



Board of Retirement Regular Meeting

Sacramento County Employees' Retirement System

Agenda Item 16

MEETING DATE: March 16, 2022

SUBJECT: Quarterly Investment Performance Report
Alternative Assets

SUBMITTED FOR: Consent Deliberation and Action Receive and File

RECOMMENDATION

Staff recommends the Board receive and file the Cliffwater Quarterly Performance Review presentation for the period ending December 31, 2021 for the Absolute Return portfolio, and the period ending September 30, 2021 for the Private Equity, Private Credit, and Real Assets portfolios.

PURPOSE

This item complies with SCERS' investment policy statement reporting requirements and contributes to the effective management and oversight of investment activities.

SCERS ALTERNATIVE ASSETS PORTFOLIO RETURNS

This memorandum provides a summarized table of SCERS' Alternative Assets period returns, which complements Cliffwater's Quarterly Performance Review, and highlights notable manager performance, along with any recent alternative investments made by SCERS. The returns for the private market asset classes shown in the table below, and provided within Cliffwater's reports, are lagged a quarter and reflect valuations as of September 30, 2021. With the new asset allocation plan approved by the Board, the Opportunities asset class was eliminated and will no longer be reported as a separate asset. The Opportunities investments were moved into SCERS' Private Equity portfolio. Other alternative asset classes have been updated to reflect structural and classification changes approved by the Board.

SCERS' alternative asset class returns are as follows:

SCERS ALTERNATIVE ASSETS PERFORMANCE SUMMARY
Quarter Reporting Periods Ending December 31, 2021

SCERS ASSET CLASS	Quarter*	1-Year*	3-Year*	5-Year*	Since Inception*	Since Inception Date*
SCERS Absolute Return	0.3%	8.3%	7.4%	4.7%	4.4%	Sep-04
HFRI FoF Conservative	1.2%	8.2%	7.0%	4.8%	4.0%	
HFRI FoF Composite + 1%	1.1%	7.5%	9.6%	6.8%	4.8%	
SCERS Private Equity	7.5%	57.5%	30.8%	27.1%	19.7%	Feb-08
Cambridge Private Equity/Venture Capital	5.2%	51.0%	25.0%	22.6%	16.0%	
SCERS Private Credit	2.8%	15.3%	9.9%	9.5%	9.5%	Oct-11
Credit Suisse Leveraged Loan + 2%	1.6%	10.5%	6.1%	6.6%	7.0%	
SCERS Real Assets	4.7%	24.3%	7.5%	9.9%	10.4%	Jan-13
(45%) Cambridge Private Infrastructure; (35%) Cambridge Private Energy; (20%) NCREIF Agriculture/Timber	3.0%	21.0%	5.3%	7.6%	6.9%	
<p>*Note: <i>Periods ending 9/30/21 for Private Equity, Private Credit, Real Assets, and Opportunities</i> <i>Periods ending 12/31/21 for Absolute Return</i> <i>All returns are net IRR, except Absolute Return which is time-weighted</i></p>						

SCERS PORTFOLIO RESULTS

For the reporting quarter ended September 30, 2021, SCERS' Private Equity portfolio registered another outsized return of 7.5%, significantly outperforming the benchmark return of 5.2%. The strong performance was driven again by SCERS' buyout and venture capital strategies, with the top 10 funds delivering returns for the quarter ranging from 17.0%-48.4%. SCERS' Private Equity portfolio continues to benefit from the robust demand in the public markets for initial public offerings, particularly in high growth software and technology companies, which is leading to robust valuations.

The performance of SCERS' Private Credit portfolio for the quarter ended September 30, 2021 outperformed against its benchmark return, 2.8% versus 1.6%, with outperformance among the direct lending strategies.

For the quarter ended September 30, 2021, SCERS' Real Assets portfolio generated a strong 4.7% return, significantly outperforming the benchmark return of 3.0%. As oil and gas prices continue to rise with global demand outpacing supply, SCERS' energy strategies are benefiting, with robust returns ranging from 5%-20.2% among the top 5 performers.

For the reporting quarter ended December 31, 2021, SCERS' Absolute Return portfolio underperformed against the HFRI Fund of Funds Conservative Index return, 0.3% versus 1.2%, due to the underperformance of the Growth-Oriented portfolio (-1.2%), in particular the Event

Driven (-4.9%) and Multi-Strategy (-1.9%) strategies. SCERS' Diversifying-Oriented Absolute Return portfolio also underperformed its benchmark return, 0.8% versus 1.2%, due in part to the underperformance of the Grosvenor Diversifying Fund of Funds strategy (0.9%).

Below are notable top and bottom performing funds among SCERS' alternative assets managers for the quarterly reporting period:

- Top performing funds:
 - Absolute Return:
 - Two Sigma Risk Premia Enhanced Fund (market neutral): +9.3%
 - Elliott International Limited (event driven): +4.0%
 - Lakewood Capital Partners (equity long/short): +3.8%
 - Private Equity portfolio:
 - TSG7 A (buyout): +48.4%
 - Spectrum Equity Investors VII (growth equity): +38.5%
 - Khosla Ventures IV (venture capital): +26.3%
 - Spectrum Equity VIII (growth equity): +24.2%
 - Private Credit portfolio:
 - Summit Partners Credit Fund II (direct lending): +6.9%
 - Summit Partners Credit Fund III (direct lending): +5.7%
 - Ares Capital Europe V (direct lending): +5.2%
 - Real Assets portfolio:
 - Meridiam Infrastructure North America (infrastructure): +112.8%
 - NGP Royalty Partners (energy – upstream royalties): +20.2%
 - EnCap Energy Capital Fund X (energy - upstream): +10.0%
 - Carlyle Power Partners II (energy - power): +9.8%
- Bottom performing funds:
 - Absolute Return portfolio:
 - KLS Diversified Fund (market neutral): -5.5%
 - Third Point Partners Qualified (event driven): -4.9%
 - Laurion Capital (market neutral): -3.9%

- Private Equity portfolio:
 - New Enterprise Associates 15 (venture capital): -11.5%
 - New Enterprise Associates 14 (venture capital): -10.1%
 - HarbourVest International Private Equity Partners VI (fund-of-funds): -3.6%

- Private Credit portfolio:
 - Athyrium Opportunities Fund III (opportunistic): -2.1%
 - Athyrium Opportunities Fund II (opportunistic): -0.3%
 - Summit Partners Credit Fund (direct lending): 0.0%

- Real Assets portfolio:
 - Quantum Energy Partners VII (energy - diversified): -7.8%
 - Digital Colony Partners II (infrastructure): -4.5%
 - ACM Fund II (agriculture): -1.7%

NEW INVESTMENTS

During the quarter ended December 31, 2021, SCERS made the following new investments:

- Brookfield Super-Core Infrastructure Partners (real assets - infrastructure): \$100 million
- TSG Consumer Partners 9 (private equity - buyout): \$30 million
- Summit Partners Credit IV (private credit - direct lending): \$40 million

After the quarter, SCERS made the following new investments:

- Oaktree Power Opportunities Fund VI (private equity - buyout): \$30 million
- CRV Select II (private equity - distressed): \$22.5 million
- CRV XIX (private equity - venture capital): \$22.5 million
- Accel-KKR Growth Capital Partners IV (private equity - buyout): \$30 million
- Threshold Ventures IV (private equity - venture capital): \$25 million

ATTACHMENTS

- Board Order
- Cliffwater Quarterly Performance Review for Alternative Assets

Prepared by:

/S/

JR Pearce
Senior Investment Officer

Reviewed by:

/S/

Steve Davis
Chief Investment Officer

/S/

Eric Stern
Chief Executive Officer



Retirement Board Order

Sacramento County Employees' Retirement System

Before the Board of Retirement
March 16, 2022

AGENDA ITEM:

Quarterly Investment Performance Report Alternative Assets

THE BOARD OF RETIREMENT hereby accepts the recommendation of staff and Cliffwater to receive and file the Cliffwater Quarterly Investment Performance Report Alternative Assets.

