## What's going on in the marketplace?

The month of April was marked by sharply lower global equity markets fueled by concerns surrounding high inflation, tightening monetary policy and rising interest rates, and their potential to slow down the global economy. Supply chains continued to be challenged by the ongoing conflict in Ukraine and lockdowns in China in response to its zero-covid policy. Not only did rising rates hamper equity markets, but higher rates continued to create a tough environment for bond investors who experience negative returns as well.

The KPPA pension investment portfolio fell -3.6% during the month of April, providing 112bps of downside protection versus its benchmark (-4.7%). More specifically, the KERS and SPRS portfolios held up better, falling -2.8% and -3.0%, respectively. The plans outperformed their benchmarks, providing significant downside protection in excess of 0.9%. Due to its higher allocation to global equities, which were significantly weaker during the period, the KERS-H portfolio lost -3.7%; however, it did outperform its benchmark by nearly 0.8%. All three plans outperformed their respective benchmark, driven by portfolio positioning relative to IPS target asset allocations. The plans were underweight global equities which underperformed during the period and were overweight specialty credit, core fixed income, and cash, asset classes that held up relatively well during a volatile period.

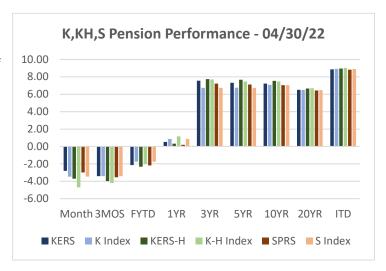
**US equity markets** fell -9.0% during the month (R3000), and the KPPA portfolio lost -8.7%, providing 26bps of downside protection. Midcaps outperformed large caps, while small caps brought up the rear (MC: -7.1%, LC: -8.7%, SC: -9.9%); value provided significant downside protection versus growth (R3000V: -5.8% vs R3000G: -12.1%). The KPPA portfolio's relative outperformance was driven by a combination of both stock selection and allocation. Almost all of the individual strategies outpaced their respective indices, and the slight value and midcap tilts were beneficial as these areas held up better.

**NonUS** equity markets held up better than their domestic counterparts, falling -6.3% during the month (MSCI ACWI Ex-US). Emerging markets fell -5.6%, while developed countries lost -6.5% (MSCI World Ex-US). The KPPA portfolio trailed its index by -47bps due to significant weakness across the growth portion of the portfolio. This underperformance was partially offset by outperformance of the value oriented mandates and the net performance of the KPPA emerging market exposure.

The specialty credit portfolio outperformed, declining -39bps compared to its index return of -1.7%. The leveraged loan allocation held up well as evidenced by the S&P LSTA Leveraged Loan Index return of 0.2%; however, high yield investments struggled in the face of rising rates and widening spreads (Bloomberg US Corporate High Yield, -3.6%).

The core fixed income portfolio, produced negative absolute performance during the month; however, it performed well in relative terms, providing 260bps of downside protection versus the Bloomberg Aggregate Index (-1.2%vs-3.8%). The portfolio benefitted from its shorter duration profile and tactical allocation to front end investment grade credit, which outperformed during the market volatility.

The private equity allocation returned 20bps during the month, bringing the fiscal year return to 20.9%. It should be noted that the asset class is reported on a



quarter lag, so much of this volatile year is not yet reflected in these performance figures.

The real return portfolio lost -44bps during the month, bringing the fiscal year return to 3.7%. Most of the individual mandates held up fairly well during the month; however, investments in the MLP space were challenged, falling -1.5% during the period, despite the Alerian MLP Index remaining fairly stable (-9bps).

**Real estate** has performed well for several quarters, and has been one of the best performing asset classes for the portfolio. The allocation returned 1.4% during the month, bringing the fiscal year performance to 21.8%, and has been driven by continued strength in industrial and multi-family properties.

The cash portfolio performed in line with the 3-month T-bill for the month (0.03%). The overweight to cash helped bolster the total investment portfolio.

