What's going on in the marketplace?

The quarter was defined by elevated volatility. Markets rallied to start the quarter in response to the Fed potentially slowing the pace of rate hikes as the expectation of falling inflation began to take hold. However, markets turned sharply negative in response to August inflation data that painted a very different picture. While some segments of the CPI revealed slowing inflation, like energy and materials, other areas, such as services, shelter, and food prices remained stubbornly elevated. This spurred hawkish comments from the Fed, who announced additional interest rate hikes while using the phrasing of "higher for longer" sending markets lower.

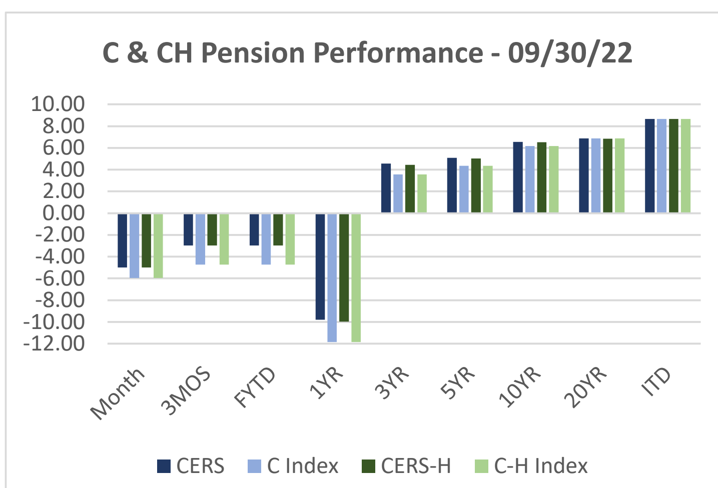
Rising rates in the U.S. are creating pressure on currency markets and ultimately on other economies around the world, many of whom are already weaker due to their own inflationary pressures. Foreign central banks are responding by raising rates to defend their currencies and attempt to curb elevated inflation in their home markets. These actions have led to greater concerns regarding economic growth.

The current environment of rising costs, erosion of savings, and tight labor markets point to a continued growth slowdown. Further rate hikes to combat inflation raise concerns about the inevitability of a recession. So far during 2022, there have been few places to hide. High quality, valuation, and traditionally defensive segments of the market have held up best. Growth segments such as communications, technology, consumer discretionary, and rate-sensitive real estate have been the most difficult portions of the market.

Looking forward, the market is likely to remain range bound as competing narratives emerge from one day to the next. Supply chain disruptions and moderating inflation versus inflation remaining elevated, the chance of a Fed pause versus continued tightening, low unemployment versus odds of a recession, etc. These are just a few of the issues likely to produce continued volatility. Ultimately, market direction is dependent on inflation and the Fed's reaction to it.

The KPPA Pension Trust portfolio fell -4.68% during the month of September, providing 92bps of downside protection versus a blended benchmark. The CERS and CERS-H portfolios returned -4.98% and -5.00%, respectively, while their benchmark returned -5.97%. The portfolios outperformed their respective benchmarks with similar drivers of attribution. Relative outperformance was a product of solid performance within the Specialty Credit, Core Fixed Income, and Public Equity asset classes. The portfolios also benefitted from an underweight to public equities during a volatile period.

For the quarter, the KPPA Pension Trust portfolio fell -2.77%, outperforming a blended benchmark return of -4.41%. Relative outperformance was driven by solid performance in the Core Fixed Income and Public Equities portfolios. The portfolios also benefitted from overweights to Specialty Credit, and to cash during a weak quarter.



Global equity markets experienced a significant sell-off during the month of September, as evidenced by the MSCI ACWI Index returning -9.57%. Domestic markets held up better than their Non-US market counterpart (R3000: -9.27% versus MSCI ACWI Ex-US: -10.14%). This brought the quarterly return for global markets to

-6.82%, driven by weakness in the international markets, which have fallen -9.69%. US markets have now fallen -4.24% during the first quarter of the fiscal year.

