



Board of Retirement Regular Meeting

Sacramento County Employees' Retirement System

Agenda Item 16

MEETING DATE: March 18, 2020

SUBJECT: Quarterly Investment Performance Report
Alternative Assets

SUBMITTED FOR: ___ Consent ___ Deliberation and Action X Receive and File

RECOMMENDATION

Staff recommends the Board receive and file the Cliffwater Quarterly Performance Review presentation for the period ending December 31, 2019, for the Absolute Return portfolio, and the period ending September 30, 2019, 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 it highlights notable manager performance, along with any recent alternative investments made by SCERS.

SCERS' alternative asset class period returns are as follows:

SCERS PORTFOLIO RESULTS

SCERS ALTERNATIVE ASSETS PERFORMANCE SUMMARY Quarter Reporting Periods Ending December 31, 2019

SCERS ASSET CLASS	Quarter*	1-Year*	3-Year*	5-Year*	Since Inception*	Since Inception Date*
SCERS Absolute Return	1.9%	7.1%	2.9%	2.3%	4.0%	Sep-04
HFRI FoF Conservative	1.3%	6.0%	3.0%	2.3%	3.2%	
HFRI FoF Composite + 1%	2.8%	8.8%	4.7%	3.3%	4.9%	
SCERS Private Equity	2.1%	18.7%	21.1%	17.3%	15.2%	Feb-08
Cambridge Private Equity/Venture Capital	0.6%	8.8%	14.8%	12.9%	12.6%	
SCERS Private Credit	1.8%	6.8%	7.5%	7.7%	8.1%	Oct-11
Credit Suisse Leveraged Loan + 2%	1.4%	4.4%	6.8%	6.1%	7.2%	
SCERS Real Assets	1.4%	7.9%	12.5%	12.3%	13.0%	Jan-13
(45%) Cambridge Private Infrastructure; (35%) Cambridge Private Energy; (20%) NCREIF Agriculture/Timber	-0.3%	1.0%	6.9%	6.9%	7.0%	
SCERS Opportunities	2.0%	8.0%	5.7%	8.0%	18.4%	Jan-08
SCERS Portfolio Actuarial Rate of Return	1.8%	7.0%	7.0%	7.0%	7.0%	
<i>*Note: Periods ending 9/30/19 for Private Equity, Private Credit, Real Assets, and Opportunities Periods ending 12/31/19 for Absolute Return All returns are net IRR, except Absolute Return which is time-weighted</i>						

For the reporting quarter ended September 30, 2019, SCERS' Private Equity portfolio generated a steady +2.1% return, down significantly from last quarter's +7.3%% return, but exceeding its benchmark return of +0.6%. Portfolio outperformance was driven by the impressive returns earned by the venture capital and buyout strategies. SCERS' Real Assets portfolio generated a modest +1.4% return but exceeded its benchmark return of -0.3%, driven by the infrastructure strategies.

Below are notable drivers of performance for SCERS' Alternative Assets portfolio during the quarter ended December 31, 2019:

- Performance Drivers:
 - Absolute Return:
 - Grosvenor SC Absolute Return (Growth) was up 3.5% during the period, and with a 16% portfolio weight, contributed 58 bps to performance during the period.
 - Sculptor Domestic Partners II (Growth) was up 5.8% during the period, and with a 5.3% portfolio weight, contributed 30 bps to performance during the period.
 - Lakewood Capital Partners (Growth) was up 6.25% during the period, and with a 4.8% portfolio weight, contributed 30 bps to performance during the period.
 - Graham Global Investment Fund II was down -.8% during the period, and with a 3.8% portfolio weight, detracted 3 bps from performance.

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- Winton Diversified Futures Fund was down -2.5% during the period, and with a 4.1% portfolio weight, detracted 10 bps from performance
 - AQR DELTA Fund II was down -2.4% during the period, and with a 4.6% portfolio weight, detracted 11 bps from performance
 - Private Equity Portfolio:
 - Thoma Bravo XI (buyout) was up 14.5% during the period, and with a 5% portfolio weight, contributed 68 bps to performance during the period.
 - Summit Europe Fund II (venture) was up 32.5% during the period, and with a 1.1% portfolio weight, contributed 37 bps to performance during the period.
 - Trinity Ventures XII (venture) was up 8.2% during the period, and with a 3.6% portfolio weight, contributed 29 bps to performance during the period.
 - NEA 14 (venture) was down -3.1% during the period, and with a 3.1% portfolio weight, detracted 9 bps from performance.
 - RRJ Capital Master Fund II (buyout) was down -6.9% during the period, and with a 2.1% portfolio weight, detracted 14 bps from performance.
 - Trinity Ventures XI (venture) was down 6.7% during the period, and with a 4.0% portfolio weight, detracted 28 bps from performance.
 - Private Credit portfolio:
 - TCP Direct Lending Fund VIII was up 2.1% during the period, and with a 34.6% portfolio weight, contributed 72 bps to performance during the period.
 - Benefit Street Partners was up 1.1% during the period, and with a 26.7% portfolio weight, contributed 30 bps to performance during the period.
 - Athyrium Fund III was up 3.3% during the period, and with a 6.9% portfolio weight, contributed 24 bps to performance during the period.
 - Athyrium Fund II was up 3.0% during the period, and with a 7.5% portfolio weight, contributed 23 bps to performance during the period.
 - Summit Credit II was up 1.3% during the period, and with a 15.4% portfolio weight, contributed 22 bps to performance during the period.
 - Summit Credit Fund III was up 2.6% during the period, and with a 7.2% portfolio weight, contributed 19 bps to performance during the period.
 - Real Assets portfolio:
 - Quantum Energy VI was up 11.3% during the period, and with a 6.3% portfolio weight, contributed 71 bps to performance during the period.
 - IFM Global Infrastructure Fund was up 2.2% during the period, and with a 19% portfolio weight, contributed 44 bps to performance during the period.
 - Global Energy & Power Infra. Fund II was up 6.3% during the period, and with a 5.4% portfolio weight, contributed 34 bps to performance during the period.

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- EQT Infrastructure IV was down -10.7% during the period, and with a 0.2% portfolio weight, detracted 7 bps from performance.
 - ArcLight Energy Partners Fund VI was down -2.5% during the period, and with a 6.9% portfolio weight, detracted 18 bps from performance.
 - EnCap Energy Capital Fund IX was down -12.0% during the period, and with a 4.2% portfolio weight, detracted 49 bps from performance.

