



INVESTMENT ADVISORY SERVICES

Los Angeles • New York

## Sacramento County Employees' Retirement System Quarterly Performance Review

September 16, 2020



## *Executive Summary*

## Absolute Return Portfolio Performance Summary – as of June 30, 2020

### Growth Oriented Strategies

- The Growth Oriented Portfolio returned 10.59% in Q2 and -2.89% for the 1 year period ending June 30, 2020
  - Outperforming the HFRI FoF Index + 1% benchmark by 294 bps in Q2 though trailing by 398 bps for the 1 year period
  - Underperforming the T-bills + 5% long term objective by 423 bps (annualized) over the trailing 5 year period
    - Only trailing the HFRI FoF Index + 1% benchmark by 45 bps (annualized) over the trailing 5 year period
- All funds generated strong returns during the Q2 recovery, led by Sculptor (+13.12%)
- The funds produced mixed results over the 1 yr period, ranging from Sculptor up 8.61% to Lakewood down -16.47%

### Diversifying Strategies

- The Diversifying Portfolio returned 3.96% in Q2 and -1.18% for the 1 year period ending June 30, 2020
  - Underperforming the HFRI Conservative FoF Index benchmark by 95 bps in Q2 and 7 bps for the 1 year period
  - Underperforming the T-bills + 2% long term objective by 275 bps (annualized) over the trailing 5 year period
    - Trailing the HFRI Conservative FoF Index benchmark by 90 bps (annualized) over the trailing 5 year period
- Almost all funds reported solidly positive returns in Q2, other than the Systematic Macro funds and Two Sigma
- Large performance dispersion among funds over the 1 year period, ranging from +21.28 (Laurion) to -16.04% (KLS)

### Elevated volatility across asset classes during Q1 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 7.27% compared to the ACWI standard deviation of 12.93% since December 2011 (56% ratio)
    - Portfolio equity beta of 0.48 with an equity correlation of 0.85
- Diversifying Portfolio
  - Target standard deviation < 25% of global equities, with an equity beta < 0.1 and equity correlation < 0.1
    - Standard deviation of 3.00% compared to the ACWI standard deviation of 12.93% since December 2011 (23% ratio)
    - Portfolio equity beta of 0.09 with an equity correlation of 0.41

# Growth Oriented Absolute Return Portfolio Performance – as of June 30, 2020

Fund	Market Value	Actual %	Returns								Std Dev	Sharpe Ratio	Incep Date
			Jun	QTD	YTD	FYTD	1 Year	3 Year	5 Year	Incep			
<b>Growth-Oriented Portfolio</b>													
<b>Event Driven</b>													
Third Point Partners Qualified L.P.	48,239,066	5.5%	1.90%	11.21%	-6.65%	-3.10%	-3.10%	1.34%	3.00%	7.61%	9.38%	0.72	May-12
Event Driven - HF Total	48,239,066	5.5%	1.90%	11.21%	-6.65%	-3.37%	-3.37%	0.09%	1.37%	6.05%	9.41%	0.56	May-12
<b>Equity Long/Short</b>													
Lakewood Capital Partners, LP	37,383,662	4.2%	0.19%	10.67%	-23.78%	-16.47%	-16.47%	-5.10%	0.39%	2.09%	13.60%	0.14	Jul-13
Equity Long/Short - HF Total	37,383,662	4.2%	0.19%	10.67%	-23.78%	-16.47%	-16.47%	-5.10%	0.39%	2.09%	13.60%	0.14	Jul-13
<b>Multi-Strategy</b>													
Sculptor Domestic Partners II, L.P.	55,823,302	6.3%	3.28%	13.12%	5.56%	8.61%	8.61%	7.35%	5.70%	7.58%	6.41%	1.02	Jan-12
Multi-Strategy - HF Total	55,823,302	6.3%	3.28%	13.12%	5.56%	8.61%	8.61%	7.35%	5.70%	7.58%	6.41%	1.02	Jan-12
<b>Fund of Funds</b>													
Grosvenor SC Absolute Return Fund LLC (Growth)	95,359,064	10.8%	2.07%	9.28%	-4.79%	-2.18%	-2.18%	1.97%	2.06%	4.76%	6.45%	0.60	Dec-11
Fund of Funds - HF Total	95,359,064	10.8%	2.07%	9.28%	-4.79%	-2.18%	-2.18%	1.82%	1.99%	4.04%	6.79%	0.37	Sep-04
<b>Growth-Oriented Portfolio Total</b>	<b>236,805,093</b>	<b>26.8%</b>	<b>2.01%</b>	<b>10.59%</b>	<b>-6.57%</b>	<b>-2.89%</b>	<b>-2.89%</b>	<b>1.16%</b>	<b>1.96%</b>	<b>4.23%</b>	<b>7.26%</b>	<b>0.37</b>	<b>Sep-04</b>
HFRI FoF Composite + 1%			1.65%	7.65%	-1.51%	1.09%	1.09%	3.12%	2.41%	3.90%	5.35%	0.42	Sep-04
3 Month T-Bills+5%			0.41%	1.24%	3.05%	6.63%	6.63%	6.77%	6.19%	6.40%	0.47%	-	Sep-04
<b>Market Indices</b>													
Libor3Month			0.02%	0.10%	0.48%	1.51%	1.51%	1.95%	1.47%	1.72%	0.48%	-	Sep-04
Bloomberg Barclays US Aggregate Bond Index			0.63%	2.90%	6.14%	8.74%	8.74%	5.33%	4.31%	4.41%	3.18%	0.83	Sep-04
Bloomberg Barclays US High Yield Bond Index			0.98%	10.18%	-3.80%	0.03%	0.03%	3.33%	4.79%	6.95%	9.46%	0.58	Sep-04
S&P 500 TR			1.99%	20.54%	-3.08%	7.51%	7.51%	10.73%	10.73%	8.97%	14.43%	0.55	Sep-04
MSCI AC World Index Free - Net			3.20%	19.22%	-6.25%	2.11%	2.11%	6.14%	6.46%	6.96%	15.60%	0.40	Sep-04
MSCI EAFE - Net			3.40%	14.88%	-11.34%	-5.13%	-5.13%	0.81%	2.05%	4.90%	16.76%	0.27	Sep-04
MSCI EMF (Emerging Markets Free) - Net			7.35%	18.08%	-9.78%	-3.39%	-3.39%	1.90%	2.86%	7.83%	21.64%	0.38	Sep-04

