

Board of Retirement Regular Meeting

Sacramento County Employees' Retirement System

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MEETING DATE: September 19, 2018

SUBJECT: Quarterly Investment Performance Report –

Alternative Assets

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

RECOMMENDATION

Staff recommends the Board receive and file the Cliffwater Quarterly Performance Review presentation for the period ending June 30, 2018 for the Absolute Return portfolio, and the period ending March 31, 2018 for the Private Equity, Private Credit, Real Assets, and Opportunities portfolios.

<u>PURPOSE</u>

This agenda item does not specifically support the 2018-2019 Strategic Management Plan but complies with SCERS' investment policy statement reporting requirements.

SCERS ALTERNATIVE ASSETS PORTFOLIO RETURNS

This memorandum provides an overview of SCERS' Alternative Assets period returns as presented within Cliffwater's Quarterly Performance Review. This memorandum also highlights any recent alternative asset class investments made by SCERS.

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SCERS' alternative asset class period returns are as follows:

SCERS ALTERNATIVE ASSETS PERFORMANCE SUMMARY Quarter Reporting Periods Ending June 30, 2018

SCERS ASSET CLASS	Quarter*	1-Year*	3-Year*	5-Year*	Since Inception*	Since Inception Date*
SCERS Absolute Return	0.7%	3.9%	2.4%	3.8%	4.2%	Sep-04
HFRI FoF Conservative	1.1%	4.2%	1.9%	3.0%	3.4%	
HFRI FoF Composite + 1%	0.6%	6.1%	2.9%	4.5%	4.2%	
SCERS Private Equity	4.7%	22.0%	15.6%	15.7%	13.2%	Feb-08
Cambridge Private Equity/Venture Capi	3.0%	18.0%	12.1%	13.5%	12.7%	
SCERS Private Credit	1.6%	7.2%	8.9%	9.0%	9.1%	Oct-11
Credit Suisse Leveraged Loan + 2%	2.1%	6.6%	6.3%	6.2%	7.5%	
SCERS Real Assets	2.5%	13.2%	16.5%	16.2%	16.1%	Jan-13
(45%) Cambridge Private Infrastructure; (35%) Cambridge Private Energy; (20%) NCREIF Agriculture/Timber	1.6%	10.3%	8.0%	7.1%	7.0%	
SCERS Opportunities	-0.9%	0.1%	7.7%	7.4%	18.5%	Jan-08
SCERS Portfolio Actuarial Rate of Return	1.8%	7.0%	7.0%	7.0%	7.0%	
*Note: Periods ending 3/31/18 for Private E Periods ending 6/30/18 for Absolute All returns are net IRR, except Abso	e Return				unities	

SCERS ABSOLUTE RETURN PORTFOLIO

SCERS' Absolute Return portfolio is broken up into two segments: (1) Growth-Oriented Absolute Return; and (2) Diversifying Absolute Return. The distinction is to separate growth-oriented strategies that typically do well during a more favorable economic environment, and have higher correlations and betas to equity and credit markets, from diversifying strategies that have low to negative correlation to equity and credit markets and serve as a diversifier to SCERS' broader portfolio.

SCERS takes a diversified approach to implementing the Absolute Return portfolio, by investing through: (1) A direct absolute return portfolio; and (2) A diversified series of separate accounts managed by Grosvenor Capital Management (GCM). The direct absolute return portfolio is a portfolio of individual absolute return/hedge funds that is managed by SCERS and SCERS' alternative assets consultant, Cliffwater. The primary GCM separate account, named SC Absolute Return Fund, LLC (SCARF), is a multi-strategy absolute return fund-of-funds (FoFs), that is allocated to both growth-oriented and diversifying absolute return strategies.

In addition to SCARF, GCM also manages an additional FoFs portfolio for SCERS, SCARF B, which is a more liquid version of SCARF, and is intended to provide SCERS with interim underlying absolute return exposure while SCERS' direct diversifying absolute return portfolio is being built out, rather than relying on SCERS' Overlay Program to fill the gap between actual

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and target Absolute Return allocations. While SCARF B is intended to be a liquidating portfolio, SCARF is considered a long-term strategic allocation within SCERS' Absolute Return portfolio. SCARF B transitioned during the first quarter to only managing diversifying absolute return strategies.

Quarter ended June 30, 2018:

- SCERS' Growth Absolute Return portfolio returned +2.1% versus the HFRI FoF Composite + 1% benchmark of +0.6%:
 - Top performing managers:
 - JANA Partners Qualified, LP (event driven): +7.0%
 - Grosvenor SCARF (fund-of-funds): +2.1%
 - Bottom performing managers:
 - Lakewood Capital Partners, LP (equity long/short): -1.2%
- SCERS' Diversifying Absolute Return portfolio returned -0.2% versus the HFRI FoF Conservative benchmark of +1.1%:
 - > Top performing managers:
 - Brevan Howard, LP (macro-discretionary): +8.1%
 - Winton Diversified Futures Fund, LP (macro-systematic): +3.0%
 - Laurion Capital, Ltd. (market neutral): +1.8%
 - Bottom performing managers:
 - AQR Delta Fund, LP (multi-strategy): -6.0%
 - Graham Global Investment Fund II, SPC Ltd. (macro-systematic): -2.2%
 - Grosvenor SCARF B (fund-of-funds): -1.1%

One-year ended June 30, 2018:

- SCERS' Growth Absolute Return portfolio returned +6.6% versus the HFRI FoF Composite + 1% benchmark of +6.1%:
 - Top performing managers:
 - Grosvenor SCARF (fund-of-funds): +8.7%
 - OZ Domestic Partners II, LP (multi-strategy): +8.0%
 - Third Point Partners Qualified (event driven): +7.4%
 - Bottom performing managers:
 - Lakewood Capital Partners, LP (equity long/short): -0.8%
 - JANA Partners Qualified (event driven): +4.4%

- SCERS' Diversifying Absolute Return portfolio returned +1.9% versus the HFRI FoF Conservative benchmark of +4.2%:
 - Top performing managers:

Laurion Capital, Ltd. (market neutral): +10.8%

Brevan Howard, LP (macro-discretionary): +8.2%

Elliott International Limited (event driven): +8.1%

- Bottom performing managers:
 - AQR Delta Fund, LP (multi-strategy): -5.6%
 - Grosvenor SCARF B (fund-of-funds): -1.8%
 - Grosvenor SCARF (fund-of-funds): -0.9%

SCERS ABSOLUTE RETURN Performance Summary for the periods ending 6/30/18	Quarter	1-Year	3-Year	5-Year	Since Inception	Since Inception Date
SCERS ABSOLUTE RETURN PORTFOLIO	0.7%	3.9%	2.4%	3.8%	4.2%	Sep-04
Growth-Oriented Funds	2.1%	6.6%	4.3%	5.5%	5.1%	Sep-04
HFRI FoF Composite + 1%	0.6%	6.1%	2.9%	4.5%	4.2%	
Diversifying-Oriented Funds	-0.2%	1.9%	1.1%	1.8%	2.3%	Dec-11
HFRI FoF Conservative Index	1.1%	4.2%	1.9%	3.0%	3.4%	

No new investments were made in the SCERS Absolute Return portfolio during Q2 2018 or after the quarter.