I HEREBY CERTIFY that the above order was passed and adopted on March 16, 2022 by the following vote of the Board of Retirement, to wit:

AYES:

NOES:

ABSENT:

ABSTAIN:

ALTERNATES (Present but not voting):

Richard B. Fowler II
Board President

Eric Stern
Chief Executive Officer and
Board Secretary



INVESTMENT ADVISORY SERVICES

Los Angeles • New York

Sacramento County Employees' Retirement System Quarterly Performance Review

March 16, 2022

Absolute Return Portfolio Performance Summary – as of December 31, 2021

Growth Oriented Strategies

- The Growth Oriented Portfolio returned -1.24% in Q4 and 13.19% for the one-year period ending December 31, 2021
 - Trailed the HFRI FoF Index + 1% benchmark by 2.31% in Q4 but outperformed by 5.66% for the one-year period
 - Outperformed the T-bills + 5% long term objective by 2.09% (annualized) over the 5-year period ending December 31, 2021
 - Outperformed the HFRI FoF Index + 1% benchmark by 1.45% (annualized) over the 5-year period
- Third Point was the biggest detractor in Q4 (-4.87%), while Lakewood provided a gain of 3.84%
- All funds generated positive returns for the one-year period, led by Lakewood (+32.10%) and Third Point (+23.99%)

Diversifying Strategies

- The Diversifying Portfolio returned 0.81% in Q4 and 6.51% for the one-year period ending December 31, 2021
 - Trailed the HFRI Conservative FoF Index benchmark by 42 bp2 in Q4 and 168 bps for the one-year period
 - Lagged the T-bills + 2% long term objective by 31 bps (annualized) over the trailing 5-year period
- Two Sigma led performance in Q4 (+9.29%), followed by Elliott (+4.05%) and PSquared (+1.93%)
 - Laurion (-3.93%) and MW Global Opps (-2.84%) were the biggest detractors among the continuing funds in the portfolio
- All continuing funds generated positive returns for the 1-year period, other than MW Global Opps (-6.48%)

Portfolio risk and market sensitivity is within expectations for the new portfolio structure parameters

- Diversifying Portfolio
 - Target standard deviation < 25% of global equities, with an equity beta < 0.2 and equity correlation < 0.5
 - Standard deviation of 3.43% compared to the ACWI standard deviation of 13.14% since December 2011 (26% ratio)
 - Portfolio equity beta of 0.13 with an equity correlation of 0.48
- The Growth Oriented portfolio is being eliminated in connection with the 2021 asset liability study

Growth Oriented Absolute Return Portfolio Performance – as of December 31, 2021

Fund	Market Value	Actual %	Returns								Std Dev	Sharpe Ratio	Incep Date
			Dec	QTD	YTD	FYTD	1 Year	3 Year	5 Year	Incep			
Growth-Oriented Portfolio													
Event Driven													
Third Point Partners Qualified L.P.	78,392,182	7.3%	-2.20%	-4.87%	23.99%	7.23%	23.99%	21.31%	13.37%	11.87%	10.67%	1.02	May-12
Event Driven - HF Total	78,392,182	7.3%	-2.20%	-4.87%	23.99%	7.23%	23.99%	20.37%	12.13%	10.50%	10.73%	0.90	May-12
Equity Long/Short													
Lakewood Capital Partners, LP	59,163,844	5.5%	5.32%	3.84%	32.10%	7.52%	32.10%	14.92%	7.10%	7.37%	14.99%	0.49	Jul-13
Equity Long/Short - HF Total	59,163,844	5.5%	5.32%	3.84%	32.10%	7.52%	32.10%	14.92%	7.10%	7.37%	14.99%	0.49	Jul-13
Multi-Strategy													
Sculptor Domestic Partners II, L.P.	66,056,518	6.2%	0.13%	-1.94%	5.08%	-0.71%	5.08%	13.07%	9.62%	8.21%	6.59%	1.10	Jan-12
Multi-Strategy - HF Total	66,056,518	6.2%	0.13%	-1.94%	5.08%	-0.71%	5.08%	13.07%	9.62%	8.21%	6.59%	1.10	Jan-12
Fund of Funds													
Grosvenor SC Absolute Return Fund LLC (Growth)	61,539,425	5.8%	-0.09%	-0.03%	2.61%	-0.10%	2.61%	6.69%	5.82%	5.75%	6.66%	0.74	Dec-11
Fund of Funds - HF Total	61,539,425	5.8%	-0.09%	-0.03%	2.61%	-0.10%	2.61%	6.69%	5.73%	4.68%	6.88%	0.47	Sep-04
Growth-Oriented Portfolio Total	265,151,969	24.9%	0.48%	-1.24%	13.19%	2.88%	13.19%	12.36%	8.23%	5.64%	7.57%	0.55	Sep-04
HFRI FoF Composite + 1%			0.86%	1.07%	7.53%	21.73%	7.53%	9.59%	6.78%	4.76%	5.39%	0.60	Sep-04
3 Month T-Bills+5%			0.42%	1.25%	5.05%	7.72%	5.05%	5.99%	6.14%	6.28%	0.46%	-	Sep-04
Market Indices													
Libor3Month			0.02%	0.04%	0.16%	0.28%	0.16%	1.01%	1.34%	1.59%	0.48%	-	Sep-04
Bloomberg US Aggregate Bond Index			-0.26%	0.01%	-1.54%	-0.27%	-1.54%	4.80%	3.57%	4.00%	3.17%	0.75	Sep-04
Bloomberg US High Yield Bond Index			1.87%	0.71%	5.28%	17.22%	5.28%	8.83%	6.29%	7.31%	9.16%	0.64	Sep-04
S&P 500 TR			4.48%	11.03%	28.71%	57.23%	28.71%	26.07%	18.48%	11.02%	14.48%	0.69	Sep-04
MSCI AC World Index Free - Net			4.00%	6.68%	18.54%	47.00%	18.54%	20.38%	14.40%	8.73%	15.50%	0.52	Sep-04
MSCI EAFE - Net			5.12%	2.69%	11.26%	35.31%	11.26%	13.54%	9.55%	6.31%	16.69%	0.36	Sep-04
MSCI EMF (Emerging Markets Free) - Net			1.88%	-1.31%	-2.54%	27.80%	-2.54%	10.94%	9.87%	8.66%	21.11%	0.43	Sep-04

Diversifying Absolute Return Portfolio Performance – as of December 31, 2021

Fund	Market Value	Actual %	Returns								Std Dev	Sharpe Ratio	Incep Date
			Dec	QTD	YTD	FYTD	1 Year	3 Year	5 Year	Incep			
Diversifying Portfolio													
Market Neutral													
Aristeia Partners, L.P.	48,684,222	4.6%	0.19%	1.68%	8.19%	2.30%	8.19%	-	-	8.19%	6.23%	1.27	Jan-21
Laurion Capital, Ltd.	62,350,534	5.8%	-0.64%	-3.93%	16.51%	-8.85%	16.51%	16.53%	11.83%	9.89%	9.77%	0.91	Mar-14
LMR Fund Limited	49,691,148	4.7%	0.69%	1.74%	14.92%	5.85%	14.92%	-	-	4.68%	18.64%	0.32	Nov-19
KLS Diversified Fund LP	161,818	0.0%	-4.42%	-5.49%	-3.75%	-6.35%	-3.75%	-3.66%	-	-3.66%	11.86%	-0.33	Jan-19
Two Sigma Risk Premia Enhanced Fund, LP	49,093,002	4.6%	3.50%	9.29%	22.32%	10.69%	22.32%	-	-	3.80%	11.19%	0.33	Sep-19
Market Neutral - HF Total	209,980,723	19.7%	0.81%	1.59%	14.31%	1.23%	14.31%	6.23%	5.79%	6.07%	6.13%	0.82	Mar-14
Event Driven													
BlackRock Event Driven Equity Fund (BILPX)	53,670,140	5.0%	0.61%	0.61%	1.89%	-0.73%	1.89%	-	-	6.23%	6.31%	0.94	Mar-20
Davidson Kempner Institutional Partners LP	58,665,441	5.5%	0.20%	0.08%	6.97%	-0.09%	6.97%	-	-	7.49%	5.53%	1.17	May-19
Elliott International Limited - Class A & B	74,174,243	7.0%	1.60%	4.05%	14.03%	7.40%	14.03%	11.00%	8.73%	8.35%	3.24%	2.19	Apr-12
PSquared US Feeder Fund LP	52,608,803	4.9%	-1.00%	1.93%	3.33%	3.42%	3.33%	-	-	3.80%	4.64%	0.79	Aug-20
Event Driven - HF Total	239,118,627	22.4%	0.00%	1.34%	6.57%	-	0.00%	0.00%	0.00%	7.53%	3.29%	1.94	Apr-12
Equity Long/Short													
Marshall Wace Funds LP - MW Global Opportunities (US) Fund	52,349,878	4.9%	-1.56%	-2.84%	-6.48%	1.09%	-6.48%	5.74%	-	5.74%	8.60%	0.58	Jan-19
Equity Long/Short - HF Total	52,349,878	4.9%	-1.56%	-2.84%	-6.48%	1.09%	-6.48%	5.74%	5.74%	5.74%	8.60%	0.58	Apr-12
Macro-Discretionary													
Eisler Capital Fund LP - Class A	42,704,825	4.0%	-1.04%	-1.94%	-	-5.10%	-	-	-	-5.10%	2.08%	-	Jul-21
Macro-Discretionary - HF Total	42,704,825	4.0%	-1.04%	-1.94%	-5.10%	-5.10%	-9.94%	-1.80%	0.11%	0.27%	4.34%	-0.12	May-12
Macro-Systematic													
Graham Global Investment Fund II SPC Ltd. - Tactical Trend Segregated Por	37,309,500	3.5%	1.60%	-1.33%	2.55%	-3.65%	2.55%	7.11%	-	1.31%	11.95%	0.06	Feb-17
Macro-Systematic - HF Total	37,309,500	3.5%	1.60%	-1.33%	2.55%	-3.65%	2.55%	1.76%	0.17%	0.17%	9.30%	-0.08	Jan-17
Fund of Funds													
Grosvenor SC Absolute Return Fund LLC (Diversifying)	219,813,680	20.6%	1.35%	0.83%	2.85%	3.10%	2.85%	6.25%	2.86%	2.65%	3.76%	0.48	Dec-11
Grosvenor SC Absolute Return Fund LLC Series B	220,528	0.0%	-1.58%	-4.10%	-8.78%	-6.54%	-8.78%	1.17%	-0.71%	0.36%	3.67%	-0.13	Feb-13
Fund of Funds - HF Total	220,034,208	20.6%	1.35%	0.83%	2.84%	3.08%	2.84%	6.34%	2.66%	2.52%	3.60%	0.46	Dec-11
Diversifying Portfolio Total	801,497,762	75.1%	0.63%	0.81%	6.51%	1.56%	6.51%	5.41%	2.83%	2.83%	3.43%	0.57	Dec-11
HFRI FOF: Conservative Index			1.31%	1.23%	8.19%	17.57%	8.19%	6.98%	4.79%	4.04%	3.48%	0.90	Dec-11
3 Month T-Bills+2%			0.17%	0.51%	2.05%	3.14%	2.05%	2.99%	3.14%	2.62%	0.24%	-	Dec-11