# Diversifying Absolute Return Portfolio Performance – as of June 30, 2020

Fund	Market Value	Actual %	Returns								Std Dev	Sharpe Ratio	Incep Date
			Jun	QTD	YTD	FYTD	1 Year	3 Year	5 Year	Incep			
<b>Diversifying Portfolio</b>													
<b>Market Neutral</b>													
Laurion Capital, Ltd.	58,851,352	6.7%	2.58%	6.87%	23.29%	21.28%	21.28%	12.47%	9.29%	8.55%	6.31%	1.14	Mar-14
LMR Fund Limited	37,928,396	4.3%	0.00%	10.73%	-17.36%	-	-	-	-	-15.71%	33.25%	-	Nov-19
KLS Diversified Fund LP	34,214,271	3.9%	4.81%	2.23%	-14.96%	-16.04%	-16.04%	-	-	-9.89%	15.92%	-0.68	Jan-19
Two Sigma Risk Premia Enhanced Fund, LP	38,910,050	4.4%	-0.65%	-1.81%	-13.91%	-	-	-	-	-13.53%	9.30%	-	Sep-19
<b>Market Neutral - HF Total</b>	<b>169,904,068</b>	<b>19.2%</b>	<b>1.67%</b>	<b>4.61%</b>	<b>-5.11%</b>	<b>-6.08%</b>	<b>-6.08%</b>	<b>2.84%</b>	<b>3.58%</b>	<b>4.05%</b>	<b>6.05%</b>	<b>0.49</b>	<b>Mar-14</b>
<b>Event Driven</b>													
Blackrock Event Driven Equity Fund (BILPX)	45,187,370	5.1%	0.21%	5.76%	-	-	-	-	-	0.42%	-	-	Mar-20
Elliott International Limited	61,081,519	6.9%	1.60%	3.44%	5.81%	7.94%	7.94%	6.52%	7.06%	7.39%	3.31%	1.85	Apr-12
Davidson Kempner Institutional Partners LP	45,803,348	5.2%	2.92%	6.83%	0.36%	3.04%	3.04%	-	-	2.97%	7.44%	0.21	May-19
<b>Event Driven - HF Total</b>	<b>152,072,237</b>	<b>17.2%</b>	<b>1.58%</b>	<b>5.15%</b>	<b>3.06%</b>	<b>5.38%</b>	<b>5.38%</b>	<b>5.43%</b>	<b>6.40%</b>	<b>6.98%</b>	<b>3.56%</b>	<b>1.62</b>	<b>Apr-12</b>
<b>Equity Long/Short</b>													
Marshall Wace Funds LP - MW Global Opportunities (US) Fund	44,306,505	5.0%	-0.52%	3.20%	3.95%	8.12%	8.12%	-	-	7.05%	4.62%	1.10	Jan-19
<b>Equity Long/Short - HF Total</b>	<b>44,306,505</b>	<b>5.0%</b>	<b>-0.52%</b>	<b>3.20%</b>	<b>3.95%</b>	<b>8.12%</b>	<b>8.12%</b>	<b>7.05%</b>	<b>7.05%</b>	<b>7.05%</b>	<b>4.62%</b>	<b>1.10</b>	<b>Apr-12</b>
<b>Macro-Systematic</b>													
Graham Global Investment Fund II SPC Ltd. - Tactical Trend Segregate	32,541,684	3.7%	-2.58%	-2.16%	-9.00%	-3.46%	-3.46%	-0.27%	-	-2.11%	12.56%	-0.26	Feb-17
Winton Diversified Futures Fund L.P.	32,828,365	3.7%	-3.18%	-7.16%	-14.40%	-12.05%	-12.05%	-1.63%	-	-1.81%	8.43%	-0.39	Jan-17
<b>Macro-Systematic - HF Total</b>	<b>65,370,049</b>	<b>7.4%</b>	<b>-2.88%</b>	<b>-4.74%</b>	<b>-11.80%</b>	<b>-7.97%</b>	<b>-7.97%</b>	<b>-0.96%</b>	<b>-</b>	<b>-2.05%</b>	<b>9.52%</b>	<b>-0.36</b>	<b>Jan-17</b>
<b>Fund of Funds</b>													
Grosvenor SC Absolute Return Fund LLC (Diversifying)	182,788,559	20.7%	2.34%	5.57%	0.39%	2.69%	2.69%	0.93%	-0.33%	1.67%	3.63%	0.20	Dec-11
Grosvenor SC Absolute Return Fund LLC Series B	32,793,622	3.7%	2.57%	6.17%	1.39%	3.52%	3.52%	0.95%	-1.07%	0.97%	3.41%	-0.01	Feb-13
<b>Fund of Funds - HF Total</b>	<b>215,582,181</b>	<b>24.4%</b>	<b>2.38%</b>	<b>5.66%</b>	<b>0.61%</b>	<b>2.79%</b>	<b>2.79%</b>	<b>0.80%</b>	<b>-0.68%</b>	<b>1.54%</b>	<b>3.45%</b>	<b>0.17</b>	<b>Dec-11</b>
<b>Diversifying Portfolio Total</b>	<b>647,235,040</b>	<b>73.2%</b>	<b>1.25%</b>	<b>3.96%</b>	<b>-2.66%</b>	<b>-1.18%</b>	<b>-1.18%</b>	<b>0.32%</b>	<b>0.44%</b>	<b>1.63%</b>	<b>3.29%</b>	<b>0.21</b>	<b>Dec-11</b>
HFRI FOF: Conservative Index			1.09%	4.91%	-2.64%	-1.11%	-1.11%	1.69%	1.34%	2.73%	3.38%	0.52	Dec-11
3 Month T-Bills+2%			0.18%	0.51%	1.58%	3.63%	3.63%	3.77%	3.19%	2.72%	0.26%	-	Dec-11

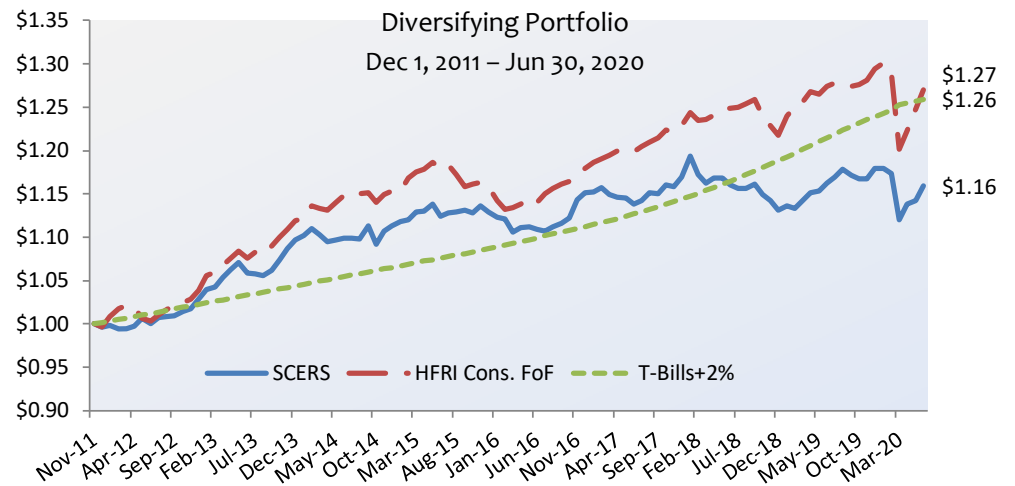
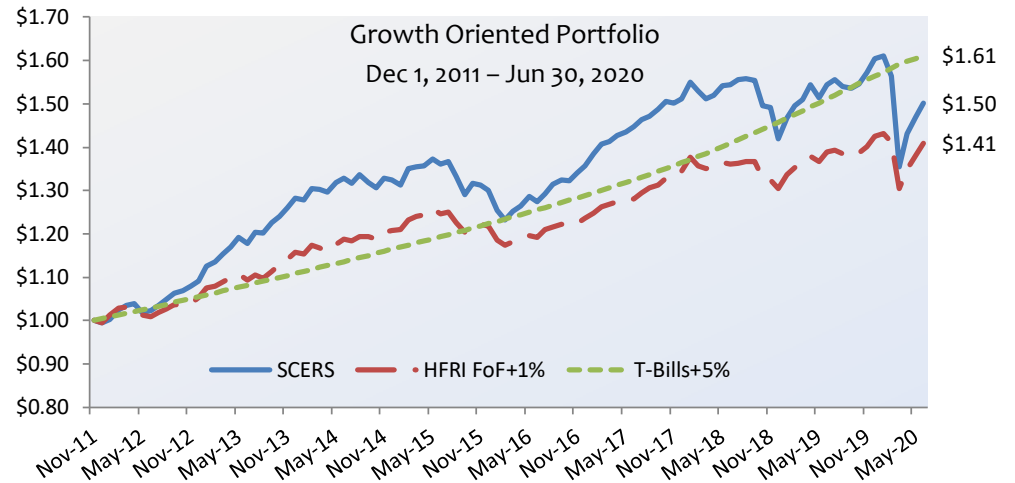
# Absolute Return Portfolios Cumulative Performance – December 2011 to June 2020

