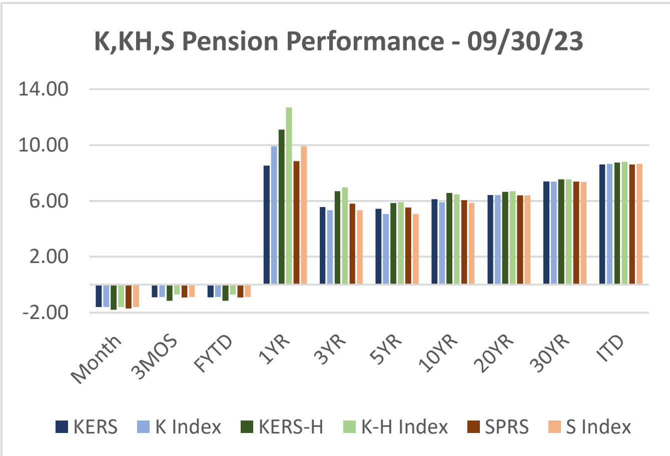
September 2023	KPPA MONTHLY PERFORMANCE UPDATE	KERS/KERS-H/SPRS

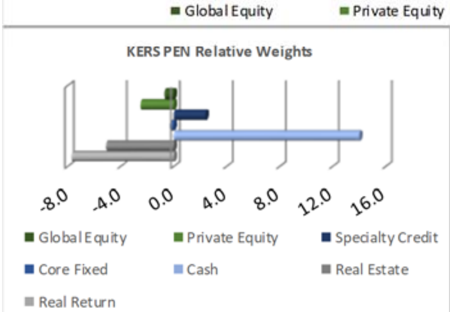


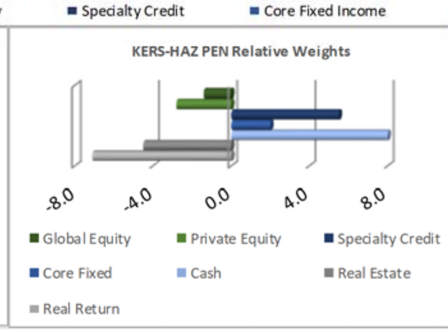
KERS, KERS-HAZ, & SPRS - PENSION FUND - PLAN NET RETURNS - 09/30/23

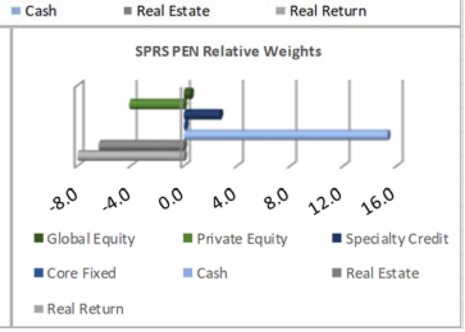
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
KERS	**3,575,106,963.50**	**-1.60**	**-0.89**	**-0.89**	**8.53**	**5.56**	**5.44**	**6.12**	**6.41**	**7.40**	**8.61**
KY Ret. KERS Plan IPS Index		-1.59	-0.88	-0.88	9.90	5.33	5.06	5.91	6.41	7.37	8.66
KERS- H	**896,168,133.75**	**-1.78**	**-1.14**	**-1.14**	**11.10**	**6.70**	**5.85**	**6.56**	**6.64**	**7.55**	**8.73**
KY Ret. KERS Haz Plan IPS Index		-1.59	-0.69	-0.69	12.68	6.98	5.91	6.45	6.69	7.55	8.80
SPRS	**586,020,761.42**	**-1.71**	**-0.92**	**-0.92**	**8.84**	**5.80**	**5.53**	**6.05**	**6.39**	**7.38**	**8.60**
KY Ret. SPRS Plan IPS Index		-1.59	-0.88	-0.88	9.90	5.33	5.06	5.87	6.39	7.35	8.65