NEW INVESTMENTS

During the quarter ended December 31, 2019, SCERS made the following new investments:

- MCP Private Capital Fund IV (Private Credit – Opportunistic): \$35 million
- New Enterprise Associates 17 (Private Equity - Venture Capital): \$25 million
- Benefit Street Senior Secured Opp. Fund II (Private Credit – Direct Lending): \$50 million
- Wynnchurch Capital Partners V (Private Equity - Buyout): \$20 million
- Cortec Group Fund VII (Private Equity - Buyout): \$30 million
- Cortec Group Fund IV (Private Equity - Growth): \$30 million
- LMR Fund (Absolute Return - Diversifying): \$45 million
- Tailwater Energy Fund IV (Real Assets - Energy): \$35 million
- Two Sigma Risk Premia Enhanced Fund (Absolute Return - Diversifying): \$45 million

ATTACHMENT

Cliffwater's Quarterly Performance Report for Alternative Assets for the Quarter ended December 31, 2019.

Prepared by:

/S/

Jim Donohue
Deputy Chief Investment Officer

Reviewed by:

/S/

Steve Davis
Chief Investment Officer

/S/

Eric Stern
Chief Executive Officer



INVESTMENT ADVISORY SERVICES

Los Angeles • New York

Sacramento County Employees' Retirement System Quarterly Performance Review

March 18, 2020



Executive Summary

Absolute Return Portfolio Performance Summary – as of December 31, 2019

Growth Oriented Strategies

- The Growth Oriented Portfolio returned 4.37% in Q4 and 12.94% for the 1 year period ending December 31, 2019
 - Outperforming the HFRI FoF Index + 1% benchmark by 158 bps in Q4 and 417 bps for the 1 year period
 - The portfolio is also outperforming that benchmark by 105 bps (annualized) over the trailing 3 year period
 - Underperforming the T-bills + 5% long term objective by 218 bps (annualized) over the trailing 5 year period
- The 1 yr outperformance was driven by the direct funds – Third Point (+18%), Lakewood (+26%) and Sculptor (+16%)

Diversifying Strategies

- The Diversifying Portfolio returned 0.76% in Q4 and 4.38% for the 1 year period ending December 31, 2019
 - Trailing the HFRI Conservative FoF Index benchmark by 53 bps in Q4 and 157 bps for the 1 year period
 - Underperforming the T-bills + 2% long term objective by 189 bps (annualized) over the trailing 5 year period
- AQR DELTA has been the primary detractor from performance over these periods

Portfolio risk and market sensitivity remains within expectations for the Growth Oriented and Diversifying portfolios

- Growth Oriented
 - Portfolio standard deviation of 5.16% compared to the ACWI standard deviation of 11.28% since December 2011
 - Portfolio equity beta of 0.38 with an equity correlation of 0.84
 - Target standard deviation < 50% of global equities, with an equity beta < 0.5 and equity correlation < 0.8
- Diversifying
 - Portfolio standard deviation of 2.51% compared to the ACWI standard deviation of 11.28% since December 2011
 - Portfolio equity beta of 0.04 with an equity correlation of 0.19
 - Target standard deviation < 25% of global equities, with an equity beta < 0.1 and equity correlation < 0.1

Relative differences between the Growth Oriented and Diversifying portfolios reflect objectives and design

- Expect higher returns over the long-term from the Growth Oriented portfolio, though with more volatility
 - Both portfolios expected to provide diversification and risk reduction benefits for the overall SCERS portfolio

Growth Oriented Absolute Return Portfolio Performance – as of December 31, 2019

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.	51,693,308	5.3%	2.20%	3.88%	17.73%	3.84%	17.73%	7.28%	5.49%	9.10%	7.88%	1.02	May-12
Event Driven - HF Total	51,693,308	5.3%	2.20%	3.88%	15.01%	3.55%	15.01%	5.34%	3.48%	7.43%	7.94%	0.81	May-12
Equity Long/Short													
Lakewood Capital Partners, LP	49,048,389	5.0%	1.34%	6.25%	25.83%	9.59%	25.83%	5.32%	5.95%	6.62%	9.43%	0.61	Jul-13
Equity Long/Short - HF Total	49,048,389	5.0%	1.34%	6.25%	25.83%	9.59%	25.83%	5.32%	5.95%	6.62%	9.43%	0.61	Jul-13
Multi-Strategy													
Sculptor Domestic Partners II, L.P.	52,968,807	5.4%	2.13%	5.79%	15.91%	3.06%	15.91%	8.27%	5.41%	7.36%	5.11%	1.22	Jan-12
Multi-Strategy - HF Total	52,968,807	5.4%	2.13%	5.79%	15.91%	3.06%	15.91%	8.27%	5.41%	7.36%	5.11%	1.22	Jan-12
Fund of Funds													
Grosvenor SC Absolute Return Fund LLC (Growth)	158,372,911	16.3%	2.19%	3.51%	8.03%	2.60%	8.03%	5.69%	3.47%	5.68%	4.46%	1.04	Dec-11
Fund of Funds - HF Total	158,372,911	16.3%	2.19%	3.51%	8.03%	2.60%	8.03%	5.53%	3.50%	4.50%	5.90%	0.48	Sep-04
Growth-Oriented Portfolio Total	312,083,415	32.0%	2.05%	4.37%	12.94%	3.89%	12.94%	5.74%	3.89%	4.83%	6.25%	0.51	Sep-04
HFRI FoF Composite + 1%			1.36%	2.79%	8.77%	2.05%	8.77%	4.69%	3.25%	4.10%	4.92%	0.49	Sep-04
3 Month T-Bills+5%			0.55%	1.68%	7.28%	3.48%	7.28%	6.67%	6.07%	6.40%	0.47%	-	Sep-04
Market Indices													
Libor3Month			0.16%	0.48%	2.29%	1.02%	2.29%	1.98%	1.40%	1.74%	0.49%	-	Sep-04
Bloomberg Barclays US Aggregate Bond Index			-0.07%	0.18%	8.73%	2.45%	8.73%	4.04%	3.06%	4.15%	3.15%	0.75	Sep-04
Bloomberg Barclays US High Yield Bond Index			2.00%	2.61%	14.30%	3.98%	14.30%	6.36%	6.13%	7.46%	8.97%	0.65	Sep-04
S&P 500 TR			3.02%	9.07%	31.49%	10.92%	31.49%	15.27%	11.70%	9.50%	13.70%	0.61	Sep-04
MSCI AC World Index Free - Net			3.52%	8.95%	26.60%	8.92%	26.60%	12.44%	8.41%	7.65%	15.00%	0.45	Sep-04
MSCI EAFE - Net			3.25%	8.17%	22.01%	7.01%	22.01%	9.56%	5.67%	5.89%	16.34%	0.33	Sep-04
MSCI EMF (Emerging Markets Free) - Net			7.46%	11.84%	18.44%	7.09%	18.44%	11.57%	5.61%	8.83%	21.32%	0.43	Sep-04

