

ERICK RUSSELL TREASURER

#### MEMORANDUM

**TO:** Members of the Investment Advisory Council

FROM: Erick Russell, State Treasurer, and Council Secretary

**DATE:** May 5, 2023

**SUBJECT:** Investment Advisory Council Meeting – May 10, 2023

Enclosed is the agenda package for the Investment Advisory Council regular meeting on Wednesday, May 10, 2023, starting at 9:00 A.M.

The following subjects will be covered at the meeting:

Item 1: Approval of the Minutes of the March 8, 2023, IAC Meeting

**Item 2:** Opening Comments by the Treasurer

**Item 3:** Update on the Market and CRPTF Performance

Meketa, General Investment Consultant, will provide an update on the capital market environment and will report on the quarterly performance.

Item 4: Presentation and Consideration of Real Assets Opportunity

Item 4a: Presentation and Consideration of Grain Communications Opportunity Fund IV, L.P.

Denise Stake, Principal Investment Officer, and Olivia Wall, Senior Investment Officer, will present Grain Communications Opportunity Fund IV, a Real Assets Fund opportunity.

Item 5: Presentation and Consideration of Private Equity/Credit Opportunities

## Item 5a: Presentation and Consideration of Hg CT1 Co-Investment L.P. and Hg Titan 2, L.P.

Mark Evans, Principal Investment Officer, will present Hg CT1 Co-Investment and Hg Titan 2, Private Investment Fund and Private Credit Fund opportunities, respectively.

#### Item 6: Presentation and Consideration of Private Equity Opportunities

Item 6a: Presentation and Consideration of Dover Street XI L.P. and Secondary Overflow Fund V L.P.

Mark Evans, Principal Investment Officer, will present Dover Street XI and Secondary Overflow Fund V, Private Investment Fund opportunities.

#### **Item 7:** The Connecticut Freedom of Information Act (FOIA) Presentation

Ginny Kim, Assistant General Counsel, will provide a presentation on the Connecticut FOIA.

#### Item 8: Corporate Governance Activities for 3Q22, 4Q22 & 1Q23

Jessica Weaver, Corporate Governance Analyst, will provide a report on Corporate Governance Activities for 3Q22, 4Q22 & 1Q23.

#### **Item 9: Watch List**

Robert Scully, Investment Officer, will provide an overview of the CRPTF Watchlist Process.

#### **Item 10:** Other Business

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#### **Item 11:** Comments by the Chair

#### **Item 12:** Adjournment

We look forward to reviewing these agenda items with you at the May 10<sup>th</sup> meeting. Please confirm your attendance with Raymond Tuohey (<u>raymond.tuohey@ct.gov</u>) as soon as possible.

ER/rt

Enclosures

# DRAFT VERSION – MINUTES OF THE INVESTMENT ADVISORY COUNCIL REGULAR MEETING WEDNESDAY, MARCH 8, 2023 – SUBJECT TO REVIEW AND APPROVAL FINAL VERSION OF THESE MINUTES WILL BE POSTED AFTER APPROVAL OF THE INVESTMENT ADVISORY COUNCIL AT THE NEXT MEETING, WHICH WILL BE HELD ON WEDNESDAY, MAY 10, 2023

#### **MEETING NO. 515**

**Members present:** D. Ellen Shuman, Chair

Treasurer Russell, Secretary

Thomas Fiore, representing Secretary Jeffrey Beckham

William Murray Michael Knight William Myers Myra Drucker

Members absent: Michael LeClair

Patrick Sampson

**Others present:** Sarah Sanders, Deputy Treasurer

Doug Delana, General Counsel

Ted Wright, Chief Investment Officer Mark Evans, Principal Investment Officer Peter Gajowiak, Principal Investment Officer Denise Stake, Principal Investment Officer Michael Terry, Principal Investment Officer Nishant Upadhyay, Principal Investment Officer

Olivia Wall, Senior Investment Officer Pamela Moody, Investment Officer

Kan Zuo, Investment Officer Philip Conner, Investment Officer Carmen Melaragno, Investment Officer

Jessica Weaver, Corporate Governance Analyst

Raymond Tuohey, Executive Secretary

Mary Mustard, Meketa Peter Wooley, Meketa

Christopher Morgan, Franklin Templeton

Ryan Wagner, T. Rowe Price

Chloe Kelley, PIMCO Robyn Kaplan-Cho, CEA

Guests: Public Line

With a quorum present, Chair D. Ellen Shuman called the Investment Advisory Council ("IAC") regular meeting to order at 9:03 a.m.

WEDNESDAY, MARCH 8, 2023

Approval of the Minutes of the February 8, 2023, IAC Meeting

Chair Shuman called for a motion to accept the minutes of the February 8, 2023, IAC Meeting.

Mr. Murray moved to approve the minutes. The motion was seconded by Ms. Drucker.

There being no further discussion, the Chair called for a vote to accept the minutes of the

meeting, and the motion passed. Thomas Fiore abstained.

**Comments by the Treasurer** 

Treasurer Russell welcomed the IAC members and shared recent updates at the Office of the

Treasurer (OTT). In the Private Investment Portfolio, Treasurer Russell announced his decision

to commit \$175 million to Vistria Fund V, LP. In the Infrastructure and Natural Resources

Portfolio, he announced a commitment of \$200 million to Global Infrastructure Partners V, LP.

Lastly, Treasurer Russell provided an overview of the agenda.

**Report on CRPTF Performance Attribution** 

Ted Wright, Chief Investment Officer, provided a report on CRPTF Performance Attribution.

**Liquidity Analysis** 

Meketa, General Investment Consultant, and Peter Gajowiak, Principal Investment Officer

discussed CRPTF Liquidity Analysis.

Request for Proposals (RFP)

Ted Wright, CIO, Denise Stake, Principal Investment Officer, and Peter Gajowiak, Principal

Investment Officer, presented an overview of the recommendation for General Consulting

Services and Real Assets Consulting Services.

Roll Call of Reactions for the recommendation for General Consulting Services and Real

**Assets Consulting Services** 

Messrs. Myra Drucker, William Myers, William Murray, Tom Fiore, Michael Knight, and Chair Shuman provided feedback on the recommendations. There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Mr. Fiore, seconded by Mr. Myers, to waive the 45-day comment period for the General Consultant Services and Real Assets Consulting Services recommendations. The Chair called for a vote, and the motion passed.

#### **Presentation and Consideration of Private Equity Opportunities**

Mark Evans, Principal Investment Officer, Kan Zuo, Investment Officer and Carmen Melaragno, Investment Officer, provided opening remarks and presented three Private Investment Fund opportunities; (1) JFL Equity Investors VI, LP; (2) K6 Private Investors, L.P. and (3) One Rock Capital Partner IV, LP and One Rock Emerald Fund, LP.

#### Roll Call of Reactions for the Private Equity Opportunities

Messrs. Myra Drucker, William Myers, William Murray, Tom Fiore, Michael Knight, and Chair Shuman provided feedback on the investment opportunities. There being no further discussion, Chair Shuman called for a motion to waive the 45-day comment period. A motion was made by Ms. Drucker, seconded by Mr. Murray, to waive the 45-day comment period for the Private Equity investment opportunities. The Chair called for a vote, and the motion passed.

#### **Other Business**

#### **Comments by the Chair**

#### **Meeting Adjourned**

There being no further business, Chair Shuman called for a motion to adjourn the meeting. Mr. Murray moved to adjourn the meeting, and the motion was seconded by Mr. Myers. There being no discussion, the motion passed, and the meeting was adjourned at 11:53 a.m.



Performance Report As of March 31, 2023

Fund Evaluation Report



Agenda

## **Agenda**

- 1. The World Markets First Quarter of 2023
- 2. Performance Report as of March 31, 2023
- 3. Appendix

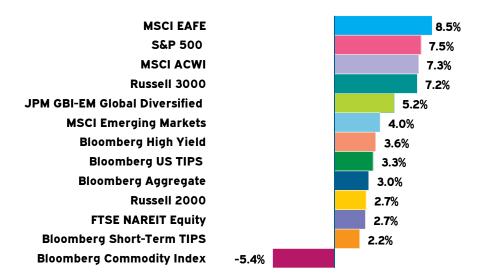
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## The World Markets First Quarter of 2023



#### Index Returns<sup>1</sup>

#### Q12023



→ Despite volatility during the quarter, public markets, except commodities, finished the first quarter of 2023 in positive territory adding to the strong gains from the fourth quarter of last year.

<sup>&</sup>lt;sup>1</sup> Source: Bloomberg and FactSet. Data is as of March 31, 2023.

Performance Report As of March 31, 2023



**Executive Summary** 

#### First Quarter 2023 Executive Summary

Category	Results	Notes
Total CRPTF Performance	Positive	+4.0%
Performance vs. Benchmarks <sup>1</sup>	Neutral	4.0% vs. 4.0%
Performance vs. Peers	Positive	4.0% vs. 3.7% median (Median)
Asset Allocation Attribution Effects	Positive	An overweight to global equity and an underweight to private market assets
Compliance with Targets	Not in Compliance	Due to recent changes in asset allocation policy, the Emerging Market Debt Fund and Private Credit fund were outside the policy range

- → Most asset classes were positive in the first quarter of 2023, on hopes that Fed policy tightening would slow given cooling inflation.
- → During the quarter, the CRPTF returned 4.0%, matching the custom benchmark.
- → Strong performance relative to the benchmark within real estate and infrastructure & natural resources contributed to outperformance.
- → The new asset allocation policy took effect in October, which moved the emerging market debt and private credit outside the policy range.
  - As discussed during the review process, there is a transition plan in place to thoughtfully shift the assets to the new policy.

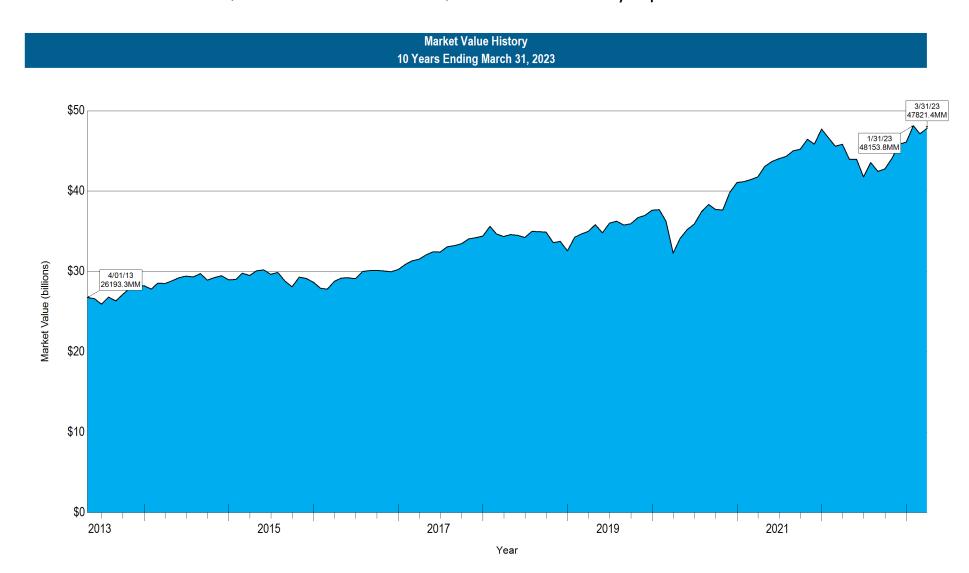
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<sup>&</sup>lt;sup>1</sup> Represents the Teachers' Retirement Fund as a proxy for the total CRPTF.



#### State of Connecticut Retirement Plans and Trust Funds | As of March 31, 2023

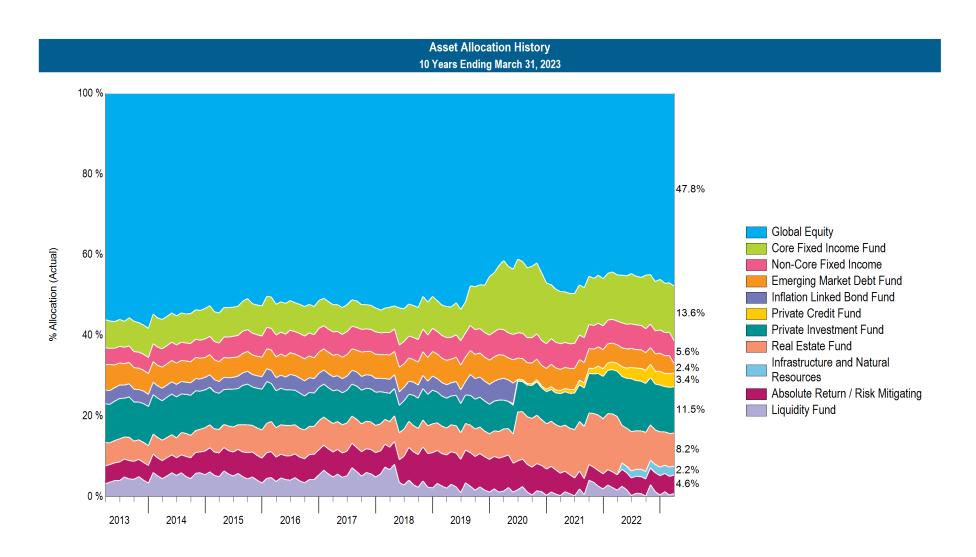
The market value of the CRTPF was \$47.8B at the end of March. Over \$2B above the value of one year prior.





#### State of Connecticut Retirement Plans and Trust Funds | As of March 31, 2023

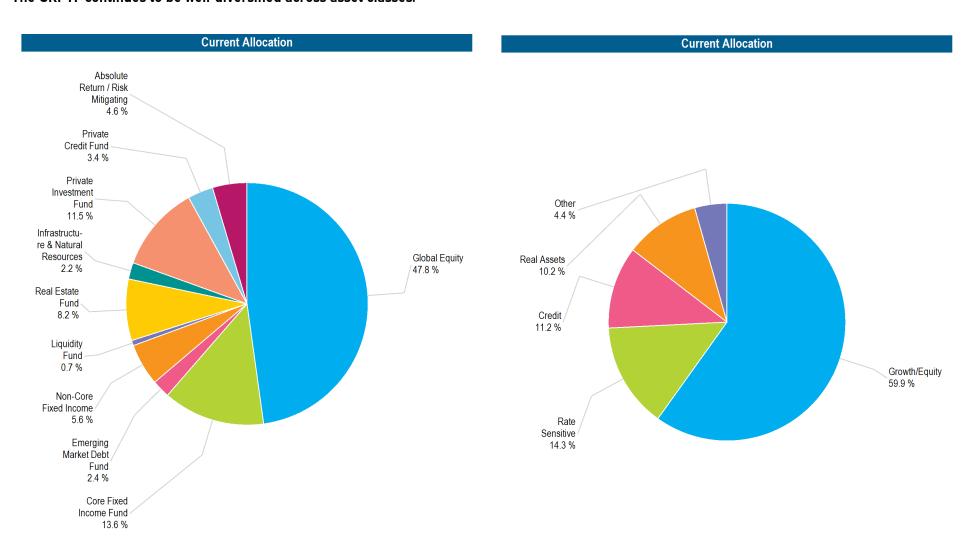
The CRPTF new asset allocation can be seen in the significantly changed asset allocation from last quarter.





#### State of Connecticut Retirement Plans and Trust Funds | As of March 31, 2023

The CRPTF continues to be well-diversified across asset classes.



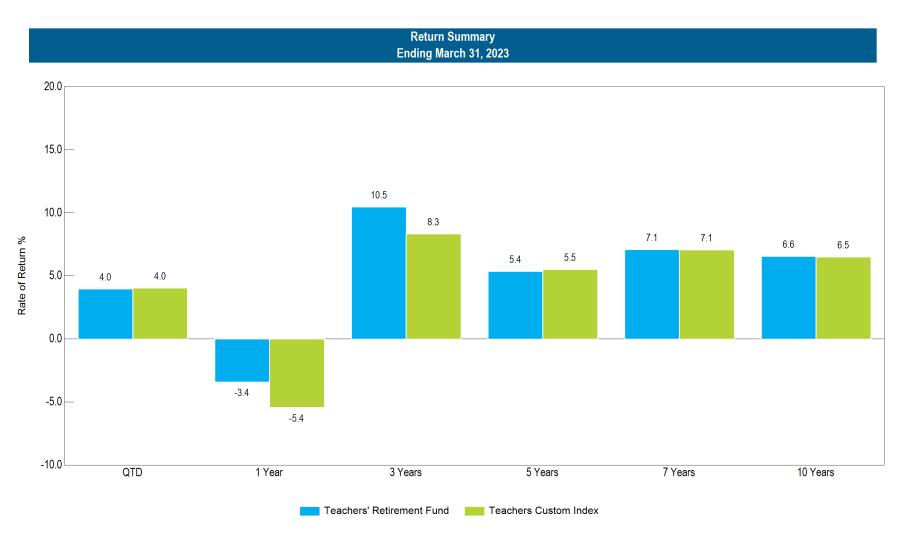
Growth Equity includes public and private equities. Rate Sensitive includes Core Fixed Income and Liquidity. Credit includes High Yield Debt, Emerging Markets Debt, and Private Credit. Real Assets includes Real Estate, Natural Resources, Infrastructure, and TIPS. Other includes Hedge Funds.

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Teachers' Retirement Fund | As of March 31, 2023

TERF has outperformed the benchmark in recent periods, while matching performance QTD and over the longer-term.



Represents the Teachers' Retirement Fund as a proxy for the total CRPTF.



#### State of Connecticut Retirement Plans and Trust Funds | As of March 31, 2023

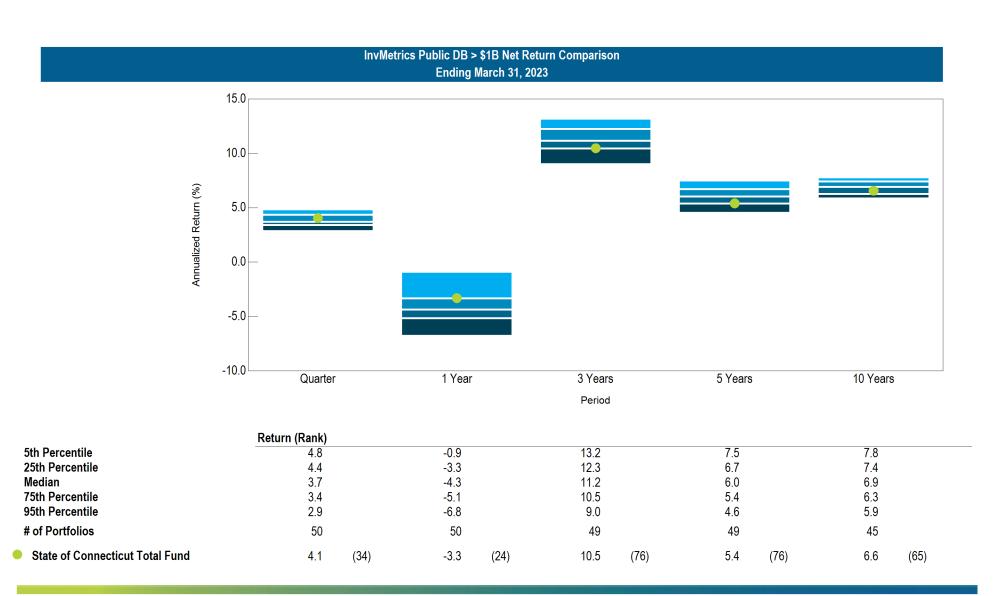
With the exception of real estate and RMS, asset class performance was positive for the quarter.





#### State of Connecticut Retirement Plans and Trust Funds | As of March 31, 2023

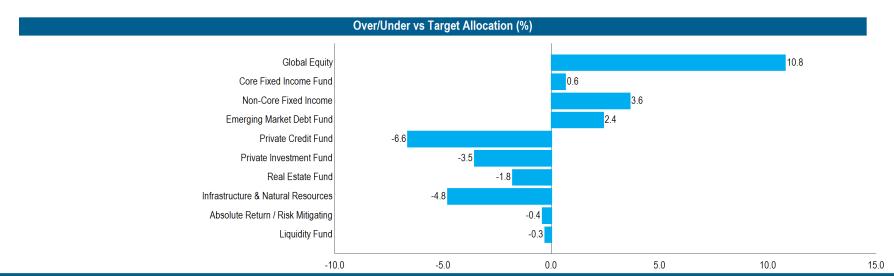
CRPTF ranks above the median for the quarter.





#### Teachers' Retirement Fund | As of March 31, 2023

As of Q1, TERF was most significantly underweight to private market asset classes given the new policy targets.



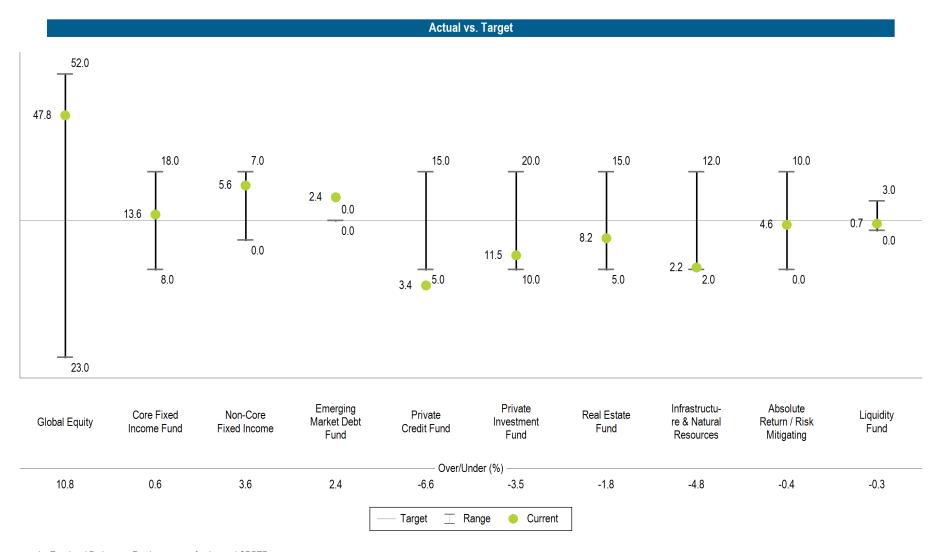
	Asset Alloca	tion vs. Target			
	As Of Mar	rch 31, 2023			
	Current	Current	Policy	Policy Range	Difference
Global Equity	\$10,662,446,704	47.8%	37.0%	23.0% - 52.0%	10.8%
Core Fixed Income Fund	\$3,043,641,116	13.6%	13.0%	8.0% - 18.0%	0.6%
Non-Core Fixed Income	\$1,253,268,667	5.6%	2.0%	0.0% - 7.0%	3.6%
Emerging Market Debt Fund	\$535,283,346	2.4%	0.0%	0.0% - 0.0%	2.4%
Private Credit Fund	\$752,690,592	3.4%	10.0%	5.0% - 15.0%	-6.6%
Private Investment Fund	\$2,556,062,317	11.5%	15.0%	10.0% - 20.0%	-3.5%
Real Estate Fund	\$1,831,607,151	8.2%	10.0%	5.0% - 15.0%	-1.8%
Infrastructure & Natural Resources	\$493,157,401	2.2%	7.0%	2.0% - 12.0%	-4.8%
Absolute Return / Risk Mitigating	\$1,023,464,618	4.6%	5.0%	0.0% - 10.0%	-0.4%
Liquidity Fund	\$156,659,748	0.7%	1.0%	0.0% - 3.0%	-0.3%
Total	\$22,308,281,660	100.0%	100.0%		

Represents the Teachers' Retirement Fund as a proxy for the total CRPTF.



#### Teachers' Retirement Fund | As of March 31, 2023

TERF was overweight global equity by 10.8% and fixed income by 6.6% as of Q1. This accounts for the underweight to private markets.



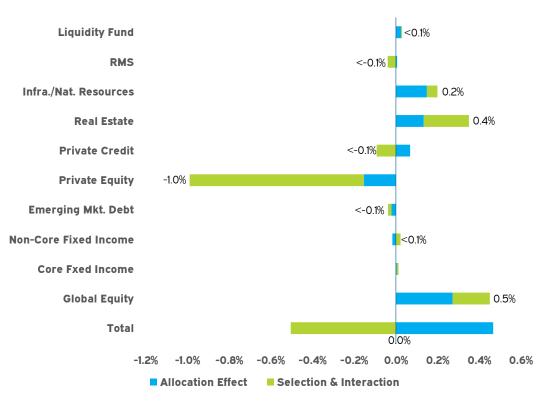
Represents the Teachers' Retirement Fund as a proxy for the total CRPTF.



#### Teachers' Retirement Fund | As of March 31, 2023

Relative performance for the quarter was driven by an overweight to global equity and underweight to private markets.

#### First Quarter 2023 Attribution



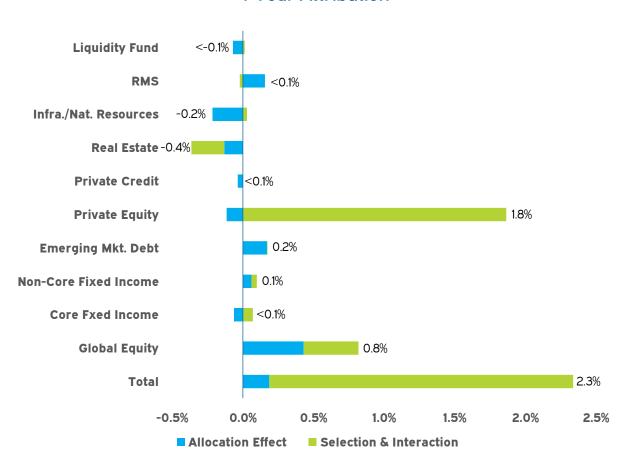
- → In the first quarter, TERF returned 4.0%, in line with the Policy Benchmark.
- → An overweight to global equity and underweight to private markets was additive. Relative performance in global equity, real estate, and infrastructure/natural resources was offset by underperformance within private equity.

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#### Teachers' Retirement Fund | As of March 31, 2023





- → For the trailing one-year period, TERF was down 3.4% vs. 5.4% for the Policy Benchmark.
- → Outperformance was driven by relative performance within private equity. Relative performance within global equity coupled with an overweight in the second half of the year was also additive.





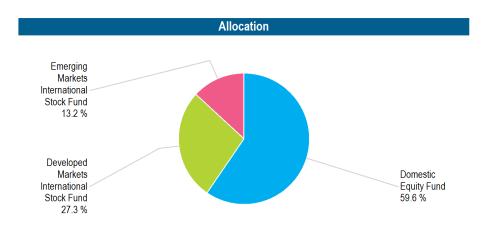
### **Fund Details**



Total Equity | As of March 31, 2023

Within global equity, all composites outperformed their respective benchmarks over the one-year period.

	Performance Summary	,						
	Market Value <sub>v. s</sub>	Portfolio	QTD Fis	cal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
	(\$) <sup>% o1</sup>	(%) (%)		(%)	(%)	(%)	(%)	
Total Equity	23,419,166,346	100.0	7.3	9.9	-6.6	15.1	6.3	
Global Equity Benchmark			6.9	9.5	-7.7	15.3	6.9	8.0
Domestic Equity Fund	13,951,022,221	59.6	7.2	10.2	-8.2	18.3	10.4	11.8
Domestic Equity Benchmark			7.2	9.7	-8.6	18.4	10.4	11.7
eV All US Equity Net Median			4.6	9.0	-7.7	18.4	8.4	10.1
eV All US Equity Net Rank			29	37	55	51	26	24
Developed Markets International Stock Fund	6,386,602,749	27.3	9.2	16.6	-0.3	14.4	4.2	6.5
Developed Markets Benchmark			8.0	13.7	-3.4	12.6	3.0	5.0
eV All EAFE Equity Net Median			7.9	13.5	-2.6	13.2	3.1	5.4
eV All EAFE Equity Net Rank			23	15	25	32	25	18
Emerging Markets International Stock Fund	3,081,541,375	13.2	4.6	1.9	-10.0	10.0	1.0	2.6
Emerging Markets Benchmark			3.9	1.5	-10.7	9.2	-0.6	2.2
eV Emg Mkts Equity Net Median			4.9	4.0	-9.3	9.9	0.0	2.7
eV Emg Mkts Equity Net Rank			55	69	61	49	33	52

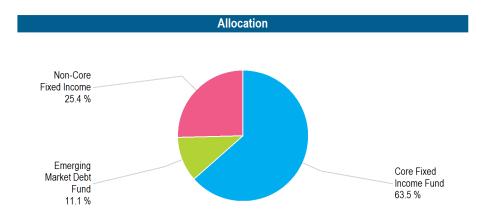




#### Total Fixed Income | As of March 31, 2023

Within fixed income, all composites except emerging markets debt outperformed their benchmark over the one-year period.

Performance Summary											
	Market Value		QTD Fise	cal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs			
	(\$) <sup>% o</sup>	f Portfolio	(%)	(%)	(%)	(%)	(%)	(%)			
Total Fixed Income	10,172,578,298	100.0	3.0	3.5	-4.2	0.5	0.5	1.5			
Custom Fixed Income Benchmark			3.0	1.6	-4.9	-1.5	0.9	1.7			
Core Fixed Income Fund	6,461,657,306	63.5	2.6	0.3	-4.8	-2.2	8.0	1.2			
Core Fixed Income Benchmark			2.6	-0.8	-5.5	-3.0	0.8	1.3			
eV US Core Fixed Inc Net Median			3.1	0.1	-4.7	-2.0	1.1	1.6			
eV US Core Fixed Inc Net Rank			92	36	52	72	87	87			
Non-Core Fixed Income	2,584,269,016	25.4	4.0	7.7	-2.7	7.1	3.4	4.0			
Bloomberg US High Yield 2% Issuer Cap TR			3.6	7.2	-3.4	5.9	3.2	4.1			
eV US High Yield Fixed Inc Net Median			3.3	6.8	-2.8	5.6	3.0	3.8			
eV US High Yield Fixed Inc Net Rank			10	16	45	17	31	32			
Emerging Markets Debt Fund	1,126,651,976	11.1	3.1	7.5	-3.9	2.2	-1.9	0.4			
Spliced 50% JPM EMBI Global Diversified / 50% GBI EM Global Diversified			3.5	6.9	-3.8	0.5	-1.4	0.2			
eV Emg Mkts Fixed Inc - Blended Currency Net Median			2.8	7.1	-3.9	2.3	-0.9	0.8			
eV Emg Mkts Fixed Inc - Blended Currency Net Rank			31	36	50	51	73	61			





#### Private Credit Fund | As of March 31, 2023

Private credit, which is a relatively new allocation, lagged for the quarter but outperformed for the one-year period.

Performance Summary										
	Market Value (\$)	of Portfolio	QTD Fiscal YTD (%) (%)		1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)		
Private Credit Fund  S&P/LSTA Leveraged Loan + 150bps 1Q Lagged	1,664,270,951	100.0	<b>0.3</b> 3.0	<b>0.5</b> <i>0.4</i>	<b>1.0</b> 0.7	 4.0	 4.8	 5.2		

Private Credit Fund Strategy	No. of Investments	Committed (\$MM)	Contributed (\$MM)	Unfunded (\$MM)	Distributed (\$MM)	Market Value (\$MM)	DPI (X)	TVPI (X)	IRR (%)
Co-Investment	1	750.00	121.50	628.50	-	122.63	-	1.00	1.27
Distressed Debt	3	225.00	157.79	77.47	120.43	94.52	0.80	1.40	12.10
Mezzanine	6	375.00	219.07	200.52	213.48	79.62	1.00	1.30	11.97
Senior	10	1,750.00	499.40	1,322.80	96.03	439.99	0.20	1.10	6.65
Special Situations	7	1,087.00	729.25	373.63	44.78	725.32	0.10	1.10	4.96
Total	27	4,187.00	1,727.01	2,602.91	474.72	1,462.07	0.30	1.10	9.39

Private Credit data as of December 31, 2022.



#### Private Investment Fund | As of March 31, 2023

On a time-weighted basis, private equity significantly outperformed their benchmark over the long-run. Recall, the benchmark is a public index, such that there will be higher tracking error in the short-run.

	Performance Summar	У						
	Market Value (\$)	of Portfolio	QTD Fis	cal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Private Investment Fund	5,215,765,477	100.0	0.9	-3.8	-0.4	27.0	17.6	15.2
Russell 3000 + 250bp 1Q Lagged			7.8	-13.1	-17.1	9.5	12.0	12.6

Private Investment Fund Strategy	No. of Investments	Committed (\$MM)	Contributed (\$MM)	Unfunded (\$MM)	Distributed (\$MM)	Market Value (\$MM)	DPI (X)	TVPI (X)	IRR (%)
Buyout	98	7,580.65	6,060.78	1,994.32	6,825.16	2,974.57	1.10	1.60	10.02
Co-Investment	1	750.00	110.25	639.75	-	109.61	-	1.00	(0.75)
Distressed/Restructuring	9	650.00	586.94	177.33	669.04	232.25	1.10	1.50	14.46
Growth Equity	6	350.00	192.80	163.61	6.07	266.36	-	1.40	24.38
Mezzanine	12	1,052.80	990.01	180.30	989.51	223.40	1.00	1.20	4.37
Multi-Strategy	5	390.17	410.99	2.35	508.34	1.67	1.20	1.20	3.86
Secondaries	12	1,080.00	633.72	459.00	522.87	348.39	0.80	1.40	7.62
Special Situations	1	100.00	85.86	29.97	18.49	75.91	0.20	1.10	10.88
Venture Capital	22	2,311.03	2,045.10	196.44	3,063.43	784.08	1.50	1.90	12.49
Total	166	14,264.65	11,116.44	3,843.09	12,602.90	5,016.25	1.13	1.60	9.94

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Real Assets Fund | As of March 31, 2023

Within real assets, all composites outperformed their respective benchmarks over the quarter.

Performance Summary											
	Market Value (\$)	of Portfolio	QTD Fis (%)	cal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)			
Real Assets Fund	4,869,336,381	100.0	-1.4	-0.1	1.1	7.5	5.6	7.9			
Real Assets Benchmark			-3.9	0.9	3.5	6.9	6.5	8.3			
Real Estate	3,809,917,442	78.2	-2.5	-0.4	4.9	10.9	7.7	8.9			
Real Estate Benchmark			-5.2	-0.6	6.5	9.0	7.7	9.1			
Infrastructure & Natural Resources	1,059,418,939	21.8	3.1	7.4	11.9						
CPI + 400bp 1Q Lagged			1.0	6.3	10.7						

Real Asset Group	No. of Investments	Committed (\$MM)	Contributed (\$MM)	Unfunded (\$MM)	Distributed (\$MM)	Market Value (\$MM)	DPI (X)	TVPI (X)	IRR (%)
Infrastructure	13	1,600.00	870.30	766.00	183.20	807.20	0.21	1.14	7.70
Natural Resources	3	285.00	133.50	158.40	66.40	77.00	0.50	1.07	2.60
Total	16	1,885.00	1,003.80	924.40	249.60	884.20	0.25	1.13	6.60

Real Estate Strategy	No. of Investments	Committed (\$MM)	Contributed (\$MM)	Unfunded (\$MM)	Distributed (\$MM)	Market Value (\$MM)	DPI (X)	TVPI (X)	IRR (%)
Co-Investment	2	275.00	40.66	253.44	19.10	40.71	0.47	1.00	0.32
Core	11	1,578.52	1,911.83	35.77	1,389.93	2,850.26	0.73	1.49	6.49
Core Plus	8	681.49	654.83	44.12	155.01	1,217.08	0.23	1.83	14.22
Opportunistic	27	2,332.86	1,682.10	786.53	1,735.26	2,169.09	1.01	1.27	5.65
REIT	1	200.00	200.00	-	-	199.50	-	1.00	(0.14)
Value Add	28	1,629.89	1,314.98	435.49	921.99	1,487.53	0.69	1.11	3.24
Total	75	6697.76	5804.4	1555.35	4221.29	7,964.17	0.72	1.36	6.4

Real Asset and Real Estate data as of December 31, 2022.

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Absolute Return / Risk Mitigating | As of March 31, 2023

Over the quarter, the absolute return composite posted slightly negative returns.

Performance Summary										
	Market Value (\$)	f Doutfolio	QTD Fis	cal YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs		
	(\$) % 0	Portiollo	(%)	(%)	(%)	(%)	(%)	(%)		
Absolute Return / Risk Mitigating	2,122,122,489	100.0	-0.2	-0.2	-0.5	3.7	1.6	2.7		
Absolute Return/Risk Mitigating Benchmark			-1.1	-0.2	-1.8	0.6	2.2	1.3		
91 Day T-Bills +3%			1.8	4.7	5.6	3.9	4.4	3.9		
HFRI FOF: Diversified Index			0.5	2.0	-1.1	7.3	3.6	3.4		

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## **Appendix**



#### State of Connecticut Retirement Plans and Trust Funds | As of March 31, 2023

Performance Summary												
	Market Value (\$)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)					
State of Connecticut Plans	47,821,427,016											
Teachers' Retirement Fund	22,308,281,660	4.0	4.9	-3.4	10.5	5.4	6.6					
Teachers Policy Benchmark		3.6	3.5	-4.3								
Teachers Custom Index		4.0	2.4	-5.4	8.3	5.5	6.5					
Teachers Dynamic Index		4.5	4.0	-4.8	8.7	5.3	6.3					
State Employees' Retirement Fund	19,493,822,777	4.2	5.2	-3.1	10.6	5.5	6.6					
State Employees Custom Index		4.0	2.4	-5.4	8.3	5.5	6.5					
State Employees Dynamic Index		4.6	4.3	-4.5	8.9	5.5	6.4					
Municipal Employees' Retirement Fund	3,087,532,632	3.9	4.9	-3.5	10.5	5.4	6.2					
Municipal Employees Custom Index		4.0	2.4	-5.4	8.3	5.5	6.1					
Municipal Employees Dynamic Index		4.4	3.8	<i>-5.2</i>	8.6	5.3	5.9					
State Judges Retirement Fund	289,468,169	3.8	4.7	-3.5	10.4	5.4	6.3					
State Judges Custom Index		4.0	2.4	-5.4	8.3	5.5	6.1					
State Judges Dynamic Index		4.3	3.7	<i>-5.2</i>	8.6	5.4	5.9					
Probate Judges and Employees Retirement Fund	128,455,103	3.9	4.7	-3.5	10.4	5.4	6.2					
Probate Judges Custom Index		4.0	2.4	-5.4	8.3	5.5	6.2					
Probate Judges Dynamic Index		4.4	3.7	<i>-5.3</i>	8.6	5.3	5.9					
Agricultural College Fund	563,604	2.6	0.3	-4.9	-2.3	8.0	1.2					
Agriculture Custom Index		2.6	-0.8	-5.5	-3.0	0.8	1.3					
Agriculture Dynamic Index		3.0	1.1	-3.6	-2.4	1.2						
Andrew C. Clark Fund	1,217,267	4.3	3.8	-4.7	3.2	2.9	3.6					
Andrew C. Clark Custom Index		4.2	3.2	-4.9	2.7	2.9	3.6					
Andrew C. Clark Dynamic Index		4.3	3.7	-4.3	2.9	3.1						

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#### State of Connecticut Retirement Plans and Trust Funds | As of March 31, 2023

	Market Value (\$)	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)
Arts Endowment	21,032,311	5.1	7.2	-4.5	10.5	4.9	4.8
Arts Custom Index		5.3	6.4	-5.5	8.9	4.4	4.6
Arts Dynamic Index		5.2	6.6	-4.8	9.6	4.8	
Hopemead State Park Trust Fund	4,484,605	4.3	3.6	-4.7	3.2	2.9	3.6
Hopemead Fund Custom Index		4.2	3.2	-4.9	<i>2.</i> 7	2.9	3.6
Hopemead Fund Dynamic Index		4.3	3.5	-4.6	<i>2.8</i>	3.1	
Ida Eaton Fund	2,584,792	4.3	3.7	-4.7	3.2	2.9	3.6
Ida Eaton Fund Custom Index		4.2	3.2	-4.9	2.7	2.9	3.6
Ida Eaton Fund Dynamic Index		4.4	3.7	-4.3	2.9	3.1	
Police & Fire Survivors Fund	46,095,689	3.8	4.7	-3.5	10.4	5.4	6.4
Police & Fire Custom Index		4.0	2.4	-5.4	8.3	5.5	
Police & Fire Dynamic Index		4.3	3.7	-5.2	8.6	5.3	
School Fund	12,345,053	4.3	3.5	-5.0	3.1	2.8	3.6
School Fund Custom Index		4.2	3.2	-4.9	2.7	2.9	3.6
School Fund Dynamic Index		4.3	3.3	-5.0	2.7	3.0	
Soldiers, Sailors, & Marines Fund	80,279,000	4.4	3.6	-4.8	3.1	2.9	3.6
Soldiers, Sailors, & Marines Custom Index		4.2	3.2	-4.9	2.7	2.9	3.6
Soldiers, Sailors, & Marines Dynamic Index		4.4	3.5	-4.7	2.8	3.1	
State Attorney's Retirement Fund	2,632,532	3.8	4.7	-3.6	10.4	5.2	6.0
State Attorney's Custom Index		4.0	2.4	-5.4	8.3	5.7	6.4
State Attorney's Dynamic Index		4.3	3.6	-5.2	8.6	5.5	5.7
OPEB	2,342,632,449	3.7	4.4	-3.6	10.5	5.7	6.1
OPEB Custom Index		4.0	2.4	-5.4	8.3	5.7	6.2
OPEB Dynamic Index		4.3	3.4	-5.1	8.7	5.7	

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WE HAVE PREPARED THIS REPORT (THIS "REPORT") FOR THE SOLE BENEFIT OF THE INTENDED RECIPIENT (THE "RECIPIENT").

SIGNIFICANT EVENTS MAY OCCUR (OR HAVE OCCURRED) AFTER THE DATE OF THIS REPORT AND THAT IT IS NOT OUR FUNCTION OR RESPONSIBILITY TO UPDATE THIS REPORT. ANY OPINIONS OR RECOMMENDATIONS PRESENTED HEREIN REPRESENT OUR GOOD FAITH VIEWS AS OF THE DATE OF THIS REPORT AND ARE SUBJECT TO CHANGE AT ANY TIME. ALL INVESTMENTS INVOLVE RISK. THERE CAN BE NO GUARANTEE THAT THE STRATEGIES, TACTICS, AND METHODS DISCUSSED HERE WILL BE SUCCESSFUL.

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PERFORMANCE DATA CONTAINED HEREIN REPRESENT PAST PERFORMANCE. PAST PERFORMANCE IS NO GUARANTEE OF FUTURE RESULTS.

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Credit Risk: Refers to the risk that the issuer of a fixed income security may default (i.e., the issuer will be unable to make timely principal and/or interest payments on the security.)

**Duration:** Measure of the sensitivity of the price of a bond to a change in its yield to maturity. Duration summarizes, in a single number, the characteristics that cause bond prices to change in response to a change in interest rates. For example, the price of a bond with a duration of three years will rise by approximately 3% for each 1% decrease in its yield to maturity. Conversely, the price will decrease 3% for each 1% increase in the bond's yield. Price changes for two different bonds can be compared using duration. A bond with a duration of six years will exhibit twice the percentage price change of a bond with a three-year duration. The actual calculation of a bond's duration is somewhat complicated, but the idea behind the calculation is straightforward. The first step is to measure the time interval until receipt for each cash flow (coupon and principal payments) from a bond. The second step is to compute a weighted average of these time intervals. Each time interval is measured by the present value of that cash flow. This weighted average is the duration of the bond measured in years.

**Information Ratio**: This statistic is a measure of the consistency of a portfolio's performance relative to a benchmark. It is calculated by subtracting the benchmark return from the portfolio return (excess return), and dividing the resulting excess return by the standard deviation (volatility) of this excess return. A positive information ratio indicates outperformance versus the benchmark, and the higher the information ratio, the more consistent the outperformance.

Jensen's Alpha: A measure of the average return of a portfolio or investment in excess of what is predicted by its beta or "market" risk. Portfolio Return- [Risk Free Rate+Beta\*(market return-Risk Free Rate)].

**Market Capitalization**: For a firm, market capitalization is the total market value of outstanding common stock. For a portfolio, market capitalization is the sum of the capitalization of each company weighted by the ratio of holdings in that company to total portfolio holdings; thus it is a weighted-average capitalization. Meketa Investment Group considers the largest 65% of the broad domestic equity market as large capitalization, the next 25% of the market as medium capitalization, and the smallest 10% of stocks as small capitalization.

**Market Weighted:** Stocks in many indices are weighted based on the total market capitalization of the issue. Thus, the individual returns of higher market-capitalization issues will more heavily influence an index's return than the returns of the smaller market-capitalization issues in the index.

Maturity: The date on which a loan, bond, mortgage, or other debt/security becomes due and is to be paid off.

**Prepayment Risk:** The risk that prepayments will increase (homeowners will prepay all or part of their mortgage) when mortgage interest rates decline; hence, investors' monies will be returned to them in a lower interest rate environment. Also, the risk that prepayments will slow down when mortgage interest rates rise; hence, investors will not have as much money as previously anticipated in a higher interest rate environment. A prepayment is any payment in excess of the scheduled mortgage payment.

**Price-Book Value (P/B) Ratio:** The current market price of a stock divided by its book value per share. Meketa Investment Group calculates P/B as the current price divided by Compustat's quarterly common equity. Common equity includes common stock, capital surplus, retained earnings, and treasury stock adjusted for both common and nonredeemable preferred stock. Similar to high P/E stocks, stocks with high P/B's tend to be riskier investments.

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Price-Earnings (P/E) Ratio: A stock's market price divided by its current or estimated future earnings. Lower P/E ratios often characterize stocks in low growth or mature industries, stocks in groups that have fallen out of favor, or stocks of established blue chip companies with long records of stable earnings and regular dividends. Sometimes a company that has good fundamentals may be viewed unfavorably by the market if it is an industry that is temporarily out of favor. Or a business may have experienced financial problems causing investors to be skeptical about is future. Either of these situations would result in lower relative P/E ratios. Some stocks exhibit above-average sales and earnings growth or expectations for above average growth. Consequently, investors are willing to pay more for these companies' earnings, which results in elevated P/E ratios. In other words, investors will pay more for shares of companies whose profits, in their opinion, are expected to increase faster than average. Because future events are in no way assured, high P/E stocks tend to be riskier and more volatile investments. Meketa Investment Group calculates P/E as the current price divided by the I/B/E/S consensus of twelve-month forecast earnings per share.

Quality Rating: The rank assigned a security by such rating services as Fitch, Moody's, and Standard & Poor's. The rating may be determined by such factors as (1) the likelihood of fulfillment of dividend, income, and principal payment of obligations; (2) the nature and provisions of the issue; and (3) the security's relative position in the event of liquidation of the company. Bonds assigned the top four grades (AAA, AA, A, BBB) are considered investment grade because they are eligible bank investments as determined by the controller of the currency.

Sharpe Ratio: A commonly used measure of risk-adjusted return. It is calculated by subtracting the risk free return (usually three-month Treasury bill) from the portfolio return and dividing the resulting excess return by the portfolio's total risk level (standard deviation). The result is a measure of return per unit of total risk taken. The higher the Sharpe ratio, the better the fund's historical risk adjusted performance.

STIF Account: Short-term investment fund at a custodian bank that invests in cash-equivalent instruments. It is generally used to safely invest the excess cash held by portfolio managers.

**Standard Deviation:** A measure of the total risk of an asset or a portfolio. Standard deviation measures the dispersion of a set of numbers around a central point (e.g., the average return). If the standard deviation is small, the distribution is concentrated within a narrow range of values. For a normal distribution, about two thirds of the observations will fall within one standard deviation of the mean, and 95% of the observations will fall within two standard deviations of the mean.

**Style:** The description of the type of approach and strategy utilized by an investment manager to manage funds. For example, the style for equities is determined by portfolio characteristics such as price-to-book value, price-to-earnings ratio, and dividend yield. Equity styles include growth, value, and core.

Tracking Error: A divergence between the price behavior of a position or a portfolio and the price behavior of a benchmark, as defined by the difference in standard deviation.

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Yield to Maturity: The yield, or return, provided by a bond to its maturity date; determined by a mathematical process, usually requiring the use of a "basis book." For example, a 5% bond pays \$5 a year interest on each \$100 par value. To figure its current yield, divide \$5 by \$95—the market price of the bond—and you get 5.26%. Assume that the same bond is due to mature in five years. On the maturity date, the issuer is pledged to pay \$100 for the bond that can be bought now for \$95. In other words, the bond is selling at a discount of 5% below par value. To figure yield to maturity, a simple and approximate method is to divide 5% by the five years to maturity, which equals 1% pro rata yearly. Add that 1% to the 5.26% current yield, and the yield to maturity is roughly 6.26%.

Yield to Worst: The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call, or sinking fund, are used by the issuer.

NCREIF Property Index (NPI): Measures unleveraged investment performance of a very large pool of individual commercial real estate properties acquired in the private market by tax-exempt institutional investors for investment purposes only. The NPI index is capitalization-weighted for a quarterly time series composite total rate of return.

NCREIF Fund Index - Open End Diversified Core Equity (NFI-ODCE): Measures the investment performance of 28 open-end commingled funds pursuing a core investment strategy that reflects funds' leverage and cash positions. The NFI-ODCE index is equal-weighted and is reported gross and net of fees for a quarterly time series composite total rate of return.

Sources: Investment Terminology, International Foundation of Employee Benefit Plans, 1999.

The Handbook of Fixed Income Securities, Fabozzi, Frank J., 1991

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Throughout this report, numbers may not sum due to rounding.

Returns for periods greater than one year are annualized throughout this report.

Values shown are in millions of dollars, unless noted otherwise.

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March 31, 2023





Agenda

# **Agenda**

- 1. Executive Summary
- 2. Connecticut Inclusive Investment Initiative Performance Summary
- 3. Asset Allocation and Fund Diversity
- **4.** Manager Fund Performance

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# **Executive Summary**



**Executive Summary** 

#### **Executive Summary**

- → For the first quarter of 2023, the State of Connecticut Inclusive Investment Initiative ("Ci3") public markets program gained 4.5%, outperforming the custom benchmark by 90 basis points ("bps"). For the one-year period ending March 31, Ci3's return (-6.6%) outperformed the custom benchmark (-7.4%) by 80 bps.
- → Bivium US micro-cap equity portfolio was the best relative performer in the Ci3 program for the quarter, returning 0.4% while outperforming the Russell Microcap index by -2.8%.
  - Two out of three of the underlying managers outperformed the index during the guarter.
- → RockCreek emerging markets equity portfolio returned 3.8% for the quarter, while the MSCI Emerging Market Index returned 4.0%.
  - Four out of the seven of the underlying managers outperformed the index during the quarter.
- → Leading Edge US small cap equity portfolio gained 4.4% during the quarter, while the Russell 2000 Index returned 2.7%.
  - Four out of the eight of the underlying managers outperformed the index during the quarter.
- → Xponance developed markets equity portfolio outperformed the MSCI EAFE index by 40 bps, returning 8.9%.
  - Three out of the seven managers outperformed their respective benchmarks with one manager outperforming by over 500 bps.
- → Within the Attucks Global Fixed income portfolio (3.7%), the core fixed income (2.8%) portfolio lagged its benchmark by 20 bps. The high yield (4.0%) and emerging markets debt (5.6%) portfolios outperformed their benchmarks by 40 bps and 210 bps, respectively.

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# Connecticut Inclusive Investment Initiative Performance Summary



#### State of Connecticut Inclusive Investment Initiative | As of March 31, 2023

	Performanc	e Summa	ry							
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception I (%)	nception Date
Ci3 Public Markets	1,187,642,895	100.0	4.5	5.2	-6.6				-5.8	Feb-21
Ci3 Public Markets Custom Index			<u>3.6</u>	<u>4.2</u>	<u>-7.4</u>				<u>-6.1</u>	Feb-21
Over/Under			0.9	1.0	8.0				0.3	
Bivium (US Equity)	40,397,270	3.4	0.4	6.4	-11.7				-14.8	Dec-21
Russell Microcap			<u>-2.8</u>	<u>1.3</u>	<u>-17.9</u>	<u>17.2</u>	<u>3.0</u>	<u>7.3</u>	<u>-18.4</u>	Dec-21
Over/Under			3.2	5.1	6.2				3.6	
Leading Edge (US Equity)	158,658,292	13.4	4.4	6.5	-12.9				-18.7	Dec-21
Russell 2000			<u>2.7</u>	<u>6.7</u>	<u>-11.6</u>	<u>17.5</u>	<u>4.7</u>	<u>8.0</u>	<u>-12.6</u>	Dec-21
Over/Under			1.7	-0.2	-1.3				-6.1	
Xponance (Developed Markets Equity)	201,908,090	17.0	8.9	12.7	-3.6				-0.5	Feb-21
MSCI EAFE			<u>8.5</u>	<u>15.4</u>	<u>-1.4</u>	<u>13.0</u>	<u>3.5</u>	<u>5.0</u>	<u>2.0</u>	Feb-21
Over/Under			0.4	-2.7	-2.2				-2.5	
RockCreek (Emerging Markets Equity)	231,926,531	19.5	3.8	-0.6	-12.7				-12.1	Apr-21
MSCI Emerging Markets			<u>4.0</u>	<u>0.8</u>	<u>-10.7</u>	<u>7.8</u>	<u>-0.9</u>	<u>2.0</u>	<u>-11.0</u>	Apr-21
Over/Under			-0.2	-1.4	-2.0				-1.1	
Attucks (Global Fixed Income)	554,752,713	46.7	3.7	4.2	-2.5				-3.3	Feb-21
Ci3 Public Fixed Income Custom Index			<u>2.8</u>	<u>2.6</u>	<u>-4.0</u>				<u>-4.5</u>	Feb-21
Over/Under			0.9	1.6	1.5				1.2	
Attucks Core Fixed Income	450,943,110	38.0	2.8	1.6	-3.3				-4.0	Feb-21
Bloomberg US Aggregate TR			<u>3.0</u>	<u>-0.1</u>	<u>-4.8</u>	<u>-2.8</u>	<u>0.9</u>	<u>1.4</u>	<u>-5.3</u>	Feb-21
Over/Under			-0.2	1.7	1.5				1.3	

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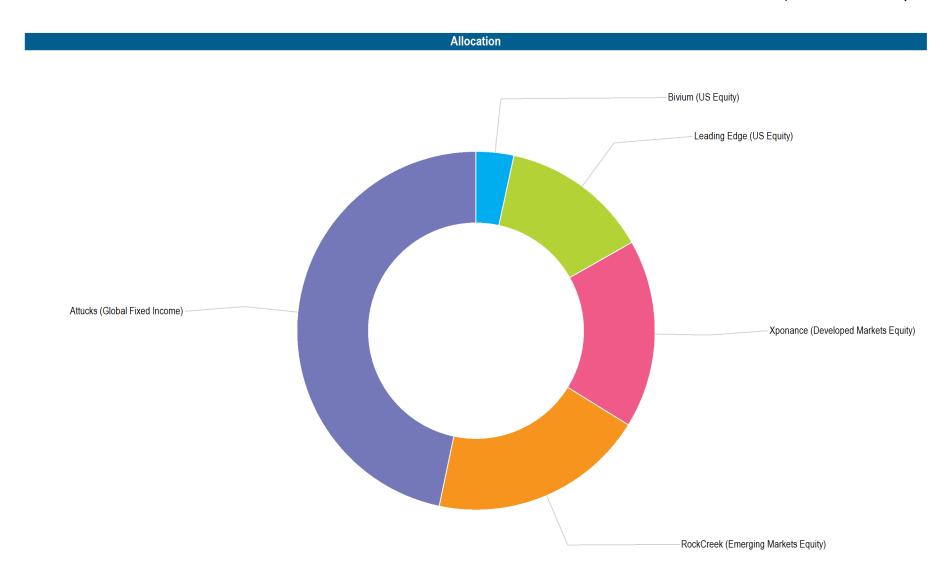
#### State of Connecticut Inclusive Investment Initiative | As of March 31, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception I (%)	nception Date
Attucks High Yield	101,563,642	8.6	4.0	7.5	-1.4				0.5	Feb-21
Bloomberg US High Yield 2% Issuer Cap TR			<u>3.6</u>	<u>7.2</u>	<u>-3.4</u>	<u>5.9</u>	<u>3.2</u>	<u>4.1</u>	<u>-1.6</u>	Feb-21
Over/Under			0.4	0.3	2.0				2.1	
Attucks Emerging Markets Debt	2,245,960	0.2	5.6	8.3	-0.3				-4.2	Feb-21
Spliced 50% JPM EMBI Global Diversified / 50% GBI EM Global Diversified			<u>3.5</u>	<u>6.9</u>	<u>-3.8</u>	<u>0.5</u>	<u>-1.4</u>	<u>0.2</u>	<u>-7.5</u>	Feb-21
Over/Under			2.1	1.4	3.5				3.3	

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#### State of Connecticut Inclusive Investment Initiative | As of March 31, 2023



# **Asset Allocation and Fund Diversity**

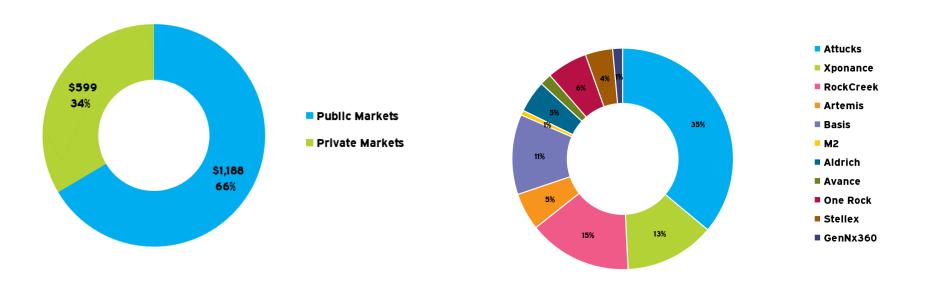


#### **Asset Allocation and Fund Diversity**

#### Connecticut Inclusive Investment Initiative

Asset Allocation by Segment<sup>1</sup>

Asset Allocation by Manager



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<sup>&</sup>lt;sup>1</sup> Private Markets Value as of December 31, 2022.



#### **Asset Allocation and Fund Diversity**

#### Connecticut Inclusive Investment Initiative Diversity<sup>1</sup>

	Number of Managers	% of Total Advisors	Total Assets (\$)	% of MV
Connecticut Based	1	2%	28,766,910	2%
Emerging Manager	30	70%	1,167,418,286	65%
African American Owned	10	23%	383,411,944	21%
Asian Owned	10	23%	406,288,623	23%
Hispanic Owned	5	12%	136,427,606	8%
Native-American Owned	1	2%	47,781,472	3%
Women-Owned	16	37%	845,849,356	47%

	Ci	Ci3 Public Markets			Private Marke	ets	Total CRPTF			
	Number of Managers	% of Total Advisors	% of MV	Number of Managers	% of Total Advisors	% of MV	Number of Managers	% of Total Advisors	% of MV	
Connecticut Based	1	3%	2%	0	0%	0%	6	10%	22%	
Emerging Manager	21	68%	63%	9	75%	70%	31	49%	10%	
African American Owned	5	16%	10%	5	42%	43%	12	19%	10%	
Asian Owned	7	23%	20%	3	25%	28%	11	17%	4%	
Hispanic Owned	3	10%	9%	2	17%	4%	6	10%	4%	
Native American Owned	1	3%	4%	0	0%	0%	1	2%	<1%	
Women Owned	12	39%	50%	4	33%	43%	24	38%	67%	
Total Ind. Managers	31			12			63²			

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<sup>&</sup>lt;sup>1</sup> Note: Totals do not sum due to double counting of manager classifications. <sup>2</sup> Reflects the total number of investments managed by emerging and/or diverse managers in the CRPTF. Total 35 parent managers are running 65 investment strategies. The counting of parent managers excludes underlying managers of the MOM program but includes the MOM manager.



#### **Asset Allocation and Fund Diversity**

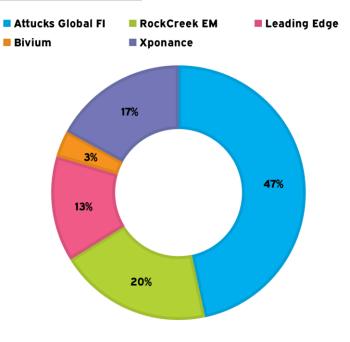
#### Connecticut Inclusive Investment Initiative: Public Markets

#### **Manager Allocation**

#### **Classification by Asset Class**

	Number of Managers	% of Total Advisors	% of MV
Connecticut Based	1	3%	2%
Emerging Manager	21	68%	63%
African American Owned	5	16%	10%
Asian Owned	7	23%	15%
Hispanic Owned	3	10%	9%
Native American Owned	1	3%	4%
Women Owned	12	39%	50%
Total	31		

	Style	MV of CT (\$ USD)	# of Managers	% of Total Ci3	% of CRPTF
Bivium	MicroCap Domestic Equity	40,397,270	3	3%	0.1%
Leading Edge	Small Cap Domestic Equity	158,658,292	8	13%	0.3%
Xponance	International Equity	201,908,090	7	17%	0.4%
RockCreek	Emerging Markets Equity	231,926,531	7	20%	0.5%
Attucks	Global Fixed Income	554,752,713	8	47%	1.2%
Total		1,187,642,895			
Total CRPTF		47,821,427,016			



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#### **Asset Allocation and Fund Diversity**

## As of March 31, 2023

Capital	Market Value (\$)	Connecticut Based	Emerging Manager	African- American Owned	Asian Owned	Hispanic Owned	Native American Owned	Women Owned
Martin (Xponance)	28,660,211		1			_		1
Denali Advisors (Xponance+Bivium)	47,781,472		1				1	
Redwood (Xponance+Leading Edge)	42,250,254		1					1
Frontier Global (Xponance)	29,748,178		1			1		
Bayard (Xponance)	28,553,493		1		1			
Channing Global (Xponance)	21,876,832		1	1				
Perpetua (Xponance)	24,539,587		1		1			
Integrity (Attucks)	112,466,902		1					1
Palmer Square (Attucks)	102,670,909							1
Ramirez (Attucks)	52,327,216					1		
Semper (Attucks)	26,855,490		1	1				
Weaver C. Barksdale (Attucks)	93,916,297							1
Strategic Income Management (Attucks)	72,796,732		1					
SKY Harbor (Attucks)	28,766,910	1						
Ducenta (Attucks)	62,706,989				1	1		
Glovista Investments (RockCreek)	28,120,569		1			1		
Change Global Investments (RockCreek)	58,448,973		1					1

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#### **Asset Allocation and Fund Diversity**

## As of March 31, 2023 (continued)

Capital	Market Value (\$)	Connecticut Based	Emerging Manager	African- American Owned	Asian Owned	Hispanic Owned	Native American Owned	Women Owned
Nipun Capital(RockCreek)	52,522,800				1			- Owned
Tekne Capital Management(RockCreek)	8,960,682		1		1			
Elephant (RockCreek)	16,237,359		1		1			1
Qtron (RockCreek)	47,664,007		1		1			1
Sandglass (RockCreek)	19,704,902		1					1
Monarch (Bivium)	16,069,268		1					
Essex (Bivium)	15,716,071		1					
Granite (Leading Edge)	22,713,165		1					
Lisanti (Leading Edge)	17,551,345							1
Nicholas (Leading Edge)	18,889,303							1
Profit (Leading Edge)	19,564,408			1				
Phocas (Leading Edge)	17,381,992				1			
Palisades (Leading Edge)	27,607,939			1				
Villanova (Leading Edge)	21,718,139		1					
Total	1,187,642,895							

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# **Manager Fund Performance**





## **Public Markets**



# **Bivium**



Bivium (Domestic Equity)

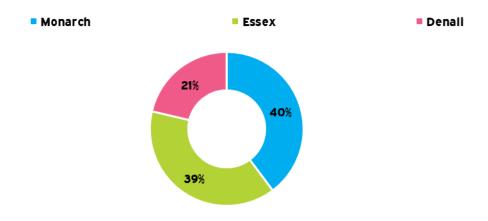
#### Bivium<sup>1</sup>

#### **Manager Allocation**

Manager	Market Value (\$ mm)	% of Fund
Monarch	16,069,268	40%
Essex	15,716,071	39%
Denali	8,611,931	21%
Total	40,397,270	100%

#### **Classification By Diversity**

	Number of Managers	% of Total Advisors	% of MV
Connecticut Based	0	0%	0%
Emerging Manager	3	100%	100%
African American Owned	0	0%	0%
Asian Owned	0	0%	0%
Hispanic Owned	0	0%	0%
Native American Owned	1	33%	21%
Women Owned	0	0%	0%
Bivium	3		



Note: Totals do not sum due to double counting of manager classifications.

<sup>&</sup>lt;sup>1</sup> Consists of 3 managers managing 3 strategies.



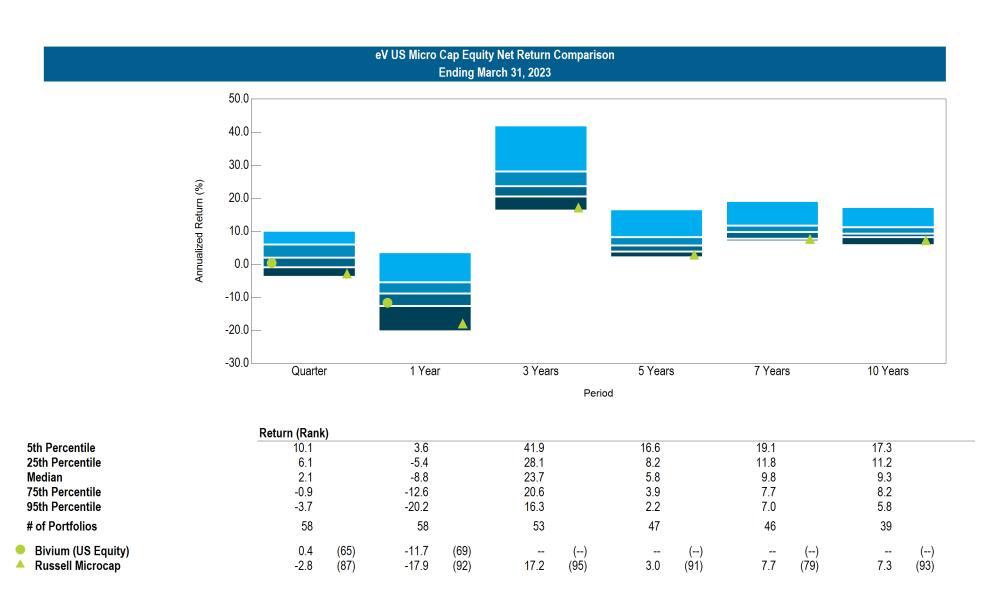
Bivium (US Equity) | As of March 31, 2023

Performance Summary										
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Bivium (US Equity)	40,397,270	100.0	0.4	6.4	-11.7				-14.8	Dec-21
Russell Microcap			-2.8	1.3	-17.9	17.2	3.0	7.3	-18.4	Dec-21
eV US Micro Cap Equity Net Rank			Q3	Q3	Q3				Q4	Dec-21
Monarch	16,069,268	39.8	-4.7	0.9	-16.2				-15.0	Dec-21
Russell Microcap			-2.8	1.3	-17.9	17.2	3.0	7.3	-18.4	Dec-21
eV US Micro Cap Equity Net Rank			Q4	Q4	Q4				Q4	Dec-21
Essex	15,716,071	38.9	5.9	11.6	-9.8				-15.7	Dec-21
Russell Microcap			-2.8	1.3	-17.9	17.2	3.0	7.3	-18.4	Dec-21
eV US Micro Cap Equity Net Rank			Q2	Q1	Q3				Q4	Dec-21
Denali	8,611,931	21.3	0.9	8.3	-5.7				-10.7	Dec-21
Russell Microcap			-2.8	1.3	-17.9	17.2	3.0	7.3	-18.4	Dec-21
eV US Micro Cap Equity Net Rank			Q3	Q2	Q2				Q3	Dec-21

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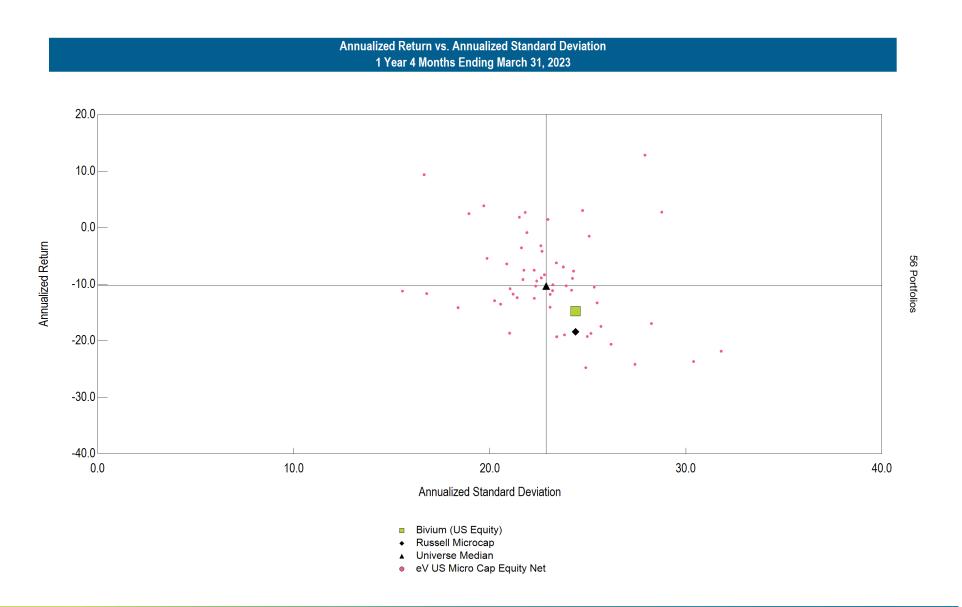


Bivium (US Equity) | As of March 31, 2023



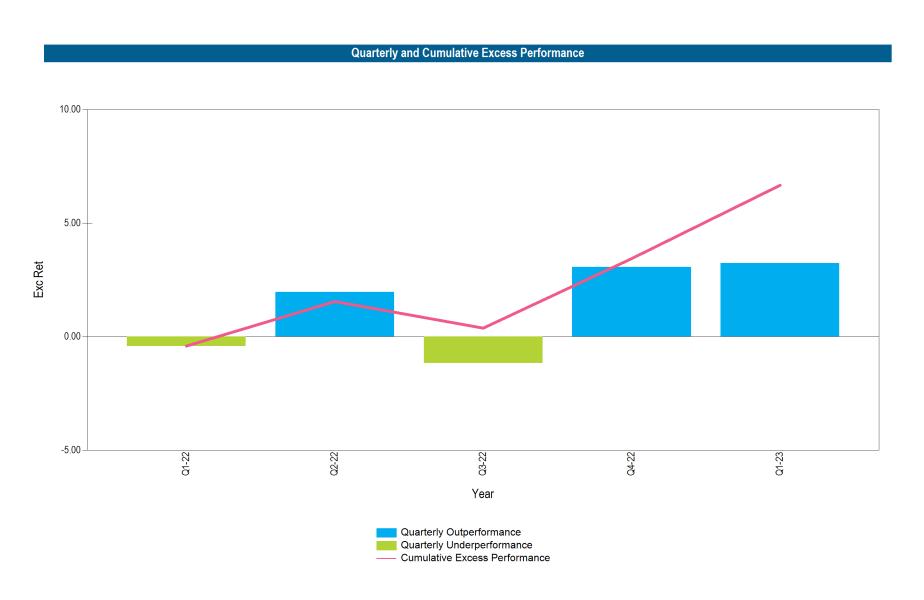


Bivium (US Equity) | As of March 31, 2023





Bivium (US Equity) | As of March 31, 2023





Bivium (US Equity) | As of March 31, 2023





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**Leading Edge** 



Manager
Granite
Lisanti
Nicholas
Profit
Phocas

Redwood Palisades

Villanova **Total** 

#### State of Connecticut Retirement Plans and Trust Funds

Leading Edge (Domestic Equity)

#### Leading Edge<sup>1</sup>

8%

17%

14%

100%

#### **Manager Allocation**

Market Value (\$ mm)	% of Fund
22,713,165	14%
17,551,345	11%
18,889,303	12%
19,564,408	12%
17,341,992	11%

13,272,001

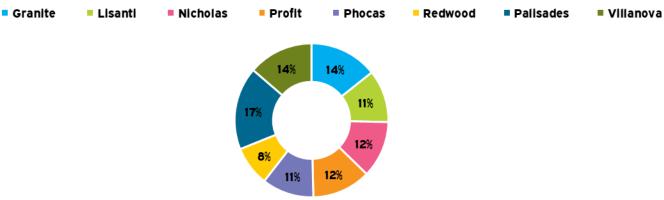
27,607,939

21,718,139

158,658,292

#### **Classification By Diversity**

	Number of Managers	% of Total Advisors	% of MV
Connecticut Based	0	0%	0%
Emerging Manager	2	25%	28%
African American Owned	2	25%	28%
Asian Owned	1	13%	11%
Hispanic Owned	0	0%	0%
Native American Owned	0	0%	0%
Women Owned	3	38%	31%
Leading Edge	8		



Note: Totals do not sum due to double counting of manager classifications.

<sup>&</sup>lt;sup>1</sup> Consists of 8 managers managing 8 strategies.



Leading Edge (US Equity) | As of March 31, 2023

Performance Summary									_	
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Leading Edge (US Equity)	158,658,292	100.0	4.4	6.5	-12.9				-18.7	Dec-21
Russell 2000			2.7	6.7	-11.6	17.5	4.7	8.0	-12.6	Dec-21
eV US Small Cap Equity Net Rank			Q2	Q3	Q4				Q4	Dec-21
Granite Investment Partners	22,713,165	14.3	1.6	3.5	-14.8				-19.3	Dec-21
Russell 2000			2.7	6.7	-11.6	17.5	4.7	8.0	-12.6	Dec-21
eV US Small Cap Equity Net Rank			Q4	Q4	Q4				Q4	Dec-21
Lisanti Capital Growth	17,551,345	11.1	5.7	4.9	-21.5				-21.2	Dec-21
Russell 2000 Growth			6.1	10.7	-10.6	13.4	4.3	8.5	-16.6	Dec-21
eV US Small Cap Growth Equity Net Rank			Q3	Q4	Q4				Q3	Dec-21
Nicholas Investment Partners	18,889,303	11.9	3.3	6.9	-16.9				-21.6	Dec-21
Russell 2000 Growth			6.1	10.7	-10.6	13.4	4.3	8.5	-16.6	Dec-21
eV US Small Cap Growth Equity Net Rank			Q4	Q4	Q4				Q3	Dec-21
Profit Investment Management	19,564,408	12.3	5.7	13.5	-3.2				-11.3	Dec-21
Russell 2000			2.7	6.7	-11.6	17.5	4.7	8.0	-12.6	Dec-21
eV US Small Cap Equity Net Rank			Q2	Q1	Q1				Q3	Dec-21
Phocas Financial Corporation	17,341,992	10.9	1.9	4.7	-11.5				-10.4	Dec-21
Russell 2000 Value			-0.7	2.7	-13.0	21.0	4.5	7.2	-8.8	Dec-21
eV US Small Cap Value Equity Net Rank			Q3	Q3	Q4				Q4	Dec-21
Redwood Investments	13,272,001	8.4	4.5	1.7	-18.9				-26.0	Dec-21
Russell 2000 Growth			6.1	10.7	-10.6	13.4	4.3	8.5	-16.6	Dec-21
eV US Small Cap Growth Equity Net Rank			Q4	Q4	Q4				Q4	Dec-21

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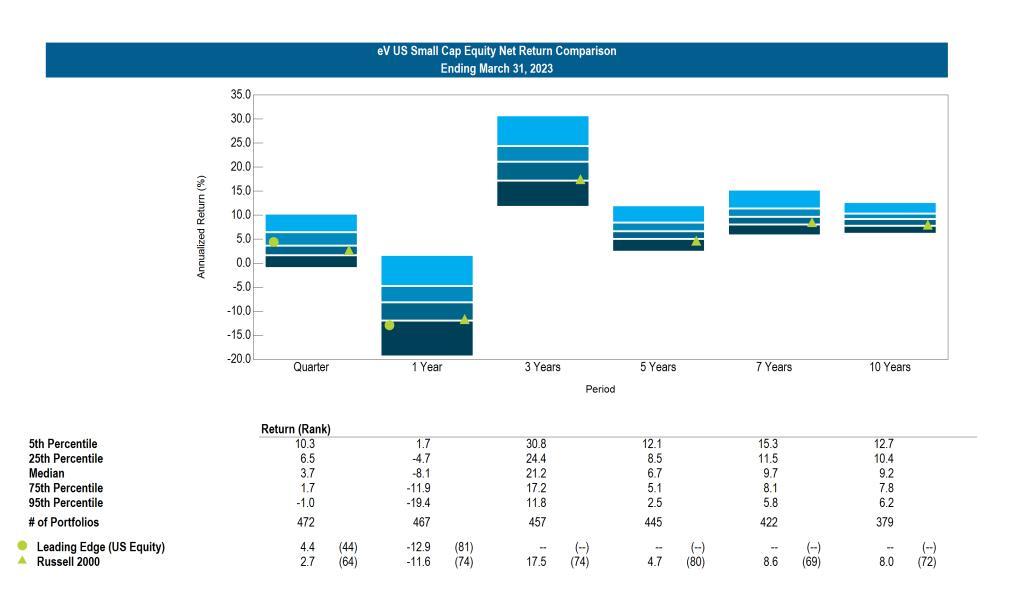
## Leading Edge (US Equity) | As of March 31, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Palisades	27,607,939	17.4	8.0	9.8	-7.4					Jan-22
Russell 2000			2.7	6.7	-11.6	17.5	4.7	8.0	-14.9	Jan-22
eV US Small Cap Equity Net Rank			Q1	Q2	Q2					Jan-22
Villanova	21,718,139	13.7	4.0	5.3	-11.0					Jan-22
Russell 2000 Value			-0.7	2.7	-13.0	21.0	4.5	7.2	-12.2	Jan-22
eV US Small Cap Value Equity Net Rank			Q2	Q3	Q4					Jan-22

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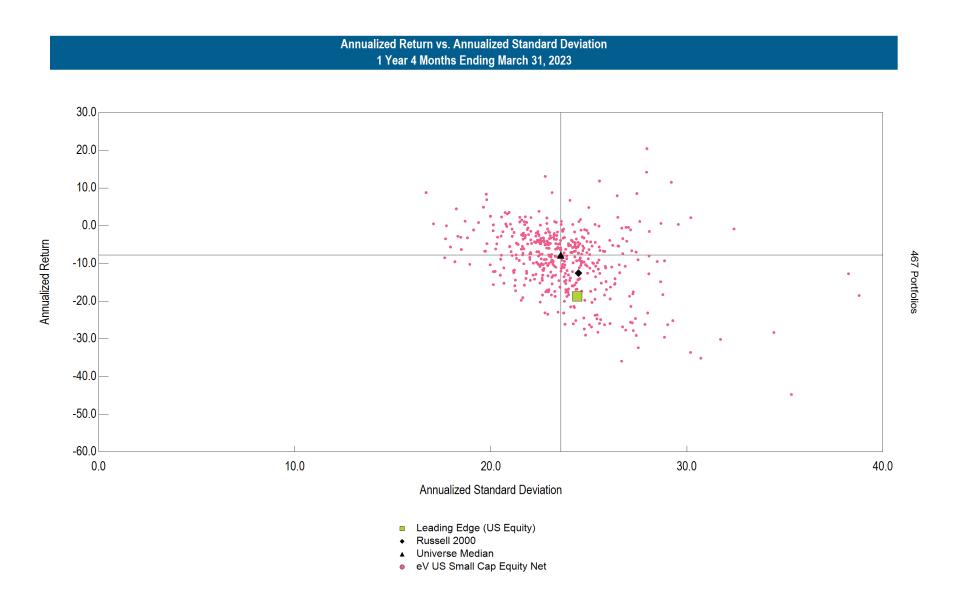


Leading Edge (US Equity) | As of March 31, 2023



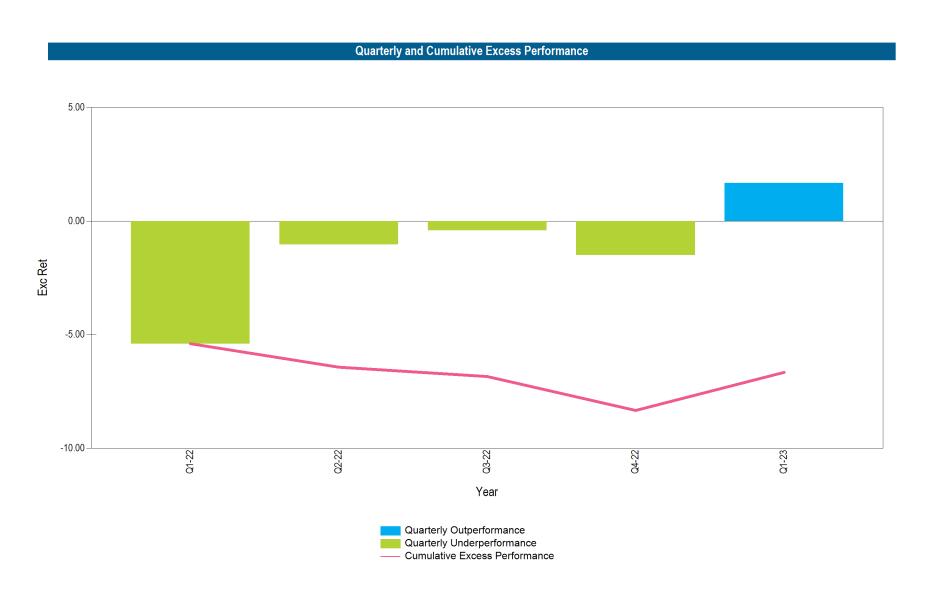


Leading Edge (US Equity) | As of March 31, 2023





Leading Edge (US Equity) | As of March 31, 2023

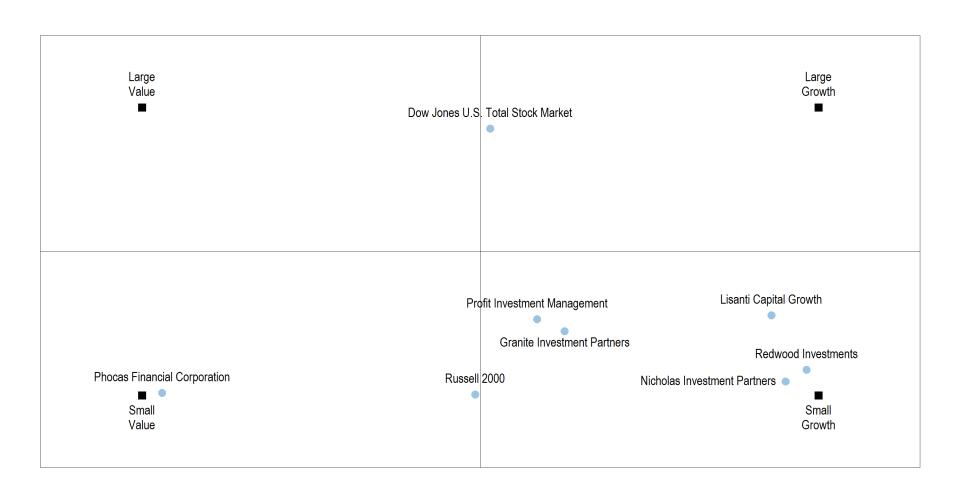


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#### Leading Edge (US Equity) | As of March 31, 2023





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# **Xponance**

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**Xponance (International Equity)** 

#### Xponance<sup>1</sup>

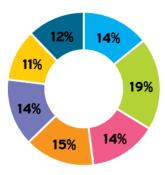
#### **Manager Allocation**

Manager	Market Value (\$ mm)	% of Fund			
Martin	28,660,211	14%			
Denali Advisors	39,169,541	19%			
Redwood	28,978,253	14%			
Frontier Global	29,748,178	15%			
Bayard	28,553,493	14%			
Channing Global	21,876,832	11%			
Perpetua	24,539,587	12%			
Total	201,908,090	100%			

#### **Classification By Diversity**

	Number of Managers	% of Total Advisors	% of MV
Connecticut Based	0	0%	0%
Emerging Manager	7	100%	100%
African American Owned	2	29%	23%
Asian Owned	1	14%	14%
Hispanic Owned	1	14%	14%
Native American Owned	1	14%	20%
Women Owned	3	43%	41%
Xponance	7		





Note: Totals do not sum due to double counting of manager classifications.

<sup>&</sup>lt;sup>1</sup> Consists of 7 managers managing 7 strategies.