SCERS PRIVATE EQUITY PORTFOLIO

Since inception, SCERS' Private Equity portfolio has generated a +13.2% net IRR versus the Cambridge PE/VC Index benchmark net IRR of +12.7%. Although SCERS' Private Equity portfolio continues to mature, the performance has exceeded the more seasoned index. As of March 31, 2018:

- SCERS' actual invested Private Equity allocation is 8.6% versus the target allocation of 9.0%.
- The fair value of SCERS' actual Private Equity portfolio is \$749.8 million, compared to the target allocation of \$829.5 million.
- SCERS' Private Equity portfolio drawdowns compared to SCERS' commitments:
 - ➤ Direct portfolio: \$566.1 million drawn versus \$1,019.7 million committed, or 55.5% drawn.
 - Fund-of-Funds: \$226.5 million drawn versus \$239.7 million committed, or 94.5% drawn.

It is industry practice to measure Private Equity returns over vintage years. SCERS' Private Equity portfolio vintage year since inception net IRRs versus the respective Cambridge PE/VC vintage year benchmarks:

- Fund-of-Funds portfolio net IRRs since inception versus the respective Cambridge PE/VC vintage year benchmarks:
 - > 2006: +10.6% versus +7.2%
 - > 2008: +11.8% versus +8.6%
- Direct portfolio net IRRs since inception versus the respective Cambridge PE/VC vintage year benchmarks:
 - > 2011: +29.7% versus +13.5%
 - > 2012: +12.9% versus +13.2%
 - > 2013: +10.1% versus +13.4%
 - > 2014: +17.1% versus +13.6%
 - > 2015: +21.9% versus +12.8%
 - > 2016: +13.5% versus +8.0%

Although private equity returns are typically evaluated on a since inception basis, Cliffwater has provided net IRRs over multiple time periods for SCERS' Private Equity portfolio, as follows:

SCERS PRIVATE EQUITY Performance Summary for the periods ending 3/31/18	Quarter	1-Year	3-Year	5-Year	Since Inception	Since Inception Date
SCERS Private Equity	4.7%	22.0%	15.6%	15.7%	13.2%	Feb-08
Cambridge Private Equity/Venture Capi	3.0%	18.0%	12.1%	13.5%	12.7%	

In Q1 2018, SCERS made a \$44.3 million commitment to Linden Capital Partners IV, LP (healthcare middle-market buyout). After the quarter, SCERS made a \$35 million commitment to Khosla Ventures VI, LP (venture capital), and a \$35 million commitment to TSSP Opportunities Partners IV, LP (distressed debt).

SCERS PRIVATE CREDIT PORTFOLIO

SCERS' Private Credit portfolio is early in its development; however, it has less of a J-curve effect compared to Private Equity, given the faster cash flow characteristics of the asset class. Since inception, SCERS' Private Credit portfolio has generated a +9.1% net IRR, exceeding the Credit Suisse Leverage Loan Index + 2% return of +7.5%. As of March 31, 2018:

• SCERS' actual invested Private Credit allocation is 1.5% versus the target allocation of 4.0%.

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- The fair value of SCERS' actual Private Credit portfolio is \$89.6 million, compared to the target allocation of \$368.7 million.
- SCERS' Private Credit portfolio has drawn \$137.7 million of its \$312.0 million commitment, or 44.1% drawn.

It is industry practice to measure Private Credit returns over vintage years. SCERS' net IRRs since inception versus the respective Credit Suisse Leverage Loan Index + 2% vintage year benchmarks returns are as follows:

➤ 2011: +9.2% versus Not Available

2014: +9.9% versus +3.8%2015: +8.4% versus +12.1%

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Although private credit returns are typically evaluated on a since inception basis, Cliffwater has provided net IRRs over multiple time periods for SCERS' Private Credit portfolio, as follows:

SCERS PRIVATE CREDIT Performance Summary for the periods ending 3/31/18	Quarter	1-Year	3-Year	5-Year	Since Inception	Since Inception Date
SCERS Private Credit	1.6%	7.2%	8.9%	9.0%	9.1%	Oct-11
Credit Suisse Leveraged Loan + 2%	2.1%	6.6%	6.3%	6.2%	7.5%	

During Q1 2018, SCERS made a \$50 million commitment to Summit Partners Credit Fund III, LP (direct lending). No new investments in Private Credit were made after the quarter.

SCERS REAL ASSETS PORTFOLIO

Since inception, SCERS' Real Assets portfolio has generated a +16.1% net IRR, significantly exceeding the custom benchmark of blended indexes return of +7.0%. SCERS' Real Assets results are strong, especially given the portfolio, which was initiated in 2013, is still maturing (J-curve effect). As of March 31, 2018:

- SCERS' actual Real Assets allocation is 4.4% versus the target allocation of 7.0%.
- The fair value of SCERS' actual Real Assets portfolio is \$381.7 million, compared to the target allocation of \$645.1 million.
- SCERS' Real Assets portfolio has drawn \$406.8 million of its \$770.5 million commitment or 52.8% drawn.

It is industry practice to measure Real Assets returns over vintage years. SCERS' net IRRs since inception by vintage year (Cliffwater does not provide vintage year IRR benchmarks for real assets) are as follows:

2013: +14.6%2014: +20.8%

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> 2015: +9.6%

Although real asset returns are typically evaluated on a since inception basis, Cliffwater has provided net IRRs over multiple time periods for SCERS' Real Assets portfolio, as follows:

SCERS REAL ASSETS Performance Summary for the periods ending 3/31/18	Quarter	1-Year	3-Year	5-Year	Since Inception	Since Inception Date
SCERS Real Assets	2.5%	13.2%	16.5%	16.2%	16.1%	Jan-13
(45%) Cambridge Private Infrastructure; (35%) Cambridge Private Energy; (20%) NCREIF Agriculture/Timber	1.6%	10.3%	8.0%	7.1%	7.0%	

During Q1 2018, SCERS made a \$22.5 million commitment to EnCap Flatrock Midstream Fund IV, LP (energy infrastructure) and a \$25 million additional commitment to IFM Global Infrastructure Fund (infrastructure). After the quarter, SCERS made a \$32 million commitment to Tailwater Energy Fund III, LP (energy infrastructure); a \$50 million commitment to ISQ Global Infrastructure Fund II, LP (infrastructure); and a \$40 million commitment to Paine Schwartz Food Chain Fund V, LP (agribusiness).