Diversifying Absolute Return Portfolio Performance – as of December 31, 2019

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.	47,694,026	4.9%	1.21%	0.35%	2.98%	-1.71%	2.98%	4.41%	5.83%	5.45%	5.16%	0.82	Mar-14
LMR Fund Limited	45,874,594	4.7%	1.00%	-	-	-	-	-	-	1.94%	-	-	Nov-19
KLS Diversified Fund LP	40,240,977	4.1%	1.58%	-0.26%	0.60%	-1.25%	0.60%	-	-	0.60%	3.23%	-0.51	Jan-19
Two Sigma Risk Premia Enhanced Fund, LP	45,198,788	4.6%	2.26%	-	-	-	-	-	-	0.44%	-	-	Sep-19
Market Neutral - HF Total	179,008,385	18.4%	1.50%	0.52%	2.35%	-1.05%	2.35%	4.20%	5.70%	5.34%	4.77%	0.85	Mar-14
Event Driven													
Elliott International Limited	57,725,177	5.9%	1.40%	0.99%	6.44%	2.01%	6.44%	5.75%	6.18%	7.10%	3.35%	1.75	Apr-12
Davidson Kempner Institutional Partners LP	33,683,694	3.5%	1.21%	1.82%	-	2.65%	-	-	-	3.09%	1.57%	-	May-19
Event Driven - HF Total	91,408,871	9.4%	1.33%	1.30%	5.96%	2.25%	5.96%	5.59%	6.08%	7.03%	3.29%	1.76	Apr-12
Equity Long/Short													
Marshall Wace Funds LP - MW Global Opportunities (US) F	42,621,228	4.4%	1.74%	3.56%	6.55%	4.01%	6.55%	-	-	6.55%	5.20%	0.81	Jan-19
Equity Long/Short - HF Total	42,621,228	4.4%	1.74%	3.56%	6.55%	4.01%	6.55%	6.55%	6.55%	6.55%	5.20%	0.81	Apr-12
Macro-Systematic													
Graham Global Investment Fund II SPC Ltd. - Tactical Trend	35,760,117	3.7%	-3.23%	-0.81%	17.78%	6.08%	17.78%	-	-	0.74%	13.13%	-0.03	Feb-17
Winton Diversified Futures Fund L.P.	38,351,581	3.9%	0.87%	-2.49%	3.95%	2.75%	3.95%	3.10%	-	3.10%	7.81%	0.18	Jan-17
Macro-Systematic - HF Total	74,111,698	7.6%	-1.15%	-1.69%	10.20%	4.33%	10.20%	1.79%	-	1.79%	9.51%	0.03	Jan-17
Multi-Strategy													
AQR DELTA Fund II, LP	43,207,193	4.4%	1.19%	-2.41%	-9.43%	-3.76%	-9.43%	-7.25%	-2.20%	-0.22%	5.87%	-0.19	May-13
Multi-Strategy - HF Total	43,207,193	4.4%	1.19%	-2.41%	-9.43%	-3.76%	-9.43%	-7.25%	-2.20%	-0.22%	5.87%	-0.19	May-13
Fund of Funds													
Grosvenor SC Absolute Return Fund LLC (Diversifying)	120,670,714	12.4%	1.17%	1.52%	5.76%	2.27%	5.76%	0.51%	-0.07%	1.72%	2.99%	0.25	Dec-11
Grosvenor SC Absolute Return Fund LLC Series B	110,949,832	11.4%	1.16%	1.75%	6.22%	2.08%	6.22%	-0.35%	-0.89%	0.83%	2.64%	-0.08	Feb-13
Fund of Funds - HF Total	231,620,546	23.8%	1.16%	1.63%	6.01%	2.15%	6.01%	0.17%	-0.42%	1.56%	2.78%	0.21	Dec-11
Diversifying Portfolio Total	661,977,920	68.0%	1.05%	0.76%	4.38%	1.51%	4.38%	0.82%	1.18%	2.07%	2.51%	0.43	Dec-11
HFRI FOF: Conservative Index			0.66%	1.29%	5.95%	1.24%	5.95%	3.03%	2.26%	3.20%	2.24%	0.97	Dec-11
3 Month T-Bills+2%			0.31%	0.96%	4.28%	2.01%	4.28%	3.67%	3.07%	2.69%	0.24%	-	Dec-11

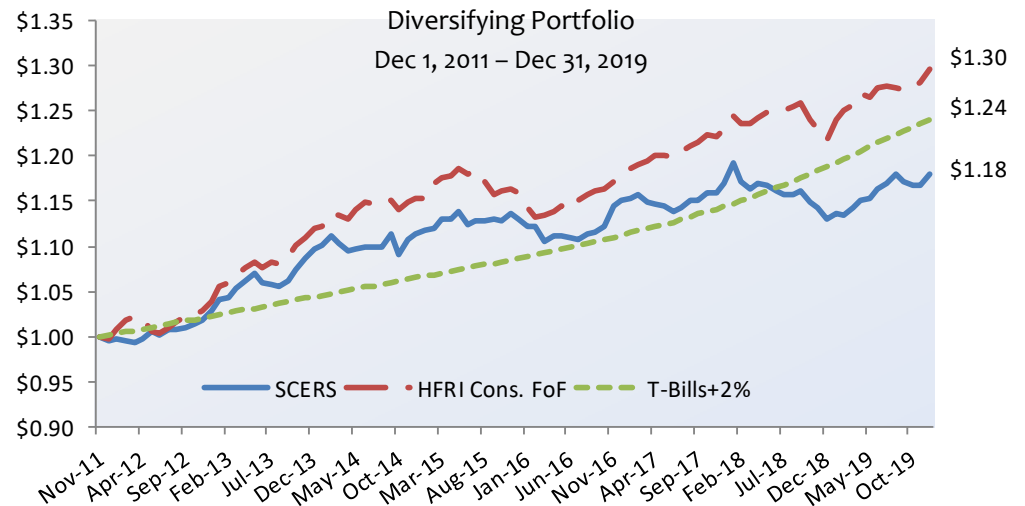
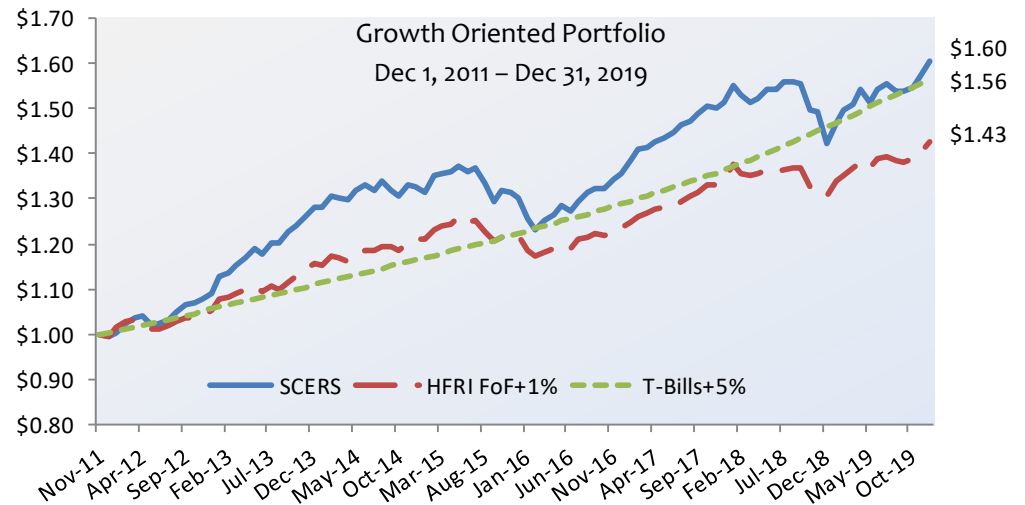
Absolute Return Portfolios Cumulative Performance – Dec 2011 to December 2019