The sharp downturn in Q1 pushed the Growth Oriented portfolio below the T-bills + 5% long term objective; the portfolio remains ahead of the Fund of Funds Index + 1% benchmark

The Diversifying portfolio is trailing both the T-bills + 2% long term objective and 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 March 31, 2020

The Private Equity portfolio's net IRR since inception is 13.74%, versus the Cambridge Associates benchmark IRR of 11.56%

- The long-term Policy objective (Russell 3000 + 3%) has an 11.90% IRR over this period

The private equity portfolio declined 6.7% during Q1 as financial markets sold off sharply in response to the global pandemic

- Global equities (MSCI ACWI), by comparison, declined 21.4% during Q1
- While most funds showed modest declines in Q1, the most impacted funds were down between 10% and 20% or more
  - The fund of funds and the portfolio's non-U.S funds had the biggest drag on performance
  - Trinity Ventures XI, NEA 14, Linden Capital Partners III, and DK LT Distressed IV also saw material downturns in Q1
- Distributions also slowed considerably as transaction activity declined amid the Q1 market turmoil
  - \$26.4 million in distributions, mostly from the fund of funds and Thoma Bravo XI, RRJ III, TOP III, and Marlin Heritage

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 (39.6%), Summit VC IV (36.3%), Accel-KKR IV (36.0%), and Marlin Heritage (35.7%) are leading performance

The legacy fund of funds declined 8% to 13% during the quarter

- Aggregate since inception net IRR decreased from 11.36% to 10.68% during the quarter
  - The aggregate total value (TVPI) decreased from 1.65x to 1.60x
- The legacy fund of funds comprise only 10.6% of the current fair value of the Private Equity portfolio

Changes during the quarter

- SCERS committed \$20 million to Wynnchurch V (mid-market buyouts) and €20 million to Summit Europe Growth Equity III (European growth equity and buyouts, reup with existing GP) during Q1
  - SCERS committed \$20 million to a venture capital fund (reup with existing GP) in Q2 2020
  - SCERS also committed \$20 million to an opportunistic credit fund in Q2 2020
- \$54.8 million in new contributions, \$26.4 million in distributions
- Total portfolio gain decreased by \$66.5 million while the total portfolio IRR decreased by 1.62%

## Private Equity Portfolio Characteristics as of March 31, 2020

The SCERS Private Equity portfolio is diversified by strategy and geography

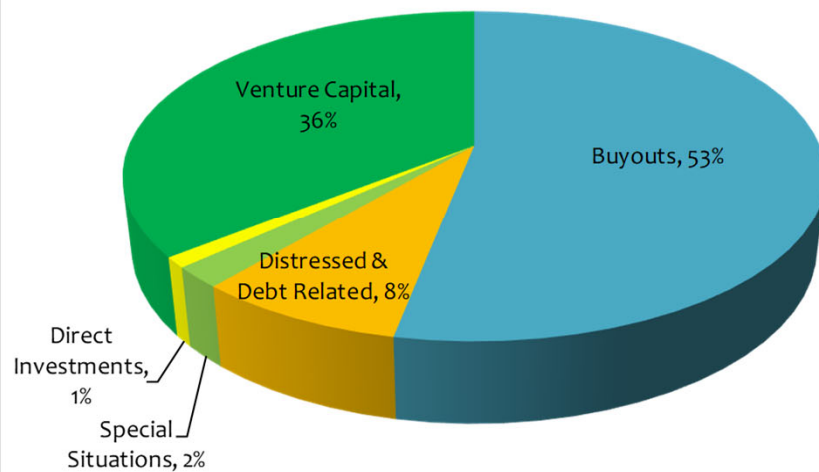
- Investments remain focused in North America, with meaningful exposure to Europe

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

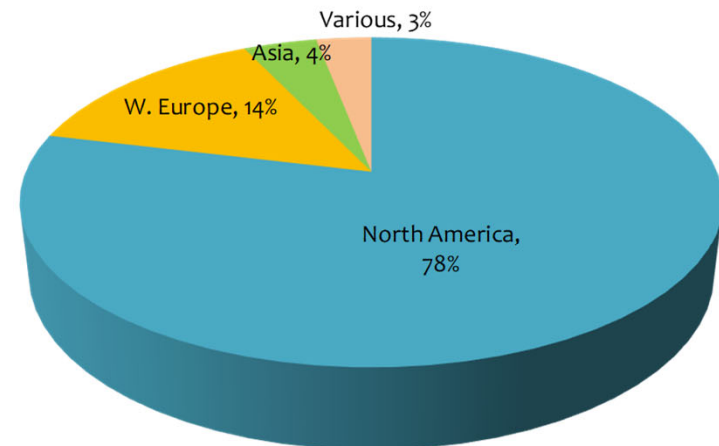
- Represents 11% of the total portfolio's value as of March 31, 2020

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 3/31/20.