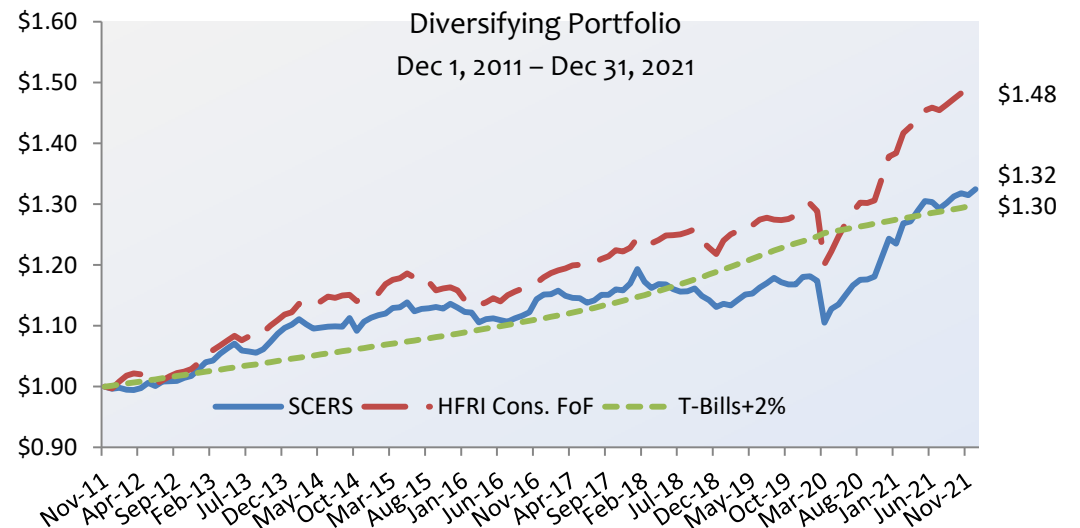
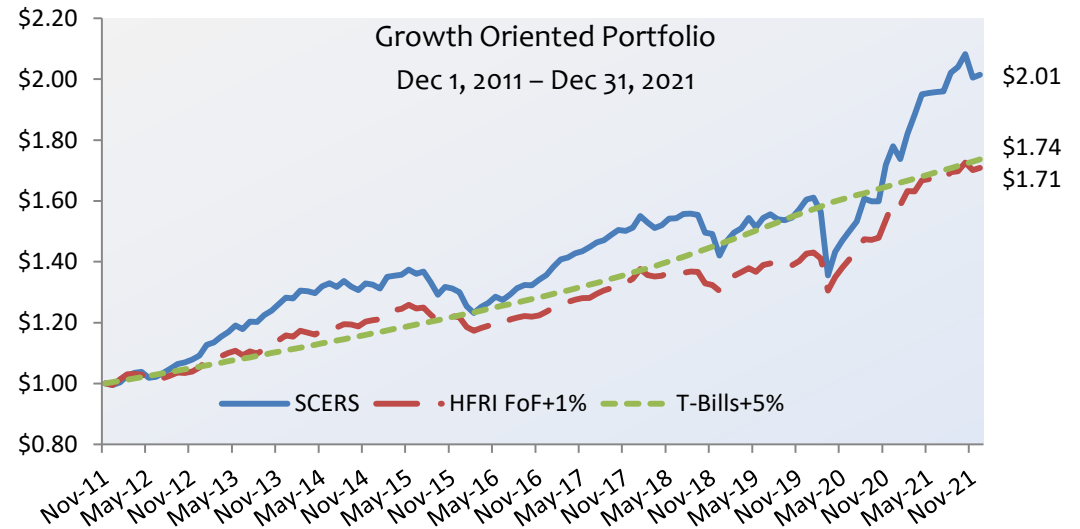
Absolute Return Portfolios Cumulative Performance – December 2011 to December 2021

Despite the sharp downturn in Q1 2020, the Growth Oriented portfolio continues to exceed the T-bills + 5% long term objective and remains ahead of the Fund of Funds Index + 1% benchmark

The Diversifying portfolio is above its T-bills + 2% long term objective though continues to trail the HFRI Fund of Funds Conservative Index over this period

Showing cumulative performance (growth of \$1) for each portfolio since the initial restructuring of the Absolute Return portfolio in December 2011

- The prior exposure of the Absolute Return portfolio was only Equity Long/Short fund of funds investments



Private Equity Portfolio – as of September 30, 2021

The Private Equity portfolio's net IRR since inception is 19.72%, versus the Cambridge Associates benchmark IRR of 15.99%

- The long-term Policy objective (Russell 3000 + 3%) has a 17.66% IRR over this period

The private equity portfolio gained 7.5% in Q3 despite the modest pullback in global equity markets (ACWI -1.1%)

- Gains were once again broad-based and many funds generated returns of more than 10% for the quarter
 - Although some Venture Capital funds saw downturns as equity markets softened, the portfolio saw large gains from several of the Buyout, Growth Equity, and Venture Capital funds
 - TSG7A, Spectrum VII & VIII, Khosla Ventures IV, Marlin Heritage Europe and Gridiron IV reported the largest gains in Q3
- Distributions remained high during the quarter, continuing their strong pace
 - \$98.7 million in distributions, led by Khosla Ventures V, Trinity Ventures XII, Summit VC IV, and AKKR IV & Growth II

Longer-term performance remains quite strong across most of the private equity funds

- Double-digit net IRRs for all vintage years prior to 2020, with all but two vintage years exceeding peer universes
- Spectrum VII (50.4%), Trinity Ventures XII (49.3%), Summit VC IV (47.4%), Linden III (39.3%), AKKR IV (38.7%), Waterland V (35.0%), Marlin Heritage (34.4%), and AKKR Growth II (33.4%) are leading performance among SCERS' more mature funds

The legacy fund of funds, comprising 6.7% of the Private Equity portfolio, reported mixed performance during the quarter

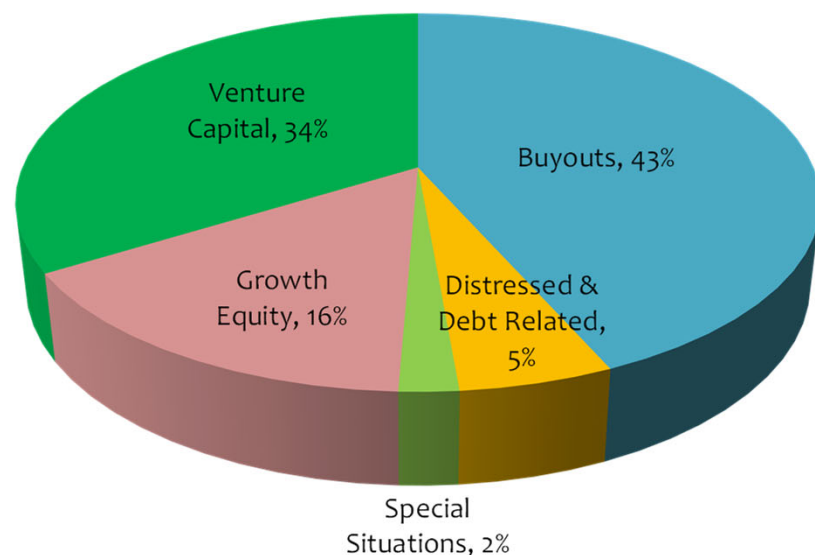
- Abbott Capital VI gained 3.5% in Q3 while HarbourVest International (-3.6%) and Goldman Sachs X (-0.2%) declined
- The legacy fund of funds distributed \$12.6 million during the quarter

