



Board of Retirement Regular Meeting

Sacramento County Employees' Retirement System

Agenda Item 18

MEETING DATE: March 17, 2021

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, 2020 for the Absolute Return portfolio, and the period ending September 30, 2020 for the Private Equity, Private Credit, Real Assets, and Opportunities 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, 2020.

SCERS' alternative asset class period returns are as follows:

SCERS ALTERNATIVE ASSETS PERFORMANCE SUMMARY
Quarter Reporting Periods Ending December 31, 2020

SCERS ASSET CLASS	Quarter*	1-Year*	3-Year*	5-Year*	Since Inception*	Since Inception Date*
SCERS Absolute Return	7.1%	6.6%	3.0%	3.7%	4.1%	Sep-04
HFRI FoF Conservative	5.1%	5.7%	3.7%	3.4%	3.5%	
HFRI FoF Composite + 1%	7.9%	11.4%	5.7%	5.5%	4.6%	
SCERS Private Equity	12.3%	20.2%	21.8%	18.8%	15.9%	Feb-08
Cambridge Private Equity/Venture Capital	9.9%	16.9%	14.5%	14.3%	13.0%	
SCERS Private Credit	5.3%	6.9%	7.0%	7.8%	7.7%	Oct-11
Credit Suisse Leveraged Loan + 2%	4.6%	2.8%	5.2%	6.0%	6.6%	
SCERS Real Assets	1.4%	-7.8%	3.6%	6.2%	6.4%	Jan-13
(45%) Cambridge Private Infrastructure; (35%) Cambridge Private Energy; (20%) NCREIF Agriculture/Timber	2.4%	-4.1%	1.8%	5.0%	5.2%	
SCERS Opportunities	3.4%	-0.2%	4.1%	6.0%	18.3%	Jan-08
SCERS Portfolio Actuarial Rate of Return	1.8%	7.0%	7.0%	7.0%	7.0%	
*Note: Periods ending 9/30/20 for Private Equity, Private Credit, Real Assets, and Opportunities Periods ending 12/31/20 for Absolute Return All returns are net IRR, except Absolute Return which is time-weighted						

SCERS PORTFOLIO RESULTS

For the reporting quarter ended September 30, 2020, SCERS' Private Equity portfolio outperformed its benchmark return, 12.3% versus 9.9%% and was a standout performer in SCERS' alternative assets portfolio. With the rally in the equity markets over the last two quarters and the resurgence in public offerings, private equity returns have been stellar.

After the difficult first quarter brought on by the pandemic, SCERS' Real Assets portfolio has rebounded, in particular, SCERS' infrastructure strategies are outperforming. However, the energy investments in SCERS' Real Assets portfolio continue to suffer negative returns. Overall, SCERS' Real Assets portfolio underperformed against its benchmark return, 1.4%% versus 2.4%, primarily due to the decline in the energy sector.

For the reporting quarter ended December 31, 2020, SCERS' Absolute Return portfolio significantly outperformed against its benchmark return, 7.1% versus 5.1%. The portfolio performance benefited from the outperformance of SCERS' Growth Absolute Return portfolio, which generated an 11.3% return versus its benchmark return of 7.9%, due to the strong performance of the event driven (16.2%) and equity long/short (17.5%) strategies.

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

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- Top performing funds:
 - Absolute Return:
 - Lakewood Capital Partners (equity long/short): +17.4%
 - Third Point Partners Qualified (event driven): +16.2%
 - Laurion Capital (market neutral): +9.6%
 - Private Equity portfolio:
 - Spectrum Equity Investors VII (venture capital): +102.6%
 - Davidson Kempner Long-Term Distressed Opportunities Fund V (distressed debt): +38.2%
 - Waterland Private Equity Fund VI Feeder (buyout): +26.5%
 - Private Credit portfolio:
 - OrbiMed Royalty & Credit Opportunities III (opportunistic): +28.8%
 - Silver Point Specialty Credit Fund II (opportunistic): +15.4%
 - Athyrium Opportunities Fund III (opportunistic): +6.7%
 - Real Assets portfolio:
 - Paine Schwartz Food Chain Fund V (agriculture): +11.4%
 - Brookfield Infrastructure Fund IV (infrastructure): +10.6%
 - ISQ Global Infrastructure Fund II (infrastructure): +5.5%
 - Bottom performing funds:
 - Absolute Return portfolio:
 - Psquared US Feeder Fund (event driven): +2.1%%
 - Grosvenor SCARF B (fund-of-funds): +2.4%
 - Elliott International (event driven): +3.3%
 - Private Equity portfolio:
 - Wynnchurch Capital Partners V (buyout): -44.8%
 - Spectrum Equity IX-A (venture capital): -3.4%
 - Threshold Ventures III (venture capital): -2.8%
 - Private Credit portfolio:
 - Benefit Street Partners Senior Secured Opportunities Fund II (direct lending): -3.1%

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- Summit Partners Credit Fund II (direct lending): -1.2%
 - Summit Partners Credit Fund I (direct lending): +2.0%
 - Real Assets portfolio:
 - NGP Royalty Partners (energy): -12.3%
 - Meridiam Infrastructure North America Fund III (infrastructure): -9.2%
 - EnCap Energy Capital Fund IX (energy): -4.6%

NEW INVESTMENTS

During the quarter ended December 31, 2020, SCERS made the following new investments:

- Canvas 3 (venture capital): \$20 million
- Khosla Ventures Fund VII (venture capital): \$20 million
- OrbiMed Private Investment VIII (venture capital): \$20 million
- ISQ Global Infrastructure Fund III (infrastructure): \$50 million
- Aristeia Partners (absolute return-market neutral): \$45 million

After the quarter, SCERS made the following new investments:

- Digital Colony Partners II (infrastructure): \$40 million

ATTACHMENT

Cliffwater's Quarterly Performance Review for Alternative Assets

Prepared by:

/S/

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Reviewed by:

/S/

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INVESTMENT ADVISORY SERVICES

Los Angeles • New York

Sacramento County Employees' Retirement System Quarterly Performance Review

March 17, 2021



Executive Summary

Absolute Return Portfolio Performance Summary – as of December 31, 2020

Growth Oriented Strategies

- The Growth Oriented Portfolio returned 11.22% in Q4 and 10.79% for the 1-year period ending December 31, 2020
 - Outperformed the HFRI FoF Index + 1% benchmark by 337 bps in Q4 though trailing by 56 bps for the 1-year period
 - Outperformed the T-bills + 5% long term objective by 25 bps (annualized) over the 5-year period ending December 31, 2020
 - Outperformed the HFRI FoF Index + 1% benchmark by 99 bps (annualized) over the 5-year period
- All funds generated positive returns in Q4, led by Lakewood (+17.48%)
- Lakewood was the only fund to generate a negative return for the year (-8.69%); Third Point (+22.15%) led performance

Diversifying Strategies

- The Diversifying Portfolio returned 5.66% in Q4 and 5.26% for the 1-year period ending December 31, 2020
 - Outperformed the HFRI Conservative FoF Index benchmark by 56 bps in Q4 though trailing by 45 bps for the 1-year period
 - Underperforming the T-bills + 2% long term objective by 127 bps (annualized) over the trailing 5-year period
- All funds reported solidly positive returns in Q4, led by Laurion (+9.62%), MW Global Opps (+9.21%), and Graham (+8.40%)
- Large return dispersion among active funds over the 1-year period, ranging from +31.51 (Laurion) to -11.20% (Two Sigma)