## Private Equity Portfolio Performance Details – as of March 31, 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
<b>Vintage Year 2006</b>												
HarbourVest Partners VIII - Buyout Fund L.P.	Fund of Funds	37,500	1,688	35,813	96%	53,779	7,584	61,363	25,550	10.46%	7.43%	1.71x
HarbourVest Partners VIII - Mezzanine and Distressed Debt Fund L.P.	Fund of Funds	5,000	200	4,800	96%	6,023	473	6,496	1,696	6.96%	7.43%	1.35x
HarbourVest Partners VIII - Venture Fund L.P.	Fund of Funds	7,500	150	7,350	98%	10,530	3,363	13,893	6,543	10.46%	7.43%	1.89x
<b>Vintage Year 2006 Total</b>		<b>50,000</b>	<b>2,038</b>	<b>47,963</b>	<b>96%</b>	<b>70,332</b>	<b>11,420</b>	<b>81,752</b>	<b>33,789</b>	<b>10.19%</b>	<b>6.82%</b>	<b>1.70x</b>
<b>Vintage Year 2008</b>												
Abbott Capital Private Equity Fund VI, L.P.	Fund of Funds	75,000	750	74,250	99%	81,671	39,135	120,806	46,556	11.44%	11.87%	1.63x
Goldman Sachs Private Equity Partners X, L.P.	Fund of Funds	75,000	13,234	68,958	82%	93,427	19,853	113,280	44,322	10.92%	11.87%	1.64x
HarbourVest International Private Equity Partners VI-Partnership Fund L.P.	Fund of Funds	35,326	1,766	37,980	95%	29,457	29,929	59,386	21,406	10.38%	11.87%	1.56x
<b>Vintage Year 2008 Total</b>		<b>185,326</b>	<b>15,750</b>	<b>181,188</b>	<b>92%</b>	<b>204,555</b>	<b>88,917</b>	<b>293,472</b>	<b>112,284</b>	<b>11.02%</b>	<b>8.18%</b>	<b>1.62x</b>
<b>Vintage Year 2011</b>												
Waterland Private Equity Fund V C.V.	Buyout	17,553	3,412	15,729	81%	28,975	10,615	39,590	23,861	34.70%	10.59%	2.52x
Khosla Ventures IV, L.P.	Venture Capital	10,000	190	9,810	98%	14,453	14,409	28,862	19,052	21.67%	15.44%	2.94x
<b>Vintage Year 2011 Total</b>		<b>27,553</b>	<b>3,602</b>	<b>25,539</b>	<b>87%</b>	<b>43,428</b>	<b>25,024</b>	<b>68,452</b>	<b>42,914</b>	<b>28.11%</b>	<b>11.73%</b>	<b>2.68x</b>
<b>Vintage Year 2012</b>												
Garrison Opportunity Fund III A LLC	Distressed Debt	20,000	0	20,000	100%	7,660	11,877	19,537	-463	-0.45%	11.43%	0.98x
New Enterprise Associates 14, L.P.	Venture Capital	25,000	1,125	23,875	96%	22,637	28,091	50,728	26,853	16.05%	14.23%	2.12x
Summit Partners Venture Capital III-A, LP	Venture Capital	16,350	1,796	19,363	89%	20,806	15,997	36,804	17,441	16.90%	14.23%	1.90x
<b>Vintage Year 2012 Total</b>		<b>61,350</b>	<b>2,921</b>	<b>63,238</b>	<b>95%</b>	<b>51,104</b>	<b>55,965</b>	<b>107,069</b>	<b>43,831</b>	<b>11.50%</b>	<b>12.33%</b>	<b>1.69x</b>
<b>Vintage Year 2013</b>												
Accel-KKR Capital Partners IV, L.P.	Buyout	15,000	710	14,290	95%	23,270	13,466	36,736	22,446	35.97%	13.19%	2.57x
H.I.G. Capital Partners V, L.P.	Buyout	14,000	2,761	11,239	80%	3,685	13,850	17,535	6,297	19.27%	13.19%	1.56x
Marlin Equity IV, L.P.	Buyout	20,000	108	19,892	99%	9,877	15,606	25,484	5,592	8.00%	13.19%	1.28x
RRJ Capital Master Fund II, L.P.	Buyout	35,000	3,740	36,010	89%	32,169	10,493	42,662	6,652	5.85%	10.06%	1.18x
H.I.G. Bayside Loan Opportunity Fund III (Europe-US\$), L.P.	Distressed Debt	30,000	5,769	24,231	81%	23,013	8,799	31,812	7,581	7.92%	5.69%	1.31x
Wayzata Opportunities Fund III, L.P.	Distressed Debt	30,000	23,128	14,718	23%	8,849	4,518	13,367	-1,351	-3.04%	8.20%	0.91x

<sup>1</sup>Benchmarks:

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 March 31, 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	2,438	22,563	90%	4,835	32,679	37,515	14,952	11.88%	13.60%	1.66x
<b>Vintage Year 2013 Total</b>		<b>169,000</b>	<b>38,655</b>	<b>142,942</b>	<b>77%</b>	<b>105,698</b>	<b>99,413</b>	<b>205,111</b>	<b>62,169</b>	<b>11.13%</b>	<b>11.08%</b>	<b>1.43x</b>
<b>Vintage Year 2014</b>												
Dyal Capital Partners II	Buyout	35,000	9,366	28,871	73%	5,517	18,367	23,885	-4,987	-8.57%	14.50%	0.83x
H.I.G. Europe Capital Partners II, L.P.	Buyout	15,359	3,914	12,191	75%	2,624	8,911	11,536	-656	-2.80%	11.96%	0.95x
Marlin Heritage Fund	Buyout	10,000	2,284	10,430	77%	15,726	7,656	23,382	12,952	35.72%	14.50%	2.24x
Thoma Bravo XI	Buyout	30,000	3,088	32,647	90%	40,360	47,273	87,633	54,987	28.53%	14.50%	2.68x
TPG Opportunities Partners III	Distressed Debt	40,000	14,993	47,710	63%	35,318	19,512	54,830	7,120	8.06%	3.22%	1.15x
Khosla Ventures V	Venture Capital	20,000	700	19,300	97%	1,013	26,050	27,062	7,762	11.03%	15.08%	1.40x
Spectrum Equity Investors VII, L.P.	Venture Capital	25,000	2,375	22,625	91%	29,634	34,392	64,027	41,402	39.62%	15.08%	2.83x
<b>Vintage Year 2014 Total</b>		<b>175,359</b>	<b>36,720</b>	<b>173,774</b>	<b>79%</b>	<b>130,193</b>	<b>162,161</b>	<b>292,354</b>	<b>118,580</b>	<b>20.80%</b>	<b>12.77%</b>	<b>1.68x</b>
<b>Vintage Year 2015</b>												
* WPEF VI Overflow Fund C.V.	Buyout	6,583	6,573	10	0%	0	0	0	-10	0.00%	7.17%	0.00x
RRJ Capital Master Fund III, LP	Buyout	40,000	10,092	32,746	75%	28,712	13,161	41,873	9,126	13.61%	7.17%	1.28x
WPEF VI Feeder, L.P.	Buyout	26,330	10,900	18,957	59%	6,092	21,586	27,679	8,722	17.61%	7.17%	1.46x
Accel-KKR Growth Capital Partners II	Mezzanine	15,000	1,220	13,780	92%	9,537	9,640	19,176	5,396	18.82%	6.84%	1.39x
New Enterprise Associates 15, L.P.	Venture Capital	35,000	3,325	31,679	91%	7,456	44,904	52,360	20,681	16.83%	13.84%	1.65x
Summit Partners Venture Capital Fund IV-A, L.P.	Venture Capital	35,000	32,043	23,007	8%	20,050	17,423	37,473	14,467	36.33%	13.84%	1.63x
<b>Vintage Year 2015 Total</b>		<b>157,913</b>	<b>64,153</b>	<b>120,180</b>	<b>59%</b>	<b>71,847</b>	<b>106,714</b>	<b>178,561</b>	<b>58,382</b>	<b>18.96%</b>	<b>12.31%</b>	<b>1.49x</b>
<b>Vintage Year 2016</b>												
Accel-KKR Capital Partners V, L.P.	Buyout	25,000	10,689	14,311	57%	7,343	12,478	19,821	5,509	24.17%	8.11%	1.38x
Dyal III Pension Investors LP	Buyout	35,000	21,300	19,275	39%	5,755	20,958	26,712	7,437	16.40%	8.11%	1.39x
Linden Capital Partners III	Buyout	35,000	4,613	32,853	87%	25,982	36,552	62,534	29,681	27.96%	8.11%	1.90x
Marlin Heritage Europe, L.P.	Buyout	14,262	3,249	11,434	77%	0	14,930	14,930	3,496	20.79%	2.56%	1.31x
Thoma Bravo Fund XII, L.P.	Buyout	30,000	1,691	36,885	94%	8,578	38,894	47,472	10,587	13.38%	8.11%	1.29x
TSG7 A L.P.	Buyout	16,000	3,984	12,016	75%	171	14,247	14,418	2,402	8.16%	8.11%	1.20x
TSG7 B L.P.	Buyout	4,000	1,737	2,436	57%	287	1,737	2,024	-412	-11.75%	8.11%	0.83x