KPPA PENSION FUND UNIT - NET RETURNS - 09/30/23 - PROXY PLAN ASSET PERFORMANCE

Structure		Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		**-4.39**	**-4.04**	**-4.04**	**20.48**	**6.63**	**6.01**	**7.27**	**7.39**	**8.36**	**10.02**
MSCI ACWI		-4.14	-3.40	-3.40	20.80	6.78	5.99	7.25	7.37	8.18	9.88
PRIVATE EQUITY		**2.40**	**2.71**	**2.71**	**3.07**	**17.97**	**13.31**	**13.41**	**11.87**		**11.81**
Russell 3000 + 3%(Qtr Lag)		6.98	9.14	9.14	21.95	16.95	14.43	15.56	12.30		12.14
SPECIALTY CREDIT		**1.07**	**2.64**	**2.64**	**9.63**	**7.15**	**5.78**				**5.91**
50% BB US HY / 50% Morningstar LSTA Lev'd Ln		-0.11	1.95	1.95	11.68	3.95	3.74				3.90
CORE FIXED INCOME		**-2.02**	**-1.14**	**-1.14**	**2.13**	**-1.15**	**1.87**	**2.18**			**2.22**
Bloomberg US Aggregate		-2.54	-3.23	-3.23	0.64	-5.21	0.10	1.13			1.15
CASH		**0.39**	**1.12**	**1.12**	**3.96**	**1.60**	**1.72**	**1.28**	**1.73**	**2.71**	**3.32**
FTSE Treasury Bill-3 Month		0.45	1.38	1.38	4.71	1.78	1.74	1.12	1.36	2.35	2.94
REAL ESTATE		**-1.28**	**-2.63**	**-2.63**	**-7.75**	**10.24**	**9.19**	**9.33**	**7.97**	**6.52**	**6.53**
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		-2.88	-2.88	-2.88	-10.73	7.04	5.56	7.77	6.86	7.53	6.35
REAL RETURN		**1.40**	**4.71**	**4.71**	**14.98**	**13.61**	**7.27**	**5.04**			**5.12**
US CPI +3%		0.68	1.68	1.68	6.67	12.54	6.67	4.11			4.19