Elevated volatility across asset classes during Q1 2020 pushed some portfolio characteristics above their targeted values

- Growth Oriented Portfolio
 - Target standard deviation < 50% of global equities, with an equity beta < 0.5 and equity correlation < 0.8
 - Standard deviation of 7.68% compared to the ACWI standard deviation of 13.51% since December 2011 (57% ratio)
 - Portfolio equity beta of 0.49 with an equity correlation of 0.87
- Diversifying Portfolio
 - Target standard deviation < 25% of global equities, with an equity beta < 0.1 and equity correlation < 0.1
 - Standard deviation of 3.20% compared to the ACWI standard deviation of 13.51% since December 2011 (24% ratio)
 - Portfolio equity beta of 0.11 with an equity correlation of 0.47

Growth Oriented Absolute Return Portfolio Performance – as of December 31, 2020

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.	63,117,214	6.6%	7.20%	16.20%	22.15%	30.56%	22.15%	8.58%	9.91%	10.53%	10.22%	0.94	May-12
Event Driven - HF Total	63,117,214	6.6%	7.20%	16.20%	22.15%	30.56%	22.15%	8.29%	8.34%	9.02%	10.28%	0.80	May-12
Equity Long/Short													
Lakewood Capital Partners, LP	44,787,025	4.7%	2.67%	17.48%	-8.69%	19.80%	-8.69%	-0.51%	3.48%	4.44%	14.10%	0.31	Jul-13
Equity Long/Short - HF Total	44,787,025	4.7%	2.67%	17.48%	-8.69%	19.80%	-8.69%	-0.51%	3.48%	4.44%	14.10%	0.31	Jul-13
Multi-Strategy													
Sculptor Domestic Partners II, L.P.	62,750,248	6.6%	1.93%	5.89%	18.66%	12.14%	18.66%	10.29%	9.26%	8.55%	6.56%	1.14	Jan-12
Multi-Strategy - HF Total	62,750,248	6.6%	1.93%	5.89%	18.66%	12.14%	18.66%	10.29%	9.26%	8.55%	6.56%	1.14	Jan-12
Fund of Funds													
Grosvenor SC Absolute Return Fund LLC (Growth)	91,066,911	9.5%	2.38%	8.92%	9.32%	14.70%	9.32%	4.89%	6.08%	6.09%	6.63%	0.78	Dec-11
Fund of Funds - HF Total	91,066,911	9.5%	2.38%	8.92%	9.32%	14.70%	9.32%	4.87%	5.88%	4.80%	6.88%	0.47	Sep-04
Growth-Oriented Portfolio Total	261,721,398	27.4%	3.44%	11.22%	10.79%	18.41%	10.79%	5.55%	6.45%	5.19%	7.50%	0.49	Sep-04
HFRI FoF Composite + 1%			3.21%	7.85%	11.35%	12.65%	11.35%	5.71%	5.46%	4.56%	5.44%	0.54	Sep-04
3 Month T-Bills+5%			0.42%	1.27%	5.67%	2.54%	5.67%	6.60%	6.20%	6.36%	0.47%	-	Sep-04
Market Indices													
Libor3Month			0.02%	0.06%	0.60%	0.12%	0.60%	1.75%	1.46%	1.67%	0.48%	-	Sep-04
Bloomberg Barclays US Aggregate Bond Index			0.14%	0.67%	7.51%	1.29%	7.51%	5.35%	4.44%	4.35%	3.17%	0.83	Sep-04
Bloomberg Barclays US High Yield Bond Index			1.88%	6.45%	7.11%	11.34%	7.11%	6.23%	8.59%	7.43%	9.41%	0.63	Sep-04
S&P 500 TR			3.84%	12.15%	18.40%	22.16%	18.40%	14.18%	15.22%	10.02%	14.65%	0.61	Sep-04
MSCI AC World Index Free - Net			4.64%	14.68%	16.25%	24.01%	16.25%	10.06%	12.26%	8.16%	15.80%	0.47	Sep-04
MSCI EAFE - Net			4.65%	16.05%	7.82%	21.61%	7.82%	4.28%	7.45%	6.01%	17.04%	0.33	Sep-04
MSCI EMF (Emerging Markets Free) - Net			7.35%	19.70%	18.31%	31.14%	18.31%	6.17%	12.81%	9.39%	21.57%	0.45	Sep-04

Diversifying Absolute Return Portfolio Performance – as of December 31, 2020

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													
Laurion Capital, Ltd.	62,774,337	6.6%	0.79%	9.62%	31.51%	6.61%	31.51%	13.43%	8.81%	8.93%	7.14%	1.07	Mar-14
LMR Fund Limited	43,212,854	4.5%	2.43%	5.77%	-5.85%	11.42%	-5.85%	-	-	-3.41%	25.36%	-0.03	Nov-19
KLS Diversified Fund LP	37,143,836	3.9%	1.80%	4.34%	-7.68%	8.47%	-7.68%	-	-	-3.64%	14.10%	-0.29	Jan-19
Two Sigma Risk Premia Enhanced Fund, LP	40,134,279	4.2%	7.09%	5.50%	-11.20%	3.15%	-11.20%	-	-	-8.22%	10.38%	-0.86	Sep-19
Market Neutral - HF Total	183,265,306	19.2%	2.71%	6.70%	2.35%	7.29%	2.35%	4.11%	3.35%	4.90%	6.10%	0.63	Mar-14
Event Driven													
BlackRock Event Driven Equity Fund (BILPX)	47,837,156	5.0%	0.71%	6.97%	-	9.20%	-	-	-	9.65%	8.87%	-	Mar-20
Davidson Kempner Institutional Partners LP	50,172,367	5.2%	1.98%	4.98%	9.94%	9.58%	9.94%	-	-	7.81%	6.76%	0.95	May-19
Elliott International Limited - Class A & B	65,044,741	6.8%	2.80%	3.31%	12.68%	6.43%	12.68%	7.07%	8.39%	7.72%	3.32%	1.95	Apr-12
PSquared US Feeder Fund LP	45,914,296	4.8%	-0.21%	2.10%	-	-	-	-	-	2.03%	-	-	Aug-20
Event Driven - HF Total	208,968,561	21.8%	1.93%	4.88%	11.58%	8.27%	11.58%	6.56%	8.09%	7.54%	3.53%	1.79	Apr-12
Equity Long/Short													
Marshall Wace Funds LP - MW Global Opportunities (US) Fund	50,573,610	5.3%	2.17%	9.21%	18.66%	14.14%	18.66%	-	-	12.44%	5.99%	1.73	Jan-19
Equity Long/Short - HF Total	50,573,610	5.3%	2.17%	9.21%	18.66%	14.14%	18.66%	12.44%	12.44%	12.44%	5.99%	1.73	Apr-12
Macro-Systematic													
Graham Global Investment Fund II SPC Ltd. - Tactical Trend Segregated	36,380,838	3.8%	6.57%	8.40%	1.73%	11.80%	1.73%	1.01%	-	0.99%	12.82%	0.01	Feb-17
Macro-Systematic - HF Total	36,380,838	3.8%	6.57%	6.70%	-6.76%	5.71%	-6.76%	-1.60%	-	-0.42%	9.64%	-0.16	Jan-17
Fund of Funds													
Grosvenor SC Absolute Return Fund LLC (Diversifying)	213,434,912	22.3%	2.81%	5.66%	10.08%	9.56%	10.08%	4.36%	2.20%	2.61%	3.76%	0.45	Dec-11
Grosvenor SC Absolute Return Fund LLC Series B	2,078,984	0.2%	1.53%	2.39%	6.71%	5.24%	6.71%	3.04%	0.46%	1.56%	3.39%	0.17	Feb-13
Fund of Funds - HF Total	215,513,896	22.5%	2.80%	5.63%	10.14%	9.38%	10.14%	4.19%	1.74%	2.47%	3.59%	0.43	Dec-11
Diversifying Portfolio Total	694,702,211	72.6%	2.51%	5.66%	5.26%	7.96%	5.26%	2.04%	1.93%	2.42%	3.43%	0.43	Dec-11
HFRI FOF: Conservative Index			1.89%	5.10%	5.71%	7.90%	5.71%	3.66%	3.40%	3.51%	3.50%	0.73	Dec-11
3 Month T-Bills+2%			0.18%	0.53%	2.67%	1.07%	2.67%	3.60%	3.20%	2.69%	0.25%	-	Dec-11