SCERS REAL ASSETS PROXY

The SSgA Real Assets proxy within the Overlay Program is used to close the gap between SCERS' Real Return asset category actual and target allocation, which Real Assets is a part. As of June 30, 2018, SCERS held \$235.2 million in the SSgA proxy. As additional commitments are made over time, the gap will to decrease. SCERS has committed approximately 8.4% towards the Real Assets allocation compared to 4.4% invested and 7.0% target.

SCERS OPPORTUNITIES PORTFOLIO

SCERS' Opportunities portfolio excludes non-core real estate commitments, which were formerly part of the Opportunities portfolio in the prior asset allocation, but which are now part of the Real Estate asset class within the new strategic asset allocation, and reported separately by Townsend.

Since inception, SCERS' Opportunities portfolio has generated a +18.5% net IRR, exceeding SCERS' Total Portfolio Actuarial Rate of return of +7.0%.

It is industry practice to measure Opportunities returns over vintage years. SCERS' net IRRs since inception versus the respective benchmarks by vintage year are as follows:

> 2007: +9.0% versus +8.0%

> 2008: +34.4% versus +12.1%

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2009: +19.7% versus +14.9%2013: +8.0% versus +8.6%

Although Opportunities returns are typically evaluated on a since inception basis, Cliffwater has provided net IRRs over multiple time periods for SCERS' Opportunities portfolio, as follows:

SCERS OPPORTUNITIES Performance Summary for the periods ending 3/31/18	Quarter	1-Year	3-Year	5-Year	Since Inception	Since Inception Date
SCERS Opportunities	-0.9%	0.1%	7.7%	7.4%	18.5%	Jan-08
SCERS Total Fund Policy Index	1.8%	7.0%	7.0%	7.0%	7.0%	

No new commitments were made in the SCERS Opportunities portfolio during Q1 2018 or after the quarter.

<u>ATTACHMENT</u>

Cliffwater's Quarterly Performance Report for Alternative Assets

Prepared by:	
/S/	
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Reviewed by:	
/S/	/S/
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INVESTMENT ADVISORY SERVICES

Los Angeles • New York

Sacramento County Employees' Retirement System Quarterly Performance Review

September 19, 2018

Executive Summary

Absolute Return Portfolio Performance Summary – as of June 30, 2018

Growth Oriented Strategies

- The Growth Oriented Portfolio returned 2.12% in Q2 and 6.55% for the 1 year period ending June 30, 2018
 - Outperforming the HFRI FoF Index + 1% benchmark by 149 bps in Q2 and 42 bps for the 1 year period
 - Outperforming the T-bills + 5% long term objective by 12 bps (annualized) over the trailing 5 year period
- Generally good performance across the portfolio though Lakewood has been a laggard

Diversifying Strategies

- The Diversifying Portfolio returned -0.21% in Q2 and 1.94% for the 1 year period ending June 30, 2018
 - Trailing the HFRI Conservative FoF Index benchmark by 130 bps in Q2 and 225 bps for the 1 year period
 - Underperforming the T-bills + 2% long term objective by 58 bps (annualized) over the trailing 5 year period
- Performance was primarily hurt by AQR DELTA and the Grosvenor portfolios over these periods

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

- Growth Oriented
 - Portfolio standard deviation of 4.58% compared to the ACWI standard deviation of 10.50% since December 2011
 - Portfolio equity beta of 0.35 with an equity correlation of 0.80
 - Target standard deviation < 50% of global equities, with an equity beta < 0.5 and equity correlation < 0.8
- Diversifying
 - Portfolio standard deviation of 2.57% compared to the ACWI standard deviation of 10.50% since December 2011
 - Portfolio equity beta of 0.03 with an equity correlation of 0.11
 - 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 June 30, 2018

						Ret	urns					Sharpe	Incep
Fund	Market Value	Actual %	Jun	QTD	YTD	FYTD	1 Year	3 Year	5 Year	Incep	Std Dev	Ratio	Date
Growth-Oriented Portfolio													
Event Driven													
JANA Partners Qualified, L.P.	42,834,582	4.8%	1.63%	6.98%	4.51%	4.37%	4.37%	2.09%	4.12%	4.12%	7.70%	0.47	Jul-13
Third Point Partners Qualified L.P.	49,783,146	5.6%	-0.48%	1.43%	0.98%	7.41%	7.41%	6.16%	8.20%	10.76%	7.08%	1.39	May-1
Event Driven - HF Total	92,617,728	10.4%	0.48%	3.92%	2.58%	5.98%	5.98%	4.20%	6.16%	9.07%	7.05%	1.17	May-1
Equity Long/Short													
Lakewood Capital Partners, LP	43,401,189	4.9%	-1.33%	-1.19%	-4.57%	-0.76%	-0.76%	5.79%	6.06%	6.06%	6.87%	0.78	Jul-13
Equity Long/Short - HF Total	43,401,189	4.9%	-1.33%	-1.19%	-4.57%	-0.76%	-0.76%	5.79%	6.06%	6.06%	6.87%	0.78	Jul-13
Multi-Strategy													
OZ Domestic Partners II, L.P.	48,742,680	5.5%	0.29%	1.94%	4.22%	8.02%	8.02%	4.83%	6.20%	7.75%	4.62%	1.50	Jan-12
Multi-Strategy - HF Total	48,742,680	5.5%	0.29%	1.94%	4.22%	8.02%	8.02%	4.83%	6.20%	7.75%	4.62%	1.50	Jan-12
Fund of Funds													
Grosvenor Institutional US Hedged Fund	60,299	0.0%	-36.47%	-37.44%	-39.49%	-71.56%	-71.56%	-24.19%	-15.05%	-3.47%	27.53%	-0.05	Sep-0
Grosvenor SC Absolute Return Fund LLC	154,577,117	17.4%	0.23%	2.12%	3.01%	8.69%	8.69%	4.31%	5.38%	6.65%	4.42%	1.33	Dec-1
Grosvenor SC Absolute Return Fund LLC Series B	7,977,453	0.9%	0.15%	1.73%	2.61%	6.61%	6.61%	3.60%	4.83%	5.22%	4.11%	1.09	Feb-1
Fund of Funds - HF Total	162,614,869	18.3%	0.21%	2.08%	2.96%	8.19%	8.19%	4.18%	5.23%	4.83%	6.03%	0.54	Sep-0
Growth-Oriented Portfolio Total	347,376,466	39.0%	0.10%	2.12%	2.10%	6.55%	6.55%	4.30%	5.54%	5.08%	6.15%	0.56	Sep-04
HFRI FoF Composite + 1%			-0.42%	0.63%	1.13%	6.13%	6.13%	2.93%	4.46%	4.23%	4.99%	0.52	Sep-0
3 Month T-Bills+5%			0.56%	1.65%	3.25%	6.36%	6.36%	5.68%	5.42%	6.31%	0.49%	-	Sep-0
Market Indices													
Libor3Month			0.19%	0.58%	1.08%	1.80%	1.80%	1.11%	0.76%	1.68%	0.51%	_	Sep-0
Bloomberg Barclays US Aggregate Bond Index			-0.12%	-0.16%	-1.62%	-0.40%	-0.40%	1.73%	2.28%	3.85%	3.13%	0.69	Sep-0
Bloomberg Barclays US High Yield Bond Index			0.40%	1.02%	0.16%	2.61%	2.61%	5.53%	5.52%	7.43%	9.30%	0.64	Sep-0
S&P 500 TR			0.62%	3.43%	2.65%	14.37%	14.37%	11.93%	13.42%	8.97%	13.51%	0.58	Sep-0
MSCI AC World Index Free - Net			-0.54%	0.53%	-0.43%	10.73%	10.73%	8.19%	9.41%	7.41%	15.09%	0.44	Sep-0
MSCI EAFE - Net			-1.22%	-1.24%	-2.75%	6.84%	6.84%	4.90%	6.44%	5.95%	16.67%	0.33	Sep-0
MSCI EMF (Emerging Markets Free) - Net			-4.15%	-7.96%	-6.66%	8.20%	8.20%	5.60%	5.01%	9.19%	21.82%	0.44	Sep-0