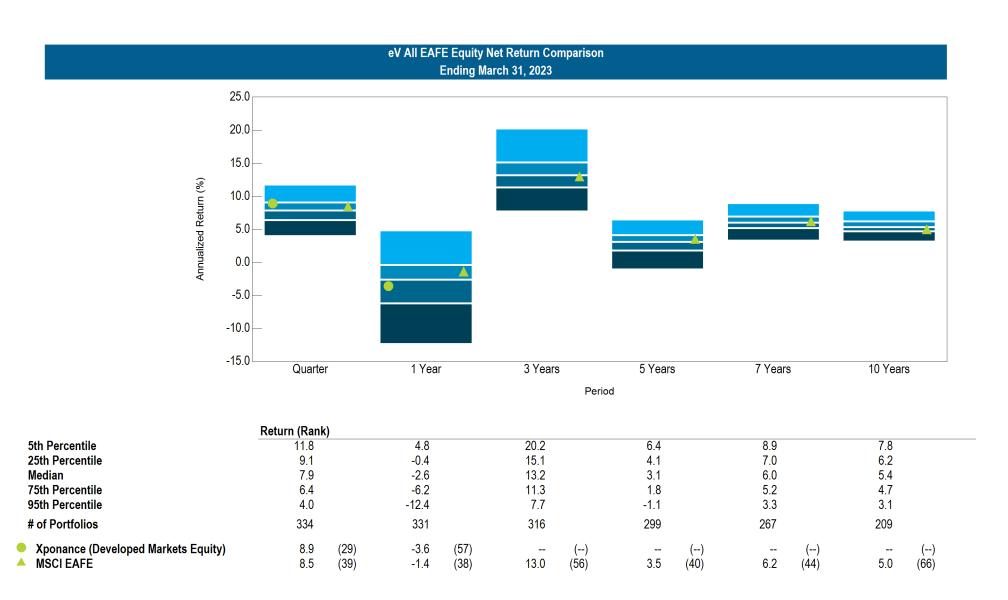
Xponance (Developed Markets Equity) | As of March 31, 2023

		Дроп	unee (	Develo	peu m	ai Kets i	=quity/	1 73 0	n March	J1, 2020
Performance Summary										
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Xponance (Developed Markets Equity)	201,908,090	100.0	8.9	12.7	-3.6				-0.5	Feb-21
MSCI EAFE			8.5	15.4	-1.4	13.0	<i>3.5</i>	5.0	2.0	Feb-21
eV All EAFE Equity Net Rank			Q2	Q3	Q3				Q3	Feb-21
Martin	28,660,211	14.2	10.2	11.4	-5.0				3.5	Feb-21
MSCI EAFE			8.5	15.4	-1.4	13.0	3.5	5.0	2.0	Feb-21
eV All EAFE Equity Net Rank			Q1	Q3	Q3				Q1	Feb-21
Denali EAFE Canada	39,169,541	19.4	7.1	11.8	-5.1				2.4	Feb-21
MSCI EAFE + Canada NR USD			8.0	14.0	-2.7	13.5	3.8	4.9	2.5	Feb-21
eV All EAFE Equity Net Rank			Q3	Q3	Q3				Q2	Feb-21
Redwood EAFE Canada	28,978,253	14.4	7.8	11.7	-8.2				-5.7	Feb-21
MSCI EAFE + Canada NR USD			8.0	14.0	-2.7	13.5	3.8	4.9	2.5	Feb-21
eV All EAFE Equity Net Rank			Q3	Q3	Q4				Q4	Feb-21
Frontier Global EAFE	29,748,178	14.7	10.9	14.0	-2.2				-1.0	Feb-21
MSCI EAFE			8.5	15.4	-1.4	13.0	<i>3.5</i>	5.0	2.0	Feb-21
eV All EAFE Equity Net Rank			Q1	Q2	Q2				Q3	Feb-21
Bayard	28,553,493	14.1	7.9	11.8	-2.6				3.6	Feb-21
MSCI EAFE IMI Net USD			8.0	14.5	-2.7	12.8	3.1	5.1	1.0	Feb-21
eV All EAFE Equity Net Rank			Q3	Q3	Q2				Q1	Feb-21
Channing Global	21,876,832	10.8	11.0	17.5	0.8				3.1	Feb-21
MSCI EAFE IMI Net USD			8.0	14.5	-2.7	12.8	3.1	5.1	1.0	Feb-21
eV All EAFE Equity Net Rank			Q1	Q1	Q1				Q2	Feb-21
Perpetua	24,539,587	12.2	8.5	12.1					14.0	Jun-22
MSCI EAFE			8.5	15.4	-1.4	13.0	3.5	5.0	4.7	Jun-22
eV All EAFE Equity Net Rank			Q2	Q3					Q1	Jun-22

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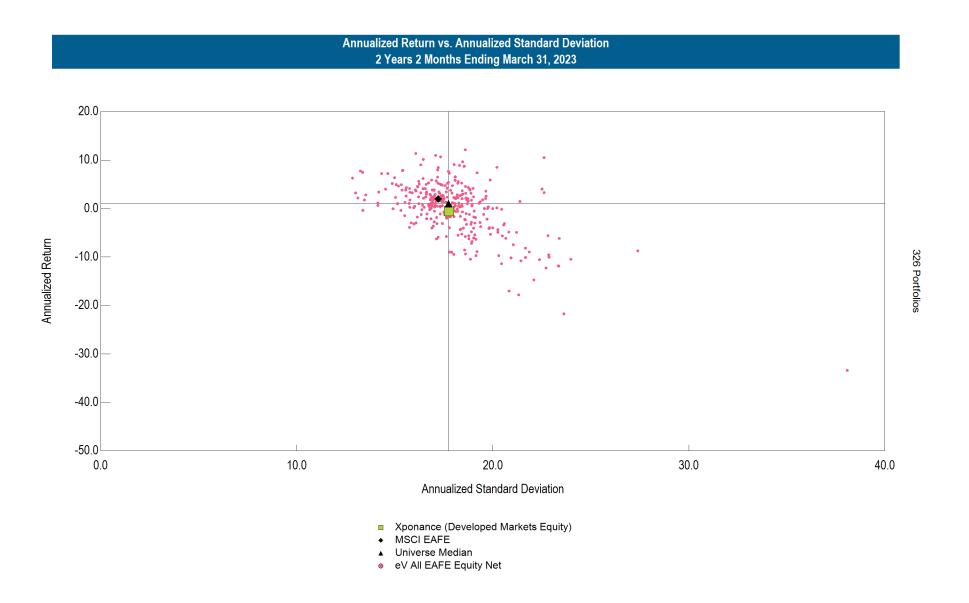


#### Xponance (Developed Markets Equity) | As of March 31, 2023



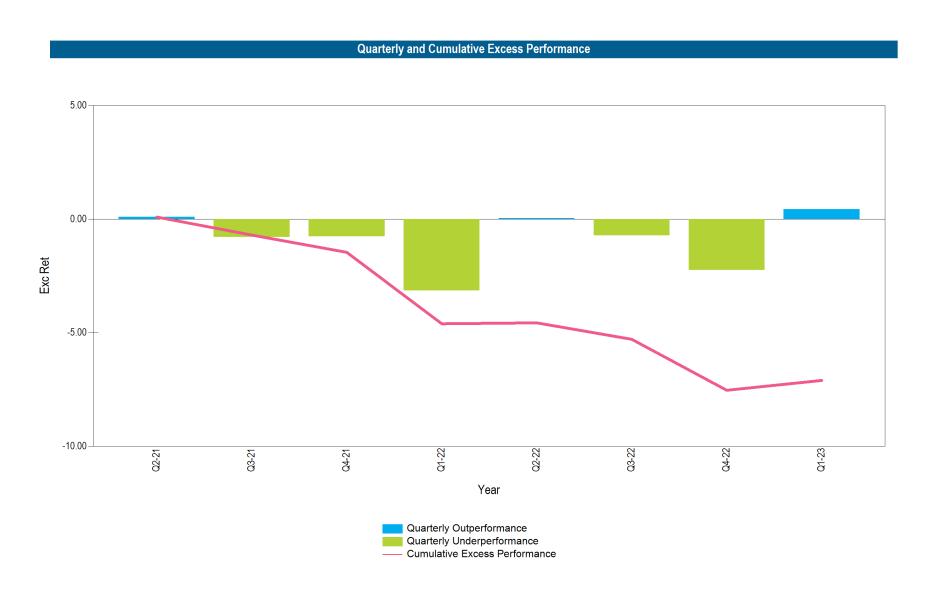


#### Xponance (Developed Markets Equity) | As of March 31, 2023





#### Xponance (Developed Markets Equity) | As of March 31, 2023





#### Xponance (Developed Markets Equity) | As of March 31, 2023

## Non U.S. Effective Style Map vs. EAFE 2 Years 2 Months Ending March 31, 2023



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#### RockCreek

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RockCreek (Emerging Markets Equity)

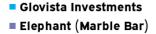
#### RockCreek1

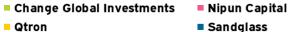
#### **Manager Allocation**

Manager	Market Value (\$ mm)	% of Fund
Glovista Investments	28,120,569	12%
Change Global Investments	58,448,973	25%
Nipun Capital	52,522,800	23%
Tekne Capital Management	8,960,682	4%
Marble Bar (Elephant)	16,237,359	7%
Qtron	47,664,007	21%
Sandglass	19,704,902	9%
Total	231,926,531	100%

#### **Classification By Diversity**

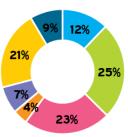
	Number of Managers	% of Total Advisors	% of MV
Connecticut Based	0	0%	0%
Emerging Manager	7	100%	100%
African American Owned	0	0%	0%
Asian Owned	3	43%	47%
Hispanic Owned	1	14%	22%
Native American Owned	0	0%	0%
Women Owned	4	57%	62%
RockCreek	7		











Note: Totals do not sum due to double counting of manager classifications.

Note: Harbourview Royalties Fund I was added to RockCreek, but, as data has yet to come in, it has been excluded for the meantime.

<sup>&</sup>lt;sup>1</sup> Consists of 7 managers managing 7 strategies.



RockCreek (Emerging Markets Equity) | As of March 31, 2023

	Perform	ance Sum	mary							
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
RockCreek (Emerging Markets Equity)	231,926,531	100.0	3.8	-0.6	-12.7				-12.1	Apr-21
MSCI Emerging Markets			4.0	0.8	-10.7	7.8	-0.9	2.0	-11.0	Apr-21
eV Emg Mkts Equity Net Rank			Q3	Q4	Q4				Q3	Apr-21
Glovista Investments	28,120,569	12.1	-19.3	-2.4	-11.8				-13.9	May-21
MSCI Emerging Markets			4.0	0.8	-10.7	7.8	-0.9	2.0	-12.6	May-21
eV Emg Mkts Equity Net Rank			Q4	Q4	Q4				Q3	May-21
Change Global Investments	58,448,973	25.2	9.2	8.0	-10.8				-7.0	May-21
MSCI Emerging Markets			4.0	0.8	-10.7	7.8	-0.9	2.0	-12.6	May-21
eV Emg Mkts Equity Net Rank			Q1	Q1	Q3				Q2	May-21
Nipun Capital	52,522,800	22.6	7.9	0.8	-7.0				-6.8	Jun-21
MSCI Emerging Markets			4.0	0.8	-10.7	7.8	-0.9	2.0	-14.2	Jun-21
eV Emg Mkts Equity Net Rank			Q1	Q4	Q2				Q1	Jun-21
Tekne Capital Management	8,960,682	3.9	21.9	-2.1	-22.8				-41.1	May-21
MSCI Emerging Markets			4.0	0.8	-10.7	7.8	-0.9	2.0	-12.6	May-21
eV Emg Mkts Equity Net Rank			Q1	Q4	Q4				Q4	May-21
QTRON Investments	47,664,007	20.6	12.7	-3.6	-14.4				-14.8	Nov-21
MSCI Emerging Markets			4.0	0.8	-10.7	7.8	-0.9	2.0	-13.7	Nov-21
eV Emg Mkts Equity Net Rank			Q1	Q4	Q4				Q3	Nov-21
Marble Bar Asset Management	16,237,359	7.0	2.1	-6.8	-15.6				-15.4	Jan-22
MSCI Emerging Markets Growth NR USD			4.0	0.2	-11.9	5.7	-0.8	3.2	-17.1	Jan-22
eV Emg Mkts Equity Net Rank			Q4	Q4	Q4				Q3	Jan-22

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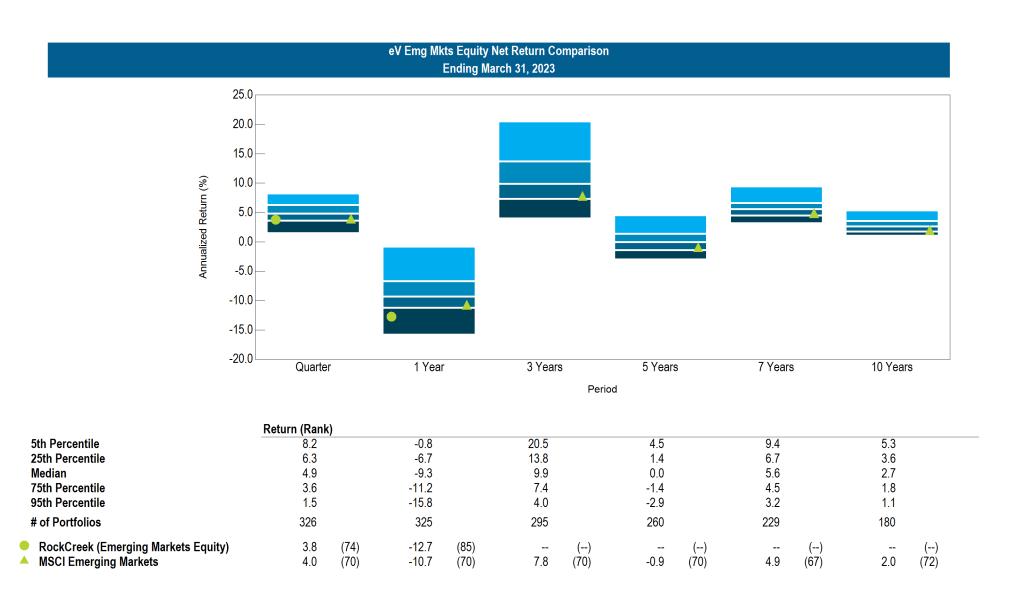
#### RockCreek (Emerging Markets Equity) | As of March 31, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Sandglass	19,704,902	8.5	-4.5						-4.5	Jan-23
MSCI Emerging Markets			4.0	0.8	-10.7	7.8	-0.9	2.0	4.0	Jan-23
eV Emg Mkts Equity Net Rank			Q4						Q4	Jan-23
Rockcreek EMISF Funding	267,238	0.1								

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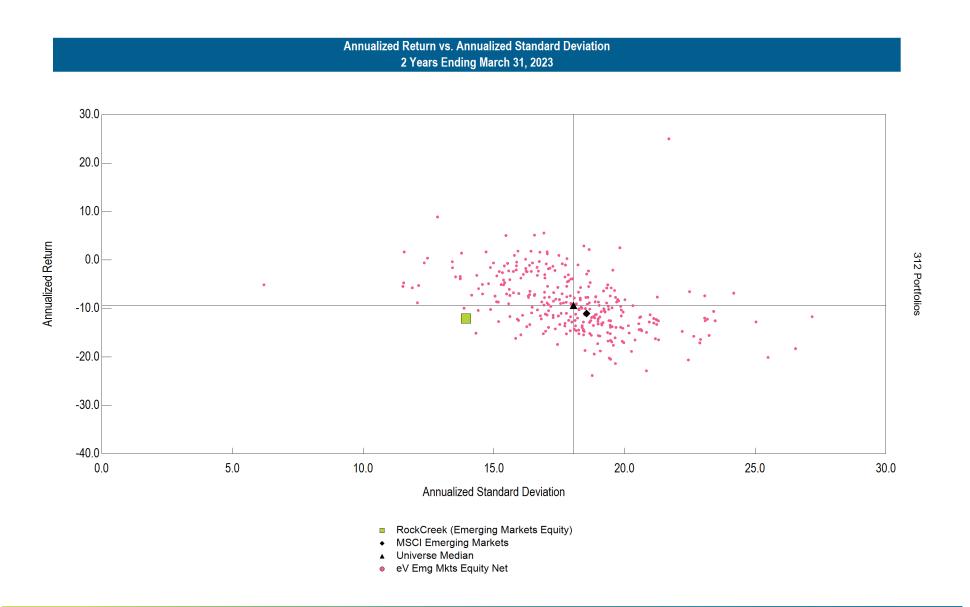


#### RockCreek (Emerging Markets Equity) | As of March 31, 2023





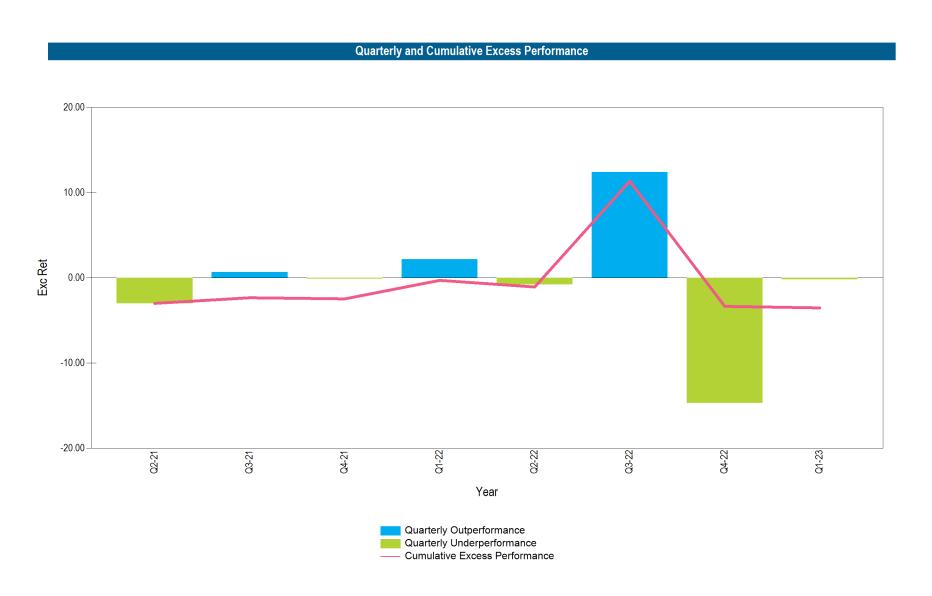
#### RockCreek (Emerging Markets Equity) | As of March 31, 2023



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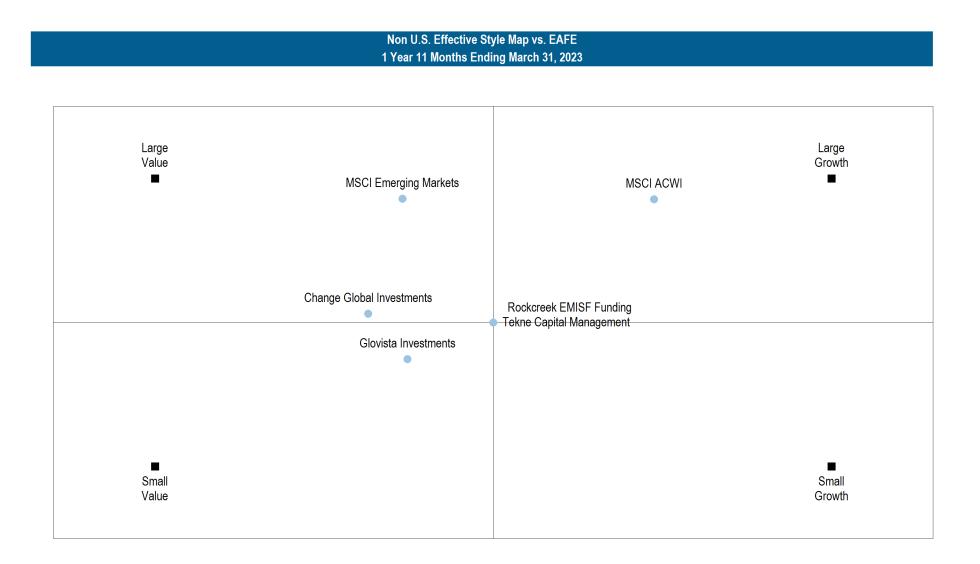
#### RockCreek (Emerging Markets Equity) | As of March 31, 2023



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#### RockCreek (Emerging Markets Equity) | As of March 31, 2023



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### **Attucks**

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Attucks (Global Fixed Income)

SKY Harbor

#### Attucks1

■ Weaver C. Barksdale

#### **Manager Allocation**

	Market Value	
Manager	(\$ mm)	% of Fund
Integrity	112,466,209	20%
Palmer Square	102,670,909	19%
Ramirez	52,327,216	10%
Semper	26,855,490	5%
Weaver C. Barksdale	93,916,297	17%
Strategic Income Management	72,796,732	13%
SKY Harbor	28,766,910	5%
Ducenta	62,706,989	11%
Total	554,752,713	100%

#### **Classification By Diversity**

	Number of Managers	% of Total Advisors	% of MV
Connecticut Based	1	13%	5%
Emerging Manager	3	38%	38%
African American Owned	1	13%	5%
Asian Owned	1	13%	11%
Hispanic Owned	1	13%	9%
Native American Owned	0	0%	0%
Women Owned	3	38%	61%
Attucks	8		

Strategic Income Management



Ramirez

Semper

Note: Totals do not sum due to double counting of manager classifications.

Palmer Square

Integrity

Ducenta

<sup>&</sup>lt;sup>1</sup> Consists of 8 managers managing 8 strategies.



Attucks (Global Fixed Income) | As of March 31, 2023

	Perform	ance Sum	mary							
	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Attucks (Global Fixed Income)	554,752,713	100.0	3.7	4.2	-2.5				-3.3	Feb-21
Ci3 Public Fixed Income Custom Index			2.8	2.6	-4.0				-4.5	Feb-21
eV Global Fixed Inc - All Duration Net Rank			Q1	Q1	Q1				Q1	Feb-21
Attucks Core Fixed Income	450,943,110	81.3	2.8	1.6	-3.3				-4.0	Feb-21
Bloomberg US Aggregate TR			3.0	-0.1	-4.8	-2.8	0.9	1.4	-5.3	Feb-21
Integrity	112,466,209	20.3	3.1	0.6	-5.5				-5.8	Feb-21
Bloomberg US Corporate Inv Grade TR			3.5	1.8	-5.6	-0.5	1.6	2.3	-6.0	Feb-21
eV US Corporate Fixed Inc Net Rank			Q4	Q4	Q2				Q2	Feb-21
Palmer Square	102,670,909	18.5	1.8	4.0	1.8				1.1	Feb-21
Bloomberg US Credit 1-3 Yr TR			1.3	1.3	0.3	0.7	1.6	1.5	-1.1	Feb-21
eV US Short Duration Fixed Inc Net Rank			Q1	Q1	Q1				Q1	Feb-21
Ramirez	52,327,216	9.4	4.5	-0.3	-6.2				-6.5	Feb-21
ICE BofA US Taxable Municipal Securities Plus Index			5.0	-0.1	-6.4	-1.7	1.6	2.9	-6.3	Feb-21
eV US Municipal Fixed Inc Net Rank			Q1	Q4	Q4				Q4	Feb-21
Semper	26,855,490	4.8	3.0	-2.0	-6.2				-5.0	Feb-21
Bloomberg US MBS TR USD			2.5	-0.9	-4.9	-3.3	0.2	1.0	-5.0	Feb-21
eV US Securitized Fixed Inc Net Rank			Q1	Q4	Q4				Q3	Feb-21
Weaver C. Barksdale	93,916,297	16.9	2.8	0.9	-4.5				-4.9	Feb-21
Bloomberg US Aggregate TR			3.0	-0.1	-4.8	-2.8	0.9	1.4	-5.3	Feb-21
eV US Core Fixed Inc Net Rank			Q4	Q1	Q2				Q2	Feb-21
Ducenta Squared Asset Management	62,706,989	11.3	3.0						4.5	Sep-22
Bloomberg US Credit 1-5 Yr TR			1.7	1.5	-0.3	0.6	1.8	1.7	1.4	Sep-22
eV US Interm Duration - Credit Net Rank			Q1						Q1	Sep-22

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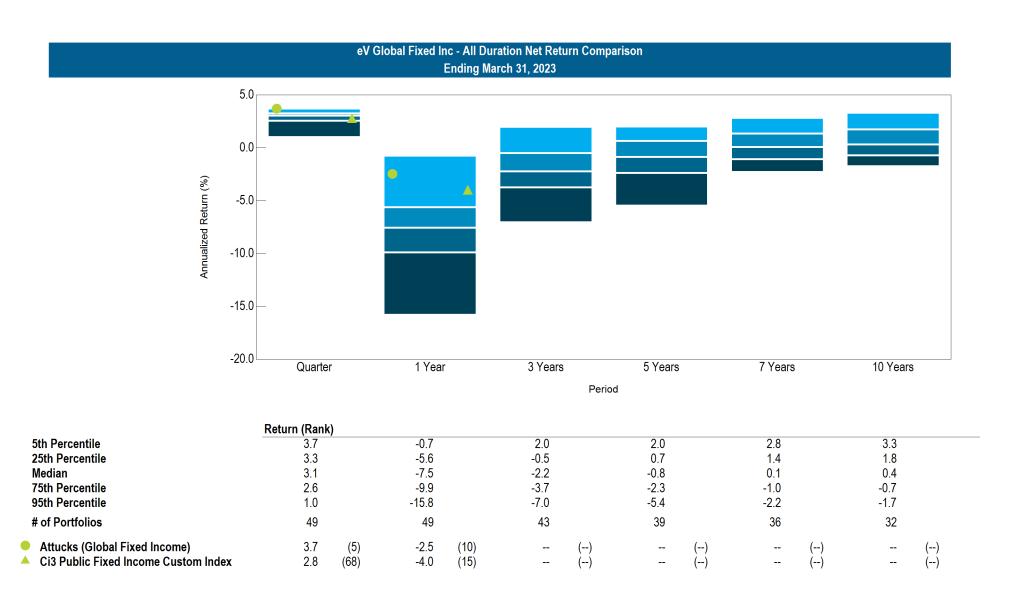
#### Attucks (Global Fixed Income) | As of March 31, 2023

	Market Value (\$)	% of Portfolio	QTD (%)	Fiscal YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date
Attucks High Yield	101,563,642	18.3	4.0	7.5	-1.4				0.5	Feb-21
Bloomberg US High Yield 2% Issuer Cap TR			3.6	7.2	-3.4	5.9	3.2	4.1	-1.6	Feb-21
Strategic Income Management	72,796,732	13.1	4.2	8.0	0.2				1.7	Feb-21
ICE BofA BB-B US High Yield TR			<i>3.6</i>	7.2	-2.9	5.4	3.3	4.1	-1.5	Feb-21
eV US High Yield Fixed Inc Net Rank			Q1	Q1	Q1				Q1	Feb-21
SKY Harbor	28,766,910	5.2	3.7	6.1	-5.6				-1.9	Feb-21
Bloomberg US High Yield 2% Issuer Cap TR			<i>3.6</i>	7.2	-3.4	5.9	<i>3.2</i>	4.1	-1.6	Feb-21
eV US High Yield Fixed Inc Net Rank			Q1	Q3	Q4				Q4	Feb-21
Attucks HY Funding	0	0.0								
Attucks Emerging Markets Debt	2,245,960	0.4	5.6	8.3	-0.3				-4.2	Feb-21
Spliced 50% JPM EMBI Global Diversified / 50% GBI EM Global Diversified			3.5	6.9	-3.8	0.5	-1.4	0.2	-7.5	Feb-21
New Century	364,869	0.1	8.6	12.4	-1.3				-4.6	Feb-21
JP Morgan EMBI Global Diversified			1.9	5.1	-6.9	0.0	-0.6	2.0	-8.2	Feb-21
eV Emg Mkts Fixed Inc - Hard Currency Net Rank			Q1	Q1	Q1				Q1	Feb-21
RVX	1,881,091	0.3	4.5	6.7	0.0				-3.8	Feb-21
JP Morgan CEMBI Broad Diversified TR USD			2.2	4.2	-1.6	2.6	1.8	2.9	-4.5	Feb-21
eV Emg Mkts Fixed Inc - Corporate Debt Net Rank			Q1	Q1	Q1				Q1	Feb-21
Attucks EM Debt Funding	0	0.0								

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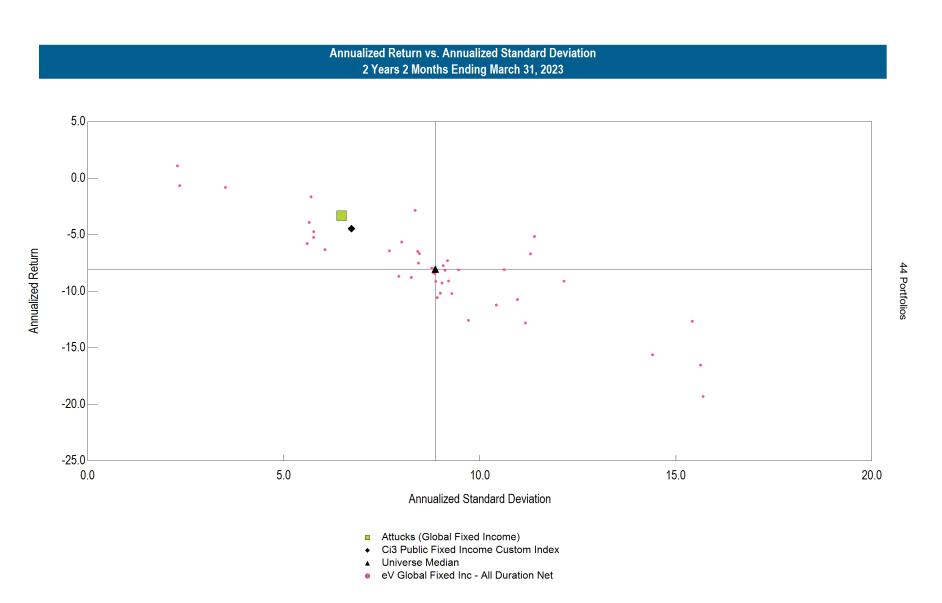


#### Attucks (Global Fixed Income) | As of March 31, 2023



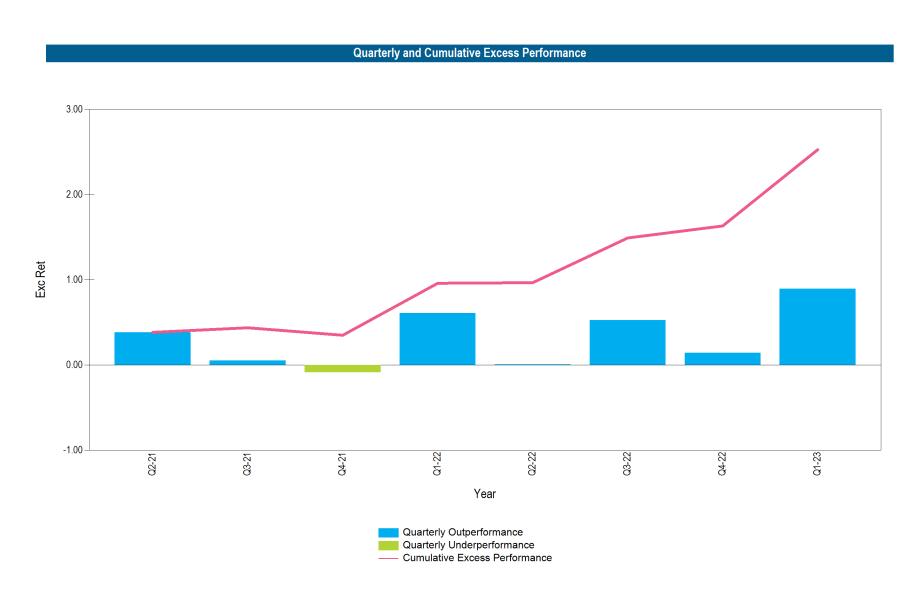


#### Attucks (Global Fixed Income) | As of March 31, 2023





Attucks (Global Fixed Income) | As of March 31, 2023



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#### **Private Markets**



**Private Markets** 

#### Private Markets<sup>1</sup>

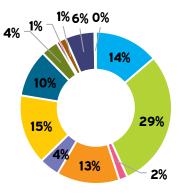
#### **Manager Allocation**

	Market Value	
Manager	(\$ mm)	% of Fund
Artemis	83,640,000	14%
Basis	179,210,000	29%
Muller & Monroe	11,004,085	2%
Aldrich Capital Partners	81,421,152	13%
Avance Investment Partners	26,231,643	4%
One Rock Capital	90,880,149	15%
Stellex Capital Management	61,498,507	10%
GenNx360 Capital Partners	22,259,181	4%
State of CT Rubicon	3,920,000	1%
Penzance DC RE FD	8,860,000	1%
Freeman CT	37,998,360	6%
Horizon Legacy	1,650,428	0%
Total	598.669.936	100

#### **Classification By Diversity**

	Number of Managers	% of Total Advisors	% of MV
Connecticut Based	0	0%	0%
Emerging Manager	9	75%	69%
African American Owned	5	42%	43%
Asian Owned	3	25%	28%
Hispanic Owned	2	17%	4%
Native American Owned	0	0%	0%
Women Owned	4	33%	43%
Total Private Markets	12		





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<sup>&</sup>lt;sup>1</sup> Data as of December 31, 2022. Consists of 12 managers managing 14 strategies. Note: Totals do not sum due to double counting of manager classifications.



**Private Markets** 

Fund <sup>1</sup>	Committed (MM)	Contributed (MM)	Unfunded (MM)	Distributed (MM)	Market Value (MM)	DPI (X)	TVPI (X)	IRR (%)
Artemis Real Estate Partners Income and Growth Fund	100.0	75.7	38.0	23.3	83.6	0.3	1.1	5.0
BIG Real Estate Fund I	65.0	81.7	8.7	51.9	98.3	0.6	1.2	9.8
BIG Real Estate Fund II	125.0	80.0	81.2	38.2	80.9	0.5	1.0	3.0
M2 - Connecticut Emerging Private Equity Fund-of-Funds, L.P	105.0	113.7	6.1	145.5	11.0	1.3	1.4	6.8
Aldrich I, L.P.	50.0	49.4	0.9	-	68.9	-	1.4	13.9
Aldrich II, L.P.	75.0	16.7	58.3	-	12.5	NM	NM	NM
Avance I, L.P.	100.0	29.0	73.8	3.1	26.2	0.1	1.0	1.3
One Rock Capital Partners III, LP	125.0	83.5	54.1	12.8	90.9	0.2	1.2	27.5
Stellex Capital Partners II LP	100.0	62.1	39.3	4.1	61.5	-	1.1	8.1
GenNx360 Capital Partners II, L.P.	25.0	30.2	0.9	33.0	22.3	1.1	1.8	15.4
Freeman CT	50.0	29.9	22.6	3.8	38.0	0.1	1.4	19.9
Horizon Legacy	15.0	14.0	2.5	9.1	1.7	0.6	0.8	-4.27
Penzance DC RE FD	50.0	2.3	50.0	5.4	8.9	2.3	3.7	197.1
State of CT Rubicon	42.5	8.1	34.5	0.0	3.9	-	0.5	-48.25

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<sup>&</sup>lt;sup>1</sup> Data as of December 31, 2022.



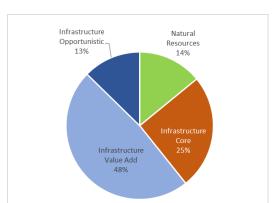
## Infrastructure/Natural Resources Investment Opportunities Overview

Investment Advisory Council May 10, 2023

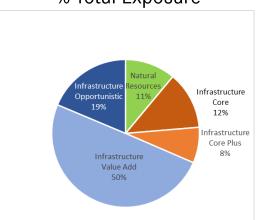
### Infrastructure/Natural Resources Investment

- Infrastructure/Natural Resources (INR) market value represented approximately 1.9% of the total CRPTF value as of December 31, 2022.
  - The recommended 2022 strategic asset allocation plan (approved September 2022) increased the INR target allocation from 4.2% to 7%.
  - NR's current exposure (market value plus unfunded commitments) including recent commitments and current recommendation totals \$2.56 billion (5.3% of the total CRPTF as of December 2022).
- The portfolio is developing in line with the targeted exposure ranges established for each sub-strategy
  - The 2023 pacing plan, based on the 7% target allocation approved in September 2022, targets \$850m of INR commitments in 2023 (\$500m Infra, \$200m NR, and \$150m co-investment).
  - > Prior Infrastructure Commitments for 2023 total \$350m, with\$150 million to Co-investment and \$200 million to Infra.
  - > CRPTF's current sector exposure is well balanced with the largest weightings to Transportation Infra, Communications and Renewable Power.
- CRPTF targets top managers with compelling strategies and seeks to have limited manager strategy overlap.

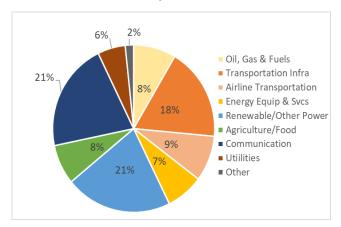
#### % Market Value\*



% Total Exposure\*



#### Sector % by Market Value\*



\*Estimated as of December 2022



#### Infrastructure/Natural Resources Investment Recommendations

Grain Communications Opportunity
Fund IV, L.P.
\$150 Million Commitment

- Opportunistic infrastructure investment focused on Communication subsectors, primarily within North America, which complements existing Infrastructure portfolio
- Experienced senior leadership with deep industry expertise and relationships
- Control, or influence equity positions. Primarily targeting Communications sub-sectors that include fiber, spectrum, data centers and towers. Additional sub-sectors include communication sites and related managed services.
- Higher return (Opportunistic) risk profile targeting growth opportunities across assets and operating companies that require significant investment to enhance operations
- Strong Track Record with four predecessor funds delivering a gross IRR of 28.4% and 1.7x MOIC as of December 31, 2022, and a realized loss ratio of 0%.
- Return Targets: Gross IRR 25% and 2.5x Gross MOIC

INR - 2023 Pacing Plan Targets											
	Sub-Strategy										
	Core Infra	astructure	Non-core In	frastructure	Natural	Resources	INR Co-in	vestment			
(\$millions, USD)	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Total</u>		
Total Commitments	\$0	\$200	\$200	\$300	\$0	\$200	\$100	\$150	\$850		
Commitment Size	\$100	\$200	\$100	\$250	\$75	\$150	\$75	\$150			
# Commitments	0	2	2	3	1	2	1	2	4 to 9		
Investment / Status									<u>Total</u>		
MSIM exp (Series 2 & 3) - Closed							\$1	.50	\$150		
GIP V - Closed			\$2	200					\$200		
GCOF IV - Recommendation			\$1	50					\$150		
Capital Commitments YTD	\$	0	\$3	350	,	\$0	\$1	.50	\$500		
# Commitments		)		2		0		1	3		
Total Remaining per Pacing Plan <sup>1</sup>	\$2	00	(\$	50)	\$2	200	\$	0	\$350		



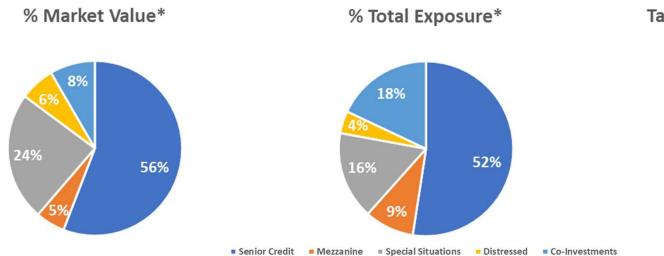
## Private Credit Fund Investment Opportunity Overview

Investment Advisory Council May 10, 2023

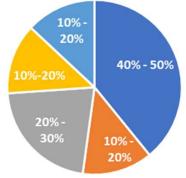


## **Private Credit Fund**

- The Private Credit Fund's market value represented approximately 3.2% of the total CRPTF value as of December 31, 2022.
  - ➤ The 2022 strategic asset allocation plan established a target allocation of 10% for private credit.
- The portfolio is developing in line with targeted sub-strategy exposure ranges established in the PCF strategic pacing plan: Senior Credit, Mezzanine, Special Situations, Distressed, and Co-Investments.
  - Individual commitments can skew sub-strategy weightings while the PCF portfolio is still early in its buildout stage.
  - The CRTPF's Co-Investment program with HarbourVest is ramping well, with current exposure primarily to first lien and unitranche credits.
- The current market is generally positive for private credit managers due to a higher rate environment and tighter credit markets.
  - The recent regional bank turmoil has only contributed to the demand for private credit, allowing managers to be highly selective while driving favorable terms and conditions.
  - Experienced managers best positioned to balance credit quality risks against return potential.
- The recommended Hg Titan 2 commitment will provide differentiated, favorable risk-reward credit exposure to select private equity companies sponsored by Hg, a high conviction CRPTF manager.



#### **Targeted Exposure Ranges**



\*Estimated as of December 31, 2022; excludes PCF cash balances.



## Private Credit Investment Recommendation

#### Hg Titan 2

\$150 Million Commitment

- Hg Titan 2 will make junior capital debt investments in select portfolio companies held in Hg private equity funds.
  - Hg Titan 2 primarily invests in the larger companies in the Hg Saturn portfolios, which generally have significant equity cushions ranked junior to a Titan investment.
- Hg has a well-established, successful track record as Europe's leading private equity manager focused on software and tech-enabled services.
  - No lender to an Hg sponsored company has lost capital since the firm was founded in 1990.
- Hg Titan 2 provides an opportunity to gain additional credit exposure to a topquality, core CRPTF private equity manger.

			PCF	- 2023 Inve	stment Act	ivities & Su	mmary Pac	ing Plan Taı	gets					
\$Millions	Substrategy													
Pacing Plan Target Ranges	<u>Senior</u>		<u>Mezzanine</u>		Special S	Situations .	<u>Distr</u>	essed	<u>Co-Investments</u>		Total			
Total Commitments	\$800	\$1,000	\$150	\$200	\$275	\$400	\$150	\$200	\$100	\$200	\$1,300			
Commitment Size	\$150	\$250	\$75	\$200	\$100	\$275	\$75	\$200	\$100	\$200				
Number of Commitments	4	6	1	2	1	3	1	2	1	1	8 to 14			
Investment / Status														
HarbourVest Co-Investment - Closed*									\$1	.50	\$150			
Vistria Structured Credit I - Closed*			\$100								\$100			
Hg - Titan 2 -Recommendation			\$150								\$150			
Capital Commitments		\$0		\$250		\$0		\$0		\$150				
Number of Commitments	0			2		0		0	1		3			

<sup>\*</sup>Commitment amounts included in 2023 pacing plan although legal commitments closed in December 2022.





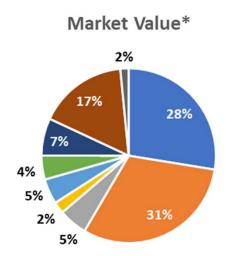
## Private Investment Fund Investment Opportunities Overview

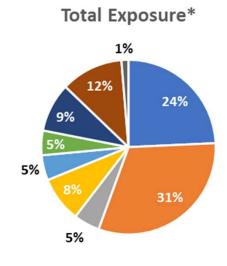
Investment Advisory Council May 10, 2023



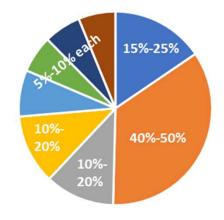
## Private Investment Fund

- The Private Investment Fund's market value represented approximately 10.9% of the total CRPTF value as of December 31, 2022, inclusive of cash balances.
  - The 2022 strategic asset allocation plan established a target allocation of 15% for private equity.
- Relative to targeted sub-strategy exposure ranges, the portfolio is underweighted to Small & Mid-Market Buyouts, Growth Equity, and Co-Investments.
  - Substantial YTD progress with continued build out of the PIF's Small & Mid-Market Buyouts exposure, with four commitments closed and one pending.
  - Inclusive of the recommended commitments to Secondary Overflow Fund V and Hg CT1, more than 25% of YTD recommended commitments provide the CRPTF with access to fee advantaged private equity investments.
- Tighter credit conditions along with mismatched buyer-seller valuation expectations have continued to dampen M&A transaction volumes, which were down 32% from Q1 2022 to Q1 2023 according to PitchBook.
- The recommended commitments to HarbourVest's Dover Street XI, Secondary Overflow Fund V, and Hg CT1 align strongly with key strategic objectives of deploying more capital with top-performing, high conviction managers
  - Additionally, Secondary Overflow Fund V and Hg CT1 offer enhanced net return potential through no fee, no carry structures.





#### **Targeted Exposure Ranges**



\*Estimated as of December 31, 2022; excludes PIF cash balances.



## Private Equity Investment Recommendations

Dover Street XI
\$175 Million Commitment

ጲ

Secondary Overflow Fund V \$175 Million Commitment

- Dover Street is HarbourVest's flagship private equity secondary investment strategy, which the firm has been executing successfully for more than three decades.
  - Secondary Overflow Fund V will invest alongside Dover XI in select secondary transactions that create overflow investment opportunities due to Dover XI's portfolio construction guidelines.
- The HarbourVest secondary strategy is led by a cohesive and tenured senior team that has developed expertise in complex and traditional secondary transactions.
  - The Dover team leverages the vast resources and relationships of the HarbourVest global platform to gain advantaged access and information to source and underwrite secondary opportunities.
- The recommended commitments provide the opportunity to tactically increase exposure to secondary markets exhibiting favorable conditions for investors, particularly those with Dover's significant and differentiated expertise.

Hg CT1 Co-Investment \$75 Million Commitment

- Hg is Europe's largest and most experienced private equity firm focused exclusively on software and tech-enabled services.
- The CRPTF committed \$75 million to Hg CT1 in 2021 to gain additional exposure to Hg transactions through no fee, no carry co-investments.
- The recommended increased Hg CT1 commitment would allow the CRPTF to build exposure to Europe's leading software and services private equity investment firm through an investor friendly structure.

## Private Equity Investment Recommendations

- Progress towards the 2023 PIF strategic pacing plan objectives is outlined below.
- The recommended SOF V and Hg CT1 commitments will be accessed through favorable no fee, no carry vehicles.
  - The Hg CT1commitment is shown in the table below by its underlying buyout exposure.

	PIF - 2023 Investment Activities & Summary Pacing Plan Targets																
\$Millions Sub-strategy																	
Pacing Plan Targets	Large/Me	ga Buyout	Small/Mid Buyout		Growth Equity		Venture Capital		<u>Secondaries</u>		<u>Mezzanine</u>		Distressed/Restructuring		<b>Co-Investments</b>		Total
Total Commitments	\$350	\$700	\$800	\$1,150	\$350	\$475	\$0	\$150	\$250	\$300	\$0	\$200	\$0	\$300	\$100	\$200	\$1,900
Commitment Size	\$200	\$300	\$200	\$300	\$150	\$200	\$0	\$150	\$150	\$200	\$0	\$200	\$0	\$150	\$100	\$200	
Number of Commitments	1	3	4	5	2	3	0	1	1	2	0	1	0	2	0	1	8 to 18
Investment / Status																	
Vista Equity Partners Fund VIII* - Closed	\$2	00															\$200
HarbourVest Co-Investment* - Closed															\$150		\$150
Vistria V - Closed			\$175														\$175
JFL VI - Closed			\$150														\$150
One Rock Capital IV - Closed			\$100														\$100
One Rock Emerald - Closed			\$.	50													\$50
K6 - Approved (Mar 8 IAC)			\$2	200													\$200
Dover XI - Recommendation									\$1	<i>75</i>							\$175
SOF V - Recommendation									\$1	75							\$175
Hg CT1 - Recommendation	\$7	'5															<i>\$75</i>
Capital Commitments	\$2	75	\$675		\$0		\$0		\$350		\$0		\$0		\$1	50	\$1,450
Number of Commitments	2	2	5			0		0 2			0	0		1		10	

<sup>\*</sup>Commitment amounts included in 2023 pacing plan although legal commitments closed in December 2022.



ERICK RUSSELL TREASURER SARAH SANDERS DEPUTY TREASURER

May 5, 2023

Members of the Investment Advisory Council ("IAC")

Re: Consideration of Grain Communications Opportunity Fund IV, L.P.

Dear Fellow IAC Member:

At the May 10, 2023, IAC meeting, I will present for your consideration an infrastructure and natural resources investment opportunity for the Connecticut Retirement Plans and Trust Funds (the "CRPTF"): Grain Communications Opportunity Fund IV, L.P. ("GCOF IV", or the "Fund"). GCOF IV has a target size of \$4 billion and is being raised by Grain Management, LLC ("Grain", or the "Firm").

I am considering a commitment of up to \$150 million in the Fund, which will seek to obtain opportunistic returns by operationally improving and growing both assets and companies in the communications sub sectors of fiber, spectrum, data centers, towers and related services. The Fund is primarily targeting North America with a limit of no more than 33% outside this geography. A Fund commitment would represent the CRPTF's second fund commitment with the Firm and provide the CRPTF with additional communications infrastructure exposure; a sector expected to have strong performance.

Attached for your review is the recommendation from Ted Wright, Chief Investment Officer, and the due diligence report prepared by Meketa. I look forward to discussing these materials at the next meeting.

Sincerely,

Erick Russell State Treasurer

9211



# Full Due Diligence Report Chief Investment Officer Recommendation May 8, 2023

Grain Communications Opportunity Fund IV, L.P.



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## **Executive Summary**

#### Manager Overview

- Manager/Parent Organization: Grain Management, LLC ("Grain", or the "Firm")
- Fund: Grain Communications Opportunity Fund IV, LP ( "GCOF IV" or the "Fund")
- General Partner: GCOF IV GP LLC, L.P, ("GP", or the "General Partner")
- Founded in 2007 by David Grain, a communications industry operator who, prior to Grain, was president of Global Signal Inc, ("GSL"), a U.S. owner and operator of cell towers.
- In addition to David Grain (Founder & CEO), seven senior investment management directors, with an average of 15 years of Communications industry experience, set strategy and serve on the investment committee. The Firm is also supported by a team of four senior advisors on retainer.
- Offices: Washington DC (HQ), New York, London, and Sarasota, Florida
- 70 total professionals including 32 in investments, and 38 across administration and operations
- AUM: \$7.9 billion as of December 2022

#### **Fund Summary**

- \$4 billion target, no formal hardcap yet but expected to be set at first close
- Control, or influence, equity positions in the communications industry. Primarily targeted sub-sectors include fiber, spectrum, data centers and towers. Additional sub-sectors include communication sites and related managed services.
- Global with no more than 33% of aggregate capital outside of North America. Historically, non-North America was 13.6%, and began with GCOF III.
- Return Targets: 25% Gross IRR, and 2.5x Gross MOIC
- GP Commit: 2%
- Term: 10 years from initial close, with (2) oneyear extensions, one per the GP, then one per the LPAC
- Management Fees: 2% during investment period on Committed capital, then post investment period, 2% on Invested capital (first close, size, and/or aggregate consultant discounts offered.)
- 20% carry, 8% preferred return, European Waterfall

#### Strategic Fit

- Infrastructure and Natural Resources ("INR") portfolio
- Recommended Commitment: \$150 million
- New/Existing INR Manager: Existing; CRPTF committed \$125 million in 2021, including \$75 million to Grain Communications Opportunity Fund III, LP ("GCOF III"), and \$50 million to Grain COF III Co-Invest ("GCOF III Co-Invest").
- Fund Structure: closed-end
- Infrastructure and Natural Resources Strategic Pacing Plan:
  - Sub-Strategy: Infrastructure
  - Risk/Return: Opportunistic
- Current Allocation by Market Value + Recent Commitments as of December 31, 2022: 3.3%
- Long-Term Infrastructure and Natural Resources Target Allocation: 7%



## Recommendation

#### Recommendation

- Based on the strategic fit within the Infrastructure portfolio, as well as the
  due diligence conducted by Pension Funds Management ("PFM")
  investment professionals and INR consultant Meketa, the Chief
  Investment Officer of the Connecticut Retirement Plans and Trust Funds
  ("CRPTF") recommends a commitment of up to \$150 million to the Grain
  Communications Opportunity Fund IV, LP strategy
- At a \$150 million total commitment, the CRPTF would be provided additional investment in the Communications infrastructure sub-sector to a high conviction manager/strategy

#### **Investment Considerations**

- Experienced senior leadership with deep industry expertise and relationships that enable access to the specialized Communications sector
- Higher return (Opportunistic) risk profile targeting growth opportunities across assets and operating companies that require significant investment to enhance operations
- Strong performance track record
- Disciplined approach to growing companies with stable and inflationresistant cash flows

## **General Partner**

#### Firm Intro/History

- Grain Management, established in 2007 by David Grain, is a privately held asset owner and operator investing exclusively in the communications industry, with a primary focus on the U.S. The Firm seeks to be a global solutions provider by building a private equity team comprised of former operators, regulators, consultants, engineers and bankers to create a differentiated approach to value creation in a sector that requires notable specialization.
- Prior to the Firm's founding, David Grain served as President of Global Signal, Inc. ("GSL"), where he led GSL through bankruptcy and grew the platform into one of the largest independent wireless communications tower companies in North America. GSL's footprint totaled over 13,000 sites covering all 50 states, Canada and the United Kingdom, prior to being sold to Crown Castle International, generating a 15x return of capital to private equity investors and 3.5x to IPO investors.

#### Firm Leadership

- After the successful monetization of GSL, David Grain, several venture capital firms and an endowment helped form Grain's
  first institutional fund, Grain Infrastructure Fund, L.P. ("GIF I"). GCOF IV represents the ninth institutional vehicle that the
  Firm has raised, with all prior funds having exclusively focused on the communications sector.
- The eight senior members on the Investment Committee ("IC") include David Grain and seven managing directors: Chad Crank, Michael McKenzie, Ted Manvitz, Raghav Nayar, Ricardo Rodriguez, Nikola Trkulia, and Jenny Kashdan. IC decisions require unanimous approval, with David Grain retaining veto rights.
- The Firm is owned and controlled entirely by its founder.

#### Senior Team

- Prior to joining Grain, Chad Crank was Head of TMT Investment Banking at Stephens Inc., advising on M&A and Capital Markets transactions. Michael McKenzie joined Grain in 2012 from the Federal Communications Commission, where he helped shape U.S communications and broadband policy.
- Ted Manvitz is a recent (post GCOF III) external hire and will focus on international investments. Prior to joining Grain, he
  served a variety of senior leadership positions in IHS Holding Limited (NYSE: IHS), a large international digital infrastructure
  owner and operator.
- Raghav Nayar, Ricardo Rodriguez, Nikola Trkulja and Jenny Kashdan were promoted over the course of 2022, and are
  responsible for deal origination, investment underwriting, deal structuring and asset/company financings. All previously
  spent several years at Morgan Stanley in various capital market, asset finance and/or investment banking roles.



# Grain Management Team

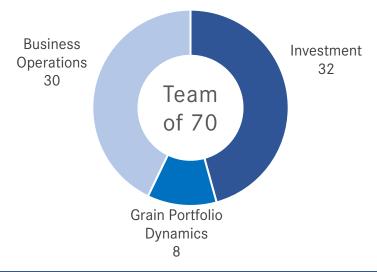
57% of personnel are from diverse populations

31% of personnel are women

Senior Investment Professionals						
Name	Title	Years with Firm	Total Years Experience			
David Grain	Founder & CEO	16	35			
Chad Crank	Managing Director	6	20			
Jenny Kashdan	Managing Director	4	12			
Ted Manvitz	Managing Director	1	27			
Michael McKenzie	Managing Director	11	27			
Raghav Nayar	Managing Director	6	13			
Ricardo Rodriguez	Managing Director	3	22			
Nikola Trkulja	Managing Director	7	12			

<sup>+ 24</sup> Principals, VPs and Associates

Business Operations Team Professionals						
Name	Title	Years with Firm	Total Years Experience			
Craig Phillips	Chief Operating & Growth Officer (Strategy & Research)	<1	39			
Kevin Naughton	Chief CFIR Officer (Capital Formation & Investor Relations)	1	22			
Tom Walker	Chief Financial Officer	1	23			
Letti de Little	Chief Compliance Officer	4	23			
Susannah Kennedy	HR Talent Business Partner	3	16			



Grain Portfolio Dynamics Group ("GPDG") Professionals						
Name	Title	Years with Firm	Total Years Experience			
Mark Fortin	Managing Director	<1	26			
Gerard Ashmore	Senior Vice President	<1	26			
Jeff Freyer	Senior Vice President	<1	25			
Arra Arkian	Vice President	<1	10			
Chris Bailey	Vice President	<1	30			
Marco Assis	Operating Partner, Conexão	<1	30			
Gary Gadson	Operating Partner, Summit Communications	<1	15			
Chris McKee	Operating Partner, Spectrotel	<1	20			

<sup>+ 4</sup> Senior Advisors (non-employee)

Grain Communications Opportunity Fund IV, L.P. May 2023

Sources: Grain, Meketa, CRPTF (data as of Feb. 2023)



# **Investment Strategy**

#### **Target Sub-Sector Definitions**

- Fiber provides the main data transport link between data centers, mobile service providers, countries and businesses.
- Spectrum refers to the radio frequencies grouped in "bands" on which wireless signals travel and enable mobile devices.
- Data centers are centralized "warehouses" for computing, data storage and networking equipment.
- Towers are vertical structures on which multiple tenants (typically Mobile Network Operators, "MNO") lease space to install their network
  equipment.
- Managed Service Providers ("MSP") deliver network, application, infrastructure and security, typically to businesses via ongoing contracts.
- Infrastructure Services provide construction and maintenance engineering staff and services to facilitate operations.

# Sector Selection and Target Investment Characteristics

- GCOF IV will continue the strategy of its predecessor funds, directly acquiring assets in the communications industry and/or control equity positions in operating companies that exhibit the same underlying fundamentals as infrastructure assets including high-barriers to entry, "sticky" customer relationships and mission-critical services.
- The Fund's primary objective is value creation through investments with stable and inflation-resistant cash flows, but with an emphasis on
  growth potential and operational improvements. Given, these targeted return characteristics, the sub-sector compositions of predecessor
  funds have held varying allocations to Fiber, Spectrum, Data Center, Tower and Service opportunities.
- Given the current market opportunity set, GCOF IV expects 75% of the portfolio to be in North America, with sub-sector targets of Fiber (40-50%), Spectrum (15-20%), data centers and towers (15%), MSP/ Infrastructure Services (15%), and the remainder allotted to opportunistic telecom investments. Opportunistic investments include buying entities divested from mergers, take private opportunities and similar situations expected to be bought to light from corporate restructurings and/or the current capital market dislocation.

## **Market Opportunity**

- Globally, communications continues to undergo change with the exponential growth of data consumption and fiber networks.
- Grain believes the opportunity in Fiber lies in Tier II/III North America markets and winning robust market share from lower quality
  incumbents by providing best-in-class network infrastructure and service quality. The opportunity in Spectrum lies with helping primarily
  North American carriers bridge their network capacity needs with the 5G transition. These categories are further supported by the
  passing of the Infrastructure Investment and Jobs Act ("IIJA").
- Grain views towers and data centers as prime non-North American opportunities as these markets remain fragmented relative to the U.S.,
   which previously underwent a consolidation cycle within these categories.
- MSP and Infrastructure Services are also driving global telecom growth and creating consolidation opportunities to satisfy customer needs for increasing, servicing and otherwise supporting these new and existing asset-intensive network buildouts.



# **Investment Strategy Continued**

## Origination

- Grain's investment sourcing emphasizes data-driven decision making, including econometric and geospatial modeling, generating ideas from existing portfolio assets, and discussions with wide-ranging senior industry participants to generate proprietary deal flow. This multi-pronged strategy leverages the Firm's industry experience with market analysis to determine which communications sub-sectors and geographies have the best risk-adjusted returns to target for current portfolio construction.
- The Fund targets a 25% gross IRR and 2.5x gross multiple with equity checks typically in the \$100 \$500 million range.
  Historically, average equity sizes at entry have been at the lower end of the range with an EV/EBITDA average at entry of
  about 11x (excluding bolt-on acquisitions). Overall, Grain pursues opportunities where they can partner and provide value
  to opportunities in a three- to eight-year hold period; towers, data centers, and spectrum tilt to the longer end of this hold
  period range.

#### Value Creation Strategy

- The Firm works to generate value by enhancing business processes, operations, and by assisting with overall growth. Grain employes a prudent leverage strategy, with 31% of the portfolio having no leverage at all, and of those with leverage, metrics averaged 3.9x Net Debt to EBITDA as of December 31, 2022.
- Value improvement approaches include revenue growth (organic and via tuck-in acquisitions), capital structure support, back-office improvements, and, where appropriate, the hiring of strong and financially-aligned management teams.
   Recently, Grain formally created an operations group, the Grain Portfolio Dynamics Group or (GPDG), which is comprised of persons retained and/or employed by Grain to provide services and expertise to its portfolio companies. GPDG was essentially created by bringing the firm, Communications Management, "in-house". Previously, Communications Management was an independent entity which almost exclusively serviced Grain's portfolio companies with similar services.

### Exits

- Before an investment is acquired and while negotiating the terms of a potential investment, Grain will consider the likely exit route and, when possible, pre-package the structural elements of the deal to facilitate such exits. Grain typically expects to exit each investment through a sale to a strategic or financial buyer or an initial public offering.
- Grain has fully exited six investments as of December 31, 2022, across all prior funds (excluding Spectrum-only special funds, which follow a different strategy than GCOF IV).

## Track Record and Performance

#### Grain Data as of December 31, 2022

- Below, PFM staff compared the 4Q2022 results of five prior institutional quality funds that had a similar diversified communications sub-sector strategy of GCOF IV to the Cambridge Associates Global Infrastructure closed-end fund benchmark as of 3Q2022. These prior funds were permitted to invest in towers/datacenters, fiber, spectrum, and services, and included GIF I, Grain Infrastructure Fund II, L.P. ("GIF II"), Grain Communications Opportunity Fund, L.P. ("GCOF I"), Grain Communications Opportunity Fund, II L.P. ("GCOF II"), and GCOF III. PFM staff elected to exclude the performance of the dedicated spectrum only, single asset vehicles of Grain Spectrum Holdings, L.P. (GSH II), Grain Spectrum Holdings III, L.P. (GSH III), despite their exceptional performance given their different strategy.
- As can be seen below, the prior funds are ranked first and second quartile on all relevant metrics, except for GCOF II's third quartile ranking on a DPI basis. GCOF II, a 2018 vintage, still has business plans underway given the inherent longer hold periods of these assets. PFM staff acknowledge that GIF I and GCOF III's benchmarks did not have a sufficiently large sample size for quartile rankings, therefore their performance was compared to the peer median results. GIF I outperformed the peer median, but GCOF III was below the median.
  PFM staff acknowledge that GCOF III is still investing capital and performance is not yet meaningful.
- No realized losses to date across all prior vehicles, and a total (realized + unrealized) loss ratio of 1.6% as of December 31, 2022, which is ultimately expected to recover.

_	Grain Management, LLC (millions, USD)													
	Vintage	Fund	Fund	#	Paid in	Realized	Unrealized	Total		Gross/Net		Quartile Rank	CPI+	Realized
Fund	Year	Size	Status	Deals	Capital	Value	Value	Value	TVM	IRR	DPI	TVM IRR DPI	400	Loss Ratio
GIF I <sup>1</sup>	2011	\$109	Fully Realized	1	\$51	\$114	-	\$114	2.2x / 1.7x	39.0% / 25.8%	2.2x / 1.7x	A A A	6.55%	0%
GIF II	2013	\$263	Largely Realized	4	\$273	\$481	\$52	\$533	2.0x / 1.6x	23.1% / 15.8%	1.8x / 1.4x	2 1 1	6.54%	0%
GCOF I	2016	\$328	Harvesting	3	\$329	\$99	\$857	\$956	2.9x / 2.5x	20.5% / 17.5%	0.3x / 0.2x	1 1 2	7.17%	0%
GCOF II	2018	\$1,138	Invested	5	\$795	\$0	\$1,575	\$1,576	2.0x / 1.6x	30.7% / 21.4%	0.0x / 0.0x	2 1 3	7.77%	0%
GCOF III <sup>1</sup>	2021	\$2,311	Investing	5	\$1,182	\$3	\$1,171	\$1,174	1.0x / 0.9x	-0.8% / -10.5%	0.0x / 0.0x	в в в	10.75%	0%
Total		\$4,149		18	\$2,630	\$697	\$3,655	\$4,353						

Source: Grain, Meketa, CRPTF, Cambridge Associates Infrastructure (USD). Quartile Rank based on net returns and as of Sept. 30, 2022 (latest available).

1. Sample size too small for quartiles, "A" denoted above sample median, "B" denotes below sample median



# Strategic Pacing Plan

GCOF IV

- The recommended commitment would be categorized as a Non-Core Infrastructure investment within the Infrastructure and Natural Resources ("INR") allocation.
- The Investment Policy Statement ("IPS"), adopted September 14, 2022, sets an allocation range of 0-80% for Non-Core Infrastructure investments within the INR portfolio.
- The current PFM target for Non-Core Infrastructure is 50%.

A commitment to GCOF IV would be aligned with the RAF strategic pacing plan objectives:

- Commitment increases exposure to Infrastructure asset class:
  - Current CRPTF policy targets total exposure to Infrastructure and Natural Resources to be 7.0%
  - As of December 31, 2022, the CRPTF's total allocation by market value to Infrastructure and Natural Resources was 1.9%; current exposure, including commitments and recently approved investments, is 5.1%.
- Advances the goal of forming significant relationships with strong managers as the CRPTF builds out its INR sleeve- GCOF IV would be the second investment for the CRPTF with the manager

# Strategic Allocation and Pacing Plan (cont.)

- RAF's Infrastructure and Natural Resources (INR) 2023 pacing plan targets and investment activity to date is summarized below.
  - GCOF IV would represent the third potential investment for the 2023 pacing period.

INR - 2023 Pacing Plan Targets									
				Sub-Str	ategy				
	Core Infra	structure	Non-core Ir	nfrastructure	Natural	Resources	INR Co-in	vestment	
(\$millions, USD)	<u>Low</u>	<u>High</u>	Low	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Total</u>
Total Commitments	<b>\$0</b>	\$200	\$200	\$300	\$0	\$200	\$100	\$150	\$850
Commitment Size	\$100	\$200	\$100	\$250	\$75	\$150	\$75	\$150	
# Commitments	0	2	2	3	1	2	1	2	4 to 9
Investment / Status									<u>Total</u>
MSIM exp (Series 2 & 3) - Closed							\$1	.50	\$150
GIP V - Closed			\$2	200					\$200
GCOF IV - Recommendation			\$1	.50					\$150
Capital Commitments YTD	\$	0	\$3	350	,	\$0	\$1	.50	\$500
# Commitments	(	)		2		0		1	3
Total Remaining per Pacing Plan <sup>1</sup>	\$2	00	(\$	50)	\$2	200	\$	0	\$350

<sup>&</sup>lt;sup>1</sup> Total remaining commitments based on high end of the 2023 pacing plan for each sub-category.

# Strengths and Rationale

# Strong and Experienced Team with Technical Expertise

- Grain is led by a strong and stable senior team with extensive industry experience. The Firm's IC averages 21 years of total
  investment experience, of which 15 is within Communications. The IC has complementary skillsets, broad operating
  capabilities, regulatory experience and structuring capabilities, which Grain believes drives a differentiated approach to
  value creation. Additionally, the Firm's network of industry leaders and deep operational talent pool support the portfolio
  and create sourcing and diligence advantages.
- The senior investment team has had no turnover and demonstrated the ability to deploy capital in profitable investments across various sectors and through changing market dynamics. Grain's team continues to grow with key external senior hires and internal promotions.

### Strong Track Record

- Grain is an experienced communications investor and as noted in the performance section, the Firm has exhibited strong historical performance across prior funds, generating a gross IRR of 28.4% and 1.7x MOIC as of December 31, 2022, and a realized loss ratio of 0%.
- Realized performance across all prior funds resulted in a gross 46.8% IRR and 2.4x MOIC and was above the Firm's stated
  investment return targets.

# Favorable Macroeconomic Tailwinds

- Grain focuses exclusively on investments in broadband and communications assets and operating companies, a sector
  which is bolstered by secular growth trends, while still containing market inefficiencies resulting from that rapid growth.
  The sector has a supply/demand imbalance given increasing demand for broadband coverage, penetration, capacity, and
  quality which provides more growth-oriented returns for investors. At the same time, high-speed broadband connectivity
  has proved to be essential to daily life, and provides investors resilience with long-term, contractual cash flows and
  fundamental demand.
- Global data creation and replication is projected to experience a compound annual growth rate of 23% from 2020 through 2025. Over the same period, the installed base of global storage capacity is expected to more than double from 6.7 zettabytes in 2020 to 16 zettabytes in 2025. The demand to store and share this data has grown for years, and Grain believes will remain so for the foreseeable future.



# Key Risks and Mitigants

Growth in Fund size, and Expansion into Services

- GCOF IV's \$4 billion target size is a significant increase over prior fund sizes, and about 75% larger than GCOF III. Given the increasingly competitive infrastructure landscape, identifying sufficient relationship-driven opportunities may be a challenge. In addition, this increase in size could create pressure to drift from their traditional infrastructure focus.
- Despite the increase in fund size, Grain has remained discipled with its stated target communications sector and returns. The Firm's deep emphasis on sub-sector market research and track record within each prior fund demonstrates their investment focus. PFM acknowledges that while the Firm has expanded its sub-sector focuses into Services starting with GCOF III, it has done so on a measured and disciplined basis. The Firm utilized its deep research to begin targeting infrastructure and managed services investments that specifically exhibit many of the same characteristics as traditional communications infrastructure. Overall, GCOF IV expects to build a portfolio with about 15% committed to Services. Finally, PFM staff will be granted an LPAC seat and will monitor the trajectory of portfolio construction.

Unrealized track record

- Across the five prior funds with a similar strategy as GCOF IV, 84% of the portfolio (\$3.7 billion) remains unrealized.
   Additionally, GCOF III is essentially fully unrealized and is still investing capital. The process of realizing these investments will require significant time and resources of staff.
- This concern is somewhat offset by the growth in size of the Firm's staffing. When the CRPTF invested in GCOF III, Grain
  employed a total staff of 40 vs. the 70 the Firm employs today with the raising of GCOF IV. Further, while the unrealized
  portfolio is large, it is concentrated across 12 investments which can readily be serviced by the growth in the Firm's
  employee base.

Non-North American Market Investment Potential

- Despite having the ability to invest outside North America in prior funds (up to 15% in GCOF I and GCOF II), Grain's first non-North American investment was made in GCOF III (up to 33% non-North America permitted in GCOF III and GCOF IV). Given Grain's strategy of targeting communications opportunities in fragmented industries, the Firm re-emphasized their non-North American opportunities given higher competition in North America, and potential for higher risk adjusted returns other markets. This recent international expansion might raise concerns around international capabilities/resources and impacts from currency and geopolitics.
- This concern is mitigated with Grain's disciplined hiring of senior professionals with experience in international communications markets including Ted Manvitz (Managing Director and IC member) to lead international investments and Adam Pickard (Principal), who also previously worked for Ted Manvitz. With regards to currency risk, Grain hedges to the extent possible, including equity invested and expected cashflows.



# Fundraising and Key Terms Summary

Target Size / Hard Cap	\$ 4.0 billion / hard cap anticipated by first close
GP Commitment	Lesser of \$80 million or 2% of aggregate commitments
Fundraising Status	First close expected in 2Q2023 (the CRPTF expects to be part of it)
Target Final Close	• 402023/102024
Fund Term	• 10 years, with a one-year extension per the GP, and a subsequent one-year extension per the LPAC
Investment Period	5 years from initial closing
Management Fee	Investment Period: 2% on committed, Post Investment Period: 2% on invested capital
Fee Discounts & Offsets	Mgt Fee discounts based on timing and sizing
Carry & Waterfall Type	20%, European Waterfall
Preferred Return	• 8%
GP Catch-up	• 70%
Clawback	• Yes
LPAC	• Yes
GP Catch-up Clawback	<ul><li>70%</li><li>Yes</li></ul>

## **Additional Provisions**

- Delaware Limited Partnership
- Structure for US State Pension Plans: Grain Communications Opportunity Fund IV-A, L.P.
- Fund may not invest more than 20% of aggregate commitments in a single portfolio Company
- Fund may not invest more than 33% of aggregate commitments outside of North America
- Total amount of bridge financings may not exceed 25% of aggregate commitments
- Fund level debt may not exceed 25% of aggregate commitments

# Legal and Regulatory Disclosure

#### **Grain Management LLC**

• In its disclosure to the Office of the Treasurer, Grain Management, LLC ("Grain"), states that it has no material legal or administrative proceedings to report, no claims under its fidelity, fiduciary or E&O insurance policies, and no ongoing internal investigations to report. Grain states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors.



# Compliance Review

Grain Management LLC ("Grain")

### **Compliance Certifications and Disclosures**

Grain disclosed no campaign contributions, known conflicts or third-party fees.

### **Commitment to Diversity**

Grain is 100% Black male owned. Owner, CEO and Founder is David Grain. The 8-member investment committee is 13% female and 75% minority (Black, Hispanic and Asian). 25% of the investment committee holds veteran status.

Employees – The firm reports a strong focus on promotions of female and minority leaders. Accordingly, this year, the firm promoted its first female Managing Director. In addition, the firm plans to roll out additional training and DEI initiatives in 2023.

Industry – The firm sponsors SEO, Toigo Foundation and Year Up (focused on under and unemployed young adults in the Washington DC area). The firm has been a longstanding member of NAIC. In addition, Grain supports other industry initiatives such as the Diligent Corporation for Modern Leadership (committing to increased visibility and transparency in portfolio company boards and senior management teams), the ESG Data Convergence Initiative (which includes collecting diversity metrics for portfolio company boards and senior management teams) and the EDISON Alliance (a global partnership launched by the World Economic Forum dedicated to expanding access to technologies that connect the world).

Vendors – The firm does have a formal Procurement Diversity Policy which seeks to identify and expand its network of small and diverse vendors and purchasing partners. Diverse includes: minority, women, veteran (including service-disabled veterans), LGBT, disadvantaged, historically underutilized business zones and other businesses classified as small business.

#### **Nexus to Connecticut**

The firm reports one employee who resides and words in the state of Connecticut.



# Compliance Review

Grain Management LLC ("Grain")

## **Workforce Diversity**

### Grain provided data as of April 3, 2023

- Grain is 100% Black male-owned
- The firm reports a total of 70 employees, up 35% since 2021

## For the three-year reporting period

• The proportion of women and minorities at all levels in the firm have dropped, in some areas quite significantly (see female managers). While the absolute numbers of women and minorities at the firm has grown, the downward trend of percentage appears to be largely driven by the significant growth in overall numbers.

### **WOMEN**

	EXEC	MGMT	PROF	FIRM
2023	32%	30%	26%	34%
2023	7 of 22	11 of 37	7 of 27	24 of 70
2022	22%	28%	21%	32%
2022	4 of 22	9 of 32	6 of 28	21 of 66
2021	38%	45%	32%	42%
2021	5 of 13	9 of 20	9 of 28	22 of 52

#### MINORITIES 1

	EXEC	MGMT	PROF	FIRM
2023	36%	41%	33%	36%
2023	8 of 22	15 of 37	9 of 27	25 of 70
2022	44%	44%	32%	36%
2022	8 of 18	14 of 32	9 of 28	24 of 66
2021	46%	45%	39%	42%
2021	6 of 13	9 of 20	11 of 28	22 of 52

<sup>&</sup>lt;sup>1</sup> 2023 Minority breakdown: 8 exec (4 Black, 1 Hispanic, 3 Asian); 15 mgmt (4 Black, 2 Hispanic, 8 Asian, 1 Two+); 9 prof (2 Black, 3 Hispanic, 4 Asian)



## Overall Assessment: Evaluation and Implementation of Sustainable Principles

Grain's disclosure described a solid integration of ESG risks into the firm's investment processes. The firm employs its ESG policy that guides its investment due diligence process. The policy emphasizes the consideration of factors that align with the Sustainability Accounting Standard Board (SASB)'s sustainability accounting standards and the UN Sustainable Development Goals. Grain is not a signatory to the UN PRI but uses the framework as a guide for its investment processes. The firm is, however, a member of the ESG Data Convergence Initiative. Grain's CCO and Director are charged with implementing and maintaining the ESG policies and research. The firm supports staff attendance of ESG conferences to help keep abreast of ESG issues.

Grain does not have a formal policy with respect to civilian firearms retailers or manufacturers, given that it does not have any such vendor relationships.

Overall, the disclosure reflected meaningful ESG integration, with room for improvement with respect to participation in ESG initiatives outside the firm

**SCORE** 

7

Criteria	Response
Firm has an ESG policy	Yes
If Yes, firm described its ESG policy	Yes
If Yes, firm provided examples of ESG factors considered in the decision-making process, explained the financial impact of these ESG factors	Yes
Designated staff responsible for sustainability policies and research	Yes
Firm provides training/resources on sustainability issues, explained sources of ESG-related data	Yes
Signatory/member of sustainability-related initiatives or groups	No*
Policy for evaluating current or prospective relationships with manufacturers or retailers of civilian firearms	Yes

	Criteria	Response
	Policy that requires safe and responsible use, ownership or production of guns	No*
	Enhanced screening of manufacturers or retailers of civilian firearms	No*
	Enhance screening of any industry/sector subject to increased regulatory oversight, potential adverse social and/or environmental impact	Yes
	Merchant credit relationship with retailers of civilian firearms and accessories	No*
	If Yes, firm confirms compliance with laws governing firearms sales	N/A

<sup>\*</sup>No, given that the firm does not invest in civilian firearms manufacturers or distributors.



## **Private Markets Investment Memorandum**

Grain Communications
Opportunity Fund IV, L.P.

February 24, 2023



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Private Markets Investment Memorandum

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## **Executive Summary**

### **Diligence Process**

Meketa Investment Group ("Meketa") initiated a formal evaluation of Grain Communications Opportunity Fund IV, L.P. ("Fund IV", "GCOF IV", or the "Fund") in January 2023. We conducted a thorough review of the Fund's offering materials and other supporting documentation, including the Limited Partnership Agreement, other data room content, and the Manager's response to Meketa's Due Diligence Questionnaire. Meketa held two virtual investment due diligence sessions with key members of the Grain Management ("Grain" or the "Manager") team on January 31 and February 1, 2023. The purpose of these meetings was to perform a deeper evaluation of the Firm's growth, fund strategy, and resources. Meketa has previously underwritten GCOF II and III in 2018 and 2021, respectively, and completed in person on-site due diligence in prior funds.

Fund IV is targeting \$4.0 billion in commitments and no hard cap has yet been set. The Manager intends to hold a first close in the second quarter of 2023, with subsequent closings to be held throughout 2023. The target fund size represents a measured increase over the total commitments of GCOF III. However, it is worth noting that the lack of a formal hard cap may lead to the Fund securing aggregate commitments in an amount substantially greater than those of GCOF III.

### Manager Background

Fund Name	Manager	Office Location(s)	Target Market	Target Geography
Grain Communications Opportunity Fund IV	Grain Management	Washington DC (HQ), New York, Sarasota	Opportunistic Digital Infrastructure	Global

David Grain formed Grain Management ("Grain") in 2007, after previously serving as President of Global Signal, an owner and operator of cell towers and other communications sites. In 2006, Crown Castle International acquired Global Signal, giving Mr. Grain the opportunity and capital with which to form his own investment platform. Mr. Grain first identified an opportunity to acquire and create value through the aggregation of communications assets with a focus on macro towers. The original portfolio of communication tower assets was held under the entity Grain Communications Group, Inc. ("GCGI"). GCGI acquired over 50 tower assets from 2007 until 2011. GCGI would eventually become the initial investment for Grain Infrastructure Fund ("GIF") by acquiring 100% of the outstanding shares of GCGI. The assets were purchased for a net equity value, determined by an independent appraisal by RBC, and transferred to Grain Infrastructure Fund's REIT portfolio. During this period prior to raising Grain's first fund, Mr. Grain continued to be the key to the Firm's success, while he grew Grain's investment and management capabilities by recruiting an experienced team to complement his skills and industry relationships.



Grain raised its first institutional vehicle, GIF, in 2011 with aggregate commitments of \$109 million to invest exclusively in macro cell tower consolidation deals. Grain followed this in 2012 by raising \$263 million for GIF II, which continued to focus on macro tower investments, as well as some spectrum deals on an opportunistic basis. In 2013, Grain launched Grain Spectrum Holdings ("GSH") to participate in wireless spectrum auctions and has raised three additional GSH funds since then. Grain has since rebranded its diversified investment vehicles as Grain Communications Opportunity Funds ("GCOF") to better reflect their sector focus and raised Grain Communications Opportunity Fund II (\$899 million) in 2018 and Grain Communications Opportunity Fund III (\$2.3 billion) in 2021.

### **Offering Terms**

Fund Size	Management Fee <sup>1</sup>	Carry and Carry Structure	Preferred Return	Fee Income	Inv. Period and Total Term
\$4 billion	2%	20%; whole-fund	8%	100% off-set	5 and 10 years

### Strategy

Grain Communications Opportunity Fund IV will make investments across several fast-growing communications infrastructure sub-sectors, including fiber, spectrum, towers and communication sites, managed services, infrastructure services, data centers and other tactical sectors within telecom. The Firm has demonstrated the ability to shift its relative focus across sub-sectors as its view of the optimal risk adjusted returns changes, while maintaining a disciplined approach to targeting markets and assets. Fund IV will target a portfolio comprising roughly 15% data centers and cell towers, 40% to 50% fiber, 15% services, 15% to 20% spectrum, with the remainder invested opportunistically. For any given fund, Grain's investment model aims to identify opportunities that have the following characteristics: recurring revenue; mission-critical services; low correlation to market cycles; and high barriers to entry. Fund IV's asset mix will seek to build a portfolio that is diversified across these business characteristics, with each sub-sector having different cash flow and risk-return targets.

Grain's approach to portfolio construction is intended to establish a broad and diverse package of cash flows and ultimately, limit downside risk. While the Fund has the ability to invest up to 33% of capital outside of North America, Grain expects the Fund to reach 20 to 25% non-U.S. exposure. Investments in data centers and towers (expected to be 15% of portfolio) will likely be non-U.S. opportunities, specifically in Canada and Europe, given the compression of cap rates domestically and increased growth rate and fragmentation of foreign markets. GCOF IV is expected to make between eight and 12 portfolio investments ranging from \$100 million to \$300 million in individual size. GCOF IV will target a 25% gross IRR and 2.5x gross multiple at the fund level, with individual asset's targets varying as described above.

<sup>1</sup> Grain expects to offer a first close discount and the GP also expects to offer an aggregate consultant discount based on commitment size.



#### Track Record

### Grain Flagship Funds As of September 30, 2022

Fund	Vintage Year	Invested (\$M)	Realized Value (\$M)	Total Value (\$M)	Net Multiple (X)	Net IRR (%)	DJBAI PME <sup>2</sup> (%)
GIF I	2011	51.1	114.0	114.0	1.6	25.8	12.4
GIF II	2012	273.1	481.0	537.9	1.5	16.0	6.1
GCOF	2016	329.3	98.4	1,028.0	2.7	19.8	0.7
GCOF II	2018	771.3	0.4	1,407.0	1.5	19.7	1.5
GCOF III	2021	1,172.9	3.0	1,126.1	0.9	NM	NM
Total		2,597.8	696.8	4,213.1	1.4	16.0	1.2

### **Investment Analysis**

#### **Strengths**

- → Strong Historical Track Record Since its inception, Grain has consistently produced strong returns with a net return of 16.0% across five flagship funds. The Firm also maintains a zero realized loss ratio.
- → Experienced and Stable Senior Investment Team Grain has experienced no departures from the senior investment team level and continues to strengthen its leadership through promotions and strategic hires.
- → Evolving Strategy within Digital Infrastructure Grain takes a systematic approach to identifying trends and opportunities across the digital infrastructure ecosystem. This has resulted in Grain being a market leader initially in towers and then expanding into spectrum, fiber, and, more recently, services.
- → Multi-Channel Sourcing and Deep Network Connections Grain's team is exclusively focused on digital infrastructure and the Managing Directors average over 20 years of investment industry experience.
- → Corporate Diversity Grain is a 100% minority-owned firm and has significant racial and gender diversity among its team, including its senior advisors.

<sup>&</sup>lt;sup>2</sup> Dow Jones Brookfield Americas Infrastructure Index (DJBAI)



#### Weaknesses

- → Unproven Track Record Outside the U.S. Grain has completed just one investment outside of North America. The company is still in its development stage as Grain has worked on centralizing the company's operations and initiating its expansion plans.
- → **Limited Realizations in GCOF II and III** Grain has not fully exited any investments in the most recent two flagship funds which are mostly comprised of the fiber and service companies.

#### **Opportunities**

- → Increasing Sophistication of Communication Technology With each generation of digital infrastructure technology, network deployment continues to become more complex. Specialized firms with in-house service capabilities become critical to supporting communications companies.
- → **Data Centers** The large annual expected growth of internet protocol ("IP") data usage will increase the need for data centers globally. Another critical demand for data centers is the shift by businesses to outsource data to the cloud.
- → Continued Fiber Demand Fiber remains the anchor for high bandwidth uses. As the demand continues to grow year over year for digital infrastructure, additional fiber opportunities in Tier II/III markets are expected to increase.

#### **Threats**

- → Increasing Competition Grain continues to face growing competition in the digital space from infrastructure, private equity, and real estate managers. Many lack the experience or networks within the sector, but the increased investor demand could result in higher entry points and lower returns.
- → Technology Disruption GCOF IV's strategy involves technology innovation and evolution in the communications sector. It is possible the sector could evolve in ways that would erode the future value of the Fund's investments in ways or at levels not contemplated.
- → **Regulatory Changes** Regulatory changes must be monitored as the industry evolves. Control over spectrum bands that will be released or retained by the SEC impacts Grain's investment opportunities. Also, the amount of funding approved to expand broadband within schools or other public buildings will impact fiber companies.





