

What’s going on in the marketplace?

Equity markets were broadly weaker as concerns of persistently high inflation took hold; inflation across the developed world now sits near or at four-decade highs. This has spurred fears of more aggressive central bank policy with higher interest rates for longer stoking growing concerns of recession. Bond markets fell in response to rising interest rates.

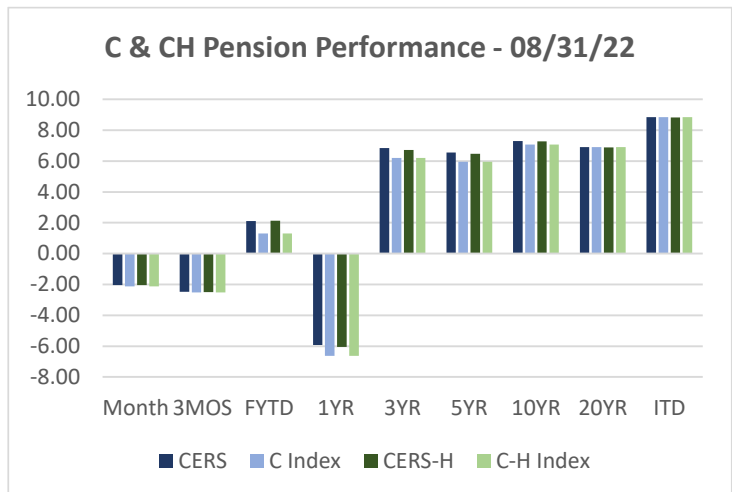
The KPPA pension investment portfolio fell -1.91% during the month of August, providing 13bps of downside protection versus its benchmark. The CERS Pension Composite produced a -2.05% return during the month. The CERS and CERS-H portfolios both returned -2.05%, while their benchmark returned -2.12%. The funds outperformed their respective benchmarks with similar drivers of attribution. Relative outperformance was a product of solid performance in the Fixed Income portfolio, specifically within the core fixed income segment. The portfolios also benefitted from an underweight to public equities during a volatile period.

Global equity markets were weaker during the month of August, as evidenced by the MSCI ACWI Index returning -3.68%. International markets held up better than their US market counterpart (MSCI ACWI Ex-US: -3.13% versus R3000: -3.73%).

US equity markets fell -3.73% during the month (Russell 3000), the KPPA portfolio fared slightly better, returning -3.63%. All market segments struggled; however, small caps fared much better, returning -2.05%, followed by midcaps (-3.10%) and large caps (-4.08%). From a style perspective, value outperformed growth, providing 145bps of downside protection (R300V: -2.99% vs R3000G: -4.44%). The KPPA portfolio’s relative outperformance was driven by a combination of allocation and stock selection. The portfolio benefitted from its slight value tilt and overweight to small caps. Stock selection was fairly mixed; however, relative performance skewed positive.

NonUS equity markets returned -3.13% (MSCI ACWI Ex-US) during the month. Developed markets returned -4.67% (MSCI World Ex-US) during the period while emerging markets actually gained 42bps (MSCI EM). Small caps performed better than their larger cap counterparts, falling -2.62%. The KPPA portfolio lost -4.30% during the month, underperforming its benchmark by 117bps. Stock selection was weak across the board, particularly within those mandates that are tilted towards growth. The only real bright spot came from the emerging market value mandate which not only remained positive in absolute terms, but added 49bps over its benchmark.

The specialty credit portfolio underperformed its benchmark during the month, returning -0.58% versus -0.38%. The High Yield market declined as spreads widened and rates rose in response to a



snap-back to a risk-off sentiment. The leveraged loan segment of the market held up better as the Morningstar LSTA Leveraged Loan Index rose 1.54% during the month, its second consecutive month of positive performance as the short-term reference rates rose.