Diversifying Absolute Return Portfolio Performance – as of June 30, 2018

						Ret	urns					Sharpe	Incep
Fund	Market Value	Actual %	Jun	QTD	YTD	FYTD	1 Year	3 Year	5 Year	Incep	Std Dev	Ratio	Date
Diversifying Portfolio													
Market Neutral													
Laurion Capital, Ltd.	45,841,006	5.2%	-0.63%	1.76%	6.59%	10.83%	10.83%	6.70%	-	6.42%	5.23%	1.06	Mar-14
Market Neutral - HF Total	45,841,006	5.2%	-0.63%	1.76%	6.59%	10.83%	10.83%	6.70%	-	6.42%	5.23%	1.06	Mar-14
Credit/Distressed													
Claren Road Credit Partners, LP	47,422	0.0%	0.61%	0.82%	2.23%	-17.59%	-17.59%	-3.94%	-5.61%	-3.09%	11.20%	-0.28	Feb-12
Credit/Distressed - HF Total	47,422	0.0%	0.61%	0.82%	2.23%	-17.59%	-17.59%	-3.94%	-5.61%	-3.09%	11.20%	-0.28	Feb-12
cically bisticssed in Total	47,422	0.070	0.0170	0.0270	2.2370	17.5570	17.5570	3.5470	3.0170	3.0370	11.20/0	0.20	100 12
Event Driven													
Elliott International Limited	54,616,433	6.1%	0.73%	1.29%	3.06%	8.08%	8.08%	7.94%	7.58%	7.91%	3.41%	2.05	Apr-12
Event Driven - HF Total	54,616,433	6.1%	0.73%	1.29%	3.06%	8.08%	8.08%	7.94%	7.58%	7.91%	3.41%	2.05	Apr-12
Macro-Discretionary													
Brevan Howard LP	27,544,875	3.1%	-0.55%	8.11%	8.34%	8.17%	8.17%	0.70%	_	1.15%	6.50%	0.08	Mar-14
Macro-Discretionary - HF Total	27,544,875	3.1%	-0.55%	8.11%	8.34%	8.17%	8.17%	0.74%	0.78%	0.75%	5.28%	0.04	May-12
Wacro Discretionary in Total	21,344,013	3.170	0.5570	0.11/0	0.5470	0.1770	0.1770	0.7470	0.7070	0.7570	3.20/0	0.04	IVIU Y 12
Macro-Systematic													
Graham Global Investment Fund II SPC Ltd Tactical Trei	32,586,818	3.7%	-1.29%	-2.20%	-7.70%	-0.67%	-0.67%	-	-	-4.92%	11.75%	-0.51	Feb-17
Winton Diversified Futures Fund L.P.	37,471,273	4.2%	1.97%	2.98%	0.69%	8.64%	8.64%	-	-	4.65%	8.07%	0.41	Jan-17
Macro-Systematic - HF Total	70,058,091	7.9%	0.42%	0.50%	-3.39%	4.10%	4.10%	-	-	-0.21%	9.37%	-0.14	Jan-17
Adulat Charles													
Multi-Strategy	CE E3C 034	7.40/	2.740/	C 020/	0.640/	F F00/	F F00/	4.000/	2.400/	2.020/	F 670/	0.42	NA 12
AQR DELTA Fund II, LP	65,536,034	7.4%	-3.74%	-6.03%	-9.64%	-5.58%	-5.58%	1.98%	3.48%	3.02%	5.67%	0.42	May-13
Multi-Strategy - HF Total	65,536,034	7.4%	-3.74%	-6.03%	-9.64%	-5.58%	-5.58%	1.98%	3.48%	3.02%	5.67%	0.42	May-13
Fund of Funds													
Grosvenor SC Absolute Return Fund LLC	116,702,065	13.1%	-0.55%	-0.02%	-0.13%	-0.93%	-0.93%	-1.77%	0.61%	1.61%	3.15%	0.31	Dec-11
Grosvenor SC Absolute Return Fund LLC Series B	161,976,541	18.2%	-0.45%	-1.05%	-0.80%	-1.83%	-1.83%	-3.30%	-0.12%	0.46%	2.71%	-0.08	Feb-13
Fund of Funds - HF Total	278,678,606	31.3%	-0.49%	-0.61%	-0.63%	-1.49%	-1.49%	-2.40%	0.32%	1.41%	2.89%	0.26	Dec-11
Diversifying Doublelie Total	542,322,467	61.0%	-0.67%	-0.21%	-0.80%	1.94%	1.94%	1.06%	1.84%	2 200/	2.57%	0.63	Dec 44
Diversifying Portfolio Total	542,322,467	01.0%								2.28%	2.57%		Dec-11
HFRI FOF: Conservative Index 3 Month T-Bills+2%			0.05% 0.33%	1.09%	1.65%	4.19%	4.19%	1.93%	3.02%	3.43% 2.34%		1.27	Dec-11
S IVIUIILII I-BIIIS+Z%			0.33%	0.94%	1.79%	3.36%	3.36%	2.68%	2.42%	2.34%	0.14%	-	Dec-11
SCERS Absolute Return Portfolio	889,698,933	100.0%	-0.37%	0.70%	0.38%	3.93%	3.93%	2.44%	3.79%	4.24%	5.75%	0.46	Sep-04
3 Month T-Bills+5%			0.56%	1.65%	3.25%	6.36%	6.36%	5.68%	5.42%	6.31%	0.49%	-	Sep-04
HFRI Fund of Funds Composite Index			-0.50%	0.41%	0.68%	5.13%	5.13%	1.93%	3.45%	3.23%	5.04%	0.33	Sep-04