The Growth Oriented portfolio has outperformed the Fund of Funds Index + 1% benchmark and the T-bills + 5% long term objective

The Diversifying portfolio was tracking the T-bills + 2% long term objective until the Q4 2018 downturn and remains below the objective; the portfolio has underperformed 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, 2019

The Private Equity portfolio's net IRR since inception is 15.24%, versus the Cambridge Associates benchmark IRR of 12.72%

- The long-term Policy objective (Russell 3000 + 3%) has a 15.03% IRR over this period

The private equity portfolio produced another quarter of solid gains, despite a flat global equity market in Q3

- Gains were again broad-based across most of the funds in Q3, with some funds producing double-digit returns
 - Summit Europe II, Marlin V, HIG V, Thoma Bravo XI, RCP Direct III, and Trinity Ventures XII reported the largest gains
- Distributions were particularly strong among the direct fund investments (\$83.3 million)
 - Linden III, Spectrum VII, RRJ III, Thoma Bravo XI, Accel-KKR V, and Waterland VI led distributions within directs

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 several years >20%
- Spectrum VII (43.3%), Summit VC IV (40.7%), Accel-KKR IV (37.6%), and Trinity XII (37.2%) are leading performance

The fund of funds reported modest decreases during the quarter

- Aggregate since inception net IRR decreased to 11.44% from 11.66%, during the quarter
 - The aggregate total value (TVPI) decreased to 1.65x from 1.66x
- The legacy fund of funds comprise only 12.9% of the current fair value of the Private Equity portfolio

Changes during the quarter

- SCERS committed \$30 million to DK Long-Term Distressed Opps V (distressed, reup with an existing GP) during Q3
 - SCERS committed \$30 million to a mid-market buyout fund in Q4 2019
- \$40.1 million in new contributions, \$92.9 million in distributions
- Total portfolio gain increased by \$20.1 million while the total portfolio IRR decreased by 0.26%

Private Equity Portfolio Characteristics as of September 30, 2019

The SCERS Private Equity portfolio is diversified by strategy and geography

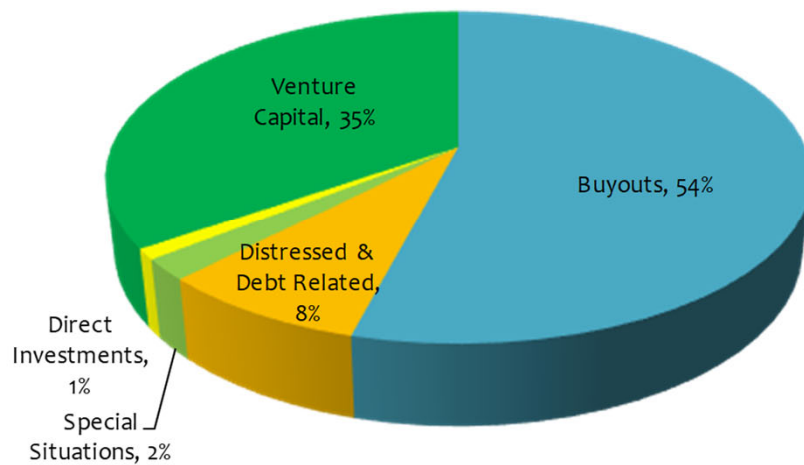
- Investments remain focused in North America, with meaningful exposure to Europe

The legacy fund of funds exposure remains relatively small as a percentage of the total portfolio's value

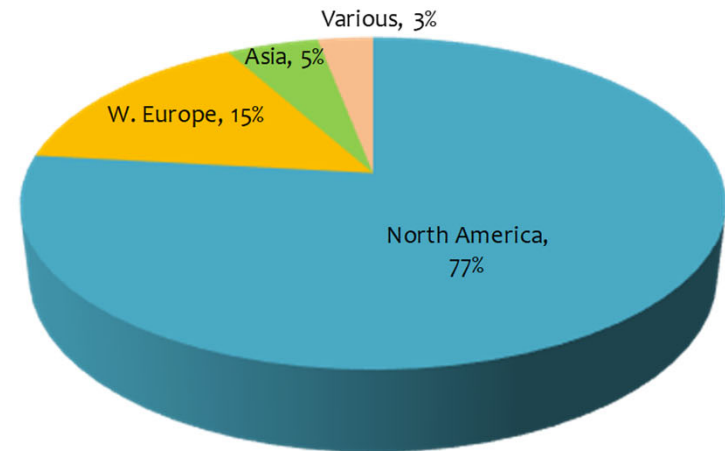
- Represents 13% of the total portfolio's value as of September 30, 2019

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 9/30/19.