<sup>1</sup>Benchmarks:

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 March 31, 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%	20,485	15,717	36,202	7,262	10.38%	5.66%	1.25x
Trinity Ventures XII, L.P.	Venture Capital	30,000	6,825	23,175	77%	0	36,879	36,879	13,704	23.74%	14.30%	1.59x
<b>Vintage Year 2016 Total</b>		<b>214,262</b>	<b>56,542</b>	<b>181,326</b>	<b>74%</b>	<b>68,602</b>	<b>192,391</b>	<b>260,993</b>	<b>79,667</b>	<b>18.42%</b>	<b>9.91%</b>	<b>1.44x</b>
<b>Vintage Year 2017</b>												
Marlin Heritage II	Buyout	10,000	2,025	7,975	80%	0	8,183	8,183	208	2.31%	10.23%	1.03x
Summit Partners Europe Growth Equity Fund II, SCSP	Buyout	32,913	23,815	26,079	28%	16,601	19,277	35,878	9,799	83.23%	3.02%	1.38x
New Enterprise Associates 16, L.P.	Venture Capital	35,000	11,550	23,450	67%	627	24,057	24,684	1,234	3.78%	9.31%	1.05x
<b>Vintage Year 2017 Total</b>		<b>77,913</b>	<b>37,389</b>	<b>57,504</b>	<b>52%</b>	<b>17,228</b>	<b>51,517</b>	<b>68,745</b>	<b>11,240</b>	<b>20.61%</b>	<b>8.24%</b>	<b>1.20x</b>
<b>Vintage Year 2018</b>												
Linden Capital Partners IV LP	Buyout	44,330	32,057	14,266	28%	1,993	10,682	12,675	-1,590	N/M	N/M	0.89x
Marlin Equity V	Buyout	25,000	16,145	9,002	35%	521	10,764	11,286	2,284	18.46%	-1.47%	1.25x
TSG8 L.P.	Buyout	45,000	38,586	6,414	14%	0	3,316	3,316	-3,097	N/M	N/M	0.52x
Davidson Kempner Long-Term Distressed Opportunities Fund IV LP	Distressed Debt	35,000	6,650	28,350	81%	0	27,384	27,384	-966	-3.08%	N/A	0.97x
TSSP Opportunities Partners IV (A), L.P.	Distressed Debt	35,000	29,302	9,046	16%	3,692	7,142	10,834	1,788	N/M	N/M	1.20x
RCP Fund XIII	Fund of Funds	50,000	44,500	5,500	11%	0	3,759	3,759	-1,741	N/M	N/M	0.68x
RCPDirect III	Fund of Funds	25,000	16,114	8,886	36%	386	9,191	9,578	691	N/M	N/M	1.08x
Accel-KKR Growth Capital Partners III	Mezzanine	33,320	27,369	5,951	18%	0	5,411	5,411	-540	N/M	N/M	0.91x
Khosla Ventures VI, L.P.	Venture Capital	35,000	21,770	13,230	38%	0	12,867	12,867	-363	N/M	N/M	0.97x
Spectrum Equity VIII, L.P.	Venture Capital	25,000	6,938	18,063	72%	0	16,571	16,571	-1,491	N/M	N/M	0.92x
<b>Vintage Year 2018 Total</b>		<b>352,650</b>	<b>239,430</b>	<b>118,707</b>	<b>32%</b>	<b>6,592</b>	<b>107,089</b>	<b>113,681</b>	<b>-5,026</b>	<b>-5.10%</b>	<b>-1.08%</b>	<b>0.96x</b>
<b>Vintage Year 2019</b>												
Cortec Group Fund VII, L.P.	Buyout	30,000	23,131	6,869	23%	0	6,541	6,541	-328	N/M	N/M	0.95x
Gridiron Capital Fund IV, L.P.	Buyout	30,000	30,000	0	0%	0	-1,005	-1,005	-1,005	N/M	N/M	N/A
Thoma Bravo Fund XIII, LP	Buyout	45,000	17,482	27,517	61%	0	29,250	29,250	1,733	N/M	N/M	1.06x
New Enterprise Associates 17, L.P.	Venture Capital	25,000	20,625	4,389	18%	0	4,193	4,193	-196	N/M	N/M	0.96x
Threshold Ventures III, L.P.	Venture Capital	20,000	16,400	3,600	18%	0	3,269	3,269	-331	N/M	N/M	0.91x
<b>Vintage Year 2019 Total</b>		<b>150,000</b>	<b>107,639</b>	<b>42,375</b>	<b>28%</b>	<b>0</b>	<b>42,247</b>	<b>42,247</b>	<b>-128</b>	<b>N/M</b>	<b>N/M</b>	<b>1.00x</b>

<sup>1</sup>Benchmarks:

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 March 31, 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
<b>Vintage Year 2020</b>												
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	21,942	21,942	0	0%	0	0	0	0	N/M	N/M	N/A
Wynnchurch Capital Partners V	Buyout	20,000	20,000	0	0%	0	0	0	0	N/M	N/M	N/A
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
<b>Vintage Year 2020 Total</b>		<b>101,942</b>	<b>101,942</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>N/M</b>	<b>N/M</b>	<b>N/A</b>
<b>Portfolio Total :</b>		<b>1,723,268</b>	<b>706,779</b>	<b>1,154,736</b>	<b>59%</b>	<b>769,579</b>	<b>942,859</b>	<b>1,712,438</b>	<b>557,702</b>	<b>13.74%</b>	<b>11.56%</b>	<b>1.48x</b>
<b>Portfolio Strategy Totals</b>												
Buyout		758,272	359,394	460,345	53%	264,241	407,788	672,029	211,684	18.92%		1.46x
Distressed Debt		245,000	112,296	172,994	54%	99,016	94,951	193,967	20,972	4.69%		1.12x
Fund of Funds		310,326	78,401	243,537	75%	275,274	113,287	388,560	145,024	10.68%		1.60x
Mezzanine		48,320	28,589	19,731	41%	9,537	15,051	24,588	4,856	16.03%		1.25x
Venture Capital		361,350	128,099	258,128	65%	121,512	311,783	433,295	175,166	18.63%		1.68x
<b>Portfolio Total :</b>		<b>1,723,268</b>	<b>706,779</b>	<b>1,154,736</b>	<b>59%</b>	<b>769,579</b>	<b>942,859</b>	<b>1,712,438</b>	<b>557,702</b>	<b>13.74%</b>	<b>11.56%</b>	<b>1.48x</b>
<b>Portfolio Geography Totals</b>												
US		1,448,000	611,608	939,368	58%	601,935	805,157	1,407,092	467,724	13.77%		1.50x
Non-US		275,268	95,172	215,368	65%	167,644	137,702	305,346	89,978	13.59%		1.42x
<b>Portfolio Total</b>		<b>1,723,268</b>	<b>706,779</b>	<b>1,154,736</b>	<b>59%</b>	<b>769,579</b>	<b>942,859</b>	<b>1,712,438</b>	<b>557,702</b>	<b>13.74%</b>	<b>11.56%</b>	<b>1.48x</b>