^{*} Included the SCERS Total Absolute Return Portfolio performance for reference

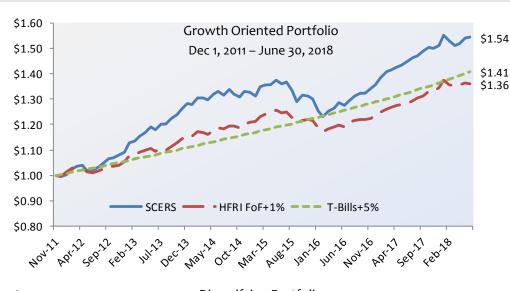
Absolute Return Portfolios Cumulative Performance – Dec 2011 to June 2018

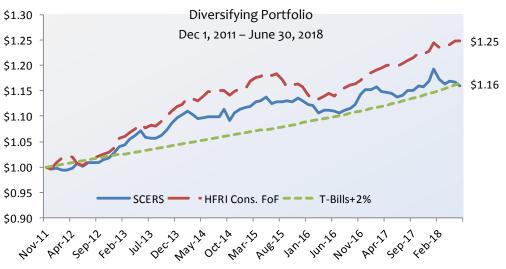
The Growth Oriented portfolio has outperformed the Fund of Funds Index + 1% benchmark and the T-bills + 5% long term objective

The Diversifying portfolio has met the T-bills + 2% long term objective, but underperformed the HFRI Fund of Funds Conservative Index

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, 2018

The Private Equity portfolio's net IRR since inception is 13.20%, versus the Cambridge Associates benchmark IRR of 12.68%

- The long-term Policy benchmark (Russell 3000 + 3%) has a 15.73% IRR over this period

The private equity portfolio produced solid gains during the quarter, while global equities fell by roughly 1%

- Most of the funds generated positive quarterly returns, with several greater than 5%
 - Trinity Ventures XII, NEA 14 & 15, HIG Capital V, Dyal III, and Waterland VI reported the largest gains in Q1
- Continued meaningful distributions among the direct fund investments (\$13.2 million) and fund of funds (\$9.5 million)
 - Spectrum VII, Khosla IV, Summit VC III, Atalaya VI, Waterland V, and AKKR Growth II led distributions within directs

Continued strong performance of the direct fund investments

- Double-digit net IRRs for all vintage years prior to 2017
- Marlin Heritage (37.8%), Waterland V (37.1%), Summit VC IV (32.2%), and Spectrum VII (26.7%) are leading performance

The fund of funds also reported gains during the quarter

- Aggregate since inception net IRR increased to 11.43% from 11.25% during the quarter
 - The aggregate total value (TVPI) improved to 1.58x from 1.55x
- HarbourVest International has generated the best absolute and relative performance among the fund of funds
- The fund of funds comprise approximately 15% of the current fair value of the Private Equity portfolio

Changes during the quarter

- SCERS committed \$44.3 million to Linden IV (healthcare-focused buyouts) during Q1
 - SCERS also committed \$35 million to Khosla Ventures VI (venture capital) in Q2 2018
- \$43.7 million in new contributions, \$22.7 million in distributions
- Total portfolio gain increased by \$33.3 million while the total portfolio IRR increased 0.37%



Private Equity Portfolio Characteristics as of March 31, 2018

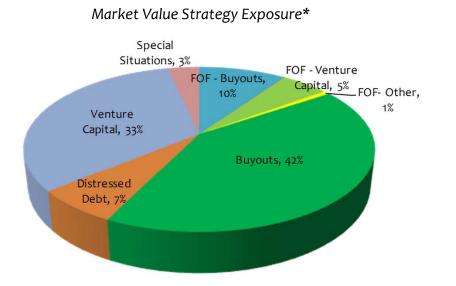
The SCERS Private Equity portfolio is diversified by strategy and geography

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

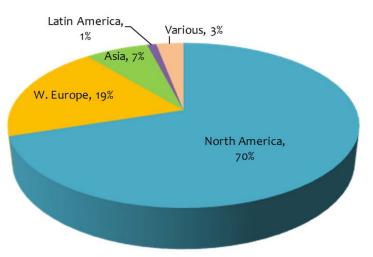
Fund of funds exposure continues to decrease

- Investments from direct private equity funds represent roughly 85% of the total portfolio's value as of March 31, 2018

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



Market Value Geographic Exposure*



^{*} Exposures are based on the market values of investments as of 3/31/18.

