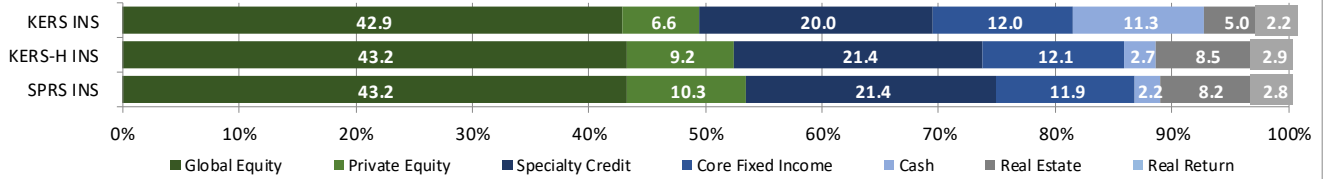


**KERS INS, KERS-HAZ INS, SPRS INS - INSURANCE FUND - PLAN NET RETURNS - 12/31/22**

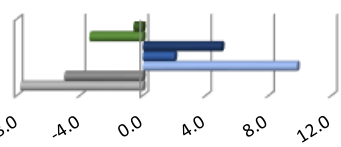
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
<b>KERS INS</b>	<b>1,332,672,899.88</b>	<b>-1.55</b>	<b>4.92</b>	<b>2.50</b>	<b>-7.57</b>	<b>4.90</b>	<b>5.16</b>	<b>6.43</b>	<b>6.64</b>	<b>6.66</b>	<b>7.16</b>
KY Ins. KERS Plan IPS Index		-2.60	4.83	0.43	-9.31	4.26	5.05	6.60	7.07	7.00	7.45
<b>KERS - H INS</b>	<b>583,326,425.34</b>	<b>-1.59</b>	<b>4.85</b>	<b>2.18</b>	<b>-7.09</b>	<b>5.03</b>	<b>5.50</b>	<b>6.78</b>	<b>6.81</b>	<b>6.78</b>	<b>7.26</b>
KY Ins. KERS Haz Plan IPS Index		-2.60	4.83	0.43	-9.31	4.09	4.99	6.59	7.06	7.00	7.45
<b>SPRS INS</b>	<b>231,494,396.52</b>	<b>-1.58</b>	<b>4.90</b>	<b>2.16</b>	<b>-7.19</b>	<b>5.27</b>	<b>5.75</b>	<b>6.94</b>	<b>6.89</b>	<b>6.83</b>	<b>7.30</b>
KY Ins. SPRS Plan IPS Index		-2.60	4.83	0.43	-9.31	4.09	4.99	6.60	7.07	7.00	7.45

**KPPA INSURANCE FUND UNIT - NET RETURNS - 12/31/22 - PROXY PLAN ASSET PERFORMANCE**

Structure	Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
<b>PUBLIC EQUITY</b>	<b>-3.50</b>	<b>10.57</b>	<b>3.67</b>	<b>-18.28</b>	<b>3.77</b>	<b>4.96</b>	<b>7.95</b>	<b>7.70</b>		<b>8.27</b>
MSCI ACWI	-3.94	9.76	2.28	-18.42	3.41	4.67	7.63	7.40		8.05
<b>PRIVATE EQUITY</b>	<b>-1.92</b>	<b>-2.45</b>	<b>-2.55</b>	<b>6.51</b>	<b>15.25</b>	<b>14.22</b>	<b>14.73</b>	<b>12.06</b>		<b>11.00</b>
Russell 3000 + 3%(Qtr Lag)	-8.74	-3.54	-18.49	-14.63	10.76	11.65	14.71	11.61		10.88
<b>SPECIALTY CREDIT</b>	<b>0.59</b>	<b>2.21</b>	<b>2.45</b>	<b>0.49</b>	<b>4.52</b>	<b>4.97</b>				<b>5.19</b>
50% BB US HY / 50% SP LSTA Leveraged Loan	-0.10	3.45	3.85	-5.95	1.33	2.84				3.00
<b>CORE FIXED INCOME</b>	<b>0.36</b>	<b>1.50</b>	<b>-0.62</b>	<b>-6.20</b>	<b>-0.13</b>	<b>1.52</b>				<b>2.03</b>
Bloomberg Barclays US Aggregate	-0.45	1.87	-2.97	-13.01	-2.71	0.02				1.38
<b>CASH</b>	<b>0.29</b>	<b>0.84</b>	<b>1.39</b>	<b>1.60</b>	<b>0.72</b>	<b>1.26</b>	<b>0.85</b>	<b>1.47</b>		<b>2.43</b>
Citigroup Treasury Bill-3 Month	0.34	0.87	1.33	1.50	0.71	1.25	0.74	1.22		2.31
<b>REAL ESTATE</b>	<b>-0.10</b>	<b>1.18</b>	<b>3.82</b>	<b>18.44</b>	<b>14.44</b>	<b>12.93</b>	<b>11.10</b>			<b>10.52</b>
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index <sup>A</sup>	0.31	0.31	4.87	20.96	11.38	9.26	9.91			7.10
<b>REAL RETURN</b>	<b>-0.94</b>	<b>4.12</b>	<b>6.41</b>	<b>5.01</b>	<b>6.40</b>	<b>5.31</b>	<b>3.51</b>			<b>4.41</b>
US CPI +3%	0.15	1.25	3.32	6.69	6.96	5.64	4.02			4.05

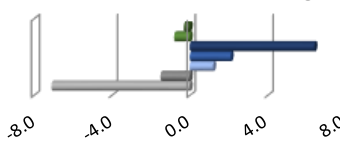


**KERS Insurance Relative Weights**



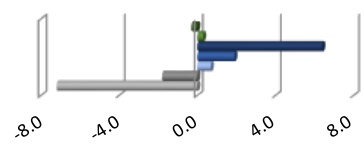
■ Global Equity ■ Private Equity ■ Specialty Credit  
 ■ Core Fixed ■ Cash ■ Real Estate  
 ■ Real Return

**KERS-HAZ Insurance Relative Weights**



■ Global Equity ■ Private Equity ■ Specialty Credit  
 ■ Core Fixed ■ Cash ■ Real Estate  
 ■ Real Return

**SPRS Insurance Relative Weights**



■ Global Equity ■ Private Equity ■ Specialty Credit  
 ■ Core Fixed ■ Cash ■ Real Estate  
 ■ Real Return