<sup>1</sup>Benchmarks:

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 March 31, 2020

The Private Credit portfolio's net IRR since inception is 4.90%, versus the benchmark return of 5.25%

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

The Private Credit funds saw a downturn in Q1 as credit markets sold off sharply in response to the global pandemic

- The portfolio returned -6.1% in Q1 and -0.9% for the trailing 1 year period ending March 31, 2020
  - Most of the funds were down between 2% and 9% during Q1, roughly in line with the broader market's performance
- Longer term performance was negatively impacted given the sizeable sell-off during the quarter
  - 2.8% net IRR for the 3 year period and 4.3% net IRR for the 5 year period
  - The portfolio was generating annualized returns of 7% - 8% over multi-year periods prior to the Q1 downturn

Changes during the quarter

- SCERS made no new commitments to Private Credit funds during Q1
- \$18.2 million in new contributions, \$6.5 million in distributions
- Portfolio IRR decreased 3.24% while the total portfolio gain decreased by \$12.5 million

## Private Credit Portfolio Details – as of March 31, 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
<b>Vintage Year 2011</b>												
Summit Partners Credit Fund, LP	Direct Lending	20,000	2,125	20,697	89%	26,198	491	26,689	5,993	8.82%	N/A	1.29x
<b>Vintage Year 2011 Total</b>		<b>20,000</b>	<b>2,125</b>	<b>20,697</b>	<b>89%</b>	<b>26,198</b>	<b>491</b>	<b>26,689</b>	<b>5,993</b>	<b>8.82%</b>	<b>11.73%</b>	<b>1.29x</b>
<b>Vintage Year 2014</b>												
Summit Partners Credit Fund II, L.P.	Direct Lending	35,000	4,888	47,209	86%	27,629	26,120	53,749	6,539	6.63%	1.52%	1.14x
<b>Vintage Year 2014 Total</b>		<b>35,000</b>	<b>4,888</b>	<b>47,209</b>	<b>86%</b>	<b>27,629</b>	<b>26,120</b>	<b>53,749</b>	<b>6,539</b>	<b>6.63%</b>	<b>12.77%</b>	<b>1.14x</b>
<b>Vintage Year 2015</b>												
Athyrium Opportunities Fund II	Opportunistic Credit	32,000	4,561	40,291	86%	32,248	14,389	46,637	6,346	8.15%	6.84%	1.16x
<b>Vintage Year 2015 Total</b>		<b>32,000</b>	<b>4,561</b>	<b>40,291</b>	<b>86%</b>	<b>32,248</b>	<b>14,389</b>	<b>46,637</b>	<b>6,346</b>	<b>8.15%</b>	<b>12.31%</b>	<b>1.16x</b>
<b>Vintage Year 2017</b>												
Athyrium Opportunities Fund III	Opportunistic Credit	25,000	10,927	21,617	56%	7,486	15,006	22,492	875	3.27%	6.70%	1.04x
<b>Vintage Year 2017 Total</b>		<b>25,000</b>	<b>10,927</b>	<b>21,617</b>	<b>56%</b>	<b>7,486</b>	<b>15,006</b>	<b>22,492</b>	<b>875</b>	<b>3.27%</b>	<b>8.24%</b>	<b>1.04x</b>
<b>Vintage Year 2018</b>												
Benefit Street Partners Senior Secured Opportunities Fund L.P.	Direct Lending	50,000	6,449	50,953	87%	8,501	42,574	51,075	122	0.14%	-2.30%	1.00x
Summit Partners Credit Fund III, L.P.	Direct Lending	50,000	24,495	31,518	51%	6,013	28,192	34,205	2,687	N/M	N/M	1.09x
TCP Direct Lending Fund VIII-S, LLC	Direct Lending	100,000	28,567	71,433	71%	5,599	65,079	70,679	-755	-0.90%	-2.30%	0.99x
<b>Vintage Year 2018 Total</b>		<b>200,000</b>	<b>59,510</b>	<b>153,904</b>	<b>70%</b>	<b>20,113</b>	<b>135,846</b>	<b>155,958</b>	<b>2,054</b>	<b>1.07%</b>	<b>-1.08%</b>	<b>1.01x</b>
<b>Vintage Year 2019</b>												
BSP Levered US SOF II (Senior Secured Opportunities) Fund L.P.	Direct Lending	50,000	48,718	1,282	3%	0	1,468	1,468	186	N/M	N/M	1.14x
OrbiMed Royalty & Credit Opportunities III, LP	Opportunistic Credit	35,000	28,000	6,993	20%	0	6,923	6,923	-70	N/M	N/M	0.99x
<b>Vintage Year 2019 Total</b>		<b>85,000</b>	<b>76,718</b>	<b>8,275</b>	<b>10%</b>	<b>0</b>	<b>8,391</b>	<b>8,391</b>	<b>116</b>	<b>N/M</b>	<b>N/M</b>	<b>1.01x</b>
<b>Vintage Year 2020</b>												
MCP Private Capital Fund IV (Feeder) SCSp	Direct Lending	34,668	34,668	0	0%	0	0	0	0	N/M	N/M	N/A
<b>Vintage Year 2020 Total</b>		<b>34,668</b>	<b>34,668</b>	<b>0</b>	<b>0%</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>N/M</b>	<b>N/M</b>	<b>N/A</b>
<b>Portfolio Total :</b>		<b>431,668</b>	<b>193,397</b>	<b>291,993</b>	<b>55%</b>	<b>113,674</b>	<b>200,243</b>	<b>313,917</b>	<b>21,923</b>	<b>4.90%</b>	<b>5.25%</b>	<b>1.08x</b>

<sup>1</sup>Benchmarks:

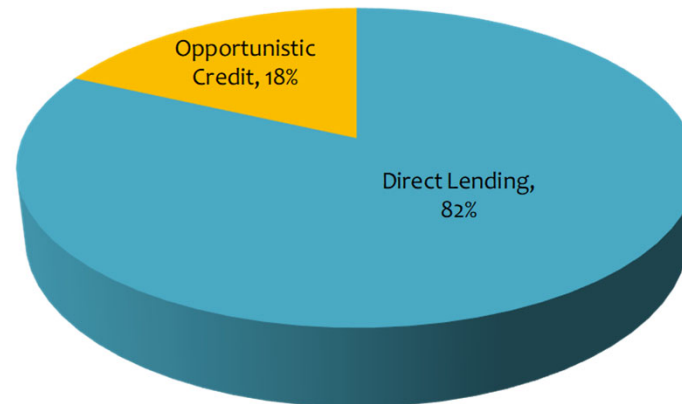
Private Credit Investments: Cambridge Associates median return for the respective debt strategies and vintage years

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

## Private Credit Portfolio Details – as of March 31, 2020 (continued)

	(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
<b>Portfolio Strategy Totals</b>											
Direct Lending	339,668	149,909	223,092	56%	73,940	163,924	237,864	14,772	4.30%		1.07x
Opportunistic Credit	92,000	43,488	68,902	53%	39,734	36,319	76,053	7,151	6.85%		1.10x
<b>Portfolio Total :</b>	<b>431,668</b>	<b>193,397</b>	<b>291,993</b>	<b>55%</b>	<b>113,674</b>	<b>200,243</b>	<b>313,917</b>	<b>21,923</b>	<b>4.90%</b>	<b>5.25%</b>	<b>1.08x</b>
<b>Portfolio Geography Totals</b>											
US	397,000	158,729	291,993	60%	113,674	200,243	313,917	21,923	4.90%		1.08x
Non-US	34,668	34,668	0	0%	0	0	0	0	N/M		0.00x
<b>Portfolio Total</b>	<b>431,668</b>	<b>193,397</b>	<b>291,993</b>	<b>55%</b>	<b>113,674</b>	<b>200,243</b>	<b>313,917</b>	<b>21,923</b>	<b>4.90%</b>	<b>5.25%</b>	<b>1.08x</b>

Market Value Strategy Exposure\*



\* Exposures are based on the market values of investments as of 3/31/20.