Private Equity Portfolio Performance Details – as of March 31, 2018

		(A)		(B)		(C)	(D)	(C+D)				
Partnership Name	Strategy	Commit. Amount	Unfund. Amount	Cumulat. Cont.	% Drawn	Cumulat. Dist.	Fair Value	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%	44,269	16,337	60,606	24,794	10.84%	7.43%	1.69x
HarbourVest Partners VIII - Mezzanine and Distressed Debt Fund L.P.	Fund of Funds	5,000	200	4,800	96%	5,445	1,241	6,686	1,886	7.82%	7.43%	1.39x
HarbourVest Partners VIII - Venture Fund L.P.	Fund of Funds	7,500	150	7,350	98%	8,302	4,978	13,279	5,929	10.67%	7.43%	1.81x
Vintage Year 2006 Total		50,000	2,038	47,963	96%	58,016	22,556	80,572	32,609	10.56%	7.22%	1.68x
Vintage Year 2008												
Abbott Capital Private Equity Fund VI, L.P.	Fund of Funds	75,000	2,250	72,750	97%	51,376	59,849	111,225	38,475	12.01%	12.68%	1.53x
Goldman Sachs Private Equity Partners X, L.P.	Fund of Funds	75,000	12,494	68,958	83%	74,467	35,733	110,199	41,241	11.29%	12.68%	1.60x
HarbourVest International Private Equity Partners VI-Partnership Fund L.P.	Fund of Funds	39,704	3,176	36,874	92%	17,941	38,504	56,445	19,571	12.84%	9.33%	1.53x
Vintage Year 2008 Total		189,704	17,920	178,582	91%	143,783	134,085	277,869	99,287	11.82%	8.56%	1.56x
Vintage Year 2011												
Waterland Private Equity Fund V C.V.	Buyout	19,729	4,240	15,354	79%	20,841	15,229	36,070	20,717	37.05%	14.09%	2.35x
Khosla Ventures IV, L.P.	Venture Capital	10,000	190	9,810	98%	5,755	16,067	21,823	12,013	21.28%	15.07%	2.22x
Vintage Year 2011 Total		29,729	4,430	25,164	85%	26,596	31,297	57,893	32,729	29.73%	13.51%	2.30x
Vintage Year 2012												
Garrison Opportunity Fund III A LLC	Distressed Debt	20,000	0	20,000	100%	6,220	14,110	20,330	330	0.42%	9.44%	1.02x
New Enterprise Associates 14, L.P.	Venture Capital	25,000	1,500	23,500	94%	3,906	40,578	44,483	20,983	18.07%	12.88%	1.89x
Summit Partners Venture Capital III-A, LP	Venture Capital	16,350	2,214	18,525	86%	17,129	16,129	33,258	14,733	18.82%	12.88%	1.80x
Vintage Year 2012 Total		61,350	3,714	62,025	94%	27,254	70,817	98,071	36,047	12.88%	13.24%	1.58x
Vintage Year 2013												
Accel-KKR Capital Partners IV, L.P.	Buyout	15,000	2,693	12,307	82%	6,650	12,436	19,086	6,779	21.84%	16.90%	1.55x
H.I.G. Capital Partners V, L.P.	Buyout	14,000	5,805	8,195	59%	1,437	9,897	11,334	3,139	24.27%	16.90%	1.38x
Marlin Equity IV, L.P.	Buyout	20,000	2,387	17,613	88%	191	18,747	18,938	1,324	3.62%	16.90%	1.08x
RRJ Capital Master Fund II, L.P.	Buyout	35,000	4,786	34,964	86%	24,255	20,464	44,719	9,754	10.35%	16.06%	1.28x
H.I.G. Bayside Loan Opportunity Fund III (Europe-US\$), L.P.	Distressed Debt	30,000	5,769	24,231	81%	7,442	23,797	31,239	7,008	10.20%	6.38%	1.29x
Wayzata Opportunities Fund III, L.P.	Distressed Debt	30,000	22,835	14,718	24%	7,581	7,204	14,785	67	0.19%	8.57%	1.00x

¹Benchmarks:



Private Equity Portfolio Performance Details – as of March 31, 2018 (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	5,500	19,500	78%	0	26,724	26,724	7,224	10.49%	12.47%	1.37x
Vintage Year 2013 Total		169,000	49,776	131,528	71%	47,555	119,269	166,825	35,296	10.11%	13.37%	1.27x
Vintage Year 2014												
Dyal Capital Partners II	Buyout	35,000	21,215	14,491	39%	2,978	9,332	12,310	-2,180	-8.85%	17.09%	0.85x
H.I.G. Europe Capital Partners II, L.P.	Buyout	17,263	6,186	10,593	64%	0	10,588	10,588	-5	-0.09%	14.33%	1.00x
Marlin Heritage Fund	Buyout	10,000	1,346	8,654	87%	7,382	8,877	16,258	7,605	37.80%	17.09%	1.88x
Thoma Bravo XI	Buyout	30,000	3,426	30,952	89%	6,337	44,478	50,815	19,863	20.81%	17.09%	1.64x
TPG Opportunities Partners III	Distressed Debt	40,000	20,925	32,627	48%	15,406	22,791	38,197	5,570	11.30%	9.92%	1.17x
Khosla Ventures V	Venture Capital	20,000	6,040	13,960	70%	1,013	16,475	17,488	3,528	11.92%	11.96%	1.25x
Spectrum Equity Investors VII, L.P.	Venture Capital	25,000	2,875	22,125	89%	8,223	25,435	33,658	11,533	26.57%	11.96%	1.52x
Vintage Year 2014 Total		177,263	62,014	133,401	65%	41,338	137,976	179,315	45,913	17.07%	13.60%	1.34x
Vintage Year 2015												
RRJ Capital Master Fund III, LP	Buyout	40,000	16,371	24,423	59%	1,392	25,488	26,881	2,457	12.68%	18.61%	1.10x
WPEF VI Feeder, L.P.	Buyout	29,593	18,096	10,247	39%	0	12,647	12,647	2,400	18.02%	18.61%	1.23x
WPEF VI Overflow Fund C.V.	Buyout	7,398	7,387	10	0%	0	1	1	-9	-77.98%	18.61%	0.11x
Accel-KKR Growth Capital Partners II	Mezzanine	15,000	8,357	6,643	44%	1,675	5,846	7,521	878	8.81%	12.08%	1.13x
New Enterprise Associates 15, L.P.	Venture Capital	35,000	7,875	27,129	78%	0	40,860	40,860	13,730	25.87%	9.56%	1.51x
Summit Partners Venture Capital Fund IV-A, L.P.	Venture Capital	35,000	26,386	13,550	25%	4,936	13,284	18,220	4,671	32.21%	9.56%	1.34x
Vintage Year 2015 Total		161,991	84,472	82,003	48%	8,003	98,127	106,130	24,127	21.91%	12.85%	1.29x
Vintage Year 2016												
Accel-KKR Capital Partners V, L.P.	Buyout	25,000	19,382	5,618	22%	0	5,624	5,624	7	N/M	N/M	1.00x
Dyal III Pension Investors LP	Buyout	35,000	24,076	13,513	31%	1,910	14,309	16,220	2,706	N/M	N/M	1.20x
Linden Capital Partners III	Buyout	35,000	2,526	32,474	93%	99	39,416	39,515	7,041	21.91%	5.74%	1.22x
Marlin Heritage Europe, L.P.	Buyout	16,030	10,988	4,882	31%	0	4,746	4,746	-136	N/M	N/M	0.97x
Thoma Bravo Fund XII, L.P.	Buyout	30,000	11,083	22,615	63%	3,701	20,111	23,812	1,197	N/M	N/M	1.05x
TSG7 A L.P.	Buyout	16,000	9,345	6,655	42%	0	7,055	7,055	400	5.72%	5.74%	1.06x
TSG7 B L.P.	Buyout	4,000	3,480	520	13%	0	298	298	-222	-32.87%	5.74%	0.57x

¹Benchmarks:



Private Equity Portfolio Performance Details – as of March 31, 2018 (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	7,127	23,128	71%	6,539	19,171	25,710	2,582	8.61%	7.74%	1.11x
Trinity Ventures XII, L.P.	Venture Capital	30,000	18,675	11,325	38%	0	14,007	14,007	2,682	N/M	N/M	1.24x
Vintage Year 2016 Total		216,030	106,683	120,729	51%	12,249	124,737	136,985	16,256	13.54%	8.03%	1.13x
Vintage Year 2017												
Marlin Heritage II	Buyout	10,000	8,659	1,341	13%	0	1,193	1,193	-149	N/M	N/M	0.89x
New Enterprise Associates 16, L.P.	Venture Capital	35,000	28,963	6,038	17%	0	6,068	6,068	30	N/M	N/M	1.01x
Vintage Year 2017 Total		45,000	37,621	7,379	16%	0	7,260	7,260	-118	N/M	N/M	0.98x
Vintage Year 2018												
Linden Capital Partners IV LP	Buyout	44,330	44,330	0	0%	0	0	0	0	N/M	N/M	N/A
Marlin Equity V	Buyout	25,000	22,918	2,082	8%	0	1,936	1,936	-146	N/M	N/M	0.93x
Summit Partners Europe Growth Equity Fund II, SCSP	Buyout	30,000	30,000	0	0%	0	0	0	0	N/M	N/M	N/A
Davidson Kempner Long-Term Distressed Opportunites Fund IV LP	Distressed Debt	35,000	33,250	1,750	5%	0	1,763	1,763	13	N/M	N/M	1.01x
Spectrum Equity VIII, L.P.	Venture Capital	25,000	25,000	0	0%	0	0	0	0	N/M	N/M	N/A
Vintage Year 2018 Total		159,330	155,498	3,832	2%	0	3,699	3,699	-134	N/M	N/M	0.97x
Portfolio Total :		1,259,396	524,166	792,605	58%	364,795	749,823	1,114,618	322,013	13.20%	12.68%	1.41x
Portfolio Strategy Totals												
Buyout		543,342	280,726	277,504	48%	77,173	282,871	360,044	82,541	17.43%		1.30x
Distressed Debt		180,000	89,907	116,453	50%	43,187	88,837	132,024	15,571	5.81%		1.13x
Fund of Funds		239,704	19,958	226,544	92%	201,799	156,641	358,440	131,896	11.43%		1.58x
Mezzanine		15,000	8,357	6,643	44%	1,675	5,846	7,521	878	8.81%		1.13x
Venture Capital		281,350	125,218	165,461	55%	40,961	215,628	256,588	91,127	19.03%		1.55x
Portfolio Total :		1,259,396	524,166	792,605	58%	364,795	749,823	1,114,618	322,013	13.20%	12.68%	1.41x



Private Credit Portfolio – as of March 31, 2018

The Private Credit portfolio's net IRR since inception is 9.12%, versus the benchmark return of 7.46%

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

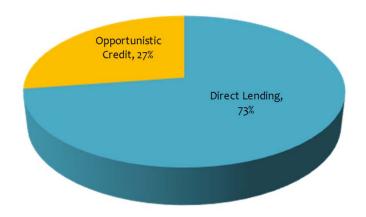
The Private Credit portfolio includes seven lending-oriented funds; three were previously included within Private Equity

- Five of the funds pursue Direct Lending strategies; Athyrium II & III are Opportunistic Credit
- The Private Credit funds continued to generate steady performance during Q1
 - Overall return of 1.6% in Q1 and 7.2% for the trailing 1 year period ending March 31, 2018
 - Recent performance being held back slightly by the younger portfolios of the newer fund commitments

Changes during the quarter

- SCERS committed \$50 million to Summit Partners Credit Fund III (direct lending) during Q1
- \$25.4 million in new contributions, \$9.5 million in distributions
- Portfolio IRR decreased 0.21% while the total portfolio gain increased by \$1.2 million

Market Value Strategy Exposure (based on fair value of investments) as of March 31, 2018



Private Credit Portfolio Details – as of March 31, 2018

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	0	20,697	100%	22,740	3,857	26,597	5,901	9.24%	N/A	1.29
Vintage Year 2011 Total		20,000	0	20,697	100%	22,740	3,857	26,597	5,901	9.24%	13.51%	1.29
Vintage Year 2014												
Summit Partners Credit Fund II, L.P.	Direct Lending	35,000	9,842	35,293	72%	17,685	23,036	40,721	5,428	9.90%	3.84%	1.1
Vintage Year 2014 Total		35,000	9,842	35,293	72%	17,685	23,036	40,721	5,428	9.90%	13.60%	1.1
Vintage Year 2015												
Athyrium Opportunities Fund II	Opportunistic Credit	32,000	9,975	34,754	69%	21,470	17,468	38,938	4,184	8.37%	12.08%	1.1
Vintage Year 2015 Total		32,000	9,975	34,754	69%	21,470	17,468	38,938	4,184	8.37%	12.85%	1.13
Vintage Year 2017												
Athyrium Opportunities Fund III	Opportunistic Credit	25,000	17,746	8,304	29%	1,015	7,047	8,062	-242	N/M	N/M	0.9
Vintage Year 2017 Total		25,000	17,746	8,304	29%	1,015	7,047	8,062	-242	N/M	N/M	0.9
Vintage Year 2018												
Benefit Street Partners Senior Secured Opportunities Fund L.P.	Direct Lending	50,000	17,873	33,638	64%	1,359	33,207	34,566	928	N/M	N/M	1.0
Summit Partners Credit Fund III, L.P.	Direct Lending	50,000	50,000	0	0%	0	0	0	0	N/M	N/M	N
TCP Direct Lending Fund VIII-S, LLC	Direct Lending	100,000	95,000	5,000	5%	0	4,972	4,972	-28	N/M	N/M	0.9
Vintage Year 2018 Total		200,000	162,873	38,638	19%	1,359	38,179	39,538	901	N/M	N/M	1.0
Portfolio Total :		312,000	200,435	137,685	36%	64,269	89,587	153,856	16,171	9,12%	7.46%	1.1

Real Assets Portfolio – as of March 31, 2018

The Real Assets portfolio's net IRR since inception is 16.12%, versus the blended benchmark return of 6.97%

- The Real Assets portfolio includes private Infrastructure, Energy, and Agriculture, Timber and Other
 - This is consistent with SCERS' 2017 asset class structures
- 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
 - Since inception net IRRs of 17.2% for Energy and 16.6% for Infrastructure
- The Real Asset Debt separate account, though smaller, has also performed well with an 11.2% since inception net IRR

The portfolio generated a 2.5% net return for the quarter despite headwinds in the Energy sector during Q1

- The Real Asset Debt separate account performed the best, followed by the Infrastructure funds
- EnCap Energy IX and Wastewater were the laggards and saw modest declines during the quarter
 - The Wastewater fund has had a relatively slow investment pace with weak performance thus far

Changes during the quarter

- SCERS committed \$22.5 million to EnCap Flatrock IV (midstream energy) during Q1
 - SCERS also increased its commitment to IFM Global Infrastructure Fund by \$25 million in Q1
- \$27.4 million in new contributions, \$27.5 million in distributions
- Portfolio IRR decreased 0.95% while the total portfolio gain increased by \$9.5 million

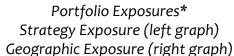
Real Assets Portfolio Performance Details – as of March 31, 2018