#### Conclusion

GCOF IV represents an attractive opportunity to commit capital to an experienced investment manager focused on the high growth communications infrastructure sector. Grain continues to show the ability to shift its focus to pursue sub-sectors in fragmented markets with disconnected valuations. Grain has identified fiber, data centers, cell towers, services, and spectrum as having the desired characteristics of recurring revenue, mission-critical services, low correlation to market cycles, and high barriers to entry. Grain's strengths include its strong historical track record, experienced senior investment team, ability to source proprietary transactions through its deep network, and corporate diversity. Key considerations are the unproven non-U.S. track record, and limited realizations in the prior two funds.



## **Investment Strategy**

Grain Communications Opportunity Fund IV will make investments across several fast-growing communications infrastructure sub-sectors, including fiber, spectrum, towers and communication sites, managed services, infrastructure services, data centers and other tactical sectors within telecom. The Firm has demonstrated the ability to shift its relative focus across sub-sectors as its view of the optimal risk adjusted returns changes, while maintaining a disciplined approach to targeting markets and assets. Fund IV will target a portfolio comprising of roughly 15% data centers and cell towers, 40% to 50% fiber, 15% services, 15% to 20% spectrum, with the remainder invested opportunistically. For any given fund, Grain's investment model aims to identify opportunities that have the following characteristics: recurring revenue; mission-critical services; low correlation to market cycles; and high barriers to entry. Fund IV's asset mix will seek to build a portfolio that is diversified across these business characteristics, with each sub-sector having different cash flow and risk-return targets, as outlined below.

- → **Fiber** Fiber optic cables provide high speed data transfer to the home, enterprise, and to mobile networks. Grain will focus on fiber buildout in Tier II and III markets where there is fragmentation and less competition from national players. Tier I markets include cities such as New York City and Los Angeles, while Tier II and III include cities such as Tampa, Raleigh, and Austin.
- → Data Centers and Cell Towers Cell towers are critical to the deployment and evolution of mobile networks. Data Centers act as centralized warehouses for computing, data storage and networking equipment. Data center demand is expected to grow alongside data consumption, particularly with edge data centers which are more localized and provide faster and more reliable connectivity. Cell tower and data center investments are expected to generate predictable and contractual cash flows, derived from "sticky" customer relationships.
- → **Services** Grain will target investments in supply chain services, engineering, architecture, planning, and third-party managing enterprise services. Services businesses tend to operate at high margins and have pass-through pricing power.
- → Spectrum Spectrum refers to the different bands of radio frequencies that enable communication between mobile devices. Spectrum is a core component of wireless communication, yet the resource is finite and new spectrum licenses are acquired via auction from government bodies who oversee the allocation. Grain aims to bid on licenses that can be acquired for attractive risk-return profiles.
- → **Tactical** Within the opportunistic sleeve, Grain currently sees corporate carve-out and takeprivate opportunities of medium sized companies as attractive potential investments.

Grain's approach to portfolio construction is intended to establish a broad and diverse package of cash flows and ultimately, limit downside risk. While the Fund has the ability to invest up to 33% of capital outside of North America., Grain expects the Fund to reach 20 to 25% non-U.S. exposure. Investments





in data centers and towers (expected to be 15% of portfolio) will likely be non-U.S. opportunities, specifically in Canada and Europe, given the compression of cap rates domestically and increased growth rate and fragmentation of foreign markets.

GCOF IV is expected to make between eight and 12 portfolio investments ranging from \$100 million to \$300 million in individual size, although Grain may consider opportunities outside of this range. GCOF IV will target a 25% gross IRR and 2.5x gross multiple at the fund level, with individual asset's targets varying.

The primary exit strategy for GCOF IV investments is expected to be through a public offering or strategic sale of combined or individual companies. The key to either exit type is developing the assets for counterparties/tenants, establishing long-term leases, and maintaining a sustainable growth rate. At that point, Grain assesses the strength of the public market, potential acquirers, and timing of the market cycle to determine the best exit path.

### **Grain Communication Opportunity Fund IV Pipeline**

GCOF IV has a robust pipeline of nearly \$12 billion in potential investment opportunities across their target sectors. The 26 pipeline deals include 16 North American and 10 international investments.



## Manager Background

David Grain formed Grain Management ("Grain") in 2007, after previously serving as President of Global Signal, an owner and operator of cell towers and other communications sites. Mr. Grain was originally hired in 2002 by private equity investors to lead Pinnacle Towers out of bankruptcy, which he successfully accomplished. Pinnacle Towers was renamed Global Signal and the firm became one of the largest wireless communication tower companies in North America. In 2006, Crown Castle International acquired Global Signal, giving Mr. Grain the opportunity and capital to form his own investment platform.

Mr. Grain first identified an opportunity to acquire and create value through the aggregation of communications assets with a focus on macro towers. The original portfolio of communication tower assets was held under the entity Grain Communications Group, Inc. ("GCGI") and was funded primarily by Mr. Grain, a university endowment, and three venture capital firms. With this capital, GCGI acquired over 50 tower assets from 2007 until 2011. GCGI would eventually become the initial investment for Grain Infrastructure Fund ("GIF") by acquiring 100% of the outstanding shares of GCGI, of which Mr. Grain and other members of the investment team owned approximately 34%, and the remainder was owned by the other investors. The assets were purchased for a net equity value determined by an independent appraisal by RBC, and transferred to Grain Infrastructure Fund's REIT portfolio. During this period prior to raising Grain's first fund, Mr. Grain continued to be the key to the Firm's success while he grew Grain's investment and management capabilities by recruiting an experienced team to complement his skills and contacts.

Grain raised its first institutional vehicle, GIF, in 2011 with aggregate commitments of \$109 million to invest exclusively in macro cell tower consolidation deals. Grain followed this in 2012 by raising \$263 million for GIF II, which continued to focus on macro tower investments, as well as some spectrum deals on an opportunistic basis. In 2013, Grain launched Grain Spectrum Holdings ("GSH") to participate in wireless spectrum auctions. Grain has since rebranded its diversified investment vehicles as Grain Communications Opportunity Funds ("GCOF") to better reflect their sector focus, and Grain continues to raise capital under the GCOF and GSH strategies, as outlined below.

Fund	Vintage	Size (\$M)
Grain Communications Opportunity Fund ("GCOF")	2016	349
Grain Communications Opportunity Fund II ("GCOF II")	2018	899
Grain Spectrum Holdings III ("GSH III")	2020	1,500
Grain Communications Opportunity Fund III ("GCOF III")	2021	2,300
Grain Spectrum Holdings IV ("GSH IV")	2021	676



## **Investment Resources and Experience**

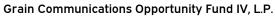
Grain directly employs a team of 68 professionals, located across four offices in Washington, DC (headquarters), New York City, Sarasota, Florida, and London. Led by Founder and CEO David Grain, the investment team totals 32 investment professionals and includes eight Managing Directors, two Principals, five Vice Presidents, seven Senior Associates, and 10 Associates.

In 2022, Grain established Grain Portfolio Dynamics Group ("GPDG"), which is an in-house group dedicated to supporting Grain's investment teams and portfolio companies through sustained operational execution and improvement. Previously, this team comprised Communications Management, an outside firm Grain contracted with to perform the same services exclusively to Grain. With the continued growth of Grain, the management team felt these services would be more efficiently provided and integrated with other activities by formally bringing them in house. GPDG looks to add value to the portfolio companies through operations, finance, talent recruitment, and ESG initiatives. The team is led by Managing Director Mark Fortin and is supported with two Senior Vice Presidents and two Vice Presidents.

The investment team and GPDG are supported by 23 administration, operations, and finance professionals. Managing Director and Chief Operating and Growth Officer, Craig Phillips, manages the firm's day-to-day operations. He also is responsible for developing the systems and infrastructure required to scale Grain and expand the investment impact. Grain's capital formation and investor relations team is led by Managing Director, Kevin Naughton, and includes eight professionals. Grain has a bench of four senior advisors, engaged via retainer.

#### **Investment Professionals**

Name	Title	Years at Manager	Total Years' Experience	Relevant Experience/Degree
David Grain	Founder, CEO	16	35	<ul> <li>→ President, Global Signal</li> <li>→ Senior Vice President, AT&amp;T Broadband's New England Region</li> <li>→ MBA Dartmouth College; BA Holy Cross</li> </ul>
Michael McKenzie	Managing Director	11	27	<ul> <li>→ Top positions, U.S. Federal Communications         Commission</li> <li>→ Executive, Microsoft Corp.</li> <li>→ JD Harvard Law School;         BA University of Virginia</li> </ul>





Private Markets Investment Memorandum Investment Resources and Experience

Name	Title	Years at Manager	Total Years' Experience	Relevant Experience/Degree
Chad Crank	Managing Director	6	20	<ul> <li>→ Head of Technology, Media, and Telecom Investment Banking, Stephens, Inc.</li> <li>→ Strategic Planning, Alltel</li> <li>→ MBA Northwestern University; Graduate degree in Economic Policy Harvard University; Graduate degree in Engineering Northwestern University; U.S. Military Academy at West Point</li> </ul>
Ted Manvizt	Managing Director	1	27	<ul> <li>→ COO, IHS Holdings Limited</li> <li>→ MBA Indiana University; JD University of Iowa, BA</li> <li>Avila University</li> </ul>
Raghav Nayar	Managing Director	6	13	<ul> <li>→ Vice President, Morgan Stanley</li> <li>→ MS Johns Hopkins University; Bachelor of Technology Thapar University</li> </ul>
Nikola Trkulja	Managing Director	7	12	<ul> <li>→ Member of Asset Finance Team, Morgan Stanley</li> <li>→ BA Vassar College</li> </ul>
Ricardo Rodriguez	Managing Director	3	22	<ul> <li>→ President &amp; CEO Spirit MTA REIT</li> <li>→ Global Capital Markets, Morgan Stanley</li> <li>→ BS United States Naval Academy</li> </ul>
Jenny Kashdan	Managing Director	4	12	<ul><li>→ Vice President Morgan Stanley</li><li>→ BS Cornell University</li></ul>
Abbas Hasan	Principal	<1	22	<ul> <li>→ Principal, H.I.G. Capital</li> <li>→ Principal, Lazard Alternative Investments</li> <li>→ MBA Columbia Business School, BS University of Pennsylvania</li> </ul>
Adam Pickard	Principal	<1	13	<ul> <li>→ Director, IHS Holding Limited</li> <li>→ MSc University of Edinburgh, BC University of Stellenbosch</li> </ul>
Diya Berger	Vice President	3	10	<ul> <li>→ Senior Capital Markets Analyst, LendingClub</li> <li>→ Senior Analyst, Morgan Stanley</li> <li>→ MBA University of Chicago, BA University of Pennsylvania</li> </ul>
Tanner Goode	Vice President	3	9	<ul><li>→ Engagement Manager, Atlantic-ACM</li><li>→ BA Boston College</li></ul>
Sida He	Vice President	5	7	<ul><li>→ Analyst, Moelis &amp; Company</li><li>→ BA Cornell University</li></ul>
Arya Heidari	Vice President	2	7	<ul> <li>→ Vice President, Morgan Stanley</li> <li>→ MBA New York University, BS Boston University</li> </ul>
Jeff Zhou	Vice President	3	14	<ul> <li>→ Vice President Morgan Stanley</li> <li>→ BS Fudan University</li> <li>→ MS Texas A&amp;M University</li> <li>→ MBA Dartmouth College</li> </ul>



Private Markets Investment Memorandum Investment Resources and Experience

## Portfolio Dynamics Group Professionals

Name	Title	Years at Manager	Total Years' Experience	Relevant Experience/Degree
Mark Fortin	Managing Director	<1	26	<ul> <li>→ CEO and Founder, Communications         Management</li> <li>→ CFO, The CCS Companies</li> <li>→ MBA and BS Southern New Hampshire         University</li> </ul>
Gerard Ashmore	Senior Vice President	<1	26	<ul> <li>→ Operating Partner, Communications         Management</li> <li>→ Senior Vice President, Cable &amp; Wireless         Communications</li> <li>→ BA John Moores University</li> </ul>
Jeff Freyer	Senior Vice President	<1	25	<ul> <li>→ Operating Partner, Communications         Management</li> <li>→ Regional Vice President, Shields Health         Solutions</li> <li>→ MS University of Tennessee, BS University of         South Carolina</li> </ul>
Arra Arkian	Vice President	<1	10	<ul> <li>→ Director, Cable &amp; Wireless Communications</li> <li>→ BA University of Leeds</li> </ul>
Chris Bailey	Vice President	<1	30	<ul> <li>→ Vice President, Astound Broadband</li> <li>→ Corporate Senior Director, Charter Communications</li> <li>→ MBA Regis University, BS Central Michigan University</li> </ul>
Marco Assis	Operating Partner	<1	30	<ul> <li>→ CEO, Group Vivendi Africa</li> <li>→ Senior Leadership Positions, Global Village Telecom, Horizons Telecom, Siemens SA</li> <li>→ BS, PUC/RS</li> <li>→ MBA, EFRGS/PPGA/EA</li> </ul>
Gary Gadson	Operating Partner	<1	15	<ul> <li>→ Managing Partner and CEO, Norval, LLC</li> <li>→ BS, Bowie State University</li> <li>→ MS, Johns Hopkins University</li> <li>→ MBA, Georgetown University</li> </ul>
Chris McKee	Operating Partner	<1	20	<ul> <li>→ President, Exa Infrastructure</li> <li>→ General Counsel and Executive Vice         President of corporate Development, GTT     </li> <li>→ Senior Leadership Positions, Starvox         Communications, Covad Communications, XO         Communications     </li> <li>→ BS, Colby College</li> <li>→ JD, Syracuse College of Law</li> </ul>



Private Markets Investment Memorandum Investment Resources and Experience

#### **Senior Advisors**

Grain actively manages the number of Senior Advisors based on current and future expertise needs and will transition Advisors to and from the Board as necessary. Grain's Senior Advisors typically have a term of three years, which may or may not be renewable. Experience in the industry and expertise in governance, human capital, legal or regulatory matters are considered in choosing Senior Advisors and setting their term.

Name	Title	Advisor Since	Relevant Experience/Degree
James Cash, PhD	Senior Advisor	2007	<ul> <li>→ Retired Professor and Senior Associate Dean, Harvard Business School</li> <li>→ PhD and MS, Purdue University; BS, Texas Christian University</li> </ul>
Cleve Christophe	Senior Advisor	2020	<ul> <li>→ President and CFO, US&amp;S</li> <li>→ Managing Director, TSG Capital Group</li> </ul>
Edith Cooper	Senior Advisor	2018	<ul> <li>→ Former Global Head of Human Capital Management,</li> <li>Goldman Sachs</li> <li>→ MBA, Northwestern University;</li> <li>BA, Harvard &amp; Radcliffe Colleges</li> </ul>
Stephanie Phillipps	Senior Advisor	2020	<ul> <li>→ Partner, Arnold and Porter</li> <li>→ JD, Harvard Law School</li> <li>→ BA, Radcliffe College</li> </ul>

## Firm Diversity

Staff Demographics	<b>Male</b> (%)	Female (%)	Minority (%)	Non-Minority (%)
Entire Staff	69	31	57	43
All Investment Professionals	90	10	56	44
Senior Investment Professionals	89	11	57	43
Firm Ownership	100	0	100	0

Meketa requests firmwide diversity statistics from its investment managers on an annual basis. In comparison to Meketa's manager responses based on our 2022 data:

- → At the Firmwide level, Grain ranked top quartile for minority representation and second quartile for female representation.
- → Looking at all Investment Professionals, Grain ranked top quartile for minority representation and second quartile for female representation.
- → At the Senior Investment Professional level, Grain ranked top quartile for minority representation, but third quartile for female representation.
- → Looking at Firm ownership, Grain is in the top quartile for minority representation, but bottom quartile for female representation.



## **Investment Process**

Grain implements a structured quantitative approach to their investment process that begins with generating proprietary deal flow. The senior investment team has extensive industry connections combined with an intense data-driven approach to market analysis. The data is used to determine what sectors have the best risk adjusted returns and to guide sourcing individual investments. The senior investment team leverages its operating experience and industry relationships to identify market trends and maintain a steady flow of opportunities.

Grain implements a three-phase investment process for all potential opportunities. The Initial Diligence phase involves logging opportunities into an internal pipeline and assigning a Vice President and Associate to qualify the investment to proceed with due diligence. A short screening memo is prepared and presented to the Investment Committee ("IC") for review, along with preliminary financial models to consider the risk adjusted return of the investment and how it will fit into the Firm's current views of target focus. A deal team, typically consisting of a Managing Director or Principal, Vice President, and one or two Associates, will be assigned to lead the investment into expanded due diligence if the opportunity is deemed to be compelling.

Expanded Due Diligence will enhance and refine the initial financial model on a company or asset. The model will include stress testing to assess the company's ability to survive economic downturn. In addition to the financial analysis, the investment team and Portfolio Dynamics Group will perform extensive management screening, create post-acquisition metrics that will track progress, and complete an investment memo and comprehensive financial model. Expanded due diligence typically takes two to three months, with the results presented for discussion with the IC. Decisions are made by consensus of the IC; however, Mr. Grain retains a veto.

Final Due Diligence involves conducting reference calls with the target company's customers, finalizing outstanding legal or accounting due diligence, and a final discussion with Senior Advisors or any third-party consultants that have been involved with the particular due diligence opportunity. The investment memo is finalized with this information and presented to the IC for final approval.

Post-acquisition, Grain will actively guide the platform company or operating assets with strategic decision making as a control investor. The GPDG will execute a 100-day plan that will include creating and implementing a business plan and policies. GPDG will also serve as counsel to the executive leadership teams within portfolio companies. The investment team and GPDG work closely in the strategic planning process and implement the business plan throughout the holding period.

Potential exit strategies are initially considered during the screening phase of the due diligence process and continuously monitored post-acquisition. Exit options are discussed in the IC meetings by assessing the near-term disposition opportunities as well as potential long-term strategies. The assessment will include weighing the future upside potential against the risk of achieving the growth for future exits. The process allows Grain to process the risk adjusted return potential for both short-term exit opportunities and longer-term growth initiatives.



## **Historical Performance**

### Grain Flagship Funds As of September 30, 2022

Fund	Year of First Investment	Number of Investments	Invested Capital (\$M)	Realized Value (\$M)	Unrealized Value (\$M)	Total Value (\$M)
GIF I	2011	1	51.1	114.0	0.0	114.0
GIF II	2012	4	273.1	481.0	56.9	537.9
GCOF	2016	3	329.3	98.4	929.6	1,028.0
GCOF II	2018	5	771.3	0.4	1,406.6	1,407.0
GCOF III	2021	5	1,172.9	3.0	1,123.1	1,126.1
Total			2,597.8	696.8	3,516.3	4,213.1

Fund	Gross IRR (%)	Net IRR (%)	DJBAI <sup>3</sup> PME (%)	Gross TVM <sup>4</sup> (X)	Net TVM (X)	Loss Ratio <sup>5</sup> (%)
GIF I	39.0	25.8	12.4	2.2	1.6	0.0
GIF II	23.6	16.0	6.1	2.0	1.5	0.0
GCOF	25.4	19.8	0.7	3.4	2.7	0.0
GCOF II	28.4	19.7	1.5	1.8	1.5	0.0
GCOF III	NM	NM	NM	1.0	0.9	8.1
Total	24.5	16.0	1.2	1.6	1.4	

Grain's flagship products have produced consistent returns as the strategy evolves with the changing opportunity set within digital infrastructure. The four mature funds are at or exceeding target returns while GCOF III is still in the development stage. Pre-GCOF III funds also exceed the public market equivalent benchmark while maintaining a zero loss ratio. . GCOF II was launched in 2018 and primarily focused on fiber opportunities and one spectrum auction. GCOF III is still in the value creation phase as the capital has been deployed over the past 18 months.

<sup>&</sup>lt;sup>3</sup> Dow Jones Brookfield Americas Infrastructure Index (DJBAI)

<sup>&</sup>lt;sup>4</sup> Total Value Multiple (TVM) equals Realized Value plus Unrealized Value, then divided by Invested Capital.

<sup>&</sup>lt;sup>5</sup> Loss Ratios represent the proportion of invested capital that has resulted in realized and unrealized losses in a portfolio. The Ratio is calculated by taking the sum of lost capital (invested capital minus an investment's total value) for all investments that have generated a negative return, then dividing that amount by total invested capital across the entire portfolio.



Private Markets Investment Memorandum Environmental, Social, and Corporate Governance

## Environmental, Social, and Corporate Governance

### **ESG Policy and Program**

Grain has a formal ESG policy, first effective in 2017 and most recently updated in October 2021, representing a comprehensive collection of ESG elements, including documentation, reporting, and other communication considerations. Grain is not a signatory to the United Nations Principles for Responsible Investment ("UNPRI"), but states the Firm generally supports the underlying concepts and themes in the principles and took them into consideration when developing its own policy.

In 2018, Grain hired a Chief Compliance Officer who is responsible for conducting periodic testing and review of the policy and procedures. Grain's investment team is responsible for ensuring that ESG considerations are integrated into investment decisions. Additionally, Senior Management is responsible for facilitating the implementation of the policy.

Highlights of the policy are listed below.

- → Key principles: Key policy principles include incorporating ESG issues into analysis and decision-making, being active owners, disclosures at the portfolio company level, and promoting ESG principles in the investment industry.
- → Integration through due diligence: Grain will assess ESG value creation opportunities or risks and potential positive social impacts on underserved or rural communities. Any issues are discussed with the IC and external advisors to carry out additional diligence and assess next steps.
- → Supporting implementation: Grain will work to assist portfolio companies develop, implement, and improve their ESG management program, including facilitating sharing best practices across Grain's companies. Grain works with portfolio company management to create key performance indicators (KPIs) to be tracked, monitored, and reported.
- → Labor issues: Grain is committed to compliance with applicable labor laws, supporting competitive wages and benefits, providing a safe and healthy workplace, and respecting employees' rights about whether to join a union and engage in collective bargaining. See also under RCP below.
- → Performance standards: Where applicable, Grain will develop voluntary ESG performance standards, where local laws and regulations are insufficient to help assess ESG risks and opportunities. Grain may consider using the Sustainability Accounting Standards Board ("SASB") sustainability accounting standards, the International Finance Corporation ("IFC") Performance Standards on Environmental and Social Sustainability, and the International Organization for Standardization's Guidance on Social Responsibility ("ISO 26000").





Private Markets Investment Memorandum Environmental, Social, and Corporate Governance

Grain publishes an annual ESG report that outlines their approach to ESG considerations and details efforts emphasized in four areas: board diversity, community engagement, sustainability efforts, public grant funding. The report breaks down how both Grain and its portfolio companies have positively impacted these pillars by citing specific examples and case studies.

### **Responsible Contractor Policy**

Grain initially adopted its RCP on September 1, 2018. The policy is substantively identical to Meketa's RCP model, with a few organizational differences, but no material differences. While the investment strategy does not generally involve major construction projects, it can involve activities the policy will cover if applicability criteria are met. Prior to the adoption of the stand-alone RCP, Grain took a positive stance toward labor issues in an affirmative statement in its ESG policy referenced above. Grain is in the process of updating its RCP for Fund IV and continues to agree with the content and intent of Meketa's RCP model template.



## **Operations**

### **Organization**

Grain has continued to grow from 40 professionals to 68 over the past three years. The growth has come across all aspects of the Firm, including the creation of GPDG. The senior investment team remains stable and has grown with promotions and senior hires. Grain identified and brought in Craig Phillips to assume the Chief Operating and Growth Officer position. To further build out the finance team and enhance in-house capabilities, Grain hired Tom Walker to be the Chief Financial Officer in 2022. The team has been transparent regarding their growth and thoughts for ensuring Firm culture does not change with the changes and new hires coming into the firm.

### **Finance and Accounting**

Meketa's due diligence for GCOF IV included an Operations Review of existing practices relating to: cash flow management; and accounting, policies, controls, and auditing. Overall, the Fund's procedures are suitable for the investment vehicle and documented, including policies for valuation and responsible contracting.

In February 2023, Grain transitioned from Apex Group as their fund administrator to administering accounting and cash management in-house. Grain utilizes Investran software platform to maintain the funds' books and records. The finance and accounting team is led by CFO Tom Walker and includes six additional finance and accounting professionals.

Cash flow management strengths include:

- → Capital calls and distributions are prepared by the Fund Controller and require approval from the CFO. The Fund bank accounts require dual authorization to release the funds via wire transfer.
- → The Vice President of Finance approved and released the wires prepared by the banks. The CFO and Vice President of Finance serve as backups for the wire approval process.
- → The Fund will utilize a Subscription Line of Credit to bridge capital calls with the intent of calling capital once per quarter.

The Firm will furnish a quarterly Capital Account Statement for Limited Partners, audited annual financial statements, unaudited quarterly financial statements, quarterly descriptive investment information for each portfolio investment, and annual tax information. The Firm will prepare its financial reports in accordance with U.S. GAAP, and in turn, adhere to ASC 820 valuation standards and FAS 157. The financial statements will be audited by KPMG and prepared according to United States generally accepted accounting standards. The Firm has never received a qualified audit opinion. Grain has built a strong finance and accounting team led by an experienced CFO. Meketa's Operations Review included a review of reporting-related information in DDQs, examples of capital call and distribution documents,



and materials provided by the General Partner on Accounting, Financial Reporting, and Internal Controls. Overall, Meketa is comfortable with the Firm's reporting practices and accuracy.

#### **Valuation**

GCOF IV appears to meet best practices for accounting and valuation policies, which are deemed appropriate for this investment vehicle. We were able to identify that the valuation methodologies used are in line with the policies of the Manager and are in line with industry standards. Valuations are created and maintained by an Associate/Analyst that is part of the deal team. A valuation method will be determined for each asset at the time of acquisition between comparable transactions approach, discounted cash flows approach, or replacement cost approach. Grain believes a best practice is to have documentation on valuation methodology at first valuation and remain consistent in methodology going forward. Quarterly, the assigned Associate/Analyst will update the valuation and these are reviewed by the CFO. After sign-off, the values are approved quarterly by the Valuation Committee.

All investments will be initially recorded at cost, with the intent that such cost should be reflective of a sound valuation methodology applied during the acquisition of an investment.

### Legal and Compliance

Grain is registered with the U.S. Securities Exchange Commission ("SEC") as an Investment Advisor. The SEC initiated a routine examination of the manager on September 26, 2019, and issued its findings on August 13, 2020. Grain does not view the findings of the examination as material. Additionally, Grain engaged ACA Group for a mock SEC examination in 2022.

The CCO leads all compliance functions including performing the annual review, preparing and filing regulatory reporting, overseeing annual and targeted compliance training, implementing and testing policies, updating policies as needed and performing other compliance functions as may be appropriate for the Firm.



## Other Items

#### **Potential Conflicts**

Grain senior professionals are expected to commit a significant amount of business efforts to the Fund, but are not required to devote all of their time to the Fund's affairs. A few Managing Directors hold board seats of companies not related to Grain Management. However, these obligations are not expected to interfere with their Grain-related duties and responsibilities.

As part of GCOF IV's investment strategy, the Fund may invest in spectrum licenses. These transactions are likely to be made alongside Grain's spectrum-focused funds. Since there are several variables to consider such as timing of investment, hold period, and available capacity, Grain will determine investment size for each vehicle on a case-by-case basis to ensure investors in both vehicles are equitably treated. Grain has mitigated this concern in past spectrum auctions by creating holding companies that both vehicles will invest into.

### Distribution/Marketing

Grain has not hired a placement agent for GCOF IV to date. Credit Suisse Private Fund Group, acting through Credit Suisse Securities USA, LLC ("CSSU") has served as Placement Agent for prior Grain funds. Meketa Investment Group has no compensatory relationship with Grain or any of its Placement Agents.



## **Analysis and Conclusions**

### **Due Diligence Basis**

Meketa has carefully evaluated the Fund's manager, investment professionals' experience and qualifications and related resources, strategy, existing investments and pipeline, investment process, historical track record, and other aspects of this opportunity as described in prior sections of this investment memorandum.

Overall, we find Grain Communications Opportunity Fund IV an attractive opportunity that we can generally recommend for client infrastructure portfolios, and specifically where it is consistent with a client's investment policy, pacing plan, and other infrastructure portfolio goals and objectives. This finding is based on our evaluation of this offering's primary advantages, balanced with any concerns or considerations, along with Meketa's and the manager's view of the investment thesis relative to market opportunities and potential strategy execution challenges. These elements of our findings are documented below, along with our overall conclusion and recommendation.

### **SWOT Analysis**

#### Strengths

- → **Strong Historical Track Record** Since its inception, Grain has consistently produced strong returns with a net return of 16.0% and 1.4x across five flagship funds. The Firm also maintains a zero realized loss ratio.
- → Experienced and Stable Senior Investment Team Grain has experienced no departures from the senior investment team level and continues to strengthen its leadership through promotions and strategic hires. Since the closing of GCOF III, four additional team members have been promoted to Managing Director and one new Managing Director has been hired.
- → Evolving Strategy within Digital Infrastructure Grain takes a systematic approach to identify trends and opportunities across the digital infrastructure ecosystem. This has resulted in Grain being a market leader initially in towers and then expanding into spectrum, fiber, and most recently services.
- → Multi-Channel Sourcing and Deep Network Connections Grain's team is exclusively focused on digital infrastructure and the Managing Directors average over 20 years of industry experience. The number of portfolio companies also continues to grow, further expanding the ecosystem that Grain can source deals through executives, service providers, and management teams.



→ Corporate Diversity – Grain is a 100% minority-owned firm and has significant racial and gender diversity among its team, including its senior advisors. The Firm is committed to maintaining and enhancing its diversity and demonstrated this through their hires and promotions over the past two years as the team expanded from 40 to 68.

#### Weaknesses

- → Unproven Track Record Outside the U.S. Grain has completed just one investment outside of the North America. The company is still in its development stage as Grain has worked on centralizing the company's operations and initiating its expansion plans.
  - *Mitigating factor(s):* Grain has hired Ted Manvitz to lead its non-US activities. Mr. Manvitz also brought in Adam Pickard who worked with him at IHS. Both have extensive experience investing globally within the digital infrastructure space.
- → **Limited Realizations in GCOF II and III** Grain has not fully exited an investment in the most recent two flagship funds raised which are primarily comprised of fiber and service companies.
  - Mitigating factor(s): GCOF II has implemented an aggregation strategy of fiber networks that
    takes time to develop. The fiber investments have been held for three to four years and have
    increased in carrying value. Grain is positioning several of these companies for exit in the nearto mid-term.

#### **Opportunities**

- → Increasing Sophistication of Communication Technology With each generation of digital infrastructure technology, network deployment continues to become more complex. Specialized firms with in-house service capabilities become critical to supporting communications companies across engineering, site acquisition and permitting, materials procurement, and management services.
- → Data Centers The large annual expected growth of internet protocol ("IP") data usage will increase the need for data centers globally. Another critical demand for data centers is the shift by businesses to outsource data to the cloud. Managed hosting cloud computing companies such as Amazon or Google are struggling to keep up with the pace of increasing demand by building in-house data centers, which is creating greater opportunity for third-party builders and their investors.
- → Continued Fiber Demand Fiber remains the anchor for high bandwidth uses such as smartphone use, streaming, cloud, internet-of-things, and video conferencing. As the demand continues to grow year over year for digital infrastructure, additional fiber opportunities in Tier II/III markets are expected to increase.



#### **Threats**

- → Increasing Competition Grain continues to face growing competition from both specialists, diversified infrastructure managers, and private equity and real estate managers. Many lack the experience or networks within the space, but the increased investor demand could result in higher entry points and lower returns.
- → Technology Disruption GCOF IV's strategy involves technology innovation and evolution in the communications sector including data and mobile traffic growth, enterprises outsourcing information technology ("IT") solutions, and transition to the cloud. It is possible the sector could evolve in ways that would erode the future value of the Fund's investments in ways or at levels not contemplated.
- → Regulatory Changes As the communications industry continues to evolve, regulatory changes must be monitored. Control over spectrum bands that will be released or retained is important and additional spectrum is required for the increased data traffic. The amount of funding approved to expand broadband within schools or other public buildings will impact fiber companies within certain networks. Grain has regulatory experience to anticipate and respond to the changing environment.

#### Conclusion

GCOF IV represents an attractive opportunity to commit capital to an experienced investment manager focused on the high growth communications infrastructure sector. Grain continues to show the ability to shift its focus to pursue sub-sectors in fragmented markets with disconnected valuations. Grain has identified fiber, data centers, cell towers, services, and spectrum as having the desired characteristics of recurring revenue; mission-critical services; low correlation to market cycles; and high barriers to entry. Grain's strengths include its strong historical track record, experienced senior investment team, ability to source proprietary transactions through its deep network, and corporate diversity. Key considerations are the unproven non-U.S. track record, and limited realizations in the prior two funds.



# **Appendices**



# **Partnership Terms**

### Management/Governance

Type of Partnership Delaware Limited Partnership

Legal Counsel Paul, Weiss, Rifkind, Wharton & Garrison LLP

Auditor Ernst & Young

### Fees, Terms, and Conditions Analysis

Meketa has reviewed the key terms and conditions that appear in GCOF IV's Private Placement Memorandum, the response to Meketa Investment Group's Due Diligence Questionnaire, and the Limited Partnership Agreement as of February 22, 2023. Please note that these terms are subject to change based on ongoing or future negotiations between the General Partner and Limited Partners, including Meketa Investment Group acting on behalf of its clients.



## **Professional Biographies**

#### David Grain, Managing Director, Founder & CEO

David Grain is the Founder and CEO of Grain Management. He brings over 25 years of experience in industry and 15 years in private equity. David founded Grain in 2007, having formerly worked as a Communications industry operator, private equity operating partner, and investment banking executive. Prior to Grain, David served from 2002 to 2006 as President of Global Signal, Inc. (formerly NYSE: GSL), the largest communication tower owner/operator at the time. David has also served as Senior Vice President at AT&T Broadband's New England Region and was an Executive Director in the High Yield Finance department at Morgan Stanley, where his focus was TMT. He also served as an Operating Advisor to General Catalyst. David received a B.A. in English from the College of the Holy Cross and M.B.A. from the Amos Tuck School of Business Administration at Dartmouth College.

#### Michael McKenzie, Managing Director

Mr. McKenzie is a Managing Director on the Investment Team, bringing over 20 years of communications and technology industry experience, including a decade as a private equity investor. Prior to Grain, Mr. McKenzie served as a senior FCC official, shaping U.S. communications policy. Previously, he held executive roles in corporate strategy and business development at Microsoft. Mr. McKenzie began his career practicing communications and technology law at leading Washington, D.C. and Silicon Valley-based law firms, after clerking on the U.S. Court of Appeals for the Third Circuit. Mr. McKenzie is a member of the Economic Club of Washington, D.C. and the Council on Foreign Relations.

#### Chad Crank, Managing Director

Mr. Crank is a Managing Director on the Investment Team, bringing significant principal investing experience and deep telecommunications industry relationships. Prior to Grain, Mr. Crank was Head of TMT Investment Banking at Stephens Inc., advising on M&A and Capital Markets transactions. Mr. Crank has worked in strategic planning at Alltel and served as an Armored Cavalry Officer in the U.S. Army. Mr. Crank holds an M.B.A. from the Kellogg School of Management, graduate degrees in Economic Policy and Engineering from Harvard University and Northwestern University, respectively, and graduated from the United States Military Academy at West Point.

#### Raghav Nayar, Managing Director

Mr. Nayar is a Managing Director on the Investment Team, responsible for deal origination and investment underwriting. Prior to Grain, Mr. Nayar was a Vice President in the Asset Finance group at Morgan Stanley. Mr. Nayar holds an M.S. in Finance from Johns Hopkins University and a Bachelor of Technology in Biotechnology Engineering from Thapar University.



#### Nikola Trkulja, Managing Director

Mr. Trkulja is a Managing Director on the Investment Team, responsible for deal origination and investment underwriting. Prior to Grain, Mr. Trkulja worked in the Asset Finance group at Morgan Stanley. While there, he developed numerous first-of-their-kind financing structures, including Grain's first ever securitizations of wireless spectrum licenses. Mr. Trkulja holds a B.A. in Economics and Political Science from Vassar College.

#### Ricardo Rodriguez, Managing Director

Mr. Rodriguez is a Managing Director on the Investment Team, responsible for deal origination and investment underwriting. Prior to Grain, Mr. Rodriguez served as President and CEO of Spirit MTA REIT, a net lease real estate investment trust (REIT) with approximately \$2.5 billion in AUM. Previously, he held positions across Morgan Stanley's Global Capital Markets division, including developed and emerging markets roles. Mr. Rodriguez holds a B.S. in Engineering and Economics from the United States Naval Academy

#### Jenny Kashdan, Managing Director

Ms. Kashdan is a Managing Director on the Investment Team, responsible for deal origination and investment underwriting. Prior to Grain, Ms. Kashdan was a Vice President in the Investment Banking division at Morgan Stanley. While there, she held positions across the Investment Banking, Capital Markets, and Corporate Treasury divisions. Ms. Kashdan holds a B.S. in Hotel Administration from Cornell University.

#### Ted Manvitz, Managing Director

Mr. Manvitz is a Managing Director on the Investment Team, bringing extensive global telecommunications infrastructure deal and operating experience. Prior to Grain, Mr. Manvitz served in a variety of senior leadership roles at IHS Holding Limited (NYSE: IHS), one of the largest international owners and operators of digital infrastructure. His roles included Chief Operating Officer, Chief Financial Officer, and Chief Strategy Officer. Previously, Mr. Manvitz held senior positions at J.P. Morgan, and practiced law at Bryan Cave LLP in its Corporate Finance and M&A Group. Mr. Manvitz holds an M.B.A. from Indiana University, a J.D. from the University of Iowa, and a B.A. in Accounting from Avila University.

#### Abbas Hasan, Principal

Mr. Hasan is a Principal on the Investment Team, responsible for deal origination and investment underwriting. Prior to Grain, Mr. Hasan was a Principal with H.I.G. Capital in its special situations credit strategy, Bayside. Previously he was an investment professional at Corporate Partners, LLC, and American Capital. Mr. Hasan holds an M.B.A from Columbia Business School, and a B.S. from the Wharton School at the University of Pennsylvania.



#### Adam Pickard, Principal

Mr. Pickard is a Principal on the Investment team, responsible for deal origination and investment underwriting, with particular focus on EMEA and APAC. Prior to Grain, Mr. Pickard served as Director of M&A at IHS Holding Limited (NYSE: IHS), one of the largest independent owners, operators, and developers of shared communications infrastructure in the world. Previously, he was part of the EMEA TMT coverage group at Jefferies International Limited.

#### **SENIOR ADVISORS**

#### James Cash, PhD

Dr. James Cash has been a Senior Advisor to Grain Management since 2007, and brings over 30 years of experience to the team as a top academician on technology. He is a former board member of General Electric, Microsoft, Sprint, Scientific Atlanta, and other Fortune 100 companies. Dr. Cash is a James E. Robison Professor and Senior Associate Dean, Emeritus, of the Harvard Business School, where he first joined the faculty in 1976 and retired in 2003. In addition to the boards mentioned above, he has served on the boards of Wal-Mart, Chubb, State Street Corp., and other public, private, and not-for-profit boards.

Dr. Cash graduated from Texas Christian University with a BS in Mathematics, while being named an Academic All-American. Later he received an MS in Computer Science from Purdue University's Graduate School of Mathematical Sciences, and a PhD in Management Information Systems and Accounting from Purdue University's Krannert Graduate School of Management.

#### **Cleveland Christophe**

Cleveland Christophe joined Grain's board of Senior Advisors in 2020, bringing over 40 years of experience in high tech industries and private equity. Mr. Christophe is best known for engineering the largest leveraged buyout of offshore assets in history, the purchase of Beatrice International Food Company by TLC Group in 1987. He also co-founded private equity investment firm TSG Capital Group, where he served as Managing Partner from 1994 to 2008. Prior to his retirement in 2013, Mr. Christophe was President and Chief Financial Officer of US&S, Inc., a supplier of services and materials to United States government agencies.

#### **Edith Cooper**

Edith Cooper joined Grain's board of Senior Advisors in 2018, bringing over 20 years of experience in organizational development, talent gathering, and organizational diversification. Ms. Cooper is the former Global Head of Human Capital Management at Goldman Sachs, where she was responsible for the recruitment and development of the firm's 35,000 professionals. Prior to Goldman Sachs, Ms. Cooper held leadership roles at Morgan Stanley and Bankers Trust. She currently serves on the boards of Slack, Etsy, the Museum of Modern Art, and Northwestern University. Ms. Cooper earned an MBA from the Kellogg School of Management at Northwestern University and a bachelor of arts from Harvard and Radcliffe Colleges.





#### Stephanie Phillipps

Stephanie Phillipps joined Grain's board of Senior Advisors in 2020, bringing over 25 years of experience in global communications, data security, and corporate governance. Ms. Phillipps is a communications veteran who, during her time as a Partner at Arnold and Porter, advised wireless, cable, satellite, media, and internet service providers on a broad range of transactions, mergers and acquisitions, real estate, corporate governance, and regulatory issues. Ms. Phillipps has also been an experienced advocate before the Federal Communications Commission and other regulatory agencies and public bodies. Ms. Phillips earned a JD from Harvard Law School and a bachelor of arts from Radcliffe College.



# GRAIN COMMUNICATIONS OPPORTUNITY FUND IV

PRESENTATION TO STATE OF CONNECTICUT

APRIL 2023

### Disclosure



This presentation (the "Presentation") has been prepared by Grain Management, LLC (together with its affiliates, "Grain" or the "Firm") for discussion and informational purposes only, and is being furnished to parties ("Recipients") who wish to learn more about a specific opportunity discussed herein (the "Opportunity") or about Grain's strategy, funds or vehicles (the "Strategy", the "Funds" or "Vehicles", or individually, "Fund" or Vehicle"). Certain of Grain's past Funds are described or referenced herein, namely Grain Infrastructure Fund, L.P. ("GIF"), Grain Infrastructure Fund II, L.P. ("GIF II"), Grain Spectrum Holdings II, L.P. ("GSH III"), Grain Spectrum Holdings II, L.P. ("GSH III"), Grain Spectrum Holdings II, L.P. ("GSH III"), Grain Communications Opportunity Fund II, L.P. ("GCOF III"), and Grain Communications Opportunity Fund III Master, L.P. ("GCOF III"). This Presentation and the information contained herein is not intended for general distribution or publication and under no circumstances may a copy be shown, transmitted, reproduced, or redistributed, in whole or in part, or otherwise given to any person without the express written consent of Grain. All copies of this Presentation, including electronic copies, must be retained in a confidential manner and must be deleted or destroyed upon the request of Grain. This is a marketing communication for Professional Investors only.

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An investment in a Grain Vehicle is suitable only for certain sophisticated investors who have no need for immediate liquidity in their investment. Such an investment provides limited liquidity because interests in a Grain Vehicle is not freely transferable and may be withdrawn only under the limited circumstances set forth in a Fund's constitutional documents. There is no public or secondary market for interests in the Funds and it is not expected that a public or secondary market will develop.

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Certain information contained herein constitutes "forward-looking statements". Due to various risks and uncertainties, actual events or results of an Opportunity or the actual, events, results, or performance of a Vehicle may differ materially from those reflected or contemplated in such forward-looking statements. Such statements are made based upon Grain's views as they exist as of the date of publication of this Presentation. There is no assurance that such views are correct or will prove, with the passage of time, to be correct. Actual events, results or performance may differ materially from those reflected or contemplated by such forward-looking statements as a result of factors beyond Grain's control.

Waystone Investment Management (IE) Limited is regulated by the Central Bank of Ireland and acts as a distributor in the European Union. Waystone Investment Management (IE) Limited does not provide investment advice on an independent basis.

Unless otherwise noted, the information in this Presentation is as of the date hereof.

Please reach out to Grain's Capital Formation Investor Relations team for follow-up queries:

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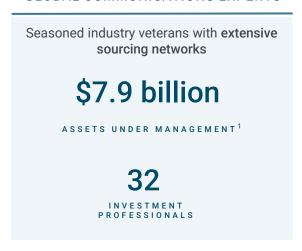
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### Firm Overview



We are a solutions provider to the global broadband industry – our team's expertise as former operators, regulators, consultants, engineers and bankers drives a differentiated approach to value creation

#### **GLOBAL COMMUNICATIONS EXPERTS**



#### SPECIALIZED BUT HOLISTIC INVESTING



#### INVESTMENTS INCLUSIVE OF:

- 56 spectrum licenses across six investments
- Two portfolios consisting of 142 and 396 cell towers

#### STRONG INVESTMENT PERFORMANCE SINCE INCEPTION(ii)2

Over 15 years

of telecom investing experience

28.4% 1.7x

Gross IRR(viii) Gross MOIC(ix)

19.7% 1.4x
Net IRR<sup>(x)</sup> Net MOIC<sup>(xi)3</sup>

0%

Loss Ratio(iii)

Note: Past performance is not indicative of future results, and there can be no assurance that any Grain Investment Vehicle will be able to implement its investment strategy or approach, achieve comparable results, meet its target results or be able to avoid losses. Nothing contained herein should be deemed to be a prediction or projection of the future performance of any Grain Investment Vehicle.

- 1. Assets Under Management represents the sum of unrealized value and unfunded commitments across Grain's Investment Vehicles (GIF, GIF II, GSH, GSH III, GSH III, GSH III, GSH III, GCOF, GCOF, III, GCOF, IIII) plus co-investment controlled by Grain as of December 31, 2022.
- 2. Gross IRR, Gross MOIC, Net IRR, Net MOIC and Loss Ratio are provided as of December 31, 2022 on an aggregate basis, consisting of GIF, GIF II, GCOF, GCOF II, GSH III, GCOF III and two proprietary investment vehicles: GSH and GSH II. All performance information presented herein should be read in conjunction with "Notes to Investment Performance" in Section III: Appendices.
- 3. The average life of unrealized investments is 2 years.

## Differentiated Global Investment Platform



Enabling technology, building businesses, and connecting communities through our deep expertise in global telecommunications

Our investment strategy is guided by quantitative analysis and backed by extensive industry knowledge and relationships

# Global communications specialists

#### INDUSTRY KNOWLEDGE DELIVERS DIFFERENTIATED AND STRATEGIC INSIGHT AND VISION TO INVESTMENT PROCESS

Our sector expertise helps us to qualify deals, raise transaction confidence and execute on opportunities others may not identify

Our growing ecosystem of portfolio companies, executives and service providers generates additional insights to better evaluate investment outcomes

# Disciplined and opportunistic investment strategy

#### RIGOROUS BUT AGILE APPROACH TO INVESTING SUPPORTED BY ALGORITHMIC, QUANTITATIVE ANALYSIS

Our approach is supported by robust data driven analysis inclusive of econometric and geospatial modeling to uncover undervalued opportunities and mitigate risk

Our teams take a transparent partnership approach to negotiating which drives nimble, confident, and decisive execution

#### Value creation

# OUR HANDS-ON OPERATIONAL APPROACH & EXPERTISE SEEKS TO ENHANCE DECISION-MAKING AND RETURN POTENTIAL

Grain's Portfolio Dynamics Group (GPDG) is dedicated to working with our portfolio companies, alongside our deal teams to create value and operational efficiencies

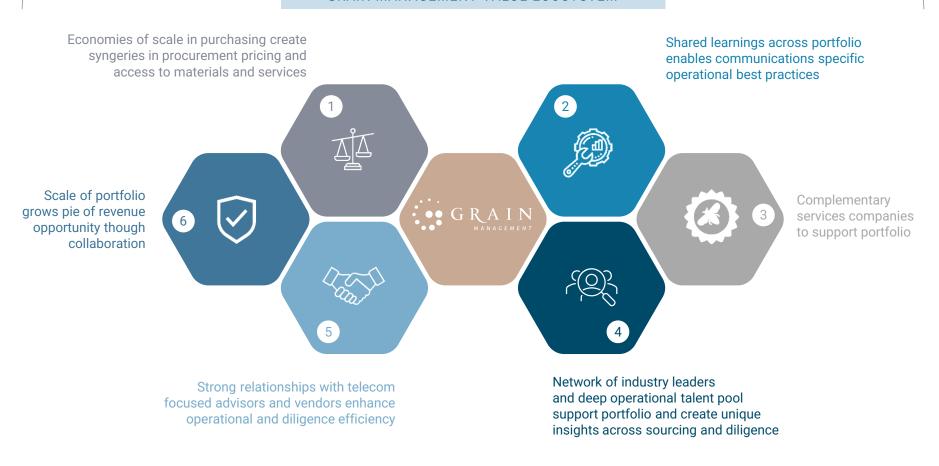
GPDG works to deliver sustained operational change and support Grain's risk management protocol, leveraging Grain's scale and expertise for crossportfolio company benefits and synergies

# **Ecosystem for Unique Value Creation**



Because of our singular focus on the space, our portfolio is a microcosm of the broader communications industry, allowing robust and power synergies to advantage each business' growth profile





### **Grain Investment Team**



#### Experienced and cohesive team with an Investment Committee with over 150 years of combined experience

INVESTMENT COMMITTEE



DAVID GRAIN FOUNDER & CEO



CHAD CRANK MANAGING DIRECTOR



MANAGING DIRECTOR



TED MANVITZ MANAGING DIRECTOR MANAGING DIRECTOR





RAGHAV NAYAR MANAGING DIRECTOR



RICARDO RODRIGUEZ MANAGING DIRECTOR



MANAGING DIRECTOR



ABBAS HASAN PRINCIPAL



ADAM PICKARD PRINCIPAL



DIYA BERGER VICE PRESIDENT



TANNER GOODE VICE PRESIDENT



SIDA HE VICE PRESIDENT



ARYA HEIDARI VICE PRESIDENT



JEFF ZHOU VICE PRESIDENT



CAYQUE DEMARQUI SR. ASSOCIATE



WENBO FANG SR. ASSOCIATE



BRIAN LASH SR. ASSOCIATE



MICHAEL RHINE SR. ASSOCIATE



MATT SOUNDY SR. ASSOCIATE



WILLIAM WAESCHE SR. ASSOCIATE



KEVIN XU SR. ASSOCIATE



DIEGO ALVAREZ ASSOCIATE



SURAJ AULAKH ASSOCIATE



CHARLIE COPE ASSOCIATE



ASSOCIATE



WILL FOSTER ASSOCIATE



WILL HUPP ASSOCIATE



MICHAEL LICATA ASSOCIATE



NICHOLAS SCHULKIN ASSOCIATE



KEVIN SONG ASSOCIATE



JONATHAN YOUNG ASSOCIATE

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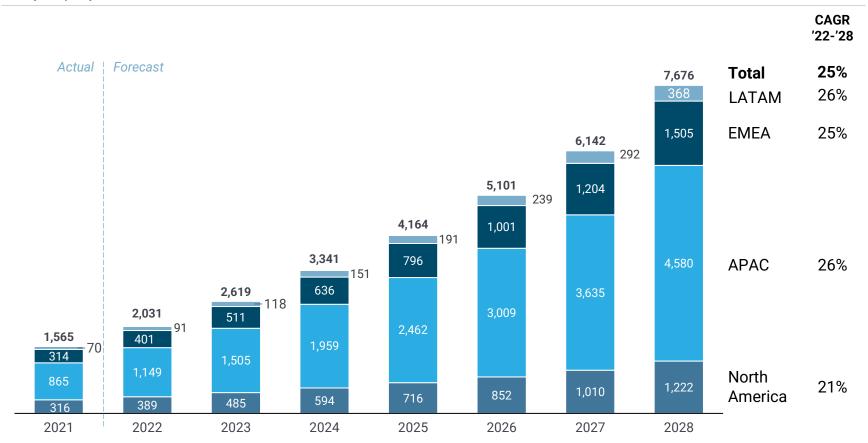
# **Exponential Global Mobile Data Traffic Growth**



Global data traffic is **expected to grow at a 25% CAGR through 2028**, and drive a need for greater density in towers, small cells, data centers and other forms of infrastructure

### **Global Data Traffic by Region**

Exabytes per year, Includes both fixed and mobile



Sources: Omdia Network Traffic Forecast (2020), Ericsson Mobility Report (2022)

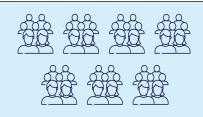
### **Exponential Global Mobile Data Traffic Growth**



Connectivity endpoints are increasing, and are more consumptive, collectively increasing global demand for data

#### Increase in Data Demand

### Who?



Consumer

Continued rise in population globally and particularly in developing countries where there is lower penetration, presents providers with more customers to serve as more people with higher data consumption and stress on existing digital infrastructure

#### **Enterprise**



#### Where?



Connected devices are proliferating as consumers buy smartphones, wearables, smart home devices, and AR/VR to remain connected personally (friends/family, health) and professionally (education, jobs)

#### What?



Content is requiring more and more bandwidth: streaming video and remote work are driving consumers to require robust internet access. Weekly streaming for video and remote work has increased by 18% from 2021 to 2022 alone.



Workloads across key economic sectors (agriculture, manufacturing, services, research & development, etc.) are migrated to the cloud, creating need for new digital infrastructure to support the transition



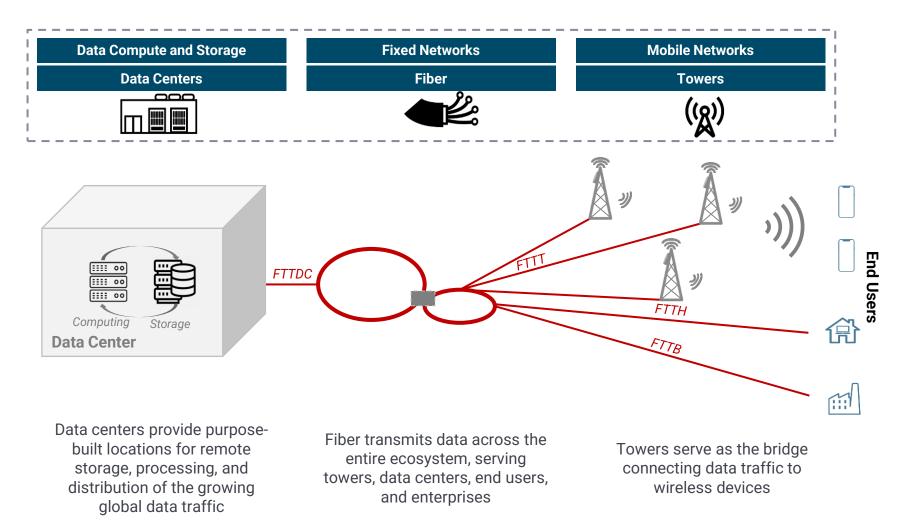
Businesses are using more bandwidth intense software, including collaboration and communication software, along with other SaaS, driving demand

Sources: Omdia Network Traffic Forecast (2020), Ericsson Mobility Report (2022), World Bank (2022), S&P Capital IQ TMT Geography Database (2022), Cowen Annual Cloud Survey (2021), NewZoo (2021), eMarketer (2022), Cisco VNI (2020)

# Broadband is Essential with Growing 5G+ Integration



5G+ growth will trickle into all aspects of the broadband ecosystem creating increased usage of and demand for infrastructure



Sources: Ericsson (2022), Fujitsu (2022), Parallel Wireless (2022)

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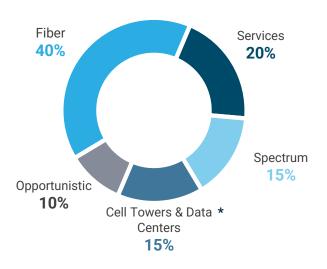
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- IV APPENDICES

### **Investment Strategy**



GCOF IV is a continuation of Grain's history of investing in the global information economy. Driven by sector expertise and industry intelligence, GCOF IV will target sub-sectors with positive projected trends and lower competition, creating an opportunity to build out unserved and underserved markets





#### **Target Company/Asset Characteristics**

- Strong and financially aligned management teams, contractual cash flows and "sticky" customer relationships
- Strong growth profile and potential to expand customer base or quickly grow into new markets
- Compelling value proposition for end customers and synergistic value to Grain's overall portfolio
- ✓ Defensible position in the market high barriers to entry, mission-critical services and infrastructure, and relatively low correlation to market cycles

#### **Disciplined and Systematic Sourcing and Investment Process**

#### **Multi-Channel Sourcing**

- Regular meetings and networking with industry operators and executives;
- Targeted industry conferences, notably operator-focused conferences for increased direct/off-market opportunities
- Established and growing ecosystem of portfolio companies and executives

#### **Dynamic & Robust Pipeline Analysis**

- Multi-dimensional empirical deal analysis
- Identification of major impediments upfront considering financial, legal, operational, regulatory, and reputational risk, in addition to geopolitical, foreign exchange, and labor considerations
- Consultation with external ecosystem of telecom experts and consultants

#### **Highly Qualified Sector Opportunities**

- Robust pipeline of opportunities with a disciplined, comprehensive, but efficient diligence process
- Since March 2021, Grain sourced and assessed >195 broadband opportunities, representing \$63.5B of enterprise value.
   Grain transacted on 7% of deals and 3% on an EV basis

<sup>\*</sup>Anticipate as pre-dominantly international strategy given current telecom trends.

## Deep & Differentiated Knowledge from Industry Focus



Grain is more than a private equity investor; we are a solutions provider to the communications industry. As residents of the space involved throughout the ecosystem, we see opportunities from all angles and can select "best-of-breed" investments

# Telecom Services (Managed & Infrastructure)

- Insight into the <u>supply and</u> <u>demand dynamics and needs of</u> <u>the largest operators</u>
- Carrier relationships provide insight into markets where services businesses can open offices to gain market share
- Ability to facilitate critical customer introductions with the most significant players in the space
- Customer-centric view and differentiated understanding of quality services companies allows us to identify the highest quality providers

#### Towers

- Pattern recognition of consolidation and growth opportunities identified in the US and applicable to international opportunity
- Insight into carrier usage, market coverage and additional expansion trends across broadband



#### Fiber

- Ability to see unique fiberization trends globally that others may not, generating significant operational advantages
- Insight into fiber deployment plans that assist portfolio companies in maintaining economic moat and identifying the most attractive opportunities for further market expansion

#### **Spectrum**

- Understanding of major wireless operators building plans advantage our bidding in spectrum auctions
- Ability to anticipate where backhaul and cell towers need to be built, allowing fiber businesses to engage in strategic preparation and positioning
- Insight into U.S. carriers' <u>strategy</u> and applying intel internationally

#### **Data Centers**

- Insight into broader telecom trends that determine growth opportunities and selectivity in the sector
- Footprint across carriers, operators and services businesses provides entry point and access for customers

# Grain's Approach to Telecom Investing





### Global Communications Specialists

#### Decades of Telecommunications experience.

 Our senior professionals have developed a pattern recognition of trends across sectors allowing us to navigate continued innovation across subsectors and geographies to identify new opportunities ahead of the market.

#### Grain ecosystem insights.

- Direct and real-time access to industry intel from the relationships built over decades.
- Network insights provide differentiated and real-time vantage into growing, operating and managing a telecommunications asset or business.



### Disciplined and Opportunistic Investment Strategy

#### Sourcing access and approach.

- Multi-pronged strategy for sourcing opportunities through our longstanding and growing network of industry operators, executives, and professional services firms
- Continued pulse on the industry generates highly qualified, differentiated deal flow, maximizing pipeline efficiency
- Grain is viewed as strategic partner driving additional deal flow

#### Processing investment opportunities.

- Team combines intelligence from multidimensional empirical analyses on transactions, enabling accurate and efficient decision-making from:
  - Subsequent internal analysis;
  - Consultation with Grain Portfolio Dynamics Group (GPDG) and external consultants:
  - Intelligence and insights afforded by Grain's historical and existing portfolio and relationships from its growing global telecommunications network.



#### Distinguished approach to value creation

- Careful micro- and macro-level analysis of the company's data, the identification and planned reduction of risk, and the development of a post-close action plan.
- GPDG focuses on executing a rigorous 100-day plan, including creating and implementing a business plan and set of prescribed best-practices

#### Operational performance

- From early days, GPDG works with executives and asset operators to set performance metrics, track performance against the business plan, monitor market conditions and develop longerterm goals.
- Throughout the investment life cycle, utilizing a set of standardized processes, GPDG works with management to review operating metrics versus key benchmarks and implement improvements. The Firm continuously monitors the market for potential exit opportunities.

# Contents



| GRAIN FIRM OVERVIEW
| MARKET OPPORTUNITY
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### Grain's Commitment to ESG



#### **Our Approach**

• We are passionate about helping untapped communities around the world develop critical infrastructure. We support organizations that contribute to the transparency of ESG reporting and recently became members of the ESG Data Convergence Project. We also agree with UN PRI's six principles and guidelines and standards developed by SASB, ISO 26000, IRIS+ and the UN SDGs, specifically aligning with SDG 9, 10, 1, 3, 4, and 8













#### Our 2021/2022 Pillars of Focus

Select case studies from Grain's 2021/2022 ESG Report are shown.



#### **BOARD DIVERSITY**









**Board Diversity** 

Female Management





 Utilizes an electronics recycling vendor for outdated and end-of-life equipment



Maintains a formal program for the recycling and reuse of incidental office waste, paper, plastic, metal, end-of-life fiber optic cables, and electronic components



#### COMMUNITY ENGAGEMENT



- Recognized as Business of the Year in 2021 by Arkansas Business
- Named one of the Best Places to Work in Arkansas by Arkansas Business in 2021 and 2022



- Through self funded initiative, invested nearly \$40,000 into the Medford International Airport, increasing internet speed by 10x
- This is one step of plan to help make Southern Oregon a leader in technology



#### PUBLIC GRANT FUNDING



- Federal Universal Service Fund ("FUSF")
- Nebraska Universal Service Fund ("NUSF")
- Alternative Connect America Cost Model ("A-CAM")



Chosen provider to build digital infrastructure for Stuttgart,
Arkansas after the community received a grant from the Arkansas Rural Connect ("ARC") Grant
Program

## Diversity at Grain



Equity, diversity and inclusion are paramount to Grain's R<sup>4</sup> philosophy and one of the Firm's core competencies. Grain extends this philosophy to how
the Firm manages its assets, from the way the Firm partners with third parties, to the way the Firm appoints portfolio company Board members. We
know diversity of background and perspective leads to smart, differentiated investment decisions

### Grain's R<sup>4</sup> Philosophy: Do the Right thing, for the Right reason, in the Right way, at the Right time



Grain is a certified Minority Business Enterprise and a proud NAIC MBA Fellowship Program sponsor. Grain supports several organizations whose
mission is to advance education, mentorship, and career opportunities for diverse groups, which are outlined below.

# **Grain Sponsorship: NAIC MBA Fellowship Program**



The goal of the NAIC MBA Fellowship Program is to expose talented and highly accomplished diverse MBA students to the world of alternative investment management. This program is a 10-month program, running from September through June, and offers each Fellow a \$30,000 stipend.



















Please note that Grain does not promote environmental or social characteristics within the meaning of Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector ("SFDR")

### Notes to Investment Performance



In considering the prior performance information of Grain contained herein, prospective investors should bear in mind that past performance is not indicative of future results, and there can be no assurance that any Grain Investment Vehicle will be able to implement its investment strategy or approach, achieve comparable results, meet its target results or be able to avoid losses. Nothing contained herein should be deemed to be a prediction or projection of the future performance of any Grain Investment Vehicle.

- i. "Managed Assets" represents (a) for GIF II, GSH and GSH II, the cost of assets within the investment vehicle, including those financed with debt, and (b) for GIF, GCOF, GCOF II, GSH III and GCOF III, equity capital commitments plus co-investment controlled by Grain as of December 31, 2022.
- ii. Grain's aggregate Gross IRR, Gross MOIC, Net IRR and Net MOIC since inception is calculated based on the cash flows as described in notes (viii), (ix), (x) and (xi), whether or not the Gross IRR, Gross MOIC, Net IRR or Net MOIC for an individual Grain Investment Vehicle can be calculated, as described in note (xii) and note (xiii). Grain's aggregate investment performance across all Grain Investment Vehicles includes "Adjustments for Duplicative Investments" made to avoid double-counting with respect to (a) the investment by GIF II of \$7.3 million in Cincinnati Bell Wireless via GSH II as described in note (xvi) and (b) the investment by GIF II of \$18.3 million in NewLevel, LLC as described in note (xviii).
- iii. "Loss Ratio" refers to the percentage of capital in investments realized below cost, net of any recovered proceeds, divided by total invested capital, and assumes that GIF and GIF II wireless towers are treated as a single investment.
- iv. "Invested Capital" represents the aggregate amount of capital invested in a portfolio investment by the relevant Grain Investment Vehicle. See also note (xvii).
- v. "Realized Value" includes all cash proceeds received by the relevant Grain Investment Vehicle, including interest, tax distributions and dividends. See also note (xvii).
- vi. "<u>Unrealized Value</u>" represents the remaining value of the relevant Grain Investment Vehicle's interest in the unrealized investment based on Grain's best estimate of the fair value of such investment as of December 31, 2022 (unless noted otherwise), in accordance with Grain's valuation policy. There can be no assurance that investments with an unrealized value will be realized at the valuations shown, as actual realized returns will depend on, among other factors, future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions on which the valuations contained herein are based. Accordingly, the actual realized returns may differ materially from the returns indicated herein. Additional information regarding the Firm's valuation policy and investment valuations is available upon request. See also note (xvii).
- vii. "Total Value" means the sum of the Realized Value and Unrealized Value.
- viii. "Gross IRR" for an individual portfolio investment represents the annual, compounded internal rate of return calculated based on the actual dates and amounts of capital invested in, and distributed from, portfolio investments to the relevant Grain Investment Vehicle, as well as expected distributions to the relevant Grain Investment Vehicle assuming disposition of unrealized portfolio investments on December 31, 2022 at the Unrealized Value shown. Gross IRR for an individual portfolio investment held at cost is presented as "NM." Gross IRR for a Grain Investment Vehicle represents the annual, compounded internal rate of return calculated based on the actual dates and amounts of cash contributions (that are invested in portfolio investments) from, and distributions to, the partners of the relevant Grain Investment Vehicle, as well as expected distributions to the partners of the relevant Grain Investment Vehicle assuming disposition of unrealized investments on December 31, 2022 at the Unrealized Value shown. Gross IRR for all Realized Investments and for all Unrealized Investments is based on a combination of the methodologies mentioned above. Gross IRR is calculated before the allocation of management fees, carried interest and other fund-level expenses, and measures the returns on an individual investment or vehicle without regard to whether all of the returns would, if distributed, be payable to such Grain Investment Vehicle's investors. To the extent that a Grain Investment Vehicle uses its credit facility to fund investments or expenses in advance of calling capital from limited partners, Gross IRR for the Grain Investment Vehicle would be higher than what it would have been had such credit facility not been used. Gross IRR at the fund level differs from those at the individual investor level as a result of, among other factors, timing of investor-level inflows and outflows. Gross IRR does not represent the return to any fund investor.
- ix. "Gross MOIC" is the ratio of (a) the sum of Total Value to (b) Invested Capital. To the extent that a Grain Investment Vehicle uses its credit facility to fund investments or expenses in advance of calling capital from limited partners, Gross MOIC for the Grain Investment Vehicle would be higher than what it would have been had such credit facility not been used. Gross MOIC does not represent the return to any fund investor.

# Notes to Investment Performance (cont.)



- x. "Net IRR" for a Grain Investment Vehicle represents the annual, compounded net internal rate of return calculated based on the actual dates and amounts of cash contributions (including contributions invested in portfolio investments and to fund fees and expenses) from, and distributions to, the limited partners of the relevant Grain Investment Vehicle assuming disposition of unrealized investments on December 31, 2022 at the Unrealized Value shown, after the allocation of management fees, carried interest and other fund-level expenses. The calculation of Net IRR takes into account an estimate of any fund-level fees and expenses and carried interest that may be allocable to the investors with respect to any unrealized investments. To the extent that a Grain Investment Vehicle uses its credit facility to fund investments or expenses in advance of calling capital from limited partners, Net IRR for the Grain Investment Vehicle would be higher than what it would have been had such credit facility not been used. Net IRR at the fund level will differ from that at the individual investor level as a result of, among other factors, timing of investor-level inflows and outflows. Net IRR does not represent the return to any fund investor. Net IRRs for individual investments have been calculated by allocating all fees and expenses, including but not limited to; management fees, carried interest (accrued or paid), partnership expenses, dead deal costs, interest costs, organizational costs, syndication costs and/or investment expenses (collectively "Expenses") to individual investments based on each investment's gross profit as a % of total fund gross profits, with the intent of capturing and allocating all non-investment cash flows of the applicable Grain Investment Vehicle. In those instances where aggregate performance of a subset of some, but not all, investments made by multiple funds is presented (i.e., New Level) net investment returns have been calculated using an allocation of hypothetical Expenses including man
- xi. "Net MOIC" is, (a) with respect to the relevant Grain Investment Vehicle, the Gross MOIC for such Grain Investment Vehicle net of management fees, carried interest and other fund-level expenses to be borne by investors in the relevant Grain Investment Vehicle and (b) with respect to GSH and GSH II, the Gross MOIC for GSH and GSH II net of expenses borne by GSH and GSH II. GSH and GSH II are proprietary investment vehicles of Grain and do not charge any management fees or carried interest. To the extent that a Grain Investment Vehicle uses its credit facility to fund investments or expenses in advance of calling capital from limited partners, Net MOIC for the Grain Investment Vehicle would be higher than what it would have been had such credit facility not been used. Net MOIC does not represent the return to any investor.
- xii. "NA" or "Not Applicable": for GSH represents that Gross or Net MOIC or IRR have not been calculated for GSH on a standalone vehicle basis due to the fact that capital was never called from the investors in GSH. GSH's investments were 100% financed with debt (more specifically, spectrum-backed ABS). The performance of GSH has been included in the calculations of the aggregate returns (including net returns) across all Grain Investment Vehicles, and the financing of GSH's investments with all debt, instead of with all investor contributed capital, results in higher aggregate net returns across the Grain Investment Vehicles than if GSH's investments had been financed with all investor contributed capital.
- xiii. For GSH II, the Gross or Net IRR, when calculated on a standalone vehicle basis, is greater than 1,000% due to the fact that the acquisition of GSH II's investments was substantially financed with debt (more specifically, spectrum-backed ABS). The performance of GSH II has been included in the calculations of aggregate returns (including net returns) across all Grain Investment Vehicles, and the financing of GSH II's investments substantially with debt, instead of with all investor contributed capital, results in higher aggregate net returns across the Grain Investment Vehicles than if GSH II's investments had been financed with all investor contributed capital.
- xiv. Totals for each Grain Investment Vehicle do not include unallocated working capital adjustments and may not visually appear to tie due to small rounding differences.
- xv. The Towers Investments in GIF and GIF II were portfolios of cell towers consisting of 142 and 396 cell towers, respectively.
- xvi. Of the \$9.4 million investment in Cincinnati Bell Wireless, \$7.3 million was funded by GIF II, representing a 77.47% ownership interest, leaving \$2.1 million or 22.53% of the investment funded by GSH II. The calculation of Grain's aggregate investment performance does not double-count GIF II's investment in Cincinnati Bell Wireless, as described in note (ii).
- xvii. GSH II was a special purpose vehicle to complete a single investment, Cincinnati Bell Wireless. GSH II invested \$2.1 million in Cincinnati Bell Wireless alongside GSH II's \$7.3 million investment in Cincinnati Bell Wireless. The Cincinnati Bell Wireless investment generated realized proceeds of \$16.8 million for GSH II and \$57.9 million for GIF II. Grain did not earn any management fees or carried interest from GSH II, and as a result the gross and net performance are the same.
- xviii. NewLevel, LLC is an investment vehicle used by Grain to acquire and hold the 26 spectrum licenses acquired in the 600 MHz FCC Spectrum Auction completed on May 11, 2017. GCOF is the managing member of NewLevel, LLC. Based on invested capital, (a) GCOF owns 87.7% of the economic interests in NewLevel, LLC, (b) GIF II owns 6.1% of the economic interests in NewLevel, LLC and (c) the remaining 6.2% is owned by a direct investor, who is subject to the same terms as the other limited partners in GCOF, other than terms related to participation in investments made by GCOF outside of NewLevel, LLC. Because GCOF is the managing member of NewLevel, LLC, for purposes of presenting the detailed investment performance of NewLevel, LLC in GCOF, GCOF is treated as if it owns 100% of the economic interests in NewLevel, LLC rather than only owning 87.7% of such economic interests. As a result, the Total Invested Capital and Total Value of GCOF presented on a standalone vehicle basis appear greater than they otherwise would be if they were calculated taking into account only the 87.7% owned by GCOF. The Gross MOIC, Net MOIC, Gross IRR and Net IRR of GCOF are not impacted by this presentation and are calculated as described in notes (viii), (ix), (x) and (xi).



ERICK RUSSELL TREASURER SARAH SANDERS DEPUTYTREASURER

May 5, 2023

Members of the Investment Advisory Council ("IAC")

Re: Consideration of Hg CT1 Co-Investment L.P. and Hg Titan 2, L.P.

Dear Fellow IAC Member:

At the May 10, 2023 meeting of the IAC, I will present for your consideration two investment opportunities: Hg CT1 Co-Investment L.P. ("Hg CT1"), a private equity opportunity for the Private Investment Fund ("PIF") of the Connecticut Retirement Plans and Trust Funds (the "CRPTF"), and Hg Titan 2, L.P. ("Titan 2"), a private credit opportunity for the Private Credit Fund ("PCF") of the CRPTF. Both Hg CT1 and Titan 2 will be managed by Hg LLP ("Hg"), an existing CRPTF private equity and private credit manager.

I am considering an additional commitment of up to \$75 million to Hg CT1, an existing, customized vehicle established providing the CRPTF the opportunity to co-invest in certain Hg portfolio companies, on a no fee and no carry basis. The existing \$75 million commitment to Hg CT1 closed in July 2021. The Hg CT1 increased commitment would allow the CRPTF to expand fee advantaged exposure to a leading private equity manager focused on the European software and services markets.

I am also considering a commitment of up to \$150 million to Titan 2. Titan 2 will focus on junior debt investments in select Hg portfolio companies, particularly the larger companies in the Genesis and Saturn portfolios. The Titan 2 opportunity will provide fund investors with differentiated credit investments and attractive risk-adjusted returns that have typically been captured by third-party credit investors.

Attached for your review are the recommendations from Ted Wright, Chief Investment Officer, the due diligence report prepared by Hamilton Lane, and the investor presentation prepared by Hg. I look forward to our discussion of these materials at next week's meeting.

Sincerely.

Erick Russell State Treasurer



Full Due Diligence Report
Chief Investment Officer Recommendation
April 18, 2023
Hg CT1 Co-Investment L.P. and Hg Titan 2 L.P.



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# **Executive Summary**

### Hg CT 1 Co-Investment

### Manager Overview

- Hg Pooled Management Limited ("Hg" or the "Firm")
- Independent since 2000
- Led by 26 partners
- Key office locations in London, Munich, and New York
- 130 investment professionals
- £21.0 billion invested across multiple private equity and private credit platforms
- Dedicated to investing in the software and services sector

### **Fund Summary**

- Hg CT1 Co-Investment L.P. ("Hg CT1")
- Increased commitment to the existing Hg CT1 Co-Investment vehicle that closed in July 2021
- Private Equity
- Fund of One
- Strategy Focus: buyout coinvestments
- Sector Focus: software and services in Europe
- No fee, no carry

### Strategic Fit

- Private Investment Fund ("PIF")
- Recommended Commitment Increase: \$75 million
- IPS Category: Corporate Finance
  - IPS Range for Corporate
     Finance: 70% to 100% of total
     PIF exposure
  - Current Corporate Finance Exposure: 88%
- PIF Strategic Pacing Plan
  - Sub-strategy: Large/Mega Buyout
    - Long-term Large/Mega
       Buyout targeted exposure:
       15% to 25%
    - Current Large/Mega
       Buyout Exposure: 24%



# **Executive Summary**

### Hg Titan 2

### Manager Overview

- Hg Pooled Management Limited ("Hg" or the "Firm")
- Independent since 2000
- Led by 26 partners
- Key office locations in London, Munich, and New York
- 130 investment professionals
- £21.0 billion invested across multiple private equity and private credit platforms
- Dedicated to investing in the software and services sector

### **Fund Summary**

- Hg Titan 2 L.P. ("Titan 2" or the "Fund")
- Private Credit
- Mezzanine
- Sector Focus: software and services in Europe
- Target/Hard Cap: \$1.5 billion / \$1.75 billion
- GP Commitment: 1%
- Management Fee: 1.0% of invested capital during investment period; 0.75% of invested capital post investment period
- Carried Interest: 10%
- Waterfall: European
- Preferred Return: 8%

### Strategic Fit

- Private Credit Fund ("PCF")
- Recommended Commitment: \$150 million
- IPS Category: Mezzanine
  - IPS Range for Mezzanine: 0% to 30% of total PCF exposure
  - Current Mezzanine Exposure: approximately 9.2%
- PCF Strategic Pacing Plan
  - Long-term Mezzanine targeted exposure: 10% - 20% of total PCF exposure



# Recommendation

### Recommendation

Based on the strategic fit within the PCF portfolio, as well as due diligence done by Pension Funds Management ("PFM") investment professionals and Hamilton Lane, the Chief Investment Officer of the Connecticut Retirement Plans and Trust Funds ("CRPTF") recommends consideration of an increased commitment of up to \$75 million to Hg CT1 and a commitment of up to \$150 million to Titan 2.

# Investment Considerations

- The recommended commitments would expand the CRPTF's existing relationship with the leading private equity manager in the European software and services market.
- Hg CT1 will provide the CRPTF with cost efficient investment opportunities to generate strong net returns.
- The Titan 2 strategy will provide the CRPTF differentiated private credit exposure to Hg portfolio companies and a favorable risk return profile.

# General Partner

#### Background

- Hg was formally the private equity arm of Mercury Asset Management ("Mercury"), Mercury was acquired by Merrill Lynch in 1997. Hg spun out from Merrill Lynch in December 2000, and has since been fully independent and remained 100% employee-owned.
- Since 2012, Hg set its investment focus exclusively in the enterprise software and services sector under the leadership of Nic Humphries, who joined the Firm in 2001, and became CEO and Senior Managing Partner.
- Prior to Hg, Humphries held positions with Barclays Private Equity and 3i, with significant experience on the software and technology sector.

#### **Broad Platform**

- Hg manages three private equity fund products: Saturn, Genesis, and Mercury, targeting upper middle market, middle-market, and lower-middle market software and technology companies in Europe.
- Hg raised Titan 1 in 2021, investing in junior debt opportunities in select across Hg portfolio companies, mostly in the Saturn and Genesis funds.
- Hg leverages shared resources and sector expertise, which generates substantial synergy across the Hg fund series. With 130 investment professionals and key offices in London, New York, and Munich, Hg is the largest dedicated software and services investment group in Europe.

### Governance

- Three core committees, comprised by the Firm's most senior professionals, oversee Hg's decisions at an investment and organizational level:
  - Board: the 7-member board manages the Firm from an overall commercial perspective.
  - Investment Committee ("IC"): the 9-member IC reviews investment opportunities and portfolio companies' development.
  - Realization Committee ("RC"): the 5-member RC reviews and approves exits and recapitalization across the portfolio.



# General Partner

Team

- Hg has the largest dedicated software and services investment team in Europe.
  - Saturn team: 36 dedicated investment professionals, including 5 partners;
  - Genesis team: 55 dedicated investment professionals, including 7 partners;
  - Mercury team: 36 dedicated investment professionals, including 6 partners.
- Juan Campos heads Titan 2 investments and operations, as well as Hg's overall Capital Markets function, covering Hg's relationships with banks and financial institutions. Juan joined Hg in 2018, having previously served as Head of Capital Markets at Lone Star Funds and an investment banker at Goldman Sachs.

CRPTF Relationship: Hg is an existing manager in the PIF and PCF portfolios. A summary of Connecticut's existing commitments to Hg funds is provided in the table below. Titan 1 has been over 66% invested as of December 31, 2022; it has not called capital due to the utilization of subscription lines.

(US\$ in millions, as of December 31, 2022)

	Vintage		Connecticut	Unfunded		Total		Net			
Fund	Year	Status	Commitment	Commitment	NAV	Exposure	IRR	TVM	DPI		
Private Investment Fund											
Genesis 9	2020	Investing	\$59	\$22	\$46	\$68	19%	1.2x	0.2x		
Saturn 2	2020	Investing	\$100	\$43	\$68	\$111	23%	1.2x	0.4x		
Hg CT1	2021	Investing	\$75	\$29	\$49	\$78	10%	1.1x	0.0x		
Genesis 10	2022	Investing	\$80	\$79	\$0	\$79	n/m	n/m	n/m		
Saturn 3	2022	Investing	\$150	\$149	\$0	\$149	n/m	n/m	n/m		
Hg Total in PIF			\$464	\$323	\$163	\$485					
% Total PIF					3%	5%					
Private Credit Fund											
Titan 1	2021	Investing	\$75	\$74	\$4	\$78	n/m	n/m	n/m		
% Total PCF					0%	2%					

Source: CRPTF returns from Solovis. TVM is total value multiple. DPI is distributions to paid in capital.

Genesis 9 and 10 amounts shown in USD were converted from the funds' currency of Euros.

# Investment Strategy - Hg CT1

#### **Dedicated Focus**

- Hg CT1 is structured as an evergreen vehicle and co-invests with different strategies Hg manages for the European software and technology sector:
  - Saturn, targeting upper middle market companies with enterprise values above €1.5 billion;
  - Genesis, targeting middle market companies with enterprise values of between €500 million and €1.5 billion.
  - Mercury, targeting lower-middle market companies with enterprise values of between €100 million and €500 million.
  - Titan, targeting junior debt investments in companies held in Hg private equity funds.

### Hg Clusters

- Within the European software and services market, Hg has developed subsectors with higher growth potential than the overall economic environment. Hg identifies these eight subsectors as "Hg clusters" and has invested with repeated success.
- Specifically, the eight Hg sectors are: tax & accounting, ERP & payroll, legal & regulatory compliance, automation & engineering, technology services, healthcare IT, capital markets & wealth, management IT, and insurance.

### Investment Approach

- Within the eight "Hg Clusters" the Firm has identified, Hg heavily focuses on mission critical B2B business models, with predictable cashflows, subscription or repeat revenue models, and low customer concentrations.
- Post investment, Hg employs various value creation best practices it has developed to drive operating and strategic enhancements, including business model optimization, data & analytics, rolling-up fragmented industries, and business infrastructure investment.
- Hg CT1 will benefit from the thoughtful and disciplined investment approach Hg applies.



# Investment Strategy – Titan 2

#### **Dedicated Focus**

- Titan 2 will focus on junior debt investments in selected portfolio companies of Hg private equity funds.
- The majority of the Titan 2 investments are expected to be in Saturn portfolio companies but may include exposure to select Genesis portfolio companies. A substantial portion of the investments will be payment-in-kind securities issued at the holding company level ("HoldCo PIK").

#### Portfolio Construction

- Titan 2 will target between 10 and 12 investments, and target a net IRR of 20% +, comparable to private equity returns. The average holding period of the investments is expected to be 3-5 years. Hg portfolio companies generally have an equity cushion around 60% beneath Titan investments.
- Titan 2 will only invest in opportunities involving a third-party, institutional investor ("Qualified Investor") to avoid conflicts of interest. The Qualified Investor must invest at least one-third of the junior capital financing junior and will set the market terms for each potential Titan 2 transaction.

### **Operations Committee**

- Titan 2 will be overseen by an Operations Committee comprised of Nic Humphries, Senior Partner; Matthew Brockman, Managing Partner; Steven Batchelor, Partner & Chief Operating Officer; and Juan Campos Benitez, Partner & Head of Capital Markets.
- The Operations Committee will determine whether an investment opportunity complies with the Titan investment guidelines with respect to diversification, undrawn commitments, and legal, tax and regulatory requirements.



## Track Record and Performance

- Since the Firm became independent in 2000, Hg has completed 109 software and services investments as of September 30, 2022 and achieved strong results:
  - 54 investments have been realized or partially realized, which generated proceeds of £15.1 billion, with a gross IRR of 33% and a gross TVM of 3.3x.
  - 80% of realized investments have returned a gross TVM of more than 2.5x or a gross IRR over 25%.
  - Hg has consistently generated 1<sup>st</sup> and 2<sup>nd</sup> quartile returns across its Saturn, Genesis, and Mercury funds.
- As of September 30, 2022, Titan 1 has invested \$780 million, and all investments have been in portfolio companies of Saturn 1, 2 and 3.
- The Titan 1 portfolio companies fit well with Hg's defined investment criteria. All portfolio companies are within Hg's focus sectors. On average, the portfolio companies had recurring revenue of 89% and EBITDA margins of 35%, with LTM revenue and EBITDA growth of 34% and 30% respectively, as of September 30, 2022.
- As of December 31, 2022, Hg CT1 had made three investments. All of which were invested alongside the Saturn funds.
- The investment performances of the Saturn funds, Titan 1, and recent Genesis funds are shown as below.