Changes during the quarter

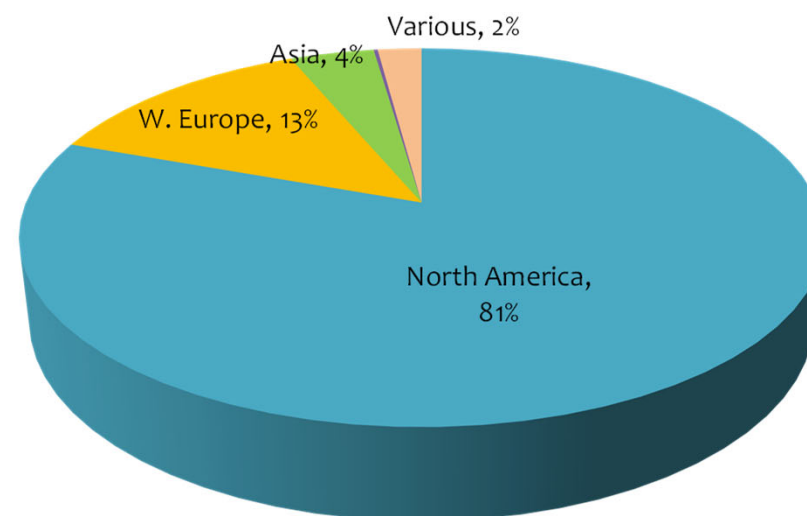
- SCERS committed \$30 million to a distressed debt fund during Q3
 - SCERS also committed \$30 million (re-up) to a small buyout fund in Q4 2021
- \$88.9 million in new contributions, \$98.7 million in distributions
- Total portfolio gain increased by \$125.7 million while the total portfolio IRR increased by 0.35%

Private Equity Portfolio Exposures as of September 30, 2021

Private Equity Portfolio Strategy Exposure*



Private Equity Portfolio Geographic Exposure*



Portfolio Strategy Totals	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI	TVPI Bench.
Buyout	757,926	274,224	579,948	64%	443,362	669,700	1,113,062	533,114	25.81%		1.92x	
Distressed Debt	300,000	101,041	249,403	66%	172,229	136,295	308,524	59,122	7.92%		1.24x	
Fund of Funds	312,315	51,889	271,020	83%	318,339	172,029	490,368	219,348	12.53%		1.81x	
Growth Equity	252,613	123,140	190,958	51%	182,284	271,722	454,006	263,048	37.39%		2.38x	
Opportunistic Credit	20,000	13,951	6,228	30%	492	5,828	6,321	93	N/M		1.01x	
Venture Capital	355,000	92,324	262,694	74%	116,349	527,053	643,402	380,708	26.35%		2.45x	
Portfolio Total :	1,997,854	656,570	1,560,251	67%	1,233,055	1,782,628	3,015,683	1,455,432	19.72%	15.99%	1.93x	

* Exposures are based on the market values of investments as of 9/30/21.

Private Equity Portfolio Performance Details – as of September 30, 2021

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI	TVPI Bench.
Vintage Year 2006													
HarbourVest Partners VIII - Buyout Fund L.P.	Fund of Funds	37,500	1,125	36,375	97%	59,766	6,375	66,141	29,766	11.05%	8.28%	1.82x	1.81x
HarbourVest Partners VIII - Mezzanine and Distressed Debt Fund L.P.	Fund of Funds	5,000	200	4,800	96%	6,169	395	6,565	1,765	7.02%	8.28%	1.37x	1.81x
HarbourVest Partners VIII - Venture Fund L.P.	Fund of Funds	7,500	150	7,350	98%	12,650	4,236	16,886	9,536	12.18%	8.28%	2.30x	1.81x
Vintage Year 2006 Total		50,000	1,475	48,525	97%	78,585	11,006	89,592	41,067	10.98%	7.38%	1.85x	1.50x
Vintage Year 2008													
Abbott Capital Private Equity Fund VI, L.P.	Fund of Funds	75,000	375	74,625	100%	105,285	43,833	149,118	74,493	13.98%	14.14%	2.00x	2.22x
Goldman Sachs Private Equity Partners X, L.P.	Fund of Funds	75,000	13,234	68,958	82%	94,363	28,499	122,863	53,905	11.64%	14.14%	1.78x	2.22x
HarbourVest International Private Equity Partners VI-Partnership Fund L.P.	Fund of Funds	37,315	1,866	37,980	95%	38,847	36,269	75,116	37,136	13.10%	1.38%	1.98x	1.08x
Vintage Year 2008 Total		187,315	15,474	181,563	92%	238,495	108,601	347,097	165,534	12.86%	8.63%	1.91x	1.52x
Vintage Year 2011													
Waterland Private Equity Fund V C.V.	Buyout	18,542	3,207	16,071	83%	33,655	12,572	46,228	30,157	34.95%	11.61%	2.88x	1.66x
Khosla Ventures IV, L.P.	Venture Capital	10,000	190	9,810	98%	24,769	26,465	51,234	41,424	28.02%	19.59%	5.22x	2.79x
Vintage Year 2011 Total		28,542	3,397	25,881	88%	58,424	39,037	97,462	71,581	31.14%	13.70%	3.77x	1.88x
Vintage Year 2012													
Garrison Opportunity Fund III A LLC	Distressed Debt	20,000	0	20,000	100%	12,473	8,608	21,081	1,081	0.87%	16.16%	1.05x	1.67x
Summit Partners Venture Capital III-A, LP	Growth Equity	16,350	1,913	19,692	88%	37,702	3,151	40,853	21,161	17.57%	14.56%	2.07x	2.09x
New Enterprise Associates 14, L.P.	Venture Capital	25,000	875	24,125	97%	25,210	58,959	84,168	60,043	22.06%	19.42%	3.49x	2.74x
Vintage Year 2012 Total		61,350	2,788	63,817	95%	75,384	70,718	146,102	82,285	15.30%	14.27%	2.29x	1.87x
Vintage Year 2013													
Accel-KKR Capital Partners IV, L.P.	Buyout	15,000	318	15,501	98%	35,781	15,839	51,620	36,119	38.65%	17.20%	3.33x	1.95x
H.I.G. Capital Partners V, L.P.	Buyout	14,000	562	13,438	96%	9,216	19,337	28,553	15,115	24.78%	17.20%	2.12x	1.95x
Marlin Equity IV, L.P.	Buyout	20,000	93	19,907	100%	16,662	12,217	28,878	8,971	9.53%	17.20%	1.45x	1.95x
RRJ Capital Master Fund II, L.P.	Buyout	35,000	3,875	35,938	89%	39,544	13,271	52,815	16,877	10.80%	13.74%	1.47x	1.73x
Atalaya Special Opportunities Fund V, L.P.	Distressed Debt	25,000	1,117	24,875	96%	27,095	4,920	32,014	7,139	7.99%	8.65%	1.29x	1.37x
H.I.G. Bayside Loan Opportunity Fund III (Europe-US\$), L.P.	Distressed Debt	30,000	5,769	24,231	81%	27,915	5,104	33,019	8,788	8.20%	3.23%	1.36x	1.12x

¹Benchmarks:

Private Equity Investments: Cambridge Associates median return for the respective strategies and vintage years

Vintage Year Comparison: Cambridge Associates Global Private Equity & Venture Capital median return for the respective vintage years

Private Equity Portfolio: Cambridge Associates Global Private Equity & Venture Capital pooled internal rate of return

Private Equity Portfolio Performance Details – as of September 30, 2021 (continued)