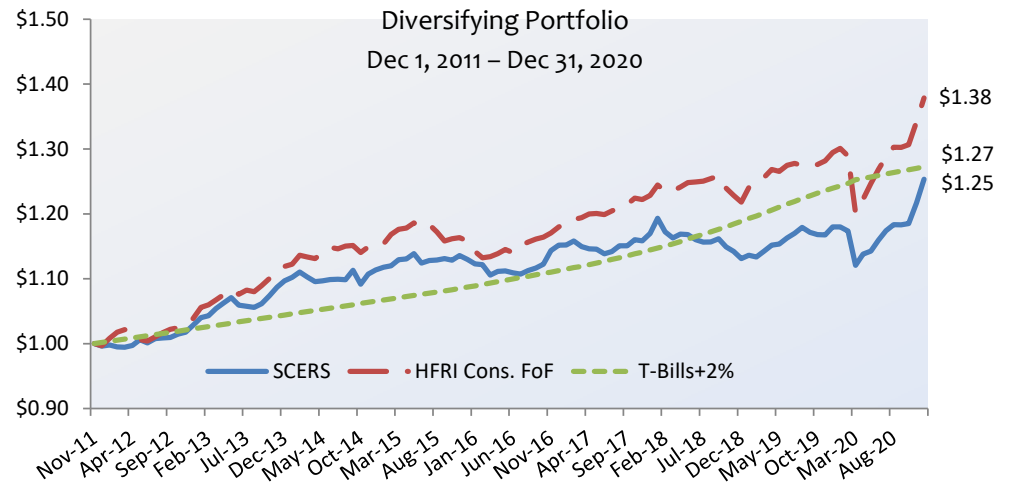
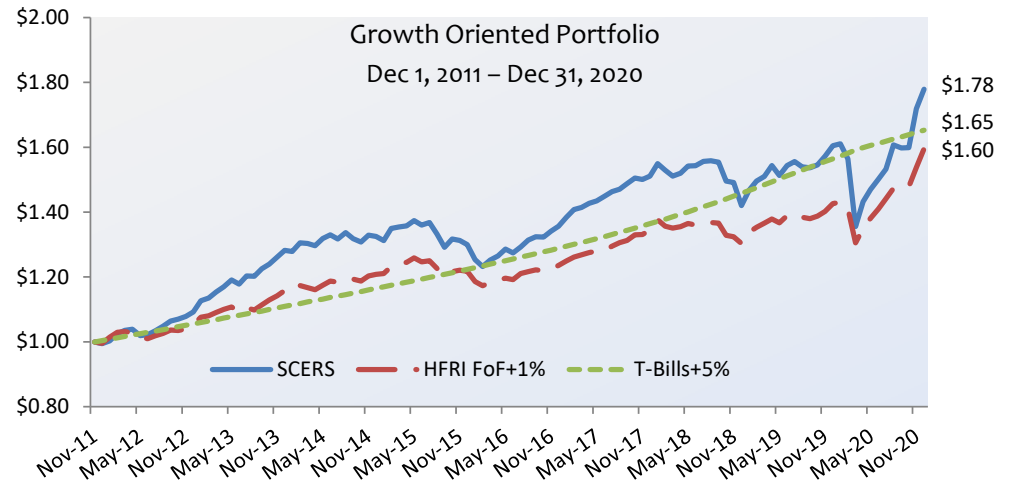
Absolute Return Portfolios Cumulative Performance – December 2011 to December 2020

Despite the sharp downturn in Q1, the Growth Oriented portfolio is again exceeding the T-bills + 5% long term objective; the portfolio remains ahead of the Fund of Funds Index + 1% benchmark

The Diversifying portfolio is nearing the 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, 2020

The Private Equity portfolio's net IRR since inception is 15.86%, versus the Cambridge Associates benchmark IRR of 13.04%

- The long-term Policy objective (Russell 3000 + 3%) has a 15.59% IRR over this period

The private equity portfolio gained 12.3% in Q3 as financial markets continued to rally following the pandemic-driven Q1 sell-off

- Gains were once again broad-based and many funds generated returns of more than 20% for the quarter
 - Spectrum VII, DKL Distressed V, Waterland VI, Linden III, and Summit Europe Growth II reported the largest gains
- Distributions picked up with increased transaction activity, following a slowdown in Q2
 - \$51.4 million in distributions, led by Thoma Bravo XIII, Summit Europe Growth II, Thoma Bravo XI, and Linden IV

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

- Double-digit net IRRs for all vintage years prior to 2018, with almost all vintage years exceeding peer universes
- Spectrum VII (51.3%), Summit VC IV (37.5%), Accel-KKR IV (35.7%), Waterland V (35.5%), and Marlin Heritage (35.1%) are leading performance among SCERS' more mature funds

The legacy fund of funds generally reported solid gains during the quarter

- Aggregate since inception net IRR increased from 11.10% to 11.36% during the quarter
 - The aggregate total value (TVPI) increased from 1.63x to 1.67x
- The legacy fund of funds comprise only 9.8% of the current fair value of the Private Equity portfolio

Changes during the quarter

- SCERS committed \$20 million to CRV XVIII and \$15 million to OrbiMed VIII (both venture capital) during Q3
 - SCERS committed \$40 million in total to two venture capital funds in Q4 2020
- \$35.5 million in new contributions, \$51.4 million in distributions
- Total portfolio gain increased by \$131.6 million while the total portfolio IRR increased by 1.23%

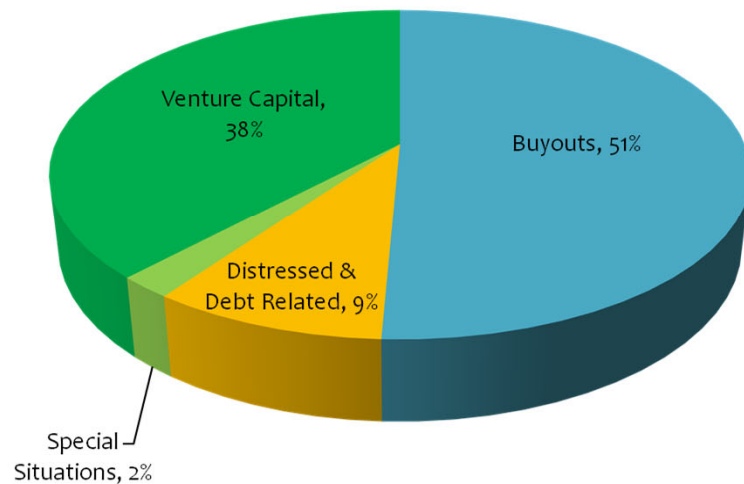
Private Equity Portfolio Characteristics as of September 30, 2020