Private Equity Portfolio Performance Details – as of September 30, 2019

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	1,688	35,813	96%	52,158	10,293	62,451	26,638	10.80%	7.67%	1.74x
HarbourVest Partners VIII - Mezzanine and Distressed Debt Fund L.P.	Fund of Funds	5,000	200	4,800	96%	5,865	745	6,611	1,811	7.32%	7.67%	1.38x
HarbourVest Partners VIII - Venture Fund L.P.	Fund of Funds	7,500	150	7,350	98%	10,045	4,024	14,069	6,719	10.79%	7.67%	1.91x
Vintage Year 2006 Total		50,000	2,038	47,963	96%	68,068	15,063	83,131	35,168	10.53%	7.26%	1.73x
Vintage Year 2008												
Abbott Capital Private Equity Fund VI, L.P.	Fund of Funds	75,000	938	74,063	99%	75,751	48,371	124,122	50,059	12.41%	12.49%	1.68x
Goldman Sachs Private Equity Partners X, L.P.	Fund of Funds	75,000	13,231	68,958	82%	92,998	23,008	116,006	47,049	11.49%	12.49%	1.68x
HarbourVest International Private Equity Partners VI-Partnership Fund L.P.	Fund of Funds	35,150	2,109	37,619	94%	25,865	34,720	60,585	22,966	11.55%	7.94%	1.61x
Vintage Year 2008 Total		185,150	16,278	180,639	91%	194,614	106,099	300,713	120,074	11.86%	8.26%	1.66x
Vintage Year 2011												
Waterland Private Equity Fund V C.V.	Buyout	17,466	3,441	15,681	80%	28,975	11,722	40,697	25,016	36.00%	12.56%	2.60x
Khosla Ventures IV, L.P.	Venture Capital	10,000	190	9,810	98%	11,838	16,136	27,974	18,164	22.09%	16.75%	2.85x
Vintage Year 2011 Total		27,466	3,631	25,491	87%	40,813	27,858	68,671	43,180	29.15%	12.98%	2.69x
Vintage Year 2012												
Garrison Opportunity Fund III A LLC	Distressed Debt	20,000	0	20,000	100%	7,660	13,705	21,365	1,365	1.34%	11.76%	1.07x
New Enterprise Associates 14, L.P.	Venture Capital	25,000	1,500	23,500	94%	22,637	28,164	50,801	27,301	17.13%	15.10%	2.16x
Summit Partners Venture Capital III-A, LP	Venture Capital	16,350	2,122	18,995	87%	20,439	15,148	35,587	16,591	17.14%	15.10%	1.87x
Vintage Year 2012 Total		61,350	3,622	62,495	94%	50,736	57,017	107,753	45,257	12.40%	13.47%	1.72x
Vintage Year 2013												
Accel-KKR Capital Partners IV, L.P.	Buyout	15,000	823	14,177	95%	22,442	13,961	36,403	22,226	37.57%	15.00%	2.57x
H.I.G. Capital Partners V, L.P.	Buyout	14,000	2,761	11,239	80%	3,685	14,591	18,276	7,037	24.51%	15.00%	1.63x
Martin Equity IV, L.P.	Buyout	20,000	139	19,861	99%	9,877	14,985	24,862	5,001	8.00%	15.00%	1.25x
RRJ Capital Master Fund II, L.P.	Buyout	35,000	4,683	35,067	87%	29,397	18,019	47,416	12,348	10.16%	14.55%	1.35x
H.I.G. Bayside Loan Opportunity Fund III (Europe-US\$), L.P.	Distressed Debt	30,000	5,769	24,231	81%	21,103	12,480	33,584	9,353	9.81%	7.94%	1.39x
Wayzata Opportunities Fund III, L.P.	Distressed Debt	30,000	22,835	14,718	24%	8,556	5,252	13,809	-909	-2.12%	8.55%	0.94x

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, 2019 (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	2,438	22,563	90%	4,835	37,458	42,294	19,731	16.28%	13.53%	1.87x
Vintage Year 2013 Total		169,000	39,449	141,855	77%	99,896	116,747	216,643	74,788	13.77%	13.06%	1.53x
Vintage Year 2014												
Dyal Capital Partners II	Buyout	35,000	10,376	26,456	70%	4,112	17,236	21,348	-5,108	-10.73%	16.88%	0.81x
H.I.G. Europe Capital Partners II, L.P.	Buyout	15,282	5,190	10,899	66%	2,499	9,170	11,670	770	3.79%	14.42%	1.07x
Marlin Heritage Fund	Buyout	10,000	-20	10,139	100%	9,585	12,423	22,008	11,869	36.17%	16.88%	2.17x
Thoma Bravo XI	Buyout	30,000	3,430	32,305	89%	29,696	47,655	77,350	45,046	27.06%	16.88%	2.39x
TPG Opportunities Partners III	Distressed Debt	40,000	16,726	45,191	58%	31,444	20,893	52,336	7,146	8.95%	8.55%	1.16x
Khosla Ventures V	Venture Capital	20,000	1,800	18,200	91%	1,013	23,757	24,770	6,570	11.19%	14.96%	1.36x
Spectrum Equity Investors VII, L.P.	Venture Capital	25,000	2,375	22,625	91%	29,154	35,233	64,387	41,762	43.31%	14.96%	2.85x
Vintage Year 2014 Total		175,282	39,877	165,815	77%	107,502	166,367	273,869	108,054	21.48%	14.92%	1.65x
Vintage Year 2015												
* WPEF VI Overflow Fund C.V.	Buyout	6,550	6,540	10	0%	0	0	0	-10	0.00%	11.56%	0.00x
RRJ Capital Master Fund III, LP	Buyout	40,000	12,697	30,142	68%	19,081	21,062	40,143	10,001	16.18%	11.56%	1.33x
WPEF VI Feeder, L.P.	Buyout	26,198	11,022	17,600	58%	4,544	21,657	26,202	8,602	20.92%	11.56%	1.49x
Accel-KKR Growth Capital Partners II	Mezzanine	15,000	2,031	12,969	86%	7,869	10,261	18,130	5,162	20.74%	9.55%	1.40x
New Enterprise Associates 15, L.P.	Venture Capital	35,000	3,675	31,329	90%	7,456	47,249	54,705	23,375	21.45%	14.14%	1.75x
Summit Partners Venture Capital Fund IV-A, L.P.	Venture Capital	35,000	33,163	21,887	5%	20,050	15,982	36,033	14,146	40.70%	14.14%	1.65x
Vintage Year 2015 Total		157,748	69,128	113,937	56%	59,001	116,211	175,212	61,276	22.61%	14.12%	1.54x
Vintage Year 2016												
Accel-KKR Capital Partners V, L.P.	Buyout	25,000	13,350	11,650	47%	6,011	10,754	16,765	5,115	28.00%	10.44%	1.44x
Dyal III Pension Investors LP	Buyout	35,000	22,158	17,854	37%	4,851	19,223	24,073	6,220	17.14%	10.44%	1.35x
Linden Capital Partners III	Buyout	35,000	4,613	32,853	87%	25,757	41,662	67,419	34,566	35.71%	10.44%	2.05x
Marlin Heritage Europe, L.P.	Buyout	14,191	7,647	6,984	46%	0	9,024	9,024	2,040	18.53%	5.51%	1.29x
Thoma Bravo Fund XII, L.P.	Buyout	30,000	2,527	35,505	92%	8,033	36,891	44,925	9,420	15.09%	10.44%	1.27x
TSG7 A L.P.	Buyout	16,000	4,145	11,855	74%	147	14,115	14,262	2,407	10.45%	10.44%	1.20x
TSG7 B L.P.	Buyout	4,000	1,621	2,379	59%	6	2,113	2,118	-261	-10.71%	10.44%	0.89x