The core fixed income portfolio returned -1.03% compared to the Bloomberg Aggregate Index return of -2.83%. Core bonds suffered as rate volatility increased in response to a strong July employment report and FED speakers preparing markets for a restrictive policy stance for some time and downplaying the probability of a dovish pivot. Relative outperformance was attributable to positioning within the allocation; the portfolios remain underweight overall duration given the outlook for rising rates and elevated volatility.

The private equity allocation was relatively flat during the month, falling just 10bps. The 1-year return is just shy of 21%.

The real return portfolio gained 1.62% during the month, compared to its benchmark return of 0.24%. Performance was driven almost entirely by the MLP portion of the portfolio, which gained 4.01%, bringing the MLP FYTD return to 17.08%.

Real estate remained relatively flat during the month, falling 12bps; the 1-year return remains in excess of 27%. The portfolio has benefitted from recent strength in industrial, multi-family, and storage properties.

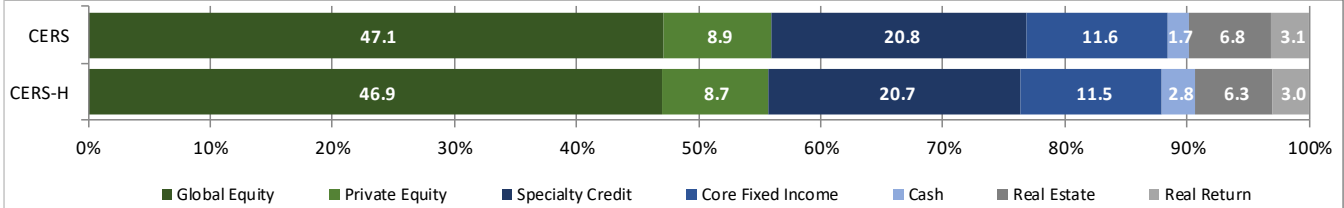
The cash portfolio outperformed its benchmark, the 3-month T-bill for the month returning 0.20% versus 0.15% for the benchmark.

CERS & CERS-HAZ - PENSION FUND PLAN NET RETURNS - 08/31/22

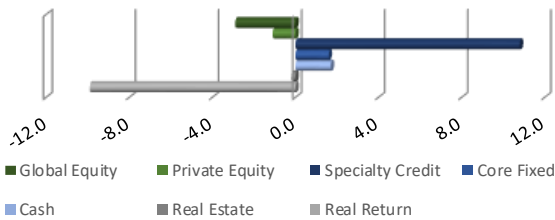
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS	8,100,047,223.40	-2.05	-2.47	2.12	-5.92	6.85	6.55	7.30	6.91	7.79	8.84
KY Ret. CKERS Plan Index		-2.12	-2.52	1.31	-6.62	6.20	5.96	7.08	6.91	7.67	8.84
CERS- H	2,767,149,874.06	-2.05	-2.50	2.14	-6.06	6.72	6.47	7.27	6.89	7.78	8.83
KY Ret. CERS Haz Plan Index		-2.12	-2.52	1.31	-6.62	6.20	5.96	7.08	6.91	7.67	8.84