The SCERS Private Equity portfolio is diversified by strategy and geography

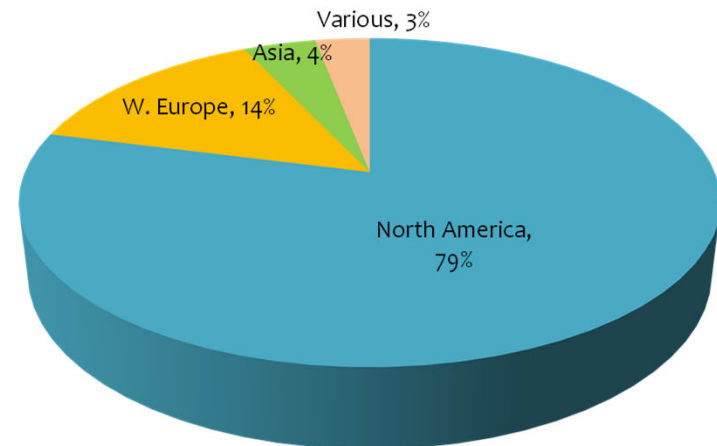
- Investments remain focused in North America, with meaningful exposure to Europe

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

Market Value Strategy Exposure*



Market Value Geographic Exposure*



* Exposures are based on the market values of investments as of 9/30/20.

Private Equity Portfolio Performance Details – as of September 30, 2020

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 2006												
HarbourVest Partners VIII - Buyout Fund L.P.	Fund of Funds	37,500	1,125	36,375	97%	54,226	9,664	63,890	27,515	10.78%	7.34%	1.76x
HarbourVest Partners VIII - Mezzanine and Distressed Debt Fund L.P.	Fund of Funds	5,000	200	4,800	96%	6,023	485	6,508	1,708	6.95%	7.34%	1.36x
HarbourVest Partners VIII - Venture Fund L.P.	Fund of Funds	7,500	150	7,350	98%	11,016	3,709	14,725	7,375	11.00%	7.34%	2.00x
Vintage Year 2006 Total		50,000	1,475	48,525	97%	71,264	13,858	85,122	36,597	10.53%	7.00%	1.75x
Vintage Year 2008												
Abbott Capital Private Equity Fund VI, L.P.	Fund of Funds	75,000	375	74,625	100%	84,296	46,173	130,469	55,844	12.45%	13.42%	1.75x
Goldman Sachs Private Equity Partners X, L.P.	Fund of Funds	75,000	13,234	68,958	82%	93,427	21,547	114,974	46,016	11.00%	13.42%	1.67x
HarbourVest International Private Equity Partners VI-Partnership Fund L.P.	Fund of Funds	37,765	1,888	37,980	95%	31,237	34,700	65,937	27,957	11.92%	5.12%	1.74x
Vintage Year 2008 Total		187,765	15,497	181,563	92%	208,960	102,420	311,380	129,817	11.75%	9.16%	1.71x
Vintage Year 2011												
Waterland Private Equity Fund V C.V.	Buyout	18,765	3,407	15,934	82%	30,070	13,406	43,475	27,542	35.48%	10.56%	2.73x
Khosla Ventures IV, L.P.	Venture Capital	10,000	190	9,810	98%	15,153	14,715	29,867	20,057	21.43%	18.23%	3.04x
Vintage Year 2011 Total		28,765	3,597	25,744	87%	45,223	28,120	73,343	47,599	28.49%	14.30%	2.85x
Vintage Year 2012												
Garrison Opportunity Fund III A LLC	Distressed Debt	20,000	0	20,000	100%	8,043	11,047	19,090	-910	-0.85%	13.85%	0.95x
New Enterprise Associates 14, L.P.	Venture Capital	25,000	1,125	23,875	96%	23,784	30,025	53,808	29,933	16.38%	15.80%	2.25x
Summit Partners Venture Capital III-A, LP	Venture Capital	16,350	1,504	19,692	91%	21,135	19,517	40,652	20,960	18.05%	15.80%	2.06x
Vintage Year 2012 Total		61,350	2,629	63,567	96%	52,962	60,588	113,550	49,983	12.01%	14.41%	1.79x
Vintage Year 2013												
Accel-KKR Capital Partners IV, L.P.	Buyout	15,000	318	14,978	98%	23,270	16,119	39,389	24,412	35.74%	13.67%	2.63x
H.I.G. Capital Partners V, L.P.	Buyout	14,000	1,255	12,745	91%	4,890	15,700	20,590	7,845	19.80%	13.67%	1.62x
Marlin Equity IV, L.P.	Buyout	20,000	103	19,897	99%	10,243	15,846	26,089	6,192	8.00%	13.67%	1.31x
RRJ Capital Master Fund II, L.P.	Buyout	35,000	3,917	35,896	89%	34,547	12,624	47,171	11,275	8.63%	12.97%	1.31x
H.I.G. Bayside Loan Opportunity Fund III (Europe-US\$), L.P.	Distressed Debt	30,000	5,769	24,231	81%	24,500	7,139	31,638	7,408	7.55%	4.95%	1.31x
Wayzata Opportunities Fund III, L.P.	Distressed Debt	30,000	24,103	14,718	20%	8,849	5,182	14,031	-687	-1.40%	8.19%	0.95x