1	Currency	in	millions	20	of Sa	ntamh	or 3	ıΛ	20221	
ı	currency	111	millions,	a১	oi se	ptemb	er s	SU,	20221	1

	Hg Investment Management													
Investment Performance Summary														
	Vintage	Fund	#	Invested	Realized	Unrealized	Total		Gross/Net		Qu	Quartile Rank		
Fund	Year	Size	Deals	Capital	Value	Value	Value	TVM	IRR	DPI	TVM	IRR	DPI	
Genesis 9	2020	€4,500	12	€4,013	-	€4,889	€4,889	1.2x / 1.2x	20.0% / 30.0%	0.0x / 0.3x	2nd	1st	1st	
Genesis 10	2022	€5,500	1	€696	-	€725	€725	1.0x / n/m	20.8% / n/m	0.0x / 0.0x	n/m	n/m	n/m	
Saturn 1	2018	£1,500	4	£1,471	£420	£2,534	£2,954	2.0x / 1.7x	24.0% / 21.9%	0.3x / 0.4x	1st	1st	1st	
Saturn 2	2020	\$5,000	6	\$3,805	\$324	\$4,653	\$4,978	1.3x / 1.2x	18.4% / 20.3%	0.1x / 0.3x	2nd	2nd	1st	
Saturn 3	2022	\$8,500	1	\$1,500	-	\$1,504	\$1,504	1.0x / n/m	1.0% / n/m	0.0x / 0.0x	n/m	n/m	n/m	
Titan 1	2021	\$1,200	7	\$780	-	\$857	\$857	1.1x / n/m	15.4% / n/m	0.0x / 0.0x	n/m	n/m	n/m	

Source: Hg, CRPTF, Quartile Rank based on Hamilton Lane European Mid and Large Buyout Benchmarks net returns.



Hg CT1

- The Hg CT1 investment strategy falls under the Corporate Finance allocation of the PIF.
- The IPS sets a target allocation of 70% to 100% for Corporate Finance investments within the PIF portfolio based on total exposure, defined as market value plus unfunded commitments.
- Corporate Finance strategies represented approximately 88% of the PIF's total exposure as of December 31, 2022.

- The recommended commitment increase to Hg CT1 aligns with PIF strategic pacing plan objectives as noted below:
  - ✓ Maintaining the PIF's long-term exposure to large/mega buyouts of 15% to 25%.
    - Large/mega buyout fund investments represented approximately 24% of the PIF's total exposure as of December 31, 2022.
  - ✓ Enhancing diversification of the PIF portfolio through Hg's specialized geographic and sector focus and proven abilities in delivering strong risk-adjusted returns.
  - ✓ Hg CT1 will be on a no fee, no carry basis and will provide the CRPTF enhanced net returns with cost efficiency.

The PIF's 2023 pacing plan targets and investment activity to date is summarized below.

The recommended Hg CT1 commitment is shown by its underlying exposure.

		2023 Investment Activities & Summary Pacing Plan Targets															
\$Millions								Subs	trategy								
Pacing Plan Targets		/Mega /out		II/Mid yout	Growt	h Equity	<u>Ventur</u>	e Capital	Secor	idaries	Mez	zanin <u>e</u>		essed/ icturing	<u>Co-Inve</u>	stments	Total
Total Commitments	\$350	\$700	\$800	\$1,150	\$350	\$475	\$0	\$150	\$250	\$300	\$0	\$200	\$0	\$300	\$100	\$200	\$1,900
Commitment Size	\$200	\$300	\$200	\$300	\$150	\$200	\$0	\$150	\$150	\$200	\$0	\$200	\$0	\$150	\$100	\$200	
Number of Commitments	1	3	4	5	2	3	0	1	1	2	0	1	0	2	0	1	8 to 18
Investment / Status																	
Vista Equity Partners Fund VIII* - Closed	\$2	200															\$200
HarbourVest Co-Investment* - Closed															\$1	L50	\$150
Vistria V - Closed			\$	175													\$175
JFL Equity Investors VI - Closed			\$	150													\$150
One Rock Capital Partners IV - Closed			\$	100													\$100
One Rock Emerald Fund - Closed			Ş	50													\$50
K6 Private Partners - Approved (March IAC)			\$	200													\$200
Hg CT1	\$	75															<i>\$75</i>
Capital Commitments	\$2	275	\$	675	Ş	60		\$0	,	60		\$0		\$0	\$1	L50	\$1,100
Number of Commitments		2		5		0		0		0		0		0		1	8

<sup>\*</sup>Commitment amounts included in 2023 pacing plan although legal commitments closed in December 2022.

Titan 2

- The Titan 2 investment strategy falls under the Mezzanine sub-strategy allocation of the PCF.
  - The IPS sets a target allocation of 0% to 30% for Mezzanine investments within the PCF portfolio based on total exposure, defined as market value plus unfunded commitments.
  - Mezzanine strategies represented approximately 9.2% of the PCF's total exposure as of December 31, 2022.

The recommended commitment to Titan 2 aligns well with several PCF strategic pacing plan objectives as noted below:

- ✓ Increasing the PCF's long-term exposure to Mezzanine investments of 10% to 20%.
- ✓ Enhancing diversification of the PCF portfolio with an experienced manger executing a geographic and sector focused investment strategy.
- ✓ The Titan strategy provides access to credit investments that are largely differentiated from those executed by other PCF managers.

The PCF's 2023 pacing plan targets and investment activity to date is summarized below.

		2023 Investment Activities & Summary Pacing Plan Targets									
\$Millions					S	ubstrateg	у				
Pacing Plan Target Ranges	<u>Se</u>	<u>nior</u>	<u>Mezz</u>	zanine	Special S	ituations	<u>Distr</u>	<u>essed</u>	Co-Inve	stments	Total
Total Commitments	\$800	\$1,000	\$150	\$200	\$275	\$400	\$150	\$200	\$100	\$200	\$1,300
Commitment Size	\$150	\$250	\$75	\$200	\$100	\$275	\$75	\$200	\$100	\$200	
Number of Commitments	4	6	1	2	1	3	1	2	1	1	8 to 14
Investment / Status											
HarbourVest Co-Investment - Closed									\$1	50	\$150
Vistria Structured Credit I - Closed			\$1	100							\$100
Hg Titan 2 -Recommendation			\$1	150							\$150
Capital Commitments	Ş	\$0	\$2	250	Ş	60	Ş	60	\$1	50	\$400
Number of Commitments		0		2		0		0	1	L	3

# Strengths and Rationale

Market Leading Position in the Enterprise Software and Service Sector

- With over two decades of experiences in the European software and services sector, Hg has a comprehensive platform and established brand, which enhances its deal sourcing.
- Hg has managed through different economic cycles. Since its founding in 2000, the Hg private equity funds have never had loss for a lender across more than 100 investments, representing over \$28 billion of invested capital.

### Attractive Opportunity Set

- Both Hg CT1 and Titan 2 are expected to primarily invest in the larger companies in the Genesis and Saturn portfolios, a market segment with limited competition and favorable risk return profile.
- Titan 2 will have an information edge by investing in Hg sponsored companies and will have insight into the credit risks of its investments through Hg's equity exposure.
- Hg portfolio companies generally have substantial equity cushion beneath Titan investments. The Titan 1 portfolio currently maintains a substantial equity cushion of 61% on average, compared to a European market average of 50%.

### Robust Value Creation

- Hg has an in-house portfolio team of over 60 experienced professionals, dedicated to driving value creation of portfolio companies. The portfolio team is fully integrated to the deal sourcing, due diligence, and on-boarding processes of portfolio companies.
- Hg also seeks to harness the power of the software and services ecosystem, bring connectivity across the Hg portfolio, and achieve an Hg "network effect" to create value.

# Key Risks and Mitigants

Potential Conflicts of Interests -Titan 2

- Titan 2 and Hg private equity funds will invest in the same companies, creating potential conflict of interests.
- Titan 2 can only participate in the junior capital financing of an Hg portfolio company if a "Qualified Investor" is going to hold at least a one-third interest in the financing and Titan 2 accepts the terms and conditions with set by the Qualified Investor.
- In case of a credit and equity holder dispute, the Qualified Investor will drive the negotiation for the junior capital tranche of the portfolio company.

Risk Related to Junior Capital Financing - Titan 2

- The Titan 2 strategy invests in junior positions of the capital stack, with greater inherent credit risk than senior-oriented strategies.
- Hg's financing structures are supported by significantly larger equity portions than European market average. The portfolio companies in Titan 1 averaged an equity cushion of 61%, compared to an average of 50% in European market buyout transactions.

# Fundraising and Key Terms Summary

Titan 2	
Target Size / Hard Cap	\$1.5 billion / \$1.75 billion
GP Commitment	• 1%
Fundraising Status	Hg expects to have \$1.1 billion commitments closed by April 2023.
Target Final Close	• June 2023
Fund Term	• 8 years*
Investment Period	• 3 years
Management Fee	• 1.0% of invested capital during investment period; 0.75% of invested capital post investment period.
Fee Discounts & Offsets	• 100%
Carry & Waterfall Type	• 20%
Preferred Return	• 8%
Notes	<ul> <li>* 1 one-year extension at the discretion of the GP, 1 additional one-year extension with advisory board approval,</li> <li>1 additional one-year extension with LP approval.</li> </ul>
Hg CT1	
Target Size	\$150 million (increase from \$75 million)
Fund Term	Evergreen
Investment Period	• Evergreen
Management Fee	No fee, no carry

# Legal and Regulatory Review

#### Hg Pooled Management Limited ("Hg")

In its disclosure to the Office of the Treasurer, Hg Pooled Management Limited ("Hg"), discloses the following matter:

In 2021 the UK Competition and Markets Authority (CMA) imposed a financial penalty on HgCapital LLP in relation to a historic investment sold in 2012. Hg states that the CMA has not alleged HgCapital LLP itself was involved in any competition law infringement, but is included in the case due to Hg Genesis 6's historic ownership of the business in question. The CMA's decision is under appeal and Hg expected an outcome within the next six months.

Hg states that it has no material claims under its fidelity, fiduciary or E&O insurance policies to report, and that it has no ongoing internal investigations to report. Hg states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors.



# Compliance and Diversity Review

Hg Pooled Management Limited ("Hg Pooled")

### **Compliance Certifications and Disclosures**

Hg Pooled disclosed no campaign contributions, known conflicts or third-party fees.

### **Commitment to Diversity**

Employees – The firm seeks to recruit diverse talent. They standardized their recruitment process and annual performance process to eliminate bias. The firm engages in training and education. For example, in 2020, the firm partnered with Paradigm to deliver managing unconscious bias workshops to all employees. It continues to offer additional educational and awareness events.

Industry – Hg Pooled partners with organizations such as Level 20 and LGBTGreat (for mentoring), #10000BlackInterns (for student internships), Dartmouth annual Junior Women in Private Equity and SFO to name a few.

*Vendors* – The firm does not have a formal vendor diversity program.

#### **Nexus to Connecticut**

The firm does not have any employees residing or working in CT.

# Compliance and Diversity Review

Hg Pooled Management Limited ("Hg Pooled")

### **Workforce Diversity**

### Hg Pooled provided data as of December 31, 2022

- 350 employees, up 60% since 2020
- Hg Pooled collected data on a voluntary basis from employees. The large number of "preferred not to say" and "other" employee responses in 2020 affects analysis of three-year trend data.

### For the three-year reporting period

- Proportion of minorities at Executive and Management levels grew significantly. Of note, the number of minorities at the Management level grew significantly (15 to 70 persons).
- · Proportion of women across all levels is consistent with other firms and showed some growth over three years

#### WOMEN

	EXEC	MGMT	PROF	FIRM
2022	12%	37%	47%	49%
2022	4 of 33	106 of 287	8 of 17	170 of 350
2021	8%	36%	49%	48%
2021	2 of 25	65 of 179	18 of 37	133 of 280
2020	7%	34%	50%	44%
2020	2 of 28	59 of 172	4 of 8	94 of 216

### MINORITIES<sup>1</sup>

	EXEC	MGMT	PROF	FIRM
2022	12%	24%	18%	17%
2022	4 of 33	70 of 287	3 of 17	61 of 350
2021	0%	12%	24%	14%
2021	0 of 25	21 of 179	9 of 37	38 of 280
2020	0%	9%	25%	9%
2020	0 of 28	15 of 172	2 of 8	20 of 216

<sup>&</sup>lt;sup>1</sup> 2022 Minority breakdown: 4 exec (4 Two+); 70 mgmt (4 Black, 36 Asian, 30 Two+); 3 prof (1 Black, 1 Asian, 1 Two+)



# Environmental, Social and Governance Analysis

### Overall Assessment: Evaluation and Implementation of Sustainable Principles

Hg's disclosure described comprehensive integration of ESG factors into the firm's investment process. The firm employs a Responsible Investment Policy that guides its due diligence and ongoing investment monitoring. Hg's vision is to be the most sustainable European Private Equity firm and draws from frameworks such as the UN Principles on Business and Human Rights and the UN Sustainable Development Goals. The firm is a signatory of the UN PRI and also takes part in multiple sustainability-oriented groups including the Science Based Targets Initiative, the Net Zero Asset Managers Initiative, and the ESG Data Convergence Initiative. Hg's Chief Sustainability Officer is charged with implementing and maintaining the ESG policies and research, while the Board of Directors handles oversight of the policy. The firm provides ESG-related trainings to all new employees and mandatory ESG modules to all employees.

Hg does not invest in civilian firearms retailers and manufacturers and explicitly includes both on the firm's exclusion list.

Overall, the disclosure indicated the firm has excellent ESG integration.

SCORE	
4	
1	
•	

Criteria	Response
Firm has an ESG policy	Yes
If Yes, firm described its ESG policy	Yes
If Yes, firm provided examples of ESG factors considered in the decision-making process, explained the financial impact of these ESG factors	Yes
Designated staff responsible for sustainability policies and research	Yes
Firm provides training/resources on sustainability issues, explained sources of ESG-related data	Yes
Signatory/member of sustainability-related initiatives or groups	Yes
Policy for evaluating current or prospective relationships with manufacturers or retailers of civilian firearms	Yes*

Criteria	Response
Policy that requires safe and responsible use, ownership or production of guns	Yes*
Enhanced screening of manufacturers or retailers of civilian firearms	Yes*
Enhance screening of any industry/sector subject to increased regulatory oversight, potential adverse social and/or environmental impact	Yes
Merchant credit relationship with retailers of civilian firearms and accessories	No**
If Yes, firm confirms compliance with laws governing firearms sales	N/A



# Hg Titan 2 L.P. & Hg CT1 Co-Invest L.P.

Recommendation Report April 2023



### **Important Disclosures**

All information contained within this report has been gathered from sources believed to be reliable, including but not limited to the general partner(s), other industry participants and the Hamilton Lane Investment Database, but its accuracy cannot be guaranteed.

The information contained in this report may include forward-looking statements regarding the fund presented or its portfolio companies. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the fund or the portfolio companies, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect our current judgment, which may change in the future.

The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the fund will achieve comparable results or that it will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which the current unrealized valuations are based.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate the performance of the fund or the portfolio companies referred to for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

By accepting receipt of this investment report and in consideration of access to the information contained herein (together with the investment report, the "Confidential Information"), the recipient agrees to maintain the strict confidentiality of any and all Confidential Information in accordance with the terms of this paragraph. The recipient acknowledges that (i) the Confidential Information constitutes proprietary trade secrets, and (ii) disclosure of any Confidential Information may cause significant harm to Hamilton Lane Advisors, L.L.C. ("Hamilton Lane"), its affiliates or any of their respective businesses. Unless otherwise required by law, the recipient shall not disclose any Confidential Information to any third party. If required by law to disclose any Confidential Information, the recipient shall provide Hamilton Lane with prompt written notice of such requirement prior to any such disclosure so that Hamilton Lane may seek a protective order or other appropriate remedy. Prior to making any disclosure of any Confidential Information required by law, the recipient shall use its reasonable best efforts to claim any potential exemption to such requirement and otherwise shall limit disclosure only to such information that is necessary to comply with such requirement.

The calculations contained in this document are made by Hamilton Lane based on information provided by the general partner (e.g. cash flows and valuations), and have not been prepared, reviewed or approved by the general partner.

Stacked bar charts or pie charts presented in the Strategy section in this report may not equate to 100% per the data labels on the charts due to rounding; however, all stacked bar charts and pie charts equate to 100% using exact proportions.



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### Hg Titan 2, L.P. - Fund Information

### **Organization Overview**

#### **General Partner:**

Hg Capital ("General Partner"), ("Hg")

#### **Firm Inception:**

1990

#### Team:1

8 investment professionals

#### **Senior Partners:**

Nic Humphries, Steven Batchelor, Matthew Brockman and Juan Campos

#### **Location:**

London (headquarters), Munich, Paris, San Francisco, New York and Luxembourg

#### **Fund Overview**

#### Fund:

Hg Titan 2 L.P. ("Fund")

#### Target Size/Hard Cap:2

\$1.5 billion/\$1.7 billion

#### **Asset Class:**

Private debt

#### Strategy:

Junior debt

#### **Substrategy:**

Structured or preferred equity

#### **Geography:**

Western Europe

#### Industries:

Software and technology services

#### **Portfolio Construction**

#### **Enterprise Values:**

Not provided

#### **Equity Investments:**

Over \$100 million

#### **Target Number of Investments:**

10 to 12

#### **Max Single Investment Exposure:**

20%

#### **Expected Hold Period Per Investment:**

3 to 5 years

#### **Target Returns:**

20%+ net IRR

<sup>&</sup>lt;sup>1</sup> Represents Operations Committee plus Capital Markets team

<sup>&</sup>lt;sup>2</sup> EUR and USD sleeves available



#### **Net Performance and Benchmarks**

- As of 9/30/22, the General Partner had not drawn any capital for Fund I, utilizing a bridge facility to optimize net IRR performance
  - Hg estimated that Fund I had generated a 13% net IRR as of 9/30/22, had it not used a subscription line
  - The General Partner expects to employ a similar methodology for Titan 2, with no drawdowns anticipated in the first 18 months

### **Fundraise Update**

- First close held on 2/10/23
- Further closes anticipated in Q2 2023



# **Executive Summary (cont.)**

### Key Terms<sup>1</sup>

Term	Summary
Investment Period	3 years; + 1 one-year extension with advisory board approval
Fund Term	8 years; + 1 one-year extension at the discretion of the General Partner; + 1 one-year extension with advisory board approval; + 1 one-year extension with majority limited partner approval
<b>GP Commitment</b>	At least 1.0% (\$15 million)
Management Fee	1.0% of net invested capital stepping down to 0.75% of net invested capital during the post-investment period
Fee Discount	None
Fee Offset	100%
Organization Expenses	To be finalized
Carry/Preferred Return	10%/8%; full return of contributions
GP Catch-up	100%
Clawback	Yes

<sup>&</sup>lt;sup>1</sup> Refers to the terms proposed by the General Partner as of January 2023; terms are subject to change during fundraising

# **Executive Summary (cont.)**

#### **Investment Thesis**

Deep pipeline of junior debt investment opportunities from other Hg fund lines

- Hg is an established software and technology investor with a strong brand, targeting lower middle-market to large-cap opportunities
- Investing in the junior debt of existing Hg portfolio companies, Titan benefits from a deep pipeline of opportunities foremost from Saturn and Genesis fund lines

Activity led by Capital Markets team, with oversight from the Operations Committee

- Led by Juan Campos, Hg maintains a robust and well-networked Capital Markets team that benefits from the support of the broader platform including investment teams, the client services team and the operations team, driving execution
- An Operations Committee, comprised of senior Hg professionals, provides oversight and ensures consistent decision-making for the Titan strategy

Invests in junior debt financing for existing Hg companies, optimizing capital structures

- Investing in the software and technology services sectors, the General Partner's portfolio is highly cash generative, with predictable recurring revenues, and generating strong growth, providing an attractive investable universe for Titan
- The high cash yield and low levels of cash pay debt of software companies provides downside protection

Attractive performance in Fund I

- The General Partner maintains a strong focus on fund management across its platform to maximize net IRR returns
- The General Partner has generated strong gross returns in the prior fund; Fund I investments are performing well

Executive Summary | General Partner | Investment Strategy | Track Record | ESG | Appendices

## **Executive Summary (cont.)**

#### **Need to Believe**

The General Partner is able to effectively manage conflicts of interest

- With Hg and its limited partners invested in the equity and debt of its portfolio companies, the General Partner will need to manage potential conflicts across its limited partner base
- The General Partner maintains processes to manage potential conflicts at the investment stage and throughout ownership

Hg encourages involvement from the broader platform

- The Capital Markets team is key to activities in Titan
- In addition to the Capital Markets team, the Titan strategy is supported by other Hg
  professionals, including senior Hg professionals from the Operations Committee
  and other teams, enabling execution

The General Partner is able to generate attractive realized returns through the Fund

- Fund I remains early with limited realizations to date
- Hg has a strong track record across its equity investments since pivoting to
  exclusively focus on software and technology services; it noted a 0% loss ratio for
  lenders since its independence in 2000 and projects all Titan portfolio companies
  to generate compelling equity performance



### Hg CT1 Co-Invest L.P. Overview

- Hg CT1 Co-Invest L.P. ("CI Fund") is a co-investment vehicle established for the sole benefit of Connecticut Retirement Plans and Trust Funds
- The CI Fund maintains the flexibility to make equity-oriented investments alongside the General Partner's equity funds (Saturn, Genesis, and Mercury)
- CRPTF made a commitment of \$75 million to the CI Fund in 2021

### **Deployment & Performance Update<sup>1</sup>**

- As of 12/31/2022, the CI Fund had completed three co-investments, representing roughly 61% of CRPTF's committed capital
- In aggregate, the three co-investments are being held at a 1.1x gross multiple and 10.4% gross IRR
- On a net basis, performance remains not meaningful as the General Partner made its first capital call in Q3 2021

<sup>1</sup> As provided by the General Partner in the Hg CT1 Co-Invest, L.P. partner's capital statement, as of December 31, 2022



#### Recommendation

Based on the analysis and information presented herein, Hamilton Lane believes that a commitment to Hg Titan 2, L.P., and an increased commitment to Hg CT1 Co-Invest L.P., works towards achieving the goals set forth for the Connecticut Retirement Plans and Trust Funds. A commitment to the Fund and an increased commitment to the CI Fund will maintain a relationship with a high-quality General Partner. Taking into account the investment strategy and portfolio diversification objectives of the Private Credit Fund and Private Investment Fund, Hamilton Lane recommends a commitment to the Fund and the CI Fund.

# Longstanding European software and technology services investor

- Hg is a longstanding and established software and technology services investor in Europe, having focused exclusively on these sectors since 2012
- The General Partner manages three buyout fund lines, investing from the lower middle-market to large-cap companies, and raising significant amounts of junior debt, providing a deep pipeline of investment opportunities for the Titan strategy
- Hg maintains processes to manage potential conflicts at the investment stage and throughout ownership

# Activity led by the Capital Markets team, with oversight from the Operations Committee

- Led by Juan Campos, Hg maintains a robust and well-networked Capital Markets team that includes five professionals
- The Capital Markets team is supported by the broader platform including investment teams, the client services team and the operations team, driving execution
- An Operations Committee, comprised of senior Hg professionals, provides oversight and ensures consistent decision-making for the Titan strategy



- The General Partner is a reputable and longstanding European private equity investor
- Hg was founded in 1990 as the private equity arm of Mercury Asset Management
  - Mercury Asset Management was acquired by Merrill Lynch in 1997 and, in December 2000, the General Partner became
    independent from Merrill Lynch and rebranded as Hg
- Hg transitioned to focus exclusively on software and technology services in 2012, with these sectors being part of its investment mandate since inception
- HgCapitalTrust PLC, a FTSE 250 investment company listed on the London Stock Exchange, is a client of the funds and its
  independent board conducts due diligence on Hg as a manager; it invests on the same terms as other limited partners but has an
  opt-out clause to aid its liquidity position

Snapshot: <sup>1</sup>	Locations:
Inception/Founders: 1990/Ian Armitage	London (headquarters), Munich, Paris, San Francisco, New York and Luxembourg
ATIM.	Strategies/Product Lines:
AUM: Over \$55 billion	Saturn (upper-middle market); Genesis (middle-market); Mercury (lower-middle market); and Titan (captive junior debt)
Management Company:	Current Leadership:
Private	Nic Humphries, Steven Batchelor, Matthew Brockman, Phil Marshall and
Headcount:	Justin von Simson
330 employees	

Executive Summary | General Partner | Investment Strategy | Track Record | ESG | Appendices

<sup>1</sup> As of 9/30/22

- · In addition to the Fund, Hg has three fund lines which target software and technology services companies in Europe
  - Hg targets lower middle-market companies through Hg Mercury 4 (target size €1.75 billion), ranging in enterprise value between €100 million and €500 million
  - The General Partner targets middle- and upper-middle market companies through Hg Genesis 10 (target size €5.5 billion), ranging in enterprise value between €500 million and €1.5 billion
  - Hg targets upper middle-market and large-cap companies through Hg Saturn 3 (closed on \$11 billion), seeking to invest in companies with enterprise values over \$1.5 billion
- The Co-investment Vehicle will invest alongside equity-oriented deals and gain additional exposure to select existing Hg portfolio companies, historically committing the majority of capital alongside the Saturn Fund.
- Through Titan, the General Partner targets junior debt investments in existing Hg portfolio companies, primarily seeking to invest
  in the junior debt of larger Genesis companies and Saturn companies
- Titan only invests in junior debt transactions led by a third-party investor (a "Qualified Investor"), which is responsible for setting terms and must commit at least 33% to the junior tranche
  - Titan may participate in all junior debt opportunities emerging in the portfolio under the above parameters, but is not obliged to participate
  - Terms are set at arms length without Hg's involvement; negotiations are opposite the Qualified Investor



- In line with the prior fund, the General Partner will not have an investment committee for the Fund; however, the Titan strategy has an Operations Committee, comprised of senior Hg executives, which has ultimate oversight of the strategy
- The Operations Committee convenes with every investment and ensures that the Fund operates in accordance with its investment parameters with respect to diversification, undrawn commitments and tax and regulatory requirements

Experience of Operations Committee									
Name	Title	Location	Tot. Exp. (yrs.)	Tenure (yrs.)	Prior Experience				
Nic Humphries	Senior Partner	London	33	22	<ul> <li>Barclays Private Equity, Director</li> <li>Geocapital, Investment Professional</li> <li>3i, Investment Professional</li> </ul>				
Michael Brockman	Managing Partner	London	30	12	<ul><li>Apax Partners, Partner</li><li>Enron, Manager</li><li>L.E.K. Consulting, Consultant</li></ul>				
Steven Batchelor	Partner	London	23	19	Morgan Stanley, Analyst				
Juan Campos	Head of Capital Markets	London	22	5	<ul><li>Lone Star Funds, Managing Director</li><li>Goldman Sachs, Executive Director</li></ul>				



- · Juan Campos, Head of Capital Markets, is principally leading the Hg Titan strategy
  - The Capital Markets team is responsible for negotiating with debt providers, structuring, pricing and capitalizing the debt
    portion of Hg portfolio companies; the team has grown from three professionals to five, enabling it to manage activities
    across the platform
  - The Capital Markets team, with support from Hg investment teams as relevant, prepares submissions to the Operations Committee for discussion
- The client services and tax and operations teams are also involved in the execution of the strategy, managing limited partner relationships and potential conflicts and providing structure and legal input for the Titan funds

Experience of Capital Markets Professionals									
Name	Title Location Tot. Exp. Tenure (yrs.) Prior Experience								
Juan Campos	Head of Capital Markets	London	22	5	<ul><li>Lone Star Funds, Managing Director</li><li>Goldman Sachs, Executive Director</li></ul>				
Moynul Ali	Head of Legal	London	15	8	<ul><li>Proskaurer Rose, Associate</li><li>King &amp; Wood Mallesons, Associate</li></ul>				
Max Newberry	Principal	London	17	5	<ul><li>Rede Partners, Associate</li><li>Investec, Analyst</li></ul>				
Chelsea Lau	Principal	London	10	1	<ul><li>Apollo Global Management, Principal</li><li>Citi, Analyst</li></ul>				
Philipp Speeck	Associate	London	9	1	<ul><li>Robus Capital, Investment Professional</li><li>Deutsche Bank, Associate</li></ul>				



Investing in the junior debt of existing Hg portfolio companies

- The General Partner targets captive junior debt opportunities across the existing Hg portfolio, principally the Saturn funds but also larger Genesis portfolio companies
- The Fund only invests in transactions led by third-party debt providers ("Qualified Investor"), which act as lead investors and set terms to help manage conflicts between Hg's equity and debt investments

Deep pipeline of investment opportunities

 Hg targets software and technology businesses across its platform, creating the deep pipeline for the Titan strategy

Attractive portfolio company characteristics

- Hg's portfolio is exhibiting strong top-line and margin growth, high cash conversion and recurring revenues, representing an attractive junior lending opportunity
- Raising junior debt enables the General Partner to optimize the capital structures of its portfolio companies, for which Hg intends to have appropriate equity cushions



- Through the Titan strategy, Hg targets captive junior debt opportunities, typically structured as HoldCo PIK debt or preferred equity, across the existing Hg portfolio
- The CI Fund will invest alongside equity-oriented deals and gain additional exposure to select existing Hg portfolio companies, historically committing the majority of capital alongside the Saturn Fund.
- Hg Titan will only invest in transactions led by third-party debt providers, which set terms and must acquire at least 33% of the
  junior tranche, helping manage potential conflicts between Hg's equity and debt investments
  - Titan may participate in all junior debt opportunities emerging in the portfolio under the above parameters
  - Terms are set at arms length without Hg's involvement; the General Partner's negotiations are opposite the Qualified Investor
- Through Titan, Hg targets investments over \$100 million; the General Partner may complete smaller investments depending on the allocation available after Qualified Investors secure their allocations
- In the prior fund, the majority of investments were made in Hg companies operating in Europe
- Hg intends to complete equity investments in Europe and the U.S. across strategies
  - The General Partner has invested in two U.S.-based companies (both Saturn fund investments) through Fund I
- Hg targets investments in the software and technology services, investing in companies that are generating high growth and sustaining high margins



- Hg's portfolio companies create significant junior capital investment opportunity, which provides a deep pipeline of potential investments
- Using junior debt enables Hg to optimize capital structures in Hg's highly cash-generative portfolio, while maintaining sufficient equity cushions
- The General Partner seeks to maintain appropriate equity cushions
- The General Partner seeks to rebalance the capital structure using junior debt, with manageable leverage levels given the high level of cash conversion, recurring revenue nature and continued growth of its portfolio
- The General Partner's expected tenor is between three years to five years

#### Focus on net IRR performance

Hg focuses on fund management, employing multiple tools to maximize net IRR
performance, including an 18-month bridge facility and potentially including a NAV
facility to drive early distributions, in keeping with Fund I

#### Performing unrealized portfolio

- Fund I portfolio companies have performed well to date
- The existing portfolio is well capitalized
- The General Partner has generated a 0% loss ratio for debt investors across its history, demonstrating the attractive profile of its companies for lenders

# Deep pipeline of investment opportunity across Hg fund lines

- The General Partner has been investing at a pace in line with requirements for the Fund, benefiting from the significant junior debt investment opportunity generated by the portfolio
- Hg is well-positioned to deploy the Fund across existing portfolio companies
- The CI Fund is expected to benefit from the continued increase of capital deployment across Hg equity-oriented vehicles



- As of 9/30/22, the General Partner had not drawn any capital for Fund I
  - Exclusive of its credit facility, the General Partner estimated a 13% net IRR for Fund I, as of 9/30/22
- The General Partner mitigated the J-curve for Fund I and expects to continue to use a bridge facility in the Fund, with no drawdowns in the first 18 months
- · While early, Hg has generated strong gross returns in the prior fund, with all companies held at or above cost

Hg Capital Prior Investment Performance As of 9/30/22											
(\$mm)											
Fund	Viiitage	Total	Real.	Invested Realized Value Mult. IRI							
Fund I	2021	7	0	\$1,200	\$780.3	\$0.0	\$857.2	1.1x	15.4%		

Hg Capital Realized Investment Performance As of 9/30/22					Hg Capital Unrealized Investment Performance As of 9/30/22						
(\$mm) Fund	Amount Invested	Amount Realized	Unrealized Value	Gross Mult.	Gross IRR	***					Gross IRR
Fund I	\$0.0	\$0.0	\$0.0	n/a	n/a	Fund I	\$780.3	\$0.0	\$857.2	1.1x	15.4%



- As of 12/31/2022, the CI Fund had completed three co-investments, representing roughly 61% of CRPTF's committed capital
- In aggregate, the three co-investments are being held at a 1.1x gross multiple and 10.4% gross IRR, as of 12/31/2022
- On a net basis, performance remains not meaningful as the General Partner made its first capital call in Q3 2021

<sup>&</sup>lt;sup>1</sup> As provided by the General Partner in the Hg CT1 Co-Invest, L.P. partner's capital statement, as of December 31, 2022



- Hg Titan invests in portfolio companies of the Hg equity funds, primarily within the Saturn funds but also in select, larger companies within the Genesis funds
- The CI Fund intends to make equity-oriented co-investments alongside Hg's equity funds, which have historically generated co-investment opportunities

Hg Capital Prior Investment Performance <sup>1</sup> As of 9/30/22										
(mm) Fund	Vintage   Capital   Capital   NAV   DPI   TVPI									
	2012			24.5		0.5	IRR			
Genesis 7	2013	£1,522.3	£3,133.0	£645.6	2.1x	2.5x	21.6%			
Mercury 2	2018	£507.9	£408.2	£1,194.2	0.8x	2.4x	70.7%			
Saturn 1	2018	£1,064.0	£437.9	£1,413.0	0.4x	1.7x	21.9%			
Genesis 8	2018	£2,034.0	£988.5	£4,122.3	0.5x	2.5x	53.3%			
Saturn 2	2020	\$3,169.3	\$1,056.9	\$2,668.5	0.3x	1.2x	20.3%			
Mercury 3	2021	€451.7	€0.0	€561.8	0.0x	1.2x	53.5%			
Genesis 9	2021	€2,575.0	€694.0	€2,346.7	0.3x	1.2x	30.0%			

# Environmental, Social & Governance

- The General Partner is a signatory to PRI, TCFD, iCI, engages with multiple industry frameworks and has made SBTi commitments, engaging across E, S and G under the leadership of Caroline Löfgren as Head of Responsible Investment; Hg leverages the ESG approach of its equity funds for the Titan strategy
- ESG and cybersecurity due diligence for prospective equity investments is led by Hg's ESG team, who work closely with key individuals from portfolio companies
- During the hold period, Hg provides active ESG guidance to portfolio companies through ESG improvement plans, cybersecurity assessments, climate risk reviews and diversity and inclusion guidance; Hg monitors over 170 ESG-related KPIs across the portfolio in three areas:
   Essentials, Employees and Society; monitoring of KPIs focuses on issues related to climate change, cybersecurity, competition law, governance and diversity
- Hg has also established a Portfolio Diversity, Equity and Inclusion Council to promote diversity issues at the portfolio company level; the
  General Partner established the Hg Foundation in 2020 to promote diversity in the technology sector, focusing on removing barriers to entry
  into technology careers; Hg also works closely with diversity organizations including SEO, Level20, LGBT Great, OUTInvestors, 10,000 Black
  Interns and Toigo

# **ESG Summary**

ESG Policy	Yes	Integration in decision- making	Equity IC memos include ESG risks and considerations
ESG-Dedicated Professionals	Four dedicated sustainability professionals	ESG focus – planning	ESG is always included in strategic planning
Signatories	PRI, TCFD, iCI and SBTi		
Environmental Focus	Carbon neutrality and portfolio company carbon footprint monitoring	Monitoring	Monitors over 170 ESG KPIs across portfolio companies
Diversity	100% male (Partners and C-level executives) 34% female/66% male (investment professionals); 48% female/52% male (total employees). Efforts to increase diversity? Yes	Reporting	Annual ESG reporting to LPs; quarterly internal reporting
	, , ,	Requirements of portfolio companies	The General Partner requires all portfolio companies to adopt ESG policies and set goals
ESG in due diligence process	ESG DD at entry for equity investments; selective third party ESG DD for higher risk industries	,	consistent with their own

Executive Summary | General Partner | Investment Strategy | Track Record | ESG | Appendices



# **Appendices**



Experience of Operations Committee											
Name	Title	Location	Tot. Exp. (yrs.)	Tenure (yrs.)	Prior Experience						
Nic Humphries	Senior Partner	London	33	22	<ul> <li>Barclays Private Equity, Director</li> <li>Geocapital, Investment Professional</li> <li>3i, Investment Professional</li> </ul>						
Michael Brockman	Managing Partner	London	30	12	<ul><li>Apax Partners, Partner</li><li>Enron, Manager</li><li>L.E.K. Consulting, Consultant</li></ul>						
Steven Batchelor	Partner	London	23	19	Morgan Stanley, Analyst						
Juan Campos	Head of Capital Markets	London	22	5	<ul><li>Lone Star Funds, Managing Director</li><li>Goldman Sachs, Executive Director</li></ul>						

Experience of Capital Markets Professionals											
Name	Title	Location	Tot. Exp. (yrs.)	Tenure (yrs.)	Prior Experience						
Juan Campos	Head of Capital Markets	London	22	5	<ul><li>Lone Star Funds, Managing Director</li><li>Goldman Sachs, Executive Director</li></ul>						
Moynul Ali	Head of Legal	London	15	8	<ul><li>Proskaurer Rose, Associate</li><li>King &amp; Wood Mallesons, Associate</li></ul>						
Max Newberry	Principal	London	17	5	<ul><li>Rede Partners, Associate</li><li>Investec, Analyst</li></ul>						
Chelsea Lau	Principal	London	10	1	<ul><li>Apollo Global Management, Principal</li><li>Citi, Analyst</li></ul>						
Philipp Speeck	Associate	London	9	1	<ul><li>Robus Capital, Investment Professional</li><li>Deutsche Bank, Associate</li></ul>						



Benchmark Analysis:	An analysis that compares the net IRR of the prior funds to the top-quartile net IRR benchmarks for similar funds (based on strategy and vintage) as reported by the Cobalt LP database. The benchmark data shown is the most recent data available at this time
DPI:	Distributed-to-Paid In = (Amount of Distributions Received)/(Total Amount of Capital Paid-In)
ESG:	Environmental, Social and Governance
Gross IRR:	Internal Rate of Return ("IRR") of investments at the "fund level," excludes fees paid by LPs to the General Partner such as management fees and carried interest. For investments held less than one year, Hamilton Lane nominalizes the IRR to match the hold period of the investment in order to represent a more meaningful number
Investment Pacing:	An analysis of the total capital invested during the given years. Includes all prior investments, realized or unrealized
J-curve Benchmark:	Peer (median by age) is calculated by taking the median IRR of similar funds (based on strategy and vintage) in Hamilton Lane's database at each quarter, which are simulated as investing at the same point in time. The length of time to break the J-curve is calculated from inception to the first time each fund generated a positive net IRR
Loss Ratio Analysis:	An analysis of the capital invested in realized transactions generating different multiples of invested capital
Net IRR:	Annualized Internal Rate of Return ("IRR") of investments at the LP level inclusive of fees such as management fees and carried interest paid to the General Partner
Net Returns to Limited Partners:	The performance of the General Partner's prior investment vehicles at the net LP level, inclusive of all fees, carried interest and expenses. Performance data is as reported by the General Partner using actual capital contributions, distributions and net asset value for either all limited partners, or a sample set of limited partners, in the respective funds
Outlier Analysis:	An analysis of the gross returns of investments in prior funds, comparing overall performance against the performance when certain 'outlier' transactions are excluded. Outliers are defined as transactions that generate exceptionally positive or negative results
PME Analysis:	Calculated by taking the fund's monthly cash flows and investing them in the relevant Total Return Index (where all dividends are reinvested). Contributions were scaled by a factor such that the ending portfolio balance would be equal to the private equity net asset value (equal ending exposures for both portfolios). This prevents shorting of the public market equivalent portfolio in order to match the performance of an outperforming private equity portfolio. Distributions were not scaled by this factor. The IRRs were then calculated based on these adjusted cash flows. The selected PME represents the most relevant public market benchmark
Realized Attribution Analysis:	Analysis of the capital invested in, and performance of, the prior realized transactions according to the criteria indicated
Realized Investments:	Hamilton Lane classifies investments as "realized" if it has: i) an unrealized value of less than 20% of the total value; ii) a carrying value that has been written to zero or has been previously written-off; or iii) been fully exited and the GP has no remaining interest in the company
RVPI:	Remaining Value-to-Paid In = (Current Net Asset Value)/(Total Amount of Capital Paid-In)
TVPI:	Total Value-to-Paid In = (Amount of Distributions Received + Current Net Asset Value)/(Total Amount of Capital Paid-In)

Executive Summary | General Partner | Investment Strategy | Track Record | ESG | Appendices



# Definitions (cont.)

Time-Zero IRR:	Represents the gross IRR calculated as if every investment were initiated on the same date
Write-Down Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 1.0x their original cost basis, divided by the total capital invested in all realized investments
Write-Off Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 0.5x their original cost basis, divided by the total capital invested in all realized investments



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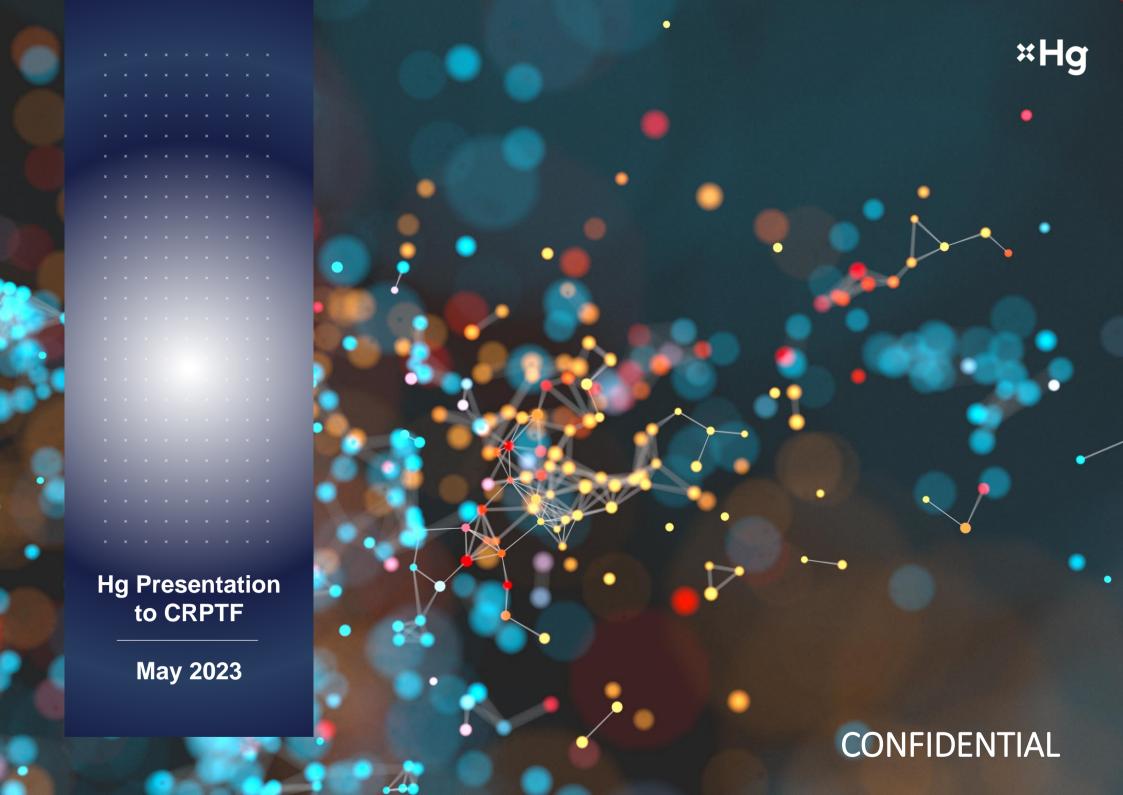
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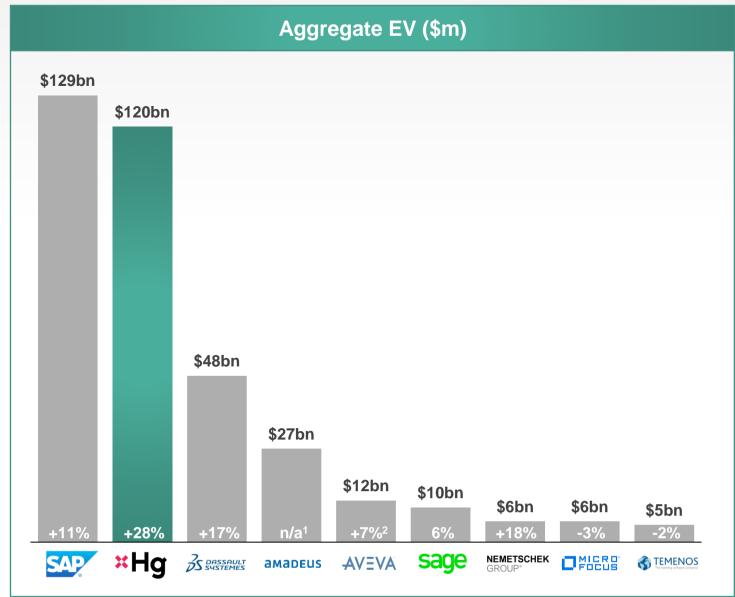
# Hg update & intro

# 'Hg Inc' is the #2 largest software firm in Europe



# **Hg Snapshot**

- Founded in 1990 with investment offices in London, Munich, Paris, New York and San Francisco
- Specialist software & tech-enabled services investor; majority control investment strategy
- 100% privately owned by Hg Partners
- >\$60 billion FuM
- If quoted, Hg would be a FTSE 100 company
- Long term realised track record of c.3.3x / 33% IRR; generated consistent returns of >30% IRR for 20 years
- Growing revenues and profits at c. 20-30% CAGR, 2x-3x the rate of comparable quoted companies
- Over 300 professionals, including 220+ executives
- Active approach to portfolio value creation, with a portfolio team greater than 50 Operations experts



Source: Factset, Europe tech firm EVs reported as at 31 December 2022 with FY22 LTM revenue growth

Note: Hg data as at 31 December 2022 adjusted pro-forma for post-period transactions. Revenue growth is equity weighted as at 31 December 2022 adjusted pro-forma for post-period transactions. Past performance is not indicative of future performance.

# Hg is the joint largest acquirer of tech businesses globally and the third largest private equity firm in Europe

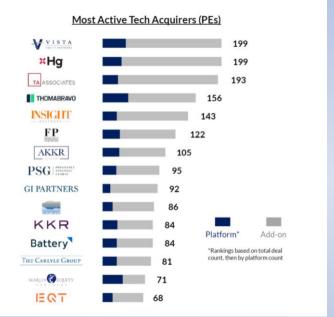




"Most Active Tech Acquirers (PEs) 2021"



- Vista, Hg, TA and Thoma lead the charge in PE acquisitions
- PE funds and their Port Cos have completed over 1.200 of the 3.700 tech deals in 2021
- 3 out of 4 PE deals are now add-on acquisitions by their Port Cos
- Funds are combining two companies at inception for more scale and synergies because they need to write bigger checks



Excerpt from the "AGC Tech PE Annual Report (December 2021)"

3rd largest European PE firm in 2022, placing 17th overall, up from 31st in 2021.



"Leading fund performance"

**\*Ha©Mercury 2** 

2022 Top performing PE fund (\$500m-\$999m)

×Hg ⊕ Genesis 8

2022 #8 performing PE fund (\$1bn+)



"Tech Investor of the Year 2021"

#PitchBook "Leading global software investor"

2021

2nd most active Global IT investor & 1st most active Furo investor

2020

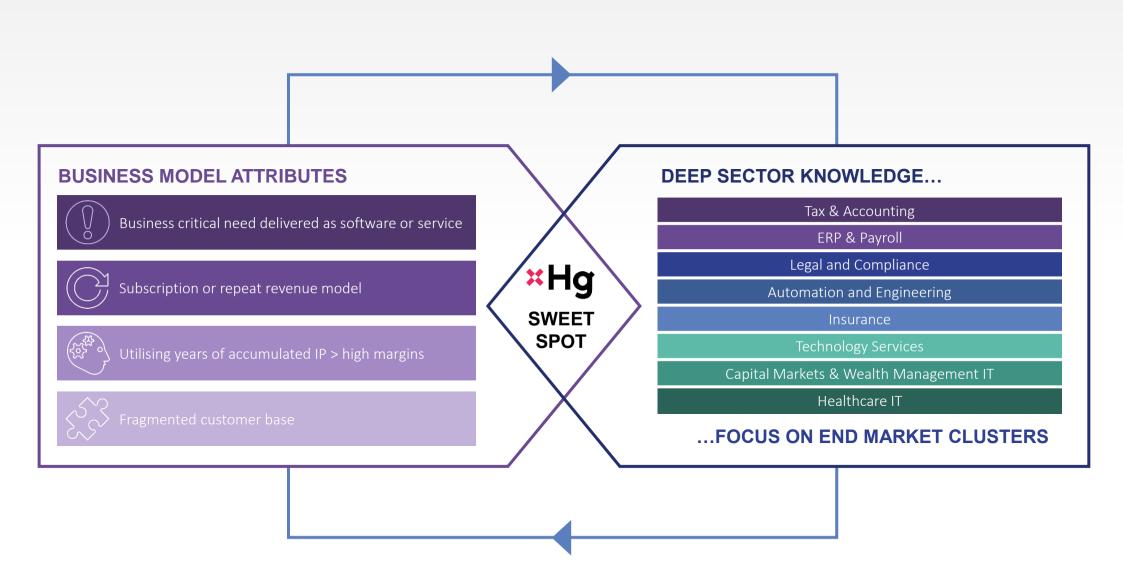
2nd most active Global IT investor & 3rd most active Euro investor

2019

Most active European IT

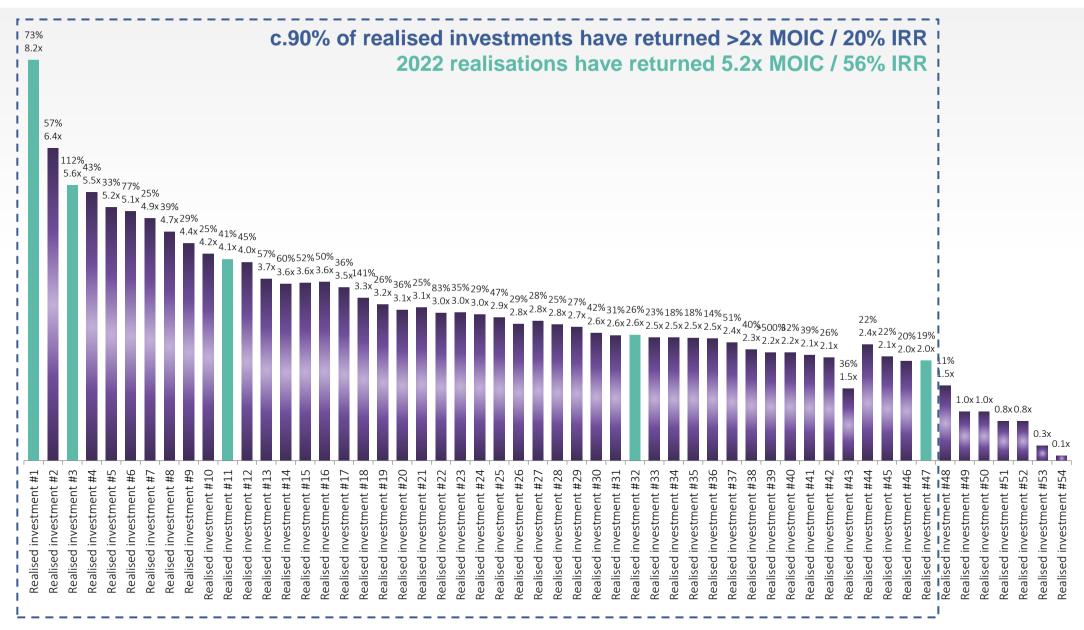
# Targeting robust and resilient 'Hg sweet-spot' business models





# Long-term realised Software & Services track record of 3.3x / 33% IRR; >\$21bn of proceeds returned from >50 investments

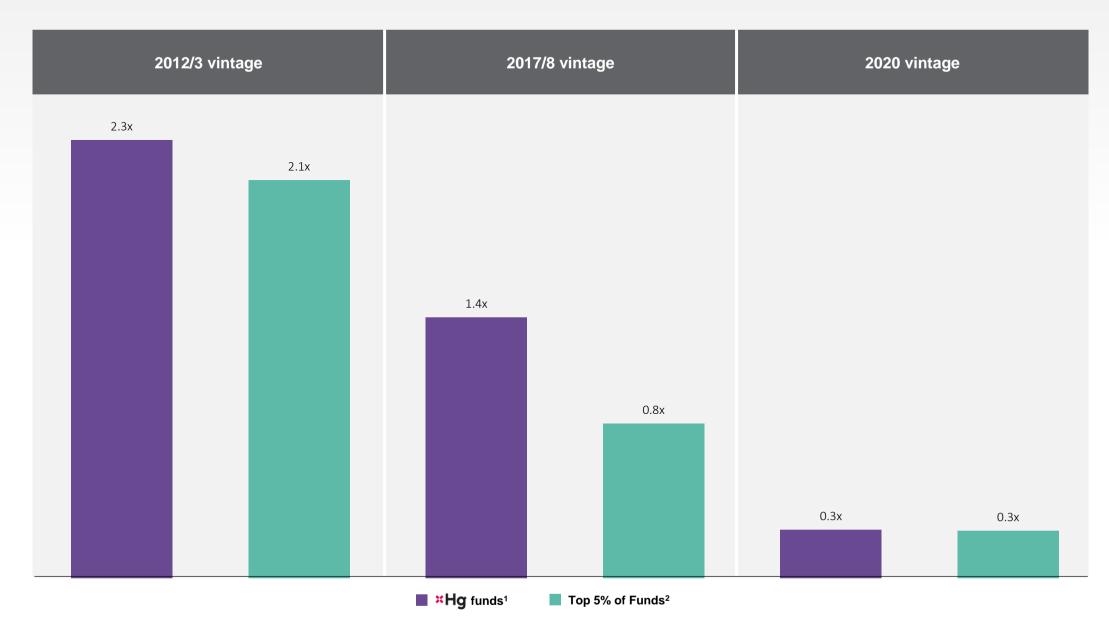






# Top 5% of all PE funds for DPI over the last 11 years



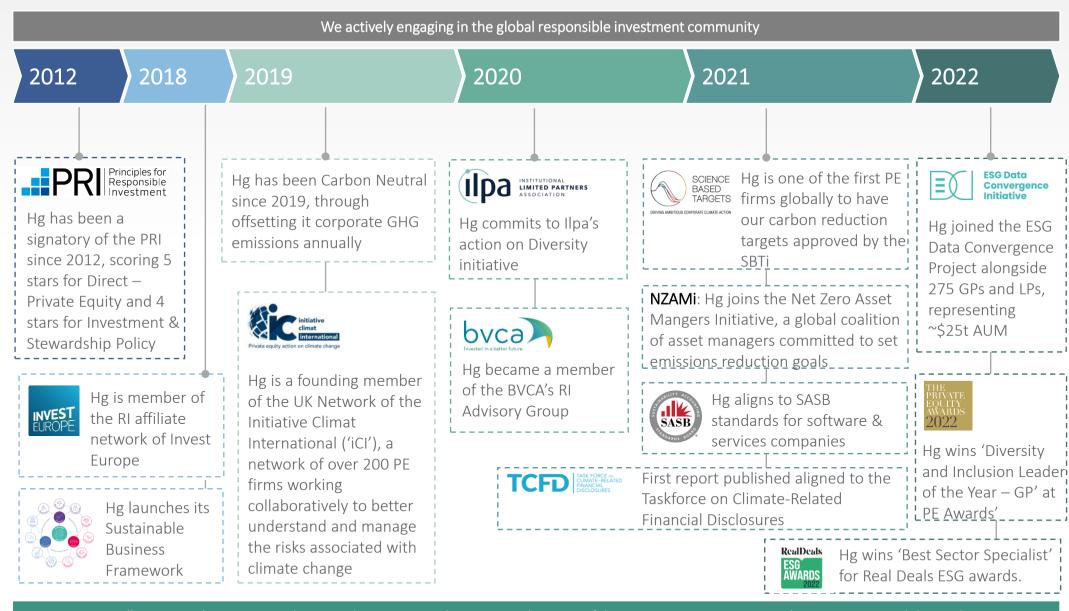


Note: Net DPI figures for Hg as of 31 December 2022, adjusted for post-period events. Past performance is not indicative of future performance

- 1. Average for 2012/3 vintage includes Mercury 1 and Genesis 7, 2017/8 vintage includes Saturn 1, Mercury 2 and Genesis 8 and 2020 vintage includes Saturn 2, Mercury 3 and Genesis 9
- Average of the top 5% vintage benchmark data based on Q3 2022 data available from Cambridge Associates European Developed PE, Cambridge Associates (excluding US Buyout) and Burgiss European Buyout

# Longstanding commitment to ESG & Sustainability





As well as external initiatives and partnerships, we actively engage with our portfolio companies, investors, employees on sustainability and ESG

# 9 Partnerships

\$12.5m

committed to date



Technische Universität München







>8,000

students directly supported



**Imperial College** 

London





The Hg Foundation is funded by Hg through a proportion of carried interest from current and future Hg funds, a proportion of Hg's annual profits and also through charitable activities carried out across the firm.



# Global team of over 300 professionals across five offices



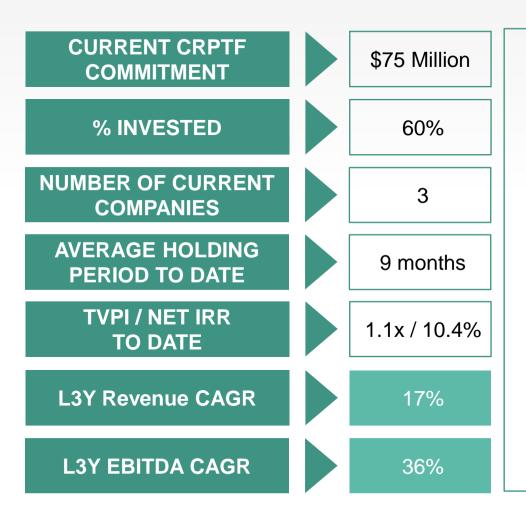




# Hg Titan & Coinvest Top up

# Opportunity to increase exposure to Hg investments without paying management fees and also no carry





# Realised co-invest track record of 3.6x / 32%

- Hg has offered 30 coinvest opportunities to date
- Total coinvest deployed was nearly \$7 billion
- Returned \$4.5 billion in proceeds back to coinvest clients already
- Total coinvest portfolio valued at 1.7x / 26% net returns
- Hg does not charge management fees nor carry for its coinvestment opportunities; fee free access to Hg's realised coinvest track record of 3.6x / 32% net returns

# **Update on Hg Titan**



Titan provides Hg's LPs an exclusive opportunity to participate in high-yielding, captive junior debt investments



Market-leading risk adjusted returns; targeting ~20% net IRRs whilst benefitting from an enhanced risk profile vs. typical credit and equity strategies



Proprietary, high-quality deal flow exclusively from Europe's largest software investor

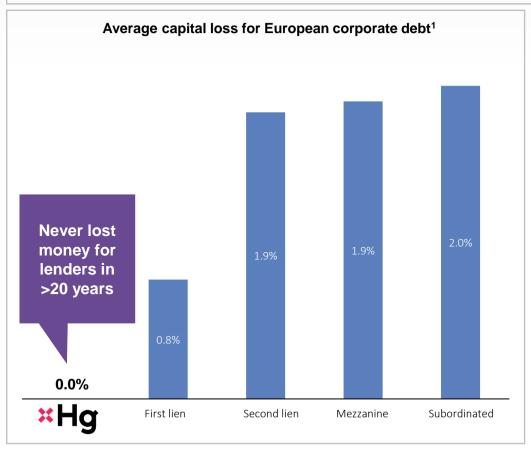


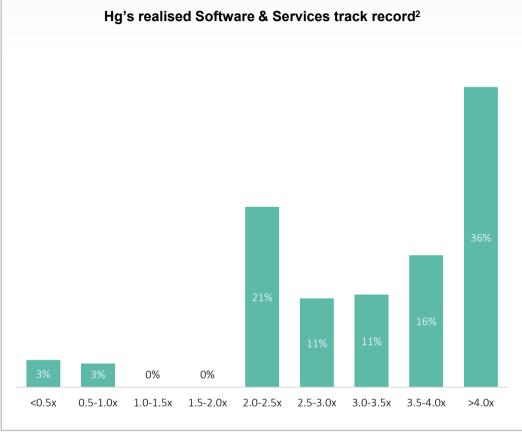
Attractive economics, fully-hedged USD and EUR currency sleeves and a significant direct investment opportunity

# Hg has never lost money for a lender across nearly 200 investments since 1990



- Hg's historical credit loss rate of 0.0% compares favourably to general private credit strategies, which typically see loss rates of ~1% 2%
  - In an "Armageddon Case" Hg Titan would still return >1x net MOIC if 3 (of 12) portfolio companies were written off, against the backdrop of Hg having never lost money for a lender across >100 investments
- Current Hg Realisation Committee forecasts project >95% of the unrealised Hg portfolio will deliver >2.0x MOIC equity outcomes (Titan 1 equity investments all expected to deliver >2.5x MOIC equity returns)
- Current Titan I underlying portfolio performing well, with aggregate LTM Sep-22 revenue and EBITDA growth of 34% and 30% respectively





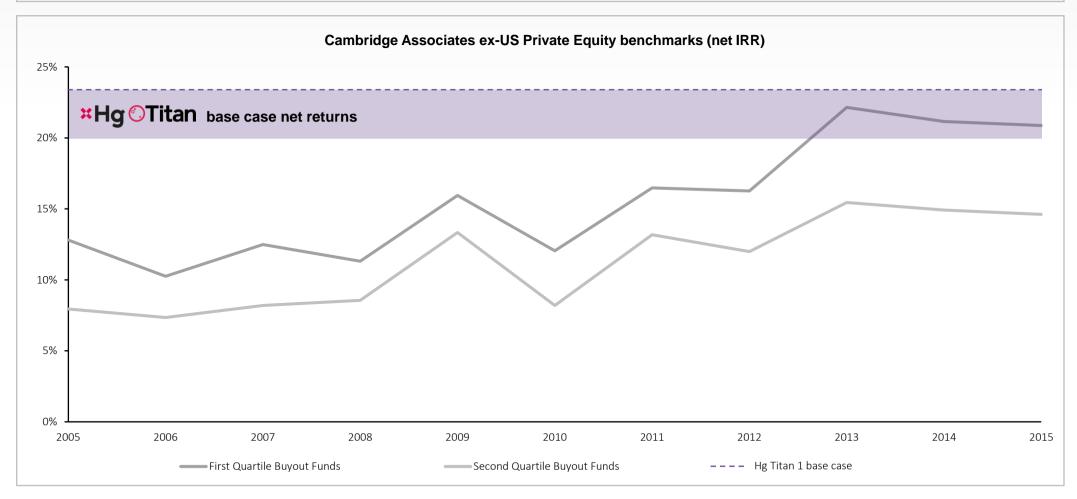
Source: S&P; loss rate is the product of (1-recovery rates) and default rates

- 1. Average default rate of 2.9% based on December 2007 to December 2021 data
- . Average detault rate of 2.3% based off December 2007 to December 2021 data

# Hg Titan base case net returns of ~20%+ IRR, equivalent to top-quartile buyout performance



- Hg Titan is expected to generate base case returns of ~20%+ net IRR; significantly outperforming Direct lending and Mezzanine strategies and comparable to top-quartile equity returns
- High-quality portfolio of junior debt investments in leading private software businesses combine with an active, market-leading approach to fund management to deliver a positive gross-to-net spread
- Expected duration of <5 years offers potential to compound returns over multiple fund cycles (velocity of cash back is 2x typical Private Equity fund cycles)



# Building businesses that change how we all do business



# **Notes to recipients**

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The representative in Switzerland is Mont-Fort Funds AG whose registered address is 63 Chemin Plan-Pra, 1936 Verbier, Switzerland. The paying agent in Switzerland is Neue Helvetische Bank AG, whose registered address is Seefeldstrasse 215, CH-8008 Zürich Switzerland. In respect of the shares distributed in or from Switzerland, the place of performance and jurisdiction is the registered office of the Swiss representative.

Recipients should bear in mind that past performance is not necessarily indicative of future results, and that there can be no assurance that Hg will achieve comparable results to any of the prior performance information contained herein. Hg's valuation policy is to value investments in accordance with the International Private Equity and Venture Capital Guidelines (IPEV), effective for reporting periods post January 2019. The information in this document is as of 30 June 2021. "Realised Proceeds" is determined as of 30 June 2021 and represents the sum of gross proceeds generated from dispositions and distributions of securities, cash dividends, fee income and interest, in each case prior to payment of management fees, carried interest and other expenses, which in the aggregate, may be substantial. The "Unrealised Value" for unrealised investments is unaudited and determined as of 30 June 2021 based on the IPEV guidelines. For investments valued on an earnings basis, an appropriate valuation multiple based on publicly traded comparables, as well as relevant M&A transactions, is applied to earnings. Any relevant marketability discount is aimed to be captured via the most appropriate use of comparable companies in the valuation process. As used throughout this document, and unless otherwise indicated, "Gross IRR" means an aggregate, annual, compound, gross internal rate of return on investments, calculated on the basis of daily investment inflows and outflows. Gross IRRs for unrealised investments and for realised or partially realised investments with a remaining interest have been calculated by assuming that the remaining interest has been sold as of 30 June 2021 at the unrealised value shown, except where otherwise noted. Prior performance is presented on a gross IRR basis before giving effect to management fees, carried interest, taxes, transaction costs incurred in connection with the disposition of unrealised investments, and other fund expenses borne by investors ("Fees and Expenses"). Such Fees and Expenses, in the aggregate, are expected to be substantial. The application of such Fees and Expenses could materially reduce the performance returns shown herein.



ERICK RUSSELL TREASURER SARAH SANDERS DEPUTY TREASURER

May 5, 2023

Members of the Investment Advisory Council ("IAC")

Re: Consideration of Dover Street XI L.P. & Secondary Overflow Fund V L.P.

Dear Fellow IAC Member:

At the May 10, 2023 meeting of the IAC, I will present for your consideration two related private equity opportunities for the Private Investment Fund ("PIF") of the Connecticut Retirement Plans and Trust Funds ("CRPTF"): Dover Street XI L.P. ("Dover XI") and Secondary Overflow Fund V L.P. ("SOF V"). Both Dover XI and SOF V are being raised by HarbourVest Partners L.P. ("HarbourVest"), a leading private asset investment management firm headquartered in Boston, MA.

I am considering an investment of up to \$175 million in Dover XI and up to \$175 million in SOF V, both of which will focus on making secondary investments in private equity funds on a global basis. The Dover fund series execute HarbourVest's flagship secondaries strategy, and Dover XI has a target size of \$12 billion. SOF V will invest alongside Dover XI in certain secondary transactions that create an overflow investment opportunity for SOF V and is offered on a no fee, no carry basis to Dover XI investors of a certain size.

Investments in Dover XI and SOF V would provide the CRPTF with additional exposure to HarbourVest's well-proven secondaries investment strategy, including the firm's expertise with complex transactions. The Dover XI and SOF V opportunities are also well aligned with the PIF's strategic objective of efficiently deploying capital into lower risk, shorter duration investment strategies.

Attached for your review are the recommendation from Ted Wright, Chief Investment Officer, the due diligence report prepared by Hamilton Lane, and the investor presentation prepared by HarbourVest. I look forward to our discussion of these materials at next week's meeting.

Sincerely,

Erick Russell State Treasurer



Full Due Diligence Report
Chief Investment Officer Recommendation
May 2, 2023
Dover Street XI and Secondary Overflow Fund V



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# **Executive Summary**

# **Dover Street XI**

# Manager Overview

- HarbourVest Partners, L.P. ("HarbourVest" or the "Firm")
- Founded as an independent firm in 1982, predecessor began investing in 1978
- Headquartered in Boston, MA with 13 offices globally
- HarbourVest is 100% privatelyowned and independent
- Over 1,000 employees, including over 200 investment professionals<sup>1</sup>
- HarbourVest has over \$106 billion in private market assets under management across primary, coinvestment and secondary strategies<sup>1</sup>

# **Fund Summary**

- Dover Street XI L.P. ("Dover XI")
- Secondary Private Equity
- Buyout, growth equity, venture capital with an emphasis on complex secondary transactions
- Diversified portfolio by vintage year, investment stage, industry and geography
- Target: \$12 billion
- Hard Cap: \$13.5 billion
- GP Commitment: 1.5% of aggregate commitments
- Management Fee: 0.96% average per annum on committed capital during investment period; estimated 0.70% average per annum on committed capital over term plus four, 1-year extensions
- Carried Interest: 12.5%
- Waterfall: European
- Preferred Return: 8%

# Strategic Fit

- Private Investment Fund ("PIF")
- **Recommended Commitment:** \$175 million
- IPS Category: Corporate Finance
  - IPS Range for Corporate Finance: 70% to 100% of total PIF exposure
  - **Current Corporate Finance** Exposure: approximately 88% as of December 31, 2022
- PIF Strategic Pacing Plan
  - Sub-strategy: Secondaries
    - Secondaries targeted exposure: 5% to 10%
    - **Current Secondaries Exposure:** approximately 9% as of December 31, 2022

# **Executive Summary**

Secondary Overflow V

# Manager Overview

- HarbourVest Partners, L.P. ("HarbourVest" or the "Firm")
- Founded as an independent firm in 1982, predecessor began investing in 1978
- Headquartered in Boston, MA with
   13 offices globally
- HarbourVest is 100% privatelyowned and independent
- Over 1,000 employees, including over 200 investment professionals<sup>1</sup>
- HarbourVest has over \$106 billion in private market assets under management across primary, coinvestment and secondary strategies<sup>1</sup>

# **Fund Summary**

- Secondary Overflow Fund V L.P ("SOF V")
- Secondary Private Equity
- Buyout, growth equity, venture capital with an emphasis on complex secondary transactions
- SOF V co-invests with Dover XI in certain transactions that require more capital than Dover XI can commit due to size or concentration limits
  - SOF V is only offered to investors making a minimum commitment of \$100 million to Dover XI
- Target: \$2 billion
- GP Commitment: None
- Management Fee: None
- Carried Interest: None

# Strategic Fit

- Private Investment Fund ("PIF")
- Recommended Commitment: \$175 million
- IPS Category: Corporate Finance
  - IPS Range for Corporate Finance:
     70% to 100% of total PIF exposure
  - Current Corporate Finance
     Exposure: approximately 88% as of December 31, 2022
- PIF Strategic Pacing Plan
  - Sub-strategy: Secondaries
    - Secondaries targeted exposure:5% to 10%
    - Current Secondaries Exposure: approximately 9% as of December 31, 2022

# Recommendation

# Recommendation

 Based on the strategic fit within the PIF portfolio, as well as due diligence done by Pension Funds Management ("PFM") investment professionals and Hamilton Lane, the Chief Investment Officer of the Connecticut Retirement Plans and Trust Funds ("CRPTF") recommends consideration of commitments of up to \$175 million to Dover Street XI and \$175 million to Secondary Overflow Fund V.

# Investment Considerations

- The recommended Fund commitments would enable the CRPTF to add exposure to HarbourVest, which has a strong track record in private equity secondary markets and demonstrated expertise in complex transactions.
- HarbourVest's secondary investment strategy benefits directly from the scale and depth of the Firm's GP relationships and information advantages developed over decades of primary fund and co-investment activities.
- The SOF V opportunity would allow the CRPTF to gain access to attractive investment opportunities through a very compelling no fee and no carry structure, creating the potential for enhanced net returns.

# General Partner

# Firm History and Overview

- The Firm's founders began making venture capital investments in the late 1970's at Hancock Venture Partners, a subsidiary of John Hancock Insurance, and ultimately spun out and formed its first private equity fund-of-funds in 1982.
- HarbourVest is an independent, global private markets asset manager that had committed more than \$106 billion across primary, co-investment and secondary strategies, as of December 31, 2022.
- HarbourVest currently has a two-member Executive Management Committee ("EMC") that is responsible for overseeing the Firm and includes Peter Wilson and John Toomey, who joined HarbourVest in 1997 and 1996, respectively.

# **Experienced Global Team**

- HarbourVest currently has over 1,000 employees including more than 200 investment professionals and 600 operational and support professionals across 13 global offices.
- The Firm has 36 managing directors with 20 years average investment experience and tenure of 15 years.
- The senior members of the secondary investment team comprises 25 investment professionals, including nine Managing Directors with 21 years of experience and 17 years of average tenure at HarbourVest.
- The Firm encourages and incentivizes its investment teams to work across its global platform to source opportunities, share insights, and build collaborative relationships.

# Differentiated Ownership and Alignment of Interest

- HarbourVest is employee-owned with equity ownership broadly distributed among a group of current and former Managing Directors.
- The Firm also extends a profit-sharing plan to a select group of senior level investment and operations professionals.
- The ownership structure allows the Firm to manage its continuity and stability and creates a strong alignment with investors.

# General Partner (cont.)

# CRPTF Relationship

- Connecticut's relationship with HarbourVest began in 2019 with a commitment to Dover Street X ("Dover X") and Secondary Overflow Fund IV ("SOF IV").
- Connecticut holds a seat on the Dover X Limited Partner Advisory Committee ("LPAC").
- In January 2022, the CRPTF committed \$450 million each to HarbourVest CT Co-Investment Fund L.P. ("CT Co-Investment") and HarbourVest CT Private Debt Fund L.P. ("CT Private Debt"), customized co-investment programs managed by HarbourVest.
  - In December 2022, the CRPTF made additional commitments of \$300 million to each of CT Co-Investment and CT Private Debt to align with the increased asset allocation targets established for private equity and private credit.
- A summary of Connecticut's existing commitments to Fund X and SOF IV, as well as the co-investment commitments, is provided in the table below.

(US\$ in millions, as of September 30, 2022)

	Vintage		Connecticut	Unfunded		Total						
Fund	Year	Status	Commitment	Commitment	NAV	Exposure	IRR	TVM	DPI			
			Private Investme	nt Fund								
Dover Street X	2019	Investing	\$100	\$37	\$74	\$111	35%	1.5x	0.4x			
SOF IV	2019	Investing	\$100	\$35	\$69	\$104	21%	1.3x	0.2x			
CT Co-Investment	2022	Investing	\$450	\$350	\$99	\$449	nm	1.0x	0.0x			
HarbourVest Total in PIF			\$650	\$422	\$243	\$665						
% Total PIF					5%	7%						
Private Credit Fund												
CT Private Debt	2022	Investing	\$450	\$329	\$113	\$441	nm	1.0x	0.0x			
HarbourVest Total in PCF			\$450	\$329	\$113	\$441						
% Total PIF					8%	18%						

Source: CRPTF returns from Solovis. TVM is total value multiple. DPI is distributions to paid-in-capital.

# **Investment Strategy**

Continuous Strategy Enhancements

# Proven Strategy opportunities are identified. Robust Investment Process

- Dover XI and SOF V will focus on making secondary investments in mature private equity funds, with an emphasis on complex secondary transactions where HarbourVest has focused and developed expertise over the last 20 years.
- Complex secondary investments include primarily GP-led transactions, as well as team spin-outs, public market transactions, and structured liquidity solutions.
- The Dover team will also make traditional secondary investments through the acquisition
  of limited partnership interests in private equity funds when attractive relative value
  opportunities are identified.
- The foundation of HarbourVest's secondary investment strategy was developed over three decades ago and continues to include rigorous quantitative and qualitative analysis as well as market, manager, and company insights derived from the Firm's extensive investment platform and vast network of manager relationships.
- The Secondary Investment Strategy Committee has primary responsibility for investment decisions and is comprised of senior members of the Dover investment team and Greg Stento, HarbourVest's Head of Investments, as observer.
- The Portfolio Construction Committee determines investment allocations consistent with the Firm's allocation policy and portfolio construction practices.
- HarbourVest has continued to enhance its secondary strategy to generate improved and more consistent returns through developments including:
  - Increased exposure to complex transactions relative to traditional LP interest acquisitions, which
    may be more susceptible to competitive processes and purchase price pressures.
  - Greater focus on complex transactions involving high quality general partners with strong investment track records and with which the Firm has long-term relationships.
  - Decreased exposure to venture capital secondary transactions to less than 20%, on average, of capital invested to limit return volatility.
  - Moderate use of leverage, which will not exceed 30% of Dover XI aggregate commitments.

# Investment Strategy (cont.)

# Dover XI Diversified Portfolio

- HarbourVest will seek to construct a high-quality portfolio of 40 to 60 investments, in the range of \$200 million to \$400 million per transaction, that is diversified by vintage year, stage, industry, manager, transaction, company, and geography.
  - HarbourVest utilizes several investment concentration guidelines to reduce undue exposure to any single transaction (15% of capital commitments), private equity manager (10%), or company (1%) across the Dover funds.
- The Dover XI portfolio will be constructed in a manner that is consistent with recent Dover funds, including 60% to 70% invested in complex secondaries and predominantly deployed across developed markets (U.S.: 50% to 70%, Europe: 20% to 40%, and Asia: 10% to 20%).

# SOF V Concentrated Portfolio

- SOF V will invest alongside Dover XI in transactions that are either too large or concentrated for Dover XI due to its existing portfolio construction guidelines.
- SOF V is expected to be a more concentrated portfolio relative to Dover XI due to the overflow nature of the opportunity set.
- HarbourVest had invested over \$2 billion across the prior four Secondary Overflow funds, as of December 31, 2022, with the mature portfolios generating attractive returns to date.



# Track Record and Performance

- As of September 30, 2022, HarbourVest had invested over \$19 billion through its Dover Street ("Dover") and Secondary Overflow Funds ("SOF") platform and had generated gross IRR over 21% and a gross total value multiple ("TVM") of 1.7x.
  - The fully realized Dover funds generated a gross IRR of over 26% and a 1.6x gross TVM.
- PFM focused its performance review on the active, Dover VII and later funds, which better reflect HarbourVest's refined secondary investment strategy that has delivered improved and more consistent performance.
  - o As of September 30, 2022, the active Dover and SOF funds had generated a gross IRR over 19% and a gross TVM of approximately 1.8x.
    - The Dover strategy enhancements, including an increased focus on complex transactions and investments with general partners well-known to the Firm, has led to consistent top quartile rankings for the more mature 2008 through 2017 vintage year Dover and SOF funds.
  - Dover X and SOF IV are relatively young portfolios, but the underlying investments have demonstrated strong value creation to date as
    evidenced by attractive gross IRRs of each vehicle.
    - Net returns and benchmarks for less mature secondary funds can be skewed by the level of leverage used by each manager; HarbourVest utilizes a relatively modest level of leverage across the Dover and SOF funds.

(\$US in millions, as of September 30, 2022)

					Dover Street	/ Secondary O	verflow Fund								
	Investment Performance Summary														
	Vintage	Fund		Invested	Realized	Unrealized	Total		Gross / Net				Quartile Rank		
Fund	Year	Size	# Deals	Capital	Value	Value	Value	Ī	VM	IRR		Net DPI	TVM	IRR	DPI
Fully Realized Funds <sup>1</sup>	1991 - 2005	\$1,518	188	\$1,507	\$2,466	\$0	\$2,466	1.6x	1.4x	26.7%	13.4%	1.4x	n/a	n/a	n/a
Dover VII	2008	\$2,929	40	\$2,851	\$4,573	\$34	\$4,607	1.6x	1.4x	12.8%	9.2%	1.4x	2nd	1st	2nd
Secondary Overflow I	2010	\$540	6	\$527	\$965	\$5	\$970	1.8x	1.7x	17.0%	13.6%	1.7x	1st	4th	1st
Dover VIII	2012	\$3,591	37	\$3,138	\$5,775	\$502	\$6,277	2.0x	1.7x	23.0%	19.7%	1.6x	1st	1st	1st
Secondary Overflow II	2012	\$254	9	\$210	\$387	\$48	\$435	2.1x	1.9x	26.0%	19.6%	1.6x	1st	1st	1st
Dover IX	2016	\$4,777	44	\$4,282	\$4,272	\$4,047	\$8,318	1.9x	1.8x	25.4%	24.7%	1.0x	1st	1st	1st
Secondary Overflow III	2017	\$335	9	\$248	\$302	\$238	\$540	2.2x	2.2x	26.8%	25.2%	1.2x	1st	1st	1st
Dover X	2019	\$8,122	49	\$5,848	\$1,750	\$7,349	\$9,099	1.6x	1.5x	39.0%	47.2%	0.3x	3rd	1st	3rd
Secondary Overflow IV	2019	\$1,133	16	\$584	\$208	\$617	\$825	1.4x	1.4x	38.7%	35.4%	0.3x	4th	2nd	3rd
Dover XI	2022	\$1,537	1	\$5	\$0	\$57	\$57	n/a	n/a	nm	nm	n/a	n/a	n/a	n/a
Active Funds	2008 - 2022	\$23,218	211	\$17,692	\$18,231	\$12,896	\$31,128	1.8x	1.6x	19.4%	16.7%	1.0x	•	•	
Total Composite		\$24,736	399	\$19,199	\$20,697	\$12,896	\$33,593	1.7x	1.6x	21.4%	15.9%	1.0x	•	•	

Source: Harbourvest, HL Benchmark (Secondaries as of September 30, 2022). Quartile Rank based on net returns.



<sup>1.</sup> Fully realized Funds include Dover 1-a (1992) through Dover VI (2005)

# Strategic Allocation and Pacing Plan

HarbourVest Dover Street XI and Secondary Overflow Fund V

- The Dover Street XI and SOF V secondary investment strategies fall under the Corporate Finance allocation of the PIF.
  - The IPS sets a target allocation of 70% to 100% for Corporate Finance investments within the PIF portfolio based on total exposure, defined as market value plus unfunded commitments.
  - Corporate Finance strategies represented approximately 88% of the PIF's total exposure as of December 31, 2022.

The recommended commitments to Dover Street XI and SOF V align strongly with PIF strategic pacing plan objectives as noted below.

- ✓ Maintaining the PIF's long-term exposure to secondary sub-strategy in the range of 5% to 10%.
  - Secondary fund investments represented approximately 9% of the PIF's total exposure as of December 31, 2022.
- Expanding the CRPTF's partnership with HarbourVest's Dover platform, with demonstrated success generating topquartile returns through a differentiated and refined secondary investment strategy.
  - The Firm has developed an expertise in complex secondary transactions over the last 20 years and has a reputation for being a leader and innovator in this growing market segment.
  - The opportunity set for complex and traditional secondary investments is likely to be favorable during the funds' investment periods due to the current market conditions, including general partners seeking partial liquidity options for well-performing assets while many limited partners continue to seek options to reduce overallocations to private equity.
- ✓ SOF V provides the CRPTF the opportunity to access an enhanced return through the vehicle's no fee, no carry structure.

# Strategic Allocation and Pacing Plan (cont.)

The PIF's 2023 pacing plan targets and investment activity to date is summarized below.

	PIF - 2023 Investment Activities & Summary Pacing Plan Targets																
\$Millions Sub-strategy																	
Pacing Plan Targets	Large/Me	ga Buyout	Small/Mid Buyout		<b>Growth Equity</b>		Venture Capital		<u>Secondaries</u>		<u>Mezzanine</u>		Distressed/Restructuring		<b>Co-Investments</b>		Total
Total Commitments	\$350	\$700	\$800	\$1,150	\$350	\$475	\$0	\$150	\$250	\$300	\$0	\$200	\$0	\$300	\$100	\$200	\$1,900
Commitment Size	\$200	\$300	\$200	\$300	\$150	\$200	\$0	\$150	\$150	\$200	\$0	\$200	\$0	\$150	\$100	\$200	
Number of Commitments	1	3	4	5	2	3	0	1	1	2	0	1	0	2	0	1	8 to 18
Investment / Status																	
Vista Equity Partners Fund VIII* - Closed	\$200															\$200	
HarbourVest Co-Investment* - Closed															\$1	50	\$150
Vistria V - Closed			\$1	L75													\$175
JFL VI - Closed			\$1	L50													\$150
One Rock Capital IV - Closed			\$100														\$100
One Rock Emerald - Closed			\$50														\$50
K6 - Approved (Mar 8 IAC)			\$2	200													\$200
Dover XI - Recommendation									\$1	75							\$175
SOF V - Recommendation										75							\$175
Capital Commitments	\$2	00	\$6	575	\$	0	Ş	0	\$3	50		\$0		\$0	\$1	50	\$1,375
Number of Commitments	1			5		0		0		2		0		0	1		9

<sup>\*</sup>Commitment amounts included in 2023 pacing plan although legal commitments closed in December 2022.

# Strengths and Rationale

# **Differentiated Complex Investments**

- HarbourVest will focus the Dover XI and SOF V investments in the less efficient segments of the secondary market, with an emphasis on complex transactions where the Firm has been a market leader and innovator over the past 20 years.
- The Dover secondary investment team has developed competitive advantages and expertise in GP-led transactions, which represented approximately one-half of secondary market transactions in 2022 and are expected to continue to be a growing market opportunity.
- The Dover team will continue to focus its investment activities on assets managed by top tier general partners with which the Firm has developed long-term relationships and investment insights, particularly when pursuing complex opportunities.