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI	TVPI Bench.
Wayzata Opportunities Fund III, L.P.	Distressed Debt	30,000	24,103	14,718	20%	8,849	4,754	13,603	-1,115	-2.11%	8.65%	0.92x	1.37x
Trinity Ventures XI, L.P.	Venture Capital	25,000	375	24,625	99%	4,835	60,419	65,255	40,630	18.58%	18.61%	2.65x	2.34x
Vintage Year 2013 Total		194,000	36,214	173,232	81%	169,896	135,860	305,756	132,524	14.49%	14.60%	1.77x	1.80x
Vintage Year 2014													
Dyal Capital Partners II	Buyout	35,000	9,081	34,264	74%	10,625	34,109	44,734	10,470	8.63%	17.48%	1.31x	1.91x
H.I.G. Europe Capital Partners II, L.P.	Buyout	16,224	3,534	15,054	78%	6,461	15,900	22,361	7,306	14.76%	16.85%	1.49x	1.79x
Marlin Heritage Fund	Buyout	10,000	2,215	10,508	78%	17,311	8,916	26,227	15,719	34.44%	17.48%	2.50x	1.91x
Thoma Bravo XI	Buyout	30,000	3,203	32,531	89%	61,926	59,177	121,103	88,572	31.80%	17.48%	3.72x	1.91x
TPG Opportunities Partners III	Distressed Debt	40,000	12,658	49,913	68%	48,421	14,389	62,811	12,897	10.78%	9.34%	1.26x	1.30x
Spectrum Equity Investors VII, L.P.	Growth Equity	25,000	1,625	23,375	94%	45,274	88,090	133,365	109,990	50.42%	24.22%	5.71x	2.44x
Khosla Ventures V	Venture Capital	20,000	700	19,300	97%	20,848	51,987	72,835	53,535	31.04%	25.57%	3.77x	2.92x
Vintage Year 2014 Total		176,224	33,016	184,946	81%	210,867	272,568	483,434	298,489	29.30%	19.83%	2.61x	2.08x
Vintage Year 2015													
* WPEF VI Overflow Fund C.V.	Buyout	6,953	6,943	10	0%	0	0	0	-10	0.00%	17.47%	0.00x	1.75x
RRJ Capital Master Fund III, LP	Buyout	40,000	7,577	37,811	81%	35,334	12,759	48,093	10,282	12.20%	17.47%	1.27x	1.75x
WPEF VI Feeder, L.P.	Buyout	27,812	15,789	21,495	43%	21,555	27,107	48,661	27,166	27.98%	17.47%	2.26x	1.75x
Accel-KKR Growth Capital Partners II	Growth Equity	15,000	324	14,676	98%	22,562	11,829	34,391	19,716	33.41%	30.53%	2.34x	2.39x
Summit Partners Venture Capital Fund IV-A, L.P.	Growth Equity	35,000	35,370	36,216	-1%	36,586	43,429	80,014	43,799	47.36%	30.53%	2.21x	2.39x
New Enterprise Associates 15, L.P.	Venture Capital	35,000	1,925	33,079	95%	15,010	73,457	88,467	55,388	24.31%	24.53%	2.67x	2.48x
Vintage Year 2015 Total		159,766	67,929	143,287	57%	131,047	168,580	299,627	156,340	27.41%	19.84%	2.09x	1.94x
Vintage Year 2016													
Accel-KKR Capital Partners V, L.P.	Buyout	25,000	2,162	22,838	91%	15,097	27,782	42,879	20,041	35.58%	23.55%	1.88x	1.87x
Dyal III Pension Investors LP	Buyout	35,000	21,921	22,721	37%	16,485	26,539	43,024	20,303	24.61%	23.55%	1.89x	1.87x
Linden Capital Partners III	Buyout	35,000	4,490	37,510	87%	56,284	57,172	113,456	75,947	39.31%	23.55%	3.02x	1.87x
Marlin Heritage Europe, L.P.	Buyout	15,065	1,771	13,123	88%	0	33,132	33,132	20,010	39.28%	17.11%	2.52x	1.59x
Thoma Bravo Fund XII, L.P.	Buyout	30,000	6,466	40,687	78%	17,154	51,211	68,366	27,679	18.63%	23.55%	1.68x	1.87x
TSG7 A.L.P.	Buyout	16,000	3,432	12,568	79%	4,415	30,717	35,132	22,565	31.26%	23.55%	2.80x	1.87x

¹Benchmarks:

Private Equity Investments: Cambridge Associates median return for the respective strategies and vintage years

Vintage Year Comparison: Cambridge Associates Global Private Equity & Venture Capital median return for the respective vintage years

Private Equity Portfolio: Cambridge Associates Global Private Equity & Venture Capital pooled internal rate of return

Private Equity Portfolio Performance Details – as of September 30, 2021 (continued)

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI	TVPI Bench.
TSG7 B L.P.	Buyout	4,000	222	3,952	94%	1,498	5,726	7,224	3,272	28.74%	23.55%	1.83x	1.87x
Atalaya Special Opportunities Fund VI, L.P.	Distressed Debt	25,000	2,454	28,940	90%	33,875	8,681	42,556	13,616	14.33%	8.69%	1.47x	1.24x
Trinity Ventures XII, L.P.	Venture Capital	30,000	4,275	25,725	86%	23,710	83,452	107,162	81,437	49.28%	30.85%	4.17x	2.31x
Vintage Year 2016 Total		215,065	47,193	208,062	78%	168,519	324,412	492,931	284,869	31.67%	22.45%	2.37x	1.78x
Vintage Year 2017													
Marlin Heritage II	Buyout	10,000	695	9,305	93%	2,110	10,969	13,078	3,774	15.86%	27.02%	1.41x	1.88x
Summit Partners Europe Growth Equity Fund II, SCSP	Growth Equity	34,766	19,619	34,770	44%	23,120	45,203	68,322	33,553	77.21%	20.12%	1.97x	1.48x
New Enterprise Associates 16, L.P.	Venture Capital	35,000	5,425	29,575	85%	1,062	49,031	50,092	20,517	22.77%	33.12%	1.69x	2.11x
Vintage Year 2017 Total		79,766	25,739	73,649	68%	26,291	105,202	131,493	57,844	35.72%	25.66%	1.79x	1.73x
Vintage Year 2018													
Linden Capital Partners IV LP	Buyout	44,330	14,636	32,618	67%	5,772	34,796	40,568	7,950	19.45%	26.44%	1.24x	1.52x
Marlin Equity V	Buyout	25,000	7,872	17,275	69%	7,748	19,582	27,330	10,056	28.60%	26.44%	1.58x	1.52x
TSG8 L.P.	Buyout	45,000	22,552	22,501	50%	132	21,794	21,926	-575	-2.73%	26.44%	0.97x	1.52x
Davidson Kempner Long-Term Distressed Opportunities Fund IV LP	Distressed Debt	35,000	2,400	33,198	93%	1,677	40,512	42,189	8,992	10.63%	N/A	1.27x	N/A
TSSP Opportunities Partners IV (A), L.P.	Distressed Debt	35,000	15,141	30,657	57%	11,650	24,131	35,782	5,125	18.48%	N/A	1.17x	N/A
RCP Fund XIII	Fund of Funds	50,000	29,500	21,372	41%	872	25,756	26,628	5,256	20.50%	27.59%	1.25x	1.39x
RCPDirect III	Fund of Funds	25,000	5,440	19,560	78%	386	26,665	27,052	7,492	24.81%	10.13%	1.38x	1.17x
Accel-KKR Growth Capital Partners III	Growth Equity	33,320	7,937	25,383	76%	0	29,273	29,273	3,889	18.88%	27.26%	1.15x	1.67x
Spectrum Equity VIII, L.P.	Growth Equity	25,000	2,500	22,500	90%	17,040	37,012	54,052	31,552	58.29%	27.26%	2.40x	1.67x
Khosla Ventures VI, L.P.	Venture Capital	35,000	5,495	29,505	84%	0	40,086	40,086	10,581	19.67%	39.46%	1.36x	1.99x
Vintage Year 2018 Total		352,650	113,472	254,568	68%	45,277	299,607	344,884	90,316	22.97%	28.63%	1.35x	1.58x
Vintage Year 2019													
Cortec Group Fund VII, L.P.	Buyout	30,000	21,508	13,115	28%	4,628	15,392	20,020	6,904	N/M	N/M	1.53x	1.37x
Gridiron Capital Fund IV, L.P.	Buyout	30,000	9,896	20,843	67%	796	30,159	30,955	10,112	N/M	N/M	1.49x	1.37x
Thoma Bravo Fund XIII, LP	Buyout	45,000	9,278	49,289	79%	23,173	64,656	87,829	38,540	53.63%	28.39%	1.78x	1.37x
New Enterprise Associates 17, L.P.	Venture Capital	25,000	10,625	14,389	57%	906	20,941	21,847	7,458	46.40%	39.97%	1.52x	1.50x
Threshold Ventures III, L.P.	Venture Capital	20,000	6,940	13,060	65%	0	20,909	20,909	7,849	N/M	N/M	1.60x	1.50x