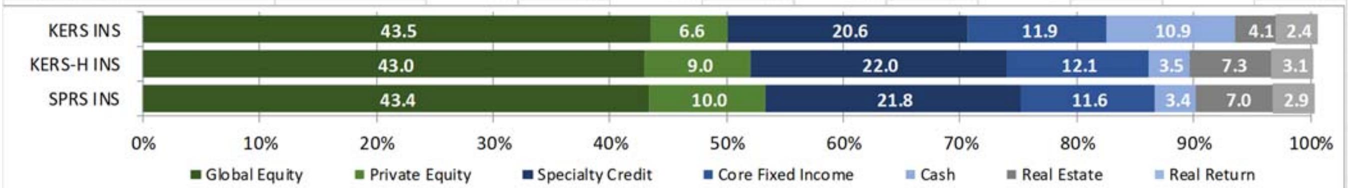


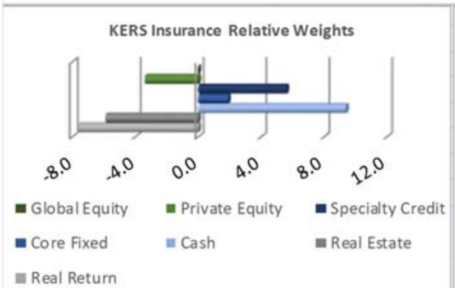
KERS INS, KERS-HAZ INS, SPRS INS - INSURANCE FUND - PLAN NET RETURNS - 09/30/23

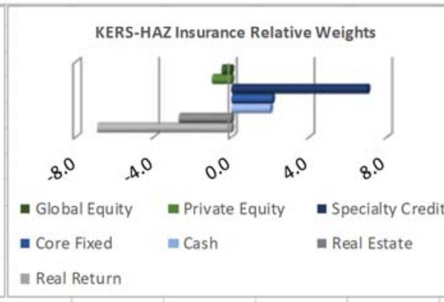
Plan	Market Value	Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
KERS INS	**1,456,118,652.44**	**-1.94**	**-1.30**	**-1.30**	**11.00**	**6.63**	**5.73**	**6.28**	**6.51**	**6.55**	**7.17**
KY Ins. KERS Plan IPS Index		-1.59	-0.69	-0.69	12.68	6.85	5.83	6.44	6.73	6.94	7.50
KERS - H INS	**605,990,341.16**	**-1.72**	**-1.08**	**-1.08**	**10.93**	**7.15**	**5.96**	**6.59**	**6.69**	**6.67**	**7.27**
KY Ins. KERS Haz Plan IPS Index		-1.59	-0.69	-0.69	12.68	6.96	5.72	6.43	6.72	6.94	7.50
SPRS INS	**242,680,090.61**	**-1.75**	**-1.12**	**-1.12**	**11.13**	**7.31**	**6.16**	**6.77**	**6.77**	**6.72**	**7.32**
KY Ins. SPRS Plan IPS Index		-1.59	-0.69	-0.69	12.68	6.96	5.72	6.44	6.73	6.94	7.51

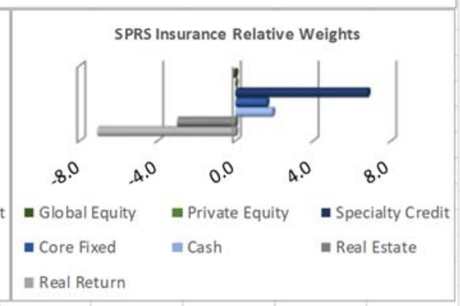
KPPA INSURANCE FUND UNIT - NET RETURNS - 09/30/23 - PROXY PLAN ASSET PERFORMANCE

Structure		Month	3 Months	Fiscal YTD	1 Year	3 Years	5 Years	10 Years	20 Years	30 Years	ITD
PUBLIC EQUITY		**-4.41**	**-4.07**	**-4.07**	**20.33**	**6.61**	**5.98**	**7.34**	**7.36**		**8.35**
MSCI ACWI		-4.14	-3.40	-3.40	20.80	6.76	5.97	7.26	7.16		8.18
PRIVATE EQUITY		**2.73**	**3.20**	**3.20**	**5.36**	**20.73**	**12.99**	**14.39**	**11.65**		**10.99**
Russell 3000 + 3%(Qtr Lag)		6.98	9.14	9.14	21.95	16.95	14.43	15.56	12.06		11.70
SPECIALTY CREDIT		**1.11**	**2.75**	**2.75**	**10.06**	**7.25**	**5.77**				**5.80**
50% BB US HY / 50% Morningstar LSTA Lev'd Ln		-0.11	1.95	1.95	11.68	3.95	3.74				3.90
CORE FIXED INCOME		**-2.08**	**-1.26**	**-1.26**	**2.00**	**-1.32**	**1.68**	**1.87**			**1.93**
Bloomberg US Aggregate		-2.54	-3.23	-3.23	0.64	-5.21	0.10	1.13			1.15
CASH		**0.39**	**1.11**	**1.11**	**3.94**	**1.58**	**1.60**	**1.14**	**1.57**		**2.47**
FTSE Treasury Bill-3 Month		0.45	1.38	1.38	4.71	1.78	1.74	1.12	1.36		2.38
REAL ESTATE		**-1.25**	**-2.47**	**-2.47**	**-7.85**	**9.93**	**9.14**	**9.66**			**9.24**
NCREIF NFI-ODCE Net 1 Qtr in Arrears Index^		-2.88	-2.88	-2.88	-10.73	7.04	5.56	7.77			5.86
REAL RETURN		**1.46**	**4.18**	**4.18**	**13.27**	**12.16**	**7.05**	**4.81**			**4.85**
US CPI +3%		0.68	1.68	1.68	6.67	11.56	6.70	4.17			4.24









Overview

Markets continued to struggle for direction in the first quarter of Fiscal 2024 as all major global equity markets produced negative performance during the quarter and finished on the back foot with September marking the largest monthly decline of 2023. Realized rates and expectations for the future path of rates weighed heavily on markets as the US 10Y bond yield spiked to its highest level since 2007 during the quarter and the Treasury curve inverted to a level not seen in decades as markets reassessed the higher for longer narrative and the potential impacts on growth and markets.