# HarbourVest Platform

- HarbourVest has built a global investment platform that provides the Dover team with information advantages and access to attractive deal-flow.
  - O HarbourVest's primary and co-investment teams are incentivized to support the Dover team's sourcing and underwriting efforts.
  - The Dover investment professionals leverage the Firm's vast information resources to efficiently and effectively underwrite secondary investment opportunities. HarbourVest catalogs 40 years of a proprietary private market data and manager knowledge gained from over 1,000 advisory board seats.

# Attractive Risk/Return Profile

- HarbourVest's focus on complex secondary strategy provides investors with differentiated exposure when compared to managers that concentrate on traditional LP interests.
- Continued strategy refinements since Dover VIII have led to consistently strong investment returns with a significantly lower loss experience.
- The opportunity to invest in SOF V on a no fee, no carry basis provides the potential for enhanced returns on investment opportunities meeting Dover's strict underwriting standards.

# Key Risks and Mitigants

Tighter Pricing for GP-led Secondaries

- A significant portion of the complex secondary market involves GP-led transactions, which generally do not
  offer the opportunity to acquire assets for discounts to net asset value as is common with traditional LP
  interest secondaries. Secondary strategies focused on acquiring assets at substantial discounts to NAV may
  be challenged as complex secondaries are expected to remain a large and growing market segment.
  - HarbourVest's investment analysis is based on tested bottom-ups, underwriting practices to identify attractive fundamental value opportunities, which allow the Dover team to successfully execute complex and traditional transactions.
  - o The Dover investment team is competitively positioned in the GP-led market based on its proven expertise with complex transactions, the size of the Dover capital base, and the advantageous GP relationships and insights developed through the scale of HarbourVest's global primary and co-investment platforms.

Complex Transactions Risk Profile

- Complex secondary investments can present risks associated with asset level concentration, underwriting and execution.
  - The Secondary Investment Committee utilizes multi-factor, portfolio construction guidelines to limit exposures to any single deal, manager and company.
  - The Portfolio Construction Committee ensures a consistent approach to investment allocation and portfolio construction while HarbourVest's Quantitative Investment Sciences team monitors and reports risk across the Firm's investment strategies.
- The secondary investment team has successfully executed complex transactions having delivered an average gross 1.6x total value multiple on over \$14 billion of commitments since Dover VII while also improving its loss ratio.

# Fundraising and Key Terms Summary

## **Dover Street XI**

Target Size / Hard Cap	• \$12 billion / \$13.5 billion
GP Commitment	1.5% of aggregate commitments
Fundraising Status	The GP has raised \$4.8 billion of commitments
Target Final Close	4Q 2023 anticipated
Fund Term	Ten years, subject to up to four one-year extensions at the option of the General Partner
Investment Period	Five years
Management Fee	0.96% average per annum on committed capital in excess of \$100 million, based on original ten-year term
Fee Discounts & Offsets	5 bps discount on commitments to Dover XI in excess of \$100 million
Carry & Waterfall Type	• 12.5% / European
Preferred Return	• 8%
GP Catch-up	• 100%
Clawback	• Yes
Other Key Provisions	Connecticut has been offered a seat on the Dover XI LPAC

## Secondary Overflow Fund V

Target Size	•	\$2 billion
GP Commitment	•	None
Fundraising Status	•	The GP has raised \$1.5 billion of commitments
Target Final Close	•	4Q 2023 anticipated
Fund Term	•	Ten years, subject to up to four one-year extensions at the option of the General Partner
Investment Period	•	Five years
Management Fee & Carry	•	None

# Legal and Regulatory Disclosure

## HarbourVest Partners, LLC ("HarbourVest")

In its disclosure to the Office of the Treasurer, HarbourVest Partners, LLC ("HarbourVest"), discloses the following matter:

In 2020 HarbourVest filed a proof of claim on behalf of funds and accounts under management related to Highland Capital Management's bankruptcy filing. HarbourVest settled those claims and transferred its interest in the relevant Highland managed fund to the Highland estate as part of the settlement. HarbourVest subsequently sold its claims to a third-party purchaser.

HarbourVest states that it has no material claims under its fidelity, fiduciary or E&O insurance policies to report, and that it has no ongoing internal investigations to report. HarbourVest states it has adequate procedures in place to undertake internal investigations of its employees, officers and directors.

# Compliance and Diversity Review

HarbourVest Partners LLC ("HarbourVest")

# **Compliance Certifications and Disclosures**

HarbourVest disclosed no campaign contributions, known conflicts, gifts or third-party fees.

# **Commitment to Diversity**

Employees – The firm launched an internship program in the summer of 2021, which they plan to expand to 20 interns across the US and UK in 2023, working with SEO and other organizations to recruit diverse interns. The firm continues to develop employee engagement, recruitment, advancement and retention of diverse employees, including training on unconscious bias. At least 50% of all key manager/senior leader promotions in the three past years were of women or minorities.

## Industry

In 2020, the firm was a founding signatory of ILPA's Diversity in Action initiative and the Diverse Alternative Investment Industry Statement (National Association Investment Companies). The NAIC statement commits signatories to create permanent, structural and perennial investments into neglected communities and to finding new investment pathways for Black and Latino/a-led companies to access institutional capital.

#### Vendors

The firm reported no formal policies.

#### **Nexus to Connecticut**

HarbourVest reported 9 employees living/working out of CT and supports various Connecticut-based charitable and educational institutions.

# Compliance and Diversity Review

HarbourVest Partners LLC ("HarbourVest")

# **Workforce Diversity**

## HarbourVest provided data as of June 30, 2022

- Data reflects the firm's global employee demographics
- Approximately 4-5% of firm employees declined to answer each year
- 929 total employees, a significant growth of almost 45% in three years
- The proportion of women Executives and Managers grew, but dropped slightly in Professionals
- The proportion of minority across all categories grew

#### WOMEN

	EXEC	MGMT	PROF	FIRM
2022	37%	39%	42%	44%
2022	89 of 238	137 of 347	204 of 481	409 of 929
2021	31%	36%	44%	44%
2021	64 of 238	98 of 271	162 of 368	317 of 722
2020	29%	35%	44%	44%
2020	53 of 180	84 of 242	130 of 293	280 of 642

### MINORITIES<sup>1</sup>

	EXEC	MGMT	PROF	FIRM
2022	23%	24%	33%	30%
2022	55 of 238	84 of 347	159 of 481	278 of 929
2021	19%	22%	30%	28%
	39 of 204	60 of 271	112 of 368	201 of 722
2020	20%	22%	31%	28%
2020	36 of 180	54 of 242	90 of 293	181 of 642

<sup>1 2022</sup> Minority breakdown: 55 exec (5 Black, 8 Hispanic, 39 Asian, 3 Two+); 84 mgmt (8 Black, 19 Hispanic, 53 Asian, 4 Two+); 159 prof (20 Black, 22 Hispanic, 108 Asian, 9 Two+)

#### Overall Assessment: Evaluation and Implementation of Sustainable Principles

HarbourVest incorporates ESG factors throughout its investment process with a focus on portfolio monitoring. The firm has been a signatory of the UN PRI since 2013 and employs a climate change strategy that is in alignment with the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD). HarbourVest recently joined Global ESG Benchmark for Real Assets (GRESB) and the ESG Data Convergence Project. The firm's Executive Management Committee is charged with oversight and implementation of the ESG policy. HarbourVest has added several key staff in the past year to further ESG integration. The firm provides periodic ESG training sessions to staff and relies on tools from Sustainability Accounting Standards Board (SASB) and RepRisk to support the evaluation of materiality and ESG ratings.

The firm's ESG policy details a case-by-case approach to investing in manufacturers or retailers of firearms.

Overall, HarbourVest's disclosure suggests robust integration of ESG factors in its investment process.

SCORE	
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Criteria	Response
Firm has an ESG policy	Yes
If Yes, firm described its ESG policy	Yes
If Yes, firm provided examples of ESG factors considered in the decision-making process, explained the financial impact of these ESG factors	Yes
Designated staff responsible for sustainability policies and research	Yes
Firm provides training/resources on sustainability issues, explained sources of ESG-related data	Yes
Signatory/member of sustainability-related initiatives or groups	Yes
Policy for evaluating current or prospective relationships with manufacturers or retailers of civilian firearms	Yes

Criteria	Response
Policy that requires safe and responsible use, ownership or production of guns	No
Enhanced screening of manufacturers or retailers of civilian firearms	Yes
Enhance screening of any industry/sector subject to increased regulatory oversight, potential adverse social and/or environmental impact	Yes
Merchant credit relationship with retailers of civilian firearms and accessories	No
If Yes, firm confirms compliance with laws governing firearms sales	N/A



# Dover Street XI L.P. & Secondary Overflow V L.P.

Recommendation Report April 2023

# Important Disclosures

All information contained within this report has been gathered from sources believed to be reliable, including but not limited to the general partner(s), other industry participants and the Hamilton Lane Investment Database, but its accuracy cannot be guaranteed.

The information contained in this report may include forward-looking statements regarding the fund presented or its portfolio companies. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the fund or the portfolio companies, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect our current judgment, which may change in the future.

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Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate the performance of the fund or the portfolio companies referred to for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

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The calculations contained in this document are made by Hamilton Lane based on information provided by the general partner (e.g. cash flows and valuations), and have not been prepared, reviewed or approved by the general partner.

Stacked bar charts or pie charts presented in the Strategy section in this report may not equate to 100% per the data labels on the charts due to rounding; however, all stacked bar charts and pie charts equate to 100% using exact proportions.



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### **Fund Information**

## **Organization Overview**

#### **General Partner:**

HarbourVest Partners, LLC ("General Partner"), ("HarbourVest")

## **Firm Inception:**

1978

#### Team:

61 dedicated secondary professionals

### **Senior Partners:**

Jeffrey Keay, Michael Pugatch, David Atterbury, Valerie Handal, Rajesh Senapati, Tim Flower, Greg Ciesielski, Dustin Willard and Edward Holdsworth

#### **Locations:**

Boston (headquarters) and 12 additional global offices

## **Fund Overview**

#### Fund:

Dover Street XI L.P. ("Fund") Secondary Overflow V L.P. ("SO V")

### Target Size/Hard Cap1:

\$12.0 billion/\$13.5 billion (Fund)

\$1.5 billion ("SO V")

#### **Asset Class:**

Private equity

## **Strategy:**

Secondaries

### **Substrategy:**

Fund of funds

#### **Geography:**

Primarily North America and Europe

#### **Industries:**

Diversified

## **Portfolio Construction<sup>2</sup>**

#### **Equity Investments:**

\$200 million to \$400 million

## **Target Number of Investments:**

40 to 60

#### **Max Single Investment Exposure:**

15%

#### **Expected Hold Period Per Investment:**

3 to 5 years

### **Target Returns:**

Not provided

<sup>&</sup>lt;sup>1</sup> The General Partner has not set a target fund size for SO V but expects approximately \$1.5 billion of commitments

<sup>1</sup> SO V is expected to participate in certain deals alongside the Fund and may selectively consummate transactions that are not in the Fund

## **Net Performance and Benchmarks**

	HarbourVest Partners, LLC Prior Investment Performance <sup>1</sup> As of 9/30/22							HL Benchmark Secondaries As of 9/30/22		PME Benchmark MSCI World Net TR As of 9/30/22	
(\$mm)						Mak	Quarters	Spre	ead vs. Top-Qua	artile	Connect
Fund	Vintage	Fund Size	% Drawn <sup>2</sup>	DPI	TVPI	Net IRR to Break J-Curve	DPI	TVPI	Net IRR	Spread vs. PME	
Fund VII	2007	\$2,929	96%	1.4x	1.4x	9.2%	1	0.1x	0.0x	+137 bps	-51 bps
Fund VIII	2012	3,591	92%	1.6x	1.7x	19.7%	1	0.0x	0.0x	+65 bps	+1032 bps
Fund IX	2015	4,777	85%	1.0x	1.8x	24.7%	3	0.1x	0.1x	+183 bps	+1661 bps
Fund X	2019	8,122	61%	0.3x	1.5x	47.2%	2	-0.3x	-0.2x	+567 bps	+5532 bps
Total				1.0x	1.6x	16.6%					+891 bps

HarbourVest Partners, LLC Prior Investment Performance <sup>1</sup> As of 9/30/22								HL Benchmark Secondaries As of 9/30/22		PME Benchmark MSCI World Net TR As of 9/30/22	
(\$mm)						Net	Quarters	Spre	ead vs. Top-Qua	artile	Chrood
Fund	Vintage	Fund Size	% Drawn <sup>2</sup>	DPI	TVPI	IRR	to Break J-Curve	DPI	TVPI	Net IRR	Spread vs. PME
SOI	2010	\$535	98%	1.7x	1.7x	13.6%	1	0.0x	0.0x	-404 bps	+139 bps
SO II	2012	250	85%	1.6x	1.9x	19.6%	1	0.1x	0.2x	+54 bps	+962 bps
SO III	2016	335	74%	1.2x	2.2x	25.2%	1	0.2x	0.4x	+231 bps	+1693 bps
SO IV	2019	1,133	52%	0.3x	1.4x	35.4%	1	-0.4x	-0.3x	-616 bps	+3541 bps
Total				1.1x	1.7x	16.9%					+756 bps

## **Fundraise Update**

- First close held on 8/8/22 on \$1.5 billion of aggregate commitments
- Interim close held in March 2023 bringing aggregate commitments to approximately \$4.7 billion
- Rolling closes targeting June 2023, late-summer 2023 and early-Fall 2023
- Final close targeted for 12/8/23

<sup>&</sup>lt;sup>1</sup> Capital Drawn, Capital Distributed and NAV are calculated from the cash flows of fee-paying limited partners and exclude cash flows from the General Partner's commitment

<sup>&</sup>lt;sup>2</sup> Provided by the General Partner, as of 9/30/22

# **Executive Summary (cont.)**

## Key Terms<sup>1</sup>

Term		Summary					
Investment Period	5 years	5 years					
Fund Term	10 years; + 4	one-year extension	ons at the discretion of the Genera	l Partner			
GP Commitment	1.5%						
Management Fee <sup>2</sup>	Year  1 2 3 4 to 7 8 9 10 Extensions	Present Fee Fees  0.25% 0.50% 0.85% 1.25% 1.20% 1.15% 1.10% 0.10%  Gregate commitments	Commitment Size Disconsister Commitment \$100 million to \$200 million \$200 million to \$300 million \$300 million to \$400 million ≥\$400 million <sup>2</sup> Annually	Fee Reduction <sup>2</sup> 5 bps 10 bps 15 bps 20 bps			
Fee Discount	LPs that close	e on or before fo	ur months from the first close will	receive a five l	basis point reduction		
Fee Offset	100%						
Organization Expenses	The lesser of	The lesser of 0.5% of aggregate commitments and \$20 million					
Carry/Preferred Return <sup>2</sup>	12.5%/8%; full return of contributions						
GP Catch-up	100%						
Clawback	Yes						

<sup>&</sup>lt;sup>1</sup> Refers to the terms proposed by the General Partner as of August 2022; terms are subject to change during fundraising

<sup>&</sup>lt;sup>2</sup> Secondary Overflow V investors will not be charged management fees and carried interest

# **Executive Summary (cont.)**

## **Investment Thesis**

Established secondary team with support from the broader HarbourVest platform	<ul> <li>HarbourVest is led by a deep bench of Managing Directors who are supported by a cohesive and robust senior investment team that averages 15 years of tenure at the firm</li> <li>The General Partner has developed a strong brand name and reputation globally and has continued to scale the platform, benefitting its sourcing, diligence and transaction capabilities</li> </ul>
	HarbourVest has demonstrated its focus on internal development and retention, evidenced by a lack of turnover and several recent senior-level promotions
	<ul> <li>The General Partner has maintained its focus on secondary transactions since 1991, leading to deep expertise and establishing itself as a preferred partner</li> </ul>
Consistent focus on complex secondary transactions with differentiated sourcing capabilities and thoughtful structuring	<ul> <li>HarbourVest leverages the broader firm to enhance sourcing capabilities through data sharing and cross-team collaboration to provide first look at deals and manage relationships with general partners</li> </ul>
	<ul> <li>The General Partner intends to increase risk mitigation throughout the portfolio with an increase in underlying funds while leveraging deferred payments and discounted purchase prices</li> </ul>
	<ul> <li>HarbourVest had generated strong returns across its prior funds, with top-quartile net IRRs across Funds VII through X and SO II and III, as of 9/30/22</li> </ul>
Attractive performance across prior funds across market cycles	The General Partner's secondary strategy has allowed it to capitalize on volatile markets and it expects further capital appreciation across the unrealized portfolio
Tunus deress market cycles	<ul> <li>HarbourVest had maintained stable investment pacing across funds and demonstrated its ability to generate an attractive dispersion of returns with limited write-offs, realizing only 10% of deals at or below cost, as of 9/30/22</li> </ul>

#### **Need to Believe**

# The General Partner plans to raise a substantially larger fund than the prior fundraise and will need to effectively manage deployment Given HarbourVest's focus on complex transactions, the General Partner plans to The General Partner will effectively increase its equity check sizes to broaden the opportunity set while leveraging the manage the step up in fund size broader platform to drive deal flow HarbourVest has experienced little turnover since the prior fundraise while growing the investment team Given the current market volatility, the market is expected to become more competitive The General Partner leverages the broader platform and its reputation as a HarbourVest will continue to source preferred partner, which enhances sourcing capabilities across public and private attractive opportunities with increased markets to provide direct deal flow competition HarbourVest expects to take advantage of increased secondary opportunities within the market as managers look for unique exit pathways and investors seek liquidity due to the denominator effect from public market volatility HarbourVest maintained a large unrealized portfolio, as of 9/30/22, with increasing volatility across the broader macro environment The unrealized portfolio remains healthy and is highly diversified, limiting company The General Partner will continue to level, manager, and transaction concentration to provide downside protection and generate attractive returns capital preservation Across all funds, the General Partner has tilted towards majority funded transactions, allowing for clearer projections on asset appreciation





#### Recommendation

Based on the analysis and information presented herein, Hamilton Lane believes that a commitment to Dover Street XI L.P. and Secondary Overflow V L.P. works towards achieving the goals set forth for the Connecticut Retirement Plans and Trust Funds. A commitment to the Fund and SO V will maintain a relationship with a high-quality General Partner. Taking into account the investment strategy and portfolio diversification objectives of the Private Investment Fund, Hamilton Lane recommends a commitment to the Fund and SO V.

# **General Partner**

# Robust, global platform augments investment team capabilities

- The investment team benefits from HarbourVest's global brand name, proprietary data, established networks and shared resources
- The General Partner utilizes its robust platform to share information across teams and better assess potential investments
- HarbourVest leverages its global presence to gain local insight and maintain relationships with sellers, general partners and intermediaries

## **Experienced and cohesive senior team**

- The General Partner is supported by a deep bench of senior investment professionals, with Managing Directors averaging 18 years of tenure with the firm and 23 years of total experience investing across market cycles
- HarbourVest maintains an Executive Management Committee and Portfolio
   Construction Committee to ensure effective allocation and strategy implementation
- The General Partner is thoughtfully organized with senior professionals involved in committees that oversee the multi-step investment process to mitigate risk and safeguard assets

# Broad distribution of economics promotes retention and aligns incentives

- HarbourVest is committed to internal growth, as evidenced by recent promotions and the lack of turnover since the prior fundraise
- The General Partner broadly distributes carried interest across the platform, incentivizing collaboration and data sharing across strategies

# General Partner (cont.)

- HarbourVest was founded in 1978 as a venture capital firm by Brooks Zug and Ed Kane, who worked together at John Hancock Mutual Life Insurance Company, and has since grown to become a global investment firm offering various products across the private markets
- In 1986, HarbourVest began investing in secondary transactions and subsequently launched its secondary-dedicated fund line in 1991, which is led by a cohesive bench of Managing Directors today
  - As of 9/30/22, the General Partner had deployed more than \$31 billion across secondary transactions

#### Snapshot:1

#### **Inception/Founders:**

1978/Brooks Zug (retired) and Ed Kane (retired)

#### AUM<sup>2</sup>:

\$106.9 billion (all strategies)/\$46.2 billion (secondaries & real estate)

### **Management Company:**

Private

#### Headcount<sup>2</sup>:

61 secondaries-dedicated professionals, 172 additional investment professionals across strategies and 850+ back-office professionals

#### **Locations:**

Boston (headquarters), London, Singapore, Hong Kong, Toronto, Beijing, Bogotá, Dublin, Frankfurt, Seoul, Tel Aviv, Tokyo and Sydney

## **Strategies/Product Lines:**

Primary, secondary, direct co-investments, private credit and infrastructure & real assets

## **Current Leadership:**

Jeffrey Keay, Michael Pugatch, David Atterbury, Valerie Handal, Rajesh Senapati, Tim Flower, Greg Ciesielski, Dustin Willard and Edward Holdsworth

<sup>&</sup>lt;sup>1</sup> As of 9/30/22

<sup>&</sup>lt;sup>2</sup> Provided by the General Partner; as of 12/31/22



- · The General Partner benefits from an international presence and intends to utilize longstanding networks to drive deal flow
- HarbourVest has 61 dedicated secondary investment professionals based across 5 offices globally, with over half the team located at the firm's headquarters in Boston
  - · A deal team is typically comprised of a Managing Director, Principal or Vice President and one or more Associate or Analyst
- The broader HarbourVest platform supports the secondary team through shared resources, including operations and support professionals
- HarbourVest has expanded its resources of the team through internal promotions and additions to the firm
  - The secondary team has not experienced any senior level departures since the prior fundraise, increasing its cohesion across the platform
- In 2019, the General Partner established its Diversity & Inclusion Council to improve diversity recruitment and retention across
  the firm

## Investment Team by Role/Region<sup>1</sup>

As of 12/31/22



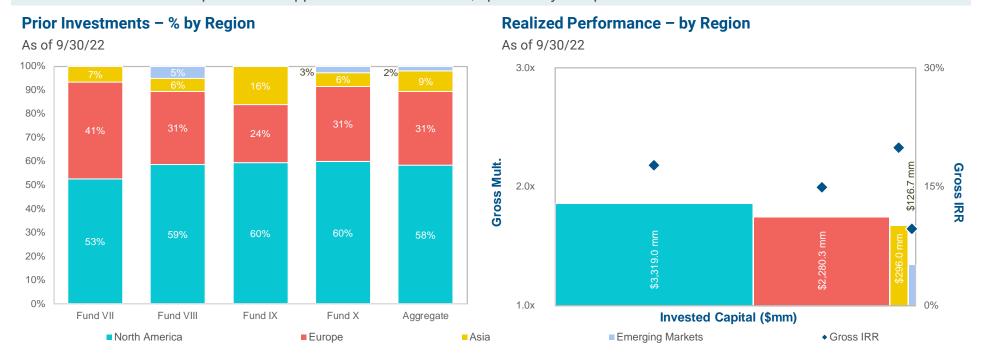
<sup>&</sup>lt;sup>1</sup> Firm Management/IC includes two Co-CEOs that split time between the secondary team and firm management

- The General Partner benefits from a strong team of senior secondary investment professionals who have developed expertise within secondary transactions across market cycles through long tenures at the firm
  - Senior investment professionals average 20 years of experience in the industry and 15 years of tenure at the General Partner,
     driving cohesion and generating longstanding relationships with leading fund managers
- The secondary investment committee is comprised of Mr. Wilson and Managing Directors Jeffrey Keay, Michael Pugatach and Rajesh Senapati, with investment decisions requiring three out of four votes for approval
  - · Greg Stento, Head of Investments, sits on the investment committee as an observer
- HarbourVest maintains multiple committees to provide a strong control environment, including the Executive Management Committee ("EMC") and Portfolio Construction Committee ("PCC")
  - The EMC is comprised of Co-CEOs John Toomey and Peter Wilson, both of whom split their time between the secondary team and leading functions of the firm
  - The investment team is further supported by the PCC, which ensures a consistent approach across portfolio allocation
- While the secondary team is comprised of dedicated professionals, the General Partner incentivizes professionals to collaborate across the platform by sharing carried interest broadly

	<ul> <li>Consistent with prior funds, the General Partner primarily targets secondary transactions within the buyout strategy in North America and Europe, while opportunistically investing in venture/growth strategies, as well as Asia and emerging markets</li> </ul>
Consistent approach with emphasis on complex transactions	<ul> <li>SO V is expected to participate in certain deals alongside the Fund to manage concentration, and may selectively participate in transactions not consummated by the Fund</li> </ul>
	<ul> <li>HarbourVest is an experienced secondary investor with a focus on complex transactions and has grown its investment sizes to capitalize on the growth in the market</li> </ul>
Differentiated sourcing capabilities	<ul> <li>The General Partner maintains a longstanding presence in the private markets; as such, the HarbourVest platform has enabled a robust pipeline of opportunities across a variety of channels and sellers</li> </ul>
enhanced by the broader platform	<ul> <li>HarbourVest utilizes a data-driven approach and leverages relationships of the broader platform to provide direct deal flow and negotiate favorable terms and pricing</li> </ul>
	<ul> <li>The General Partner maintains a consistent approach towards structuring, primarily targeting heavily funded transactions while utilizing deferred payments to limit risk while enhancing returns</li> </ul>
Focus on risk mitigation through largely- funded transactions and diversification	<ul> <li>HarbourVest expects to further increase the number of underlying funds to provide diversification, limiting exposure to a single fund to avoid company-level concentration</li> </ul>
	The General Partner continues to limit additional risk by executing on carve-out transactions of attractive underlying assets



- Consistent with prior funds, HarbourVest targets sector-agnostic secondary transactions globally, with a primary focus on North American- and European-based opportunities, and opportunistically targets Asian and emerging market investments
  - The General Partner expects to allocate 50% to 70% of the Fund to North America, 20% to 40% to Europe and 10% to 20% to global opportunities
- The investment team leverages 13 global offices to maintain relationships with fund managers and provide regional expertise
- The General Partner intends to utilize its consistent approach of primarily targeting buyout transactions, while maintaining flexibility to invest in venture/growth and opportunistic strategies
  - Habourvest expects to allocate 70% to 85% of the portfolio to buyout transactions, 10% to 20% to venture/growth transactions and up to 15% to opportunistic transactions, specifically non-private assets



- Harbourvest seeks to maintain a disciplined approach to deal size, and expects to target similar transaction sizes as prior funds
- The General Partner expects to make equity investments between \$200 million and \$400 million and intends to avoid transactions that require less than \$50 million unless for strategic primaries
- · Across funds, the General Partner has executed on a wide range of transaction types
  - HarbourVest expects to maintain its emphasis on complex transactions, where it can leverage its domain expertise to invest in less efficient segments of the market
  - The General Partner plans to continue to execute on traditional transactions, where it has a competitive advantage due to data sharing and strong manager relationships across the broader platform
- HarbourVest expects to see an increase in traditional opportunities due to current market conditions and plans to allocate 60% to 70% of the portfolio to complex transactions and 30% to 40% to traditional transactions
- HarbourVest has established itself as a preferred partner due to its longstanding presence within the secondary market and across the platforms' additional strategies, which cultivates differentiated deal flow
  - The General Partner maintains a broad sourcing platform across its various strategies with shared carried interest to incentivize cross-team information sharing
- HarbourVest has demonstrated its ability to execute complex transactions and maintains extensive relationships with managers, aiding in sourcing and providing a robust pipeline
- The General Partner has executed on secondary deals from a variety of sellers driven by its focus on complexity and flexible approach to meet the seller's needs and objectives
- HarbourVest seeks to acquire attractive discount prices, leveraging its extensive data set on both companies and managers to offer competitive purchase prices



- The General Partner maintains a consistent approach to investing in transactions with underlying funds that are more than 50% funded at entry, with emphasis on less than 25% unfunded, which mitigates blind-pool risk
- HarbourVest seeks to provide broadly diversified portfolios through a wide range of number of funds
- SO V is expected to participate in certain deals alongside the Fund to manage concentration, and may selectively participate in transactions not consummated by the Fund
- The General Partner expects to create a more concentrated portfolio in the Fund but plans to diversify through multi-asset transactions
  - HarbourVest plans to limit single-asset transactions to 20% of the Fund
  - SO V will be leveraged by the General Partner to manage concentration within the Fund

# Attractive performance across prior funds

- The General Partner had generated consistent, attractive performance across prior funds and overflow vehicles, with Funds VII through X and SOF II & III generating top-quartile net IRR returns, as of 9/30/22
- HarbourVest produced attractive J-curve profiles across all funds and expects to continue to utilize a credit facility to make portfolio investments

# Healthy unrealized portfolio with projected realizations

- The General Partner's unrealized portfolio remains healthy, with the majority of the portfolio being held at or above cost, as of 9/30/22
- The General Partner plans to realize its first transaction in Fund X in the near term

# Consistent capital deployment and dispersion of returns

- The General Partner has remained consistent with capital deployment across funds, with outsized realizations in 2021
- HarbourVest had exited the majority of its deals between a 1.0x and 3.0x gross multiple and has had limited realizations since Fund VIII at or below cost, as of 9/30/22, due to its investment in majority funded transactions and structuring of deferred payments



- The General Partner has demonstrated its ability to generate attractive returns across prior funds
  - Funds VII through X generated top-quartile performance on a net IRR basis as of 9/30/22
  - While SO II and III outperformed peers across all metrics, SO I and IV generated second-quartile performance on a net IRR basis, as of 9/30/22
- Consistent with prior funds, the General Partner intends to utilize a credit facility to help bridge capital calls and expenses

	HarbourVest Partners, LLC Prior Investment Performance <sup>1</sup> As of 9/30/22									
(\$mm) Fund	Vintage	Vintage Fund Size Capital Capital NAV DPI TVPI IRR								
Fund VII	2007	\$2,929	\$2,772.0	\$3,939.1	\$42.6	1.4x	1.4x	9.2%		
Fund VIII	2012	3,591	3,254.6	5,074.5	459.3	1.6x	1.7x	19.7%		
Fund IX	2015	4,777	3,999.5	3,988.1	3,110.1	1.0x	1.8x	24.7%		
Fund X	2019	8,122	4,860.0	7.11.1						
Total			\$14,886.1	\$14,553.1	\$9,575.1	1.0x	1.6x	16.6%		

	HL Benchmarl Secondaries As of 9/30/22 Top-Quartile	PME Benchmark MSCI World Net TR As of 9/30/22	
DPI	TVPI	Net IRR	PME IRR
1.4x	1.4x	7.8%	9.7%
1.6x	1.7x	19.1%	9.4%
0.9x	1.7x	22.9%	8.1%
0.7x	1.7x	41.6%	-8.1%
			7.7%

	HarbourVest Partners, LLC  Prior Investment Performance <sup>1</sup> As of 9/30/22								
(\$mm) Fund	Vintage	Vintage Fund Size Capital Capital NAV DPI TVPI IRR							
SOI	2010	\$535	\$525.7	\$872.6	\$8.5	1.7x	1.7x	13.6%	
SO II	2012	250	212.9	345.6	48.3	1.6x	1.9x	19.6%	
SO III	2016	335	247.0	285.1	246.8	1.2x	2.2x	25.2%	
SO IV	2019	1,133	588.2	165.9	662.5	0.3x	1.4x	35.4%	
Total			\$1,573.8	\$1,669.2	\$966.1	1.1x	1.7x	16.9%	

	HL Benchmarl Secondaries As of 9/30/22 Top-Quartile	PME Benchmark MSCI World Net TR As of 9/30/22	
DPI	TVPI	Net IRR	PME IRR
1.6x	1.7x	17.6%	12.2%
1.6x	1.7x	19.1%	10.0%
0.9x	1.7x	22.9%	8.3%
0.7x	1.7x	41.6%	0.0%
			9.3%

<sup>1</sup> Capital Drawn, Capital Distributed and NAV are calculated from the cash flows of fee-paying limited partners and exclude cash flows from the General Partner's commitment

- HarbourVest had generated attractive gross performance since Fund VIII, with a healthy unrealized portfolio as of 9/30/22
- The General Partner had begun investing out of the Fund, completing its first investment in September 2022
- The General Partner had generated an attractive dispersion of returns across funds
- HarbourVest had produced a low loss ratio given its focus on high-quality managers as well as primarily funded transactions to limit its blind pool risk

	HarbourVest Partners, LLC  Prior Investment Performance  As of 9/30/22										
(\$mm)	Vintage	# of Inv.		# of Inv.		Fund Size	Fund Size Amount		Unrealized	Gross	Gross
Fund	viiitage	Total	Real.	Fullu 312e	Invested	Realized	Value	Mult.	IRR		
Fund VII	2007	40	40	\$2,929	\$2,851.0	\$4,572.9	\$33.6	1.6x	12.8%		
Fund VIII	2012	37	28	3,591	3,137.6	5,775.0	502.1	2.0x	23.0%		
Fund IX	2015	79	10	4,777	4,282.3	4,271.7	4,046.6	1.9x	25.4%		
Fund X	2019	86	0	8,122	5,848.1	1,749.9	7,348.6	1.6x	39.0%		
Total		242	78		\$16,119.0	\$16,369.5	\$11,930.9	1.8x	19.3%		

	HarbourVest Partners, LLC Realized Investment Performance As of 9/30/22							rbourVest Pa zed Investme As of 9/30	nt Performanc	e	
(\$mm) Fund	Amount Invested	Amount Realized	Unrealized Value	Gross Mult.	Gross IRR	(\$mm) Fund	Amount Invested	Amount Realized	Unrealized Value	Gross Mult.	Gross IRR
Fund VII	\$2,851.0	\$4,572.9	\$33.6	1.6x	12.8%	Fund VII	\$0.0	\$0.0	\$0.0	n/a	n/a
Fund VIII	2,509.5	4,896.5	145.3	2.0x	24.6%	Fund VIII	628.1	878.5	356.9	2.0x	17.3%
Fund IX	661.5	1,152.4	23.3	1.8x	23.9%	Fund IX	3,620.8	3,119.3	4,023.3	2.0x	25.7%
Fund X	0.0	0.0	0.0	n/a	n/a	Fund X	5,848.1	1,749.9	7,348.6	1.6x	39.0%
Total	\$6,022.0	\$10,621.8	\$202.1	1.8x	16.5%	Total	\$10,097.0	\$5,747.7	\$11,728.8	1.7x	27.0%

- Across SO I through IV, the General Partner had generated attractive gross performance with a healthy unrealized portfolio, as of 9/30/22
- Overflow funds serve as dedicated investment vehicles for LPs to commit to a smaller pool of transactions based out of its main secondary fund line

	HarbourVest Partners, LLC  Prior Investment Performance  As of 9/30/22									
(\$mm)	Vintage	# of Inv.		Fund Size	Amount	Amount	Unrealized	Gross	Gross	
Fund	Village	Total	Real.	i unu Size	Invested		Value	Mult.	IRR	
SOI	2010	6	6	\$535	\$527.3	\$964.7	\$5.3	1.8x	17.0%	
SOII	2012	9	5	250	209.8	387.3	47.7	2.1x	26.0%	
SO III	2016	9	2	335	248.1	301.8	238.3	2.2x	26.8%	
SOIV	2019	16	0	1,133	583.5	208.0	617.4	1.4x	38.7%	
Total		40	13		\$1,568.7	\$1,861.7	\$908.6	1.8x	20.0%	

	HarbourVest Partners, LLC Realized Investment Performance As of 9/30/22							arbourVest Pa ized Investme As of 9/30	nt Performano	:e	
(\$mm) Fund	Amount Invested	Amount Realized	Unrealized Value	Gross Mult.	Gross IRR	(\$mm) Fund	Amount Invested	Amount Realized	Unrealized Value	Gross Mult.	Gross IRR
SOI	\$527.3	\$964.7	\$5.3	1.8x	17.0%	SOI	\$0.0	\$0.0	\$0.0	n/a	n/a
SOII	123.4	248.7	1.8	2.0x	27.1%	SOII	86.4	138.6	45.9	2.1x	24.0%
SO III	17.5	35.7	0.1	2.0x	37.6%	SO III	230.6	266.1	238.1	2.2x	26.3%
SOIV	0.0	0.0	0.0	n/a	n/a	SOIV	583.5	208.0	617.4	1.4x	38.7%
Total	\$668.2	\$1,249.1	\$7.2	1.9x	18.1%	Total	\$900.5	\$612.7	\$901.4	1.7x	28.1%

# **Environmental, Social & Governance**

- The General Partner is a signatory to Principles for Responsible Investing ("PRI") and maintains dedicated ESG professionals and an ESG
  Council, which recently appointed a Head of ESG, in addition to maintaining two ESG investment leads that provide oversight of ESG across
  the diligence process
- HarbourVest maintains an ESG strategy in line with Task Force on Climate-Related Financial Disclosures ("TCFD") compliance and has set climate expectations for the firm and fund managers
  - The General Partner is a Carbon Neutral Company in accordance with The Carbon Neutral Protocol and maintains an offsetting program, which provides investments emission related projects
- The General Partner has appointed a Diversity & Inclusion committee to promote equity and inclusion across the HarbourVest firm
  - The General Partner is a founding signatory to the Institutional Limited Partners Association ("ILPA") Diversity in Action Initiative and National Association of Investment Companies ("NAIC") Diverse Alternative Investment Industry Statement to promote DE&I initiatives, as well as supporting the Association of Asian American Investment Managers, SEO and Out Investors

### **ESG Summary**

ESG Policy	Yes	Integration in decision- making	IC memos include ESG requirements
ESG-Dedicated Professionals	Three dedicated ESG professionals and an ESG council	ESG focus - planning	ESG is always across strategic planning
Signatories	PRI, TCFD, ILPA Diversity in Action and NAIC's Diverse Alternative Investment Industry Statement	piag	Loo to attract an acceptance planning
Environmental Focus	ESG and climate change policy	Monitoring	Quarterly monitoring of ESG KPIs and bi-weekly monitoring of ESG incidents
Diversity	19% female/81% male ownership and decision making 35% minority across all professionals 48% female/52% male across all professionals	Reporting	Annually
ESG in due diligence process	ESG is always considered across the diligence process	Requirements of portfolio companies	N/A



**Appendices** 

	Ехр	perience of Senio	r Investme	nt Profess	ionals
Name	Title	Location	Tot. Exp. (yrs.)	Tenure (yrs.)	Prior Experience
Peter Wilson	Co-CEO	London	33	27	<ul><li>European Bank for Reconstruction and Development</li><li>The Monitor Company</li></ul>
John Toomey	Co-CEO	Boston	26	22	Smith Barney
Jeffrey Keay	Managing Director	Boston	27	24	<ul><li> Ernst &amp; Young</li><li> Financial Accounting Standards Board</li></ul>
Michael Pugatch	Managing Director	Boston	22	20	• UBS
David Atterbury	Managing Director	London	29	19	<ul><li>Abbey National Treasury Services plc</li><li>PricewaterhouseCoopers</li></ul>
Valerie Handal	Managing Director	London	27	17	<ul><li>Merrill Lynch International</li><li>Bank of America</li></ul>
Rajesh Senapati	Managing Director	Boston	18	16	<ul><li>Castanea Partners</li><li>J.P. Morgan Securities</li></ul>
Tim Flower	Managing Director	London	25	15	<ul><li>Bridgepoint Capital</li><li>MCF Corporate Finace</li></ul>
Greg Ciesielski	Managing Director	London	16	14	Bear, Stearns & Co.
Dustin Willard	Managing Director	Boston	15	13	Wachovia Securities
Edward Holdsworth	Managing Director	London	18	12	<ul><li>Matrix Private Funds Group</li><li>UBS</li></ul>
John Fiato	Principal	Boston	29	29	• n/a
Matthew Souza	Principal	Boston	25	18	<ul><li>HLM Venture Partners</li><li>Ernst &amp; Young</li></ul>
Dominic Goh	Principal	Singapore	15	10	<ul><li>Coller Capital</li><li>ABN AMRO</li></ul>
Martin Yung	Principal	Hong Kong	15	9	<ul><li>Pomona Capital</li><li>Paul Capital</li><li>Lloyds Banking Group</li></ul>
Nick Bellisario	Principal	Boston	9	8	Wells Fargo Securities
Kyle Dowd	Principal	Boston	9	8	Wells Fargo Securities
Abuzar Anaswala	Principal	Toronto	18	6	<ul><li>SB International</li><li>Naya Ventures</li><li>Paul Capital</li></ul>
Blake Holman	Principal	Boston	13	5	<ul><li>Teacher Retirement System of Texas</li><li>Popp Hutcheson PLLC</li></ul>
William Thompson	Principal	London	14	4	<ul><li>Goldman Sachs</li><li>SunTrust Robinson Humphrey</li></ul>



Benchmark Analysis:	An analysis that compares the net IRR of the prior funds to the top-quartile net IRR benchmarks for similar funds (based on strategy and vintage) as reported by the Cobalt LP database. The benchmark data shown is the most recent data available at this time
DPI:	Distributed-to-Paid In = (Amount of Distributions Received)/(Total Amount of Capital Paid-In)
ESG:	Environmental, Social and Governance
Gross IRR:	Internal Rate of Return ("IRR") of investments at the "fund level," excludes fees paid by LPs to the General Partner such as management fees and carried interest. For investments held less than one year, Hamilton Lane nominalizes the IRR to match the hold period of the investment in order to represent a more meaningful number
Investment Pacing:	An analysis of the total capital invested during the given years. Includes all prior investments, realized or unrealized
J-curve Benchmark:	Peer (median by age) is calculated by taking the median IRR of similar funds (based on strategy and vintage) in Hamilton Lane's database at each quarter, which are simulated as investing at the same point in time. The length of time to break the J-curve is calculated from inception to the first time each fund generated a positive net IRR
Loss Ratio Analysis:	An analysis of the capital invested in realized transactions generating different multiples of invested capital
Net IRR:	Annualized Internal Rate of Return ("IRR") of investments at the LP level inclusive of fees such as management fees and carried interest paid to the General Partner
Net Returns to Limited Partners:	The performance of the General Partner's prior investment vehicles at the net LP level, inclusive of all fees, carried interest and expenses. Performance data is as reported by the General Partner using actual capital contributions, distributions and net asset value for either all limited partners, or a sample set of limited partners, in the respective funds
Outlier Analysis:	An analysis of the gross returns of investments in prior funds, comparing overall performance against the performance when certain 'outlier' transactions are excluded. Outliers are defined as transactions that generate exceptionally positive or negative results
PME Analysis:	Calculated by taking the fund's monthly cash flows and investing them in the relevant Total Return Index (where all dividends are reinvested). Contributions were scaled by a factor such that the ending portfolio balance would be equal to the private equity net asset value (equal ending exposures for both portfolios). This prevents shorting of the public market equivalent portfolio in order to match the performance of an outperforming private equity portfolio. Distributions were not scaled by this factor. The IRRs were then calculated based on these adjusted cash flows. The selected PME represents the most relevant public market benchmark
Realized Attribution Analysis:	Analysis of the capital invested in, and performance of, the prior realized transactions according to the criteria indicated
Realized Investments:	Hamilton Lane classifies investments as "realized" if it has: i) an unrealized value of less than 20% of the total value; ii) a carrying value that has been written to zero or has been previously written-off; or iii) been fully exited and the GP has no remaining interest in the company
RVPI:	Remaining Value-to-Paid In = (Current Net Asset Value)/(Total Amount of Capital Paid-In)
TVPI:	Total Value-to-Paid In = (Amount of Distributions Received + Current Net Asset Value)/(Total Amount of Capital Paid-In)



# Definitions (cont.)

Time-Zero IRR:	Represents the gross IRR calculated as if every investment were initiated on the same date
Write-Down Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 1.0x their original cost basis, divided by the total capital invested in all realized investments
Write-Off Ratio:	The ratio of capital invested in realized investments that have been sold for a value that is less than 0.5x their original cost basis, divided by the total capital invested in all realized investments



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# The State of Connecticut

Dover Street XI

May 2023

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# Table of contents

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- IV. Dover Street XI

# HarbourVest firm overview



# HarbourVest at-a-glance

\$106.9B 1000+ total AUM across all strategies\* advisory board seats 25 years Strong track record average industry experience 40 years of managing directors Expertise Private markets in primary, secondary, direct specialists in equity, credit, co-investments, real assets and and real assets infrastructure and private credit 1000+ 1000+ 200+ Managers tracked colleagues investment professionals

As of December 31, 2022

## Global scale

## Our market coverage is broad and deep



Expertise across capital structure (equity and debt) and investment types
---

Primary investments
Secondary & real assets
Direct – equity & credit

\$55.0B committed
\$46.2B committed
\$33.8B committed

## **Americas**

146 Investment

professionals

\$86.7B

committed

### **EMEA**

42

\$36.0B

Investment professionals

committed

## **Asia Pacific**

31

\$12.2B

Investment professionals

committed



# Secondary market opportunity



# Attractive secondary market fundamentals



## Large Established Market

- 2022 volume exceeded \$100 billion
- Long-term secular growth drivers
- Significant market growth potential



### **Diversified Seller Pool**

- Well over 1,000 sellers per annum
- Wide range of motivations
- GPs playing a larger role in transactions



## **Broad Range of Assets**

- Diversified by stage, vintage, year, and geography
- Increasing frequency of high-quality, GP-Led transactions larger than \$1 billion
- High quality assets, particularly in GP-Led deals

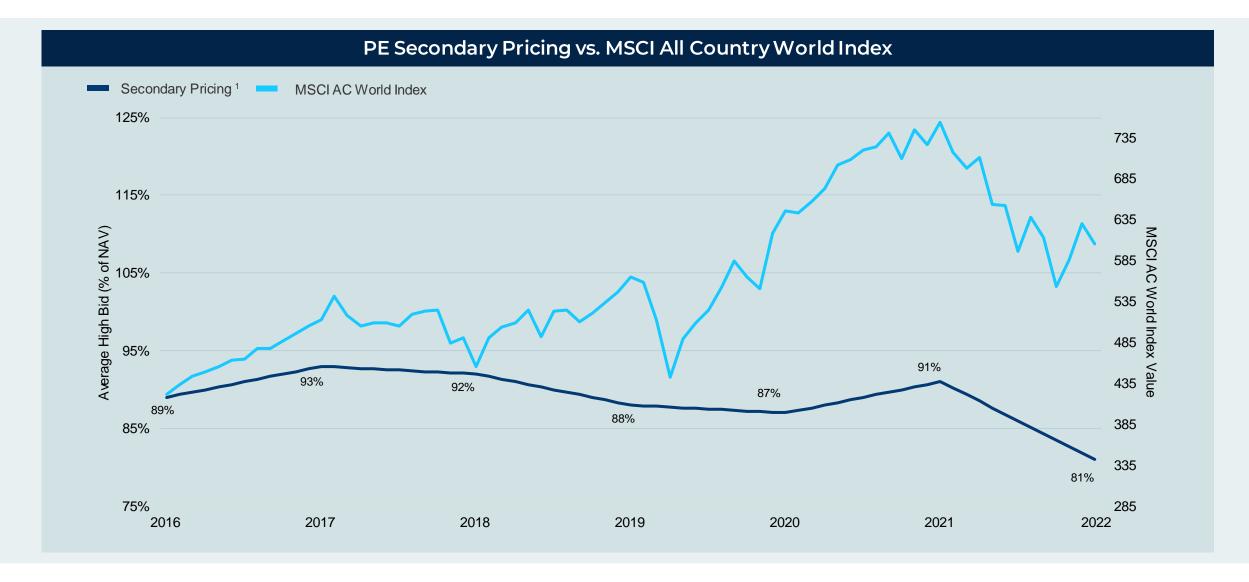


## **Diverse Buyer Strategies**

- Traditional vs. complex
- Diversified vs. concentrated
- Less mature vs. tail end

As of December 31, 2022. Source: Evercore: Secondary Market Survey Results (January 2023); Setter: Volume Report FY 2020 (January 2022); Greenhill: Global Secondary Market Review (January 2022).

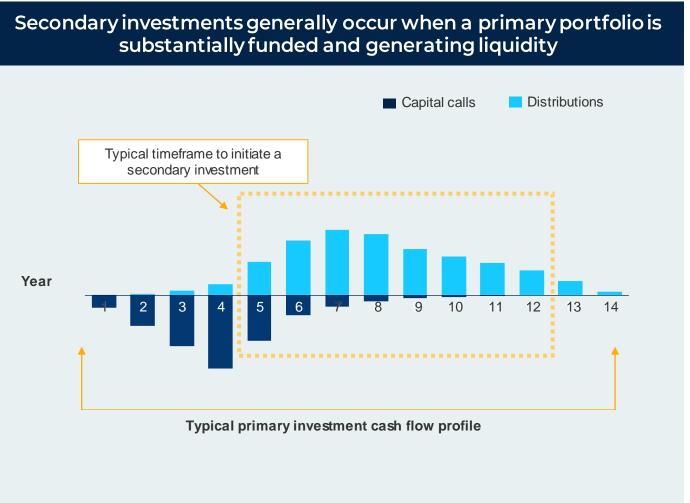
# Secondary market pricing





# Why investors choose secondaries





HarbourVest secondary strategy



# HarbourVest secondary investment strategy



### Customized

Provide customized liquidity solutions of scale to general partners and sellers



### Selective

Employ highly selective approach with emphasis on market-leading complex deals

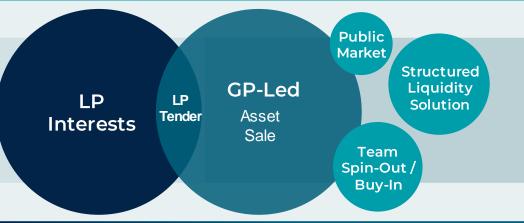


## Quality

Access high quality assets and **sponsors** by leveraging proprietary data and strategic relationships

## Market leading, innovative approach

**Traditional** 



Complex

Low complexity **High Competition** 

High complexity **Low Competition** 

# HarbourVest secondary competitive advantages

In our experience, six core strengths provide significant advantages



### **Experience & Stability**

- 35+ years secondary experience across 500+ transactions
- Stable, consistent team
- 16 years of average MD tenure



- 13 global offices and 200+ investment professionals
- Over \$129B committed to primaries, secondaries, and direct co-investments\*





## **GP Relationships** & Alignment

- Strategic & trusted partner to general partners
- 1,000+ advisory board seats

**HarbourVest** 

## **Expertise in Complexity**

 Market leader and innovator in complex secondary transactions for over 20 years





## Independence

- Privately held & independent
- Accountable only to our limited partners

### **Robust Database**

- 40 years of private markets data
- Information tracked on:
- 24,000+ partnerships
- 10,000+ managers
- 36,000+ companies



As of September 30, 2022.

<sup>\*</sup> Reflects the total committed capital since inception for primary, secondary and direct co-investments excluding real assets investments. Includes all investments made by a Harbour Vest managed fund or account. In order to show a comprehensive track record and our experience in selecting investments, these figures include investments made by HarbourVest managed funds or accounts since 1983. This includes data (prior to 1998) related to transactions that occurred when the HarbourVest team was affiliated with Hancock Venture Partners Inc.

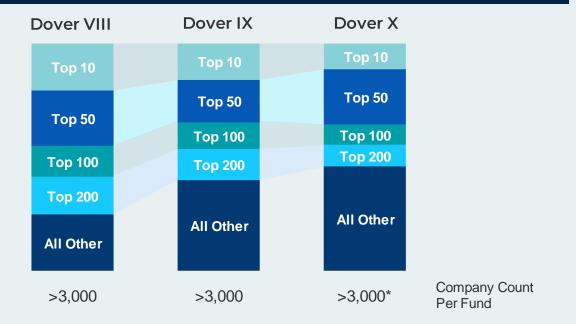
# Consistent approach to portfolio construction



## Top Company Concentration Analysis

### Complex focus has not meant less diversification

- While concentrated secondary transactions have become more common, the Dover program has not become more concentrated
- Disciplined portfolio construction has created balanced portfolios
- Largest single company exposures generally less than 1.5% of Dover X



# Secondary program performance

Since inception as of September 30, 2022

	Vintage Year	Fund Size (millions)	% Called	Gross Portfolio DPI	Gross Portfolio TVPI	Gross Portfolio IRR	Net DPI	Net TVPI	Net IRR	MSCI AC World PME**	S&P 500 PME**
Dover la- Dover IV <sup>1</sup>	1991-1999	\$363.3	97%	1.9x	1.9x	34.5%	1.6x	1.6x	20.8%	8.1%	9.7%
Dover V	2003	\$515.2	97%	1.7x	1.7x	28.7%	1.5x	1.5x	17.9%	10.5%	8.3%
Dover VI	2005	\$621.2	96%	1.5x	1.5x	7.1%	1.3x	1.3x	3.9%	4.8%	7.0%
Dover VII	2008	\$2,929.3	96%	1.6x	1.6x	12.8%	1.4x	1.4x	9.2%	9.4%	13.7%
Secondary Overflow	2010	\$540.4	98%	1.8x	1.8x	17.0%	1.7x	1.7x	13.6%	11.6%	16.6%
Dover VIII	2012	\$3,591.5	92%	1.8x	2.0x	23.0%	1.6x	1.7x	19.7%	9.7%	13.3%
Secondary Overflow 2011	2012	\$253.8	85%	1.8x	2.1x	26.0%	1.6x	1.9x	19.6%	10.1%	13.9%
Dover IX	2016	\$4,777.0	85%	1.0x	1.9x	25.4%	1.0x	1.8x	24.7%	8.5%	12.2%
Secondary Overflow III	2017	\$334.7	74%	1.2x	2.2x	26.8%	1.2x	2.2x	25.2%	8.5%	12.1%
Secondary Overflow IV	2019	\$1,133.2	52%	0.4x	1.4x	38.7%	0.3x	1.4x	35.4%	(9.8%)	(5.1%)
Dover X	2020	\$8,121.8	61%	0.3x	1.6x	39.0%	0.3x	1.5x	47.2%	(8.7%)	(4.0%)

<sup>1</sup> Reflects the aggregated performance of all investments made by Dover Street la L.P., Dover Street II L.P., Dover Street II L.P., and Dover Street IV L.P. No investor received this aggregated performance. Excludes Dover lb, which was a £10M fund and had a 18.9% net IRR at liquidation due to currency inconsistency with the rest of the Dover program.

Past performance is not a reliable indicator of future results.



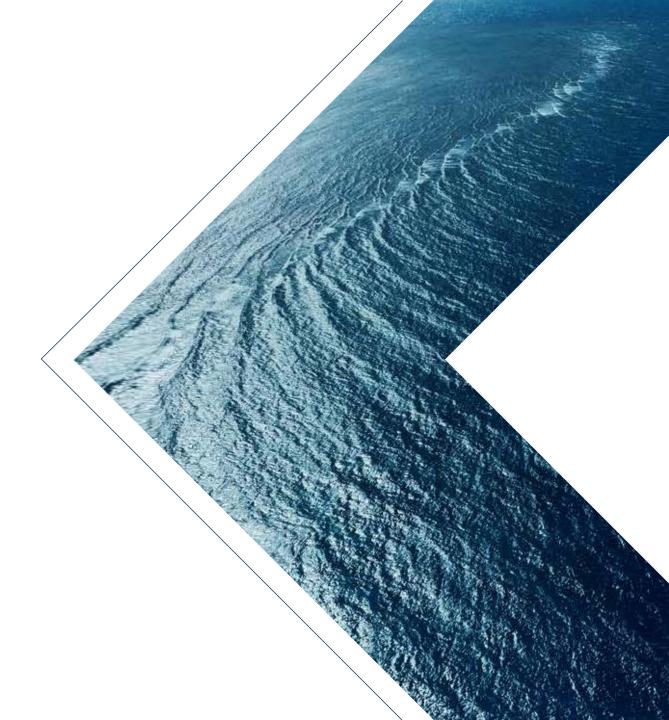
The performance information in the table above represents the performance of HarbourVest's Dover Program which focuses exclusively on secondary investments and does not include secondary investments made by other HabourVest-managed funds or accounts. The Secondary Overflow Programs make investments that may be more concentrated with respect to number of investments, geographic location of investments, and type of transactions as compared to the Dover Street Funds.

Dover IX and Dover X also include the performance of any AIF-related funds.

The vintage year presented for each fund represents the first year in which capital was called from limited partners; in certain cases, a fund's first investment may have occurred in a prior year.

See 'Additional Important Information' at the end of the presentation, including important disclosures related to Gross Perfo rmance Returns, Net Performance Returns, Dover Strategy Risks, Model Performance, Public Market Equivalent, and Fees and Expenses. \*\* Adjusted index returns to reflect a comparable public market index ("PME").

# Dover Street XI



## Dover Street XI

# **Key Fund Highlights**

\$12 billion

Target fund size

## **September 30, 2022**

Date of first investment

## June 9, 2023

Document deadline for next closing

### 10%-20%

**Expected 2023 capital calls** 

## Shortly after final close

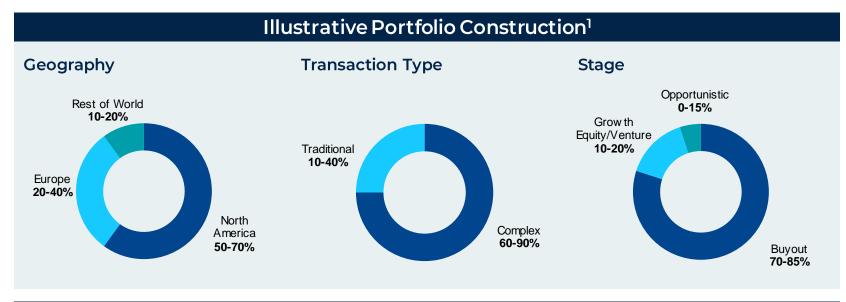
First distribution

## 3,000+

**Expected number of underlying companies** 

## **3 - 4 years**

**Expected investment period** 





<sup>1.</sup> As February 1, 2023. These amounts reflect the current expectations for the allocation of the Fund. Additionally, these are not prescriptive guidelines. The investment guidelines of the Fund are contained in the offering memorandum and the limited partnership agreement. 2. As of December 31, 2022. Based on target fund size of \$12 billion. 3. The companies and general partners listed above are for illustrative purposes only. While these are actual investments in a HarbourVest portfolio, there is no guarantee they will be in a future portfolio. General Partners shown represent the largest by current company value in the Dover XI portfolio, including transactions committed to but not yet closed.



# Dover Street XI – Summary of terms

Target Size	\$12 billion
Investment Period	Up to 5 years
Term	10 years, with four one-year extensions at the option of the general partner
Management Fee	0.75% average annual management fee, based on committed capital*
Carried Interest	<ul> <li>12.5% on net investment profits</li> <li>8% limited partner preferred return with general partner catch up</li> </ul>

The information herein is not complete and may be changed. This material is not an offer to sell the Fund and is not soliciting an offer to buy the Fund in any jurisdiction where an offer or sale of the fund is not permitted. See 'Additional Important Information' at the end of the presentation, including important disclosures related to Fees and Expenses.



<sup>\*</sup>Average annual management fee of 0.75% is calculated over 14 years and assumes that the Fund's term is extended for four one-year extensions, which can be exercised at the discretion of the General Partner. The average annual management fee over the Fund's term without extensions (10 years) would be 1.01%. The actual average management fee will depend on the Fund's actual term. The average fee rate provided applies to a Limited Partner's entire commitment and does not take into account any fee reductions available to investors. Investors committing at least \$100 million but less than \$200 million to the Fund will receive a fee reduction of 5 basis points per annum (e.g., pay an average annual management fee of 0.96% over a 10-year term); investors committing at least \$200 million but less than \$300 million to the Fund will receive a fee reduction of 10 basis points per annum (e.g., pay an average annual management fee of 0.91% over a 10-year term or 0.65% over a 14-year term); investors committing at least \$300 million but less than \$400 million to the Fund will receive a fee reduction of 15 basis points per annum (e.g., pay an average annual management fee of 0.86% over a 10-year term); investors committing at least \$300 million to the Fund will receive a fee reduction of 15 basis points per annum (e.g., pay an average annual management fee of 0.86% over a 10-year term); investors committing at least \$300 million to the Fund will receive a fee reduction of 15 basis points per annum (e.g., pay an average annual management fee of 0.86% over a 10-year term); investors committing at least \$300 million to the Fund will receive a fee reduction of 20 basis points per annum (e.g., pay an average annual management fee of 0.86% over a 10-year term); and investors committing at least \$300 million to the Fund will receive a fee reduction of 20 basis points per annum (e.g., pay an average annual management fee of 0.86% over a 10-year term); and investors committing at least \$300 million to the Fund will receive a fee redu

# Secondary Overflow Fund V – Summary of terms

Expected Size	\$1.5 - \$2.0 billion
Investment Period	Up to 5 years
Term	10 years, with four one-year extensions at the option of the general partner
Management Fee	None
Early Closing Fee Reduction	Not applicable
Carried Interest	None



The information contained herein is highly confidential and may not be relied on in any manner as legal, tax, or investment a dvice or as an offer to sell or a solicitation of an offer to buy an interest in any fund or any other investment product sponsored by HarbourVest (the "Fund"). Any offering of interests in the Fund will be made by means of delivery of a confidential Private Placement Memorandum or similar materials (the "Memorandum") that contain a description of the material terms of such investment and subscriptions will be accepted solely pursuant to definitive documentation. These materials do not purport to contain all the information relevant to evaluating an investment in the Fund. The information contained herein will be superseded by, and is qualified in its entirety by reference to, the Memorandum, which will contain information about the investment objective, terms, and conditions of an investment in the Fund and will also contain tax information and risk disclosures that are important to any investment decision regarding the Fund. No person has been authorized to make any statement concerning the Fund other than as will be set forth in the Memorandum and any such statements, if made, may not be relied upon. No sale will be made in any jurisdiction in which the offer, solicitation, or sale is not authorized or to any person to whom it is unlawful to make the offer, solicitation, or sale. Offers and sales of interests in the Fund will not be registered under the laws of any jurisdiction and will be made solely to "qualified purc hasers" as defined in the U.S. Investment Company Act of 1940, as amended. The information contained herein must be kept strictly confidential and may not be reproduced or redistributed in any format without the express written approval of H arbourVest.

An investment in the Fund will involve significant risks, including loss of the entire investment. Before deciding to invest in the Fund, prospective investors should pay particular attention to the risk factors contained in the Memorandum. Prospective investors should make their own investigations and evaluations of the information contained herein. Prior to the closing of a private offering of interests in the Fund, HarbourVest will give investors the opportunity to ask questions and receive additional information concerning the terms and conditions of such offering and other relevant matters. Each prospective investor should consult its own attorney, business advisor, and tax advisor as to legal, business, tax, and related matters concerning the information contained herein and such offering.

Epidemics, Pandemics and Other Health Risks: Many countries have experienced infectious illnesses in recentdecades, including swine flu, avian influenza, SARS and 2019-nCoV (the "Coronavirus"). In December 2019, an initial outbreak of the Coronavirus was reported in Hubei. China. Since then, a large and growing number of cases have been confirmed around the world. The Coronavirus outbreak has resulted in numerous deaths and the imposition of both local and more widespread "work from home" and other quarantine measures, border closures and other travel restrictions causing social unrestand commercial disruption on a global scale. The World Health Organization has declared the Coronavirus outbreak a pandemic. The ongoing spread of the Coronavirus has had and will continue to have a material adverse impact on local economies in the affected jurisdictions and also on the global economy as cross-border commercial activity and market sentiment are increasingly impacted by the outbreak and government and other measures seeking to contain its spread. In addition to these developments having potentially adverse consequences for underlying portfolio investments of the Fund and the value of the Fund's investments therein, the operations of Harbour Vest and the Fund have been, and could continue to be, adversely impacted, including through quarantine measures and travel restrictions imposed on HarbourVest personnel or service providers based around the world, and any related health issues of such personnel or service providers. Any of the foregoing events could materially and adversely affect the Fund's ability to source, manage and divest its investments and its ability to fulfill its investment objectives. Similar consequences could arise with respect to other comparable infectious diseases.

Certain information contained herein (including financial information and information relating to investments) has been obtained from published and non-published sources. Such information has not been independently verified by HarbourVest. Except where otherwise indicated herein, the information provided herein is based on matters as they exist as of the date of preparation and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available, or circumstances existing or changes occurring after the date hereof. Any forecast provided herein is based on HarbourVest's opinion of the market as of the date of preparation and is subject to change, dependent on future changes in the market.

In considering any performance data contained herein, you should bear in mind that past performance is not a reliable indicator of future results. Certain information contained herein constitutes forward-looking statements, which can be identified by the use of terms such as "may", "will", "should", "expect", "anticipate", "project", "estimate", "intend", "continue", or "believe" (or the negatives thereof) or other variations thereof. Due to various risks and uncertainties, including those discussed above, actual events or results or actual performance of the Fund may differ materially from those reflected or contemplated in such forward-looking statements. As a result, investors should not rely on such forward-looking statements in making their investment decisions.

### Important Information and Risk Factors

An investment in the private markets involves high degree of risk, and therefore, should be undertaken only by prospective in vestors capable of evaluating the risks of the Fund and bearing the risks such an investment represents. The following is a summary of only some of the risks and is qualified in its entirety by the more detailed "Certain Investment Considerations, Risks and Conflicts of Interest" sections of the Private Placement Memorandum, if applicable.

Risks Related to the Structure and Terms of a Private Markets Fund. Investments in a fund of funds structure may subject investors to additional risks which would not be incurred if such investor were investing directly in private equity funds. Such risks may include but are not limited to (i) multiple levels of expense; and (ii) reliance on third-party management. In addition, a fund may issue capital calls, and failure to meet the capital calls can result in consequences including, but not limited to, a total loss of investment.

Illiquidity of Interests; Limitations on Transfer; No Market for Interests. An investor in a HarbourVest-managed closed-end fund or account will generally not be permitted to transfer its interest without the consent of the general partner of such fund. Furthermore, the transferability of an interest will be subject to certain restrictions contained in the governing documents of a closed-end fund and will be affected by restrictions imposed under applicable securities laws. A Harbour Vest-managed open-end fund or account will generally provide limited liquidity events for investors, subject to certain restrictions contained in the governing documents of an open-end fund and will be affected by restrictions imposed under applicable securities laws. There is currently no market for the interests in HarbourVest-managed funds or accounts, and it is not contemplated that one will develop. The interests should only be acquired by investors able to commit their funds for an indefinite period of time, as the term of the closed-end fund could continue for over 14 years. In addition, there are very few situations in which an investor may withdraw from a private equity closed-end fund. The possibility of total loss of an investment in a fund exists and prospective investors should not invest unless they can readily bear such a loss.

Risk of Loss. There can be no assurance that the operations of a strategy will be profitable or that the strategy will be able to avoid losses or that cash from operations will be available for distribution to the limited partners. The possibility of partial or total loss of capital of the strategy exists, and prospective investors should not subscribe unless they can read it bear the consequences of a complete loss of their investment.

Leverage. The strategy may use leverage in its investment strategy. Leverage may take the form of loans for borrowed money or derivative securities and instruments that are inherently leveraged, including options, futures, forward contracts, swaps and repurchase agreements. The strategy may use leverage to acquire, directly, new investments. The use of leverage by the strategy can substantially increase the market exposure (and market risk) to which the strategies' investment portfolio may be subject.

Availability of Suitable Investments. The business of identifying and structuring investments of the types contemplated by the strategy is competitive and involves a high degree of uncertainty. Furthermore, the availability of investment opportunities generally will be subject to market conditions and competition from other groups as well as, in some cases, the prevailing regulatory or political climate. Interest rates, general levels of economic activity, the price of securities, and participation by other investors in the financial markets may affect the value and number of investments made by the strategy or considered for prospective investment.

ESG Investing. The principles related to sustainable and responsible investing discussed above represent general goals that will not be achieved by investment selected. These goals are not representative of current processes or outcomes for every strategy and may not be fully realized for all products or client accounts. There can be no assurance any initiativ es or anticipated developments described herein will ultimately be successful. The information provided is solely for informational purposes and should not be relied upon in connection with making any investment decision. It should not be assu med that any ESG initiatives, standards, or metrics described herein will apply to each asset in which HarbourVest invests or that any ESG initiatives, standards, or metrics described have applied to each of HarbourVest's prior investments. ESG is only one of many considerations that HarbourVest takes into account when making investment decisions, and other considerations can be expected in certain circumstances to outweigh ESG considerations. The information provided is intended solely to provide an indication of the ESG initiatives and standards that HarbourVest applies when seeking to evaluate and/or improve the ESG characteristics of its investments as part of the larger goal of maximizing financial returns on investments. Any ESG initiatives described will be implemented with respect to a portfolio investment solely to the extent HarbourVest determines such initiative is consistent with its broader investment goals. Accordingly, certain investments may exhibit characteristics that are inconsistent with the initiatives, standards, or metrics described herein.

Reliance on the General Partner and Investment Manager. The success of the strategy will be highly dependent on the financial and managerial expertise of the Fund's general partner and investment manager and their expertise in the relevant markets. The quality of results of the general partner and investment manager will depend on the quality of their personnel. There are risks that death, illness, disability, change in career or new employment of such personnel could adversely affect results of the strategy. The limited partners will not make decisions with respect to the acquisition, management, disposition or other realization of any investment, or other decisions regarding the strategies' businesses and portfolio.

Market Risk. Private equity, as a form of equity capital, shares similar economic exposures as public equities. As such, investments in each can be expected to earn the equity risk premium, or compensation for assuming the nondiversifiable portion of equity risk. However, unlike public equity, private equity's sensitivity to public markets is likely greatest during the late stages of the fund's life because the level of equity markets around the time of portfolio company exits can negatively affect private equity realizations. Though private equity managers have the flexibility to potentially time portfolio company exits to complete transactions in more favorable market environments, there's still the risk of capital loss from adverse financial conditions.

Potential Conflicts of Interest. The activities of the strategies may conflict with the activities of other Harbour Vest-managed funds or accounts.

Dover Strategy Risks. The Fund will acquire interests in underlying funds through secondary market transactions. Secondary market transactions may impose higher costs than other investments and may require the Fund to assume contingent liabilities associated with events occurring prior to the Fund's investment. In addition, the Fund will make secon dary market transactions based on information that may be incomplete or inaccurate. The Fund may investing leveraged buyouts of companies; such leveraged buyouts are inherently sensitive to declines in portfolio company expenses and to increases in interest rates. The Fund and its investments can make growth equity and venture capital investments, which involve a high degree of business and financial risk that can result in substantial losses. The Fund and its investments can invest in securities of financially troubled companies or companies involved in work-outs, liquidations, reorganizations, recapitalizations, bankruptcies, and similar transactions and se curities of highly leveraged companies. While these investments could offer the potential for high returns, they also bring with them correspondingly greater risks. A portion of the Fund's assets are expected to be invested outside of the United States. Non-US securities involve certain factors not typically associated with investing in US securities, including risks related to greater price volatility in and less liquidity of some non-US securities markets. This risk could be greater for investments made in developing and emerging countries.

### Performance Information:

The source of certain performance information is HarbourVest. In considering the performance information contained herein, prospective investors should bear in mind that past performance is not a reliable indicator of future results, and there can be no assurance that an investment sponsored (or an account managed) by HarbourVest will achieve comparable results or be able to implement its investment strategy or meet its performance objectives. The funds that made these investments may have had different terms and investment objectives than those proposed or modeled herein.

Any data presented about investments prior to 1998 is related to transactions that occurred when the HarbourVest teamwas affiliated with Hancock Venture Partners, Inc.

Ported Performance: Harbour Vest's founders began making venture capital investments for John Hancock Financial Services in late 1970s. In 1982 they formed Hancock Venture Partners, Inc., which was fully owned by John Hancock Mutual Life Insurance Company, to independently develop and manage third-party private equity capital. In January 1997, the Hancock Venture Partners management team formed a new independent management company, HarbourVest Partners, LLC. All then-employees of Hancock Venture Partners became owners and/or employees of Harbour Vest Partners, LLC. Harb our Vest Partners, LLC has no affiliation with John Hancock Financial Services.

The foregoing performance information includes realized and unrealized investments. Unrealized investments are valued by HarbourVest in accordance with the valuation guidelines contained in the applicable partnership agreement. Actual realized returns on unrealized investments will depend on, among other factors, future operating results, the value of the as sets and market conditions at the time of disposition, any related transaction costs, and the timing and manner of sale, all of which may differ from the assumptions on which the valuations used in prior performance data contained herein are based. Accordingly, the actual realized returns on these unrealized investments may differ materially from returns indicated herein.

In certain cases, a HarbourVest fund or account, or the partnerships in which it invests, may utilize a credit facility or other third-party financing. This is generally to bridge capital calls from limited partners or to fund a portion of an investment and may also be used to facilitate transactions involving the recapitalization of portfolio investments. This may make the re sulting IRR and multiples higher or lower than the IRR or multiples that would have been presented had drawdowns from partners or available cash been initially used to acquire or pay for the investment.

IRRs are calculated from the date of a fund's first cash flow from a limited partner, which may include capital contributions in connection with fund formation, as may occur with certain AIF-Related Funds, and therefore can be earlier than the date of the first capital call from a limited partner for the purpose of investment. The start date for IRR calculations can also be later than the date of initial investment when a credit facility or other third-party financing is used to fund such investment.

Performance is expressed in US dollars, unless otherwise noted. Returns do not include the effect of any withholding taxes. Cash flows are converted to US dollars at historic daily exchange rates, unless otherwise indicated. The return to investors whose local currency is not the US dollar may increase or decrease as a result of currency fluctuations.

Fees and Expenses (Net and Gross): Actual management fees and carried interest will vary and are established in negotiations with the limited partners of a Fund or separate account client. Management fees may range from an average of 0.1% to 1.25% per year of committed, called, or invested capital over the expected life of a Fund, pursuant to the limited partnership agreement or investment management agreement. Fees for Funds in extension years may be reduced, including to nil. Fund investors will typically bear all the costs and expenses relating to the operations of a Fund and its general partners (or similar managing fiduciary). A Fund shall bear its pro rata share of any such expenses incurred in connection with any portfolio investment to the extent the same portfolio investment is being made by other Funds. Organization expenses of a Fund will also typically be borne by Fund investors. When a Fund is generally expected to invest alongside a Fund primarily intended for European-based investors, which takes into account the regulatory requirements of the Alternative Investment Fund Managers Directive (an "AIF Related Fund"), organization expenses may be aggregated and allocated pro-rata between a Fund and its AIF Related Fund based on the relative commitments of the partners of the partners of its AIF Related Fund (unless Harbour Vest, as general partner, determines in good faith that a different share is appropriate). Fees and expenses are also described in HarbourVest's FormADV, Part2A brochure.

Performance Returns: Performance returns information (TV/TC (Total Value / Total Cost), TVPI (Total Value Paid-In), Portfolio IRR (Internal Rate of Return), TWR (Time Weighted Return), and IRR) shown net offees and expenses are based on the Fund's Limited Partner ("LP") cash flow after all management fees, commissions, fund operating expenses, and car ried interest. These returns reflect the combined return for all LPs in a fund and do not necessarily reflect an individual LP's actual return. Where applicable, a final LP cash flow is based on the fair market value of all LP capital accounts as determined by the Fund or account's General Partner ("GP") in accordance with the Firm's valuation policy. Net IRR and Net TVPI are calculated based on daily LP cash flows.

Gross performance returns, if shown, are based on the annual return calculated using daily cash flows from the Fund(s) to and from the various partnerships or companies held by the Fund, either directly or through a special purpose vehicle in which the Fund invested during the period specified, inclusive of the effects of fund-level leverage which is used to achieve those returns, to the extent such a fund is a levered fund. Gross performance returns are presented before management fees, carried interest, and other expenses borne by investors in the Fund(s), inclusive of the effects of fund -level leverage which is used to achieve those returns, to the extent such a fund is a levered fund. An actual portfolio would bear such fees and expenses. If such fees and expenses were deducted from performance, returns would be lower. For example, if a fund appreciated by 10% a year for five years, the total annualized return for five years prior to deducting fees and expenses at the end of the five-year period would be 10%. If total fund fees and expenses were 1% for each of the five years, the total annualized return of the five years at the end of the five-year period would be 8.90%. These returns reflect the fees, expenses, and carried interest of the underlying fund investments (where applicable), certain expenses of any special purpose vehicle that held an interest in the underlying fund (where applicable), and the upfront costs, fees, expenses, and interest expense of the fund's leverage facilities, to the extent such a fund is a levered fund, but do not reflect the management fees, carried interest, and other expenses borne by investors in the Fund(s), which will reduce returns. The specific payment terms and other conditions of the management fees, carried interest, and other expenses of a Fund are set forth in the governing documents of the Fund.

Certain data metrics included (Distributed / Funded, Distributed Paid In Capital) are components of performance and should not be viewed as performance results.

Portfolio Company Performance is based on the cost and value of the individual company referenced. These returns do not refle ct the fees, expenses, and carried interest of the partnership investments of the Fund(s), which will reduce returns. These returns do not represent the performance of any specific Fund or the return to limited partners of any specific Fund.

Derived Net Performance: Derived net performance figures are presented to comply with new SEC Rule 206(4)-1 under the Investment Advisers Act. Derived net performance figures are estimated and do not represent actual net performance experienced by any investors. These figures have been calculated on a model basis by applying the gross and net performance "spread" of the average of all prior related portfolios offered by the adviser, excluding related portfolios (1) with less than one year of investor cash flows, and (2) utilizing a credit line with significant credit remaining so that the net performance of the related portfolio is higher than the gross performance of the related portfolio. The netting ratio is calculated using the currency of the Fund and is updated quarterly.

The figures herein illustrate the potentially substantial impact of fees, carried interest and expenses on gross returns, even though these amounts are typically charged or allocated at the fund or partner level. These derived net returns are based on performance of the applicable HarbourVest fund(s) as of the most recent calendar quarter; changes in performance of any HarbourVest fund(s) may result in changes to these derived net returns in the future (e.g., whether carried interest is allocated or not allocated) and such changes may be material.

The methodology utilized to calculate the derived net performance is based on HarbourVest's current understanding of industry practice and SEC guidance. These returns are based on actual prior investments. This methodology may be changed in the future.

HarbourVest PME: This information represents adjusted hypothetical Model Track Record of each index as if the respective index had been purchased and sold at the time of the limited partners' capital calls and distributions, with the remainder held at the date noted. The indices used assume reinvestment of all dividends. Under this methodology, the capital calls for the purchase of the public market index are the same as the capital calls for the Fund. The distributions for the sales of the public market index are scaled to represent the same proportion of the Fund's NAV at the time of the distribution. For example, if the Fund distributes 5% of NAV, then 5% of the index NAV is distributed. The adjusted public market indices shown are not subject to the risk, investment strategy, or investment strategy, or investment strategy, or investment strategy, or investment strategy. by a Fund, and accordingly, a direct comparison may not be meaningful. The adjusted indices are shown to demonstrate the appr oximate returns an investor may have received had the investor invested in certain publicly -traded equity securities in lieu of a Fund or the investments made by HarbourVest. An investor is not able to directly investin an unmanaged index. See Definitions for additional information pertaining to the indexes shown.

Burgiss Private Equity Index Comparison: Unless otherwise indicated, all private equity fund benchmark data reflects the fees, carried interest, and other expenses of the funds included in the benchmark. Please note that Fund returns would be reduced by the fees, carried interest, and other expenses borne by investors in the Fund. Such fees, carried interest, and other expenses may be higher or lower than those of the funds included in the benchmark. Burgiss (unless otherwise noted) is the source and owner of any private equity index data contained or reflected in this material and all trademarks and copyrights related thereto. Public market equivalent is provided by Burgiss and is based on a the Long-Nickels ICM methodology illustrating the direct opportunity cost comparison of how net funds investment in the private investment would have performed had they been invested in the stated index over the life of the particular investment. In calculation of the IRR ICM, the private capital valuation is ignored and substituted instead with a Valuation ICM. Valuation ICM is essentially a sum of private capital contributions and distributions grown to the analysis date using the respective index values; contributions are treated as purchases into the index and are used to increase the Valuation ICM, while distributions are treated as sales and are applied to reduce Valuation ICM; the IRR ICM then becomes a standard IRR calculation, using the original private capital transactions and Valuation ICM substituted for the original private capital valuation. The securities comprising the public market index have substantially different characteristics than the private equity benchmarks, and, accordingly, a direct comparison may not be meaningful. The public market comparison is shown for illustrative purposes only. An investor is not able to directly investin an unmanaged index. This is HarbourVest's presentation of the data. Burgiss is not responsible for the calculations conducted by HarbourVest, the formatting or configuration of this material, or for any inaccuracy in presentation thereof.

#### **Definitions:**

Unless otherwise noted, Bloomberg is the source of the index data contained or reflected in this material, MSCI, S&P, FTSE Ru ssell, and JP Morgan are the owners of the index data contained or reflected in this material and all trademarks and copyrights related thereto. This is HarbourVest's presentation of the data. Bloomberg, MSCI, S&P, FTSE Russell, and JP Morgan are not responsible for the calculations conducted by HarbourVest, the formatting or configuration of this material, or for any inaccuracy in presentation thereof.

The MSCI AC World® Index (ACWI) is designed to measure the performance of publicly-traded large and mid-capitalization equity securities in global developed and emerging markets. The MSCI ACWI Index is maintained by Morgan Stanley Capital International ("MSCI") and has historically captured approximately 85% coverage of the free float-adjusted market capitalization of its publicly-traded global equity opportunity set.

The S&P 500® Index is designed to measure the performance of publicly-traded equity securities of the large capitalization sector of the US market and includes 500 large companies having common stock listed on eligible U.S. exchanges. The S&P 500 Index is maintained by Standard & Poors ("S&P") and has historically captured approximately 80% coverage of available market capitalization of publicly-traded equities in the US market.

Vintage Years - HarbourVest vintage classification is based on the year in which capital was first funded to each underlying fund (for primary fund investments) or the year of HarbourVest's purchase (for secondary investments).

# Country disclosures

These materials do not constitute an offer to sell or the solicitation of an offer to buy interests in any other investment product sponsored by Harbour Vest Partners L.P. or its affiliates ("Harbour Vest"), hereafter referred to as the "Fund". Any offering of interests in the Fund will be made by means of delivery of a confidential PrivatePlacement Memorandum or similar materials that contain a description of the material terms of such investment and subscriptions will be accepted solely pursuant to definitive documentation. These materials do not purport tocontain all the information relevant to evaluating an investment in the Fund. No sale will be made in any jurisdiction in which the offer, solicitation, or sale is not authorized or to any person to whom it is unlawful to make the offer, solicitation, or sale. Offers and sales of interests in the Fund will not be registered under the laws of any jurisdiction and will be made solely to "qualified purchasers" as defined in the U.S. Investment Company Actof 1940, as amended. These materials are highly confidential and may not be reproduced or redistributed in any format without the express written approval of HarbourVest. An investment in the Fund involves a high degree of risk and therefore should be undertaken only by prospective investors capable of evaluating the risks of the Fund and bearing the risks such an investment represents. There can be no assurance that the Fund will be able to achieve itsinvestment objectives or that the investors will receive a return on their capital. For further legal and regulatory disclosures see 'Additional Important Information' at the end of these materials.

### **Key FOIA and Other Considerations for IAC Meetings**

Although Connecticut's Freedom of Information Act (FOIA) is mostly associated with document requests, it also governs the conduct of public agency meetings and their executive sessions, including those of the Investment Advisory Council (IAC). The general principles are transparency and access.

### What constitutes a meeting of the IAC?

Any meeting of a <u>majority of IAC members then in office</u> (quorum), whether in person or electronically, to discuss or act upon IAC business. Note: Recusals and abstentions do not affect quorum, but they can affect voting. Take care with email exchanges that morph into meetings.

### How does the IAC approve items?

By majority vote of members present, with two exceptions:

- Approve IPS adoption/amendment by majority vote of appointed IAC members
- Approve new items to regular meeting agenda by <u>2/3 vote of the members present</u>

### What are the notice and agenda requirements for IAC meetings?

Notice: The regular meeting schedule is posted at the beginning of the year. Notice of special meetings must be posted no less than 24 hours before the special meeting. Agendas for all meetings must be posted no later than 24 hours before such meeting.

Specificity: Every agenda item must be specific enough for the public to understand what will be discussed. Items under the "New Business" or "Old Business" sections should have a specific description. It is generally good practice to indicate on the agenda that an item is likely to be discussed in executive session, so people know there will be a discussion, but this is not a requirement of the law.

Adding items to the agenda: A 2/3 vote of the members present is required to add an item to a REGULAR meeting agenda. **Nothing can be added to a SPECIAL meeting agenda.** 

### What are the unique requirements for electronic and hybrid meetings?

REGULAR meeting: Notice that the regular meeting will be conducted wholly or in part by electronic means, WITH INSTRUCTIONS ON HOW TO CONNECT, must be posted no later than 48 hours before the regular meeting. The agenda must also include instructions on how to connect. In practice, the notice and the agenda, with directions for on-line access, are sent out as one document (at least 48 hours before the regular meeting).

SPECIAL meeting: Notice that the special meeting will be conducted wholly or in part by electronic means, WITH INSTRUCTIONS ON HOW TO CONNECT, must be posted no less than 24 hours before the special meeting. In practice, this is usually included on the agenda.

Other: For a solely electronic meeting, if a member of the public requests it in writing, the agency must provide a physical location and equipment to access the meeting. Materials that

### **Key FOIA and Other Considerations for IAC Meetings**

will be presented in the public portion of the meeting should be posted online 24 hours before the meeting. Lastly, if the remote access is by audio, speakers should state their name and title when they first speak during each sub-discussion, so the public and others connected remotely will know who is speaking.