¹Benchmarks:

Private Equity Investments: Cambridge Associates median return for the respective strategies and vintage years

Vintage Year Comparison: Cambridge Associates Global Private Equity & Venture Capital median return for the respective vintage years

Private Equity Portfolio: Cambridge Associates Global Private Equity & Venture Capital pooled internal rate of return

Private Equity Portfolio Performance Details – as of September 30, 2021 (continued)

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI	TVPI Bench.
Vintage Year 2019 Total		150,000	58,248	110,696	61%	29,503	152,058	181,560	70,864	51.71%	34.36%	1.64x	1.42x
Vintage Year 2020													
Accel-KKR Capital Partners VI, LP	Buyout	30,000	25,799	4,201	14%	0	3,626	3,626	-575	N/M	N/M	0.86x	1.26x
Wynnchurch Capital Partners V	Buyout	20,000	15,941	4,059	20%	0	5,058	5,058	1,000	N/M	N/M	1.25x	1.26x
Davidson Kempner Long-Term Distressed Opportunities Fund V LP	Distressed Debt	30,000	11,149	19,122	63%	274	21,547	21,821	2,699	N/M	N/M	1.14x	N/A
Spectrum Equity IX-A, L.P.	Growth Equity	25,000	19,000	6,000	24%	0	5,547	5,547	-453	N/M	N/M	0.92x	1.23x
Summit Partners Europe Growth Equity Fund III, SCSp	Growth Equity	23,177	18,841	4,358	19%	0	4,242	4,242	-116	N/M	N/M	0.97x	N/A
Summit Partners Venture Capital Fund V-A, L.P.	Growth Equity	20,000	16,011	3,989	20%	0	3,948	3,948	-41	N/M	N/M	0.99x	1.23x
Shamrock Capital Content Fund II, L.P.	Opportunistic Credit	20,000	13,951	6,228	30%	492	5,828	6,321	93	N/M	N/M	1.01x	1.13x
Canvas Ventures 3, L.P.	Venture Capital	20,000	14,269	5,731	29%	0	5,327	5,327	-404	N/M	N/M	0.93x	1.24x
OrbiMed Private Investments VIII, LP	Venture Capital	15,000	9,750	5,250	35%	0	5,370	5,370	120	N/M	N/M	1.02x	1.24x
Vintage Year 2020 Total		203,177	144,712	58,937	29%	766	60,493	61,259	2,322	N/M	N/M	1.04x	1.21x
Vintage Year 2021													
Linden Capital Partners V LP	Buyout	30,000	30,000	0	0%	0	-364	-364	-364	N/M	N/M	N/A	N/A
Shamrock Capital Growth Fund V, L.P.	Buyout	20,000	19,182	818	4%	0	550	550	-268	N/M	N/M	0.67x	1.00x
Strategic Value Special Situations Fund V, L.P.	Distressed Debt	30,000	26,250	3,750	13%	0	3,649	3,649	-101	N/M	N/M	0.97x	N/A
CRV Select Fund I, LP	Venture Capital	20,000	5,250	14,750	74%	0	16,499	16,499	1,749	N/M	N/M	1.12x	0.97x
CRV XVIII, LP	Venture Capital	20,000	10,250	9,750	49%	0	10,166	10,166	416	N/M	N/M	1.04x	0.97x
Khosla Ventures VII, L.P.	Venture Capital	20,000	15,980	4,020	20%	0	3,986	3,986	-34	N/M	N/M	0.99x	0.97x
Vintage Year 2021 Total		140,000	106,912	33,088	24%	0	34,485	34,485	1,397	N/M	N/M	1.04x	0.98x
Portfolio Total :		1,997,854	656,570	1,560,251	67%	1,233,055	1,782,628	3,015,683	1,455,432	19.72%	15.99%	1.93x	

¹Benchmarks:

Private Equity Investments: Cambridge Associates median return for the respective strategies and vintage years

Vintage Year Comparison: Cambridge Associates Global Private Equity & Venture Capital median return for the respective vintage years

Private Equity Portfolio: Cambridge Associates Global Private Equity & Venture Capital pooled internal rate of return

Private Credit Portfolio – as of September 30, 2021

The Private Credit portfolio's net IRR since inception is 9.49%, versus the benchmark return of 6.99%

- The benchmark is the Credit Suisse Leveraged Loan Index + 2%

The Private Credit funds reported another quarter of solid gains, following the recovery from the Q1 2020 downturn

- The portfolio returned 2.8% in Q3 and 15.3% for the trailing 1-year period ending September 30, 2021
 - Most of the funds gained between 1% and 5% during Q3
 - However, the healthcare-focused Athyrium funds reported modest declines in Q3
- Longer term performance has also recovered from the Q1 2020 sell-off
 - 9.9% net IRR for the 3-year period and 9.5% net IRR for the 5-year period
 - The portfolio continues to generate annualized returns of 9% - 10% over multi-year periods

Changes during the quarter

- SCERS made no new commitments to Private Credit funds during the quarter
 - SCERS committed \$40 million (re-up) to a Direct Lending fund in Q4 2021
- \$35.1 million in new contributions, \$27.3 million in distributions
- Total portfolio gain increased by \$7.4 million while the total portfolio IRR increased by 0.12%

Private Credit Portfolio Details – as of September 30, 2021

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI	TVPI Bench.
Vintage Year 2011													
Summit Partners Credit Fund, LP	Direct Lending	20,000	2,125	20,697	89%	26,391	404	26,795	6,098	8.86%	N/A	1.29x	N/A
Vintage Year 2011 Total		20,000	2,125	20,697	89%	26,391	404	26,795	6,098	8.86%	13.70%	1.29x	1.88x
Vintage Year 2014													
Summit Partners Credit Fund II, L.P.	Direct Lending	35,000	3,546	48,551	90%	38,969	18,177	57,147	8,596	6.52%	5.77%	1.18x	N/A
Vintage Year 2014 Total		35,000	3,546	48,551	90%	38,969	18,177	57,147	8,596	6.52%	19.83%	1.18x	2.08x
Vintage Year 2015													
Athyrium Opportunities Fund II	Opportunistic Lending	32,000	2,805	42,342	91%	39,719	12,548	52,268	9,925	9.68%	11.01%	1.23x	1.44x
Vintage Year 2015 Total		32,000	2,805	42,342	91%	39,719	12,548	52,268	9,925	9.68%	19.84%	1.23x	1.94x
Vintage Year 2017													
Athyrium Opportunities Fund III	Opportunistic Lending	25,000	4,198	27,062	83%	14,901	15,692	30,593	3,531	6.62%	11.57%	1.13x	1.25x
Vintage Year 2017 Total		25,000	4,198	27,062	83%	14,901	15,692	30,593	3,531	6.62%	25.66%	1.13x	1.73x
Vintage Year 2018													
Benefit Street Partners Senior Secured Opportunities Fund L.P.	Direct Lending	50,000	11,979	50,953	76%	23,958	36,204	60,161	9,209	5.97%	6.20%	1.18x	N/A
Summit Partners Credit Fund III, L.P.	Direct Lending	50,000	28,500	51,097	43%	29,734	32,398	62,131	11,034	17.25%	6.20%	1.22x	N/A
TCP Direct Lending Fund VIII-S, LLC	Direct Lending	125,000	47,567	77,433	62%	16,798	79,293	96,091	18,658	9.68%	6.20%	1.24x	N/A
Vintage Year 2018 Total		225,000	88,046	179,482	61%	70,489	147,894	218,383	38,901	9.40%	28.63%	1.22x	1.58x
Vintage Year 2019													
BSP Levered US SOF II (Senior Secured Opportunities) Fund L.P.	Direct Lending	50,000	29,681	20,767	41%	871	22,031	22,902	2,134	N/M	N/M	1.10x	N/A
OrbiMed Royalty & Credit Opportunities III, LP	Opportunistic Lending	35,000	30,355	17,493	13%	12,855	10,131	22,986	5,493	39.25%	24.30%	1.31x	1.22x
Vintage Year 2019 Total		85,000	60,036	38,260	29%	13,727	32,162	45,888	7,628	28.08%	34.36%	1.20x	1.42x
Vintage Year 2020													
MCP Private Capital Fund IV (Feeder) SCSp	Direct Lending	36,620	26,629	10,039	27%	0	10,139	10,139	100	N/M	N/M	1.01x	N/A
Silver Point Specialty Credit Fund II, L.P.	Opportunistic Lending	40,000	20,779	19,082	48%	1,628	20,835	22,463	3,381	N/M	N/M	1.18x	1.13x
Vintage Year 2020 Total		76,620	47,408	29,121	38%	1,628	30,974	32,602	3,481	N/M	N/M	1.12x	1.21x