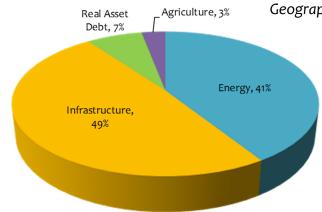
Partnership Name	Strategy	(A) Commit. Amount	Unfund. Amount	(B) Cumulat. Cont.	% Drawn	(C) Cumulat. Dist.	(D) Fair Value	(C+D) Total Value	(C+D-B) Gain/Loss	Net IRR	IRR Bench.	TVPI
Vintage Year 2013												
EnCap Energy Capital Fund IX, L.P.	Energy	33,000	3,669	35,215	89%	22,379	23,810	46,189	10,974	14.57%	5.92%	1.31x
Vintage Year 2013 Total		33,000	3,669	35,215	89%	22,379	23,810	46,189	10,974	14.57%		1.31x
Vintage Year 2014												
Carlyle Power Partners II, L.P.	Energy	40,000	23,398	19,830	42%	3,091	16,062	19,152	-678	-2.24%	12.25%	0.97x
EnCap Flatrock Midstream III	Energy	20,000	12,042	11,726	40%	8,154	7,194	15,349	3,622	24.50%	12.25%	1.31x
Global Energy & Power Infrastructure Fund II	Energy	35,000	15,421	21,762	56%	15,924	15,819	31,743	9,980	46.30%	12.25%	1.46x
Quantum Energy Partners VI, LP	Energy	35,000	18,096	21,897	48%	11,839	22,885	34,724	12,827	42.31%	12.25%	1.59x
Pantheon SCERS SIRF MM, LLC	Infrastructure	100,000	55,500	44,500	45%	2,800	61,169	63,969	19,469	18.80%	13.05%	1.44x
Wastewater Opportunity Fund	Infrastructure	25,000	16,720	8,288	33%	0	6,635	6,635	-1,653	-19.69%	13.05%	0.80x
Vintage Year 2014 Total		255,000	141,177	128,004	45%	41,807	129,764	171,571	43,567	20.85%		1.34x
Vintage Year 2015												
ArcLight Energy Partners Fund VI	Energy	40,000	7,265	37,470	82%	6,879	33,546	40,425	2,954	6.08%	20.38%	1.08x
EnCap Energy Capital Fund X, L.P.	Energy	40,000	13,017	29,483	67%	5,727	27,855	33,582	4,099	13.20%	20.38%	1.14x
Atalaya Real Assets SMA	Real Asset Debt	100,000	73,593	33,743	26%	9,453	28,359	37,812	4,069	11.15%	N/A	1.12x
Vintage Year 2015 Total		180,000	93,876	100,696	48%	22,059	89,760	111,818	11,122	9.56%		1.11x
Vintage Year 2016												
ACM Fund II, LLC	Agriculture	25,000	12,070	17,076	52%	4,194	12,125	16,320	-757	N/M	N/M	0.96x
Brookfield Infrastructure Fund III, L.P.	Infrastructure	40,000	24,709	15,280	38%	1,266	16,256	17,522	2,242	N/M	N/M	1.15x
IFM Global Infrastructure Fund	Infrastructure	125,000	25,000	100,000	80%	13,315	101,221	114,536	14,536	N/M	N/M	1.15x
Vintage Year 2016 Total		190,000	61,779	132,357	67%	18,775	129,603	148,378	16,022	N/M		1.12x
Vintage Year 2017												
Quantum Energy Partners VII, LP	Energy	40,000	31,631	9,713	21%	1,365	8,552	9,917	204	N/M	N/M	1.02x
Meridiam Infrastructure North America Fund	Infrastructure	50,000	49,197	803	2%	1	180	181	-622	N/M	N/M	0.23x
Vintage Year 2017 Total		90,000	80,828	10,516	10%	1,366	8,732	10,098	-418	N/M		0.96x
Vintage Year 2018												
EnCap Flatrock Midstream IV, L.P.	Energy	22,500	22,500	0	0%	0	0	0	0	N/M	N/M	N/A

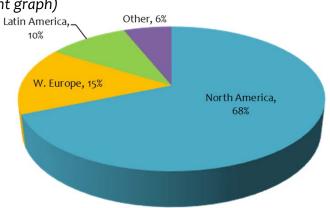


Real Assets Portfolio Performance Details – as of March 31, 2018 (continued)

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 2018 Total		22,500	22,500	0	0%	0	0	0	0	N/M		N/A
Portfolio Total :		770,500	403,829	406,788	48%	106,386	381,669	488,055	81,267	16.12%	6.97%	1.20x
Portfolio Strategy Totals												
Agriculture		25,000	12,070	17,076	52%	4,194	12,125	16,320	-757	N/M		0.96x
Energy		305,500	147,040	187,097	52%	75,356	155,723	231,080	43,983	17.16%		1.24x
Infrastructure		340,000	171,125	168,871	50%	17,382	185,462	202,843	33,972	16.62%		1.20x
Real Asset Debt		100,000	73,593	33,743	26%	9,453	28,359	37,812	4,069	11.15%		1.12x
Portfolio Total :		770,500	403,829	406,788	48%	106,386	381,669	488,055	81,267	16,12%	6.97%	1,20x







* Exposures are based on the market values of investments as of 3/31/18



¹Benchmarks:

Opportunities Portfolio – as of March 31, 2018

The Opportunities portfolio's net IRR since inception is 18.48%

- 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
 - 7.65% portfolio IRR v 5.06% 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)
 - Previously-reported real estate funds are included within Real Estate
 - This is consistent with SCERS' 2017 asset class structures

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 Q1 2018
- No new contributions, \$0.5 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, 2018

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%	8.02%	1.41
Vintage Year 2007 Total		18,000	0	18,000	100%	25,384	0	25,384	7,384	8.96%		1.41
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%	12.08%	2.94
Vintage Year 2008 Total		12,000	0	12,000	100%	35,277	0	35,277	23,277	34.39%		2.94
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%	14.94%	1.27
* Stone Tower Structured Credit Recovery Fund LP	Distressed Debt	25,000	0	25,248	100%	43,383	0	43,383	18,135	25.30%	14.94%	1.72
Vintage Year 2009 Total		45,000	0	45,248	100%	68,687	0	68,687	23,439	19.71%		1.52
Vintage Year 2013												
Atalaya Special Opportunities Fund V, L.P.	Distressed Debt	25,000	1,117	24,875	96%	20,747	9,306	30,053	5,178	7.99%	8.57%	1.21
Vintage Year 2013 Total		25,000	1,117	24,875	96%	20,747	9,306	30,053	5,178	7.99%		1.21:
Portfolio Total :		100,000	1,117	100,123	99%	150,095	9,306	159,401	59,278	18.48%	7.00%	1.59

^{*} Liquidated partnership

Cliffwater Disclosures

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