#### What are the requirements for executive sessions?

There are only 5 reasons for executive sessions. Most relevant for IAC are: (i) employment-related discussion; (ii) pending litigation; (iii) items that are otherwise exempt under FOIA from disclosure. When listed in the agenda, the description must have enough specificity for the public to understand what is being discussed, without disclosing protected information.

Executive Session Agenda Item Examples:

BAD: "New Business," "Personnel Matters"

GOOD: "Performance and compensation review for Chief Investment Officer," "Consideration of candidates for Deputy Chief Investment Officer," "Discussion of pending securities litigation."

### **Procedure for Executive Sessions:**

- 1. Item must be on the agenda or added to the agenda.
- 2. Motion and vote to enter executive session.
- 3. State for the record who in addition to the IAC will be invited into the executive session. Only those people whose participation is necessary to assist the IAC with the particular discussion item may be invited into the executive session.
- 4. During the executive session:
  - a) Make sure that all Zoom, Teams, or Conference Call links are disabled for the public or others not invited into the executive session
  - b) STOP recording
  - Avoid "mission creep" during executive session stay on the topics that were noticed on the agenda (or added to the agenda by a 2/3 vote if in a regular meeting)
  - d) DO NOT take any votes during the executive session
  - e) DO NOT include the discussion content in the minutes
  - f) For minutes: list the topic, what time IAC entered executive session, who was invited, and what time you came out of executive session
- 5. Upon returning from executive session, state for the record that no votes were taken.



TO: Ted Wright, Chief Investment Officer

FROM: Jessica Weaver, Corporate Governance Analyst

CC: Peter Gajowiak, Principal Investment Officer, Operations & Portfolio

Analytics

DATE: May 10, 2023

SUBJECT: Report on Corporate Governance Activities for 3Q22, 4Q22 & 1Q23

### **INTRODUCTION**

Set forth below is a report of the Treasury's corporate governance activities for the third and fourth quarters of 2022 and the first quarter of 2023 (July 1, 2022 through March 31, 2023). In addition, the report highlights the transition to a new proxy voting advisory service and the CRPTF engagements via coalition partners in the 2023 proxy season.

### **PROXY VOTING**

The following chart summarizes the votes cast at domestic and international companies during the third and fourth quarters of 2022 and first quarter of 2023:

	Number of annual general meetings  3Q2022 4Q2022 1Q2023			Num	ber of vote	es cast	% of votes cast in support of management			
				3Q2022	4Q2022	1Q2023	3Q2022	4Q2022	1Q2023	
Domestic Companies	103	34	119	807	241	1200	70.5	77.8	89.7	
International Companies	396	213	425	6,006	2,045	8,126	85.76	84.7	77.9	

The CRPTF's domestic and international proxy votes are posted on the Treasury's website and can be accessed at <a href="https://portal.ct.gov/OTT/Pension-Funds/Proxy-Voting/Voting-Summary">https://portal.ct.gov/OTT/Pension-Funds/Proxy-Voting/Voting-Summary</a>.

### **UPDATE ON RESOLUTIONS FILED FOR THE 2023 PROXY SEASON**

The CRPTF filed three (3) shareholder resolutions for the 2023 proxy season focusing on executive pay, climate lobbying, and methane emissions,. At this writing, agreements have been reached with all three companies, thereby leading to withdrawal of the resolutions.

- **Teva Pharmaceutical Industries, Ltd.**: The CRPTF filed a resolution in December 2022 (Philadelphia Public Employees Retirement System joined as a co-filer) requesting the company adopt a policy that stipulates no financial performance metric be adjusted to exclude legal or compliance costs when evaluating performance for purposes of determining the amount or vesting of any senior executive compensation award. The resolution was filed as part of a larger campaign led by the Investors for Opioid and Pharmaceutical Accountability (IOPA) in which this exact resolution was filed at eight (8) pharmaceutical companies that were subject to large settlements. (For context: Teva tentatively agreed to pay \$4.25 billion to settle various legal claims - ranging from illegal marketing of opioids to price-fixing schemes). Corporate governance staff met with the company in January 2023 where Teva staff agreed to direct their Human Resources & Compensation Committee to determine on a year-by-year basis whether legal settlements, judgments and similar expenses should be excluded from performance metrics for executive incentive compensation and to disclose this process in their proxy statement. Thereafter, the resolution was withdrawn.
- **Devon Energy**: The CRPTF co-filed a resolution in December 2022 (led by primary filer Vermont Pension Investment Committee) requesting the company report to shareholders on their lobbying activities, as well as how those activities align with their public commitment to achieve net zero emissions. (For context: More than 14 oil and gas companies, including BP, Shell and Total, have agreed to publish reviews of their memberships with trade associations, and their alignment with their climate risk-related plans, using the Paris Agreement benchmark.) Corporate governance staff met with the company in February 2023 and had productive conversations about Devon's lobbying practices, with a particular focus on the company's membership of federal trade associations. The company agreed to issue a comprehensive report on these practices by Spring 2024 and detailed an outline of the report. Given this commitment, filers agreed to withdraw the resolution.
- Marathon Oil Corporation: The CRPTF co-filed a resolution in December of 2022 (led by primary filer Mercy Investment Services) requesting the issuance of a report analyzing the company's methane emission disclosures. The resolution also sought to discern the reliability of the metrics the company uses to measure methane and create reduction targets. (For context: According to EPA data, Marathon Oil ranks 29th in menthane intensity among the top 100 U.S. oil and gas

producers.) The company met with filers twice and agreed to produce a report in the latter part of 2023. Marathon also agreed to continue the dialogue with filers and will set up a meeting in June 2023. Filers appreciated the company's willingness to engage and agreed to withdraw.

### TRANSITION OF PROXY VOTING ADVISORY SERVICE

The CRPTF issued a Request for Proposal for proxy voting advisory services in March 2022. After contracting with Institutional Shareholder Services (ISS) for nearly two decades, corporate governance staff determined that Glass Lewis would offer more enhanced and expanded services. The transition took place in November 2022 and the CRPTF has since moved all proxy voting, both international and domestic, under the service of Glass Lewis. This transition has resulted in greater efficiencies such as more lead time for vote recommendations, simplified reporting structures, and more centralized application of the CRPTF proxy voting guidelines.

### **O**THER **E**NGAGEMENTS

### Northeast Investors' Diversity Initiative

The Northeast Investors' Diversity Initiative, launched in 2019 and led by the CT State Treasurer, is a group of institutional investors from states across the region who collaborate on efforts to board diversity at companies headquartered in the Northeast. Since inception, NIDI has engaged with approximately forty (40) companies, seventeen (17) of which have made changes to their board of directors by adding a woman and people of color. In addition, ten (10) companies have made changes to their corporate governance documents/nominating committee guidelines to reflect their company's commitment to diverse pools of candidates for board service.

For the 2023 proxy season, NIDI targeted the following eleven (11) companies and letters were sent to each company in November 2022: Greenidge Generation Holdings Inc., Village Super Market Inc., Aspen Aerogels Inc., CARA Therapeutics Inc., Dyne Therapeutics Inc., Ladder Capital Corp., Lindblad Expeditions Holdings Inc., Provention Bio Inc., Safehold Inc., Squarespace Inc., and Syndax Pharmaceuticals Inc.

Since letters were sent, there has been meaningful steps taken at a number of the companies:

- Provention Bio added a diverse woman to the board
- Aspen Aerogels added a woman and diverse male to the board

- CARA Therapeutics added a woman to the board
- Village Super Market Inc. added a diverse male to the board

### Climate Action 100 +

The CRPTF is a member of Climate Action 100 +, a global, investor-led initiative engaging the world's largest corporate greenhouse gas emitters to take necessary action on climate change. With over 540 investors responsible for over \$52 trillion in assets under management, CA 100+ is a leading organization helping investors address the impacts of climate risk.

The CRPTF and New York State Common stepped down as co-leads on an engagement with American Electric Power Company (AEP) which the two pension funds had led since 2018. The company has made significant strides over the course of this engagement including accelerated emissions reduction targets by 2023, a just transition plan for its closure of coal plants, and a plan to retire all but one of its coal plants by 2040.

Macquarie Asset Management will now serve as lead and the CRPTF will look for other companies with high emissions to lead engagements on in the near future.



## **CRPTF Watchlist Process**



# Watchlist Background

- "Periodically, it may be necessary and in the best interests of the CRPTF to place an investment manager on the Treasurer's "Watch List."
- It is up to the Investment staff's discretion to place an investment manager on the watchlist. The watchlist assessment factors will help inform this process.
- Horizon for reviewing performance of an active money manager is long-term and any of the following conditions can trigger placement on the Watchlist:
  - Significant under-performance vs benchmark / peers.
  - Other qualitative concerns such as (but not limited to):
    - Staff / process change
    - Compliance / legal / regulatory
    - Disclosure of investigations or other inquiries into manager's operations by regulatory body

## Watchlist Assessment Factors

- 1. 3 Year Return < BM and < Median Peer: Objective is to assess Manager's medium term relative performance to benchmark and peer group universe.
- 2. 3 Year Return & 5 Year Return < BM: Objective is to assess Manager's medium & long term relative performance to benchmark.
- 3. 3 Year Return & 5 Year Return < Median Peer: Objective is to assess Manager's medium & long term relative performance to peer group universe.
- 4. 5 Year Info Ratio < Median Peer: Objective is to assess Manager's long term relative performance to peer group adjusted for risk.
- 5. 1 Year Return Bottom Quartile vs. Peers: Objective is to assess Manager's short term performance relative to peer group.

# Watchlist Summary Page

Assessment Factors									
3 YR	3 YR & 5 YR	3 YR & 5 YR	5 YR	1YR					
Return < Bench & < Median Peer	Return < Bench	Return < Median Peer	Info Ratio < Median Peer	Return Bottom Quartile vs. Peers					
Pass	Pass	Fail	Fail	Fail					
Pass	Pass	Fail	Fail	Pass					
N/A	N/A	N/A	N/A	Fail					
Pass	N/A	N/A	N/A	Fail					
Pass	Pass	Fail	Pass	Pass					
Pass	Pass	Pass	Pass	Fail					
Pass	Pass	Fail	Pass	Pass					
Pass	Pass	Pass	Fail	Pass					
N/A	N/A	N/A	N/A	Fail					
N/A	N/A	N/A	N/A	Fail					
N/A	N/A	N/A	N/A	Fail					

# Watchlist Manager-of- Manager Page

Assessme	Trail	ing 3 Mo	onth	1 Year 3 Yea			3 Year			
3 YR	1YR	C.	Γ Accour	nt	C.	T Accour	nt	C	Account	
Return < Bench & < Median Peer	Return Bottom Quartile vs. Peers	Return - (%)	Excess Return	Pctile- (%)	Return - (%)	Excess Return	Pctile- (%)	Return - (%)	Excess Return	Pctile- (%)
Fail	Fail	15.1	-2.0	<75	-18.9	-3.4	<75	0.3	-1.5	<50
N/A	N/A	4.7	-1.5	<75						
N/A	Pass	7.8	3.1	PASS	-19.1	2.9	PASS			
N/A	Pass	7.4	-2.3	<75	-17.9	2.2	PASS			
N/A	Pass	2.0	0.1	PASS	-11.2	1.8	PASS			
N/A	Pass	4.0	-0.2	PASS	-8.7	2.5	PASS			

# Updates to the Process

- Performance Monitor created to consolidate relative peer performance.
- Add qualitative commentary for all the active managers including discussions from quarterly calls.
  - Performance attribution and risk exposures via our TruView platform can be cross referenced against the manager's view of recent performance.
- Separate process for passive strategies that accounts for the magnitude of the performance discrepancy.
- Manager-of-Manager dashboard to assess the performance of the MoM's against their mandate as well as review the underlying submanagers relative to their peer group.
- Explore additional metrics outside of eVestment that may be incorporated.



# State of Connecticut Retirement Plans and Trust Funds

Private Credit Fund Fourth Quarter 2022 Report



## We Enrich Lives & Safeguard Futures

- Do the right thing
- Integrity, candor and collaboration
- The pursuit of excellence
  - A spirit of competition that inspires innovation
- Promoting equity and inclusion from within

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## **Executive Summary**

### Portfolio Update

### Executive Summary

- Total Committed Capital of \$4,187.5M for the Private Credit Fund Portfolio; 26 Active Partnerships across 15 Active GPs
- Since Inception IRR, net of General Partner fees, of 9.39%
- Portfolio Market Value of \$1,462.1M as of December 31, 2022
  - Portfolio Unfunded Commitment of \$2,602.9M as of December 31, 2022

### **Activity Update**

- Contributions of \$181.0M outpaced distributions of \$39.0M during the quarter
- Contributions of \$840.0M outpaced distributions of \$134.3M during the last 12 months

### Performance Update

- 15 investments (58%) generated Net Value gains for the quarter, 6 investments (23%) generated Net Value losses for the quarter, for a total Net Value gain of \$21.4M\*
  - Crescent CRPTF Multi-Strat L.P. appreciated \$10.0M during the quarter
  - Anchorage Illiquid Opportunities VI, L.P. depreciated \$4.9M during the quarter
- 9.39% Since Inception Net IRR decreased 38 bps from last quarter
  - Positive one-quarter point-to-point IRR of 1.60%
- 5-Year Portfolio IRR outperformed the S&P/LSTA Leveraged Loan Index +150bps benchmark by 478 bps

### **Exposure Update**

- 2022 Vintage Year investments accounted for 62.2% of Total Exposure as of December 31, 2022
  - 2022 Vintage Year investments accounted for 41.1% of Portfolio NAV
- Senior investments accounted for 40.9% of Total Exposure as of December 31, 2022
  - Special Situations investments accounted for 49.6% of Portfolio NAV

<sup>\*</sup> Net Value Change equals 12/31 NAV minus 9/30 NAV minus quarterly contributions plus quarterly distributions.

### Portfolio Snapshot

- · Portfolio performance was positive for the quarter
  - Net Value Gain of \$21.4M during the quarter
  - Positive one-quarter point-to-point IRR of 1.60%
  - Since Inception Net IRR of 9.39%

### **Client Overview**

2011

Program Inception

2021

HL Relationship Inception

Hamilton Lane Private Credit

PE Benchmark

S&P/LSTA Leveraged Loan Index +150bps

Public Benchmark

Connecticut Private Credit Portfolio								
(USD in Millions)	9/30/2022	12/31/2022	Change					
Active Partnerships	22	26	4					
Exited Investments	1	1	-					
Active GP Relationships	12	15	3					
Capital Committed <sup>1</sup>	\$3,062.6	\$4,187.5	\$1,124.9					
Unfunded Commitment	\$1,641.4	\$2,602.9	\$961.5					
Paid-In Capital	\$1,546.0	\$1,727.0	\$181.0					
Capital Distributed	\$435.7	\$474.7	\$39.0					
D/PI Ratio	0.3x	0.3x	-					
Market Value*	\$1,298.6	\$1,462.1	\$163.5					
Total Value Multiple (TVPI)	1.1x	1.1x	-					
Avg. Age of Commitments	1.6 years	1.5 years	(0.1 years)					
Since Inception IRR Performance								
Portfolio Net IRR <sup>2</sup>	9.77%	9.39%	(38 bps)					

<sup>&</sup>lt;sup>1</sup> The change in capital committed reflects the new commitments made during the period plus currency adjustments from existing Non-USD denominated funds.

Note: Private Credit Fund allocation was created in February 2020 with prior private credit commitments made through opportunistic allocations.

 $<sup>^2</sup>$  Portfolio Net IRR, net of General Partner fees and gross of Hamilton Lane fees. Note: Totals may not sum due to rounding.

<sup>\* 85%</sup> of the 12/31/22 Market Value is comprised of GP reported values.



## **Activity Update**

### **Quarterly Commitment Activity**

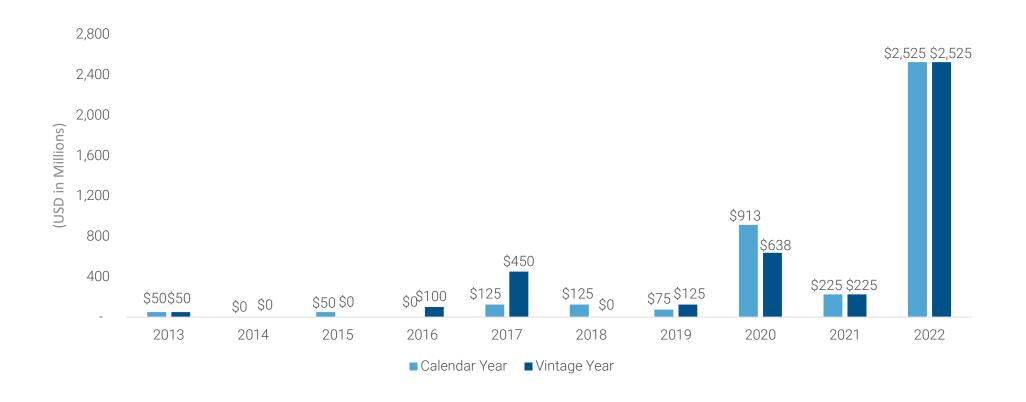


- 1 existing GP relationship
- 3 new GP relationships

(USD in Millions)	Sixth Street Lending Partners	Centre Lane Credit Partners III, L.P.	CRPTF-SLR Credit Partnership L.P.	CRPTF-RockCreek Emerging Manager Partnership L.P.
General Partner	TPG Sixth Street Partners	Centre Lane Partners	SLR Capital Partners, LLC	The RockCreek Group
Existing Manager	Yes	No	No	No
Closing Date	10/7/2022	10/31/2022	12/22/2022	12/31/2022
Capital Committed	\$300.0	\$100.0	\$300.0	\$100.0
Strategy	Senior	Senior	Senior	Senior
Geographic Focus	North America	North America	North America	North America
Fund Currency	USD	USD	USD	USD
Fund Size	\$6,500.0	\$400.0	\$300.0	\$100.0

(USD in Millions)	HarbourVest CT Private Debt Fund L.P.*
General Partner	HarbourVest Partners, LLC
Existing Manager	Yes
Closing Date	1/4/2022
Capital Committed	\$750.0
Strategy	Co-Investment
Geographic Focus	Global
Fund Currency	USD
Fund Size	\$750.0

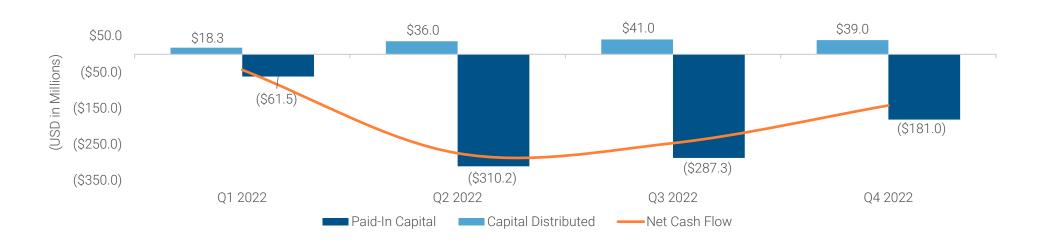
### **Annual Commitment Activity**



Note: If the final close and the initial investment do not occur in the same year, there will be a discrepancy between these two dates. Until a fund makes its initial investment, the Vintage Year will reflect the date of the final close. This chart is produced as of 12/31/2022, subsequent commitments are not included.

<sup>&</sup>lt;sup>1</sup> See endnotes

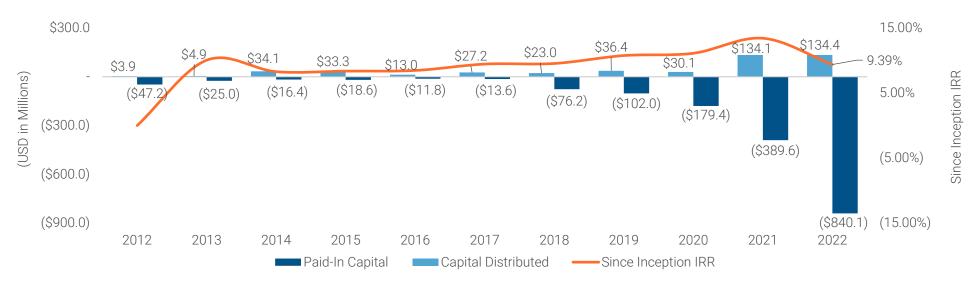
### **Quarterly Cash Flow Summary**



Top Contributors During the Quarter (USD in Millions)						
Investment	Vintage Year	Client Strategy	Paid-In Capital	% of Total		
Sixth Street Lending Partners	2022	Senior	\$48.9	27.0%		
Crescent CRPTF Private Credit L.P.	2022	Senior	\$29.7	16.4%		
Fortress Lending Fund III-IV MA-CRPTF LP	2022	Senior	\$18.8	10.4%		
Clearlake Opportunities Partners II, L.P.	2019	Special Situations	\$15.0	8.3%		
Clearlake Opportunities Partners III, L.P.	2022	Special Situations	\$13.9	7.7%		
Total			\$126.3	69.8%		

Top Distributors During the Quarter (USD in Millions)						
Investment	Vintage Year	Client Strategy	Capital Distributed	% of Total		
West Street CT Private Credit Partnership, L.P.	2020	Special Situations	\$14.0	35.9%		
Fortress Lending Fund II MA-CRPTF LP	2020	Senior	\$6.3	16.2%		
Connecticut Growth Capital, LLC	2016	Mezzanine	\$5.4	13.8%		
Fortress Credit Opportunities Fund V Expansion MA-CRPTF LP	2020	Distressed Debt	\$3.7	9.5%		
Balance Point Capital Partners III, L.P.	2017	Mezzanine	\$2.6	6.7%		
Total			\$32.0	82.1%		

### **Annual Cash Flow Summary**



Top Contributors over the Last 12 Months (USD in Millions)						
Investment	Vintage Year	Client Strategy	Paid-In Capital	% of Total		
Crescent CRPTF Multi-Strat L.P.	2022	Special Situations	\$300.0	35.7%		
HarbourVest CT Private Debt Fund L.P.	2022	Co-Investment	\$121.5	14.5%		
Crescent CRPTF Private Credit L.P.	2022	Senior	\$67.4	8.0%		
Sixth Street TAO Partners (B), L.P.	2020	Special Situations	\$48.9	5.8%		
Sixth Street Lending Partners	2022	Senior	\$48.9	5.8%		
Total			\$586.7	69.8%		

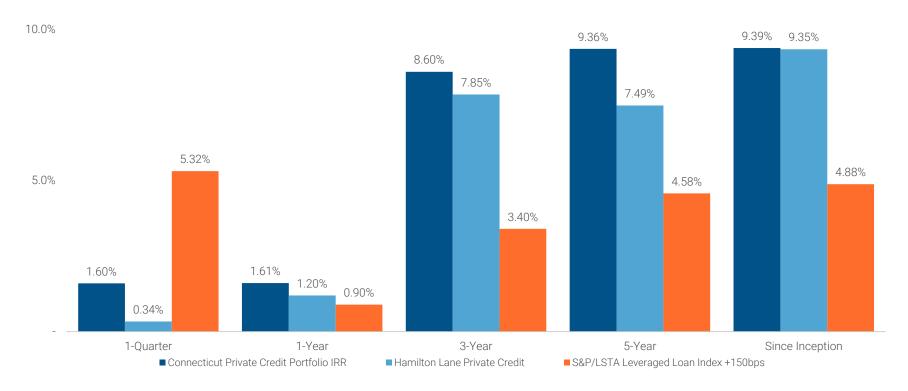
Top Distributors Over the Last 12 Months (USD in Millions)						
Investment	Vintage Year	Client Strategy	Capital Distributed	% of Total		
Fortress Lending Fund II MA-CRPTF LP	2020	Senior	\$20.8	15.5%		
Balance Point Capital Partners III, L.P.	2017	Mezzanine	\$20.2	15.0%		
Connecticut Growth Capital, LLC	2016	Mezzanine	\$18.0	13.4%		
Clearlake Opportunities Partners II, L.P.	2019	Special Situations	\$14.9	11.1%		
West Street CT Private Credit Partnership, L.P.	2020	Special Situations	\$14.6	10.9%		
Total			\$88.5	65.9%		



## Performance Update

### Portfolio IRR Performance vs. Benchmark

- 9.36% 5-Year Portfolio IRR outperformed the S&P/LSTA Leveraged Loan Index +150bps benchmark by 478 bps
- 1.61% 1-Year Portfolio IRR outperformed the S&P/LSTA Leveraged Loan Index +150bps benchmark by 71 bps



Time Horizon	Connecticut Private Credit Portfolio IRR	Hamilton Lane Private Credit	Spread Over/(Under)	S&P/LSTA Leveraged Loan Index +150bps*	Spread Over/(Under)
1-Quarter	1.60%	0.34%	126 bps	5.32%	(372 bps)
1-Year	1.61%	1.20%	41 bps	0.90%	71 bps
3-Year	8.60%	7.85%	75 bps	3.40%	520 bps
5-Year	9.36%	7.49%	187 bps	4.58%	478 bps
Since Inception**	9.39%	9.35%	4 bps	4.88%	451 bps

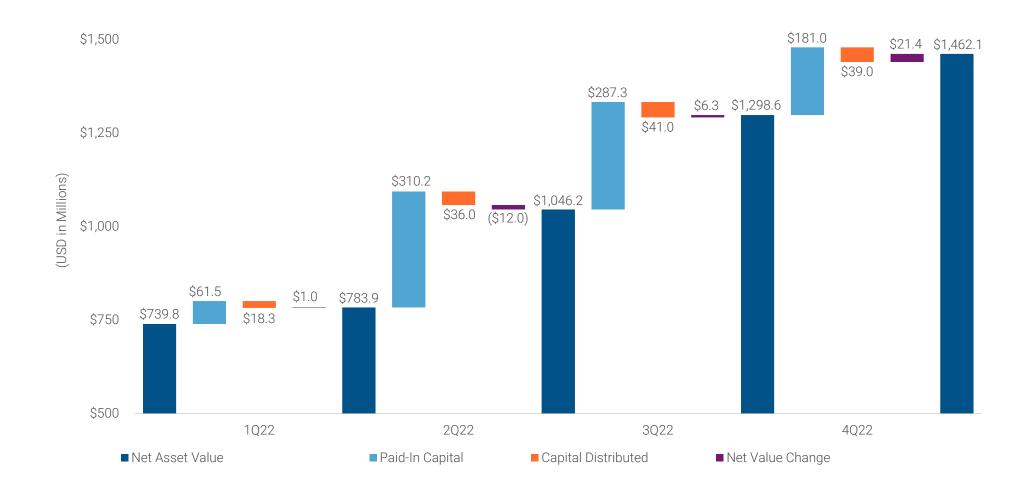
<sup>\*</sup>S&P LSTA Levered Loan Index +150bps benchmark is a straight return as of 12/31/2022.

Hamilton Lane Private Credit benchmark as of 9/30/2022.

<sup>\*\*</sup>Since Inception date of 2/14/2011.

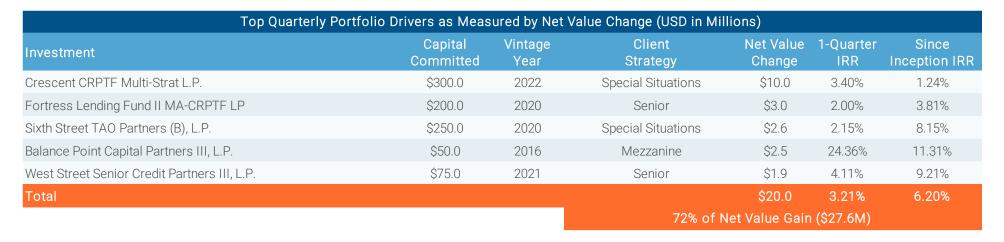
### Net Value Bridge

- Total Portfolio net value gain of \$21.4M during the quarter
  - 15 partnerships generated Net Value gains, \$27.6M, while six generated Net Value losses (\$6.2M)
  - The remaining five active partnerships generated no value change during the quarter
- Net Value Change isolates the realized and unrealized performance of the underlying investments made by the partnerships within the Portfolio. The Net Value Bridge illustrates these movements:



Note: Change over the period may not sum due to rounding.

### **Net Value Drivers**



Bottom Quarterly Portfolio Drivers as Measured by Net Value Change (USD in Millions)								
Investment	Capital Committed	Vintage Year	Client Strategy	Net Value Change	1-Quarter IRR	Since Inception IRR		
Anchorage Illiquid Opportunities VI, L.P.	\$75.0	2017	Distressed Debt	(\$4.9)	(7.73%)	16.47%		
Clearlake Opportunities Partners II, L.P.	\$75.0	2019	Special Situations	(\$1.0)	(2.75%)	11.37%		
Audax Mezzanine Fund III, L.P.	\$75.0	2011	Mezzanine	(\$0.1)	(3.19%)	9.84%		
Fortress Lending Fund III-IV MA-CRPTF LP	\$250.0	2022	Senior	(\$0.1)	(0.52%)	(2.06%)		
OSP Value Fund III-B, LP	\$37.5	2020	Special Situations	(\$0.1)	(45.42%)	(1.32%)		
Total				(\$6.2)	(5.12%)	11.98%		
Note: Partnerships with period NVC totaling less than \$0.1M were excluded from analysis.			100% of	Net Value Los	ss (\$6.2M)			

Note: Totals may not sum due to rounding.



## **Exposure Update**

### **Diversification by Strategy**



• Senior investments drove the increase in NAV and Total Exposure

#### % of NAV

Strategy	9/30/	9/30/2022 12/31/2022		12/31/2022		Change in % Points
Senior	\$319.8	24.7%	\$440.0	30.1%	\$120.2	5.4%
Mezzanine	\$81.0	6.2%	\$79.6	5.4%	(\$1.4)	(0.8%)
Distressed Debt	\$95.7	7.4%	\$94.5	6.5%	(\$1.1)	(0.9%)
Special Situations	\$679.6	52.3%	\$725.3	49.6%	\$45.7	(2.7%)
Co-Investment	\$122.6	9.4%	\$122.6	8.4%	-	(1.0%)
Total	\$1,298.6	100%	\$1,462.1	100%	\$163.5	

#### % of Total Exposure

Strategy	9/30/2	2022	12/31/	12/31/2022		Change in % Points
Senior	\$958.0	32.6%	\$1,762.8	43.4%	\$804.8	10.8%
Mezzanine	\$278.5	9.5%	\$280.1	6.9%	\$1.6	(2.6%)
Distressed Debt	\$176.8	6.0%	\$172.0	4.2%	(\$4.8)	(1.8%)
Special Situations	\$1,075.6	36.6%	\$1,098.9	27.0%	\$23.4	(9.6%)
Co-Investment	\$451.1	15.3%	\$751.1	18.5%	\$300.0	3.2%
Total	\$2,940.0	100%	\$4,065.0	100%	\$1,125.0	

#### Sub-Allocation Targets as per CRPTF IPS

Strategy	Lower Range %	Upper Range %	Total Exposure
nior <sup>1</sup>	30.0%	70.0%	61.8%
zzanine	0.0%	30.0%	6.9%
tressed Debt	0.0%	20.0%	4.2%
ecial Situations	0.0%	40.0%	27.0%

Note: Total Exposure is equal to Remaining Net Asset Value plus Unfunded Commitments. May not sum to 100% due to rounding.

¹Senior strategy inclusive of all Co-Investment exposure from HarbourVest managed vehicle and all exposure from Crescent CRPTF Private Credit L.P.

### **Diversification by Vintage Year**



• 2022 Vintage investments drove the increase in NAV and Total Exposure

#### % of NAV

Vintage	12/31/	12/31/2021		/2022	Change in NAV	Change in % Points
2022	-	-	\$600.8	41.1%	\$600.8	41.1%
2021	\$21.2	2.9%	\$57.7	3.9%	\$36.4	1.0%
2020	\$432.2	58.4%	\$556.0	38.0%	\$123.8	(20.4%)
2019	\$66.1	8.9%	\$88.1	6.0%	\$22.0	(2.9%)
2017	\$171.8	23.2%	\$123.7	8.5%	(\$48.1)	(14.7%)
2016	\$42.6	5.8%	\$31.8	2.2%	(\$10.9)	(3.6%)
Pre-2013	\$5.8	0.8%	\$4.1	0.3%	(\$1.7)	(0.5%)

#### % of Total Exposure

Vintage	12/31/	12/31/2021		2022	Change in Exposure	Change in % Points
2022	-	-	\$2,530.4	62.2%	\$2,530.4	62.2%
2021	\$225.6	14.4%	\$231.8	5.7%	\$6.2	(8.7%)
2020	\$889.8	56.8%	\$911.8	22.4%	\$21.9	(34.4%)
2019	\$138.0	8.9%	\$122.2	3.0%	(\$15.8)	(5.9%)
2017	\$231.3	14.8%	\$195.2	4.8%	(\$36.2)	(10.0%)
2016	\$77.6	5.0%	\$69.5	1.7%	(\$8.1)	(3.3%)
Pre-2013	\$5.8	0.4%	\$4.1	0.1%	(\$1.7)	(0.3%)

Note: Total Exposure is equal to Remaining Net Asset Value plus Unfunded Commitments. May not sum to 100% due to rounding.

### **Holdings Diversification**

• As of December 31, 2022, there were 703 underlyling holdings in the Connecticut Private Credit Portfolio, including 11 public companies

Industry Exposure by Exposed Market Value 1

industry Exposure by Exposed Market Value									
Sector	9/30/2022	12/31/2022	Change in % Points						
Financials	15.4%	17.1%	1.8%						
Information Technology	17.2%	15.3%	(1.8%)						
Industrials	12.7%	12.8%	0.1%						
Health Care	11.2%	10.1%	(1.1%)						
Consumer Discretionary	10.6%	9.6%	(1.0%)						
Real Estate	7.6%	8.0%	0.4%						
Other Investments	8.2%	7.4%	(0.8%)						
Communication Services	4.8%	5.7%	0.9%						
Consumer Staples	4.9%	5.0%	0.2%						
Energy	1.7%	2.7%	1.0%						
Utilities	1.8%	2.6%	0.7%						
FoF Holding	2.6%	2.3%	(0.3%)						
Materials	1.5%	1.4%	(0.1%)						

Geographic Exposure by Exposed Market Value <sup>1</sup>

Region	9/30/2022	12/31/2022	Change in % Points
North America	79.7%	77.7%	(2.0%)
Western Europe	12.1%	11.6%	(0.4%)
Rest of World	6.6%	9.5%	2.8%
Asia	1.6%	1.2%	(0.3%)

Public/Private Holdings by Exposed Market Value <sup>1</sup>

Public/Private	9/30/2022	12/31/2022	Change in % Points
Private	98.9%	99.1%	0.2%
Public	1.1%	0.9%	(0.2%)

<sup>&</sup>lt;sup>1</sup> Exposed Market Value is LP's share of Market Value at the Portfolio Holding Level. May not sum to 100% due to rounding. Note: Other investments includes undisclosed investments.

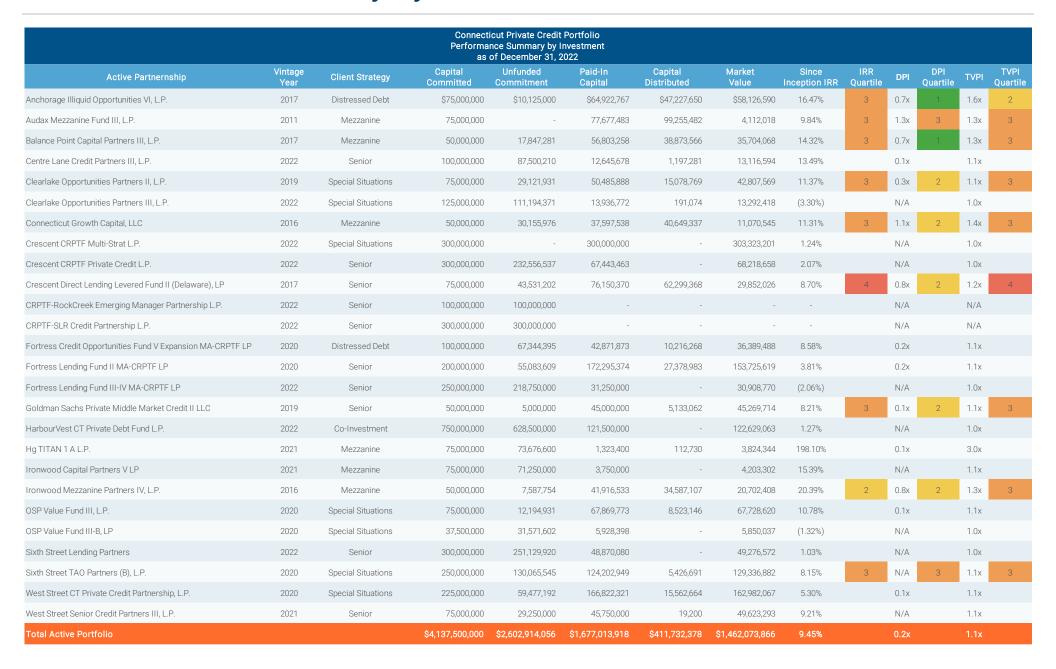
### Top Ten General Partners by Total Exposure

	Top 10 G	ecticut Private Cr eneral Partners b as of December (	y Total Exposu	re			
General Partner	Number of Investments	Capital Committed	Market Value	% Market Value	Unfunded Commitments	Total Exposure	% Total Exposure
HarbourVest Partners, LLC	1	\$750.0	\$122.6	8.4%	\$628.5	\$751.1	18.5%
Crescent Capital Group	3	675.0	401.4	27.5%	276.1	677.5	16.7%
Fortress Investment Group LLC	3	550.0	221.0	15.1%	341.2	562.2	13.8%
TPG Sixth Street Partners	2	550.0	178.6	12.2%	381.2	559.8	13.8%
Goldman, Sachs & Co.	3	350.0	257.9	17.6%	93.7	351.6	8.6%
SLR Capital Partners, LLC	1	300.0	0.0	0.0%	300.0	300.0	7.4%
Clearlake Capital	2	200.0	56.1	3.8%	140.3	196.4	4.8%
O'Brien-Staley Partners	2	112.5	73.6	5.0%	43.8	117.3	2.9%
Ironwood	2	125.0	24.9	1.7%	78.8	103.7	2.6%
Centre Lane Partners	1	100.0	13.1	0.9%	87.5	100.6	2.5%
All Other	6	475.0	112.8	7.7%	231.8	344.6	8.5%
Total	26	\$4,187.5	\$1,462.1	100.0%	\$2,602.9	\$4,065.0	100.0%



## **Appendix**

### Performance Summary by Investment



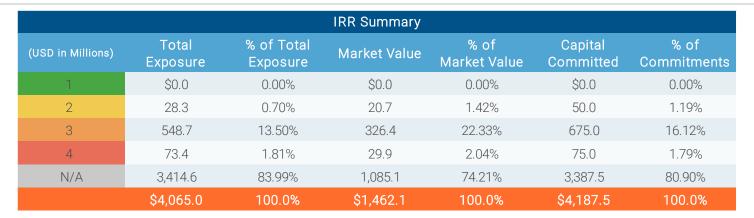
Note: See endnotes.

### Performance Summary by Investment



Connecticut Private Credit Portfolio Performance Summary by Investment as of December 31, 2022													
Inactive Partnership	Vintage Year	Client Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	IRR Quartile	DPI	DPI Quartile	TVPI	TVPI Quartile
Marathon European Credit Opportunity Fund, LP	2013	Distressed Debt	\$50,000,000	-	\$50,000,000	\$62,986,419	-	8.85%	3	1.3x	3	1.3x	4
Total Inactive Portfolio			\$50,000,000		\$50,000,000	\$62,986,419	\$-	8.85%		1.3x		1.3x	
Total Portfolio			\$4,187,500,000	\$2,602,914,056	\$1,727,013,918	\$474,718,797	\$1,462,073,866	9.39%		0.3x		1.1x	

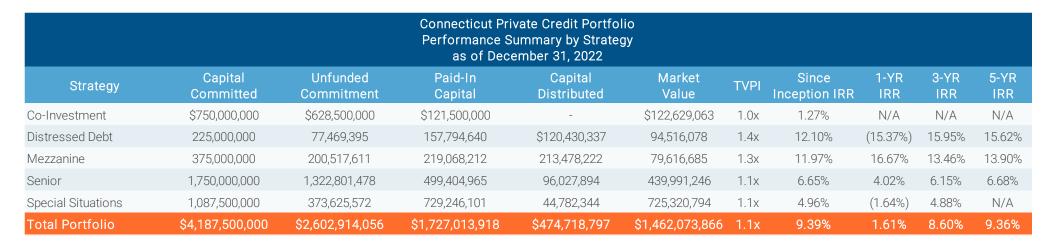
### **Benchmarking Summaries**



			TVPI Summary			
(USD in Millions)	Total Exposure	% of Total Exposure	Market Value	% of Market Value	Capital Committed	% of Commitments
1	\$0.0	0.00%	\$0.0	0.00%	\$0.0	0.00%
2	68.3	1.68%	58.1	3.98%	75.0	1.79%
3	508.8	12.52%	289.0	19.77%	600.0	14.33%
4	73.4	1.81%	29.9	2.04%	125.0	2.99%
N/A	3,414.5	83.99%	1,085.1	74.21%	3,387.5	80.89%
	\$4,065.0	100.0%	\$1,462.1	100.0%	\$4,187.5	100.0%

			D/PI Summary			
(USD in Millions)	Total Exposure	% of Total Exposure	Market Value	% of Market Value	Capital Committed	% of Commitments
1	\$121.8	3.00%	\$93.8	6.42%	\$125.0	2.99%
2	265.1	6.52%	149.7	10.24%	300.0	7.16%
3	263.5	6.48%	133.4	9.13%	375.0	8.96%
4	0.0	0.00%	0.0	0.00%	0.0	0.00%
N/A	3,414.6	84.00%	1,085.2	74.21%	3,387.5	80.89%
	\$4,065.0	100.0%	\$1,462.1	100.0%	\$4,187.5	100.0%

### **Performance Summary Categories**



Connecticut Private Credit Portfolio Performance Summary by Vintage Year as of December 31, 2022										
Vintage Year	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	TVPI	Since Inception IRR	1-YR IRR	3-YR IRR	5-YR IRR
2011	\$75,000,000	-	\$77,677,483	\$99,255,482	\$4,112,018	1.3x	9.84%	20.70%	9.21%	10.16%
2013	50,000,000	-	50,000,000	62,986,419	-	1.3x	8.85%	N/A	0.00%	19.05%
2016	100,000,000	\$37,743,730	79,514,071	75,236,444	31,772,953	1.3x	14.12%	15.29%	11.47%	13.80%
2017	200,000,000	71,503,483	197,876,395	148,400,584	123,682,684	1.4x	13.34%	(7.56%)	13.64%	13.39%
2019	125,000,000	34,121,931	95,485,888	20,211,831	88,077,283	1.1x	9.81%	(3.49%)	9.76%	N/A
2020	887,500,000	355,737,274	579,990,688	67,107,752	556,012,713	1.1x	6.13%	2.42%	N/A	N/A
2021	225,000,000	174,176,600	50,823,400	131,930	57,650,939	1.1x	16.00%	16.66%	N/A	N/A
2022	2,525,000,000	1,929,631,038	595,645,993	1,388,355	600,765,276	1.0x	2.71%	N/A	N/A	N/A
Total Portfolio	\$4,187,500,000	\$2,602,914,056	\$1,727,013,918	\$474,718,797	\$1,462,073,866	1.1x	9.39%	1.61%	8.60%	9.36%

### Performance Summary by Vintage Year

			nnecticut Private C ormance Summary as of December	by Vintage Year						
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI
2011 Portfolio										
Audax Mezzanine Fund III, L.P.	2011	Mezzanine	\$75,000,000	-	\$77,677,483	\$99,255,482	\$4,112,018	9.84%	1.3x	1.3x
2011 Portfolio Total			\$75,000,000	\$-	\$77,677,483	\$99,255,482	\$4,112,018	9.84%	1.3x	1.3x
2013 Portfolio										
Marathon European Credit Opportunity Fund, LP	2013	Distressed Debt	\$50,000,000	-	\$50,000,000	\$62,986,419	-	8.85%	1.3x	1.3x
2013 Portfolio Total			\$50,000,000	\$-	\$50,000,000	\$62,986,419	\$-	8.85%	1.3x	1.3x
2016 Portfolio										
Connecticut Growth Capital, LLC	2016	Mezzanine	\$50,000,000	\$30,155,976	\$37,597,538	\$40,649,337	\$11,070,545	11.31%	1.1x	1.4x
Ironwood Mezzanine Partners IV, L.P.	2016	Mezzanine	50,000,000	7,587,754	41,916,533	34,587,107	20,702,408	20.39%	0.8x	1.3x
2016 Portfolio Total			\$100,000,000	\$37,743,730	\$79,514,071	\$75,236,444	\$31,772,953	14.12%	0.9x	1.3x
2017 Portfolio										
Anchorage Illiquid Opportunities VI, L.P.	2017	Distressed Debt	\$75,000,000	\$10,125,000	\$64,922,767	\$47,227,650	\$58,126,590	16.47%	0.7x	1.6x
Balance Point Capital Partners III, L.P.	2017	Mezzanine	50,000,000	17,847,281	56,803,258	38,873,566	35,704,068	14.32%	0.7x	1.3x
Crescent Direct Lending Levered Fund II (Delaware), LP	2017	Senior	75,000,000	43,531,202	76,150,370	62,299,368	29,852,026	8.70%	0.8x	1.2x
2017 Portfolio Total			\$200,000,000	\$71,503,483	\$197,876,395	\$148,400,584	\$123,682,684	13.34%	0.7x	1.4x
2019 Portfolio										
Clearlake Opportunities Partners II, L.P.	2019	Special Situations	\$75,000,000	\$29,121,931	\$50,485,888	\$15,078,769	\$42,807,569	11.37%	0.3x	1.1x
Goldman Sachs Private Middle Market Credit II LLC	2019	Senior	50,000,000	5,000,000	45,000,000	5,133,062	45,269,714	8.21%	0.1x	1.1x
2019 Portfolio Total			\$125,000,000	\$34,121,931	\$95,485,888	\$20,211,831	\$88,077,283	9.81%	0.2x	1.1x
2020 Portfolio										
Fortress Credit Opportunities Fund V Expansion MA-CRPTF LP	2020	Distressed Debt	\$100,000,000	\$67,344,395	\$42,871,873	\$10,216,268	\$36,389,488	8.58%	0.2x	1.1x
Fortress Lending Fund II MA-CRPTF LP	2020	Senior	200,000,000	55,083,609	172,295,374	27,378,983	153,725,619	3.81%	0.2x	1.1x
OSP Value Fund III, L.P.	2020	Special Situations	75,000,000	12,194,931	67,869,773	8,523,146	67,728,620	10.78%	0.1x	1.1x
OSP Value Fund III-B, LP	2020	Special Situations	37,500,000	31,571,602	5,928,398	-	5,850,037	(1.32%)	N/A	1.0x
Sixth Street TAO Partners (B), L.P.	2020	Special Situations	250,000,000	130,065,545	124,202,949	5,426,691	129,336,882	8.15%	N/A	1.1x
West Street CT Private Credit Partnership, L.P.	2020	Special Situations	225,000,000	59,477,192	166,822,321	15,562,664	162,982,067	5.30%	0.1x	1.1x
2020 Portfolio Total			\$887,500,000	\$355,737,274	\$579,990,688	\$67,107,752	\$556,012,713	6.13%	0.1x	1.1x
2021 Portfolio										
Hg TITAN 1 A L.P.	2021	Mezzanine	\$75,000,000	\$73,676,600	\$1,323,400	\$112,730	\$3,824,344	198.10%	0.1x	3.0x
Ironwood Capital Partners V LP	2021	Mezzanine	75,000,000	71,250,000	3,750,000		4,203,302	15.39%	N/A	1.1x
West Street Senior Credit Partners III, L.P.	2021	Senior	75,000,000	29,250,000	45,750,000	19,200	49,623,293	9.21%	N/A	1.1x
2021 Portfolio Total			\$225,000,000	\$174,176,600	\$50,823,400	\$131,930	\$57,650,939	16.00%	-	1.1x

### Performance Summary by Vintage Year

Connecticut Private Credit Portfolio Performance Summary by Vintage Year as of December 31, 2022										
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI
2022 Portfolio										
Centre Lane Credit Partners III, L.P.	2022	Senior	\$100,000,000	\$87,500,210	\$12,645,678	\$1,197,281	\$13,116,594	13.49%	0.1x	1.1x
Clearlake Opportunities Partners III, L.P.	2022	Special Situations	125,000,000	111,194,371	13,936,772	191,074	13,292,418	(3.30%)	N/A	1.0x
Crescent CRPTF Multi-Strat L.P.	2022	Special Situations	300,000,000	-	300,000,000	-	303,323,201	1.24%	N/A	1.0x
Crescent CRPTF Private Credit L.P.	2022	Senior	300,000,000	232,556,537	67,443,463	-	68,218,658	2.07%	N/A	1.0x
CRPTF-RockCreek Emerging Manager Partnership L.P.	2022	Senior	100,000,000	100,000,000	-	-	-	N/A	N/A	N/A
CRPTF-SLR Credit Partnership L.P.	2022	Senior	300,000,000	300,000,000	-	-	-	N/A	N/A	N/A
Fortress Lending Fund III-IV MA-CRPTF LP	2022	Senior	250,000,000	218,750,000	31,250,000	-	30,908,770	(2.06%)	N/A	1.0x
HarbourVest CT Private Debt Fund L.P.	2022	Co-Investment	750,000,000	628,500,000	121,500,000	-	122,629,063	1.27%	N/A	1.0x
Sixth Street Lending Partners	2022	Senior	300,000,000	251,129,920	48,870,080	-	49,276,572	1.03%	N/A	1.0x

\$1,929,631,038

\$2,602,914,056

\$595,645,993

\$1,727,013,918

\$474,718,797

2022 Portfolio Total

Total Portfolio

\$600,765,276

\$1,462,073,866

9.39%

### Performance Summary by Strategy and Substrategy



### Performance Summary by Strategy and Substrategy

Connecticut Private Credit Portfolio Performance Summary by Client Strategy and Client Substrategy as of December 31, 2022											
(USD in Millions)	Capital Committed	Unfunded	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI	1-YR IRR	3-YR IRR	5-YR IRR
Goldman Sachs Private Middle Market Credit II LLC	50,000,000	5,000,000	45,000,000	5,133,062	45,269,714	8.21%	0.1x	1.1x	9.54%	N/A	N/A
Sixth Street Lending Partners	300,000,000	251,129,920	48,870,080	-	49,276,572	1.03%	-	1.0x	N/A	N/A	N/A
West Street Senior Credit Partners III, L.P.	75,000,000	29,250,000	45,750,000	19,200	49,623,293	9.21%	0.0x	1.1x	9.63%	N/A	N/A
Senior - Senior Total	\$1,750,000,000	\$1,322,801,478	\$499,404,965	\$96,027,894	\$439,991,246	6.65%	0.2x	1.1x	4.02%	6.15%	6.68%
Senior Total	\$1,750,000,000	\$1,322,801,478	\$499,404,965	\$96,027,894	\$439,991,246	6.65%	0.2x	1.1x	4.02%	6.15%	6.68%
Special Situations											
Special Situations - Distressed Debt											
Clearlake Opportunities Partners II, L.P.	\$75,000,000	\$29,121,931	\$50,485,888	\$15,078,769	\$42,807,569	11.37%	0.3x	1.1x	(16.49%)	11.33%	N/A
Clearlake Opportunities Partners III, L.P.	125,000,000	111,194,371	13,936,772	191,074	13,292,418	(3.30%)	0.0x	1.0x	N/A	N/A	N/A
Special Situations - Distressed Debt Total	\$200,000,000	\$140,316,302	\$64,422,660	\$15,269,843	\$56,099,987	10.71%	0.2x	1.1x	(17.69%)	10.65%	N/A
Special Situations - Special Situations											
Crescent CRPTF Multi-Strat L.P.	\$300,000,000	-	\$300,000,000	-	\$303,323,201	1.24%	-	1.0x	N/A	N/A	N/A
OSP Value Fund III, L.P.	75,000,000	12,194,931	67,869,773	\$8,523,146	67,728,620	10.78%	0.1x	1.1x	6.16%	N/A	N/A
OSP Value Fund III-B, LP	37,500,000	31,571,602	5,928,398	-	5,850,037	(1.32%)	-	1.0x	(91.12%)	N/A	N/A
Sixth Street TAO Partners (B), L.P.	250,000,000	130,065,545	124,202,949	5,426,691	129,336,882	8.15%	0.0x	1.1x	5.90%	N/A	N/A
West Street CT Private Credit Partnership, L.P.	225,000,000	59,477,192	166,822,321	15,562,664	162,982,067	5.30%	0.1x	1.1x	1.37%	N/A	N/A
Special Situations - Special Situations Total	\$887,500,000	\$233,309,270	\$664,823,441	\$29,512,501	\$669,220,807	5.93%	0.0x	1.1x	3.11%	N/A	N/A
Special Situations Total	\$1,087,500,000	\$373,625,572	\$729,246,101	\$44,782,344	\$725,320,794	6.44%	0.1x	1.1x	1.56%	6.42%	N/A
Total Portfolio	\$4,187,500,000	\$2,602,914,056	\$1,727,013,918	\$474,718,797	\$1,462,073,866	9.39%	0.3	1.1	1.61%	8.60%	9.36%

### **Endnotes**



- Vintage Year: the year in which a fund makes its final close, until the initial investment is made.
- Calendar Year: the year in which Connecticut makes its final close into the fund.

#### Performance Summary by Investment End Notes:

- HL All PE as of 9/30/2022 used for quartile benchmark.
- Quartiles are excluded for 2020, 2021, and 2022 funds.
- Quartiles are also excluded for all data points where the data is not sufficient for a calculated value (i.e. where an N/A appears).

#### Benchmarking Summaries End Notes:

- HL All PE as of 9/30/2022 used for quartile benchmark.
- Funds without an applicable benchmark are captured within the N/A category.

### Quarterly Report End Notes:

• All return statistics shown at the net level throughout the report.

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# State of Connecticut Retirement Plans and Trust Funds

Private Investment Fund Fourth Quarter 2022 Report



## We Enrich Lives & Safeguard Futures

- Do the right thing
- The pursuit of excellence
- Integrity, candor and collaboration
- A spirit of competition that inspires innovation
- Promoting equity and inclusion from within

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## **Executive Summary**

### Portfolio Update

### **Executive Summary**

- Total Committed Capital of \$14,264.6M for the Private Investment Fund Portfolio; 113 Active Partnerships across 50 Active GPs
- Since Inception IRR, net of General Partner fees, of 9.94%
- Portfolio Market Value of \$5,016.3M as of December 31, 2022
  - Portfolio Unfunded Commitment of \$3,843.1M as of December 31, 2022

### **Activity Update**

- Contributions of \$252.3M outpaced distributions of \$152.5M during the quarter
- Contributions of \$1,104.4M outpaced distributions of \$724.9M during the last 12 months

### Performance Update

- 48 investments (42%) generated Net Value gains for the quarter, 52 investments (46%) generated Net Value losses for the quarter, for a total Net Value gain of \$57.8M\*
  - Leeds Equity Partners VI, L.P. appreciated \$21.6M during the quarter
  - Constitution Fund V, LLC Series A depreciated \$16.1M during the quarter
- 9.94% Since Inception Net IRR remained relatively steady from last quarter
  - Positive one-quarter point-to-point IRR of 1.18%
- 10-Year Portfolio IRR outperformed the Russell 3000 +250bps benchmark by 42 bps

### Exposure Update

- 2022 Vintage Year investments accounted for 21.8% of Total Exposure as of December 31, 2022
  - 2020 Vintage Year investments accounted for 19.6% of Portfolio NAV
- Buyout accounted for 56.1% of Total Exposure and 59.3% of Portfolio NAV as of December 31, 2022

<sup>\*</sup> Net Value Change equals 12/31 NAV minus 9/30 NAV minus quarterly contributions plus quarterly distributions

### Portfolio Snapshot

- · Portfolio performance was positive for the quarter
  - Net Value Gain of \$57.8M during the quarter
  - Positive one-quarter point-to-point IRR of 1.18%
  - Since Inception Net IRR of 9.94%

#### **Client Overview**

1987

Program Inception

2021

HL Relationship Inception

Hamilton Lane All PE Benchmark

PE Benchmark

Russell 3000 +250bps

Public Benchmark

Connecticut Portfolio						
(USD in Millions)	9/30/2022	12/31/2022	Change			
Active Partnerships	111	113	2			
Exited Investments	52	53	1			
Active GP Relationships	49	50	1			
Capital Committed <sup>1</sup>	\$13,431.3	\$14,264.6	\$833.3			
Unfunded Commitment	\$3,236.3	\$3,843.1	\$606.8			
Paid-In Capital	\$10,864.1	\$11,116.4	\$252.3			
Capital Distributed	\$12,450.4	\$12,602.9	\$152.5			
D/PI Ratio	1.1x	1.1x	-			
Market Value*	\$4,858.6	\$5,016.3	\$157.7			
Total Value Multiple (TVPI)	1.6x	1.6x	-			
Avg. Age of Commitments	8.6 years	8.2 years	(0.4 years)			
Since Inception IRR Performance						
Portfolio Net IRR <sup>2</sup>	9.96%	9.94%	(2 bps)			

<sup>&</sup>lt;sup>1</sup> The change in capital committed reflects the new commitments made during the period plus currency adjustments from existing Non-USD denominated funds.

<sup>&</sup>lt;sup>2</sup> Portfolio Net IRR, net of General Partner fees and gross of Hamilton Lane fees. Note: Totals may not sum due to rounding.

<sup>\* 88%</sup> of the 12/31/22 Market Value is comprised of GP reported values.



# **Activity Update**

### **Quarterly Commitment Activity**



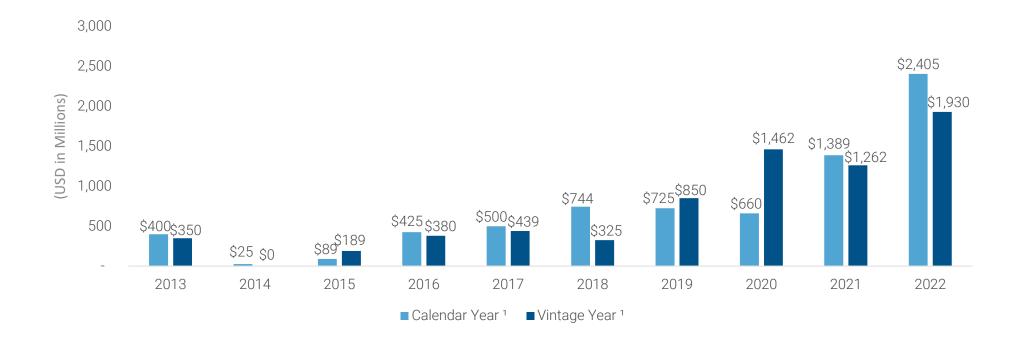
- 1 existing GP relationship
- 2 new GP relationships

(USD in Millions)	Bregal Sagemount IV L.P.	Vista Equity Partners Fund VIII, L.P.	CRPTF-GCM Emerging Manager Private Equity Partnership L.P.	HarbourVest CT Co-Investment Fund L.P.*
General Partner	Bregal Sagemount Management, L.P.	Vista Equity Partners	GCM Grosvenor	HarbourVest Partners, LLC
Existing Manager	No	Yes	No	Yes
Closing Date	10/14/2022	12/22/2022	12/29/2022	1/4/2022
Capital Committed	\$125.0	\$200.0	\$150.0	\$750.0
Strategy	Buyout	Buyout	Buyout	Co-Investment
Geographic Focus	North America	North America	North America	Global
Fund Currency	USD	USD	USD	USD
Fund Size	\$2,598.7	\$4,916.6	\$301.5	\$750.0

Note: The Fund Size noted in this report is specific to the vehicle to which State of Connecticut Retirement Plans and Trust Funds committed capital and may not be representative of the total capital raised by the master fund. The Fund Size may be subject to change as the General Partner works towards a final close.

\*CRPTF committed an additional \$300 million to HarbourVest CT Co-Investment Fund L.P. on 12/30/2022.

### **Annual Commitment Activity**



Note: If the final close and the initial investment do not occur in the same year, there will be a discrepancy between these two dates. Until a fund makes its initial investment, the Vintage Year will reflect the date of the final close. This chart is produced as of 12/31/2022, subsequent commitments are not included.

<sup>&</sup>lt;sup>1</sup> See endnotes

# **Exit Activity**

- One partnership was fully liquidated during 2022
  - 1 GP relationship no longer remaining

(USD in Millions)	ICV Partners II, L.P.			
General Partner	ICV Capital Partners, LLC			
Remaining Manager	No			
Exit Date	10/7/2022			
Capital Committed	\$40.0			
Strategy	Buyout			
Geographic Focus	North America			
Fund Currency	USD			
Net IRR	11.79%			
TVPI	1.6x			
DPI	1.6x			

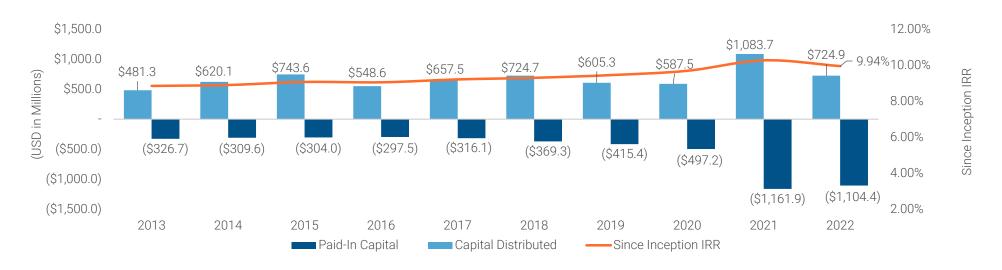
## **Quarterly Cash Flow Summary**



Top Contributors During the Quarter (USD in Millions)						
Investment	Vintage Year	Strategy	Paid-In Capital	% of Total		
Stellex Capital Partners II, L.P.	2020	Distressed/Restructuring	\$28.4	11.3%		
Vistria Fund IV, LP	2021	Buyout	\$17.9	7.1%		
ICG Europe Fund VII, L.P.	2018	Mezzanine	\$16.2	6.4%		
K5 Private Investors, L.P.	2020	Buyout	\$14.8	5.9%		
Georgian Alignment Fund II, LP	2021	Growth Equity	\$12.6	5.0%		
Total			\$89.9	35.6%		

Top Distributors During the Quarter (USD in Millions)							
Investment	Vintage Year	Strategy	Capital Distributed	% of Total			
WCAS XIII, L.P.	2019	Buyout	\$27.0	17.7%			
ICG Europe Fund VII, L.P.	2018	Mezzanine	\$26.1	17.1%			
Welsh, Carson, Anderson & Stowe XII, L.P.	2015	Buyout	\$20.6	13.5%			
Fairview Constitution III, L.P.	2007	Venture Capital	\$17.0	11.1%			
KKR 2006 Fund, L.P.	2006	Buyout	\$10.1	6.6%			
Total			\$100.8	66.1%			

### **Annual Cash Flow Summary**



Top Contributors over the Last 12 Months (USD in Millions)						
Investment	Vintage Year	Strategy	Paid-In Capital	% of Total		
HarbourVest CT Co-Investment Fund L.P.	2022	Co-Investment	\$110.3	10.0%		
Vistria Fund IV, LP	2021	Buyout	\$82.8	7.5%		
Clearlake Capital Partners VII, L.P.	2021	Buyout	\$51.3	4.6%		
One Rock Capital Partners III, L.P.	2020	Buyout	\$45.2	4.1%		
Clearlake Flagship Plus Partners, L.P.	2020	Special Situations	\$42.0	3.8%		
Total			\$331.6	30.0%		

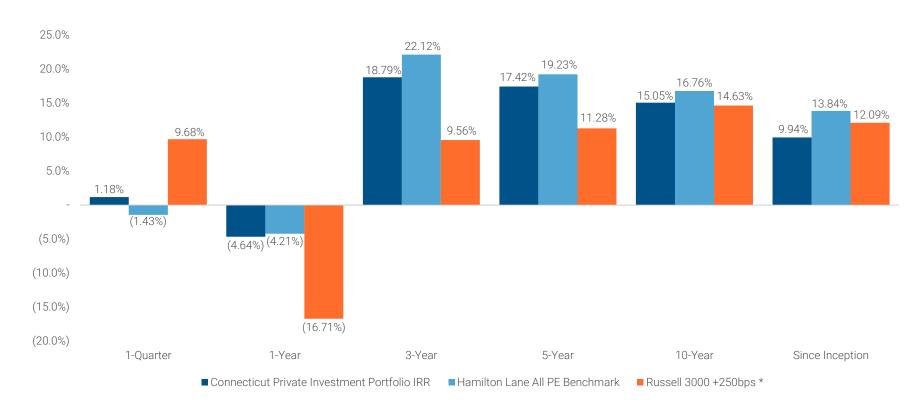
Top Distributors Over the Last 12 Months (USD in Millions)						
Investment	Vintage Year	Strategy	Capital Distributed	% of Total		
Fairview Constitution III, L.P.	2007	Venture Capital	\$49.2	6.8%		
Icon Partners II, L.P.	2021	Buyout	\$42.5	5.9%		
Levine Leichtman Capital Partners V, L.P.	2013	Mezzanine	\$41.7	5.8%		
Leeds Equity Partners VI, L.P.	2016	Buyout	\$36.3	5.0%		
ICG Europe Fund VII, L.P.	2018	Mezzanine	\$35.9	5.0%		
Total			\$205.6	28.4%		



# Performance Update

### Portfolio IRR Performance vs. Benchmark

- 15.05% 10-Year Portfolio IRR outperformed the Russell 3000 +250bps benchmark by 42 bps
- (4.64%) 1-Year Portfolio IRR outperformed the Russell 3000 +250bps benchmark by 1,207 bps

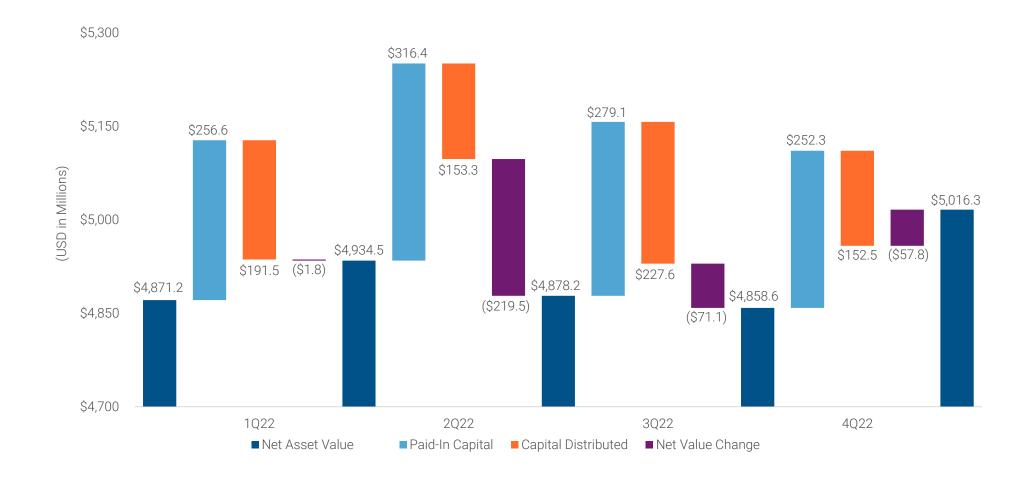


Time Horizon	Connecticut Private Investment Portfolio IRR	Hamilton Lane All PE Benchmark	Spread Over/(Under)	Russell 3000 +250bps *	Spread Over/(Under)
1-Quarter	1.18%	(1.43%)	261 bps	9.68%	(850 bps)
1-Year	(4.64%)	(4.21%)	(43 bps)	(16.71%)	1,207 bps
3-Year	18.79%	22.12%	(333 bps)	9.56%	923 bps
5-Year	17.42%	19.23%	(181 bps)	11.28%	614 bps
10-Year	15.05%	16.76%	(171 bps)	14.63%	42 bps

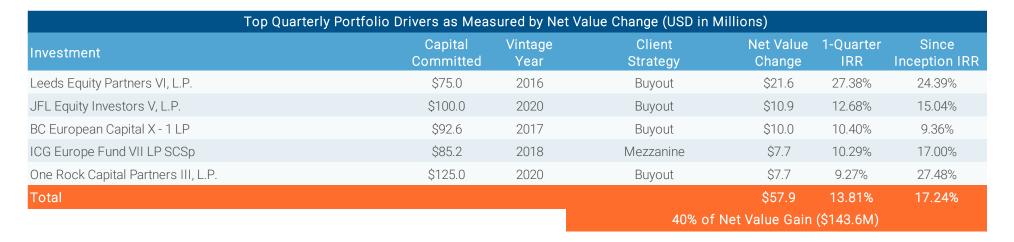
<sup>\*</sup>Russell 3000 +250bps is a straight return as of 12/31/2022. Prior to February 2020 the portfolio was benchmarked against the S&P 500 + 500 bps and has since been updated. Hamilton Lane All PE Benchmark as of 9/30/2022.

### Net Value Bridge

- Total Portfolio net value gain of \$57.8M during the quarter
  - 48 partnerships generated Net Value gains, totaling \$143.6M, while 52 generated Net Value losses (\$85.8M)
  - The remaining 14 active partnerships generated no value change during the quarter
- Net Value Change isolates the realized and unrealized performance of the underlying investments made by the partnerships within the Portfolio. The Net Value Bridge illustrates these movements:



### **Net Value Drivers**



Bottom Quarterly Po	ortfolio Drivers as Me	asured by Ne	t Value Change (USD in	Millions)		
Investment	Capital Committed	Vintage Year	Client Strategy	Net Value Change	1-Quarter IRR	Since Inception IRR
Constitution Fund V, LLC - Series A	\$130.0	2016	Venture Capital	(\$16.1)	(5.87%)	26.28%
Fairview Constitution IV, L.P.	\$150.0	2011	Venture Capital	(\$13.8)	(5.63%)	19.00%
Fairview Constitution III, L.P.	\$300.0	2007	Venture Capital	(\$7.7)	(5.87%)	18.03%
Constitution Fund V, LLC - Series D	\$25.0	2019	Venture Capital	(\$6.5)	(34.85%)	(11.02%)
Hollyport Secondary Opportunities Fund VII LP	\$75.0	2019	Secondaries	(\$4.6)	(5.22%)	31.75%
Total				(\$48.7)	(6.43%)	18.87%
57% of Net Value Loss (\$85.8M)						



# **Exposure Update**

### **Diversification by Strategy**



- Distressed/Restructuring investments drove the increase in NAV
- Co-Investment investments drove the increase in Total Exposure

#### % of NAV

Strategy	9/30/	2022	12/31/	/2022	Change in NAV	Change in % Points
Buyout	\$2,868.3	59.0%	\$2,974.6	59.3%	\$106.3	0.3%
Venture Capital	\$841.6	17.3%	\$784.1	15.6%	(\$57.5)	(1.7%)
Secondaries	\$336.1	6.9%	\$348.4	6.9%	\$12.3	-
Growth Equity	\$236.7	4.9%	\$266.4	5.3%	\$29.6	0.4%
Distressed/Restructuring	\$200.0	4.1%	\$232.3	4.6%	\$32.3	0.5%
Mezzanine	\$204.1	4.2%	\$223.4	4.5%	\$19.3	0.3%
Co-Investment	\$99.5	2.0%	\$109.6	2.2%	\$10.1	0.2%
Special Situations	\$70.8	1.5%	\$75.9	1.5%	\$5.2	-
Multi-Strategy	\$1.7	-	\$1.7	-	-	-
Total	\$4,858.6	100%	\$5,016.3	100%	\$157.6	-

#### % of Total Exposure

To or rotal Emporation						
Strategy	9/30/	2022	12/31,	/2022	Change in Exposure	Change in % Points
Buyout	\$4,458.9	55.1%	\$4,968.9	56.1%	\$510.0	1.0%
Venture Capital	\$1,044.2	12.9%	\$980.5	11.1%	(\$63.7)	(1.8%)
Secondaries	\$791.9	9.8%	\$807.4	9.1%	\$15.4	(0.7%)
Growth Equity	\$431.5	5.3%	\$430.0	4.9%	(\$1.5)	(0.4%)
Distressed/Restructuring	\$413.7	5.1%	\$409.6	4.6%	(\$4.1)	(0.5%)
Mezzanine	\$396.0	4.9%	\$403.7	4.6%	\$7.7	(0.3%)
Co-Investment	\$449.4	5.6%	\$749.4	8.5%	\$300.0	2.9%
Special Situations	\$105.3	1.3%	\$105.9	1.2%	\$0.6	(0.1%)
Multi-Strategy	\$4.0	-	\$4.0	-	-	-
Total	\$8,094.9	100%	\$8,859.3	100%	\$764.5	-

#### Sub-Allocation Targets as per CRPTF IPS

Strategy	Lower Range %	Upper Range %	Total Exposure
Corporate Finance	70.0%	100.0%	85.4%
Venture Capital	0.0%	30.0%	14.6%

### **Diversification by Vintage Year**



- 2020 Vintage investments drove the increase in NAV
- 2022 investments drove the increase in Total Exposure

#### % of NAV

Vintage	12/31/	12/31/2021		/2022	Change in NAV	Change in % Points
2022	-	-	\$151.3	3.0%	\$151.3	3.0%
2021	\$235.8	4.8%	\$519.6	10.4%	\$283.8	5.6%
2020	\$658.8	13.5%	\$981.3	19.6%	\$322.4	6.1%
2019	\$702.4	14.4%	\$806.4	16.1%	\$104.1	1.7%
2018	\$377.2	7.7%	\$396.6	7.9%	\$19.4	0.2%
2017	\$511.0	10.5%	\$425.9	8.5%	(\$85.1)	(2.0%)
2016	\$637.8	13.1%	\$524.0	10.4%	(\$113.9)	(2.7%)
2015	\$222.9	4.6%	\$180.5	3.6%	(\$42.5)	(1.0%)
2013	\$239.1	4.9%	\$174.1	3.5%	(\$65.0)	(1.4%)
Pre-2013	\$1,286.1	26.4%	\$856.8	17.1%	(\$429.3)	(9.3%)

#### % of Total Exposure

Vintage	12/31/	2021	12/31/	′2022	Change in Exposure	Change in % Points
2022	\$100.0	1.4%	\$1,935.3	21.8%	\$1,835.3	20.4%
2021	\$923.2	12.5%	\$1,283.2	14.4%	\$360.1	1.9%
2020	\$1,510.6	20.4%	\$1,598.4	18.0%	\$87.8	(2.4%)
2019	\$1,079.2	14.6%	\$1,041.0	11.8%	(\$38.2)	(2.8%)
2018	\$444.3	6.0%	\$432.5	4.9%	(\$11.7)	(1.1%)
2017	\$624.7	8.4%	\$516.8	5.8%	(\$108.0)	(2.6%)
2016	\$673.7	9.1%	\$548.5	6.2%	(\$125.2)	(2.9%)
2015	\$244.4	3.3%	\$205.4	2.3%	(\$39.0)	(1.0%)
2013	\$289.1	3.9%	\$219.0	2.5%	(\$70.1)	(1.4%)
Pre-2013	\$1,511.0	20.4%	\$1,079.1	12.2%	(\$431.9)	(8.2%)

### **Holdings Diversification**

• As of December 31, 2022, there were 1,127 underlying holdings in the Connecticut Portfolio, including 37 public companies

#### Industry Exposure by Exposed Market Value 1

9/30/2022	12/31/2022	Change in % Points	
26.1%	27.1%	1.0%	
22.9%	21.7%	(1.2%)	
14.2%	13.6%	(0.6%)	
9.5%	9.6%	0.1%	
7.5%	8.1%	0.6%	
5.4%	5.1%	(0.3%)	
3.8%	3.9%	0.1%	
3.6%	3.7%	0.0%	
3.1%	3.1%	0.0%	
1.9%	1.9%	0.0%	
1.3%	1.5%	0.2%	
0.6%	0.6%	-	
	26.1% 22.9% 14.2% 9.5% 7.5% 5.4% 3.8% 3.6% 3.1% 1.9% 1.3%	22.9%       21.7%         14.2%       13.6%         9.5%       9.6%         7.5%       8.1%         5.4%       5.1%         3.8%       3.9%         3.6%       3.7%         3.1%       3.1%         1.9%       1.9%         1.3%       1.5%	

#### Geographic Exposure by Exposed Market Value <sup>1</sup>

Region	9/30/2022	12/31/2022	Change in % Points
North America	72.9%	71.8%	(1.0%)
Rest of World	13.8%	14.9%	1.1%
Western Europe	13.3%	13.2%	-

#### Public/Private Holdings by Exposed Market Value <sup>1</sup>

Public/Private	9/30/2022	12/31/2022	Change in % Points
Private	96.0%	96.2%	0.2%
Public	4.0%	3.8%	(0.2%)

<sup>&</sup>lt;sup>1</sup> Exposed Market Value is LP's share of Market Value at the Portfolio Holding Level. May not sum to 100% due to rounding. Note: Other investments includes undisclosed investments.

# Top Ten General Partners by Total Exposure

		Connecticut Por eneral Partners by as of December 3	Total Exposu	re			
General Partner	Number of Investments	Capital Committed	Market Value	% Market Value	Unfunded Commitments	Total Exposure	% Total Exposure
Fairview Capital	10	\$1,715.0	\$785.3	15.7%	\$196.4	\$981.7	11.1%
HarbourVest Partners, LLC	3	950.0	252.0	5.0%	712.6	964.6	10.9%
Clearlake Capital	10	574.9	444.8	8.9%	204.2	649.0	7.3%
Vista Equity Partners	5	525.0	300.2	6.0%	245.1	545.3	6.2%
Hg Capital	5	465.7	161.2	3.2%	322.6	483.7	5.5%
Welsh, Carson, Anderson & Stowe	4	475.0	211.6	4.2%	166.1	377.7	4.3%
J.P. Morgan	5	260.0	220.7	4.4%	98.3	319.0	3.6%
Hollyport Capital	3	250.0	109.7	2.2%	187.0	296.7	3.3%
Landmark Partners	5	450.0	96.3	1.9%	199.2	295.5	3.3%
Georgian Partners	3	225.0	184.9	3.7%	104.4	289.3	3.3%
All Other	60	8,374.0	2,249.6	44.8%	1,407.2	3,656.8	41.3%
Total	113	\$14,264.6	\$5,016.3	100.0%	\$3,843.1	\$8,859.3	100.0%



# **Appendix**



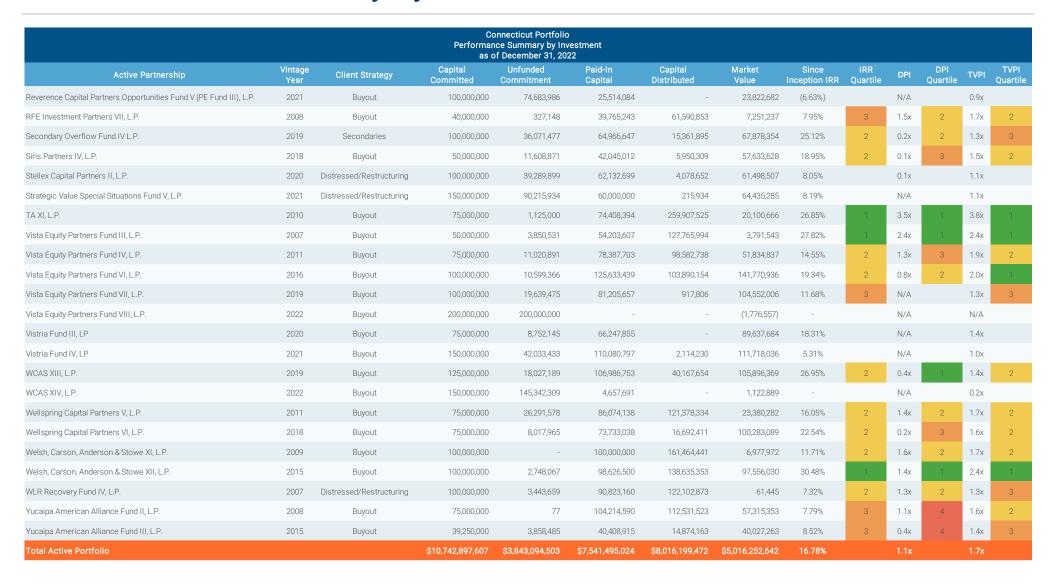
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Note: See endnotes.



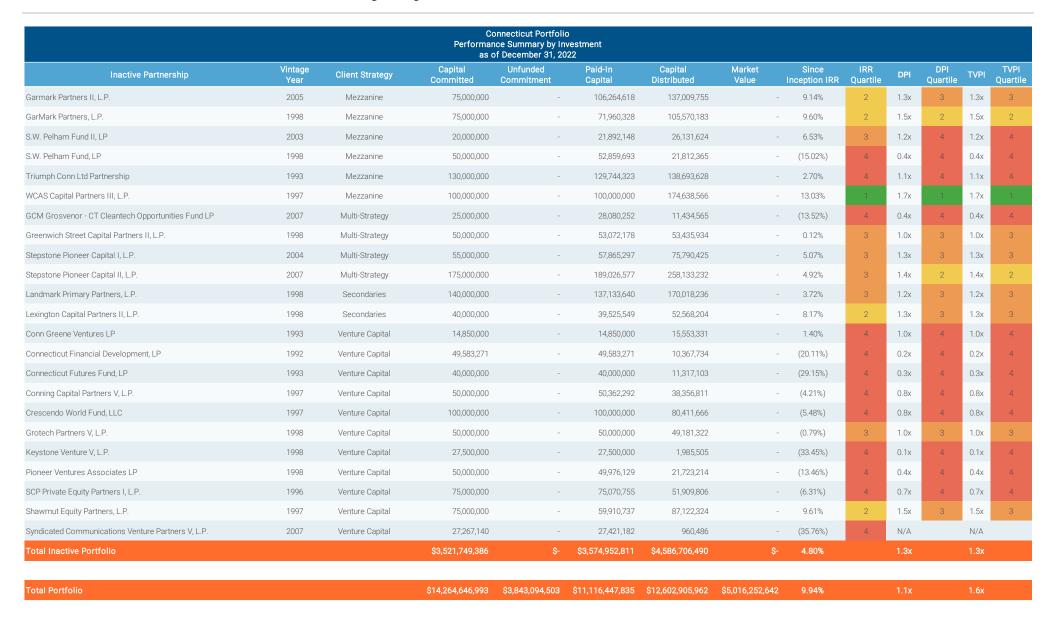
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Note: See endnotes.