¹Benchmarks:

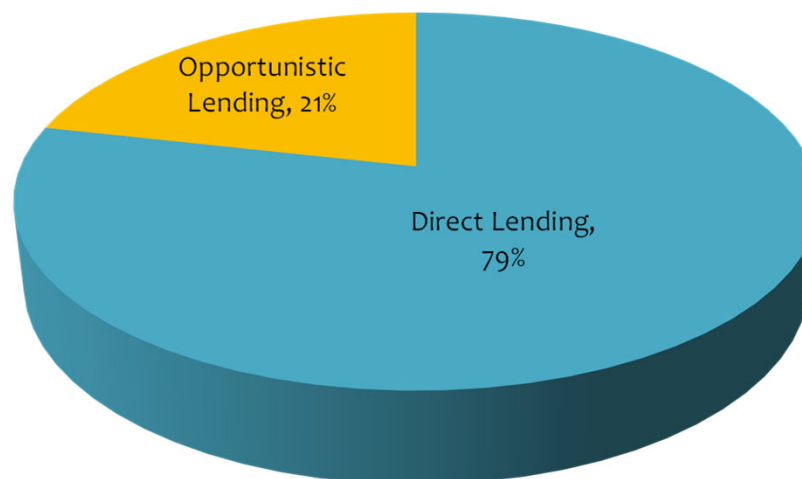
Private Credit Investments: Cambridge Associates median return for the respective debt strategies and vintage years

Private Credit Portfolio: Credit Suisse Leveraged Loan Index + 2%

Private Credit Portfolio Details – as of September 30, 2021 (continued)

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI	TVPI Bench.
Vintage Year 2021													
Ares Capital Europe V	Direct Lending	40,000	31,781	8,219	21%	6	8,948	8,954	735	N/M	N/M	1.09x	N/A
IFM USIDF (Offshore) B Feeder	Direct Lending	40,000	31,153	8,847	22%	87	9,111	9,198	351	N/M	N/M	1.04x	N/A
Shamrock Capital Debt Opportunities Fund I, L.P.	Opportunistic Lending	20,000	19,918	82	0%	0	21	21	-60	N/M	N/M	0.26x	N/A
Vintage Year 2021 Total		100,000	82,853	17,147	17%	93	18,081	18,173	1,026	N/M	N/M	1.06x	0.98x
Portfolio Total :		598,620	291,018	402,663	51%	205,917	275,932	481,849	79,186	9.49%	6.99%	1.20x	
Portfolio Strategy Totals													
Direct Lending		446,620	212,962	296,602	52%	136,813	216,705	353,517	56,916	8.84%		1.19x	
Opportunistic Lending		152,000	78,056	106,061	49%	69,104	59,228	128,331	22,271	11.69%		1.21x	
Portfolio Total :		598,620	291,018	402,663	51%	205,917	275,932	481,849	79,186	9.49%	6.99%	1.20x	

Private Credit Portfolio Strategy Exposure*



* Exposures are based on the market values of investments as of 9/30/21.

¹Benchmarks:

Private Credit Investments: Cambridge Associates median return for the respective debt strategies and vintage years

Private Credit Portfolio: Credit Suisse Leveraged Loan Index + 2%

Real Assets Portfolio – as of September 30, 2021

The Real Assets portfolio's net IRR since inception is 10.39%, versus the blended benchmark return of 6.87%

- The Real Assets portfolio includes private Infrastructure, Energy and Power, and Agriculture, Timber and Other
- Real Assets is part of the broader Real Return asset category

The Real Assets portfolio is primarily Infrastructure and Energy and Power partnerships

- Performance of the Energy and Power partnerships was materially impacted by significant markdowns in Q1 2020
 - However, most of the Energy and Power (particularly upstream energy) partnerships have rebounded sharply since Q3 2020
- Infrastructure partnerships saw smaller declines in Q1 2020 and have maintained good performance since inception
- Since inception net IRRs of 11.5% for Infrastructure and 10.3% for Energy and Power

The Real Assets portfolio generated a 4.7% net return in Q3

- The portfolio's Energy and Power funds led performance during the quarter
 - Most of the Energy and Power funds reported returns between 3% and 10% in Q3 as oil prices continued to strengthen
 - NGP Royalty gained over 20% in Q3 while the Quantum funds reported modest declines
- The Infrastructure funds also reported good performance during the quarter, generally returning 3% to 5% in Q3

Changes during the quarter

- SCERS made no new commitments to Real Assets funds during the quarter
- \$69.7 million in new contributions, \$14.1 million in distributions
 - A majority of the new contributions were made to an open-end infrastructure fund
- Portfolio IRR increased by 0.59% while the total portfolio gain increased by \$33.1 million

Real Assets Portfolio Performance Details – as of September 30, 2021

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI
Vintage Year 2013												
EnCap Energy Capital Fund IX, L.P.	Energy and Power	33,000	1,425	37,856	96%	31,807	16,114	47,921	10,066	7.95%	3.10%	1.27x
Vintage Year 2013 Total		33,000	1,425	37,856	96%	31,807	16,114	47,921	10,066	7.95%		1.27x
Vintage Year 2014												
Carlyle Power Partners II, L.P.	Energy and Power	40,000	3,900	45,402	90%	9,145	45,881	55,025	9,623	7.61%	6.53%	1.21x
EnCap Flatrock Midstream III	Energy and Power	20,000	1,034	23,418	95%	10,633	17,602	28,235	4,817	8.01%	6.53%	1.21x
Global Energy & Power Infrastructure Fund II	Energy and Power	35,000	1,645	37,572	95%	30,632	19,195	49,827	12,255	17.03%	6.53%	1.33x
Quantum Energy Partners VI, LP	Energy and Power	35,000	8,283	32,647	76%	21,236	44,961	66,196	33,549	26.77%	6.53%	2.03x
Pantheon SCERS SIRF MM, LLC	Infrastructure	100,000	32,668	71,632	67%	43,400	62,806	106,206	34,574	10.47%	8.88%	1.48x
Wastewater Opportunity Fund	Infrastructure	25,000	1,320	25,624	95%	9,076	16,484	25,560	-64	-0.09%	8.88%	1.00x
Vintage Year 2014 Total		255,000	48,851	236,295	81%	124,121	206,929	331,049	94,754	12.10%		1.40x
Vintage Year 2015												
ArcLight Energy Partners Fund VI	Energy and Power	40,000	5,604	42,665	86%	17,941	26,065	44,006	1,341	0.95%	8.45%	1.03x
EnCap Energy Capital Fund X, L.P.	Energy and Power	40,000	2,993	39,685	93%	14,523	37,751	52,275	12,589	8.62%	8.45%	1.32x
* Atalaya Real Assets SMA	Real Asset Debt	100,000	84,789	36,169	15%	45,101	0	45,101	8,932	10.27%	N/A	1.25x
Vintage Year 2015 Total		180,000	93,385	118,519	48%	77,565	63,816	141,381	22,862	6.10%		1.19x
Vintage Year 2016												
ACM Fund II, LLC	Agriculture	25,000	2,461	26,685	90%	4,581	16,924	21,506	-5,180	-8.32%	N/A	0.81x
Brookfield Infrastructure Fund III, L.P.	Infrastructure	40,000	7,659	34,185	81%	11,979	34,630	46,608	12,424	11.05%	8.38%	1.36x
IFM Global Infrastructure Fund	Infrastructure	125,053	0	125,053	100%	42,019	142,738	184,757	59,704	13.06%	8.38%	1.48x
Vintage Year 2016 Total		190,053	10,120	185,923	95%	58,579	194,292	252,871	66,948	10.60%		1.36x
Vintage Year 2017												
Quantum Energy Partners VII, LP	Energy and Power	40,000	15,902	28,538	60%	8,006	32,155	40,161	11,623	15.23%	6.33%	1.41x
Meridiam Infrastructure North America Fund III	Infrastructure	50,000	42,542	7,458	15%	1	11,086	11,087	3,629	29.11%	8.79%	1.49x
Vintage Year 2017 Total		90,000	58,444	35,996	35%	8,007	43,241	51,248	15,252	17.09%		1.42x
Vintage Year 2018												
Paine Schwartz Food Chain Fund V, LP	Agriculture	40,000	19,817	20,648	50%	574	22,221	22,795	2,147	N/M	N/M	1.10x

¹Benchmarks:

Real Assets Portfolio: 45% Cambridge Infrastructure, 35% Cambridge Energy, 10% NCREIF Timberland, 10% NCREIF Farmland
 Energy Investments: Cambridge Associates median return for the respective vintage years.
 Infrastructure Investments: Cambridge Associates median return for the respective vintage years.