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, 2019 (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%	15,715	19,889	35,604	6,664	10.75%	10.04%	1.23x
Trinity Ventures XII, L.P.	Venture Capital	30,000	8,775	21,225	71%	0	38,178	38,178	16,953	37.16%	15.33%	1.80x
Vintage Year 2016 Total		214,191	67,290	169,244	69%	60,519	191,849	252,368	83,124	23.03%	12.15%	1.49x
Vintage Year 2017												
Marlin Heritage II	Buyout	10,000	4,905	5,095	51%	0	5,179	5,179	84	N/M	N/M	1.02x
Summit Partners Europe Growth Equity Fund II, SCSP	Buyout	32,748	25,458	16,362	22%	8,626	16,401	25,027	8,665	N/M	N/M	1.53x
New Enterprise Associates 16, L.P.	Venture Capital	35,000	15,838	19,163	55%	627	20,530	21,157	1,994	8.88%	11.04%	1.10x
Vintage Year 2017 Total		77,748	46,200	40,620	41%	9,253	42,111	51,364	10,744	29.92%	10.24%	1.26x
Vintage Year 2018												
Linden Capital Partners IV LP	Buyout	44,330	34,388	11,563	22%	1,907	9,963	11,869	306	N/M	N/M	1.03x
Marlin Equity V	Buyout	25,000	16,397	8,603	34%	375	10,096	10,471	1,868	N/M	N/M	1.22x
TSG8 L.P.	Buyout	45,000	44,109	891	2%	0	-85	-85	-976	N/M	N/M	-0.10x
Davidson Kempner Long-Term Distressed Opportunities Fund IV LP	Distressed Debt	35,000	10,850	24,150	69%	0	25,776	25,776	1,626	N/M	N/M	1.07x
TSSP Opportunities Partners IV (A), L.P.	Distressed Debt	35,000	29,336	6,556	16%	901	5,949	6,850	293	N/M	N/M	1.04x
RCP Fund XIII	Fund of Funds	50,000	47,000	3,000	6%	0	1,948	1,948	-1,052	N/M	N/M	0.65x
RCPDirect III	Fund of Funds	25,000	17,364	7,636	31%	386	8,125	8,511	875	N/M	N/M	1.11x
Accel-KKR Growth Capital Partners III	Mezzanine	33,320	31,308	2,012	6%	0	1,495	1,495	-517	N/M	N/M	0.74x
Khosla Ventures VI, L.P.	Venture Capital	35,000	23,520	11,480	33%	0	11,483	11,483	3	N/M	N/M	1.00x
Spectrum Equity VIII, L.P.	Venture Capital	25,000	13,625	11,375	46%	0	10,414	10,414	-961	N/M	N/M	0.92x
Vintage Year 2018 Total		352,650	267,896	87,268	24%	3,569	85,164	88,733	1,465	N/M	N/M	1.02x
Vintage Year 2019												
Accel-KKR Capital Partners VI, LP	Buyout	30,000	30,000	0	0%	0	0	0	0	N/M	N/M	N/A
Thoma Bravo Fund XIII, LP	Buyout	45,000	28,753	16,246	36%	0	16,028	16,028	-218	N/M	N/M	0.99x
Davidson Kempner Long-Term Distressed Opportunities Fund V LP	Distressed Debt	30,000	30,000	0	0%	0	0	0	0	N/M	N/M	N/A
New Enterprise Associates 17, L.P.	Venture Capital	20,000	18,300	1,700	9%	0	1,646	1,646	-54	N/M	N/M	0.97x
Vintage Year 2019 Total		125,000	107,053	17,946	14%	0	17,674	17,674	-273	N/M	N/M	0.98x

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, 2019 (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
Portfolio Strategy Totals												
Buyout		655,765	301,152	401,415	54%	219,605	393,845	613,451	212,035	21.48%		1.53x
Distressed Debt		245,000	117,971	163,786	52%	85,379	103,944	189,323	25,537	6.18%		1.16x
Fund of Funds		310,150	82,679	239,238	73%	263,068	131,235	394,303	155,065	11.44%		1.65x
Mezzanine		48,320	33,339	14,981	31%	7,869	11,756	19,626	4,644	18.73%		1.31x
Venture Capital		336,350	127,321	233,851	62%	118,049	301,379	419,428	185,576	21.62%		1.79x
Portfolio Total :		1,595,584	662,461	1,053,272	58%	693,970	942,160	1,636,130	582,858	15.24%	12.72%	1.55x
Portfolio Geography Totals												
US		1,343,000	577,905	858,677	57%	553,880	787,904	1,341,784	483,106	15.15%		1.56x
Non-US		252,584	84,556	194,595	67%	140,091	154,256	294,347	99,752	15.74%		1.51x
Portfolio Total		1,595,584	662,461	1,053,272	58%	693,970	942,160	1,636,130	582,858	15.24%	12.72%	1.55x

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, 2019

The Private Credit portfolio's net IRR since inception is 8.06%, versus the benchmark return of 7.09%

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

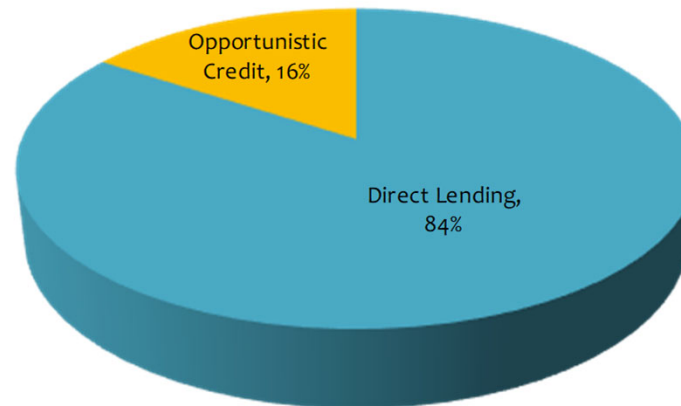
The Private Credit funds reported another quarter of steady gains in Q3

- The portfolio returned 1.8% in Q3 and 6.8% for the trailing 1 year period ending September 30, 2019
 - OrbiMed Royalty III reported a negative return in Q3 (just started investing), all other funds were up 1% - 3%+
- Longer term performance remains steady, with annualized returns of 7% - 8% over multi-year periods
 - 7.5% net IRR for the 3 year period and 7.7% net IRR for the 5 year period