### **Benchmarking Summaries**



			TVPI Summary			
(USD in Millions)	Total Exposure	% of Total Exposure	Market Value	% of Market Value	Capital Committed	% of Commitments
1	\$1,774.3	20.03%	\$1,571.9	31.34%	\$2,680.4	18.79%
2	1,146.0	12.94%	897.1	17.88%	3,003.9	21.06%
3	1,087.0	12.27%	872.1	17.39%	2,606.2	18.27%
4	35.1	0.40%	23.0	0.46%	1,292.1	9.06%
N/A	4,816.9	54.36%	1,652.2	32.93%	4,682.0	32.82%
	\$8,859.4	100.0%	\$5,016.3	100.0%	\$14,264.6	100.0%

			D/PI Summary			
(USD in Millions)	Total Exposure	% of Total Exposure	Market Value	% of Market Value	Capital Committed	% of Commitments
1	\$886.5	10.01%	\$726.3	14.48%	\$2,430.2	17.04%
2	964.0	10.88%	747.9	14.91%	2,655.2	18.61%
3	1,493.4	16.86%	1,292.6	25.77%	2,645.8	18.55%
4	482.7	5.45%	411.7	8.21%	1,676.3	11.75%
N/A	5,032.7	56.80%	1,837.8	36.63%	4,857.1	34.05%
	\$8,859.4	100.0%	\$5,016.3	100.0%	\$14,264.6	100.0%

# **Performance Summary Categories**

			Performa	nnecticut Portfolion nce Summary by S f December 31, 20	Strategy						
Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	TVPI	Since Inception IRR	1-YR IRR	3-YR IRR	5-YR IRR	10-YR IRR
Buyout	\$7,580,653,006	\$1,994,324,110	\$6,060,782,062	\$6,825,157,518	\$2,974,565,159	1.6x	10.02%	(0.75%)	17.90%	17.52%	15.97%
Co-Investment	750,000,000	639,750,000	110,250,000	-	109,612,521	1.0x	(0.75%)	N/A	N/A	N/A	N/A
Distressed/Restructuring	650,000,000	177,333,580	586,936,831	669,037,862	232,254,006	1.5x	14.46%	(4.49%)	5.69%	9.03%	10.11%
Growth Equity	350,000,000	163,614,591	192,801,946	6,069,777	266,363,623	1.4x	24.38%	4.04%	23.38%	N/A	N/A
Mezzanine	1,052,799,567	180,304,847	990,010,101	989,509,271	223,402,268	1.2x	4.37%	4.48%	19.03%	15.50%	12.30%
Multi-Strategy	390,168,457	2,354,066	410,994,482	508,344,680	1,672,639	1.2x	3.86%	(3.13%)	(10.95%)	(14.20%)	5.49%
Secondaries	1,080,000,000	458,995,794	633,715,498	522,873,295	348,394,102	1.4x	7.62%	(4.31%)	22.27%	19.49%	12.91%
Special Situations	100,000,000	29,974,922	85,861,020	18,485,802	75,906,130	1.1x	10.88%	(5.12%)	N/A	N/A	N/A
Venture Capital	2,311,025,963	196,442,593	2,045,095,895	3,063,427,757	784,082,194	1.9x	12.49%	(19.89%)	24.45%	21.32%	17.18%
Total Portfolio	\$14,264,646,993	\$3,843,094,503	\$11,116,447,835	\$12,602,905,962	\$5,016,252,642	1.6x	9.94%	(4.64%)	18.79%	17.42%	15.05%

	Connecticut Portfolio Performance Summary by Vintage Year as of December 31, 2022									
Vintage Year	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	TVPI	Since Inception IRR	1-YR IRR	3-YR IRR	5-YR IRR
Post-2011	\$7,866,989,907	\$3,700,266,724	\$4,724,384,935	\$2,841,092,337	\$4,639,641,682	1.6x	18.84%	(3.21%)	19.64%	19.25%
Pre-2011	6,397,657,086	142,827,779	6,392,062,900	9,761,813,625	376,610,960	1.6x	8.97%	(16.96%)	14.77%	12.80%
Total Portfolio	\$14,264,646,993	\$3,843,094,503	\$11,116,447,835	\$12,602,905,962	\$5,016,252,642	1.6x	9.94%	(4.64%)	18.79%	17.42%

	Connecticut Portfolio Performance Summary by Investment Category as of December 31, 2022									
Investment Category	Canital Unfunded Paid-In Canital Since 1-VP 3-VP 5-VP									
Fund-of-Funds	\$380,000,000	\$106,917,167	\$326,045,065	\$291,279,264	\$233,383,299	1.6x	11.81%	79.24%	32.62%	20.62%
Primary Partnership	13,129,646,993	3,575,698,296	10,189,555,972	11,788,753,403	4,474,125,930	1.6x	10.29%	54.16%	26.56%	20.84%
Secondary Fund-of-Funds	755,000,000	160,479,040	600,846,798	522,873,295	308,743,413	1.4x	8.18%	84.89%	36.90%	24.08%
Total Portfolio	\$14,264,646,993	\$3,843,094,503	\$11,116,447,835	\$12,602,905,962	\$5,016,252,642	1.6x	9.94%	(4.64%)	18.79%	17.42%

		Perfo	Connecticut Port ormance Summary by as of December 31							
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVP
1987 Portfolio										
Constitution Liquidating Fund, L.P.	1987	Venture Capital	\$640,000,552	-	\$532,763,501	\$1,367,419,212	\$3,768,816	20.10%	2.6x	2.6x
1987 Portfolio Total			\$640,000,552	\$-	\$532,763,501	\$1,367,419,212	\$3,768,816	20.10%	2.6x	2.6
1991 Portfolio										
Triumph Capital II	1991	Buyout	\$7,215,028	-	\$7,215,028	\$2,998,844	-	(25.10%)	0.4x	0.4x
1991 Portfolio Total			\$7,215,028	\$-	\$7,215,028	\$2,998,844	\$-	(25.10%)	0.4x	0.4>
1992 Portfolio										
Connecticut Financial Development, LP	1992	Venture Capital	\$49,583,271	-	\$49,583,271	\$10,367,734	-	(20.11%)	0.2x	0.2x
1992 Portfolio Total			\$49,583,271	\$-	\$49,583,271	\$10,367,734	\$-	(20.11%)	0.2x	0.2
1993 Portfolio										
Conn Greene Ventures LP	1993	Venture Capital	\$14,850,000	-	\$14,850,000	\$15,553,331	-	1.40%	1.0x	1.0x
Connecticut Futures Fund, LP	1993	Venture Capital	40,000,000	-	40,000,000	11,317,103	-	(29.15%)	0.3x	0.3x
Triumph Conn Ltd Partnership	1993	Mezzanine	130,000,000	-	129,744,323	138,693,628	-	2.70%	1.1x	1.1x
1993 Portfolio Total			\$184,850,000	\$-	\$184,594,323	\$165,564,062	\$-	(3.67%)	0.9x	0.9>
1996 Portfolio										
Hicks, Muse, Tate & Furst Equity Fund III, L.P.	1996	Buyout	\$163,841,018	-	\$153,461,548	\$174,352,242	-	1.74%	1.1x	1.1x
SCP Private Equity Partners I, L.P.	1996	Venture Capital	75,000,000	-	75,070,755	51,909,806	-	(6.31%)	0.7x	0.7x
1996 Portfolio Total			\$238,841,018	\$-	\$228,532,303	\$226,262,048		(0.14%)	1.0x	1.0x
1997 Portfolio										
Blackstone Capital Partners III, L.P.	1997	Buyout	\$30,000,000	-	\$30,034,831	\$60,943,826	-	14.54%	2.0x	2.0x
Carlyle Europe Partners, L.P.	1997	Buyout	75,532,608	-	89,758,266	183,034,205	-	16.64%	2.0x	2.0x
Conning Capital Partners V, L.P.	1997	Venture Capital	50,000,000	-	50,362,292	38,356,811	-	(4.21%)	0.8x	0.8x
Crescendo World Fund, LLC	1997	Venture Capital	100,000,000	-	100,000,000	80,411,666	-	(5.48%)	0.8x	0.8x
DLJ Merchant Banking Partners II, LP	1997	Buyout	75,000,000	-	81,666,655	105,992,273	-	5.98%	1.3x	1.3x
KKR 1996 Fund, LP	1997	Buyout	50,000,000	-	52,825,492	86,451,946	-	10.21%	1.6	1.6
PineBridge Global Emerging Markets Partners, L.L.C	1997	Multi-Strategy	85,168,457	\$2,354,066	82,950,178	109,550,524	\$1,672,639	7.04%	1.3x	1.3x
Private Equity Partners Connecticut LP	1997	Buyout	90,000,000	-	86,469,826	106,782,368	-	4.53%	1.2x	1.2x
Shawmut Equity Partners, L.P.	1997	Venture Capital	75,000,000	-	59,910,737	87,122,324	-	9.61%	1.5x	1.5x
Washington & Congress Capital Partners, LP	1997	Buyout	145,000,000	-	142,274,864	116,067,908	-	(5.85%)	0.8x	0.8x
WCAS Capital Partners III, L.P.	1997	Mezzanine	100,000,000	-	100,000,000	174,638,566	-	13.03%	1.7x	1.7x
1997 Portfolio Total			\$875,701,065	\$2,354,066	\$876,253,141	\$1,149,352,417	\$1,672,639	6.10%	1.3x	1.3
1998 Portfolio										
Compass Partners European Equity Fund, L.P. (USD)	1998	Buyout	\$150,000,000	-	\$149,765,817	\$260,307,780	-	9.74%	1.7x	1.7x

			Connecticut Port nance Summary by as of December 3°	/ Vintage Year						
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI
Forstmann Little Sub. D&E MBO VII, LP	1998	Mezzanine	130,000,000	-	137,789,972	48,231,034	-	(0.3x)	0.4x	0.4
GarMark Partners, L.P.	1998	Mezzanine	75,000,000	-	71,960,328	105,570,183	-	9.60%	1.5x	1.5x
Gilbert Global Equity Partners, L.P.	1998	Buyout	135,119,738	-	135,175,294	195,321,112	-	3.22%	1.4x	1.4x
Greenwich Street Capital Partners II, L.P.	1998	Multi-Strategy	50,000,000	-	53,072,178	53,435,934	-	0.12%	1.0x	1.0x
Grotech Partners V, L.P.	1998	Venture Capital	50,000,000	-	50,000,000	49,181,322	-	(0.79%)	1.0x	1.0x
Kelso Investment Associates VI, L.P.	1998	Buyout	50,000,000	-	42,478,505	59,211,684	-	9.31%	1.4x	1.4x
Keystone Venture V, L.P.	1998	Venture Capital	27,500,000	-	27,500,000	1,985,505	-	(33.45%)	0.1x	0.1x
Landmark Primary Partners, L.P.	1998	Secondaries	140,000,000	-	137,133,640	170,018,236	-	3.72%	1.2x	1.2x
Lexington Capital Partners II, L.P.	1998	Secondaries	40,000,000	-	39,525,549	52,568,204	-	8.17%	1.3x	1.3x
Pioneer Ventures Associates LP	1998	Venture Capital	50,000,000	-	49,976,129	21,723,214	-	(13.46%)	0.4x	0.4x
RFE Investment Partners VI, L.P.	1998	Buyout	30,000,000	-	26,340,276	60,911,055	-	15.07%	2.3x	2.3x
S.W. Pelham Fund, LP	1998	Mezzanine	50,000,000	-	52,859,693	21,812,365	-	(15.02%)	0.4x	0.4x
Thayer Equity Investors IV, L.P.	1998	Buyout	53,500,000	-	55,254,084	39,635,108	-	(4.55%)	0.7x	0.7x
Thomas H. Lee Equity Fund IV, L.P.	1998	Buyout	75,000,000	-	67,649,892	58,756,719	-	(2.61%)	0.9x	0.9x
Veritas Capital Fund, L.P.	1998	Buyout	125,000,000	-	125,435,409	321,662,707	-	26.87%	2.6x	2.6x
Wellspring Capital Partners II, L.P.	1998	Buyout	50,000,000	-	49,740,657	75,087,114	-	19.95%	1.5x	1.5x
Welsh, Carson, Anderson & Stowe VIII, L.P.	1998	Buyout	50,000,000	-	50,000,000	64,408,409	-	3.12%	1.3x	1.3x
1998 Portfolio Total			\$1,331,119,738	\$-	\$1,321,657,423	\$1,659,827,685	\$-	4.25%	1.3x	1.3x
1999 Portfolio										
Carlyle Asia Partners, L.P.	1999	Buyout	\$50,000,000	-	\$52,906,606	\$143,995,264	-	18.03%	2.7x	2.7x
Crescendo III, L.P.	1999	Venture Capital	36,825,000	-	36,824,862	20,584,397	(\$1,214,212)	(13.01%)	0.6x	0.5x
Forstmann Little Equity Partnership VI, L.P.	1999	Buyout	70,000,000	-	72,101,503	20,526,331	-	(21.61%)	0.3x	0.3x
Green Equity Investors III, LP	1999	Buyout	25,000,000	-	22,758,400	53,908,814	-	21.58%	2.4x	2.4x
1999 Portfolio Total			\$181,825,000	\$-	\$184,591,371	\$239,014,806	(\$1,214,212)	4.09%	1.3x	1.3x
2002 Portfolio										
Altaris Health Partners, L.P.	2002	Buyout	\$40,000,000	-	\$40,447,923	\$69,318,557	-	13.31%	1.7x	1.7x
KKR Millennium Fund, L.P.	2002	Buyout	100,000,000	-	102,609,690	212,467,483	\$80,946	16.36%	2.1x	2.1x
Wellspring Capital Partners III, L.P.	2002	Buyout	75,000,000	-	74,248,215	161,845,142	-	27.33%	2.2x	2.2x
2002 Portfolio Total			\$215,000,000	\$-	\$217,305,828	\$443,631,182	\$80,946	19.58%	2.0x	2.0x
2003 Portfolio										
Charterhouse Equity Partners IV, L.P.	2003	Buyout	\$74,851,593	-	\$85,759,969	\$137,801,206	-	9.21%	1.6x	1.6x
KPS Special Situations Fund II, L.P.	2003	Distressed/Restructuring	35,000,000	-	30,695,687	108,461,633	-	63.45%	3.5x	3.5x

			Connecticut Porti nance Summary by as of December 31	Vintage Year						
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI
S.W. Pelham Fund II, LP	2003	Mezzanine	20,000,000	-	21,892,148	26,131,624	-	6.53%	1.2x	1.2x
2003 Portfolio Total			\$129,851,593	\$-	\$138,347,804	\$272,394,463	\$-	18.29%	2.0x	2.0x
2004 Portfolio										
FS Equity Partners V, L.P.	2004	Buyout	\$75,000,000	\$14,503,532	\$60,583,588	\$121,830,595	\$5,846,556	15.32%	2.0x	2.1x
Stepstone Pioneer Capital I, L.P.	2004	Multi-Strategy	55,000,000	-	57,865,297	75,790,425	-	5.07%	1.3x	1.3x
2004 Portfolio Total			\$130,000,000	\$14,503,532	\$118,448,885	\$197,621,020	\$5,846,556	11.05%	1.7x	1.7x
2005 Portfolio										
Ethos Private Equity Fund V, L.P.	2005	Buyout	\$50,000,000	-	\$59,935,735	\$64,285,012	\$1,742,858	2.16%	1.1x	1.1x
Fairview Constitution II, L.P.	2005	Venture Capital	200,000,000	\$3,112,810	212,154,451	310,200,242	24,043,231	6.90%	1.5x	1.6x
Garmark Partners II, L.P.	2005	Mezzanine	75,000,000	-	106,264,618	137,009,755	-	9.14%	1.3x	1.3x
Welsh, Carson, Anderson & Stowe X, L.P.	2005	Buyout	100,000,000	-	98,683,200	169,925,675	-	8.33%	1.7x	1.7x
2005 Portfolio Total			\$425,000,000	\$3,112,810	\$477,038,004	\$681,420,684	\$25,786,089	7.12%	1.4x	1.5x
2006 Portfolio										
Boston Ventures VII, L.P.	2006	Buyout	\$75,000,000	\$12,388,419	\$65,028,749	\$74,798,645	\$2,116,174	3.02%	1.2x	1.2x
Court Square Capital Partners II, L.P.	2006	Buyout	93,793,953	3,246,335	91,797,386	163,618,527	1,825,134	12.22%	1.8x	1.8x
ICV Partners II, L.P.	2006	Buyout	40,000,000	-	43,550,290	71,645,080	-	11.79%	1.6x	1.6x
KKR 2006 Fund, L.P.	2006	Buyout	125,000,000	2,239,416	134,462,249	237,267,655	609,930	8.54%	1.8x	1.8x
Nogales Investors Fund II, L.P.	2006	Buyout	14,760,000	-	14,413,108	1,594,342	-	(24.07%)	0.1x	0.1x
Thomas H. Lee Equity Fund VI, L.P.	2006	Buyout	100,000,000	-	104,043,318	166,950,600	-	7.84%	1.6x	1.6x
2006 Portfolio Total			\$448,553,953	\$17,874,170	\$453,295,100	\$715,874,849	\$4,551,238	8.09%	1.6x	1.6x
2007 Portfolio										
Fairview Constitution III, L.P.	2007	Venture Capital	\$300,000,000	\$18,292,740	\$304,118,310	\$733,253,003	\$113,165,460	18.03%	2.4x	2.8x
GCM Grosvenor - CT Cleantech Opportunities Fund LP	2007	Multi-Strategy	25,000,000	-	28,080,252	11,434,565	-	(13.52%)	0.4x	0.4x
M2 - Connecticut Emerging Private Equity Fund-of-Funds, L.P.	2007	Buyout	105,000,000	6,143,867	113,743,149	145,476,164	11,004,085	6.80%	1.3x	1.4x
Pegasus Partners IV, L.P.	2007	Distressed/Restructuring	75,000,000	-	94,582,353	70,134,362	10,428,360	(2.99%)	0.7x	0.9x
Stepstone Pioneer Capital II, L.P.	2007	Multi-Strategy	175,000,000	-	189,026,577	258,133,232	-	4.92%	1.4x	1.4x
Syndicated Communications Venture Partners V, L.P.	2007	Venture Capital	27,267,140	-	27,421,182	960,486	-	(35.76%)	N/A	N/A
Vista Equity Partners Fund III, L.P.	2007	Buyout	50,000,000	3,850,531	54,203,607	127,765,994	3,791,543	27.82%	2.4x	2.4x
WLR Recovery Fund IV, L.P.	2007	Distressed/Restructuring	100,000,000	3,443,659	90,823,160	122,102,873	61,445	7.32%	1.3x	1.3x
2007 Portfolio Total			\$857,267,140	\$31,730,797	\$901,998,590	\$1,469,260,679	\$138,450,893	10.13%	1.6x	1.8x
2008 Portfolio										
Altaris Health Partners II, L.P.	2008	Buyout	\$40,000,000	\$5,567,183	\$45,574,376	\$99,451,134	\$544,657	25.18%	2.2x	2.2x
Candover 2008 Fund, L.P.	2008	Buyout	12,848,728	-	14,407,641	1,649,710	-	(70.49%)	0.1x	0.1x

			Connecticut Port nance Summary by as of December 31	Vintage Year						
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI
CT Horizon Legacy Fund, L.P.	2008	Buyout	15,000,000	2,489,461	14,024,943	9,103,297	1,650,428	(4.27%)	0.6x	0.8x
Landmark Equity Partners XIV, L.P.	2008	Secondaries	100,000,000	2,637,660	98,080,368	123,546,083	7,777,588	9.51%	1.3x	1.3x
Leeds Equity Partners V, L.P.	2008	Buyout	40,000,000	5,448,220	50,137,652	105,201,194	4,026,384	18.94%	2.1x	2.2x
Levine Leichtman Capital Partners IV, L.P.	2008	Mezzanine	75,000,000	13,696,960	74,669,737	121,619,054	6,619,762	17.68%	1.6x	1.7x
RFE Investment Partners VII, L.P.	2008	Buyout	40,000,000	327,148	39,765,243	61,590,853	7,251,237	7.95%	1.5x	1.7x
Yucaipa American Alliance Fund II, L.P.	2008	Buyout	75,000,000	77	104,214,590	112,531,523	57,315,353	7.79%	1.1x	1.6x
2008 Portfolio Total			\$397,848,728	\$30,166,709	\$440,874,550	\$634,692,848	\$85,185,409	11.06%	1.4x	1.6x
2009 Portfolio										
Welsh, Carson, Anderson & Stowe XI, L.P.	2009	Buyout	\$100,000,000	-	\$100,000,000	\$161,464,441	\$6,977,972	11.71%	1.6x	1.7x
2009 Portfolio Total			\$100,000,000	\$-	\$100,000,000	\$161,464,441	\$6,977,972	11.71%	1.6x	1.7x
2010 Portfolio										
Nutmeg Opportunities Fund L.P. CT - EM	2010	Buyout	\$35,000,000	\$17,392,789	\$20,012,999	\$14,393,878	\$39,556,068	13.32%	0.7x	2.7x
Nutmeg Opportunities Fund L.P. CT - SMMBF	2010	Buyout	75,000,000	24,567,906	65,142,385	90,345,248	45,847,880	15.00%	1.4x	2.1x
TA XI, L.P.	2010	Buyout	75,000,000	1,125,000	74,408,394	259,907,525	20,100,666	26.85%	3.5x	3.8x
2010 Portfolio Total			\$185,000,000	\$43,085,695	\$159,563,778	\$364,646,651	\$105,504,614	21.32%	2.3x	2.9x
2011 Portfolio										
Castlelake Fund II, L.P.	2011	Distressed/Restructuring	\$50,000,000	\$3,750,659	\$46,663,983	\$46,936,031	\$16,754,016	5.60%	1.0x	1.4x
Fairview Constitution IV, L.P.	2011	Venture Capital	150,000,000	5,956,437	153,894,308	191,987,365	230,423,612	19.01%	1.2x	2.7x
FS Equity Partners VI, L.P.	2011	Buyout	75,000,000	515,933	74,498,449	212,914,508	35,940,825	23.44%	2.9x	3.3x
J.F. Lehman Equity Investors III, L.P.	2011	Buyout	49,000,000	6,533,942	49,255,274	59,214,646	26,127,787	11.43%	1.2x	1.7x
Pegasus Partners V, L.P.	2011	Distressed/Restructuring	50,000,000	-	67,259,339	53,045,529	33,586,430	5.44%	0.8x	1.3x
Vista Equity Partners Fund IV, L.P.	2011	Buyout	75,000,000	11,020,891	78,387,703	98,582,738	51,834,837	14.55%	1.3x	1.9x
Wellspring Capital Partners V, L.P.	2011	Buyout	75,000,000	26,291,578	86,074,138	121,378,334	23,380,282	16.05%	1.4x	1.7x
2011 Portfolio Total			\$524,000,000	\$54,069,440	\$556,033,194	\$784,059,151	\$418,047,789	16.17%	1.4x	2.2x
2012 Portfolio										
Clearlake Capital Partners III, L.P.	2012	Distressed/Restructuring	\$40,000,000	\$22,306,903	\$56,907,144	\$160,480,066	\$2,622,935	40.69%	2.8x	2.9x
Court Square Capital Partners III, L.P.	2012	Buyout	50,000,000	2,205,309	54,243,525	79,326,057	37,218,756	21.06%	1.5x	2.1x
GenNx360 Capital Partners II	2012	Buyout	25,000,000	924,170	30,233,300	33,086,990	22,259,181	15.39%	1.1x	1.8x
RFE Investment Partners VIII, L.P.	2012	Buyout	40,000,000	-	40,676,860	60,122,895	-	8.11%	1.5x	1.5x
2012 Portfolio Total			\$155,000,000	\$25,436,382	\$182,060,829	\$333,016,008	\$62,100,872	23.03%	1.8x	2.2x
2013 Portfolio										
Altaris Health Partners III, L.P.	2013	Buyout	\$50,000,000	\$143,701	\$58,249,349	\$73,089,196	\$65,812,550	27.85%	1.3x	2.4x
Apollo Investment Fund VIII, L.P.	2013	Buyout	125,000,000	14,092,178	132,008,752	138,400,453	51,159,663	9.80%	1.0x	1.4x

			Connecticut Port mance Summary by as of December 31	Vintage Year						
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI
Landmark Equity Partners XV, L.P.	2013	Secondaries	100,000,000	19,726,559	80,275,284	92,796,326	21,267,228	12.02%	1.2x	1.4x
Levine Leichtman Capital Partners V, L.P.	2013	Mezzanine	75,000,000	11,011,974	114,824,089	175,241,506	35,813,541	17.32%	1.5x	1.8x
2013 Portfolio Total			\$350,000,000	\$44,974,412	\$385,357,474	\$479,527,481	\$174,052,982	15.44%	1.2x	1.7x
2015 Portfolio										
Clearlake Capital Partners IV, L.P.	2015	Distressed/Restructuring	\$50,000,000	\$18,326,526	\$77,872,466	\$103,582,782	\$42,867,028	26.35%	1.3x	1.9x
Welsh, Carson, Anderson & Stowe XII, L.P.	2015	Buyout	100,000,000	2,748,067	98,626,500	138,635,353	97,556,030	30.48%	1.4x	2.4x
Yucaipa American Alliance Fund III, L.P.	2015	Buyout	39,250,000	3,858,485	40,408,915	14,874,163	40,027,263	8.52%	0.4x	1.4x
2015 Portfolio Total			\$189,250,000	\$24,933,078	\$216,907,881	\$257,092,298	\$180,450,321	25.06%	1.2x	2.0x
2016 Portfolio										
Constitution Fund V, LLC - Series A	2016	Venture Capital	\$130,000,000	\$7,734,730	\$126,763,540	\$60,570,965	\$257,710,167	26.28%	0.5x	2.5x
J.F. Lehman Equity Investors IV, L.P.	2016	Buyout	75,000,000	1,820,972	74,508,217	169,906,791	21,537,364	40.27%	2.3x	2.6x
Leeds Equity Partners VI, L.P.	2016	Buyout	75,000,000	4,429,872	79,371,023	61,682,478	102,944,587	24.39%	0.8x	2.1x
Vista Equity Partners Fund VI, L.P.	2016	Buyout	100,000,000	10,599,366	125,633,439	103,890,154	141,770,936	19.34%	0.8x	2.0x
2016 Portfolio Total			\$380,000,000	\$24,584,940	\$406,276,219	\$396,050,388	\$523,963,054	25.90%	1.0x	2.3x
2017 Portfolio										
Altaris Constellation Partners IV, L.P.	2017	Buyout	\$10,000,000	\$560,365	\$10,158,214	\$7,106,739	\$9,525,599	22.49%	0.7x	1.6x
Altaris Health Partners IV, L.P.	2017	Buyout	40,000,000	3,582,868	39,098,341	39,926,101	29,595,121	27.37%	1.0x	1.8x
BC European Capital X, L.P.	2017	Buyout	92,638,917	8,789,384	92,700,303	20,055,396	106,385,543	9.36%	0.2x	1.4x
Clearlake Capital Partners V, L.P.	2017	Buyout	60,000,000	12,840,145	84,780,848	72,216,580	74,487,708	29.28%	0.9x	1.7x
Constitution Fund V, LLC - Series B	2017	Venture Capital	20,000,000	3,439,947	16,808,486	5,438,790	16,911,536	8.03%	0.3x	1.3x
EQT VIII SCSP	2017	Buyout	81,031,847	12,536,417	76,088,690	46,700,009	92,797,958	28.46%	0.6x	1.8x
Landmark Equity Partners XVI, L.P.	2017	Secondaries	100,000,000	42,793,344	65,026,851	39,578,802	54,549,802	23.75%	0.6x	1.4x
Nutmeg Opportunities Fund II LLC - EM	2017	Buyout	35,000,000	6,323,144	30,932,942	16,957,520	41,664,106	20.74%	0.5x	1.9x
2017 Portfolio Total			\$438,670,764	\$90,865,614	\$415,594,675	\$247,979,937	\$425,917,373	20.27%	0.6x	1.6x
2018 Portfolio										
Aldrich Capital Partners Fund, L.P.	2018	Growth Equity	\$50,000,000	\$945,741	\$49,402,154	-	\$68,911,442	13.86%	N/A	1.4x
ICG Europe Fund VII, L.P.	2018	Mezzanine	85,215,895	15,396,230	82,621,204	\$39,935,605	76,073,459	17.00%	0.5x	1.4x
Nutmeg Opportunities Fund II LLC - SMMBF	2018	Buyout	65,000,000	-	82,188,647	15,003,157	93,660,732	15.41%	0.2x	1.3x
Siris Partners IV, L.P.	2018	Buyout	50,000,000	11,608,871	42,045,012	5,950,309	57,633,628	18.95%	0.1x	1.5x
Wellspring Capital Partners VI, L.P.	2018	Buyout	75,000,000	8,017,965	73,733,038	16,692,411	100,283,089	22.54%	0.2x	1.6x
2018 Portfolio Total			\$325,215,895	\$35,968,807	\$329,990,055	\$77,581,482	\$396,562,350	17.68%	0.2x	1.4x
2019 Portfolio										
Apollo Investment Fund IX, L.P.	2019	Buyout	\$125,000,000	\$39,598,125	\$109,207,478	\$37,462,231	\$112,594,528	23.03%	0.3x	1.4x

			Connecticut Port nance Summary by as of December 31	Vintage Year						
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI
Constitution Fund V, LLC - Series C	2019	Venture Capital	75,000,000	21,267,859	53,732,141	5084481	81,738,640	30.40%	0.1x	1.6x
Constitution Fund V, LLC - Series D	2019	Venture Capital	25,000,000	9,604,410	15,395,590	-	12,109,385	(11.02%)	N/A	0.8x
Dover Street X, L.P.	2019	Secondaries	100,000,000	36,750,000	63,250,000	21,916,249	74,493,724	38.72%	0.3x	1.5x
Freeman CT Horizon Investment Fund, LLC	2019	Buyout	50,000,000	22,556,760	29,936,198	3,824,819	37,998,360	19.85%	0.1x	1.4x
Georgian Partners Growth Fund V, L.P.	2019	Growth Equity	75,000,000	8,586,214	72,470,511	6,042,508	126,371,583	40.33%	0.1x	1.8x
Hollyport Secondary Opportunities Fund VII LP	2019	Secondaries	75,000,000	22,500,000	52,588,459	7,087,500	82,776,717	31.75%	0.1x	1.7x
Secondary Overflow Fund IV L.P.	2019	Secondaries	100,000,000	36,071,477	64,966,647	15,361,895	67,878,354	25.12%	0.2x	1.3x
Vista Equity Partners Fund VII, L.P.	2019	Buyout	100,000,000	19,639,475	81,205,657	917,806	104,552,006	11.68%	N/A	1.3x
WCAS XIII, L.P.	2019	Buyout	125,000,000	18,027,189	106,986,753	40,167,654	105,896,369	26.95%	0.4x	1.4x
2019 Portfolio Total			\$850,000,000	\$234,601,509	\$649,739,434	\$137,865,143	\$806,409,666	25.24%	0.2x	1.5x
2020 Portfolio										
Altaris Health Partners V, L.P.	2020	Buyout	\$100,000,000	\$50,425,643	\$49,474,437	-	\$51,856,648	4.98%	N/A	1.0x
Clearlake Capital Partners VI, L.P.	2020	Buyout	75,000,000	2,094,019	75,890,546	\$6,282,281	108,594,900	30.80%	0.1x	1.5x
Clearlake Flagship Plus Partners, L.P.	2020	Special Situations	100,000,000	29,974,922	85,861,020	18,485,802	75,906,130	10.88%	0.2x	1.1x
Constitution Fund V, LLC - Series E	2020	Venture Capital	75,000,000	34,012,842	40,987,158	-	39,969,890	(1.94%)	N/A	1.0x
Hg Genesis 9 L.P.	2020	Buyout	60,496,524	21,586,328	49,178,624	10,268,428	44,535,574	14.84%	0.2x	1.1x
Hg Saturn 2 L.P.	2020	Buyout	100,000,000	43,245,211	77,235,873	27,092,613	67,739,939	22.71%	0.4x	1.2x
Insight Partners Opportunities Fund I, L.P.	2020	Mezzanine	75,000,000	9,375,000	65,625,000	-	71,782,568	7.86%	N/A	1.1x
JFL Equity Investors V, L.P.	2020	Buyout	100,000,000	21,501,725	78,498,275	-	97,436,250	15.04%	N/A	1.2x
K5 Private Investors, L.P.	2020	Buyout	125,000,000	65,353,331	59,646,669	-	63,834,865	8.00%	N/A	1.1x
Landmark Equity Partners XVII, L.P.	2020	Secondaries	100,000,000	89,991,300	10,008,700	-	6,755,002	(32.50%)	N/A	0.7x
Leeds Equity Partners VII, LP	2020	Buyout	125,000,000	93,449,502	31,550,733	3,873	44,584,516	57.66%	N/A	1.4x
Livingbridge 7	2020	Buyout	126,621,389	53,965,404	72,655,985	251,464	66,252,874	(7.65%)	N/A	0.9x
One Rock Capital Partners III, L.P.	2020	Buyout	125,000,000	54,134,643	83,483,972	12,796,274	90,880,149	27.48%	0.2x	1.2x
Stellex Capital Partners II, L.P.	2020	Distressed/Restructuring	100,000,000	39,289,899	62,132,699	4,078,652	61,498,507	8.05%	0.1x	1.1x
Vistria Fund III, LP	2020	Buyout	75,000,000	8,752,145	66,247,855	-	89,637,684	18.31%	N/A	1.4x
2020 Portfolio Total			\$1,462,117,913	\$617,151,914	\$908,477,546	\$79,259,387	\$981,265,496	14.91%	0.1x	1.2x
2021 Portfolio										
Aldrich Capital Partners Fund II Co-Investment, LP	2021	Growth Equity	\$27,500,000	\$16,240,942	\$11,259,058	-	\$9,903,569	(12.16%)	N/A	0.9x
Aldrich Capital Partners Fund II, LP	2021	Growth Equity	47,500,000	42,032,612	5,467,388	-	2,606,141	(99.98%)	N/A	0.5x
Avance Investment Partners, L.P.	2021	Buyout	100,000,000	73,793,701	28,986,161	\$3,148,184	26,231,643	1.27%	0.1x	1.0x
Clearlake Capital Partners VII, L.P.	2021	Buyout	125,000,000	73,713,822	51,286,178	3,043	49,975,096	(3.41%)	N/A	1.0x
Georgian Alignment Fund II, LP	2021	Growth Equity	50,000,000	25,370,728	24,629,272	8,248	29,766,425	36.52%	N/A	1.2x

			Connecticut Port mance Summary by as of December 31	Vintage Year						
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI
Georgian Growth Fund VI, LP	2021	Growth Equity	100,000,000	70,438,354	29,573,563	19,021	28,804,463	(3.97%)	N/A	1.0x
Hg CT1 Co-Invest L.P.	2021	Buyout	75,000,000	29,283,256	45,698,917	-	48,881,672	9.70%	N/A	1.1x
ICG Europe Fund VIII SCSp	2021	Mezzanine	162,583,672	130,824,683	31,758,989	625,951	33,112,938	6.80%	N/A	1.1x
Icon Partners II, L.P.	2021	Buyout	38,000,000	27,156,459	28,152,524	42,526,451	18,069,648	76.65%	1.5x	2.2x
Icon Partners III, L.P.	2021	Buyout	11,106,429	1,730,021	9,376,409	-	7,296,073	(14.54%)	N/A	0.8x
Icon Partners IV, L.P	2021	Buyout	37,800,000	6,327,532	31,637,662	-	36,388,989	9.06%	N/A	1.2x
Icon Partners V, L.P	2021	Buyout	38,000,000	9,768,481	27,909,944	-	28,601,600	2.06%	N/A	1.0x
Nutmeg Opportunities Fund II LLC - CT-Direct Investment	2021	Buyout	50,000,000	50,000,000	-	-	-	N/A	N/A	N/A
Reverence Capital Partners Opportunities Fund V (PE Fund III), L.P.	2021	Buyout	100,000,000	74,683,986	25,514,084	-	23,822,682	(6.63%)	N/A	0.9x
Strategic Value Special Situations Fund V, L.P.	2021	Distressed/Restructuring	150,000,000	90,215,934	60,000,000	215,934	64,435,285	8.19%	N/A	1.1x
Vistria Fund IV, LP	2021	Buyout	150,000,000	42,033,433	110,080,797	2,114,230	111,718,036	5.31%	N/A	1.0x
2021 Portfolio Total			\$1,262,490,101	\$763,613,944	\$521,330,946	\$48,661,062	\$519,614,260	11.30%	0.1x	1.1x
2022 Portfolio										
Bregal Sagemount IV L.P.	2022	Buyout	\$125,000,000	\$118,982,308	\$6,070,370	-	\$3,915,346	(35.50%)	N/A	0.6x
Constitution Fund V, LLC - Series F	2022	Venture Capital	100,000,000	93,020,818	6,979,182	-	5,455,669	(36.52%)	N/A	0.8x
CRPTF-GCM Emerging Manager Private Equity Partnership L.P.	2022	Buyout	150,000,000	150,000,000	-	-	-	N/A	N/A	N/A
HarbourVest CT Co-Investment Fund L.P.	2022	Co-Investment	750,000,000	639,750,000	110,250,000	-	109,612,521	(0.75%)	N/A	1.0x
Hg Genesis 10 L.P.	2022	Buyout	80,245,234	79,584,151	661,083	-	142,821	N/A	N/A	0.2x
Hg Saturn 3, L.P.	2022	Buyout	150,000,000	148,861,644	1,138,356	-	(110,857)	N/A	N/A	(0.1x)
Hollyport Secondary (Overage Fund) LP	2022	Secondaries	50,000,000	55,135,454	1,250,000	-	1,343,915	34.63%	N/A	1.1x
Hollyport Secondary Opportunities VIII LP	2022	Secondaries	125,000,000	109,375,000	15,625,000	-	25,566,945	159.45%	N/A	1.6x
Landmark Equity CT Co-Investment Fund I, L.P.	2022	Secondaries	50,000,000	44,015,000	5,985,000	-	5,984,827	(0.00%)	N/A	1.0x
Vista Equity Partners Fund VIII, L.P.	2022	Buyout	200,000,000	200,000,000	-	-	(1,776,557)	N/A	N/A	N/A
The state of the s										0.0
WCAS XIV, L.P.	2022	Buyout	150,000,000	145,342,309	4,657,691	-	1,122,889	N/A	N/A	0.2x
WCAS XIV, L.P. 2022 Portfolio Total	2022	Buyout	150,000,000 \$1,930,245,234	145,342,309 \$1,784,066,684	4,657,691 \$152,616,682	\$-	1,122,889 \$151,257,519	N/A (2.15%)	N/A N/A	1.0x

## Performance Summary by Strategy and Substrategy

	Perf		Connecticut Port ary by Client Strate as of December 31	gy and Client Sub	strategy							
(USD in Millions)	Capital Committed	Unfunded	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI	1-YR IRR	3-YR IRR	5-YR IRR	10-YR IRR
Buyout												
Buyout - Large												
BC European Capital X, L.P.	\$92,638,917	\$8,789,384	\$92,700,303	\$20,055,396	\$106,385,543	9.36%	0.2x	1.4x	(10.35%)	6.97%	N/A	N/A
Blackstone Capital Partners III, L.P.	30,000,000	-	30,034,831	60,943,826	-	14.54%	2.0x	2.0x	N/A	N/A	N/A	92.88%
Carlyle Europe Partners, L.P.	75,532,608	-	89,758,266	183,034,205	-	16.64%	2.0x	2.0x	N/A	N/A	10090.27%	8.31%
Clearlake Capital Partners V, L.P.	60,000,000	12,840,145	84,780,848	72,216,580	74,487,708	29.28%	0.9x	1.7x	(13.52%)	19.82%	N/A	N/A
Clearlake Capital Partners VI, L.P.	75,000,000	2,094,019	75,890,546	6,282,281	108,594,900	30.80%	0.1x	1.5x	0.15%	30.80%	N/A	N/A
Court Square Capital Partners II, L.P.	93,793,953	3,246,335	91,797,386	163,618,527	1,825,134	12.22%	1.8x	1.8x	(65.41%)	(39.44%)	(16.77%)	17.94%
Court Square Capital Partners III, L.P.	50,000,000	2,205,309	54,243,525	79,326,057	37,218,756	21.06%	1.5x	2.1x	20.16%	21.07%	25.55%	N/A
DLJ Merchant Banking Partners II, LP	75,000,000	-	81,666,655	105,992,273	-	5.98%	1.3x	1.3x	N/A	N/A	N/A	4.66%
Forstmann Little Equity Partnership VI, L.P.	70,000,000	-	72,101,503	20,526,331	-	(21.61%)	0.3x	0.3x	N/A	N/A	N/A	N/A
Gilbert Global Equity Partners, L.P.	135,119,738	-	135,175,294	195,321,112	-	3.22%		1.4x	N/A	(73.38%)	70.04%	23.88%
Hg CT1 Co-Invest L.P.	75,000,000	29.283.256	45,698,917	-	48.881.672	9.70%	-	1.1x	(0.23%)	N/A	N/A	N/A
Hg Genesis 10 L.P.	80,245,234	79,584,151	661,083	-	142,821	N/A	-	0.2x	N/A	N/A	N/A	N/A
Hg Saturn 2 L.P.	100,000,000	43,245,211	77,235,873	27,092,613	67,739,939	22.71%	0.4x		(28.22%)	N/A	N/A	N/A
Hg Saturn 3, L.P.	150,000,000	148,861,644	1,138,356	-	(110,857)	N/A	-	(0.1x)	N/A	N/A	N/A	N/A
Hicks, Muse, Tate & Furst Equity Fund III, L.P.	163,841,018	-	153,461,548	174,352,242	(110,007)	1.74%	1.1x	, ,	N/A	N/A	N/A	42.84%
Icon Partners II, L.P.	38,000,000	27,156,459	28,152,524	42,526,451	18,069,648	76.65%	1.5x		47.90%	N/A	N/A	N/A
Icon Partners III, L.P.	11,106,429	1,730,021	9,376,409	42,020,431	7,296,073	(14.54%)	-	0.8x	(40.20%)	N/A	N/A	N/A
Icon Partners IV, L.P	37,800,000	6,327,532	31,637,662	_	36,388,989	9.06%		1.2x	10.68%	N/A	N/A	N/A
Icon Partners V. L.P	38,000,000	9,768,481		-		2.06%	-		2.50%	N/A		
,	, ,		27,909,944	-	28,601,600		-	1.0x	7.77%		N/A	N/A
K5 Private Investors, L.P.	125,000,000	65,353,331	59,646,669		63,834,865	8.00%		1.1x		N/A	N/A	N/A
Siris Partners IV, L.P.	50,000,000	11,608,871	42,045,012	5,950,309	57,633,628	18.95%	0.1x		7.18%	16.44%	N/A	N/A
TA XI, L.P.	75,000,000	1,125,000	74,408,394	259,907,525	20,100,666	26.85%	3.5x		(32.64%)	100.36%	59.66%	30.96%
Thomas H. Lee Equity Fund IV, L.P.	75,000,000	-	67,649,892	58,756,719	-	(2.61%)	0.9x		N/A	N/A	N/A	N/A
Vista Equity Partners Fund IV, L.P.	75,000,000	11,020,891	78,387,703	98,582,738	51,834,837	14.55%	1.3x		(13.71%)	0.58%	2.16%	15.18%
WCAS XIV, L.P.	150,000,000	145,342,309	4,657,691	-	1,122,889	N/A	-	0.2x	N/A	N/A	N/A	N/A
Welsh, Carson, Anderson & Stowe VIII, L.P.	50,000,000	-	50,000,000	64,408,409	-	3.12%	1.3x		N/A	N/A	N/A	26.06%
Welsh, Carson, Anderson & Stowe X, L.P.	100,000,000	-	98,683,200	169,925,675	-	8.33%	1.7x		N/A	N/A	16.82%	19.18%
Welsh, Carson, Anderson & Stowe XI, L.P.	100,000,000	-	100,000,000	161,464,441	6,977,972	11.71%	1.6x	1.7x	1.34%	6.70%	4.12%	12.28%
Welsh, Carson, Anderson & Stowe XII, L.P.	100,000,000	2,748,067	98,626,500	138,635,353	97,556,030	30.48%	1.4x	2.4x	(3.88%)	31.01%	31.71%	N/A
Buyout - Large Total	\$2,351,077,897	\$612,330,416	\$1,857,526,534	\$2,108,919,063	\$834,582,813	7.30%	1.1x	1.6x	(6.14%)	21.39%	23.92%	21.24%
Buyout - Mega												
Apollo Investment Fund IX, L.P.	\$125,000,000	\$39,598,125	\$109,207,478	\$37,462,231	\$112,594,528	23.03%	0.3x	1.4x	17.81%	28.57%	23.03%	N/A
Apollo Investment Fund VIII, L.P.	125,000,000	14,092,178	132,008,752	138,400,453	51,159,663	9.80%	1.0x	1.4x	(15.18%)	5.35%	4.55%	N/A
Clearlake Capital Partners VII, L.P.	125,000,000	73,713,822	51,286,178	3,043	49,975,096	(3.41%)	0.0x	1.0x	(4.95%)	N/A	N/A	N/A
EQT VIII SCSP	81,031,847	12,536,417	76,088,690	46,700,009	92,797,958	28.46%	0.6x	1.8x	(15.61%)	29.57%	N/A	N/A
KKR 1996 Fund, LP	50,000,000	-	52,825,492	86,451,946	-	10.21%	1.6x	1.6x	N/A	N/A	N/A	N/A
KKR 2006 Fund, L.P.	125,000,000	2,239,416	134,462,249	237,267,655	609,930	8.54%	1.8x	1.8x	(5.59%)	2.21%	17.97%	12.87%
KKR Millennium Fund, L.P.	100,000,000	-	102,609,690	212,467,483	80,946	16.36%	2.1x		0.00%	0.00%	17.81%	18.22%
Thomas H. Lee Equity Fund VI, L.P.	100,000,000		104,043,318	166,950,600	-	7.84%	1.6x	1.6x	N/A	23.11%	8.73%	12.80%
Vista Equity Partners Fund VI, L.P.	100,000,000	10,599,366	125,633,439	103,890,154	141,770,936	19.34%		2.0x	(8.94%)	21.02%	21.87%	N/A

## Performance Summary by Strategy and Substrategy

			Connecticut Port	folio								
	Perf		ary by Client Strate	egy and Client Subs	strategy							
		а	s of December 31	·					4 1/0	0.1/0	5 VD	10 1/10
(USD in Millions)	Capital Committed	Unfunded	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI	1-YR IRR	3-YR IRR	5-YR IRR	10-YR IRR
Vista Equity Partners Fund VII, L.P.	100,000,000	19,639,475	81,205,657	917,806	104,552,006	11.68%		1.3x	(8.68%)	13.91%	N/A	N/A
Vista Equity Partners Fund VIII, L.P.	200,000,000	200,000,000	-	-	(1,776,557)	N/A	-	-	N/A	N/A	N/A	N/A
Buyout - Mega Total	\$1,231,031,847	\$372,418,799	\$969,370,943	\$1,030,511,380	\$551,764,506	11.65%	1.1x	1.6x	(6.94%)	17.21%	15.62%	14.71%
Buyout - Middle-Market												
Altaris Health Partners V, L.P.	\$100,000,000	\$50,425,643	\$49,474,437	-	\$51,856,648	4.98%	-	1.0x	5.71%	N/A	N/A	N/A
Bregal Sagemount IV L.P.	125,000,000	118,982,308	6,070,370	-	3,915,346	(35.50%)	-	0.6x	N/A	N/A	N/A	N/A
Compass Partners European Equity Fund, L.P. (USD)	150,000,000	-	149,765,817	\$260,307,780	-	9.74%	1.7x	1.7x	N/A	N/A	N/A	56.87%
Ethos Private Equity Fund V, L.P.	50,000,000	-	59,935,735	64,285,012	1,742,858	2.16%	1.1x	1.1x	(21.38%)	(10.41%)	(12.24%)	(0.13%)
FS Equity Partners V, L.P.	75,000,000	14,503,532	60,583,588	121,830,595	5,846,556	15.32%	2.0x	2.1x	(5.83%)	(3.77%)	4.08%	3.84%
FS Equity Partners VI, L.P.	75,000,000	515,933	74,498,449	212,914,508	35,940,825	23.44%	2.9x	3.3x	(16.78%)	18.30%	8.19%	29.87%
Green Equity Investors III, LP	25,000,000	-	22,758,400	53,908,814	-	21.58%	2.4x	2.4x	N/A	N/A	N/A	85.49%
Hg Genesis 9 L.P.	60,496,524	21,586,328	49,178,624	10,268,428	44,535,574	14.84%	0.2x	1.1x	(9.01%)	N/A	N/A	N/A
JFL Equity Investors V, L.P.	100,000,000	21,501,725	78,498,275	-	97,436,250	15.04%	-	1.2x	26.39%	15.04%	N/A	N/A
Kelso Investment Associates VI, L.P.	50,000,000	-	42,478,505	59,211,684	-	9.31%	1.4x	1.4x	N/A	N/A	N/A	N/A
Livingbridge 7	126,621,389	53,965,404	72,655,985	251,464	66,252,874	(7.65%)	0.0x	0.9x	(2.73%)	N/A	N/A	N/A
One Rock Capital Partners III, L.P.	125,000,000	54,134,643	83,483,972	12,796,274	90,880,149	27.48%	0.2x	1.2x	9.51%	N/A	N/A	N/A
Private Equity Partners Connecticut LP	90,000,000	-	86,469,826	106,782,368	-	4.53%	1.2x	1.2x	N/A	N/A	N/A	(10.07%)
Reverence Capital Partners Opportunities Fund V (PE Fund III), L.P.	100,000,000	74,683,986	25,514,084	-	23,822,682	(6.63%)	-	0.9x	N/A	N/A	N/A	N/A
Thayer Equity Investors IV, L.P.	53,500,000	-	55,254,084	39,635,108	-	(4.55%)	0.7x	0.7x	N/A	N/A	N/A	(27.10%)
Veritas Capital Fund, L.P.	125,000,000	-	125,435,409	321,662,707	-	26.87%	2.6x		N/A	N/A	N/A	N/A
Vista Equity Partners Fund III, L.P.	50,000,000	3,850,531	54,203,607	127,765,994	3,791,543	27.82%	2.4x		(26.05%)	(7.73%)	(15.77%)	9.69%
Vistria Fund IV, LP	150,000,000	42,033,433	110,080,797	2,114,230	111,718,036	5.31%		1.0x	7.17%	N/A	N/A	N/A
Washington & Congress Capital Partners, LP	145,000,000	-	142,274,864	116,067,908	-	(5.85%)	0.8x		N/A	N/A	N/A	N/A
WCAS XIII. L.P.	125,000,000	18,027,189	106,986,753	40,167,654	105,896,369	26.95%		1.4x	15.13%	31.96%	N/A	N/A
Wellspring Capital Partners V, L.P.	75,000,000	26,291,578	86,074,138	121,378,334	23,380,282	16.05%	1.4x		8.76%	18.83%	10.60%	19.53%
Wellspring Capital Partners VI, L.P.	75,000,000	8,017,965	73,733,038	16,692,411	100,283,089	22.54%	0.2x		11.15%	29.29%	N/A	N/A
Yucaipa American Alliance Fund II, L.P.	75,000,000	77	104,214,590	112,531,523	57,315,353	7.79%	1.1x		(12.44%)	0.87%	7.36%	2.80%
Buyout - Middle-Market Total	\$2,125,617,913	\$508,520,275	\$1,719,623,347	\$1,800,572,796	\$824,614,434	11.19%		1.5x	4.77%	14.10%	10.70%	13.54%
Buyout - Small	\$2,120,017,910	\$300,320,273	\$1,719,020,047	\$1,000,072,790	\$624,014,454	11.1970	1.07	1.08	4.7770	14.10%	10.70%	13.54%
Altaris Constellation Partners IV, L.P.	\$10,000,000	\$560,365	\$10,158,214	\$7,106,739	\$9,525,599	22.49%	0.7x	1.6x	(12.36%)	22.12%	22.49%	N/A
Altaris Health Partners II, L.P.	40,000,000	5,567,183	45,574,376	99,451,134	544,657	25.18%	2.2x		(59.22%)	(29.64%)	8.32%	29.92%
Altaris Health Partners III, L.P.	50,000,000	143,701	58,249,349	73,089,196	65,812,550	27.85%	1.3x		8.62%	23.82%	25.21%	N/A
Altaris Health Partners IV, L.P.	40,000,000	3,582,868	39,098,341	39,926,101	29,595,121	27.37%		1.8x	(7.42%)	29.17%	27.37%	N/A
Altaris Health Partners, L.P.	40,000,000	-	40,447,923	69,318,557	-	13.31%		1.7x	(7.42%) N/A	N/A	N/A	6.12%
Avance Investment Partners, L.P.	100,000,000	73,793,701	28,986,161	3,148,184	26,231,643	1.27%		1.0x	0.79%	N/A	N/A	0.12% N/A
Boston Ventures VII, L.P.	75,000,000	12,388,419	65,028,749	74,798,645	2,116,174	3.02%		1.0x 1.2x	(48.94%)	(38.78%)	(22.80%)	(5.77%)
Candover 2008 Fund, L.P.	12,848,728	12,000,419			۷,110,174			0.1x	(48.94%) N/A	(38.78%) N/A		
,		-	14,407,641	1,649,710	-	(70.49%) 18.03%		0.1x 2.7x			(48.13%)	(72.11%)
Carlyle Asia Partners, L.P.	50,000,000	-	52,906,606	143,995,264	-				N/A	N/A	N/A	20.70%
Charterhouse Equity Partners IV, L.P.	74,851,593	150,000,000	85,759,969	137,801,206	-	9.21%	1.6x		N/A	N/A	(80.28%)	4.22%
CRPTF-GCM Emerging Manager Private Equity Partnership L.P.	150,000,000	150,000,000	-	- 0.100.007	1.650.400	N/A	-	-	N/A	N/A	N/A	N/A
CT Horizon Legacy Fund, L.P.	15,000,000	2,489,461	14,024,943	9,103,297	1,650,428	(4.27%)	0.6x		(5.74%)	(11.95%)	1.98%	(5.51%)
Freeman CT Horizon Investment Fund, LLC	50,000,000	22,556,760	29,936,198	3,824,819	37,998,360	19.85%	U.TX	1.4x	1.75%	21.97%	N/A	N/A

## Performance Summary by Strategy and Substrategy

	Peri	Connecticut Portfolio Performance Summary by Client Strategy and Client Substrategy as of December 31, 2022										
(USD in Millions)	Capital Committed	Unfunded	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI	1-YR IRR	3-YR IRR	5-YR IRR	10-YR IRR
GenNx360 Capital Partners II	25,000,000	924,170	30,233,300	33,086,990	22,259,181	15.39%	1.1x	1.8x	14.33%	15.21%	11.74%	N/A
ICV Partners II, L.P.	40,000,000	-	43,550,290	71,645,080	-	11.79%	1.6x	1.6x	9.15%	(48.72%)	(56.03%)	15.99%
J.F. Lehman Equity Investors III, L.P.	49,000,000	6,533,942	49,255,274	59,214,646	26,127,787	11.43%	1.2x	1.7x	2.44%	3.07%	9.24%	14.71%
J.F. Lehman Equity Investors IV, L.P.	75,000,000	1,820,972	74,508,217	169,906,791	21,537,364	40.27%	2.3x	2.6x	13.64%	37.26%	45.46%	N/A
Leeds Equity Partners V, L.P.	40,000,000	5,448,220	50,137,652	105,201,194	4,026,384	18.94%	2.1x	2.2x	(11.88%)	1.69%	24.95%	22.21%
Leeds Equity Partners VI, L.P.	75,000,000	4,429,872	79,371,023	61,682,478	102,944,587	24.39%	0.8x	2.1x	22.73%	28.34%	26.95%	N/A
Leeds Equity Partners VII, LP	125,000,000	93,449,502	31,550,733	3,873	44,584,516	57.66%	0.0x	1.4x	25.03%	N/A	N/A	N/A
M2 - Connecticut Emerging Private Equity Fund-of-Funds, L.P.	105,000,000	6,143,867	113,743,149	145,476,164	11,004,085	6.80%	1.3x	1.4x	26.94%	(2.98%)	3.29%	8.19%
Nogales Investors Fund II, L.P.	14,760,000	-	14,413,108	1,594,342	-	(24.07%)	0.1x	0.1x	N/A	N/A	(42.01%)	(37.86%
Nutmeg Opportunities Fund II LLC - CT-Direct Investment	50,000,000	50,000,000	-	-	-	N/A	-	-	N/A	N/A	N/A	N/A
Nutmeg Opportunities Fund II LLC - EM	35,000,000	6,323,144	30,932,942	16,957,520	41,664,106	20.74%	0.5x	1.9x	1.55%	23.45%	22.40%	N/A
Nutmeg Opportunities Fund II LLC - SMMBF	65,000,000	-	82,188,647	15,003,157	93,660,732	15.41%		1.3x	(6.23%)	16.11%	15.41%	N/A
Nutmeg Opportunities Fund L.P. CT - EM	35,000,000	17,392,789	20,012,999	14,393,878	39,556,068	13.32%		2.7x	6.50%	12.72%	13.67%	14.35%
Nutmeg Opportunities Fund L.P. CT - SMMBF	75,000,000	24,567,906	65,142,385	90,345,248	45,847,880	15.00%		2.1x	8.73%	20.46%	18.17%	15.28%
RFE Investment Partners VI, L.P.	30,000,000	-	26,340,276	60,911,055	-	15.07%		2.3x	N/A	N/A	N/A	N/A
RFE Investment Partners VII, L.P.	40,000,000	327,148	39,765,243	61,590,853	7,251,237	7.95%		1.7x	8.00%	8.01%	1.08%	8.41%
RFE Investment Partners VIII, L.P.	40,000,000	-	40,676,860	60,122,895	-	8.11%		1.5x	(48.55%)	3.62%	7.15%	9.00%
Triumph Capital II	7,215,028	-	7,215,028	2,998,844	-	(25.10%)		0.4x	N/A	N/A	N/A	N/A
Vistria Fund III, LP	75,000,000	8,752,145	66,247,855	2,330,044	89,637,684	18.31%	- -	1.4x	7.94%	18.31%	N/A	N/A
Wellspring Capital Partners II, L.P.	50,000,000	-	49,740,657	75,087,114	-	19.95%		1.5x	N/A	N/A	N/A	N/A
Wellspring Capital Partners III, L.P.	75,000,000	-	74,248,215	161,845,142	-	27.33%		2.2x	N/A	N/A	(13.36%)	0.97%
Yucaipa American Alliance Fund III, L.P.	39,250,000	3,858,485	40,408,915	14,874,163		8.52%		1.4x	(2.22%)	11.62%	10.49%	0.97 % N/A
	\$1.872.925.349	\$501.054.620	\$1.514.261.238	\$1.885.154.279	40,027,263 \$763.603.406	14.52%		1.7x	5.72%	17.38%	17.34%	13.74%
Buyout - Small Total  Buyout Total	\$7,580,653,006	\$1,994,324,110		\$6.825.157.518	\$2,974,565,159	10.02%		1.7x 1.6x	(0.75%)	17.36%	17.52%	15.74%
Co-Investment Co-Investment - Buyout												
Harbour / (act CT Co Investment Fund I D	\$750,000,000	\$639,750,000	\$110,250,000		\$109,612,521	(0.75%)	-	1.0x	N/A	N/A	N/A	N/A
HarbourVest CT Co-Investment Fund L.P.	Q7 00,000,000	00000,700,000	\$110,230,000	-	Q103,012,021	, ,				N/A	N/A	
	\$750,000,000	\$639,750,000	\$110,250,000	-	\$109,612,521	(0.75%)	-	1.0x		IN/ A	11/7	N/A
Co-Investment - Buyout Total						,	-	1.0x 1.0x		N/A N/A	N/A	N/A N/A
Co-Investment - Buyout Total Co-Investment Total	\$750,000,000	\$639,750,000	\$110,250,000	-	\$109,612,521	(0.75%)						
Co-Investment - Buyout Total Co-Investment Total Distressed/Restructuring	\$750,000,000	\$639,750,000	\$110,250,000	-	\$109,612,521	(0.75%)						
Co-Investment - Buyout Total Co-Investment Total  Distressed/Restructuring Distressed/Restructuring - Distressed/Restructuring	\$750,000,000	\$639,750,000	\$110,250,000	-	\$109,612,521	(0.75%)	-		(11.22%)			
Co-Investment - Buyout Total  Co-Investment - Buyout Total  Co-Investment Total  Distressed/Restructuring  Distressed/Restructuring - Distressed/Restructuring  Castlelake Fund II, L.P.  Clearlake Capital Partners III, L.P.	\$750,000,000 \$750,000,000	\$639,750,000 \$639,750,000	\$110,250,000 \$110,250,000	:	\$109,612,521 \$109,612,521	(0.75%)	-	1.0x 1.4x	(11.22%) 6.16%	N/A	N/A	N/A
Co-Investment - Buyout Total  Co-Investment Total  Distressed/Restructuring  Distressed/Restructuring - Distressed/Restructuring  Castlelake Fund II, L.P.	\$750,000,000 \$750,000,000 \$50,000,000	\$639,750,000 \$639,750,000 \$3,750,659	\$110,250,000 \$110,250,000 \$46,663,983	- - \$46,936,031	\$109,612,521 \$109,612,521 \$16,754,016	(0.75%) (0.75%)	1.0x 2.8x	1.0x 1.4x	,	N/A 1.23%	N/A (2.46%)	N/A 5.29%
Co-Investment - Buyout Total  Co-Investment Total  Distressed/Restructuring  Distressed/Restructuring - Distressed/Restructuring  Castlelake Fund II, L.P.  Clearlake Capital Partners III, L.P.	\$750,000,000 \$750,000,000 \$50,000,000 40,000,000	\$639,750,000 \$639,750,000 \$3,750,659 22,306,903	\$110,250,000 \$110,250,000 \$46,663,983 56,907,144	\$46,936,031 160,480,066	\$109,612,521 \$109,612,521 \$16,754,016 2,622,935	(0.75%) (0.75%) 5.60% 40.69%	1.0x 2.8x 1.3x	1.0x 1.4x 2.9x	6.16%	N/A 1.23% 30.90%	N/A (2.46%) 47.04%	5.29% 40.89% N/A
Co-Investment - Buyout Total  Co-Investment Total  Distressed/Restructuring  Distressed/Restructuring - Distressed/Restructuring  Castlelake Fund II, L.P.  Clearlake Capital Partners III, L.P.  Clearlake Capital Partners IV, L.P.	\$750,000,000 \$750,000,000 \$50,000,000 40,000,000 50,000,000	\$639,750,000 \$639,750,000 \$3,750,659 22,306,903	\$110,250,000 \$110,250,000 \$46,663,983 56,907,144 77,872,466	\$46,936,031 160,480,066 103,582,782	\$109,612,521 \$109,612,521 \$16,754,016 2,622,935 42,867,028	(0.75%) (0.75%) 5.60% 40.69% 26.35%	1.0x 2.8x 1.3x 3.5x	1.0x 1.4x 2.9x 1.9x	6.16% (13.98%) N/A	1.23% 30.90% 17.02%	N/A (2.46%) 47.04% 23.18%	5.29% 40.89% N/A 26.96%
Co-Investment - Buyout Total  Co-Investment Total  Distressed/Restructuring  Distressed/Restructuring - Distressed/Restructuring  Castlelake Fund II, L.P.  Clearlake Capital Partners III, L.P.  Clearlake Capital Partners IV, L.P.  KPS Special Situations Fund II, L.P.  Pegasus Partners IV, L.P.	\$750,000,000 \$750,000,000 \$50,000,000 40,000,000 50,000,000 35,000,000 75,000,000	\$639,750,000 \$639,750,000 \$3,750,659 22,306,903 18,326,526	\$110,250,000 \$110,250,000 \$46,663,983 56,907,144 77,872,466 30,695,687 94,582,353	\$46,936,031 160,480,066 103,582,782 108,461,633 70,134,362	\$109,612,521 \$109,612,521 \$16,754,016 2,622,935 42,867,028 - 10,428,360	(0.75%) (0.75%) 5.60% 40.69% 26.35% 63.45% (2.99%)	1.0x 2.8x 1.3x 3.5x 0.7x	1.0x 1.4x 2.9x 1.9x 3.5x 0.9x	6.16% (13.98%) N/A (12.88%)	1.23% 30.90% 17.02% N/A (10.18%)	(2.46%) 47.04% 23.18% N/A (8.88%)	5.29% 40.89% N/A 26.96% (10.68%
Co-Investment - Buyout Total  Co-Investment Total  Distressed/Restructuring  Distressed/Restructuring - Distressed/Restructuring  Castlelake Fund II, L.P.  Clearlake Capital Partners III, L.P.  Clearlake Capital Partners IV, L.P.  KPS Special Situations Fund II, L.P.	\$750,000,000 \$750,000,000 \$50,000,000 40,000,000 50,000,000 35,000,000	\$639,750,000 \$639,750,000 \$3,750,659 22,306,903 18,326,526	\$110,250,000 \$110,250,000 \$46,663,983 56,907,144 77,872,466 30,695,687	\$46,936,031 160,480,066 103,582,782 108,461,633	\$109,612,521 \$109,612,521 \$16,754,016 2,622,935 42,867,028	(0.75%) (0.75%) 5.60% 40.69% 26.35% 63.45%	1.0x 2.8x 1.3x 3.5x 0.7x 0.8x	1.0x 1.4x 2.9x 1.9x 3.5x	6.16% (13.98%) N/A	1.23% 30.90% 17.02% N/A	(2.46%) 47.04% 23.18% N/A	N/A 5.29% 40.89%

# Performance Summary by Strategy and Substrategy

	Perf		Connecticut Port	folio egy and Client Sub	strategy							
			s of December 31	~,	on acogy							
(USD in Millions)	Capital Committed	Unfunded	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI	1-YR IRR	3-YR IRR	5-YR IRR	10-Y IRF
WLR Recovery Fund IV, L.P.	100,000,000	3,443,659	90,823,160	122,102,873	61,445	7.32%	1.3x	1.3x	4.47%	(25.86%)	(7.46%)	9.18
Distressed/Restructuring - Distressed/Restructuring Total	\$650,000,000	\$177,333,580	\$586,936,831	\$669,037,862	\$232,254,006	14.46%	1.1x	1.5x	(4.49%)	5.69%	9.03%	10.1
Distressed/Restructuring Total	\$650,000,000	\$177,333,580	\$586,936,831	\$669,037,862	\$232,254,006	14.46%	1.1x	1.5x	(4.49%)	5.69%	9.03%	10.11
Growth Equity												
Growth Equity - Growth Equity												
Aldrich Capital Partners Fund II Co-Investment, LP	\$27,500,000	\$16,240,942	\$11,259,058	-	\$9,903,569	(12.16%)	-	0.9x	(12.56%)	N/A	N/A	N/A
Aldrich Capital Partners Fund II, LP	47,500,000	42,032,612	5,467,388	-	2,606,141	(99.98%)	-	0.5x	536.00%	N/A	N/A	N/A
Aldrich Capital Partners Fund, L.P.	50,000,000	945,741	49,402,154	-	68,911,442	13.86%	-	1.4x	0.87%	9.93%	N/A	N/A
Georgian Alignment Fund II, LP	50,000,000	25,370,728	24,629,272	\$8,248	29,766,425	36.52%	0.0x	1.2x	N/A	N/A	N/A	N/A
Georgian Growth Fund VI, LP	100,000,000	70,438,354	29,573,563	19,021	28,804,463	(3.97%)	0.0x	1.0x	N/A	N/A	N/A	N/A
Georgian Partners Growth Fund V, L.P.	75,000,000	8,586,214	72,470,511	6,042,508	126,371,583	40.33%	0.1x	1.8x	5.91%	40.33%	N/A	N/A
Growth Equity - Growth Equity Total	\$350,000,000	\$163,614,591	\$192,801,946	\$6,069,777	\$266,363,623	24.38%	0.0x	1.4x	4.04%	23.38%	N/A	N/A
Growth Equity Total	\$350,000,000	\$163,614,591	\$192,801,946	\$6,069,777	\$266,363,623	24.38%	0.0x	1.4x	4.04%	23.38%	N/A	N/A
Mezzanine												
Mezzanine - Mezzanine												
Forstmann Little Sub. D&E MBO VII, LP	\$130,000,000	-	\$137,789,972	\$48,231,034	-	(25.57%)	0.4x	0.4x	N/A	N/A	N/A	N/A
Garmark Partners II, L.P.	75,000,000	-	106,264,618	137,009,755	-	9.14%	1.3x	1.3x	N/A	(29.87%)	11.46%	3.99
GarMark Partners, L.P.	75,000,000	-	71,960,328	105,570,183	-	9.60%	1.5x	1.5x	N/A	N/A	N/A	42.12
ICG Europe Fund VII, L.P.	85,215,895	\$15,396,230	82,621,204	39,935,605	\$76,073,459	17.00%	0.5x	1.4x	1.90%	15.02%	N/A	N/A
ICG Europe Fund VIII SCSp	162,583,672	130,824,683	31,758,989	625,951	33,112,938	6.80%	0.0x	1.1x	10.53%	N/A	N/A	N/A
Insight Partners Opportunities Fund I, L.P.	75,000,000	9,375,000	65,625,000	-	71,782,568	7.86%	-	1.1x	3.10%	N/A	N/A	N/A
Levine Leichtman Capital Partners IV, L.P.	75,000,000	13,696,960	74,669,737	121,619,054	6,619,762	17.68%	1.6x	1.7x	(11.03%)	(0.12%)	(12.08%)	8.989
Levine Leichtman Capital Partners V, L.P.	75,000,000	11,011,974	114,824,089	175,241,506	35,813,541	17.32%	1.5x	1.8x	9.64%	31.72%	22.36%	N/A
S.W. Pelham Fund II, LP	20,000,000	-	21,892,148	26,131,624	-	6.53%	1.2x	1.2x	N/A	N/A	N/A	N/A
S.W. Pelham Fund, LP	50,000,000	-	52,859,693	21,812,365	-	(15.02%)	0.4x	0.4x	N/A	N/A	N/A	(0.979
Triumph Conn Ltd Partnership	130,000,000	-	129,744,323	138,693,628	-	2.70%		1.1x	N/A	N/A	N/A	N/A
WCAS Capital Partners III, L.P.	100,000,000	-	100,000,000	174,638,566	-	13.03%	1.7x		N/A	N/A	N/A	10.95
Mezzanine - Mezzanine Total	\$1,052,799,567	\$180,304,847	\$990,010,101	\$989,509,271	\$223,402,268	4.37%		1.2x	4.48%	19.03%	15.50%	12.30
Mezzanine Total	\$1,052,799,567	\$180,304,847	\$990,010,101	\$989,509,271	\$223,402,268	4.37%	1.0x	1.2x	4.48%	19.03%	15.50%	12.30
Multi-Strategy												
Multi-Strategy - Multi-Strategy												
GCM Grosvenor - CT Cleantech Opportunities Fund LP	\$25,000,000	-	\$28,080,252	\$11,434,565	-	(13.52%)	0.4x	0.4x	(11.22%)	(24.51%)	(16.50%)	(14.58
Greenwich Street Capital Partners II, L.P.	50,000,000	-	53,072,178	53,435,934	-	0.12%	1.0x		N/A	N/A	N/A	(9.29
PineBridge Global Emerging Markets Partners, L.L.C	85,168,457	\$2,354,066	82,950,178	109,550,524	\$1,672,639	7.04%	1.3x		(0.40%)	(0.20%)	(0.15%)	(2.66
Stepstone Pioneer Capital I, L.P.	55,000,000	-	57,865,297	75,790,425	-	5.07%	1.3x		N/A	N/A	1.27%	2.57
Stepstone Pioneer Capital II, L.P.	175,000,000	-	189,026,577	258,133,232	-	4.92%		1.4x	N/A	(6.64%)	(15.28%)	8.29
Multi-Strategy - Multi-Strategy Total	\$390,168,457	\$2,354,066	\$410,994,482	\$508,344,680	\$1,672,639	3.86%		1.2x	(3.13%)	(10.95%)	(14.20%)	
Multi-Strategy Total	\$390,168,457	\$2,354,066	\$410,994,482	\$508,344,680	\$1,672,639	3.86%		1.2x	(3.13%)	(10.95%)	(14.20%)	5.49

# Performance Summary by Strategy and Substrategy

Connecticut Portfolio Performance Summary by Client Strategy and Client Substrategy as of December 31, 2022													
(USD in Millions)	Capital Committed	Unfunded	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI	1-YR IRR	3-YR IRR	5-YR IRR	10-YR IRR	
Secondaries													
Secondaries - Secondaries													
Dover Street X, L.P.	\$100,000,000	\$36,750,000	\$63,250,000	\$21,916,249	\$74,493,724	38.72%	0.3x	1.5x	3.79%	35.25%	N/A	N/A	
Hollyport Secondary (Overage Fund) LP	50,000,000	55,135,454	1,250,000	-	1,343,915	34.63%	-	1.1x	N/A	N/A	N/A	N/A	
Hollyport Secondary Opportunities Fund VII LP	75,000,000	22,500,000	52,588,459	7,087,500	82,776,717	31.75%	0.1x	1.7x	(13.60%)	31.75%	N/A	N/A	
Hollyport Secondary Opportunities VIII LP	125,000,000	109,375,000	15,625,000	-	25,566,945	159.45%	-	1.6x	N/A	N/A	N/A	N/A	
Landmark Equity CT Co-Investment Fund I, L.P.	50,000,000	44,015,000	5,985,000	-	5,984,827	(0.00%)	-	1.0x	N/A	N/A	N/A	N/A	
Landmark Equity Partners XIV, L.P.	100,000,000	2,637,660	98,080,368	123,546,083	7,777,588	9.51%	1.3x	1.3x	(2.28%)	6.52%	4.34%	5.47%	
Landmark Equity Partners XV, L.P.	100,000,000	19,726,559	80,275,284	92,796,326	21,267,228	12.02%	1.2x	1.4x	(10.88%)	9.49%	8.86%	N/A	
Landmark Equity Partners XVI, L.P.	100,000,000	42,793,344	65,026,851	39,578,802	54,549,802	23.75%	0.6x	1.4x	(10.47%)	18.37%	25.58%	N/A	
Landmark Equity Partners XVII, L.P.	100,000,000	89,991,300	10,008,700	-	6,755,002	(32.50%)	-	0.7x	N/A	N/A	N/A	N/A	
Landmark Primary Partners, L.P.	140,000,000	-	137,133,640	170,018,236	-	3.72%	1.2x	1.2x	N/A	N/A	N/A	(3.40%)	
Lexington Capital Partners II, L.P.	40,000,000	-	39,525,549	52,568,204	-	8.17%	1.3x	1.3x	N/A	N/A	N/A	2.18%	
Secondary Overflow Fund IV L.P.	100,000,000	36,071,477	64,966,647	15,361,895	67,878,354	25.12%	0.2x	1.3x	(1.09%)	24.82%	N/A	N/A	
Secondaries - Secondaries Total	\$1,080,000,000	\$458,995,794	\$633,715,498	\$522,873,295	\$348,394,102	7.62%	0.8x	1.4x	(4.31%)	22.27%	19.49%	12.91%	
Secondaries Total	\$1,080,000,000	\$458,995,794	\$633,715,498	\$522,873,295	\$348,394,102	7.62%	0.8x	1.4x	(4.31%)	22.27%	19.49%	12.91%	
Special Situations													
Special Situations - Multi-Strategy													
Clearlake Flagship Plus Partners, L.P.	\$100,000,000	\$29,974,922	\$85,861,020	\$18,485,802	\$75,906,130	10.88%	0.2x	1.1x	(5.12%)	N/A	N/A	N/A	
Special Situations - Multi-Strategy Total	\$100,000,000	\$29,974,922	\$85,861,020	\$18,485,802	\$75,906,130				,				
						10.88%	- U.2X	- I.IX	(5.12%)	N/A	N/A	N/A	
Special Situations Total	\$100,000,000	\$29,974,922	\$85,861,020	\$18,485,802	\$75,906,130	10.88% 10.88%		1.1x 1.1x	(5.12%) (5.12%)	N/A N/A	N/A N/A	N/A N/A	
	\$100,000,000	\$29,974,922											
Venture Capital	\$100,000,000	\$29,974,922											
Venture Capital Venture Capital - Early-Stage			\$85,861,020	\$18,485,802		10.88%	0.2x	1.1x	(5.12%)	N/A	N/A	N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP	\$49,583,271	\$29,974,922 - -	\$85,861,020 \$49,583,271	\$18,485,802 \$10,367,734	\$75,906,130	(20.11%)	0.2x 0.2x	1.1x 0.2x	(5.12%)	N/A	N/A	N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP	\$49,583,271 40,000,000		\$85,861,020 \$49,583,271 40,000,000	\$18,485,802 \$10,367,734 11,317,103	\$75,906,130 - -	(20.11%) (29.15%)	0.2x 0.2x 0.3x	0.2x 0.3x	(5.12%) N/A N/A	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.	\$49,583,271 40,000,000 640,000,552		\$85,861,020 \$49,583,271 40,000,000 532,763,501	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212	\$75,906,130 - - \$3,768,816	(20.11%) (29.15%) 20.10%	0.2x 0.2x 0.3x 2.6x	0.2x 0.3x 2.6x	N/A N/A (1.12%)	N/A N/A N/A (6.65%)	N/A N/A N/A (22.75%)	N/A N/A N/A (0.55%)	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.	\$49,583,271 40,000,000 640,000,552 36,825,000	- - -	\$85,861,020 \$49,583,271 40,000,000 532,763,501 36,824,862	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397	\$75,906,130 - -	(20.11%) (29.15%) 20.10% (13.01%)	0.2x 0.2x 0.3x 2.6x 0.6x	0.2x 0.3x 2.6x 0.5x	N/A N/A (1.12%) 0.00%	N/A N/A N/A (6.65%)	N/A N/A N/A (22.75%) N/A	N/A N/A N/A (0.55%) N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000	- - - -	\$85,861,020 \$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666	\$75,906,130 - - \$3,768,816 (1,214,212)	(20.11%) (29.15%) 20.10% (13.01%) (5.48%)	0.2x 0.2x 0.3x 2.6x 0.6x 0.8x	0.2x 0.3x 2.6x 0.5x 0.8x	N/A N/A N/A (1.12%) 0.00% N/A	N/A N/A N/A (6.65%) 0.00% N/A	N/A N/A N/A (22.75%) N/A N/A	N/A N/A N/A (0.55%) N/A N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000	- - - - -	\$85,861,020 \$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 50,000,000	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322	\$75,906,130 - - \$3,768,816	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%)	0.2x 0.2x 0.3x 2.6x 0.6x 0.8x 1.0x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x	N/A N/A (1.12%) 0.00% N/A N/A	N/A N/A N/A (6.65%) 0.00% N/A N/A	N/A N/A N/A (22.75%) N/A N/A	N/A N/A N/A (0.55%) N/A N/A (30.58%)	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.  Keystone Venture V, L.P.	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000 27,500,000	- - - - - -	\$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 50,000,000 27,500,000	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322 1,985,505	\$75,906,130 - - \$3,768,816 (1,214,212)	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%) (33.45%)	0.2x 0.3x 2.6x 0.6x 0.8x 1.0x 0.1x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x 0.1x	N/A N/A (1.12%) 0.00% N/A N/A N/A	N/A N/A N/A (6.65%) 0.00% N/A N/A	N/A N/A N/A (22.75%) N/A N/A N/A	N/A N/A (0.55%) N/A N/A (30.58%) N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.  Keystone Venture V, L.P.  Pioneer Ventures Associates LP	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000 27,500,000 50,000,000	- - - - -	\$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 50,000,000 27,500,000 49,976,129	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322 1,985,505 21,723,214	\$75,906,130 - - \$3,768,816 (1,214,212) - - -	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%) (33.45%) (13.46%)	0.2x 0.3x 2.6x 0.6x 0.8x 1.0x 0.1x 0.4x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x 0.1x 0.4x	N/A N/A (1.12%) 0.00% N/A N/A N/A	N/A N/A N/A (6.65%) 0.00% N/A N/A N/A	N/A N/A N/A (22.75%) N/A N/A N/A N/A	N/A N/A (0.55%) N/A N/A (30.58%) N/A N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.  Keystone Venture V, L.P.  Pioneer Ventures Associates LP  Venture Capital - Early-Stage Total	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000 27,500,000	- - - - - - -	\$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 50,000,000 27,500,000	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322 1,985,505	\$75,906,130 - - \$3,768,816 (1,214,212)	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%) (33.45%)	0.2x 0.3x 2.6x 0.6x 0.8x 1.0x 0.1x 0.4x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x 0.1x	N/A N/A (1.12%) 0.00% N/A N/A N/A	N/A N/A N/A (6.65%) 0.00% N/A N/A	N/A N/A N/A (22.75%) N/A N/A N/A	N/A N/A (0.55%) N/A N/A (30.58%) N/A N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.  Keystone Venture V, L.P.  Pioneer Ventures Associates LP  Venture Capital - Early-Stage Total  Venture Capital - Late-Stage	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000 27,500,000 50,000,000 \$993,908,823	- - - - - - -	\$85,861,020 \$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 50,000,000 27,500,000 49,976,129 \$886,647,763	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322 1,985,505 21,723,214 \$1,562,990,153	\$75,906,130 - - \$3,768,816 (1,214,212) - - -	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%) (33.45%) (13.46%) 14.03%	0.2x 0.2x 0.3x 2.6x 0.6x 0.8x 1.0x 0.1x 0.4x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x 0.1x 0.4x	N/A N/A (1.12%) 0.00% N/A N/A N/A (1.24%)	N/A N/A (6.65%) 0.00% N/A N/A N/A N/A (6.78%)	N/A N/A N/A (22.75%) N/A N/A N/A N/A (23.80%)	N/A N/A N/A (0.55%) N/A N/A (30.58%) N/A N/A N/A (1.01%)	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.  Keystone Venture V, L.P.  Pioneer Ventures Associates LP  Venture Capital - Early-Stage Total  Venture Capital - Late-Stage  Shawmut Equity Partners, L.P.	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000 27,500,000 50,000,000 \$993,908,823	- - - - - -	\$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 27,500,000 49,976,129 \$886,647,763	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322 1,985,505 21,723,214 \$1,562,990,153	\$75,906,130 - - \$3,768,816 (1,214,212) - - - \$2,554,604	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%) (33.45%) (13.46%) 14.03%	0.2x 0.3x 2.6x 0.6x 0.8x 1.0x 0.1x 0.4x 1.8x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x 0.1x 0.4x 1.8x	N/A N/A (1.12%) 0.00% N/A N/A N/A	N/A N/A N/A (6.65%) 0.00% N/A N/A N/A N/A (6.78%)	N/A N/A N/A (22.75%) N/A N/A N/A N/A N/A N/A N/A (23.80%)	N/A N/A N/A (0.55%) N/A N/A (30.58%) N/A N/A N/A (1.01%)	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.  Keystone Venture V, L.P.  Pioneer Ventures Associates LP  Venture Capital - Early-Stage Total  Venture Capital - Late-Stage  Shawmut Equity Partners, L.P.  Venture Capital - Late-Stage Total	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000 27,500,000 50,000,000 \$993,908,823	- - - - - -	\$85,861,020 \$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 50,000,000 27,500,000 49,976,129 \$886,647,763	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322 1,985,505 21,723,214 \$1,562,990,153	\$75,906,130 - - \$3,768,816 (1,214,212) - - - \$2,554,604	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%) (33.45%) (13.46%) 14.03%	0.2x 0.3x 2.6x 0.6x 0.8x 1.0x 0.1x 0.4x 1.8x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x 0.1x 0.4x	N/A N/A (1.12%) 0.00% N/A N/A N/A (1.24%)	N/A N/A (6.65%) 0.00% N/A N/A N/A N/A (6.78%)	N/A N/A N/A (22.75%) N/A N/A N/A N/A (23.80%)	N/A  N/A  N/A  (0.55%)  N/A  N/A  (30.58%)  N/A  N/A  (1.01%)	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.  Keystone Venture V, L.P.  Pioneer Ventures Associates LP  Venture Capital - Early-Stage Total  Venture Capital - Late-Stage  Shawmut Equity Partners, L.P.  Venture Capital - Late-Stage Total  Venture Capital - Late-Stage Total  Venture Capital - Late-Stage Total  Venture Capital - Late-Stage Total	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000 27,500,000 50,000,000 \$993,908,823 \$75,000,000 \$75,000,000		\$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 27,500,000 49,976,129 \$886,647,763 \$59,910,737	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322 1,985,505 21,723,214 \$1,562,990,153 \$87,122,324 \$87,122,324	\$75,906,130 - - \$3,768,816 (1,214,212) - - - \$2,554,604	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%) (33.45%) (13.46%) 14.03%	0.2x 0.3x 2.6x 0.6x 0.8x 1.0x 0.1x 0.4x 1.5x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x 0.1x 0.4x 1.8x	N/A N/A (1.12%) 0.00% N/A N/A N/A (1.24%)	N/A  N/A  N/A  (6.65%)  0.00%  N/A  N/A  N/A  N/A  N/A  N/A  N/A	N/A N/A N/A (22.75%) N/A N/A N/A N/A (23.80%)	N/A N/A N/A (0.55%) N/A N/A (30.58%) N/A N/A N/A N/A N/A N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.  Keystone Venture V, L.P.  Pioneer Ventures Associates LP  Venture Capital - Early-Stage Total  Venture Capital - Late-Stage  Shawmut Equity Partners, L.P.  Venture Capital - Late-Stage Total  Venture Capital - Late-Stage Total  Venture Capital - Multi-Stage  Conn Greene Ventures LP	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000 27,500,000 50,000,000 \$993,908,823 \$75,000,000 \$14,850,000	- - - - - -	\$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 27,500,000 49,976,129 \$886,647,763 \$59,910,737 \$59,910,737	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322 1,985,505 21,723,214 \$1,562,990,153 \$87,122,324 \$87,122,324 \$15,553,331	\$75,906,130 - - \$3,768,816 (1,214,212) - - - \$2,554,604	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%) (33.45%) (13.46%) 14.03%	0.2x 0.2x 0.3x 2.6x 0.6x 0.1x 0.1x 1.5x 1.5x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x 0.1x 0.4x 1.8x 1.5x 1.5x	N/A N/A (1.12%) 0.00% N/A N/A N/A (1.24%)	N/A  N/A  N/A  (6.65%)  0.00%  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	N/A  N/A  N/A  (22.75%)  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	N/A N/A N/A (0.55%) N/A N/A (30.58%) N/A N/A N/A N/A N/A N/A	
Venture Capital  Venture Capital - Early-Stage  Connecticut Financial Development, LP  Connecticut Futures Fund, LP  Constitution Liquidating Fund, L.P.  Crescendo III, L.P.  Crescendo World Fund, LLC  Grotech Partners V, L.P.  Keystone Venture V, L.P.  Pioneer Ventures Associates LP  Venture Capital - Early-Stage Total  Venture Capital - Late-Stage  Shawmut Equity Partners, L.P.  Venture Capital - Late-Stage Total  Venture Capital - Late-Stage Total  Venture Capital - Late-Stage Total  Venture Capital - Late-Stage Total	\$49,583,271 40,000,000 640,000,552 36,825,000 100,000,000 50,000,000 27,500,000 50,000,000 \$993,908,823 \$75,000,000 \$75,000,000		\$49,583,271 40,000,000 532,763,501 36,824,862 100,000,000 27,500,000 49,976,129 \$886,647,763 \$59,910,737	\$18,485,802 \$10,367,734 11,317,103 1,367,419,212 20,584,397 80,411,666 49,181,322 1,985,505 21,723,214 \$1,562,990,153 \$87,122,324 \$87,122,324	\$75,906,130 - - \$3,768,816 (1,214,212) - - - \$2,554,604	(20.11%) (29.15%) 20.10% (13.01%) (5.48%) (0.79%) (33.45%) (13.46%) 14.03%	0.2x 0.3x 2.6x 0.6x 0.8x 1.0x 0.1x 0.4x 1.5x	0.2x 0.3x 2.6x 0.5x 0.8x 1.0x 0.1x 0.4x 1.5x 1.5x 1.0x 0.8x	N/A N/A (1.12%) 0.00% N/A N/A N/A (1.24%)	N/A  N/A  N/A  (6.65%)  0.00%  N/A  N/A  N/A  N/A  N/A  N/A  N/A	N/A N/A N/A (22.75%) N/A N/A N/A N/A (23.80%)	N/A N/A N/A (0.55%) N/A N/A (30.58%) N/A N/A N/A N/A N/A N/A	

# Performance Summary by Strategy and Substrategy

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	Connecticut Portfolio Performance Summary by Client Strategy and Client Substrategy as of December 31, 2022													
(USD in Millions)	Capital Committed	Unfunded	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI	1-YR IRR	3-YR IRR	5-YR IRR	10-YR IRR		
Constitution Fund V, LLC - Series C	75,000,000	21,267,859	53,732,141	5,084,481	81,738,640	30.40%	0.1x	1.6x	7.68%	32.92%	N/A	N/A		
Constitution Fund V, LLC - Series D	25,000,000	9,604,410	15,395,590	-	12,109,385	(11.02%)	-	0.8x	(12.25%)	(10.97%)	N/A	N/A		
Constitution Fund V, LLC - Series E	75,000,000	34,012,842	40,987,158	-	39,969,890	(1.94%)	-	1.0x	(12.95%)	N/A	N/A	N/A		
Constitution Fund V, LLC - Series F	100,000,000	93,020,818	6,979,182	-	5,455,669	(36.52%)	-	0.8x	(36.68%)	N/A	N/A	N/A		
Fairview Constitution II, L.P.	200,000,000	3,112,810	212,154,451	310,200,242	24,043,231	6.90%	1.5x	1.6x	(28.34%)	17.14%	11.45%	12.82%		
Fairview Constitution III, L.P.	300,000,000	18,292,740	304,118,310	733,253,003	113,165,460	18.03%	2.4x	2.8x	(27.73%)	28.40%	22.30%	20.28%		
Fairview Constitution IV, L.P.	150,000,000	5,956,437	153,894,308	191,987,365	230,423,612	19.01%	1.2x	2.7x	(26.21%)	22.06%	25.51%	19.46%		
SCP Private Equity Partners I, L.P.	75,000,000	-	75,070,755	51,909,806	-	(6.31%)	0.7x	0.7x	N/A	N/A	(35.20%)	(22.91%)		
Syndicated Communications Venture Partners V, L.P.	27,267,140	-	27,421,182	960,486	-	(35.76%)	0.0x	0.0x	N/A	(76.55%)	(65.40%)	(37.96%)		
Venture Capital - Multi-Stage Total	\$1,242,117,140	\$196,442,593	\$1,098,537,395	\$1,413,315,280	\$781,527,590	9.44%	1.3x	2.0x	(19.95%)	24.67%	22.55%	18.36%		
Venture Capital Total	\$2,311,025,963	\$196,442,593	\$2,045,095,895	\$3,063,427,757	\$784,082,194	12.49%	1.5x	1.9x	(19.89%)	24.45%	21.32%	17.18%		
Total Portfolio	\$14,264,646,993	\$3,843,094,503	\$11,116,447,835	\$12,602,905,962	\$5,016,252,642	9.94%	1.1	1.6	(4.64%)	18.79%	17.42%	15.05%		

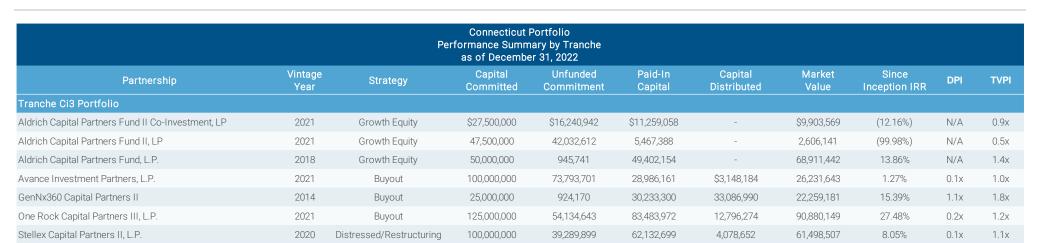
# Connecticut Horizon Fund and In-State

			Connecticut P Performance Summa as of Decembe	ary by Tranche						
Partnership	Vintage Year	Strategy	Capital Committed	Unfunded Commitment	Paid-In Capital	Capital Distributed	Market Value	Since Inception IRR	DPI	TVPI
Tranche Horizon Fund Portfolio										
CT Horizon Legacy Fund, L.P.	2008	Buyout	\$15,000,000	\$2,489,461	\$14,024,943	\$9,103,297	\$1,650,428	(4.27%)	0.6x	0.8x
Freeman CT Horizon Investment Fund, LLC	2018	Buyout	50,000,000	22,556,760	29,936,198	3,824,819	37,998,360	19.85%	0.1x	1.4x
M2 - Connecticut Emerging Private Equity Fund-of-Funds, L.P.	2007	Buyout	105,000,000	6,143,867	113,743,149	145,476,164	11,004,085	6.80%	1.3x	1.4x
Nutmeg Opportunities Fund II LLC - EM	2017	Buyout	35,000,000	6,323,144	30,932,942	16,957,520	41,664,106	20.74%	0.5x	1.9x
Tranche Horizon Fund Portfolio Total			\$205,000,000	\$37,513,232	\$188,637,232	\$175,361,800	\$92,316,979	7.79%	0.9x	1.4x
Tranche In-State Portfolio										
Constitution Fund V, LLC - Series B	2016	Venture Capital	\$20,000,000	\$3,439,947	\$16,808,486	\$5,438,790	\$16,911,536	8.03%	0.3x	1.3x
Constitution Fund V, LLC - Series D	2018	Venture Capital	25,000,000	9,604,410	15,395,590	-	12,109,385	(11.02%)	N/A	0.8x
Nutmeg Opportunities Fund II LLC - CT-Direct Investment	2017	Buyout	50,000,000	50,000,000	-	-	-	N/A	N/A	N/A
Tranche In-State Portfolio Total			\$95,000,000	\$63,044,357	\$32,204,076	\$5,438,790	\$29,020,921	2.39%	0.2x	1.1x
Total Portfolio			\$300,000,000	\$100,557,589	\$220,841,308	\$180,800,590	\$121,337,900	7.44%	0.8x	1.4x



# Connecticut Inclusive Investment Initiative (Ci3)

Tranche Ci3 Portfolio Total



\$227,361,708

\$270,964,732

\$53,110,100

\$282,290,632

14.19%

0.2x

1.2x

\$475,000,000



### **Endnotes**



- Vintage Year: the year in which a fund makes its final close, until the initial investment is made.
- Calendar Year: the year in which Connecticut makes its final close into the fund.