Real Assets Portfolio Performance Details – as of September 30, 2021 (continued)

Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI
EnCap Flatrock Midstream IV, L.P.	Energy and Power	22,500	13,591	9,494	40%	702	10,528	11,230	1,736	6.98%	7.40%	1.18x
Tailwater Energy Fund III, LP	Energy and Power	32,000	2,265	31,789	93%	2,133	28,650	30,784	-1,006	-1.40%	7.40%	0.97x
ISQ Global Infrastructure Fund II	Infrastructure	50,000	16,057	40,246	68%	6,304	46,020	52,324	12,078	16.35%	10.17%	1.30x
Vintage Year 2018 Total		144,500	51,731	102,177	64%	9,713	107,419	117,132	14,955	8.03%		1.15x
Vintage Year 2019												
Tailwater Energy Fund IV, LP	Energy and Power	35,000	15,613	19,377	55%	0	21,183	21,183	1,806	N/M	N/M	1.09x
Brookfield Infrastructure Fund IV	Infrastructure	40,000	17,525	23,504	56%	3,204	24,266	27,469	3,965	11.79%	13.19%	1.17x
EQT Infrastructure IV (No.2) USD SCSp	Infrastructure	35,000	13,124	23,297	63%	2,663	25,611	28,274	4,977	13.25%	13.19%	1.21x
Vintage Year 2019 Total		110,000	46,261	66,179	58%	5,867	71,059	76,926	10,748	11.85%		1.16x
Vintage Year 2020												
NGP Royalty Partners, L.P.	Energy and Power	40,000	20,872	19,080	48%	191	24,423	24,614	5,534	N/M	N/M	1.29x
Vintage Year 2020 Total		40,000	20,872	19,080	48%	191	24,423	24,614	5,534	N/M		1.29x
Vintage Year 2021												
Digital Colony Partners II, LP	Infrastructure	35,000	25,035	9,937	28%	0	9,534	9,534	-403	N/M	N/M	0.96x
Harrison Street Social Infrastructure Fund, L.P.	Infrastructure	75,000	25,000	50,000	67%	36	50,961	50,997	997	N/M	N/M	1.02x
ISQ Global Infrastructure Fund III (UST), L.P.	Infrastructure	50,000	50,000	0	0%	0	-882	-882	-882	N/M	N/M	N/A
Meridiam Sustainable Infrastructure Europe IV	Infrastructure	46,354	45,823	539	1%	0	174	174	-365	N/M	N/M	0.32x
Vintage Year 2021 Total		206,354	145,858	60,476	29%	36	59,787	59,823	-653	N/M		0.99x
Portfolio Total :		1,248,907	476,947	862,502	62%	315,886	787,081	1,102,967	240,465	10.39%	6.87%	1.28x
Portfolio Strategy Totals												
Agriculture		65,000	22,279	47,333	66%	5,156	39,145	44,300	-3,032	-3.85%		0.94x
Energy and Power		412,500	93,127	367,525	77%	146,949	324,509	471,458	103,933	10.27%		1.28x
Infrastructure		671,407	276,753	411,476	59%	118,681	423,428	542,108	130,633	11.46%		1.32x
Real Asset Debt		100,000	84,789	36,169	15%	45,101	0	45,101	8,932	10.27%		1.25x
Portfolio Total :		1,248,907	476,947	862,502	62%	315,886	787,081	1,102,967	240,465	10.39%	6.87%	1.28x

¹Benchmarks:

Real Assets Portfolio: 45% Cambridge Infrastructure, 35% Cambridge Energy, 10% NCREIF Timberland, 10% NCREIF Farmland

Energy Investments: Cambridge Associates median return for the respective vintage years.

Infrastructure Investments: Cambridge Associates median return for the respective vintage years.

Real Assets Portfolio Exposures as of September 30, 2021

The SCERS Real Assets portfolio is primarily Infrastructure and Energy and Power

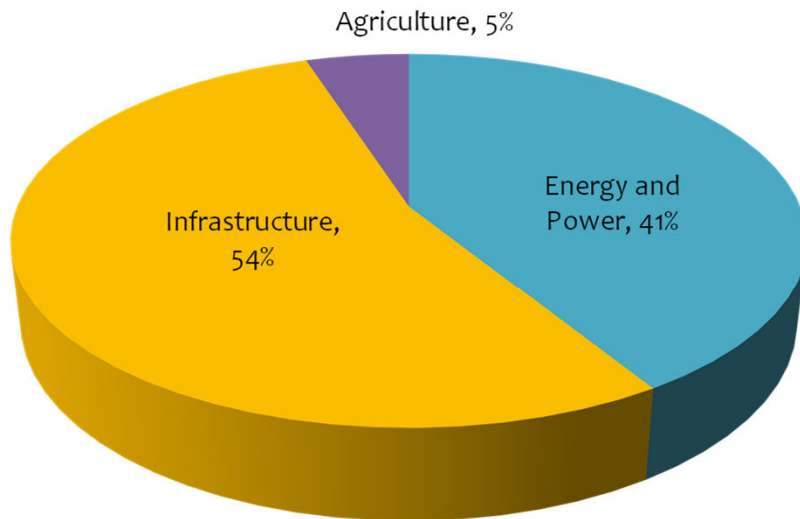
- Other strategies such as Agriculture represent much smaller allocations in the portfolio

The portfolio is focused on North America, though is diversified globally

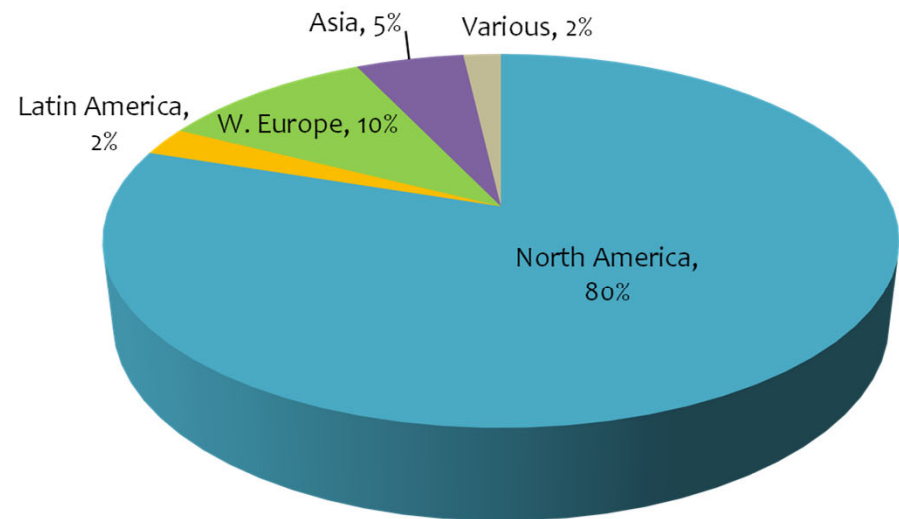
- The portfolio has exposure to Europe, Latin America, and Asia

Portfolio strategy and geographic allocations, based on fair market value of invested capital, shown below

Real Assets Portfolio Strategy Exposure*



Real Assets Portfolio Geographic Exposure*



* Exposures are based on the market values of investments as of 9/30/21.

Important Notice

This presentation was prepared exclusively for information and discussion purposes, and is not meant to be, nor shall it be construed as, an attempt to define all information that may be material to you. All information including opinions or facts expressed herein are current as of the date appearing in this presentation and is subject to change without notice. All third party information has been obtained from sources believed to be reliable. No representation, warranty, or undertaking, express or implied, is given as to the accuracy or completeness of the information or opinions contained in this presentation. Past performance does not guarantee future performance.

This presentation may include sample or pro forma performance. Such information is presented for illustrative purposes only and is based on various assumptions, not all of which are described herein. Such assumptions, data, or projections may have a material impact on the returns shown.

References to market or composite indices (such as the S&P 500), benchmarks or other measures of relative market performance over a specified period of time (each, an “index”) are provided for information only. Reference to an index does not imply that a portfolio will achieve returns, volatility or other results similar to the index. The composition of an index may not reflect the manner in which a portfolio is constructed in relation to expected or achieved returns, portfolio guidelines, restrictions, sectors, correlations, concentrations, volatility or tracking error targets, all of which are subject to change over time.

- Hedge Fund Research, Inc. (“HFR”) is the source and owner of the HFR data contained or reflected in this report and all trademarks related thereto.
- Frank Russell Company (“FRC”) is the source and owner of the Russell Index data contained or reflected in this material and all trademarks and copyrights related thereto. The Russell Index data may contain confidential information and unauthorized use, disclosure, copying, dissemination or redistribution is strictly prohibited.
- Thomson Financial Inc. is the owner and/or licensor of the Cambridge Associates LLC data contained or reflected in this material.