KPPA PENSION FUND UNIT - NET RETURNS - 08/31/22 - PROXY PLAN ASSET PERFORMANCE

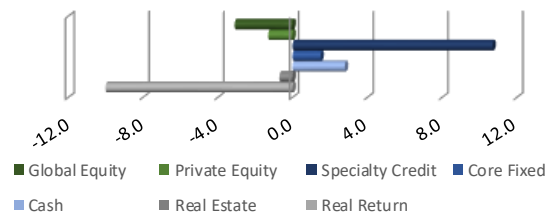
Structure	Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY	-3.90	3.43	3.43	-17.96	7.48	6.64	8.60	7.55	8.63	10.07
Global Equity Blended Index	-3.68	3.04	3.04	-16.65	7.53	6.51	8.47	7.60	8.40	9.92
PRIVATE EQUITY	-0.10	-0.11	-0.11	20.78	19.03	17.23	14.70	12.80		12.42
Russell 3000 + 3%(Qtr Lag)	0.15	-8.29	-8.29	-0.68	18.64	15.78	17.30	12.59		12.18
SPECIALTY CREDIT	-0.58	0.93	0.93	0.93	4.53	5.24				5.42
Custom Benchmark	-0.38	3.63	3.63	-5.17	2.13	3.09				3.16
CORE FIXED INCOME	-1.03	0.28	0.28	-5.57	0.55	1.87				2.50
Bloomberg Barclays US Aggregate	-2.83	-0.45	-0.45	-11.52	-2.00	0.52				1.71
CASH	0.20	0.35	0.35	0.58	0.74	1.33	0.93	1.61	2.70	3.30
Citigroup Treasury Bill-3 Month	0.15	0.25	0.25	0.44	0.56	1.10	0.64	1.19	2.30	2.89
REAL ESTATE	-0.12	2.98	2.98	27.58	16.84	14.11	11.42	8.46	6.71	6.95
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	0.00	0.00	0.00	27.26	10.30	8.90	9.91	7.66	7.55	6.73
REAL RETURN	1.62	5.72	5.72	7.62	7.18	5.14	3.71			4.59
Pension Real Return Custom Benchmark	0.24	1.82	1.82	9.30	7.74	5.47	3.96			3.98



CERS PEN Relative Weights



CERS-HAZ PEN Relative Weights



CERS INS & CERS HAZ INS - INSURANCE FUND - PLAN NET RETURNS - 08/31/22

Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS INS	3,066,337,865.49	-2.11	-2.34	2.04	-5.47	6.56	6.47	7.17	6.68	6.86	7.31
KY Ins. CERS Plan Index		-2.12	-2.52	1.31	-6.44	5.84	5.77	7.02	6.91	7.08	7.51
CERS - H INS	1,534,544,747.18	-2.08	-2.31	1.99	-5.10	6.74	6.61	7.25	6.72	6.88	7.34
KY Ins. CERS Haz Plan Index		-2.12	-2.52	1.31	-6.44	5.84	5.77	7.02	6.91	7.08	7.51

KPPA INSURANCE FUND UNIT - NET RETURNS - 08/31/22 - PROXY PLAN ASSET PERFORMANCE

Structure	Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY	-3.93	3.41	3.41	-17.86	7.50	6.61	8.62	7.50		8.35
Global Equity Blended Index	-3.68	3.04	3.04	-16.67	7.50	6.47	8.42	7.22		8.17
PRIVATE EQUITY	-0.22	-0.31	-0.31	28.13	17.09	16.50	15.33	12.09		11.32
Russell 3000 + 3%(Qtr Lag)	0.15	-8.29	-8.29	-0.68	18.64	15.78	17.30	12.20		11.72
SPECIALTY CREDIT	-0.48	0.98	0.98	1.20	4.45	5.11				5.24
Custom Benchmark	-0.38	3.63	3.63	-5.17	2.13	3.09				3.16
CORE FIXED INCOME	-1.13	0.24	0.24	-5.83	0.33	1.74				2.20
Bloomberg Barclays US Aggregate	-2.83	-0.45	-0.45	-11.52	-2.00	0.52				1.71
CASH	0.20	0.34	0.34	0.56	0.57	1.16	0.78	1.44		2.42
Citigroup Treasury Bill-3 Month	0.15	0.25	0.25	0.44	0.56	1.10	0.64	1.19		2.30
REAL ESTATE	-0.17	2.91	2.91	27.31	16.76	14.08	11.25			10.73
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^	0.00	0.00	0.00	27.26	10.30	8.90	9.91			6.90
REAL RETURN	1.32	4.59	4.59	5.99	7.03	5.07	3.51			4.39
Pension Real Return Custom Benchmark	0.24	1.82	1.82	7.97	7.69	5.46	4.02			4.03