After a strong first quarter of 2023, real GDP moderated to a 2.1% during the second quarter before surprisingly rebounding to 4.9% in the third quarter, the best quarterly growth rate in nearly two years fueled by consumer spending on goods and services, inventory investments and government spending. While this acceleration and the strength of recent data suggest a recession may not be imminent, expectations remain for a sharp slowdown in growth over the coming quarters as global central banks are intensifying their monetary policy tightening, with money, credit, and liquidity all decisively retreating. Over the past year and a half, the Fed, European Central Bank, Bank of Japan, and Bank of England have withdrawn a total of $4.7trn from circulation, a significant drain but less than half of the amount added during the post-pandemic quantitative easing programs. Although equities have derated in absolute terms over the past three months, valuations remain relatively expensive relative to safe haven assets with the equity risk premium still quite low from an asset allocation perspective. Although the Q3 reporting season is delivering a relatively high proportion of EPS beats, it has not driven further upward EPS revisions and EPS revisions ratio has fallen sharply as earnings momentum appears to be stalling. Given the numerous headwinds, risk markets are likely to trade range bound with a mild bias toward the downside.

The KRS Pension Composite produced a return of -0.94% for the quarter. The KERS and SPRS Pension portfolios returned -0.89% and -0.92% respectively, while their benchmark returned -0.88%. The KERS-H Pension portfolio returned -1.14% versus its benchmark return of -0.69%. The KRS Insurance Composite produced a -1.23% return for the quarter underperforming the blended benchmark which returned -0.69%. Across portfolios, underperformance in the Public Equity and Private Equity portfolios were the primary drivers of relative performance during the quarter. While the Public Equity portfolio suffered from stock selection and style bias, the relative underperformance of the Private Equity portfolio is primarily due to the misalignment and timing of the benchmark. The current specified benchmark of Russell 3000 + 3% based on a quarter lag benefitted from the strong performance of the Public Equity markets during the quarter that ended June 2023 and was not reflective of the actual performance of Private Equity markets for the quarter ending September 2023. The underweight to Real Return was also a modest drag on performance as it was one of the few assets classes that in aggregate posted positive performance for the quarter. The overweight in the Specialty Credit portfolio was a positive contributor to performance as it outperformed on a relative basis and was one of the best performing asset classes during the quarter. The portfolios also continued to benefit from strong relative performance in the Core Fixed Income portfolio as Staff maintained an overall short duration profile which outperformed as rates rose. Since the end of the quarter, staff has been rebalancing the Core portfolio to lengthen duration as all in yields have become more compelling and rates may be nearing their cycle peaks. Overweights to cash were also positive contributors for the quarter.

Public Equity

Global equity markets were notably weaker during the quarter, falling -3.40% per the MSCI ACWI. This brought the asset class return to 20.80% for the one-year period. US markets held up slightly better than international markets during the period (-3.25% versus -3.49%), contributing to them edging out their counterparts for the twelve-month period (20.46% versus 20.19%).

After a good start to the quarter, US markets turned lower in July as thoughts of a potential soft landing began to slide and concerns about extended policy rates and their impact took hold. Interest rates spiked with the 10-year Treasury gaining 100bps to reach new 15-year highs. As yields pushed higher, risk assets sensitive to higher borrowing costs re-priced to the downside (smaller caps and those perceived to be lower quality in particular). With the policy rate now firmly above neutral it follows that slowing economic activity is likely, as businesses and consumers start to feel the costs. The narrow market storyline continued as mega-cap tech dominated, while the average stock lost ground during the quarter (the S&P 500 has returned approximately 13% YTD, while the “magnificent 7” have returned an average 83%), the market now at historically high concentration. Despite value holding up slightly better than growth during the quarter (-3.15% versus -3.34%), market winners this year have been large cap, growth, and quality. Large cap growth has returned 24.98% YTD, while small cap growth has returned 5.24%. On the other hand, large cap value has returned less than 2%, while small cap value has fallen roughly 50bps.