US equity markets fell -9.27% during the month (Russell 3000), while the KPPA portfolio fared slightly better, returning -9.22%. All market segments were significantly weaker; with value continuing to hold up better than growth (R3000V: -8.86% versus R3000G: -9.68%).

For the quarter, US markets were down -4.46%, while the KPPA portfolio provided 22 bps of downside protection. During the quarter, small and midcaps held up much better than their large cap counterparts (R2000: -2.19% versus MC: -2.46% versus SP500: -4.88%). For the quarter, growth outperformed value (-3.37% versus -5.56%) driven by strong performance in July, prior to a sharp reversal in August spurred by inflation data. The KPPA portfolio's relative outperformance has been driven by its slight overweight down market cap, and positively skewing relative performance at the individual strategy level.

NonUS equity markets returned -10.14% (MSCI ACWI Ex-US) during the month. Developed markets returned -9.22% (MSCI World Ex-US) during the period while emerging markets fell -11.72% (MSCI EM). The KPPA portfolio lost -9.49% during the month, outperforming its benchmark by 65bps. Relative outperformance was driven by stock selection, as most individual mandates outperformed their respective benchmarks.

For the quarter, NonUS markets fell -9.69%. Developed markets held up better than their emerging market counterparts, which were significantly weaker, returning -11.57%. A significant portion (approaching half) of the negative performance can be attributed to the currency market, as the basket of global currencies have weakened dramatically versus the US dollar and hampered local performance.

The specialty credit portfolio outperformed its benchmark during the month, returning -0.59% versus -3.12%. The High Yield market declined (-3.97%) as spreads widened and rates rose in response to a continued risk-off sentiment. The leveraged loan segment of the market held up marginally better as the Morningstar LSTA Leveraged Loan Index fell -2.27% during the month. For the quarter, the portfolio significantly outperformed its benchmark, falling -0.45% versus -8.41%. Notably, the High Yield market has been significantly weaker, as that index fell -14.14%. The portfolio's strong relative outperformance was driven by across the board strength among individual mandates.

The core fixed income portfolio lost -2.25% compared to the Bloomberg Aggregate Index return of -4.32%. Relative outperformance was attributable to positioning within the allocation; the portfolios remain underweight overall duration given the outlook for rising rates and elevated volatility. Both shorter-term and intermediate credit market segments held up better. For the quarter, the portfolio returned -1.97% compared to the benchmark return of -4.75%. The month of September heavily influenced the quarter, which experienced a similar phenomenon where the shorter end of the curve performed better.

The private equity allocation fell -1.79% during the month, bringing the quarter return to -1.89%. Trailing public marks have begun to affect the overall performance of the portfolio. The 1-year return is still positive at 8.25%; however, that is down from just shy of 21% last month.

The real return portfolio fell -2.87% during the month, compared to its benchmark return of 0.22%. As with the past few months, performance was driven by the MLP portion of the portfolio; however, this month it was to the downside, as this portion of the portfolio was down -7.68%. For the quarter, the portfolio has returned 2.69%, bringing the 1-year return to 4.82%.

Real estate remained relatively flat during the month, falling 26bps. The latest quarter performance of 2.71% was lower than that of a year ago, thus the 1-year return fell to 23.29% versus in excess of 27% prior month. The portfolio has benefitted from recent strength in industrial, multi-family, student housing, and storage properties.

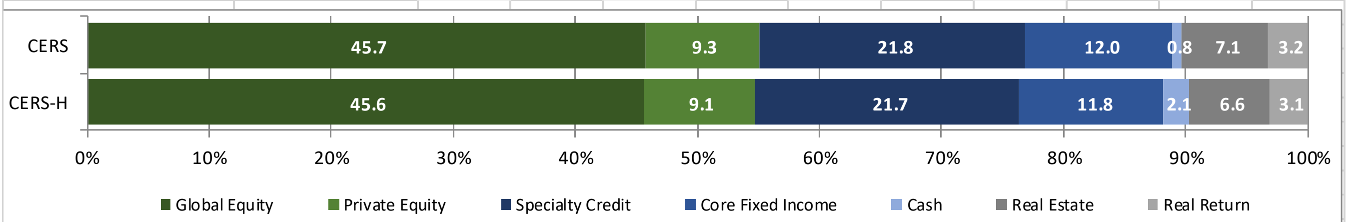
The cash portfolio performed in-line with its benchmark, with the 3-month T-bill returning 0.21% for the month. This brought the quarterly return to 0.56%, and the 1-year return to 0.79% (versus 0.63%).