Changes during the quarter

- SCERS made no new commitments to Private Credit funds during Q3
- \$12.5 million in new contributions, \$5.8 million in distributions
- Portfolio IRR decreased 0.06% while the total portfolio gain increased by \$3.3 million

Market Value Strategy Exposure
(based on fair value of investments)
as of September 30, 2019



Private Credit Portfolio Details – as of September 30, 2019

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%	24,512	2,224	26,736	6,040	8.93%	N/A	1.29x
Vintage Year 2011 Total		20,000	2,125	20,697	89%	24,512	2,224	26,736	6,040	8.93%	12.98%	1.29x
Vintage Year 2014												
Summit Partners Credit Fund II, L.P.	Direct Lending	35,000	5,337	46,760	85%	25,564	28,994	54,558	7,798	8.80%	3.97%	1.17x
Vintage Year 2014 Total		35,000	5,337	46,760	85%	25,564	28,994	54,558	7,798	8.80%	14.92%	1.17x
Vintage Year 2015												
Athyrium Opportunities Fund II	Opportunistic Credit	32,000	6,194	38,973	81%	31,490	13,558	45,048	6,076	8.48%	9.55%	1.16x
Vintage Year 2015 Total		32,000	6,194	38,973	81%	31,490	13,558	45,048	6,076	8.48%	14.12%	1.16x
Vintage Year 2017												
Athyrium Opportunities Fund III	Opportunistic Credit	25,000	11,528	17,192	54%	3,685	13,979	17,665	473	2.46%	9.30%	1.03x
Vintage Year 2017 Total		25,000	11,528	17,192	54%	3,685	13,979	17,665	473	2.46%	10.24%	1.03x
Vintage Year 2018												
Benefit Street Partners Senior Secured Opportunities Fund L.P.	Direct Lending	50,000	4,124	48,532	92%	6,034	46,318	52,352	3,820	N/M	N/M	1.08x
Summit Partners Credit Fund III, L.P.	Direct Lending	50,000	33,689	17,322	33%	1,011	18,356	19,367	2,045	N/M	N/M	1.12x
TCP Direct Lending Fund VIII-S, LLC	Direct Lending	100,000	39,366	60,634	61%	4,399	60,206	64,605	3,971	N/M	N/M	1.07x
Vintage Year 2018 Total		200,000	77,178	126,489	61%	11,445	124,880	136,324	9,836	N/M	N/M	1.08x
Vintage Year 2019												
OrbiMed Royalty & Credit Opportunities III, LP	Opportunistic Credit	35,000	33,250	1,750	5%	0	1,661	1,661	-89	N/M	N/M	0.95x
Vintage Year 2019 Total		35,000	33,250	1,750	5%	0	1,661	1,661	-89	N/M	N/M	0.95x
Portfolio Total :		347,000	135,613	251,860	61%	96,696	185,296	281,992	30,132	8.06%	7.09%	1.12x
Portfolio Strategy Totals												
Direct Lending		255,000	84,641	193,945	67%	61,521	156,098	217,619	23,673	8.32%		1.12x
Opportunistic Credit		92,000	50,972	57,915	45%	35,176	29,198	64,374	6,459	7.20%		1.11x
Portfolio Total :		347,000	135,613	251,860	61%	96,696	185,296	281,992	30,132	8.06%	7.09%	1.12x

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, 2019

The Real Assets portfolio's net IRR since inception is 12.98%, versus the blended benchmark return of 6.62%

- 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 Energy and Infrastructure partnerships

- Both Energy and Infrastructure partnerships have performed well since inception, despite recent downturns in Energy
 - Since inception net IRRs of 14.0% for Energy and 13.3% for Infrastructure
- The Real Asset Debt separate account has also performed well with a 10.8% since inception net IRR
 - That separate account market value remains small at \$17.5 million, with very few new investments

The portfolio generated a 1.4% net return in Q3 despite another downturn in the Energy sector

- The portfolio's largest Q3 gains were generated across multiple strategies
 - Quantum VI, EnCap Flatrock IV, Carlyle Power II, BlackRock Global Energy & Power II, and I Squared led performance
- Most of the other energy funds declined, as did EQT Infrastructure, Wastewater and ACM (agriculture)

Changes during the quarter

- SCERS made no new commitments to Real Assets funds during Q3
 - SCERS committed \$35 million to a small midstream energy fund in Q4 2019 (reup with an existing GP)
- \$38.6 million in new contributions, \$10.5 million in distributions
- Portfolio IRR declined by 0.76% while the total portfolio gain increased by \$7.6 million