Most Non-US developed markets were weaker during the quarter. This was primarily caused by slowing economic growth and persistently high inflation in the face of continued rate hikes. Underpinning the slower growth is the financial tightening that has caused a deceleration in consumption (increasing but at a slower rate), inventory destocking, and weaker manufacturing. Despite the growth deceleration, company earnings have come in ahead of expectations as they had assumed a hard landing recession. Supply chains appear to have normalized, which has led to reduced input costs which has helped to bolster earnings.

The KPPA global equity returned -4.11% during the quarter versus its benchmark return of -3.40%. Relative underperformance is primarily the result of allocation within the US equity portion of the portfolio, and weaker stock selection within the NonUS mandates, particularly those with a growth style bias.

Within the US equity allocation, the portfolio trailed its index by 24bps (-3.49% vs -3.25%). This was primarily due to allocation. The portfolio tilts towards value and smaller in market cap. The value tilt in the portfolio was slightly beneficial; however, the smaller size bent hampered relative performance. Small caps underperformed their large cap counterparts by just under 2%.

The international equity allocation underperformed during the quarter, falling -5.05% versus a benchmark return of -3.49%. Weakness was most pronounced in the growth portion of the portfolio as any strategy whether developed or emerging market with a growth bias struggled. This was partially offset by the value portion of the portfolio which held up better, with two of the three mandates providing positive absolute performance.

For the trailing 12 months, the KPPA global equity portfolio returned 20.39%, trailing its benchmark by 41bps. The US equity portion of the portfolio returned 19.46% versus 20.46%. Underperformance can be attributed to the factor tilts in the portfolio (value and smaller) as stock selection among most mandates was positive. The NonUS equity portion of the portfolio returned 21.62% versus 20.19%. While stock selection was mixed, relative outperformance was driven by strong performance in the value biased mandates.

Core Fixed Income

Rates across the U.S. Treasury curve finished the quarter higher, with the long end rising the most. The yield on the 2-year Treasury, which is highly sensitive to expectations for the Fed Funds rate, started the quarter at 4.90% and closed September at 5.04%. The 10-year Treasury, which is often used as a benchmark for pricing home mortgages, began the quarter trading at 3.84% closing at 4.57%. Lastly, the yield on the 30-year bond, which tends to be highly sensitive to changes in long-term economic expectations, increased from 3.86% to 4.70%.

The Bloomberg U.S. Aggregate Bond Index returned -2.54% for September resulting in a quarterly loss of 3.23% as U.S. Treasury yields rose across the curve and credit spreads rose. Corporate bonds were the best performing spread sector for the quarter, generating 84 basis points of excess returns. Commercial mortgage-backed securities (CMBS) were next, outperforming similar duration Treasuries by 35 basis points. Asset-backed securities (ABS) rounded out the top three closing the quarter generating 29 basis points of excess returns.

The Core Fixed Income portfolio posted a loss of 2.02% for the month and a loss of 1.14% for the quarter, outperforming the benchmark by 0.52% for the month and 2.09% for the quarter. The relative outperformance is directly attributable to the underweight overall duration as rates rose and allocations to the Corporate and ABS sectors within our mandates.

Specialty Credit - Private Equity – Real Return – Real Estate

The Bloomberg US High Yield Index returned -1.18% in September and 0.46% over the quarter. Lower rated issues outperformed for the sixth consecutive month. BB, B and CCC-rated issues returned -1.46%, -1.03% and -0.81%, respectively in September. BB, B and CCC-rated issues returned -0.43%, 0.83% and 2.39% during the quarter, respectively. This continued the year-to-date trend of risk outperforming quality, as CCC-rated issues have outperformed BB-rated issues by 8.33% year-to-date. U.S. high yield bonds saw their worst monthly total return since February as resilient economic data and hawkish Federal Reserve commentary drove interest rates sharply higher. Overall spreads ended the month 23 basis points wider and 4 basis points wider over the quarter.