	KERS,	KERS-HAZ,	& SPRS - P	ENSION FUN	D - PLAN NE	T RETURNS	- 04/30/22					
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD	
KERS	3,078,870,986.48	-2.80	-3.40	-2.14	0.52	7.55	7.31	7.22	6.51	7.80	8.8	
KY Ret. KERS Plan Index		-3.85	-3.81	-2.16	0.47	6.59	6.65	7.04	6.47	7.72	8.90	
KERS- H	847,382,094.24	-3.71	-3.98	-2.32	0.32	7.74	7.66	7.53	6.66	7.90	8.95	
KY Ret. KERS Haz Plan Inc	-4.50	-4.00	-1.81	1.38	7.79	7.52	7.50	6.70	7.87	9.02		
SPRS	341,661,045.05	-2.98	-3.54	-2.17	0.19	7.23	7.12	7.05	6.43	7.74	8.82	
KY Ret. SPRS Plan Index	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	-3.85	-3.81	-2.16	0.47	6.59	6.64	7.01	6.46	7.71	8.89	
	KPPA PENSIOI	N FUND UN	IT - NFT RF	TURNS - 04/3	10/22 - PRO	KY PI AN ASS	FT PERFORM	<b>MANCF</b>				
Structure		Month		Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD	
PUBLIC EQUITY		-7.89	-7.89	-10.35	-8.26	8.86	9.05	9.03	7.00	8.83	10.3	
Global Equity Blended	Index	-8.00	-8.00	-9.45	-7.04	8.77	9.01	8.95	7.01	8.63	10.18	
PRIVATE EQUITY		0.20	0.20	20.91	36.07	21.14	18.12	15.11			12.50	
Russell 3000 + 3%(Qtr I	ag)	0.20	0.20		36.07	21.14	18.12	18.34			12.83	
HIGH YIELD / SPECIALTY CRED	O,	-0.39	-0.39		4.80	5.81	10.12	10.54			5.91	
High Yield Custom Ben	-1.67	-1.67		-1.18	3.31					3.84		
CORE FIXED INCOME	ICIIIIaik	-1.07 - <b>1.19</b>	-1.19	-4.60	-4.19	2.07	2.37				2.68	
	A a a a a a a a a	-3.79	-3.79		-8.51	0.38	1.20			-	1.94	
Bloomberg Barclays US	Aggregate							0.00	1.02	2 72		
CASH	244 11	0.03	0.03		0.11	0.85	1.30	0.89	1.62	2.72	3.32	
Citigroup Treasury Bill	-3 Month	0.03	0.03	0.08	0.08	0.71	1.09	0.61	1.20	2.33	2.90	
REAL ESTATE		1.43	1.43		25.46	14.12	12.71	10.98	7.74	6.47	6.79	
NCREIF NFI-ODCE Net 1	Qtr in Arrears Index^	0.00	0.00		21.02	8.23	7.74	9.43	7.30	7.26	6.59	
REAL RETURN		-0.44	-0.44	3.71	7.27	5.94	4.64	3.55			4.32	
Pension Real Return C	ustom Benchmark	-0.44	-0.44	3.71	7.27	5.94	4.64	3.64			3.73	
KERS	30.4	6.5		18.4		21.3			15.0	5.3	3.1	
KERS-H	42.6	8.2		8.2	19.7		12.9		7.4	4 5.6	3.6	
SPRS	32.3		.8	19.5		22.1		10.7		5.9	3.7	
3F1\3	32.3		.0	15.5			22.1		10.7	5.9	3.7	
0% 10% ■ Global	20% Equity ■Private Equi	30% ty •	40% Specialty Cr	50 edit	%   Core Fixed In	60% come	70% Cash	80 ■ Real Es		90% Real Return	100%	
KERS PEN Relative Weights			KERS-HAZ PEN Relative Weights					SPRS PEN Relative Weights				
80 80 40 50 00 50 40 60 80 00			80 60 40 50 00 50 40 60					80 60 40 50 00 50 40 60				
■ Global Equity ■ Private	Equity Specialty Cred	it Glob	al Equity	■ Private Eq	uity S	pecialty Credit	■ Global	Equity I	Private Equit	ty Speci	alty Credit	
■ Core Fixed ■ Cash	■ Real Estate	■ Core	■ Core Fixed ■ Cash ■ Real Estate				■ Core Fixed ■ Cash ■ Real Estate					
■ Real Return	■ Real	Return				■ Real Re	eturn					