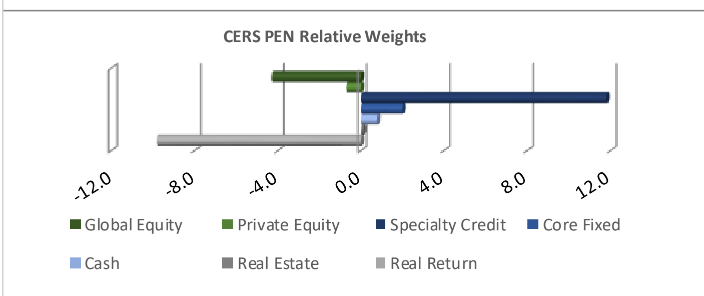
CERS & CERS-HAZ - PENSION FUND PLAN NET RETURNS - 09/30/22

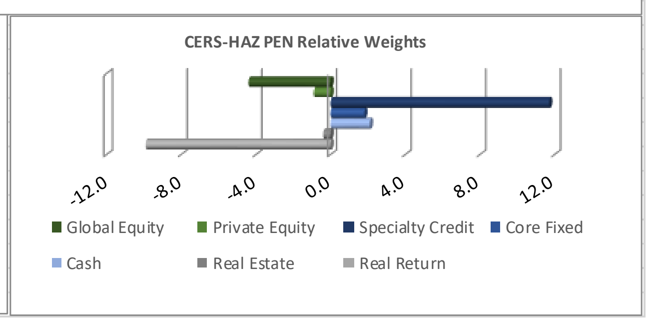
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS	**7,679,454,575.27**	**-4.98**	**-2.96**	**-2.96**	**-9.80**	**4.57**	**5.10**	**6.56**	**6.87**	**7.55**	**8.67**
KY Ret. CKERS Plan IPS Index		-5.97	-4.74	-4.74	-11.84	3.56	4.36	6.18	6.87	7.42	8.65
CERS- H	**2,630,209,582.33**	**-5.00**	**-2.97**	**-2.97**	**-9.97**	**4.44**	**5.02**	**6.53**	**6.85**	**7.54**	**8.66**
KY Ret. CERS Haz Plan IPS Index		-5.97	-4.74	-4.74	-11.84	3.56	4.36	6.18	6.87	7.42	8.65