Leveraged loans outperformed high yield bonds for the fifth time in six months as rising rates and steady CLO issuance provided a tailwind for the asset class. The Morningstar LSTA US Leveraged Loan Index returned 0.96% in September, ending the quarter with a gain of 3.46%. Primary issuance jumped 40% versus the prior month to the highest issuance since November 2021. Despite persistent concerns about maturity walls in the leveraged finance market, just 10% of leveraged loans mature before 2026, down from 20% at the start of the year.

Default and distressed exchange activity moderated in September with one default and one distressed exchange completed. The quarter saw five defaults and four distressed exchanges. There have been seventeen defaults thus far year-to-date, surpassing the seven defaults during all of 2022. However, as of September, bond and leveraged loan default rates ended the quarter at 1.32% and 1.90%, respectively, both below historical averages.

The Specialty Credit portfolio returned 1.07% for the month ending September and 2.64% for the quarter outperforming the custom benchmark for both time periods by 1.18% and 0.69%, respectively. However, the portfolio has performed better over longer time periods as represented by the 3-Year and 5-Year returns outperforming the benchmark by 3.20% and 2.04%, respectively.

Markdowns in Real Estate continued during the quarter, with the portfolio still seemingly affected more by higher cap rates than declining property-level performance. The portfolio's exposures to industrial, self-storage, student housing, medical office, and senior living continued to experience positive rent growth and pricing. From a valuation perspective, a look at the secondaries market suggests that there still may be more room to fall, with real estate funds pricing at significantly wider discounts than other strategies like private equity, credit, and infrastructure. Public markets sent a similarly bearish signal, with the US REIT index RMZ falling 7% during the quarter. That pushed the benchmark to a -2% YTD return and extends the 25% drop it had in 2022. While starting to pick up, real estate deal volume and price discovery remain muted, with new deals remaining concentrated in the industrial and multifamily sectors. However, even those sectors have seen new construction starts drop to 10-year lows because of higher financing and construction costs. The Real Estate portfolio returned -2.63% for the quarter and -7.75% for the trailing twelve months, outperforming the custom benchmark for both time periods by 0.25% and 2.98%, respectively.

Commodities were mixed during the quarter. Oil prices rose driven by supply cuts from the world's largest producers along with data showing US oil inventories fell to their lowest level in over 12 months. Natural gas prices moved higher for the second straight quarter after six months of significant declines. Prices were up 4.7% for the third quarter but are still down a massive -56.7% for the past twelve months. Gold declined for the second straight quarter and other precious medals slumped as the DXY dollar index rose and prices were down across the agricultural complex. The Real Return portfolio returned 4.71% for the quarter and 14.98% for the trailing twelve months, outperforming the custom benchmark for both time periods by 3.03% and 8.31%, respectively. MLP exposure has been the main driver of performance in the Real Return portfolio, returning nearly 30% over the last year. Strong cash flows, disciplined capex, and consolidation have contributed to the industry's 40% annualized returns for the past 3 years since its crash during the early months of COVID.

Liquidity

Federal Reserve officials left interest rates unchanged at the September meeting following a 25 basis point hike in July, continuing the alternate-meeting pace of hikes they have followed since May. The surprise came in the dot plot, where the median projection indicated one more hike in 2023 and just two cuts in 2024 (down from four 2024 cuts in the June projection). The Federal Reserve is sticking to the higher-for-longer message they have been signaling for the last several months, despite downside risks to growth from labor strikes and rising oil prices. Short rate markets are pricing roughly 50% odds of one more rate hike this year.

As of September, the benchmark 3-month T-Bill returned 0.45% for the month and finished the quarter returning 1.38%. The cash portfolio returned 0.39% and 1.12% for the month and quarter, respectively. The underperformance is attributable to lower rates offered by overnight repurchase agreements which is tied to the Fed Funds rate relative to market yields of the 3-month T-Bill. Since the Federal Reserve has begun to slow interest rate hikes, the difference in deposit rates compared to market rates will continue to compress going forward.

End of September key cash market interest rates: Fed Funds Effective 5.33%, 1M T-Bill 5.34% and 3M T-Bill 5.45%.