		KERS INS, KER	S-HAZ IN	S, SPRS INS	- INSURANCE	FUND - PLA	AN NET RETU	IRNS - 04/30	/22				
Plan	M	larket Value I	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD	
KERS INS	1,3	330,811,072.52	-3.70	-4.06	-2.82	-0.41	7.47	7.20	7.08	6.04	6.94	7.33	
KY Ins. KERS Plan Index			-3.85	-3.31	-0.76	2.11	7.85	7.53	7.53	6.48	7.40	7.71	
KERS - H INS	6	602,637,549.37	-3.48	-3.52	-1.21	1.46	7.81	7.71	7.45	6.23	7.07	7.44	
KY Ins. KERS Haz Plan In	dex		-4.50	-3.96	-1.43	1.42	7.44	7.34	7.45	6.44	7.37	7.69	
SPRS INS	2	238,197,597.31	-3.52	-3.58	-1.11	1.60	8.12	8.02	7.62	6.31	7.13	7.49	
KY Ins. SPRS Plan Index			-3.85	-3.31	-0.76	2.11	7.68	7.50	7.54	6.49	7.40	7.71	
		KPPA INSURANCE	FUND U	NIT - NET RE	TURNS - 04/	30/22 - PRO	XY PLAN ASS	ET PERFORI	MANCE				
Structure			Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD	
PUBLIC EQUITY			-7.91	-7.91	-10.29	-8.20	8.86	9.01	9.07	7.01		8.65	
Global Equity Blend	ed Index		-8.00	-8.00	-9.49	-7.08	8.73	8.97	8.90	6.67		8.47	
PRIVATE EQUITY			0.23	0.23	26.69	38.94	18.26	16.91	15.57			11.38	
Russell 3000 + 3%(Q	tr Lag)		0.23	0.23	26.69	38.94	18.26	16.91	18.34			12.34	
HIGH YIELD / SPECIALTY CREDIT			-0.30	-0.30	2.76	4.87	5.68					5.69	
Bloomberg Barclays	US High Yi	eld	-1.67	-1.67	-2.45	-1.18	3.31					3.84	
CORE FIXED INCOME			-1.41	-1.41	-4.79	-4.37	1.84	2.25				2.37	
Bloomberg Barclays	US Aggrega	ate	-3.79	-3.79	-9.45	-8.51	0.38	1.20				1.94	
CASH			0.03	0.03	0.08	0.09	0.67	1.13	0.74	1.44		2.43	
Citigroup Treasury B	ill-3 Month	ı	0.03	0.03	0.08	0.08	0.71	1.09	0.61	1.20		2.32	
REAL ESTATE			1.69	1.69	21.55	25.34	14.15	12.76	10.82			10.36	
NCREIF NFI-ODCE Ne	t 1 Qtr in A	rrears Index^	0.00	0.00	18.78	21.02	8.23	7.74	9.43			6.52	
REAL RETURN			-0.37	-0.37	2.79	5.64	6.01	4.63	3.40			4.14	
Pension Real Return Custom Benchmark			-0.37	-0.37	2.79	5.64	6.01	4.63	3.70			3.79	
KERS INS			6.0		19.0		12.3	12.	4.3	2.9			
KERS-H INS		41.5			9.5		19.7		11.9	6.8	7.1	3.6	
SPRS INS		41.2			10.8		19.9		11.8	6.0	6.8	3.4	
0%	100/	200/	200/	40	0/	F 00/	C00/	700/	0.	00/	000/		
	10%	20%	30%	40		50%	60%	70%		0%	90%	100%	
■ GN	obal Equity	■ Private Equ	uity	■ Specialty	Credit	Core Fixed	Income	■ Cash	■ Real Es	state	Real Return		
KERS Insurance Relative Weights				KERS-HAZ Insurance Relative Weights					SPRS Insurance Relative Weights				
80 80 40 20 00 20 40 60 80,00,20				80 60 40 50 00 50 40 60					80 60 40 50 00 50 40 60				
■ Global Equity ■ Privat	e Equity	■ Specialty Credit	■ Glob	al Equity	■ Private Eq	uity <b>S</b> p	ecialty Credi	definition of the Global Equity ■ Private Equity ■ Specialty Cred					
■ Core Fixed ■ Cash		■ Real Estate	■ Core	Fixed	■ Cash	■ Re	eal Estate	■ Core Fixed ■ Cash ■ Real Estate					
Real Return				■ Real Return				■ Real Return					