KPPA PENSION FUND UNIT - NET RETURNS - 09/30/22 - PROXY PLAN ASSET PERFORMANCE

Structure		Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		**-9.33**	**-6.22**	**-6.22**	**-22.40**	**3.27**	**4.06**	**7.18**	**7.62**	**8.19**	**9.76**
MSCI ACWI		-9.57	-6.82	-6.82	-21.62	3.25	3.94	7.02	7.64	8.00	9.61
PRIVATE EQUITY		**-1.79**	**-1.89**	**-1.89**	**8.25**	**17.71**	**15.89**	**14.50**	**12.96**		**12.26**
Russell 3000 + 3%(Qtr Lag)		-7.86	-15.50	-15.50	-10.87	12.84	13.64	15.89	12.53		11.68
SPECIALTY CREDIT		**-0.59**	**0.33**	**0.33**	**-0.45**	**4.21**	**4.87**				**5.21**
50% BB US HY / 50% SP LSTA Leveraged Loan		-3.12	0.39	0.39	-8.41	0.92	2.31				2.49
CORE FIXED INCOME		**-2.25**	**-1.97**	**-1.97**	**-7.57**	**-0.15**	**1.46**				**2.23**
Bloomberg Barclays US Aggregate		-4.32	-4.75	-4.75	-14.60	-3.26	-0.27				1.21
CASH		**0.21**	**0.56**	**0.56**	**0.79**	**0.75**	**1.35**	**0.95**	**1.61**	**2.70**	**3.30**
Citigroup Treasury Bill-3 Month		0.20	0.45	0.45	0.63	0.57	1.13	0.66	1.19	2.29	2.89
REAL ESTATE		**-0.26**	**2.71**	**2.71**	**23.29**	**15.16**	**13.34**	**11.35**	**8.62**	**6.70**	**6.93**
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		4.54	4.54	4.54	28.31	11.66	9.55	10.15	7.84	7.76	6.84
REAL RETURN		**-2.87**	**2.69**	**2.69**	**4.82**	**5.55**	**4.54**	**3.31**			**4.29**
US CPI +3%		0.22	2.04	2.04	9.84	7.21	5.52	3.90			3.97







Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
CERS INS	**2,911,940,125.11**	**-4.98**	**-3.04**	**-3.04**	**-9.56**	**4.31**	**5.01**	**6.43**	**6.80**	**6.64**	**7.14**
KY Ins. CERS Plan IPS Index		-5.97	-4.74	-4.74	-11.81	3.25	4.17	6.13	7.06	6.82	7.30
CERS - H INS	**1,455,568,442.84**	**-4.92**	**-3.03**	**-3.03**	**-9.27**	**4.49**	**5.15**	**6.52**	**6.85**	**6.67**	**7.17**
KY Ins. CERS Haz Plan IPS Index		-5.97	-4.74	-4.74	-11.81	3.25	4.17	6.13	7.06	6.82	7.30

Table title: **CERS INS & CERS HAZ INS - INSURANCE FUND - PLAN NET RETURNS - 09/30/22**

KPPA INSURANCE FUND UNIT - NET RETURNS - 09/30/22 - PROXY PLAN ASSET PERFORMANCE

Structure		Month	QTD	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		**-9.34**	**-6.24**	**-6.24**	**-22.31**	**3.30**	**4.04**	**7.22**	**7.55**		**7.98**
MSCI ACWI		-9.57	-6.82	-6.82	-21.64	3.22	3.90	6.97	7.29		7.78
PRIVATE EQUITY		**0.20**	**-0.10**	**-0.10**	**15.26**	**16.67**	**15.58**	**15.36**	**12.50**		**11.28**
Russell 3000 + 3%(Qtr Lag)		-7.86	-15.50	-15.50	-10.87	12.84	13.64	15.89	12.24		11.22
SPECIALTY CREDIT		**-0.74**	**0.23**	**0.23**	**-0.17**	**4.08**	**4.70**				**5.00**
50% BB US HY / 50% SP LSTA Leveraged Loan		-3.12	0.39	0.39	-8.41	0.92	2.31				2.49
CORE FIXED INCOME		**-2.33**	**-2.10**	**-2.10**	**-7.85**	**-0.40**	**1.28**				**1.92**
Bloomberg Barclays US Aggregate		-4.32	-4.75	-4.75	-14.60	-3.26	-0.27				1.21
CASH		**0.21**	**0.55**	**0.55**	**0.77**	**0.58**	**1.19**	**0.80**	**1.44**		**2.42**
Citigroup Treasury Bill-3 Month		0.20	0.45	0.45	0.63	0.57	1.13	0.66	1.19		2.30
REAL ESTATE		**-0.30**	**2.60**	**2.60**	**22.80**	**15.00**	**13.29**	**11.17**			**10.63**
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		4.54	4.54	4.54	28.31	11.66	9.55	10.15			7.21
REAL RETURN		**-2.29**	**2.20**	**2.20**	**4.11**	**5.71**	**4.61**	**3.17**			**4.14**
US CPI +3%		0.22	2.04	2.04	8.77	7.27	5.53	3.96			4.02