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, 2020 (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
Trinity Ventures XI, L.P.	Venture Capital	25,000	1,500	23,500	94%	4,835	35,450	40,286	16,786	11.84%	14.22%	1.71x
Vintage Year 2013 Total		169,000	36,966	145,965	78%	111,135	108,060	219,195	73,230	11.84%	13.08%	1.50x
Vintage Year 2014												
Dyal Capital Partners II	Buyout	35,000	8,628	29,610	75%	5,517	20,833	26,350	-3,260	-4.50%	16.58%	0.89x
H.I.G. Europe Capital Partners II, L.P.	Buyout	16,420	2,992	13,378	82%	2,818	12,120	14,938	1,560	5.08%	13.03%	1.12x
Marlin Heritage Fund	Buyout	10,000	2,293	10,430	77%	15,749	8,347	24,096	13,666	35.05%	16.58%	2.31x
Thoma Bravo XI	Buyout	30,000	3,203	32,531	89%	54,325	50,698	105,022	72,491	31.54%	16.58%	3.23x
TPG Opportunities Partners III	Distressed Debt	40,000	13,014	48,903	67%	41,314	15,687	57,000	8,097	8.35%	6.69%	1.17x
Khosla Ventures V	Venture Capital	20,000	700	19,300	97%	1,013	25,994	27,007	7,707	9.53%	17.51%	1.40x
Spectrum Equity Investors VII, L.P.	Venture Capital	25,000	1,625	23,375	94%	29,634	75,017	104,651	81,276	51.33%	17.51%	4.48x
Vintage Year 2014 Total		176,420	32,455	177,527	82%	150,370	208,694	359,065	181,538	25.40%	17.93%	2.02x
Vintage Year 2015												
* WPEF VI Overflow Fund C.V.	Buyout	7,037	7,027	10	0%	0	0	0	-10	0.00%	9.45%	0.00x
RRJ Capital Master Fund III, LP	Buyout	40,000	7,541	35,828	81%	30,812	12,188	43,000	7,172	10.25%	9.45%	1.20x
WPEF VI Feeder, L.P.	Buyout	28,148	10,067	20,309	64%	6,092	32,687	38,779	18,470	27.10%	9.45%	1.91x
Accel-KKR Growth Capital Partners II	Mezzanine	15,000	880	14,120	94%	9,537	10,253	19,789	5,669	17.39%	8.67%	1.40x
New Enterprise Associates 15, L.P.	Venture Capital	35,000	1,925	33,079	95%	8,074	54,215	62,288	29,209	19.32%	14.85%	1.88x
Summit Partners Venture Capital Fund IV-A, L.P.	Venture Capital	35,000	25,211	29,839	28%	20,050	28,680	48,730	18,892	37.49%	14.85%	1.63x
Vintage Year 2015 Total		160,185	52,651	133,185	67%	74,564	138,023	212,587	79,402	21.17%	14.38%	1.60x
Vintage Year 2016												
Accel-KKR Capital Partners V, L.P.	Buyout	25,000	6,809	18,191	73%	7,343	16,544	23,887	5,696	20.04%	12.45%	1.31x
Dyal III Pension Investors LP	Buyout	35,000	22,040	21,125	37%	12,017	20,948	32,964	11,839	20.54%	12.45%	1.56x
Linden Capital Partners III	Buyout	35,000	8,057	33,943	77%	25,982	52,299	78,281	44,338	33.18%	12.45%	2.31x
Marlin Heritage Europe, L.P.	Buyout	15,247	1,936	12,978	87%	0	19,297	19,297	6,319	25.41%	10.07%	1.49x
Thoma Bravo Fund XII, L.P.	Buyout	30,000	1,323	37,254	96%	8,578	46,507	55,085	17,831	17.39%	12.45%	1.48x
TSG7 A L.P.	Buyout	16,000	3,792	12,208	76%	202	16,817	17,018	4,811	12.58%	12.45%	1.39x
TSG7 B L.P.	Buyout	4,000	512	3,662	87%	806	3,027	3,833	171	3.22%	12.45%	1.05x

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, 2020 (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
Atalaya Special Opportunities Fund VI, L.P.	Distressed Debt	25,000	2,454	28,940	90%	23,301	15,414	38,715	9,775	12.27%	7.87%	1.34x
Trinity Ventures XII, L.P.	Venture Capital	30,000	5,625	24,375	81%	0	44,277	44,277	19,902	25.79%	16.58%	1.82x
Vintage Year 2016 Total		215,247	52,548	192,676	76%	78,229	235,128	313,357	120,682	21.95%	14.77%	1.63x
Vintage Year 2017												
Marlin Heritage II	Buyout	10,000	1,873	8,127	81%	0	9,207	9,207	1,081	8.00%	17.67%	1.13x
Summit Partners Europe Growth Equity Fund II, SCSP	Buyout	35,185	22,220	28,698	37%	23,120	21,578	44,698	16,000	80.12%	13.52%	1.56x
New Enterprise Associates 16, L.P.	Venture Capital	35,000	8,313	26,688	76%	1,062	34,052	35,114	8,426	17.09%	17.08%	1.32x
Vintage Year 2017 Total		80,185	32,406	63,512	60%	24,181	64,837	89,019	25,507	30.16%	16.72%	1.40x
Vintage Year 2018												
Linden Capital Partners IV LP	Buyout	44,330	24,946	21,940	44%	4,246	18,926	23,172	1,232	8.04%	6.97%	1.06x
Marlin Equity V	Buyout	25,000	14,419	10,727	42%	521	14,249	14,770	4,043	21.77%	6.97%	1.38x
TSG8 L.P.	Buyout	45,000	35,955	9,045	20%	0	6,087	6,087	-2,958	N/M	N/M	0.67x
Davidson Kempner Long-Term Distressed Opportunities Fund IV LP	Distressed Debt	35,000	5,497	30,100	84%	597	32,596	33,193	3,093	6.50%	N/A	1.10x
TSSP Opportunities Partners IV (A), L.P.	Distressed Debt	35,000	23,895	14,741	32%	3,803	12,153	15,956	1,215	N/M	N/M	1.08x
RCP Fund XIII	Fund of Funds	50,000	39,500	10,500	21%	0	9,864	9,864	-636	N/M	N/M	0.94x
RCPDirect III	Fund of Funds	25,000	16,114	8,886	36%	386	10,324	10,711	1,824	N/M	N/M	1.21x
Accel-KKR Growth Capital Partners III	Mezzanine	33,320	24,827	8,493	25%	0	8,338	8,338	-155	N/M	N/M	0.98x
Khosla Ventures VI, L.P.	Venture Capital	35,000	16,520	18,480	53%	0	18,242	18,242	-238	-1.04%	17.39%	0.99x
Spectrum Equity VIII, L.P.	Venture Capital	25,000	2,500	22,500	90%	0	21,433	21,433	-1,067	-4.58%	17.39%	0.95x
Vintage Year 2018 Total		352,650	204,173	155,412	42%	9,554	152,211	161,765	6,352	3.75%	9.50%	1.04x
Vintage Year 2019												
Cortec Group Fund VII, L.P.	Buyout	30,000	22,004	10,848	27%	2,856	9,254	12,109	1,261	N/M	N/M	1.12x
Gridiron Capital Fund IV, L.P.	Buyout	30,000	22,279	7,721	26%	0	8,773	8,773	1,053	N/M	N/M	1.14x
Thoma Bravo Fund XIII, LP	Buyout	45,000	25,913	32,362	42%	21,014	38,255	59,269	26,907	N/M	N/M	1.83x
New Enterprise Associates 17, L.P.	Venture Capital	25,000	18,063	6,951	28%	0	7,830	7,830	879	N/M	N/M	1.13x
Threshold Ventures III, L.P.	Venture Capital	20,000	13,150	6,850	34%	0	6,227	6,227	-623	N/M	N/M	0.91x
Vintage Year 2019 Total		150,000	101,409	64,732	32%	23,870	70,339	94,209	29,477	N/M	N/M	1.46x