Real Assets Portfolio Performance Details – as of September 30, 2019

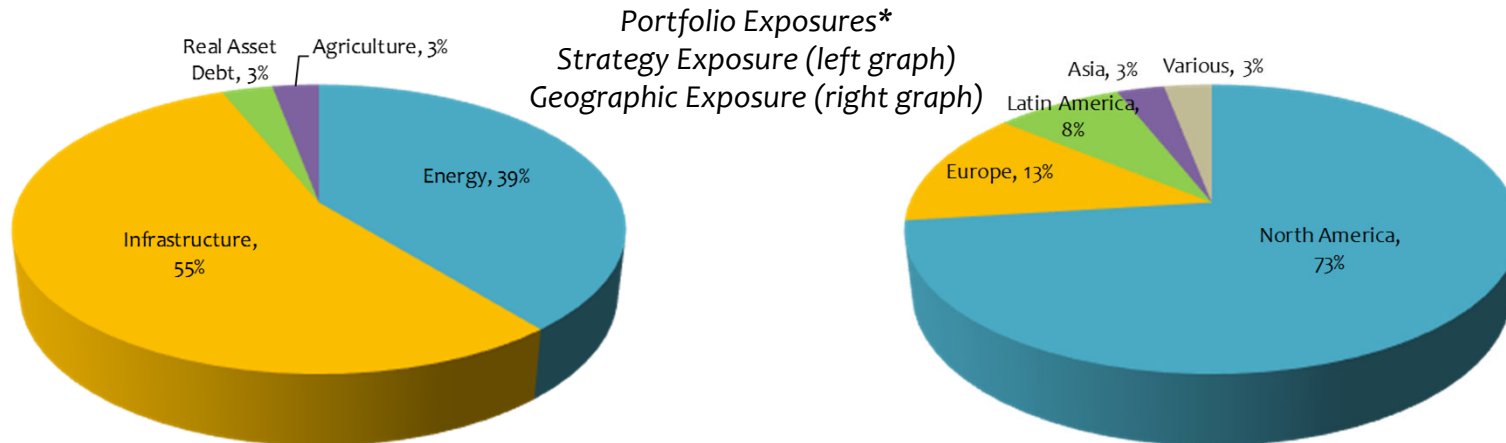
Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI
Vintage Year 2013												
EnCap Energy Capital Fund IX, L.P.	Energy	33,000	2,235	37,040	93%	27,983	18,331	46,315	9,275	9.54%	3.36%	1.25x
Vintage Year 2013 Total		33,000	2,235	37,040	93%	27,983	18,331	46,315	9,275	9.54%		1.25x
Vintage Year 2014												
Carlyle Power Partners II, L.P.	Energy	40,000	22,711	24,791	43%	7,344	20,956	28,300	3,509	5.92%	8.15%	1.14x
EnCap Flatrock Midstream III	Energy	20,000	2,960	21,279	85%	9,210	16,988	26,198	4,919	15.94%	8.15%	1.23x
Global Energy & Power Infrastructure Fund II	Energy	35,000	4,363	34,146	88%	19,390	29,172	48,562	14,416	31.21%	8.15%	1.42x
Quantum Energy Partners VI, LP	Energy	35,000	10,431	30,409	70%	18,034	35,391	53,425	23,017	34.62%	8.15%	1.76x
Pantheon SCERS SIRF MM, LLC	Infrastructure	100,000	33,968	70,332	66%	12,100	88,420	100,520	30,188	14.51%	10.72%	1.43x
Wastewater Opportunity Fund	Infrastructure	25,000	4,353	20,654	83%	1,998	17,972	19,970	-684	-2.37%	10.72%	0.97x
Vintage Year 2014 Total		255,000	78,786	201,611	69%	68,076	208,899	276,975	75,364	17.10%		1.37x
Vintage Year 2015												
ArcLight Energy Partners Fund VI	Energy	40,000	5,563	42,665	86%	15,767	36,753	52,520	9,855	10.01%	9.96%	1.23x
EnCap Energy Capital Fund X, L.P.	Energy	40,000	7,383	35,158	82%	6,562	35,563	42,125	6,967	9.31%	9.96%	1.20x
Atalaya Real Assets SMA	Real Asset Debt	100,000	84,789	36,169	15%	25,769	17,488	43,258	7,089	10.82%	N/A	1.20x
Vintage Year 2015 Total		180,000	97,735	113,992	46%	48,098	89,804	137,902	23,910	10.02%		1.21x
Vintage Year 2016												
ACM Fund II, LLC	Agriculture	25,000	6,528	22,618	74%	4,513	16,512	21,025	-1,594	-5.67%	6.37%	0.93x
Brookfield Infrastructure Fund III, L.P.	Infrastructure	40,000	9,570	30,419	76%	4,935	32,012	36,948	6,529	12.82%	N/A	1.21x
IFM Global Infrastructure Fund	Infrastructure	125,053	18,750	106,303	85%	32,529	105,894	138,423	32,121	15.15%	N/A	1.30x
Vintage Year 2016 Total		190,053	34,848	159,340	82%	41,978	154,419	196,396	37,056	12.74%		1.23x
Vintage Year 2017												
Quantum Energy Partners VII, LP	Energy	40,000	22,054	20,304	45%	2,415	18,358	20,773	469	1.99%	2.37%	1.02x
Meridiam Infrastructure North America Fund III	Infrastructure	50,000	47,961	2,039	4%	1	502	503	-1,537	-83.58%	N/A	0.25x
Vintage Year 2017 Total		90,000	70,014	22,344	22%	2,416	18,860	21,276	-1,068	-4.20%		0.95x
Vintage Year 2018												
Paine Schwartz Food Chain Fund V, LP	Agriculture	40,000	40,000	0	0%	0	-632	-632	-632	N/M	N/M	N/A

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, 2019 (continued)

Partnership Name	Strategy	(A) Committ. 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	16,254	6,831	28%	588	7,369	7,956	1,125	N/M	N/M	1.16x
Tailwater Energy Fund III, LP	Energy	32,000	9,772	24,283	69%	1,662	23,018	24,679	396	N/M	N/M	1.02x
ISQ Global Infrastructure Fund II	Infrastructure	50,000	33,434	19,488	33%	2,922	18,552	21,475	1,987	N/M	N/M	1.10x
Vintage Year 2018 Total		144,500	99,460	50,602	31%	5,172	48,307	53,479	2,876	N/M	N/M	1.06x
Vintage Year 2019												
Brookfield Infrastructure Fund IV	Infrastructure	40,000	35,112	4,888	12%	0	4,861	4,861	-27	N/M	N/M	0.99x
EQT Infrastructure IV (No.2) USD SCSp	Infrastructure	35,000	30,836	4,186	12%	48	3,478	3,526	-661	N/M	N/M	0.84x
Vintage Year 2019 Total		75,000	65,948	9,075	12%	48	8,339	8,387	-688	N/M	N/M	0.92x
Portfolio Total :		967,553	449,026	594,003	54%	193,771	546,958	740,729	146,727	12.98%	6.62%	1.25x
Portfolio Strategy Totals												
Agriculture		65,000	46,528	22,618	28%	4,513	15,880	20,393	-2,226	-8.04%		0.90x
Energy		337,500	103,725	276,905	69%	108,955	241,899	350,853	73,948	14.01%		1.27x
Infrastructure		465,053	213,984	258,310	54%	54,534	271,692	326,226	67,915	13.27%		1.26x
Real Asset Debt		100,000	84,789	36,169	15%	25,769	17,488	43,258	7,089	10.82%		1.20x



* Exposures are based on the market values of investments as of 9/30/19

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.

Opportunities Portfolio – as of September 30, 2019

The Opportunities portfolio's net IRR since inception is 18.37%

- 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
 - 5.68% portfolio IRR v 8.34% 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 7.99% net IRR since inception

Changes during the quarter

- SCERS made no new commitments categorized as Opportunities funds during Q3 2019
- No new contributions, \$0.9 million in distributions
- Portfolio IRR decreased 0.02%, total portfolio gain increased slightly

As mentioned, the Opportunities portfolio only includes certain distressed debt fund(s)

- 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, 2019

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%	9.89%	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%	12.23%	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%	14.87%	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%	14.87%	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%	23,824	7,240	31,064	6,189	7.99%	8.55%	1.25x
Vintage Year 2013 Total		25,000	1,117	24,875	96%	23,824	7,240	31,064	6,189	7.99%		1.25x
Portfolio Total :		100,000	1,117	100,123	99%	153,172	7,240	160,412	60,290	18.37%	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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