<sup>1</sup>Benchmarks:

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 March 31, 2020

The Real Assets portfolio's net IRR since inception is 5.97%, versus the blended benchmark return of 4.76%

- 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 markdowns during Q1; Infrastructure partnerships saw smaller declines in Q1 and have maintained good performance since inception
  - Since inception net IRRs of 9.8% for Infrastructure and 2.2% for Energy
- The Real Asset Debt separate account has also performed well with a 10.3% since inception net IRR
  - That separate account market value remains small at \$17.2 million, with very few new investments

The Real Assets portfolio declined 12.0% overall during Q1

- The portfolio's largest markdowns came primarily from the Energy funds
  - The Energy funds generally declined between 10% and 35% during the quarter
- The Infrastructure funds were mostly down 4% - 9%

Changes during the quarter

- SCERS made no new commitments to Real Assets funds during Q1
- \$35.6 million in new contributions, \$18.7 million in distributions
- Portfolio IRR declined by 5.90% while the total portfolio gain declined by \$71.5 million



## Real Assets Portfolio Performance Details – as of March 31, 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
<b>Vintage Year 2013</b>												
EnCap Energy Capital Fund IX, L.P.	Energy	33,000	2,032	37,245	94%	28,609	8,039	36,648	-597	-0.75%	2.30%	0.98x
<b>Vintage Year 2013 Total</b>		<b>33,000</b>	<b>2,032</b>	<b>37,245</b>	<b>94%</b>	<b>28,609</b>	<b>8,039</b>	<b>36,648</b>	<b>-597</b>	<b>-0.75%</b>		<b>0.98x</b>
<b>Vintage Year 2014</b>												
Carlyle Power Partners II, L.P.	Energy	40,000	14,139	33,565	65%	7,547	26,078	33,625	60	0.09%	5.19%	1.00x
EnCap Flatrock Midstream III	Energy	20,000	1,545	22,694	92%	9,818	15,006	24,824	2,130	6.11%	5.19%	1.09x
Global Energy & Power Infrastructure Fund II	Energy	35,000	2,757	35,672	92%	26,966	22,015	48,981	13,309	25.12%	5.19%	1.37x
Quantum Energy Partners VI, LP	Energy	35,000	9,572	31,268	73%	18,740	26,195	44,936	13,668	20.28%	5.19%	1.44x
Pantheon SCERS SIRF MM, LLC	Infrastructure	100,000	33,968	70,332	66%	26,900	65,968	92,868	22,536	9.73%	7.63%	1.32x
Wastewater Opportunity Fund	Infrastructure	25,000	1,253	23,755	95%	1,998	21,975	23,973	218	0.55%	7.63%	1.01x
<b>Vintage Year 2014 Total</b>		<b>255,000</b>	<b>63,234</b>	<b>217,285</b>	<b>75%</b>	<b>91,969</b>	<b>177,236</b>	<b>269,206</b>	<b>51,921</b>	<b>10.54%</b>		<b>1.24x</b>
<b>Vintage Year 2015</b>												
ArcLight Energy Partners Fund VI	Energy	40,000	5,604	42,665	86%	17,220	25,154	42,374	-292	-0.29%	0.42%	0.99x
EnCap Energy Capital Fund X, L.P.	Energy	40,000	6,388	36,259	84%	7,896	22,723	30,619	-5,640	-7.42%	0.42%	0.84x
Atalaya Real Assets SMA	Real Asset Debt	100,000	84,789	36,169	15%	26,527	17,180	43,707	7,538	10.29%	N/A	1.21x
<b>Vintage Year 2015 Total</b>		<b>180,000</b>	<b>96,780</b>	<b>115,093</b>	<b>46%</b>	<b>51,643</b>	<b>65,056</b>	<b>116,699</b>	<b>1,606</b>	<b>0.65%</b>		<b>1.01x</b>
<b>Vintage Year 2016</b>												
ACM Fund II, LLC	Agriculture	25,000	5,586	23,561	78%	4,581	16,194	20,776	-2,785	-7.71%	5.81%	0.88x
Brookfield Infrastructure Fund III, L.P.	Infrastructure	40,000	7,278	32,711	82%	8,057	30,800	38,857	6,146	9.55%	N/A	1.19x
IFM Global Infrastructure Fund	Infrastructure	125,053	0	125,053	100%	33,389	125,139	158,528	33,475	12.65%	N/A	1.27x
<b>Vintage Year 2016 Total</b>		<b>190,053</b>	<b>12,864</b>	<b>181,324</b>	<b>93%</b>	<b>46,027</b>	<b>172,133</b>	<b>218,160</b>	<b>36,836</b>	<b>10.10%</b>		<b>1.20x</b>
<b>Vintage Year 2017</b>												
Quantum Energy Partners VII, LP	Energy	40,000	20,560	21,797	49%	2,415	13,893	16,308	-5,489	-18.40%	-13.97%	0.75x
Meridiam Infrastructure North America Fund III	Infrastructure	50,000	47,365	2,635	5%	1	846	847	-1,788	-69.46%	N/A	0.32x
<b>Vintage Year 2017 Total</b>		<b>90,000</b>	<b>67,925</b>	<b>24,433</b>	<b>25%</b>	<b>2,416</b>	<b>14,739</b>	<b>17,155</b>	<b>-7,278</b>	<b>-22.48%</b>		<b>0.70x</b>
<b>Vintage Year 2018</b>												
Paine Schwartz Food Chain Fund V, LP	Agriculture	40,000	35,895	4,105	10%	0	3,006	3,006	-1,099	N/M	N/M	0.73x

<sup>1</sup>Benchmarks:

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 March 31, 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	14,867	8,218	34%	588	8,035	8,623	405	3.71%	-3.84%	1.05x
Tailwater Energy Fund III, LP	Energy	32,000	7,486	26,569	77%	1,662	21,701	23,362	-3,206	N/M	N/M	0.88x
ISQ Global Infrastructure Fund II	Infrastructure	50,000	20,018	33,679	60%	3,697	32,979	36,677	2,998	N/M	N/M	1.09x
<b>Vintage Year 2018 Total</b>		<b>144,500</b>	<b>78,266</b>	<b>72,571</b>	<b>46%</b>	<b>5,947</b>	<b>65,721</b>	<b>71,668</b>	<b>-904</b>	<b>-1.40%</b>		<b>0.99x</b>
<b>Vintage Year 2019</b>												
Tailwater Energy Fund IV, LP	Energy	35,000	28,545	6,445	18%	0	4,012	4,012	-2,433	N/M	N/M	0.62x
Brookfield Infrastructure Fund IV	Infrastructure	40,000	24,591	15,322	39%	81	14,175	14,256	-1,066	N/M	N/M	0.93x
EQT Infrastructure IV (No.2) USD SCSp	Infrastructure	35,000	19,073	16,755	46%	876	14,858	15,734	-1,021	N/M	N/M	0.94x
<b>Vintage Year 2019 Total</b>		<b>110,000</b>	<b>72,209</b>	<b>38,523</b>	<b>34%</b>	<b>957</b>	<b>33,045</b>	<b>34,003</b>	<b>-4,520</b>	<b>N/M</b>		<b>0.88x</b>
<b>Portfolio Total :</b>		<b>1,002,553</b>	<b>393,310</b>	<b>686,474</b>	<b>61%</b>	<b>227,569</b>	<b>535,969</b>	<b>763,538</b>	<b>77,064</b>	<b>5.97%</b>	<b>4.76%</b>	<b>1.11x</b>
<b>Portfolio Strategy Totals</b>												
Agriculture		65,000	41,481	27,666	36%	4,581	19,200	23,781	-3,884	-10.93%		0.86x
Energy		372,500	113,494	302,398	70%	121,462	192,850	314,312	11,914	2.18%		1.04x
Infrastructure		465,053	153,546	320,242	67%	74,999	306,740	381,739	61,497	9.75%		1.19x
Real Asset Debt		100,000	84,789	36,169	15%	26,527	17,180	43,707	7,538	10.29%		1.21x
<b>Portfolio Total :</b>		<b>1,002,553</b>	<b>393,310</b>	<b>686,474</b>	<b>61%</b>	<b>227,569</b>	<b>535,969</b>	<b>763,538</b>	<b>77,064</b>	<b>5.97%</b>	<b>4.76%</b>	<b>1.11x</b>
<b>Portfolio Geography Totals</b>												
US		712,500	322,349	462,954	55%	181,469	318,018	499,487	36,532	3.96%		1.08x
Non-US		290,053	70,961	223,520	76%	46,101	217,951	264,052	40,532	11.33%		1.18x
<b>Portfolio Total</b>		<b>1,002,553</b>	<b>393,310</b>	<b>686,474</b>	<b>61%</b>	<b>227,569</b>	<b>535,969</b>	<b>763,538</b>	<b>77,064</b>	<b>5.97%</b>	<b>4.76%</b>	<b>1.11x</b>

<sup>1</sup>Benchmarks:

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 March 31, 2020

The SCERS Real Assets portfolio is primarily Infrastructure and Energy

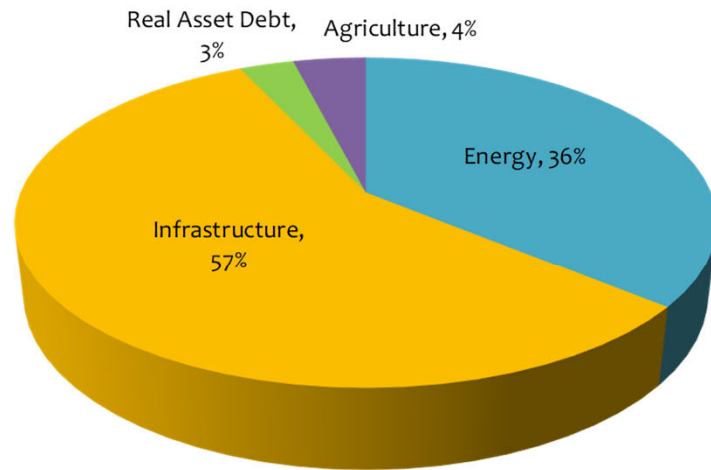
- Other strategies such as Agriculture represent much smaller allocations in the portfolio

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

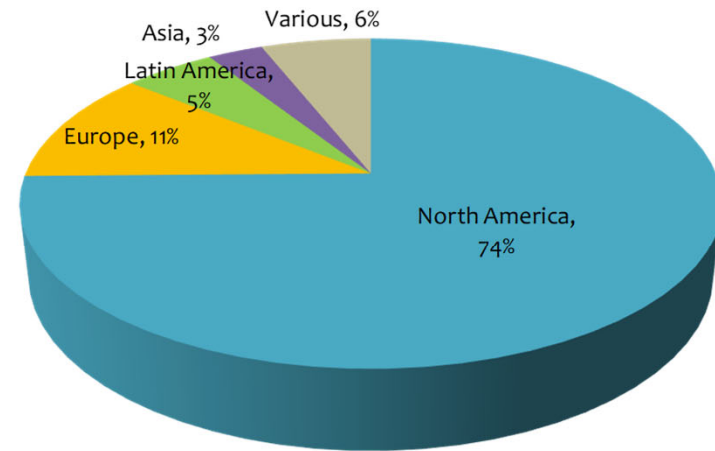
- The portfolio has exposure to Europe, Latin America, and Asia

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 3/31/20.

## Opportunities Portfolio – as of March 31, 2020

### The Opportunities portfolio's net IRR since inception is 18.31%

- 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
  - 3.22% portfolio IRR v 5.51% 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 7.60% net IRR since inception

### Changes during the quarter

- SCERS made no new commitments categorized as Opportunities funds during Q1 2020
- No new contributions, \$0.2 million in distributions
- Portfolio IRR decreased 0.05%, total portfolio gain decreased slightly

### 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 March 31, 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
<b>Vintage Year 2007</b>												
* PIMCO Distressed Mortgage Fund, LP	Distressed Debt	18,000	0	18,000	100%	25,384	0	25,384	7,384	8.96%	9.87%	1.41x
<b>Vintage Year 2007 Total</b>		18,000	0	18,000	100%	25,384	0	25,384	7,384	8.96%		1.41x
<b>Vintage Year 2008</b>												
* PIMCO Distressed Mortgage Fund II, L.P.	Distressed Debt	12,000	0	12,000	100%	35,277	0	35,277	23,277	34.39%	12.16%	2.94x
<b>Vintage Year 2008 Total</b>		12,000	0	12,000	100%	35,277	0	35,277	23,277	34.39%		2.94x
<b>Vintage Year 2009</b>												
* MetWest Enhanced TALF Strategy Fund LP	Distressed Debt	20,000	0	20,000	100%	25,304	0	25,304	5,304	11.21%	14.38%	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%	14.38%	1.72x
<b>Vintage Year 2009 Total</b>		45,000	0	45,248	100%	68,687	0	68,687	23,439	19.71%		1.52x
<b>Vintage Year 2013</b>												
Atalaya Special Opportunities Fund V, L.P.	Distressed Debt	25,000	1,117	24,875	96%	24,351	6,587	30,938	6,063	7.60%	8.20%	1.24x
<b>Vintage Year 2013 Total</b>		25,000	1,117	24,875	96%	24,351	6,587	30,938	6,063	7.60%		1.24x
<b>Portfolio Total :</b>		100,000	1,117	100,123	99%	153,699	6,587	160,286	60,163	18.31%	7.00%	1.60x

\* Liquidated partnership

<sup>1</sup> 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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