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, 2020 (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
Vintage Year 2020												
Accel-KKR Capital Partners VI, LP	Buyout	30,000	30,000	0	0%	0	0	0	0	N/M	N/M	N/A
Summit Partners Europe Growth Equity Fund III, SCSp	Buyout	23,457	23,457	0	0%	0	-87	-87	-87	N/M	N/M	N/A
Wynnchurch Capital Partners V	Buyout	20,000	19,478	522	3%	0	240	240	-283	N/M	N/M	0.46x
Davidson Kempner Long-Term Distressed Opportunities Fund V LP	Distressed Debt	30,000	26,977	3,280	10%	257	3,510	3,767	487	N/M	N/M	1.15x
Shamrock Capital Content Fund II, L.P.	Opportunistic Credit	20,000	19,644	361	2%	0	4	4	-357	N/M	N/M	0.01x
CRV XVIII, LP	Venture Capital	20,000	20,000	0	0%	0	0	0	0	N/M	N/M	N/A
OrbiMed Private Investments VIII, LP	Venture Capital	15,000	15,000	0	0%	0	0	0	0	N/M	N/M	N/A
Spectrum Equity IX-A, L.P.	Venture Capital	25,000	23,500	1,500	6%	0	1,449	1,449	-51	N/M	N/M	0.97x
Summit Partners Venture Capital Fund V-A, L.P.	Venture Capital	20,000	20,000	0	0%	0	0	0	0	N/M	N/M	N/A
Vintage Year 2020 Total		203,457	198,056	5,664	3%	257	5,117	5,374	-290	N/M	N/M	0.95x
Portfolio Total :		1,835,023	733,861	1,258,071	60%	850,568	1,187,396	2,037,965	779,894	15.86%	13.04%	1.62x
Portfolio Strategy Totals												
Buyout		767,588	337,764	510,896	56%	325,018	512,486	837,505	326,609	22.79%		1.64x
Distressed Debt		245,000	101,710	184,913	58%	110,663	102,726	213,389	28,477	5.61%		1.15x
Fund of Funds		312,765	72,585	249,474	77%	280,611	136,467	417,077	167,603	11.36%		1.67x
Mezzanine		48,320	25,707	22,613	47%	9,537	18,590	28,127	5,514	14.63%		1.24x
Opportunistic Credit		20,000	19,644	361	2%	0	4	4	-357	N/M		0.01x
Venture Capital		441,350	176,451	289,814	60%	124,740	417,122	541,862	252,048	21.41%		1.87x
Portfolio Total :		1,835,023	733,861	1,258,071	60%	850,568	1,187,396	2,037,965	779,894	15.86%	13.04%	1.62x
Portfolio Geography Totals												
US		1,548,000	643,641	1,032,830	58%	667,373	1,021,745	1,689,117	656,287	15.88%		1.64x
Non-US		287,023	90,220	225,241	69%	183,196	165,652	348,847	123,607	15.79%		1.55x
Portfolio Total		1,835,023	733,861	1,258,071	60%	850,568	1,187,396	2,037,965	779,894	15.86%	13.04%	1.62x

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, 2020

The Private Credit portfolio's net IRR since inception is 7.70%, versus the benchmark return of 6.61%

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

The Private Credit funds reported another quarter of strong gains, following the downturn experienced in Q1

- The portfolio returned 5.3% in Q3 and 6.9% for the trailing 1-year period ending September 30, 2020
 - Most of the funds were up between 2% and 7% during Q3, with even larger gains from Silver Point SC II and OrbiMed Royalty III
- Longer term performance is also regaining lost ground following the sizeable sell-off in Q1
 - 7.0% net IRR for the 3-year period and 7.8% net IRR for the 5-year period
 - The portfolio is back to generating annualized returns of 7% - 8% over multi-year periods

Changes during the quarter

- SCERS committed \$40 million to Silver Point Specialty Credit II (Opportunistic Credit) during Q3
 - SCERS made no new commitments to Private Credit funds in Q4 2020
- \$6.5 million in new contributions, \$5.1 million in distributions
- Total portfolio gain increased by \$11.2 million while the total portfolio IRR increased by 1.23%

Private Credit Portfolio Details – as of September 30, 2020

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 2011												
Summit Partners Credit Fund, LP	Direct Lending	20,000	2,125	20,697	89%	26,198	511	26,709	6,013	8.82%	N/A	1.29x
Vintage Year 2011 Total		20,000	2,125	20,697	89%	26,198	511	26,709	6,013	8.82%	14.30%	1.29x
Vintage Year 2014												
Summit Partners Credit Fund II, L.P.	Direct Lending	35,000	4,061	48,036	88%	30,162	24,313	54,475	6,439	5.92%	3.42%	1.13x
Vintage Year 2014 Total		35,000	4,061	48,036	88%	30,162	24,313	54,475	6,439	5.92%	17.93%	1.13x
Vintage Year 2015												
Athyrium Opportunities Fund II	Opportunistic Credit	32,000	3,964	40,995	88%	33,048	16,410	49,458	8,463	9.61%	8.67%	1.21x
Vintage Year 2015 Total		32,000	3,964	40,995	88%	33,048	16,410	49,458	8,463	9.61%	14.38%	1.21x
Vintage Year 2017												
Athyrium Opportunities Fund III	Opportunistic Credit	25,000	8,564	22,232	66%	8,209	16,619	24,828	2,596	7.34%	7.87%	1.12x
Vintage Year 2017 Total		25,000	8,564	22,232	66%	8,209	16,619	24,828	2,596	7.34%	16.72%	1.12x
Vintage Year 2018												
Benefit Street Partners Senior Secured Opportunities Fund L.P.	Direct Lending	50,000	5,370	50,953	89%	10,755	44,077	54,832	3,879	3.52%	2.98%	1.08x
Summit Partners Credit Fund III, L.P.	Direct Lending	50,000	26,194	36,100	48%	12,294	28,667	40,961	4,861	N/M	N/M	1.13x
TCP Direct Lending Fund VIII-S, LLC	Direct Lending	100,000	28,567	71,433	71%	10,899	69,160	80,059	8,625	7.21%	2.98%	1.12x
Vintage Year 2018 Total		200,000	60,131	158,486	70%	33,947	141,904	175,852	17,366	6.50%	9.50%	1.11x
Vintage Year 2019												
BSP Levered US SOF II (Senior Secured Opportunities) Fund L.P.	Direct Lending	50,000	46,926	3,063	6%	0	3,812	3,812	749	N/M	N/M	1.24x
OrbiMed Royalty & Credit Opportunities III, LP	Opportunistic Credit	35,000	29,668	6,993	15%	1,668	7,256	8,924	1,931	N/M	N/M	1.28x
Vintage Year 2019 Total		85,000	76,594	10,056	10%	1,668	11,069	12,737	2,680	N/M	N/M	1.27x
Vintage Year 2020												
IFM USIDF (Offshore) B Feeder	Direct Lending	40,000	40,000	0	0%	0	0	0	0	N/M	N/M	N/A
MCP Private Capital Fund IV (Feeder) SCSp	Direct Lending	37,061	34,705	2,215	6%	0	2,214	2,214	-1	N/M	N/M	1.00x
Silver Point Specialty Credit Fund II, L.P.	Opportunistic Credit	40,000	35,879	4,210	10%	158	4,740	4,899	689	N/M	N/M	1.16x

¹Benchmarks:

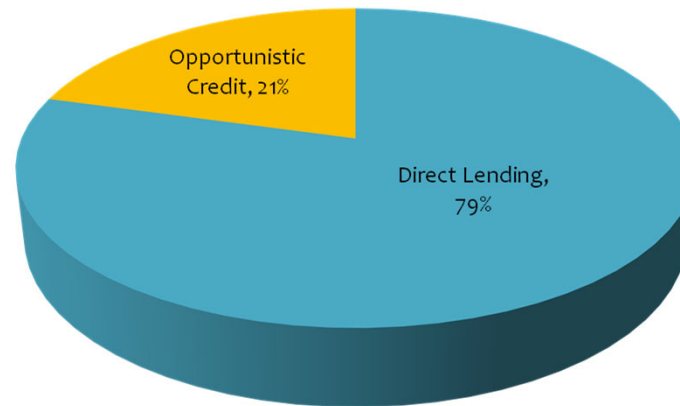
Private Credit Investments: Cambridge Associates median return for the respective debt strategies and vintage years

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

Private Credit Portfolio Details – as of September 30, 2020 (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
Vintage Year 2020 Total		117,061	110,584	6,424	6%	158	6,954	7,112	688	N/M	N/M	1.11x
Portfolio Total :		514,061	266,024	306,925	48%	133,391	217,780	351,171	44,246	7.70%	6.61%	1.14x
Portfolio Strategy Totals												
Direct Lending		382,061	187,949	232,496	51%	90,308	172,754	263,062	30,566	6.89%		1.13x
Opportunistic Credit		132,000	78,075	74,429	41%	43,084	45,026	88,109	13,680	10.41%		1.18x
Portfolio Total :		514,061	266,024	306,925	48%	133,391	217,780	351,171	44,246	7.70%	6.61%	1.14x

Market Value Strategy Exposure*



* Exposures are based on the market values of investments as of 9/30/20.

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, 2020

The Real Assets portfolio's net IRR since inception is 6.38%, versus the blended benchmark return of 5.17%

- The Real Assets portfolio includes private Infrastructure, Energy, 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 partnerships

- Recent and longer-term performance of the Energy partnerships was materially impacted by significant Q1 markdowns; Infrastructure partnerships saw smaller declines in Q1 and have maintained good performance since inception
 - Since inception net IRRs of 9.2% for Infrastructure and 3.7% for Energy
- The Real Asset Debt separate account has also performed well with a 10.4% since inception net IRR
 - That separate account market value remains small at \$17.8 million, with no new investment activity

The Real Assets portfolio generated a 1.4% net return in Q3

- The portfolio's Energy funds dragged down performance during the quarter
 - This followed a Q2 rebound in the Energy funds' performance
- The Infrastructure funds generally reported solid gains during the quarter, led by Brookfield IV and ISQ II

Changes during the quarter

- SCERS committed \$40 million to NGP Royalty Partners (energy-related royalties) and \$50 million to Harrison Street Social Infrastructure Fund (infrastructure) during Q3
 - SCERS committed \$50 million to a global infrastructure fund (re-up) in Q4 2020
- \$13.9 million in new contributions, \$6.2 million in distributions
- Portfolio IRR decreased by 0.05% while the total portfolio gain increased by \$8.0 million

Real Assets Portfolio Performance Details – as of September 30, 2020

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	33,000	1,652	37,625	95%	28,609	8,814	37,424	-201	-0.23%	2.45%	0.99x
Vintage Year 2013 Total		33,000	1,652	37,625	95%	28,609	8,814	37,424	-201	-0.23%		0.99x
Vintage Year 2014												
Carlyle Power Partners II, L.P.	Energy	40,000	13,873	34,083	65%	8,328	28,576	36,904	2,821	3.35%	5.13%	1.08x
EnCap Flatrock Midstream III	Energy	20,000	1,071	23,168	95%	9,909	15,447	25,355	2,187	5.23%	5.13%	1.09x
Global Energy & Power Infrastructure Fund II	Energy	35,000	1,737	37,018	95%	28,145	23,131	51,277	14,259	23.21%	5.13%	1.39x
Quantum Energy Partners VI, LP	Energy	35,000	8,690	32,150	75%	18,840	30,088	48,929	16,778	20.79%	5.13%	1.52x
Pantheon SCERS SIRF MM, LLC	Infrastructure	100,000	33,968	70,332	66%	28,400	67,382	95,782	25,450	9.67%	5.85%	1.36x
Wastewater Opportunity Fund	Infrastructure	25,000	0	25,007	100%	1,998	19,379	21,377	-3,630	-7.80%	5.85%	0.85x
Vintage Year 2014 Total		255,000	59,339	221,758	77%	95,620	184,003	279,624	57,865	10.07%		1.26x
Vintage Year 2015												
ArcLight Energy Partners Fund VI	Energy	40,000	5,604	42,665	86%	17,220	26,051	43,271	606	0.53%	1.80%	1.01x
EnCap Energy Capital Fund X, L.P.	Energy	40,000	5,750	36,928	86%	8,161	25,143	33,304	-3,624	-3.93%	1.80%	0.90x
Atalaya Real Assets SMA	Real Asset Debt	100,000	84,789	36,169	15%	26,888	17,812	44,700	8,532	10.42%	N/A	1.24x
Vintage Year 2015 Total		180,000	96,143	115,762	47%	52,269	69,006	121,275	5,513	1.93%		1.05x
Vintage Year 2016												
ACM Fund II, LLC	Agriculture	25,000	4,282	24,864	83%	4,581	16,711	21,292	-3,572	-7.98%	5.53%	0.86x
Brookfield Infrastructure Fund III, L.P.	Infrastructure	40,000	8,450	32,946	79%	9,188	31,524	40,712	7,767	9.78%	N/A	1.24x
IFM Global Infrastructure Fund	Infrastructure	125,053	0	125,053	100%	34,893	127,361	162,254	37,201	11.59%	N/A	1.30x
Vintage Year 2016 Total		190,053	12,732	182,863	93%	48,663	175,596	224,259	41,396	9.31%		1.23x
Vintage Year 2017												
Quantum Energy Partners VII, LP	Energy	40,000	18,194	24,409	55%	2,661	18,581	21,242	-3,167	-7.79%	-4.39%	0.87x
Meridiam Infrastructure North America Fund III	Infrastructure	50,000	47,065	2,935	6%	1	938	939	-1,996	-55.94%	N/A	0.32x
Vintage Year 2017 Total		90,000	65,259	27,344	27%	2,662	19,519	22,181	-5,163	-11.69%		0.81x
Vintage Year 2018												
Paine Schwartz Food Chain Fund V, LP	Agriculture	40,000	35,531	4,469	11%	0	3,643	3,643	-826	N/M	N/M	0.82x

¹Benchmarks:

Real Assets Portfolio: 45% Cambridge Infrastructure, 35% Cambridge Energy, 10% NCREIF Timberland, 10% NCREIF Farland
 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, 2020 (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	22,500	14,650	8,435	35%	588	8,552	9,139	705	4.70%	-0.01%	1.08x
Tailwater Energy Fund III, LP	Energy	32,000	7,204	26,850	77%	1,662	21,844	23,506	-3,345	-7.64%	-0.01%	0.88x
ISQ Global Infrastructure Fund II	Infrastructure	50,000	20,018	33,679	60%	3,697	35,059	38,756	5,077	N/M	N/M	1.15x
Vintage Year 2018 Total		144,500	77,403	73,434	46%	5,947	69,098	75,045	1,611	1.63%		1.02x
Vintage Year 2019												
Tailwater Energy Fund IV, LP	Energy	35,000	28,441	6,549	19%	0	4,321	4,321	-2,229	N/M	N/M	0.66x
Brookfield Infrastructure Fund IV	Infrastructure	40,000	21,685	20,952	46%	3,250	18,754	22,003	1,051	N/M	N/M	1.05x
EQT Infrastructure IV (No.2) USD SCSp	Infrastructure	35,000	14,334	21,783	59%	1,164	20,977	22,141	358	N/M	N/M	1.02x
Vintage Year 2019 Total		110,000	64,460	49,285	41%	4,414	44,052	48,466	-819	N/M		0.98x
Vintage Year 2020												
NGP Royalty Partners, L.P.	Energy	40,000	38,928	1,072	3%	0	940	940	-132	N/M	N/M	0.88x
Harrison Street Social Infrastructure Fund, L.P.	Infrastructure	50,000	50,000	0	0%	0	0	0	0	N/M	N/M	N/A
Vintage Year 2020 Total		90,000	88,928	1,072	1%	0	940	940	-132	N/M		0.88x
Portfolio Total :		1,092,553	465,916	709,142	57%	238,184	571,028	809,212	100,070	6.38%	5.17%	1.14x
Portfolio Strategy Totals												
Agriculture		65,000	39,813	29,334	39%	4,581	20,354	24,936	-4,398	-9.43%		0.85x
Energy		412,500	145,795	310,952	65%	124,123	211,488	335,611	24,659	3.73%		1.08x
Infrastructure		515,053	195,520	332,688	62%	82,592	321,374	403,966	71,278	9.19%		1.21x
Real Asset Debt		100,000	84,789	36,169	15%	26,888	17,812	44,700	8,532	10.42%		1.24x
Portfolio Total :		1,092,553	465,916	709,142	57%	238,184	571,028	809,212	100,070	6.38%	5.17%	1.14x
Portfolio Geography Totals												
US		802,500	401,429	474,729	50%	185,991	337,353	523,345	48,616	4.46%		1.10x
Non-US		290,053	64,487	234,413	78%	52,193	233,675	285,868	51,455	11.09%		1.22x
Portfolio Total		1,092,553	465,916	709,142	57%	238,184	571,028	809,212	100,070	6.38%	5.17%	1.14x

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 Characteristics as of September 30, 2020

The SCERS Real Assets portfolio is primarily Infrastructure and Energy

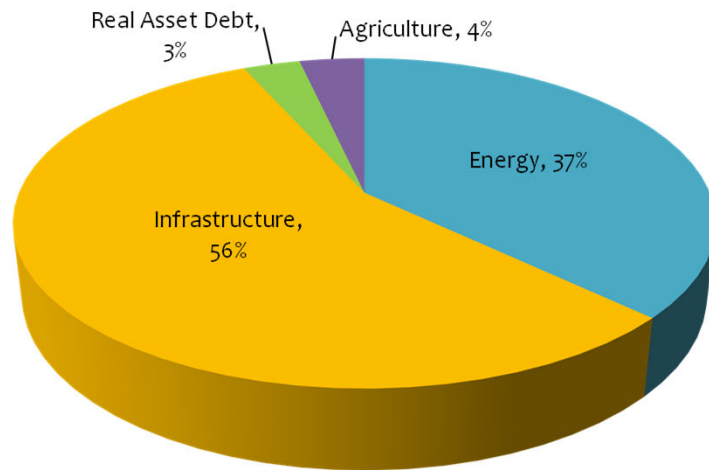
- Other strategies such as Agriculture represent much smaller allocations in the portfolio

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

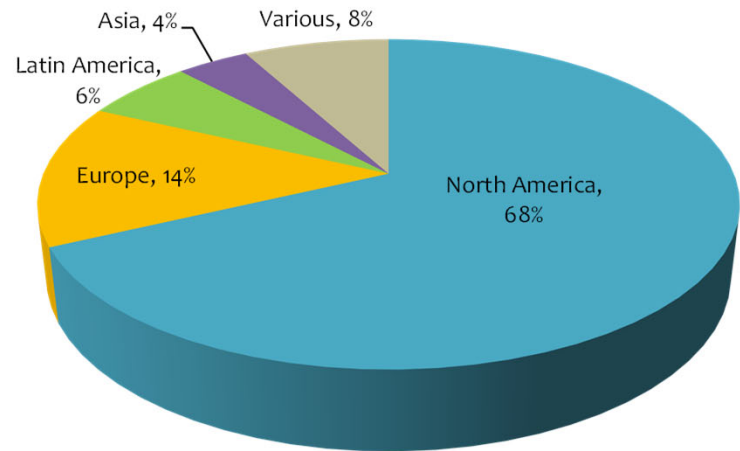
- The portfolio has exposure to Europe, Latin America, and Asia

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

Market Value Strategy Exposure*



Market Value Geographic Exposure*



* Exposures are based on the market values of investments as of 9/30/20.

Opportunities Portfolio – as of September 30, 2020

The Opportunities portfolio's net IRR since inception is 18.29%

- The long-term benchmark is SCERS' 7.00% total portfolio actuarial return objective
- Also tracking the portfolio's 3-year IRR versus an intermediate-term benchmark
 - 4.09% portfolio IRR v 6.63% IRR for the SCERS' total portfolio policy weighted benchmark over the last 3 years
- The portfolio only includes legacy distressed debt funds (fully liquidated) and one post-2009 distressed fund (Atalaya V)
 - The 3-year comparison, for example, reflects only the performance of Atalaya V

The legacy distressed funds performed very well, the current fund is performing at expectations

- SCERS' earlier vintage distressed debt funds are liquidated and have distributed significant capital back to SCERS
 - Stone Tower, MetWest TALF, and PIMCO have distributed \$129.3 million
- Atalaya SOF V, a vintage 2013 fund, has produced a 7.50% net IRR since inception

Changes during the quarter

- SCERS made no new commitments categorized as Opportunities funds during Q3 2020
- No new contributions, \$0.6 million in distributions
- Portfolio IRR remained unchanged, total portfolio gain increased \$0.2 million

As mentioned, the Opportunities portfolio only includes certain distressed debt funds

- SCERS has additional distressed debt investments within its Private Equity portfolio
- Categorizations were made at the time of each investment

Opportunities Portfolio Performance Details – as of September 30, 2020

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 2007												
* PIMCO Distressed Mortgage Fund, LP	Distressed Debt	18,000	0	18,000	100%	25,384	0	25,384	7,384	8.96%	10.05%	1.41x
Vintage Year 2007 Total		18,000	0	18,000	100%	25,384	0	25,384	7,384	8.96%		1.41x
Vintage Year 2008												
* PIMCO Distressed Mortgage Fund II, L.P.	Distressed Debt	12,000	0	12,000	100%	35,277	0	35,277	23,277	34.39%	12.19%	2.94x
Vintage Year 2008 Total		12,000	0	12,000	100%	35,277	0	35,277	23,277	34.39%		2.94x
Vintage Year 2009												
* MetWest Enhanced TALF Strategy Fund LP	Distressed Debt	20,000	0	20,000	100%	25,304	0	25,304	5,304	11.21%	14.33%	1.27x
* Stone Tower Structured Credit Recovery Fund LP	Distressed Debt	25,000	0	25,248	100%	43,383	0	43,383	18,135	25.30%	14.33%	1.72x
Vintage Year 2009 Total		45,000	0	45,248	100%	68,687	0	68,687	23,439	19.71%		1.52x
Vintage Year 2013												
Atalaya Special Opportunities Fund V, L.P.	Distressed Debt	25,000	1,117	24,875	96%	25,237	5,817	31,054	6,179	7.50%	8.19%	1.25x
Vintage Year 2013 Total		25,000	1,117	24,875	96%	25,237	5,817	31,054	6,179	7.50%		1.25x
Portfolio Total :		100,000	1,117	100,123	99%	154,585	5,817	160,402	60,279	18.29%	7.00%	1.60x

* Liquidated partnership

¹ Benchmarks:

Opportunities Investments: Cambridge Associates median return for the respective strategies and vintage years
Opportunities Portfolio: 7.00% actuarial return objective

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