#### Performance Summary by Investment End Notes:

- HL All PE as of 9/30/2022 used for quartile benchmark.
- Quartiles are excluded for 2020, 2021, and 2022 funds.
- Quartiles are also excluded for all data points where the data is not sufficient for a calculated value (i.e. where an N/A appears).

#### Benchmarking Summaries End Notes:

- HL All PE as of 9/30/2022 used for quartile benchmark.
- Funds without an applicable benchmark are captured within the N/A category.

#### Quarterly Report End Notes:

- Nutmeg Opportunities II SMMBF sleeve does not have a cap on committed capital.
- · All return statistics shown at the net level throughout the report.

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# CONNECTICUT RETIREMENT PLANS & TRUST FUNDS

REAL ESTATE FUND PERFORMANCE REVIEW

**FOURTH QUARTER 2022** 

**APRIL 2023** 



### PORTFOLIO PERFORMANCE SUMMARY

The table below displays trailing time period performance for the State of Connecticut Real Estate Portfolio as of December 31, 2022, along with select benchmarks

- The policy benchmark is the NCREIF ODCE Index, which is comprised of open-end core real estate funds; we also show two additional benchmarks:
  - The NCREIF Property Index, a benchmark of unlevered core real estate returns
  - The C|A Non-Core Real Estate benchmark consists of non-core (value-add and opportunistic) closed-end real
    estate funds
- The total real estate portfolio generated a total net return of -3.0% in the fourth quarter of 2022
  - The portfolio has generated an annualized return of 8.5% over the trailing five years

Portfolio Performance	Net Asset Value (\$M)	QTR	YTD	1 Year	3 Year	5 Year	10 Year	Inception
State of Connecticut: Total Real Estate Portfolio	\$3,743	-3.0%	3.6%	3.6%	9.5%	8.5%	9.7%	6.4%
Policy Benchmark: NFI-ODCE Index1		-5.2%	6.6%	6.6%	9.0%	7.7%	9.1%	N/A
Other Real Estate Benchmarks								
NCREIF Property Index <sup>2</sup>		-3.5%	5.5%	5.5%	8.1%	7.5%	8.8%	N/A
C A Non-Core Real Estate Index <sup>3</sup>		-0.6%	2.7%	2.7%	10.5%	9.7%	11.8%	N/A

Data as December 31, 2022; includes estimates. Sources include NCREIF, C|A, Manager data, and NEPC.

<sup>4.</sup> The timing and magnitude of fund cash flows are integral to the IRR performance. Benchmark indices that are time weighted measures should not be directly compared to dollar-weighted IRR calculations. Index data is continuously updated and is therefore subject to change.



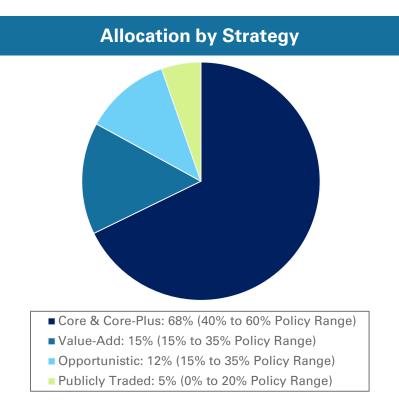
<sup>1.</sup> The NFI-ODCE Index represents pooled returns of open-end comingled core funds in the ODCE Index. The ODCE includes the effects of leverage, and returns shown are time-weighted and net of fees.

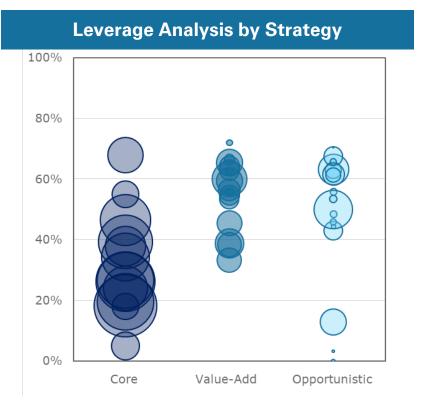
<sup>2.</sup> The NCREIF Property Index (NPI) represents property-level returns of institutionally-owned core real estate properties in the United States. The NPI is unlevered, and returns are time-weighted and gross of fees.

<sup>3.</sup> The C|A Benchmark represents pooled horizon internal rate of return (IRR) calculations, net of fees, across value-add and opportunistic real estate funds. This data is preliminary and was retrieved on April 19, 2023.

# **PORTFOLIO HIGHLIGHTS**

- Relative to the policy target ranges, the State of Connecticut real estate portfolio is currently over-allocated to Core & Core-Plus Real Estate relative to target and under-allocated to value-add and opportunistic strategies
- The portfolio has a weighted average leverage ratio of 36.8%







Data as of December 31, 2022. Leverage is measured as loan-to-value, is reported by each underlying Manager, and excludes REITs. Size of bubble indicates relative size of investment (by net asset value).

Morgan Stanley Real Estate Co-Investment NAV is included in the Opportunistic allocation.

### MANAGER RELATIONSHIPS

#### As of December 31, 2022, the portfolio had 55 active investments with 34 managers

 The top 10 managers represent about 64% of the portfolio by current net asset value and about 55% by total potential exposure

#### **Top Ten Relationships - NAV**

Manager Name	# of Funds	NAV (\$M)
Morgan Stanley Real Estate	2	\$351.07
Clarion	1	\$300.59
Barings Real Estate	1	\$271.59
PGIM Real Estate	1	\$256.20
USAA Real Estate	2	\$246.28
The Carlyle Group	2	\$225.09
BlackRock	1	\$199.50
UBS Realty Advisors	3	\$196.30
Hart Realty Advisors	1	\$192.96
American Realty	1	\$173.73

Total Top Ten \$2,413.32

64% of Total Portfolio (by Net Asset Value)

#### **Top Ten Relationships – Total Exposure**

Manager Name	# of Funds	Exposure (\$M)
Morgan Stanley Real Estate	2	\$557.30
The Carlyle Group	2	\$394.82
Clarion	1	\$300.59
Barings Real Estate	1	\$271.59
PGIM Real Estate	1	\$256.20
USAA Real Estate	2	\$246.28
Hart Realty Advisors	1	\$228.73
Landmark Partners	4	\$225.52
IPI Partners	2	\$221.88
Artemis	2	\$221.17
IPI Partners	2	\$221.88

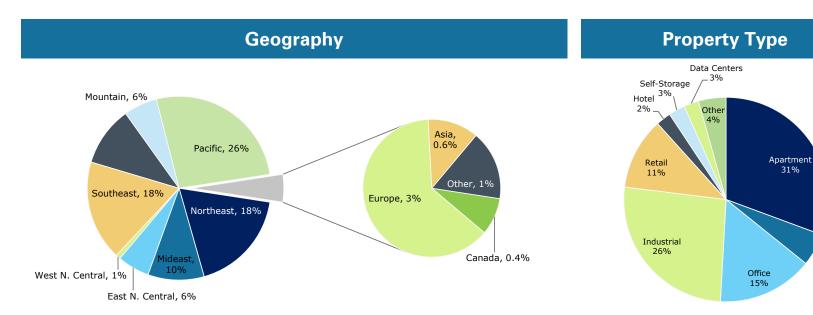
Total Top Ten \$2,924.09

55% of Total Portfolio (by Total Exposure)



### PORTFOLIO DIVERSIFICATION

- The State of Connecticut real estate portfolio is broadly diversified by property type and geography within the U.S.
- The portfolio remains heavily concentrated in the United States
  - About 5% of the portfolio is invested outside the U.S., with the majority of that exposure in Europe
- The portfolio is primarily invested the four main property types (apartments, industrial, office, and retail)
  - These four property types represent about 83% of the total portfolio



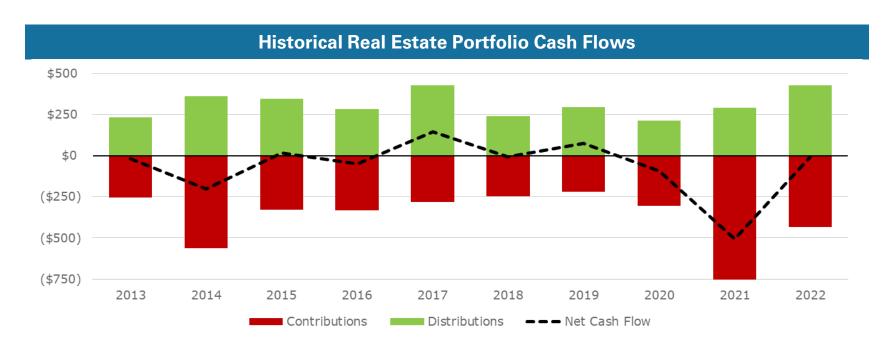


Other

Residential

### **10-YEAR CASH FLOWS**

- The chart below illustrates the capital invested, distributed, and net cash flows for the real estate portfolio for the past 10 full years
- In the fourth quarter of 2022, the real estate portfolio produced a positive net cash flow, of approximately \$36 million
  - This included approximately \$98 million in contributions and approximately \$134 million in distributions

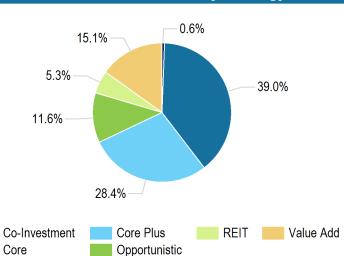




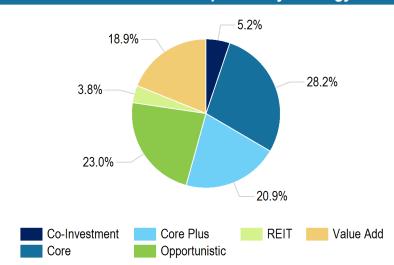


# **ANALYSIS BY STRATEGY**

#### Real Estate Valuation by Strategy

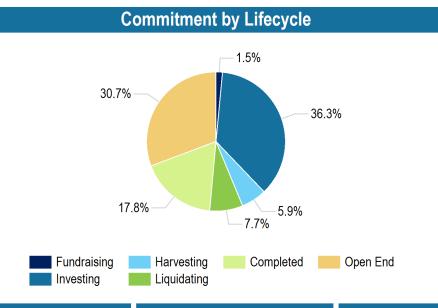


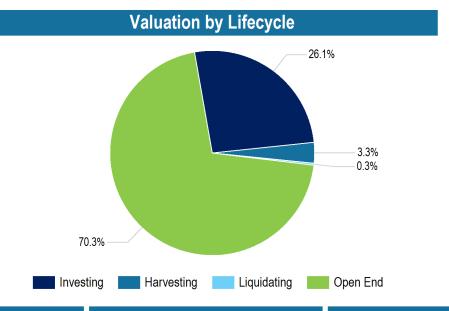
#### Real Estate Fund Exposure by Strategy



Investments	Con	nmitments		Contributions & Distributions			Valuati	ons		Performance			
Investment Strategy	Commitment	Unfunded Commitment	Call Ratio	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Fund Exposure	DPI	TVPI	IRR
Total Co-Investment	\$275.00	\$253.44	0.15	\$40.66	\$0.00	\$19.10	\$21.61	\$40.71	\$0.05	\$275.05	0.47	1.00	0.32%
Total Core	\$1,578.52	\$35.77	1.21	\$1,911.83	\$3.95	\$1,389.93	\$1,460.32	\$2,850.26	\$934.48	\$1,496.10	0.73	1.49	6.49%
Total Core Plus	\$681.49	\$44.12	0.96	\$654.83	\$11.30	\$155.01	\$1,062.07	\$1,217.08	\$550.95	\$1,106.18	0.23	1.83	14.22%
Total Opportunistic	\$2,332.86	\$786.53	0.72	\$1,682.10	\$31.56	\$1,735.26	\$433.83	\$2,169.09	\$455.43	\$1,220.36	1.01	1.27	5.65%
Total REIT	\$200.00	\$0.00	1.00	\$200.00	\$0.00	\$0.00	\$199.50	\$199.50	-\$0.50	\$199.50	0.00	1.00	-0.14%
Total Value Add	\$1,629.89	\$435.49	0.81	\$1,314.98	\$23.14	\$921.99	\$565.53	\$1,487.53	\$149.40	\$1,001.02	0.69	1.11	3.24%
Total	\$6,697.77	\$1,555.35	0.87	\$5,804.40	\$69.95	\$4,221.30	\$3,742.87	\$7,964.17	\$2,089.81	\$5,298.22	0.72	1.36	6.40%







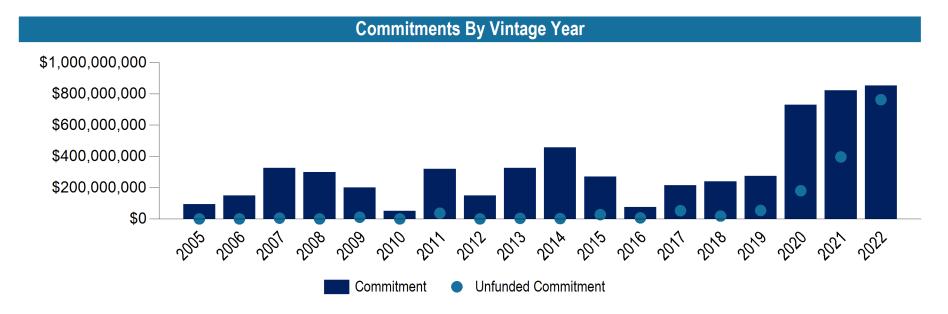
Investments	Con	nmitments								Valuations			s Valuations			Valuations			Valuations			P	erforman	ce
Lifecycle	Commitment	Unfunded Commitment	Call Ratio	Cumulative Ac	dditional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR												
Total Fundraising	\$100.00	\$100.00		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00															
Total Investing	\$2,434.50	\$1,363.90	0.51	\$1,230.08	\$8.27	\$472.92	\$977.33	\$1,450.26	\$211.91	0.38	1.17	10.99%												
Total Harvesting	\$395.00	\$39.30	0.96	\$378.40	\$15.26	\$476.60	\$122.08	\$598.68	\$205.02	1.21	1.52	14.28%												
Total Liquidating	\$517.28	\$16.37	1.07	\$552.22	\$18.40	\$781.29	\$11.46	\$792.75	\$222.12	1.37	1.39	8.45%												
Total Completed	\$1,193.65	\$0.00	1.05	\$1,253.50	\$14.81	\$1,234.69	\$0.00	\$1,234.69	-\$33.63	0.97	0.97	-0.67%												
Total Open End	\$2,057.34	\$35.77	1.16	\$2,390.19	\$13.21	\$1,255.79	\$2,632.01	\$3,887.80	\$1,484.39	0.52	1.62	8.87%												
Total	\$6,697.77	\$1,555.35	0.87	\$5,804.40	\$69.95	\$4,221.30	\$3,742.87	\$7,964.17	\$2,089.81	0.72	1.36	6.40%												





Investments	Commitments Contributions & Distributions					Valuations			Per	formance	9
Vintage Year	Commitment	Unfunded Commitment	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Total 1998	\$363.13	\$0.00	\$409.49	\$0.15	\$539.88	\$0.00	\$539.88	\$130.24	1.32	1.32	5.24%
Total 2004	\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Total 2005	\$338.47	\$0.00	\$339.38	\$2.72	\$303.21	\$0.00	\$303.21	-\$38.88	0.89	0.89	-2.56%
Total 2006	\$200.00	\$0.00	\$201.00	\$7.82	\$127.84	\$1.17	\$129.02	-\$79.80	0.61	0.62	-5.56%
Total 2007	\$450.00	\$4.91	\$451.81	\$12.32	\$451.27	\$334.43	\$785.70	\$321.56	0.97	1.69	6.24%
Total 2008	\$325.00	\$0.00	\$325.16	\$0.00	\$239.25	\$272.10	\$511.34	\$186.18	0.74	1.57	5.48%
Total 2009	\$200.00	\$10.64	\$226.91	\$6.31	\$317.83	\$7.83	\$325.66	\$92.44	1.36	1.40	12.38%
Total 2010	\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.05	1.32	1.32	10.95%
Total 2011	\$319.33	\$36.60	\$576.65	\$0.50	\$556.07	\$193.15	\$749.22	\$172.07	0.96	1.30	8.70%
Total 2012	\$150.00	\$0.00	\$223.19	\$2.02	\$172.78	\$173.73	\$346.51	\$121.30	0.77	1.54	11.48%
Total 2013	\$325.00	\$3.50	\$321.50	\$0.00	\$214.12	\$384.44	\$598.56	\$277.06	0.67	1.86	9.42%
Total 2014	\$457.34	\$1.98	\$465.33	\$11.67	\$259.48	\$566.04	\$825.52	\$348.52	0.54	1.73	10.24%





Investments	Commitm	ents	Contributions & Distributions				Valuations			formance	е
Vintage Year	Commitment	Unfunded Commitment	Cumulative Contributions	Additional Fees	Cumulative Distributions	Valliation	Total Value	Net Benefit	DPI	TVPI	IRR
Total 2015	\$270.00	\$27.39	\$263.80	\$8.45	\$315.29	\$105.87	\$421.16	\$148.91	1.16	1.55	15.79%
Total 2016	\$75.00	\$6.44	\$68.56	\$5.75	\$98.85	\$2.81	\$101.66	\$27.35	1.33	1.37	11.01%
Total 2017	\$215.00	\$52.38	\$181.61	\$5.12	\$94.67	\$138.00	\$232.67	\$45.95	0.51	1.25	7.50%
Total 2018	\$240.00	\$18.11	\$247.24	\$0.91	\$210.31	\$148.56	\$358.87	\$110.72	0.85	1.45	15.91%
Total 2019	\$275.00	\$53.89	\$238.65	\$0.75	\$43.59	\$253.83	\$297.42	\$58.02	0.18	1.24	13.28%
Total 2020	\$729.15	\$180.12	\$574.72	\$0.22	\$38.46	\$653.55	\$692.01	\$117.06	0.07	1.20	13.49%
Total 2021	\$822.50	\$396.63	\$488.86	\$1.00	\$95.61	\$427.01	\$522.63	\$32.77	0.20	1.07	5.53%
Total 2022	\$852.85	\$762.77	\$109.18	\$0.27	\$19.10	\$80.36	\$99.46	-\$9.99	0.17	0.91	-24.21%
Total	\$6,697.77	\$1,555.35	\$5,804.40	\$69.95	\$4,221.30	\$3,742.87	\$7,964.17	\$2,089.81	0.72	1.36	6.40%





# **APPENDIX 1: INVESTMENT LEVEL PERFORMANCE**

As of December 31, 2022

# State of Connecticut RETURN SUMMARY

Investments					Trailing Per	riod Returns (IF	RR) %		
Investment Name	Vintage Year	Commitment	(Qtr)	(YTD)	(1 Yr)	(3 Yrs)	(5 Yrs)	(10 Yrs)	SI IRR
AEW Core Real Estate Separate Account	2005	\$243.53							0.16%
AEW Partners III, L.P.	1998	\$100.00							8.77%
American Core Realty Separate Account	2012	\$150.00	0.72%	0.45%	0.45%	8.90%	9.33%	11.69%	11.48%
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00							6.25%
Ares Real Estate Enhanced Income Fund, L.P.	2020	\$100.00	1.40%	4.68%	4.68%				4.65%
Artemis Real Estate Partners Fund IV, L.P.	2022	\$125.00							
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	0.94%	3.12%	3.12%	5.25%			5.04%
Barings Core Property Fund, L.P.	2008	\$250.00	-3.21%	3.04%	3.04%	7.13%	6.91%	8.57%	6.61%
BIG Real Estate Fund I, L.P.	2018	\$65.00	2.72%	8.80%	8.80%	9.64%			9.77%
BIG Real Estate Fund II, L.P.	2021	\$125.00	2.86%	4.93%	4.93%				3.04%
Blackstone Property Partners Life Sciences, L.P.	2020	\$29.15	-3.30%	9.19%	9.19%				14.88%
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	10.79%	-11.53%	-11.53%	-11.50%	-11.93%	8.86%	10.04%
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	1.59%	-9.27%	-9.27%	8.08%	9.31%		10.31%
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	-6.12%	-5.62%	-5.62%	-6.20%	6.64%	19.35%	13.21%
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	-4.25%	6.61%	6.61%	17.57%	16.36%		16.60%
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$72.05				1.78%	-2.28%	5.88%	9.27%
Canyon-Johnson Urban Fund II, L.P.	2005	\$44.94				-1.18%	4.31%	-9.19%	-10.43%
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	-81.27%	-84.46%	-84.46%	-59.74%	-65.47%	14.93%	10.95%
Capri Select Income II, L.P.	2005	\$30.00				-12.35%	72.08%	19.78%	-9.89%
Carlyle Property Investors, L.P.	2020	\$150.00	-1.06%	11.60%	11.60%				20.55%
Carlyle Realty Partners IX, L.P.	2021	\$180.00	-48.59%						-62.19%
Centerbridge Partners Real Estate Fund II	2022	\$200.00	7.86%						-15.08%
CityView Real Estate Partners VII, L.P.	2022	\$27.85	-20.34%						-29.16%
Colony Realty Partners II, L.P.	2006	\$50.00							-13.75%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	-9.58%	24.88%	24.88%	31.03%			25.89%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00							2.90%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00							13.50%
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	-13.85%	-9.01%	-9.01%	9.00%	20.29%		18.45%
Covenant Apartment Fund X (Institutional), L.P.	2021	\$100.00	3.04%	33.65%	33.65%				34.01%



# State of Connecticut RETURN SUMMARY

Investments					Trailing Per	iod Returns (IF	RR) %		
Investment Name	Vintage Year	Commitment	(Qtr)	(YTD)	(1 Yr)	(3 Yrs)	(5 Yrs)	(10 Yrs)	SI IRR
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	-0.15%	-21.69%	-21.69%	7.47%	10.41%		11.01%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	-2.59%	17.74%	17.74%	28.54%			23.12%
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00							
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	-38.52%	-35.71%	-35.71%	-8.61%	-2.04%		6.65%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	-24.32%	-23.47%	-23.47%	-8.82%	-2.40%		-0.66%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	-5.41%	0.03%	0.03%	1.39%			0.61%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	-2.24%	-6.31%	-6.31%	1.88%	2.80%	7.45%	6.89%
Investor India Realty Fund II, LLC	2008	\$50.00	-6.96%	-28.05%	-28.05%	-43.00%	-35.10%	-15.92%	-10.43%
IPI Partners II, L.P.	2020	\$100.00	-0.02%	2.94%	2.94%				-2.71%
IPI Partners III-A, L.P.	2022	\$125.00							-9.23%
JP Morgan Strategic Property Fund	2014	\$90.00					4.92%		7.60%
Landmark Real Estate Co-Investment Fund I, L.P.*	2022	\$50.00							15.00%
Landmark Real Estate Fund VII, L.P.*	2015	\$40.00	-6.15%	-14.06%	-14.06%	-2.56%	-0.80%		6.57%
Landmark Real Estate Partners IX, LP	2022	\$100.00							
Landmark Real Estate Partners VIII, L.P.*	2017	\$65.00	-2.43%	4.41%	4.41%	16.41%	13.39%		19.07%
Lion Industrial Trust	2014	\$102.34	-1.83%	24.66%	24.66%	27.54%	22.80%		19.56%
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$67.28	-5.02%	108.31%	108.31%	-6.75%	-2.09%	28.76%	25.27%
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00							-16.47%
Mesirow Financial Real Estate Value Fund IV, L.P.	2021	\$75.00	1.85%	4.90%	4.90%				15.87%
Morgan Stanley Real Estate Co-Investment, L.P.*	2022	\$225.00	-0.06%						-2.37%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00							3.10%
Oak Street Real Estate Capital Net Lease Property Fund, L.P.	2019	\$100.00	2.48%	17.73%	17.73%	23.21%			23.07%
Penzance DC Real Estate Fund II, L.P.	2021	\$50.00	92.96%						197.11%
Prime Property Fund, LLC	2007	\$225.00	-3.69%	6.32%	6.32%	9.23%	8.31%	10.69%	8.20%
PRISA I, L.P.	2014	\$185.00	-5.85%	5.88%	5.88%	9.17%	8.04%		8.70%
Rockpoint Real Estate Fund VI, L.P.	2020	\$150.00	-2.64%	5.72%	5.72%				15.60%
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00							9.36%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00				-11.92%	-7.43%	-5.85%	-0.86%
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00				-47.82%	-19.19%	1.74%	-6.92%



<sup>\*</sup> Denotes preliminary estimated December 31, 2022 net asset value used, provided by the Manager.

# State of Connecticut RETURN SUMMARY

Investments					Trailing Per	iod Returns (IR	:R) %		
Investment Name	Vintage Year	Commitment	(Qtr)	(YTD)	(1 Yr)	(3 Yrs)	(5 Yrs)	(10 Yrs)	SI IRR
Rubicon First Ascent, L.P.	2021	\$42.50	-16.25%	-38.48%	-38.48%				-48.25%
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	8.25%	26.26%	26.26%	17.14%	9.22%		18.93%
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	-0.91%	-4.12%	-4.12%	-7.41%	-0.20%	3.17%	-2.38%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	-0.77%	13.48%	13.48%	0.41%	-1.44%	5.66%	12.07%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	-2.67%	21.85%	21.85%	11.62%	10.71%		17.08%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	-3.15%	0.70%	0.70%	8.93%			12.92%
State of Connecticut US REIT	2021	\$200.00	2.12%	-27.98%	-27.98%				-0.14%
Torchlight Debt Opportunities Fund VII, L.P.	2020	\$100.00	1.85%	8.97%	8.97%				6.39%
TruAmerica Workforce Housing Fund I-A, L.P.	2021	\$50.00	-44.76%	-34.87%	-34.87%				-8.74%
Trumbull Property Fund, L.P.	2013	\$75.00	-5.38%	6.10%	6.10%	4.61%	3.23%		5.43%
Trumbull Property Income Fund, L.P.	2013	\$50.00	-2.82%	4.03%	4.03%	6.00%	6.01%		6.99%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	-4.96%	10.12%	10.12%	10.01%	9.54%		11.37%
Urban Strategy America Fund, L.P.	2006	\$50.00				5.56%	-15.70%	1.08%	-1.86%
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	-0.95%	9.11%	9.11%	7.66%	7.38%		9.89%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	-0.98%	8.97%	8.97%	7.54%			7.08%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13							13.03%
Waterton Residential Property Venture XIV, L.P.	2020	\$100.00	-7.50%	4.92%	4.92%				12.61%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00							-13.20%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	-0.60%	-0.76%	-0.76%	-1.40%	7.11%	49.48%	14.28%
Total		\$6,697.77	-3.00%	3.55%	3.55%	9.47%	8.44%	9.71%	6.40%



# State of Connecticut ANALYSIS BY FUND

Investments		Commitn	nents	Contribu	tions & Distrib	outions		Valuations		Pe	rformaı	nce
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
AEW Core Real Estate Separate Account	2005	\$243.53	\$0.00	\$243.53	\$0.00	\$245.21	\$0.00	\$245.21	\$1.69	1.01	1.01	0.16%
AEW Partners III, L.P.	1998	\$100.00	\$0.00	\$101.69	\$0.00	\$150.65	\$0.00	\$150.65	\$48.95	1.48	1.48	8.77%
American Core Realty Separate Account	2012	\$150.00	\$0.00	\$223.19	\$2.02	\$172.78	\$173.73	\$346.51	\$121.30	0.77	1.54	11.48%
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00	\$0.00	\$78.82	\$0.00	\$116.21	\$0.00	\$116.21	\$37.39	1.47	1.47	6.25%
Ares Real Estate Enhanced Income Fund, L.P.	2020	\$100.00	\$0.00	\$110.17	\$0.00	\$10.17	\$108.25	\$118.42	\$8.25	0.09	1.07	4.65%
Artemis Real Estate Partners Fund IV, L.P.	2022	\$125.00	\$121.20	\$3.80	\$0.02	\$0.00	\$1.62	\$1.62	-\$2.21	0.00	0.42	
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	\$38.02	\$75.74	\$2.15	\$23.31	\$60.33	\$83.64	\$5.75	0.30	1.07	5.04%
Barings Core Property Fund, L.P.	2008	\$250.00	\$0.00	\$250.00	\$0.00	\$174.51	\$271.59	\$446.10	\$196.10	0.70	1.78	6.61%
BIG Real Estate Fund I, L.P.	2018	\$65.00	\$8.67	\$81.68	\$0.62	\$51.89	\$46.44	\$98.33	\$16.03	0.63	1.19	9.77%
BIG Real Estate Fund II, L.P.	2021	\$125.00	\$81.20	\$79.99	-\$0.26	\$38.24	\$42.66	\$80.91	\$1.17	0.48	1.01	3.04%
Blackstone Property Partners Life Sciences, L.P.	2020	\$29.15	\$6.10	\$26.75	-\$0.11	\$4.74	\$29.55	\$34.29	\$7.66	0.18	1.29	14.88%
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	\$5.99	\$46.56	\$6.31	\$72.26	\$3.98	\$76.24	\$23.38	1.37	1.44	10.04%
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	\$8.86	\$42.88	\$3.81	\$35.98	\$29.96	\$65.94	\$19.24	0.77	1.41	10.31%
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	\$4.91	\$99.61	\$12.09	\$221.21	\$1.75	\$222.96	\$111.26	1.98	2.00	13.21%
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	\$14.27	\$106.92	\$8.53	\$117.84	\$77.78	\$195.61	\$80.16	1.02	1.69	16.60%
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$72.05	\$0.00	\$72.05	\$0.00	\$86.15	\$0.00	\$86.15	\$14.10	1.20	1.20	9.27%
Canyon-Johnson Urban Fund II, L.P.	2005	\$44.94	\$0.00	\$44.94	\$0.00	\$20.04	\$0.00	\$20.04	-\$24.91	0.45	0.45	-10.43%
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.05	1.32	1.32	10.95%
Capri Select Income II, L.P.	2005	\$30.00	\$0.00	\$30.45	\$0.00	\$15.89	\$0.00	\$15.89	-\$14.56	0.52	0.52	-9.89%
Carlyle Property Investors, L.P.	2020	\$150.00	\$0.00	\$150.00	\$0.00	\$0.00	\$218.43	\$218.43	\$68.43	0.00	1.46	20.55%
Carlyle Realty Partners IX, L.P.	2021	\$180.00	\$169.73	\$10.27	\$0.00	\$0.00	\$6.66	\$6.66	-\$3.61	0.00	0.65	-62.19%
Centerbridge Partners Real Estate Fund II	2022	\$200.00	\$169.12	\$30.88	\$0.00	\$0.00	\$26.22	\$26.22	-\$4.66	0.00	0.85	-15.08%
CityView Real Estate Partners VII, L.P.	2022	\$27.85	\$16.68	\$11.16	\$0.00	\$0.00	\$10.10	\$10.10	-\$1.06	0.00	0.90	-29.16%
Colony Realty Partners II, L.P.	2006	\$50.00	\$0.00	\$51.00	\$0.00	\$13.19	\$0.00	\$13.19	-\$37.81	0.26	0.26	-13.75%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	\$0.00	\$50.00	\$0.29	\$55.49	\$35.17	\$90.67	\$40.37	1.10	1.80	25.89%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00	\$0.00	\$25.00	\$0.23	\$30.28	\$0.00	\$30.28	\$5.05	1.20	1.20	2.90%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00	\$0.00	\$25.16	\$0.00	\$39.52	\$0.00	\$39.52	\$14.36	1.57	1.57	13.50%
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	\$0.00	\$30.00	-\$0.08	\$47.99	\$0.00	\$47.99	\$18.07	1.60	1.60	18.45%
Covenant Apartment Fund X (Institutional), L.P.	2021	\$100.00	\$9.00	\$91.00	\$1.39	\$22.93	\$104.07	\$127.01	\$34.61	0.25	1.37	34.01%



# State of Connecticut ANALYSIS BY FUND

Investments		Commitn	nents	Contribu	ıtions & Distrit	outions		Valuations		Pe	rformar	nce
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	\$6.44	\$68.56	\$5.75	\$98.85	\$2.81	\$101.66	\$27.35	1.33	1.37	11.01%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	\$9.44	\$65.56	\$0.00	\$100.47	\$4.65	\$105.12	\$39.56	1.53	1.60	23.12%
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00	\$0.00	\$58.46	\$0.00	\$14.10	\$0.00	\$14.10	-\$44.36	0.24	0.24	
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	\$1.98	\$29.53	\$0.98	\$30.32	\$9.25	\$39.57	\$9.06	0.99	1.30	6.65%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	\$1.77	\$49.11	\$1.39	\$16.24	\$32.74	\$48.98	-\$1.52	0.32	0.97	-0.66%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	\$15.87	\$62.90	-\$1.40	\$4.10	\$57.99	\$62.09	\$0.58	0.07	1.01	0.61%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	\$35.77	\$429.50	\$0.50	\$358.55	\$192.96	\$551.51	\$121.51	0.83	1.28	6.89%
Investor India Realty Fund II, LLC	2008	\$50.00	\$0.00	\$50.00	\$0.00	\$25.22	\$0.51	\$25.73	-\$24.27	0.50	0.51	-10.43%
IPI Partners II, L.P.	2020	\$100.00	\$40.90	\$60.78	\$0.07	\$1.67	\$57.86	\$59.53	-\$1.32	0.03	0.98	-2.71%
IPI Partners III-A, L.P.	2022	\$125.00	\$102.32	\$22.68	\$0.25	\$0.00	\$20.81	\$20.81	-\$2.12	0.00	0.91	-9.23%
JP Morgan Strategic Property Fund	2014	\$90.00	\$0.00	\$90.00	\$1.43	\$120.44	\$0.00	\$120.44	\$29.01	1.32	1.32	7.60%
Landmark Real Estate Co-Investment Fund I, L.P.*	2022	\$50.00	\$47.21	\$2.79	\$0.00	\$0.00	\$3.21	\$3.21	\$0.42	0.00	1.15	15.00%
Landmark Real Estate Fund VII, L.P.*	2015	\$40.00	\$3.12	\$36.88	\$0.00	\$37.16	\$6.35	\$43.51	\$6.63	1.01	1.18	6.57%
Landmark Real Estate Partners IX, LP	2022	\$100.00	\$100.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			
Landmark Real Estate Partners VIII, L.P.*	2017	\$65.00	\$31.75	\$45.61	-\$0.08	\$28.74	\$33.88	\$62.63	\$17.10	0.63	1.38	19.07%
Lion Industrial Trust	2014	\$102.34	\$0.00	\$102.34	\$9.26	\$41.94	\$300.59	\$342.53	\$230.93	0.38	3.07	19.56%
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$67.28	\$0.83	\$75.11	\$0.00	\$111.37	\$0.19	\$111.56	\$36.45	1.48	1.49	25.27%
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00	\$0.00	\$102.20	\$0.00	\$27.72	\$0.00	\$27.72	-\$74.49	0.27	0.27	-16.47%
Mesirow Financial Real Estate Value Fund IV, L.P.	2021	\$75.00	\$46.67	\$28.33	\$0.02	\$0.33	\$31.84	\$32.17	\$3.82	0.01	1.13	15.87%
Morgan Stanley Real Estate Co-Investment, L.P.*	2022	\$225.00	\$206.23	\$37.87	\$0.00	\$19.10	\$18.40	\$37.50	-\$0.37	0.50	0.99	-2.37%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00	\$0.00	\$15.00	\$0.00	\$17.34	\$0.00	\$17.34	\$2.34	1.16	1.16	3.10%
Oak Street Real Estate Capital Net Lease Property Fund, L.P.	2019	\$100.00	\$0.00	\$100.00	\$0.00	\$16.19	\$135.50	\$151.69	\$51.69	0.16	1.52	23.07%
Penzance DC Real Estate Fund II, L.P.	2021	\$50.00	\$50.00	\$2.33	\$0.06	\$5.38	\$3.48	\$8.86	\$6.47	2.26	3.72	197.11 %
Prime Property Fund, LLC	2007	\$225.00	\$0.00	\$225.00	\$0.00	\$172.07	\$332.67	\$504.74	\$279.74	0.76	2.24	8.20%
PRISA I, L.P.	2014	\$185.00	\$0.00	\$185.00	\$0.00	\$52.68	\$256.20	\$308.88	\$123.88	0.28	1.67	8.70%
Rockpoint Real Estate Fund VI, L.P.	2020	\$150.00	\$35.80	\$119.16	\$0.26	\$16.67	\$126.77	\$143.45	\$24.03	0.14	1.20	15.60%
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00	\$0.00	\$20.46	\$2.72	\$22.07	\$0.00	\$22.07	-\$1.11	0.95	0.95	-0.86%
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$7.82	\$32.25	\$0.00	\$32.25	-\$25.57	0.56	0.56	-6.92%



<sup>\*</sup> Denotes preliminary estimated December 31, 2022 net asset value used, provided by the Manager.

# State of Connecticut ANALYSIS BY FUND

Investments		Commitm	nents	Contribu	ıtions & Distrib	outions		Valuations		Pe	rformaı	nce
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Rubicon First Ascent, L.P.	2021	\$42.50	\$34.45	\$8.05	\$0.01	\$0.00	\$3.92	\$3.92	-\$4.14	0.00	0.49	-48.25%
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	\$3.50	\$46.50	\$0.00	\$80.12	\$4.15	\$84.27	\$37.77	1.72	1.81	18.93%
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$39.01	\$1.17	\$40.19	-\$9.81	0.78	0.80	-2.38%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	\$4.64	\$52.98	\$0.00	\$79.88	\$3.30	\$83.17	\$30.20	1.51	1.57	12.07%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	\$10.00	\$90.00	\$0.00	\$112.32	\$21.74	\$134.05	\$44.05	1.25	1.49	17.08%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	\$10.00	\$44.00	\$0.00	\$13.70	\$41.42	\$55.12	\$11.12	0.31	1.25	12.92%
State of Connecticut US REIT	2021	\$200.00	\$0.00	\$200.00	\$0.00	\$0.00	\$199.50	\$199.50	-\$0.50	0.00	1.00	-0.14%
Torchlight Debt Opportunities Fund VII, L.P.	2020	\$100.00	\$50.00	\$55.06	\$0.00	\$5.06	\$53.73	\$58.79	\$3.73	0.09	1.07	6.39%
TruAmerica Workforce Housing Fund I-A, L.P.	2021	\$50.00	\$5.58	\$68.89	-\$0.22	\$28.73	\$34.88	\$63.61	-\$5.06	0.42	0.93	-8.74%
Trumbull Property Fund, L.P.	2013	\$75.00	\$0.00	\$75.00	\$0.00	\$50.07	\$58.38	\$108.44	\$33.44	0.67	1.45	5.43%
Trumbull Property Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$17.57	\$66.54	\$84.11	\$34.11	0.35	1.68	6.99%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$39.82	\$71.38	\$111.20	\$61.20	0.80	2.22	11.37%
Urban Strategy America Fund, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$43.39	\$0.00	\$43.39	-\$6.61	0.87	0.87	-1.86%
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	\$0.00	\$100.00	\$0.00	\$26.54	\$183.99	\$210.53	\$110.53	0.27	2.11	9.89%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	\$0.00	\$50.00	\$0.00	\$2.46	\$62.29	\$64.76	\$14.76	0.05	1.30	7.08%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13	\$0.00	\$73.13	\$0.15	\$171.65	\$0.00	\$171.65	\$98.37	2.34	2.34	13.03%
Waterton Residential Property Venture XIV, L.P.	2020	\$100.00	\$47.33	\$52.81	\$0.00	\$0.14	\$58.96	\$59.10	\$6.29	0.00	1.12	12.61%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00	\$0.00	\$140.84	\$0.00	\$84.03	\$0.00	\$84.03	-\$56.81	0.60	0.60	-13.20%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	\$0.00	\$127.38	\$0.00	\$165.70	\$0.55	\$166.25	\$38.87	1.30	1.31	14.28%
Total		\$6,697.77	\$1,555.35	\$5,804.40	\$69.95	\$4,221.30	\$3,742.87	\$7,964.17	\$2,089.81	0.72	1.36	6.40%



Investments		Cor	nmitments		Contribu	tions & Distrib	outions		Valuations		P	erforma	ance
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Call Ratio	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Fundraising													
Landmark Real Estate Partners IX, LP	2022	\$100.00	\$100.00		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			
Total Fundraising		\$100.00	\$100.00		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			
Investing													
Artemis Real Estate Partners Fund IV, L.P.	2022	\$125.00	\$121.20	0.03	\$3.80	\$0.02	\$0.00	\$1.62	\$1.62	-\$2.21	0.00	0.42	
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	\$38.02	0.76	\$75.74	\$2.15	\$23.31	\$60.33	\$83.64	\$5.75	0.30	1.07	5.04%
BIG Real Estate Fund I, L.P.	2018	\$65.00	\$8.67	1.26	\$81.68	\$0.62	\$51.89	\$46.44	\$98.33	\$16.03	0.63	1.19	9.77%
BIG Real Estate Fund II, L.P.	2021	\$125.00	\$81.20	0.64	\$79.99	-\$0.26	\$38.24	\$42.66	\$80.91	\$1.17	0.48	1.01	3.04%
Blackstone Property Partners Life Sciences, L.P.	2020	\$29.15	\$6.10	0.92	\$26.75	-\$0.11	\$4.74	\$29.55	\$34.29	\$7.66	0.18	1.29	14.88%
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	\$8.86	0.86	\$42.88	\$3.81	\$35.98	\$29.96	\$65.94	\$19.24	0.77	1.41	10.31%
Carlyle Realty Partners IX, L.P.	2021	\$180.00	\$169.73	0.06	\$10.27	\$0.00	\$0.00	\$6.66	\$6.66	-\$3.61	0.00	0.65	-62.19%
Centerbridge Partners Real Estate Fund II	2022	\$200.00	\$169.12	0.15	\$30.88	\$0.00	\$0.00	\$26.22	\$26.22	-\$4.66	0.00	0.85	-15.08%
CityView Real Estate Partners VII, L.P.	2022	\$27.85	\$16.68	0.40	\$11.16	\$0.00	\$0.00	\$10.10	\$10.10	-\$1.06	0.00	0.90	-29.16%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	\$0.00	1.00	\$50.00	\$0.29	\$55.49	\$35.17	\$90.67	\$40.37	1.10	1.80	25.89%
Covenant Apartment Fund X (Institutional), L.P.	2021	\$100.00	\$9.00	0.91	\$91.00	\$1.39	\$22.93	\$104.07	\$127.01	\$34.61	0.25	1.37	34.01%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	\$9.44	0.87	\$65.56	\$0.00	\$100.47	\$4.65	\$105.12	\$39.56	1.53	1.60	23.12%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	\$1.77	0.98	\$49.11	\$1.39	\$16.24	\$32.74	\$48.98	-\$1.52	0.32	0.97	-0.66%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	\$15.87	0.84	\$62.90	-\$1.40	\$4.10	\$57.99	\$62.09	\$0.58	0.07	1.01	0.61%
IPI Partners II, L.P.	2020	\$100.00	\$40.90	0.61	\$60.78	\$0.07	\$1.67	\$57.86	\$59.53	-\$1.32	0.03	0.98	-2.71%
IPI Partners III-A, L.P.	2022	\$125.00	\$102.32	0.18	\$22.68	\$0.25	\$0.00	\$20.81	\$20.81	-\$2.12	0.00	0.91	-9.23%
Landmark Real Estate Co-Investment Fund I, L.P.*	2022	\$50.00	\$47.21	0.06	\$2.79	\$0.00	\$0.00	\$3.21	\$3.21	\$0.42	0.00	1.15	15.00%
Landmark Real Estate Partners VIII, L.P.*	2017	\$65.00	\$31.75	0.70	\$45.61	-\$0.08	\$28.74	\$33.88	\$62.63	\$17.10	0.63	1.38	19.07%
Mesirow Financial Real Estate Value Fund IV, L.P.	2021	\$75.00	\$46.67	0.38	\$28.33	\$0.02	\$0.33	\$31.84	\$32.17	\$3.82	0.01	1.13	15.87%
Morgan Stanley Real Estate Co-Investment, L.P.*	2022	\$225.00	\$206.23	0.17	\$37.87	\$0.00	\$19.10	\$18.40	\$37.50	-\$0.37	0.50	0.99	-2.37%
Penzance DC Real Estate Fund II, L.P.	2021	\$50.00	\$50.00	0.05	\$2.33	\$0.06	\$5.38	\$3.48	\$8.86	\$6.47	2.26	3.72	197.11%
Rockpoint Real Estate Fund VI, L.P.	2020	\$150.00	\$35.80	0.79	\$119.16	\$0.26	\$16.67	\$126.77	\$143.45	\$24.03	0.14	1.20	15.60%
Rubicon First Ascent, L.P.	2021	\$42.50	\$34.45	0.19	\$8.05	\$0.01	\$0.00	\$3.92	\$3.92	-\$4.14	0.00	0.49	-48.25%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	\$10.00	0.88	\$44.00	\$0.00	\$13.70	\$41.42	\$55.12	\$11.12	0.31	1.25	12.92%
Torchlight Debt Opportunities Fund VII, L.P.	2020	\$100.00	\$50.00	0.55	\$55.06	\$0.00	\$5.06	\$53.73	\$58.79	\$3.73	0.09	1.07	6.39%
TruAmerica Workforce Housing Fund I-A, L.P.	2021	\$50.00	\$5.58	1.38	\$68.89	-\$0.22	\$28.73	\$34.88	\$63.61	-\$5.06	0.42	0.93	-8.74%
Waterton Residential Property Venture XIV, L.P.	2020	\$100.00	\$47.33	0.53	\$52.81	\$0.00	\$0.14	\$58.96	\$59.10	\$6.29	0.00	1.12	12.61%
Total Investing		\$2,434.50	\$1,363.90	0.51	\$1,230.08	\$8.27	\$472.92	\$977.33	\$1,450.26	\$211.91	0.38	1.17	10.99%



<sup>\*</sup> Denotes preliminary estimated December 31, 2022 net asset value used, provided by the Manager.

Investments		Cor	nmitments		Contribu	tions & Distri	butions		Valuations		P	erforma	ance
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Call Ratio	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Harvesting													
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	\$14.27	1.07	\$106.92	\$8.53	\$117.84	\$77.78	\$195.61	\$80.16	1.02	1.69	16.60%
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	\$6.44	0.91	\$68.56	\$5.75	\$98.85	\$2.81	\$101.66	\$27.35	1.33	1.37	11.01%
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	\$1.98	0.98	\$29.53	\$0.98	\$30.32	\$9.25	\$39.57	\$9.06	0.99	1.30	6.65%
Landmark Real Estate Fund VII, L.P.*	2015	\$40.00	\$3.12	0.92	\$36.88	\$0.00	\$37.16	\$6.35	\$43.51	\$6.63	1.01	1.18	6.57%
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	\$3.50	0.93	\$46.50	\$0.00	\$80.12	\$4.15	\$84.27	\$37.77	1.72	1.81	18.93%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	\$10.00	0.90	\$90.00	\$0.00	\$112.32	\$21.74	\$134.05	\$44.05	1.25	1.49	17.08%
Total Harvesting		\$395.00	\$39.30	0.96	\$378.40	\$15.26	\$476.60	\$122.08	\$598.68	\$205.02	1.21	1.52	14.28%
Liquidating													
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	\$5.99	0.93	\$46.56	\$6.31	\$72.26	\$3.98	\$76.24	\$23.38	1.37	1.44	10.04%
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	\$4.91	1.00	\$99.61	\$12.09	\$221.21	\$1.75	\$222.96	\$111.26	1.98	2.00	13.21%
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	\$0.00	1.01	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.05	1.32	1.32	10.95%
Investor India Realty Fund II, LLC	2008	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$25.22	\$0.51	\$25.73	-\$24.27	0.50	0.51	-10.43%
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$67.28	\$0.83	1.12	\$75.11	\$0.00	\$111.37	\$0.19	\$111.56	\$36.45	1.48	1.49	25.27%
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$39.01	\$1.17	\$40.19	-\$9.81	0.78	0.80	-2.38%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	\$4.64	1.06	\$52.98	\$0.00	\$79.88	\$3.30	\$83.17	\$30.20	1.51	1.57	12.07%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	\$0.00	1.27	\$127.38	\$0.00	\$165.70	\$0.55	\$166.25	\$38.87	1.30	1.31	14.28%
Total Liquidating		\$517.28	\$16.37	1.07	\$552.22	\$18.40	\$781.29	\$11.46	\$792.75	\$222.12	1.37	1.39	8.45%



<sup>\*</sup> Denotes preliminary estimated December 31, 2022 net asset value used, provided by the Manager.

Investments		Cor	mmitments		Contribu	tions & Distri	butions		Valuations		P	erforma	ance
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Call Ratio	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Completed													
AEW Core Real Estate Separate Account	2005	\$243.53	\$0.00	1.00	\$243.53	\$0.00	\$245.21	\$0.00	\$245.21	\$1.69	1.01	1.01	0.16%
AEW Partners III, L.P.	1998	\$100.00	\$0.00	1.02	\$101.69	\$0.00	\$150.65	\$0.00	\$150.65	\$48.95	1.48	1.48	8.77%
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00	\$0.00	1.05	\$78.82	\$0.00	\$116.21	\$0.00	\$116.21	\$37.39	1.47	1.47	6.25%
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$72.05	\$0.00	1.00	\$72.05	\$0.00	\$86.15	\$0.00	\$86.15	\$14.10	1.20	1.20	9.27%
Canyon-Johnson Urban Fund II, L.P.	2005	\$44.94	\$0.00	1.00	\$44.94	\$0.00	\$20.04	\$0.00	\$20.04	-\$24.91	0.45	0.45	-10.43%
Capri Select Income II, L.P.	2005	\$30.00	\$0.00	1.01	\$30.45	\$0.00	\$15.89	\$0.00	\$15.89	-\$14.56	0.52	0.52	-9.89%
Colony Realty Partners II, L.P.	2006	\$50.00	\$0.00	1.02	\$51.00	\$0.00	\$13.19	\$0.00	\$13.19	-\$37.81	0.26	0.26	-13.75%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00	\$0.00	1.00	\$25.00	\$0.23	\$30.28	\$0.00	\$30.28	\$5.05	1.20	1.20	2.90%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00	\$0.00	1.01	\$25.16	\$0.00	\$39.52	\$0.00	\$39.52	\$14.36	1.57	1.57	13.50%
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	\$0.00	1.00	\$30.00	-\$0.08	\$47.99	\$0.00	\$47.99	\$18.07	1.60	1.60	18.45%
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00	\$0.00	1.17	\$58.46	\$0.00	\$14.10	\$0.00	\$14.10	-\$44.36	0.24	0.24	
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00	\$0.00	1.02	\$102.20	\$0.00	\$27.72	\$0.00	\$27.72	-\$74.49	0.27	0.27	-16.47%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00	\$0.00	1.00	\$15.00	\$0.00	\$17.34	\$0.00	\$17.34	\$2.34	1.16	1.16	3.10%
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00	\$0.00	1.02	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00	\$0.00	1.02	\$20.46	\$2.72	\$22.07	\$0.00	\$22.07	-\$1.11	0.95	0.95	-0.86%
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00	\$0.00	1.00	\$50.00	\$7.82	\$32.25	\$0.00	\$32.25	-\$25.57	0.56	0.56	-6.92%
Urban Strategy America Fund, L.P.	2006	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$43.39	\$0.00	\$43.39	-\$6.61	0.87	0.87	-1.86%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13	\$0.00	1.00	\$73.13	\$0.15	\$171.65	\$0.00	\$171.65	\$98.37	2.34	2.34	13.03%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00	\$0.00	1.41	\$140.84	\$0.00	\$84.03	\$0.00	\$84.03	-\$56.81	0.60	0.60	-13.20%
Total Completed		\$1,193.65	\$0.00	1.05	\$1,253.50	\$14.81	\$1,234.69	\$0.00	\$1,234.69	-\$33.63	0.97	0.97	-0.67%



Investments		Cor	nmitments		Contribu	tions & Distril	butions		Valuations		P	erforma	ance
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Call Ratio	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Open End													
American Core Realty Separate Account	2012	\$150.00	\$0.00	1.49	\$223.19	\$2.02	\$172.78	\$173.73	\$346.51	\$121.30	0.77	1.54	11.48%
Ares Real Estate Enhanced Income Fund, L.P.	2020	\$100.00	\$0.00	1.10	\$110.17	\$0.00	\$10.17	\$108.25	\$118.42	\$8.25	0.09	1.07	4.65%
Barings Core Property Fund, L.P.	2008	\$250.00	\$0.00	1.00	\$250.00	\$0.00	\$174.51	\$271.59	\$446.10	\$196.10	0.70	1.78	6.61%
Carlyle Property Investors, L.P.	2020	\$150.00	\$0.00	1.00	\$150.00	\$0.00	\$0.00	\$218.43	\$218.43	\$68.43	0.00	1.46	20.55%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	\$35.77	2.39	\$429.50	\$0.50	\$358.55	\$192.96	\$551.51	\$121.51	0.83	1.28	6.89%
JP Morgan Strategic Property Fund	2014	\$90.00	\$0.00	1.00	\$90.00	\$1.43	\$120.44	\$0.00	\$120.44	\$29.01	1.32	1.32	7.60%
Lion Industrial Trust	2014	\$102.34	\$0.00	1.00	\$102.34	\$9.26	\$41.94	\$300.59	\$342.53	\$230.93	0.38	3.07	19.56%
Oak Street Real Estate Capital Net Lease Property Fund, L.F.	2. 2019	\$100.00	\$0.00	1.00	\$100.00	\$0.00	\$16.19	\$135.50	\$151.69	\$51.69	0.16	1.52	23.07%
Prime Property Fund, LLC	2007	\$225.00	\$0.00	1.00	\$225.00	\$0.00	\$172.07	\$332.67	\$504.74	\$279.74	0.76	2.24	8.20%
PRISA I, L.P.	2014	\$185.00	\$0.00	1.00	\$185.00	\$0.00	\$52.68	\$256.20	\$308.88	\$123.88	0.28	1.67	8.70%
State of Connecticut US REIT	2021	\$200.00	\$0.00	1.00	\$200.00	\$0.00	\$0.00	\$199.50	\$199.50	-\$0.50	0.00	1.00	-0.14%
Trumbull Property Fund, L.P.	2013	\$75.00	\$0.00	1.00	\$75.00	\$0.00	\$50.07	\$58.38	\$108.44	\$33.44	0.67	1.45	5.43%
Trumbull Property Income Fund, L.P.	2013	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$17.57	\$66.54	\$84.11	\$34.11	0.35	1.68	6.99%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$39.82	\$71.38	\$111.20	\$61.20	0.80	2.22	11.37%
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	\$0.00	1.00	\$100.00	\$0.00	\$26.54	\$183.99	\$210.53	\$110.53	0.27	2.11	9.89%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	\$0.00	1.00	\$50.00	\$0.00	\$2.46	\$62.29	\$64.76	\$14.76	0.05	1.30	7.08%
Total Open End		\$2,057.34	\$35.77	1.16	\$2,390.19	\$13.21	\$1,255.79	\$2,632.01	\$3,887.80	\$1,484.39	0.52	1.62	8.87%
Total		\$6,697.77	\$1,555.35	0.87	\$5,804.40	\$69.95	\$4,221.30	\$3,742.87	\$7,964.17	\$2,089.81	0.72	1.36	6.40%



Investments		Commitn	nents	Contribu	itions & Distrib	outions		Valuations		Р	erforma	ance
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
1998												
AEW Partners III, L.P.	1998	\$100.00	\$0.00	\$101.69	\$0.00	\$150.65	\$0.00	\$150.65	\$48.95	1.48	1.48	8.77%
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00	\$0.00	\$78.82	\$0.00	\$116.21	\$0.00	\$116.21	\$37.39	1.47	1.47	6.25%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00	\$0.00	\$15.00	\$0.00	\$17.34	\$0.00	\$17.34	\$2.34	1.16	1.16	3.10%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13	\$0.00	\$73.13	\$0.15	\$171.65	\$0.00	\$171.65	\$98.37	2.34	2.34	13.03%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00	\$0.00	\$140.84	\$0.00	\$84.03	\$0.00	\$84.03	-\$56.81	0.60	0.60	-13.20%
Total 1998		\$363.13	\$0.00	\$409.49	\$0.15	\$539.88	\$0.00	\$539.88	\$130.24	1.32	1.32	5.24%
2004												
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Total 2004		\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
2005												
AEW Core Real Estate Separate Account	2005	\$243.53	\$0.00	\$243.53	\$0.00	\$245.21	\$0.00	\$245.21	\$1.69	1.01	1.01	0.16%
Canyon-Johnson Urban Fund II, L.P.	2005	\$44.94	\$0.00	\$44.94	\$0.00	\$20.04	\$0.00	\$20.04	-\$24.91	0.45	0.45	-10.43%
Capri Select Income II, L.P.	2005	\$30.00	\$0.00	\$30.45	\$0.00	\$15.89	\$0.00	\$15.89	-\$14.56	0.52	0.52	-9.89%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00	\$0.00	\$20.46	\$2.72	\$22.07	\$0.00	\$22.07	-\$1.11	0.95	0.95	-0.86%
Total 2005		\$338.47	\$0.00	\$339.38	\$2.72	\$303.21	\$0.00	\$303.21	-\$38.88	0.89	0.89	-2.56%
2006												
Colony Realty Partners II, L.P.	2006	\$50.00	\$0.00	\$51.00	\$0.00	\$13.19	\$0.00	\$13.19	-\$37.81	0.26	0.26	-13.75%
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$7.82	\$32.25	\$0.00	\$32.25	-\$25.57	0.56	0.56	-6.92%
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$39.01	\$1.17	\$40.19	-\$9.81	0.78	0.80	-2.38%
Urban Strategy America Fund, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$43.39	\$0.00	\$43.39	-\$6.61	0.87	0.87	-1.86%
Total 2006		\$200.00	\$0.00	\$201.00	\$7.82	\$127.84	\$1.17	\$129.02	-\$79.80	0.61	0.62	-5.56%
2007												
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	\$4.91	\$99.61	\$12.09	\$221.21	\$1.75	\$222.96	\$111.26	1.98	2.00	13.21%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00	\$0.00	\$25.00	\$0.23	\$30.28	\$0.00	\$30.28	\$5.05	1.20	1.20	2.90%
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00	\$0.00	\$102.20	\$0.00	\$27.72	\$0.00	\$27.72	-\$74.49	0.27	0.27	-16.47%
Prime Property Fund, LLC	2007	\$225.00	\$0.00	\$225.00	\$0.00	\$172.07	\$332.67	\$504.74	\$279.74	0.76	2.24	8.20%
Total 2007		\$450.00	\$4.91	\$451.81	\$12.32	\$451.27	\$334.43	\$785.70	\$321.56	0.97	1.69	6.24%



Investments		Commitm	nents	Contribu	tions & Distrib	utions		Valuations		Р	erforma	ance
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
2008												
Barings Core Property Fund, L.P.	2008	\$250.00	\$0.00	\$250.00	\$0.00	\$174.51	\$271.59	\$446.10	\$196.10	0.70	1.78	6.61%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00	\$0.00	\$25.16	\$0.00	\$39.52	\$0.00	\$39.52	\$14.36	1.57	1.57	13.50%
Investor India Realty Fund II, LLC	2008	\$50.00	\$0.00	\$50.00	\$0.00	\$25.22	\$0.51	\$25.73	-\$24.27	0.50	0.51	-10.43%
Total 2008		\$325.00	\$0.00	\$325.16	\$0.00	\$239.25	\$272.10	\$511.34	\$186.18	0.74	1.57	5.48%
2009												
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	\$5.99	\$46.56	\$6.31	\$72.26	\$3.98	\$76.24	\$23.38	1.37	1.44	10.04%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	\$4.64	\$52.98	\$0.00	\$79.88	\$3.30	\$83.17	\$30.20	1.51	1.57	12.07%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	\$0.00	\$127.38	\$0.00	\$165.70	\$0.55	\$166.25	\$38.87	1.30	1.31	14.28%
Total 2009		\$200.00	\$10.64	\$226.91	\$6.31	\$317.83	\$7.83	\$325.66	\$92.44	1.36	1.40	12.38%
2010												
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.05	1.32	1.32	10.95%
Total 2010		\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.05	1.32	1.32	10.95%
2011												
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$72.05	\$0.00	\$72.05	\$0.00	\$86.15	\$0.00	\$86.15	\$14.10	1.20	1.20	9.27%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	\$35.77	\$429.50	\$0.50	\$358.55	\$192.96	\$551.51	\$121.51	0.83	1.28	6.89%
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$67.28	\$0.83	\$75.11	\$0.00	\$111.37	\$0.19	\$111.56	\$36.45	1.48	1.49	25.27%
Total 2011		\$319.33	\$36.60	\$576.65	\$0.50	\$556.07	\$193.15	\$749.22	\$172.07	0.96	1.30	8.70%
2012												
American Core Realty Separate Account	2012	\$150.00	\$0.00	\$223.19	\$2.02	\$172.78	\$173.73	\$346.51	\$121.30	0.77	1.54	11.48%
Total 2012		\$150.00	\$0.00	\$223.19	\$2.02	\$172.78	\$173.73	\$346.51	\$121.30	0.77	1.54	11.48%
2013												
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	\$3.50	\$46.50	\$0.00	\$80.12	\$4.15	\$84.27	\$37.77	1.72	1.81	18.93%
Trumbull Property Fund, L.P.	2013	\$75.00	\$0.00	\$75.00	\$0.00	\$50.07	\$58.38	\$108.44	\$33.44	0.67	1.45	5.43%
Trumbull Property Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$17.57	\$66.54	\$84.11	\$34.11	0.35	1.68	6.99%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$39.82	\$71.38	\$111.20	\$61.20	0.80	2.22	11.37%
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	\$0.00	\$100.00	\$0.00	\$26.54	\$183.99	\$210.53	\$110.53	0.27	2.11	9.89%
Total 2013		\$325.00	\$3.50	\$321.50	\$0.00	\$214.12	\$384.44	\$598.56	\$277.06	0.67	1.86	9.42%



Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
2014												
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00	\$0.00	\$58.46	\$0.00	\$14.10	\$0.00	\$14.10	-\$44.36	0.24	0.24	
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	\$1.98	\$29.53	\$0.98	\$30.32	\$9.25	\$39.57	\$9.06	0.99	1.30	6.65%
JP Morgan Strategic Property Fund	2014	\$90.00	\$0.00	\$90.00	\$1.43	\$120.44	\$0.00	\$120.44	\$29.01	1.32	1.32	7.60%
Lion Industrial Trust	2014	\$102.34	\$0.00	\$102.34	\$9.26	\$41.94	\$300.59	\$342.53	\$230.93	0.38	3.07	19.56%
PRISA I, L.P.	2014	\$185.00	\$0.00	\$185.00	\$0.00	\$52.68	\$256.20	\$308.88	\$123.88	0.28	1.67	8.70%
Total 2014		\$457.34	\$1.98	\$465.33	\$11.67	\$259.48	\$566.04	\$825.52	\$348.52	0.54	1.73	10.24%
2015												
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	\$14.27	\$106.92	\$8.53	\$117.84	\$77.78	\$195.61	\$80.16	1.02	1.69	16.60%
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	\$0.00	\$30.00	-\$0.08	\$47.99	\$0.00	\$47.99	\$18.07	1.60	1.60	18.45%
Landmark Real Estate Fund VII, L.P.*	2015	\$40.00	\$3.12	\$36.88	\$0.00	\$37.16	\$6.35	\$43.51	\$6.63	1.01	1.18	6.57%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	\$10.00	\$90.00	\$0.00	\$112.32	\$21.74	\$134.05	\$44.05	1.25	1.49	17.08%
Total 2015		\$270.00	\$27.39	\$263.80	\$8.45	\$315.29	\$105.87	\$421.16	\$148.91	1.16	1.55	15.79%
2016												
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	\$6.44	\$68.56	\$5.75	\$98.85	\$2.81	\$101.66	\$27.35	1.33	1.37	11.01%
Total 2016		\$75.00	\$6.44	\$68.56	\$5.75	\$98.85	\$2.81	\$101.66	\$27.35	1.33	1.37	11.01%
2017												
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	\$8.86	\$42.88	\$3.81	\$35.98	\$29.96	\$65.94	\$19.24	0.77	1.41	10.31%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	\$1.77	\$49.11	\$1.39	\$16.24	\$32.74	\$48.98	-\$1.52	0.32	0.97	-0.66%
Landmark Real Estate Partners VIII, L.P.*	2017	\$65.00	\$31.75	\$45.61	-\$0.08	\$28.74	\$33.88	\$62.63	\$17.10	0.63	1.38	19.07%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	\$10.00	\$44.00	\$0.00	\$13.70	\$41.42	\$55.12	\$11.12	0.31	1.25	12.92%
Total 2017		\$215.00	\$52.38	\$181.61	\$5.12	\$94.67	\$138.00	\$232.67	\$45.95	0.51	1.25	7.50%
2018												
BIG Real Estate Fund I, L.P.	2018	\$65.00	\$8.67	\$81.68	\$0.62	\$51.89	\$46.44	\$98.33	\$16.03	0.63	1.19	9.77%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	\$0.00	\$50.00	\$0.29	\$55.49	\$35.17	\$90.67	\$40.37	1.10	1.80	25.89%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	\$9.44	\$65.56	\$0.00	\$100.47	\$4.65	\$105.12	\$39.56	1.53	1.60	23.12%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	\$0.00	\$50.00	\$0.00	\$2.46	\$62.29	\$64.76	\$14.76	0.05	1.30	7.08%
Total 2018		\$240.00	\$18.11	\$247.24	\$0.91	\$210.31	\$148.56	\$358.87	\$110.72	0.85	1.45	15.91%



<sup>\*</sup> Denotes preliminary estimated December 31, 2022 net asset value used, provided by the Manager.

Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
2019												
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	\$38.02	\$75.74	\$2.15	\$23.31	\$60.33	\$83.64	\$5.75	0.30	1.07	5.04%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	\$15.87	\$62.90	-\$1.40	\$4.10	\$57.99	\$62.09	\$0.58	0.07	1.01	0.61%
Oak Street Real Estate Capital Net Lease Property Fund, L.P.	2019	\$100.00	\$0.00	\$100.00	\$0.00	\$16.19	\$135.50	\$151.69	\$51.69	0.16	1.52	23.07%
Total 2019		\$275.00	\$53.89	\$238.65	\$0.75	\$43.59	\$253.83	\$297.42	\$58.02	0.18	1.24	13.28%
2020												
Ares Real Estate Enhanced Income Fund, L.P.	2020	\$100.00	\$0.00	\$110.17	\$0.00	\$10.17	\$108.25	\$118.42	\$8.25	0.09	1.07	4.65%
Blackstone Property Partners Life Sciences, L.P.	2020	\$29.15	\$6.10	\$26.75	-\$0.11	\$4.74	\$29.55	\$34.29	\$7.66	0.18	1.29	14.88%
Carlyle Property Investors, L.P.	2020	\$150.00	\$0.00	\$150.00	\$0.00	\$0.00	\$218.43	\$218.43	\$68.43	0.00	1.46	20.55%
IPI Partners II, L.P.	2020	\$100.00	\$40.90	\$60.78	\$0.07	\$1.67	\$57.86	\$59.53	-\$1.32	0.03	0.98	-2.71%
Rockpoint Real Estate Fund VI, L.P.	2020	\$150.00	\$35.80	\$119.16	\$0.26	\$16.67	\$126.77	\$143.45	\$24.03	0.14	1.20	15.60%
Torchlight Debt Opportunities Fund VII, L.P.	2020	\$100.00	\$50.00	\$55.06	\$0.00	\$5.06	\$53.73	\$58.79	\$3.73	0.09	1.07	6.39%
Waterton Residential Property Venture XIV, L.P.	2020	\$100.00	\$47.33	\$52.81	\$0.00	\$0.14	\$58.96	\$59.10	\$6.29	0.00	1.12	12.61%
Total 2020		\$729.15	\$180.12	\$574.72	\$0.22	\$38.46	\$653.55	\$692.01	\$117.06	0.07	1.20	13.49%
2021												
BIG Real Estate Fund II, L.P.	2021	\$125.00	\$81.20	\$79.99	-\$0.26	\$38.24	\$42.66	\$80.91	\$1.17	0.48	1.01	3.04%
Carlyle Realty Partners IX, L.P.	2021	\$180.00	\$169.73	\$10.27	\$0.00	\$0.00	\$6.66	\$6.66	-\$3.61	0.00	0.65	-62.19%
Covenant Apartment Fund X (Institutional), L.P.	2021	\$100.00	\$9.00	\$91.00	\$1.39	\$22.93	\$104.07	\$127.01	\$34.61	0.25	1.37	34.01%
Mesirow Financial Real Estate Value Fund IV, L.P.	2021	\$75.00	\$46.67	\$28.33	\$0.02	\$0.33	\$31.84	\$32.17	\$3.82	0.01	1.13	15.87%
Penzance DC Real Estate Fund II, L.P.	2021	\$50.00	\$50.00	\$2.33	\$0.06	\$5.38	\$3.48	\$8.86	\$6.47	2.26	3.72	197.11%
Rubicon First Ascent, L.P.	2021	\$42.50	\$34.45	\$8.05	\$0.01	\$0.00	\$3.92	\$3.92	-\$4.14	0.00	0.49	-48.25%
State of Connecticut US REIT	2021	\$200.00	\$0.00	\$200.00	\$0.00	\$0.00	\$199.50	\$199.50	-\$0.50	0.00	1.00	-0.14%
TruAmerica Workforce Housing Fund I-A, L.P.	2021	\$50.00	\$5.58	\$68.89	-\$0.22	\$28.73	\$34.88	\$63.61	-\$5.06	0.42	0.93	-8.74%
Total 2021		\$822.50	\$396.63	\$488.86	\$1.00	\$95.61	\$427.01	\$522.63	\$32.77	0.20	1.07	5.53%



Investments		Commitments		Contributions & Distributions			Valuations			Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
2022												
Artemis Real Estate Partners Fund IV, L.P.	2022	\$125.00	\$121.20	\$3.80	\$0.02	\$0.00	\$1.62	\$1.62	-\$2.21	0.00	0.42	
Centerbridge Partners Real Estate Fund II	2022	\$200.00	\$169.12	\$30.88	\$0.00	\$0.00	\$26.22	\$26.22	-\$4.66	0.00	0.85	-15.08%
CityView Real Estate Partners VII, L.P.	2022	\$27.85	\$16.68	\$11.16	\$0.00	\$0.00	\$10.10	\$10.10	-\$1.06	0.00	0.90	-29.16%
IPI Partners III-A, L.P.	2022	\$125.00	\$102.32	\$22.68	\$0.25	\$0.00	\$20.81	\$20.81	-\$2.12	0.00	0.91	-9.23%
Landmark Real Estate Co-Investment Fund I, L.P.*	2022	\$50.00	\$47.21	\$2.79	\$0.00	\$0.00	\$3.21	\$3.21	\$0.42	0.00	1.15	15.00%
Landmark Real Estate Partners IX, LP	2022	\$100.00	\$100.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			
Morgan Stanley Real Estate Co-Investment, L.P.*	2022	\$225.00	\$206.23	\$37.87	\$0.00	\$19.10	\$18.40	\$37.50	-\$0.37	0.50	0.99	-2.37%
Total 2022		\$852.85	\$762.77	\$109.18	\$0.27	\$19.10	\$80.36	\$99.46	-\$9.99	0.17	0.91	-24.21%
Total		\$6,697.77	\$1,555.35	\$5,804.40	\$69.95	\$4,221.30	\$3,742.87	\$7,964.17	\$2,089.81	0.72	1.36	6.40%



<sup>\*</sup> Denotes preliminary estimated December 31, 2022 net asset value used, provided by the Manager.

## **ANALYSIS BY INVESTMENT STRATEGY**

Investments		Commitm	nents	Contribu	itions & Distrib	outions		Valuations		Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Co-Investment												
Landmark Real Estate Co-Investment Fund I, L.P.*	2022	\$50.00	\$47.21	\$2.79	\$0.00	\$0.00	\$3.21	\$3.21	\$0.42	0.00	1.15	15.00%
Morgan Stanley Real Estate Co-Investment, L.P.*	2022	\$225.00	\$206.23	\$37.87	\$0.00	\$19.10	\$18.40	\$37.50	-\$0.37	0.50	0.99	-2.37%
Total Co-Investment		\$275.00	\$253.44	\$40.66	\$0.00	\$19.10	\$21.61	\$40.71	\$0.05	0.47	1.00	0.32%
Core												
AEW Core Real Estate Separate Account	2005	\$243.53	\$0.00	\$243.53	\$0.00	\$245.21	\$0.00	\$245.21	\$1.69	1.01	1.01	0.16%
American Core Realty Separate Account	2012	\$150.00	\$0.00	\$223.19	\$2.02	\$172.78	\$173.73	\$346.51	\$121.30	0.77	1.54	11.48%
Ares Real Estate Enhanced Income Fund, L.P.	2020	\$100.00	\$0.00	\$110.17	\$0.00	\$10.17	\$108.25	\$118.42	\$8.25	0.09	1.07	4.65%
Barings Core Property Fund, L.P.	2008	\$250.00	\$0.00	\$250.00	\$0.00	\$174.51	\$271.59	\$446.10	\$196.10	0.70	1.78	6.61%
Capri Select Income II, L.P.	2005	\$30.00	\$0.00	\$30.45	\$0.00	\$15.89	\$0.00	\$15.89	-\$14.56	0.52	0.52	-9.89%
Hart Realty Advisors-Core Separate Account	2011	\$180.00	\$35.77	\$429.50	\$0.50	\$358.55	\$192.96	\$551.51	\$121.51	0.83	1.28	6.89%
JP Morgan Strategic Property Fund	2014	\$90.00	\$0.00	\$90.00	\$1.43	\$120.44	\$0.00	\$120.44	\$29.01	1.32	1.32	7.60%
Prime Property Fund, LLC	2007	\$225.00	\$0.00	\$225.00	\$0.00	\$172.07	\$332.67	\$504.74	\$279.74	0.76	2.24	8.20%
PRISA I, L.P.	2014	\$185.00	\$0.00	\$185.00	\$0.00	\$52.68	\$256.20	\$308.88	\$123.88	0.28	1.67	8.70%
Trumbull Property Fund, L.P.	2013	\$75.00	\$0.00	\$75.00	\$0.00	\$50.07	\$58.38	\$108.44	\$33.44	0.67	1.45	5.43%
Trumbull Property Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$17.57	\$66.54	\$84.11	\$34.11	0.35	1.68	6.99%
Total Core		\$1,578.52	\$35.77	\$1,911.83	\$3.95	\$1,389.93	\$1,460.32	\$2,850.26	\$934.48	0.73	1.49	6.49%
Core Plus												
Artemis Real Estate Partners Income & Growth Fund, L.P.	2019	\$100.00	\$38.02	\$75.74	\$2.15	\$23.31	\$60.33	\$83.64	\$5.75	0.30	1.07	5.04%
Blackstone Property Partners Life Sciences, L.P.	2020	\$29.15	\$6.10	\$26.75	-\$0.11	\$4.74	\$29.55	\$34.29	\$7.66	0.18	1.29	14.88%
Carlyle Property Investors, L.P.	2020	\$150.00	\$0.00	\$150.00	\$0.00	\$0.00	\$218.43	\$218.43	\$68.43	0.00	1.46	20.55%
Lion Industrial Trust	2014	\$102.34	\$0.00	\$102.34	\$9.26	\$41.94	\$300.59	\$342.53	\$230.93	0.38	3.07	19.56%
Oak Street Real Estate Capital Net Lease Property Fund, L.P.	2019	\$100.00	\$0.00	\$100.00	\$0.00	\$16.19	\$135.50	\$151.69	\$51.69	0.16	1.52	23.07%
UBS Trumbull Property Growth & Income Fund, L.P.	2013	\$50.00	\$0.00	\$50.00	\$0.00	\$39.82	\$71.38	\$111.20	\$61.20	0.80	2.22	11.37%
USAA Eagle Real Estate Feeder 1, L.P.	2013	\$100.00	\$0.00	\$100.00	\$0.00	\$26.54	\$183.99	\$210.53	\$110.53	0.27	2.11	9.89%
USAA Eagle Real Estate Feeder 1, L.P.	2018	\$50.00	\$0.00	\$50.00	\$0.00	\$2.46	\$62.29	\$64.76	\$14.76	0.05	1.30	7.08%
Total Core Plus		\$681.49	\$44.12	\$654.83	\$11.30	\$155.01	\$1,062.07	\$1,217.08	\$550.95	0.23	1.83	14.22%



<sup>\*</sup> Denotes preliminary estimated December 31, 2022 net asset value used, provided by the Manager.

## **ANALYSIS BY INVESTMENT STRATEGY**

Investments		Commitm	nents	Contribu	tions & Distrib	utions		Valuations		Pe	rforma	nce
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Opportunistic												
AEW Partners III, L.P.	1998	\$100.00	\$0.00	\$101.69	\$0.00	\$150.65	\$0.00	\$150.65	\$48.95	1.48	1.48	8.77%
Apollo Real Estate Investment Fund III, L.P.	1998	\$75.00	\$0.00	\$78.82	\$0.00	\$116.21	\$0.00	\$116.21	\$37.39	1.47	1.47	6.25%
Artemis Real Estate Partners Fund IV, L.P.	2022	\$125.00	\$121.20	\$3.80	\$0.02	\$0.00	\$1.62	\$1.62	-\$2.21	0.00	0.42	
Blackstone Real Estate Partners Europe III, L.P.	2009	\$50.00	\$5.99	\$46.56	\$6.31	\$72.26	\$3.98	\$76.24	\$23.38	1.37	1.44	10.04%
Blackstone Real Estate Partners Europe V, L.P.	2017	\$50.00	\$8.86	\$42.88	\$3.81	\$35.98	\$29.96	\$65.94	\$19.24	0.77	1.41	10.31%
Blackstone Real Estate Partners VI, L.P.	2007	\$100.00	\$4.91	\$99.61	\$12.09	\$221.21	\$1.75	\$222.96	\$111.26	1.98	2.00	13.21%
Blackstone Real Estate Partners VIII, L.P.	2015	\$100.00	\$14.27	\$106.92	\$8.53	\$117.84	\$77.78	\$195.61	\$80.16	1.02	1.69	16.60%
Canyon-Johnson Urban Fund II, L.P.	2005	\$44.94	\$0.00	\$44.94	\$0.00	\$20.04	\$0.00	\$20.04	-\$24.91	0.45	0.45	-10.43%
Canyon-Johnson Urban Fund III, L.P.	2010	\$50.00	\$0.00	\$50.59	\$0.00	\$66.65	\$0.00	\$66.65	\$16.05	1.32	1.32	10.95%
Carlyle Realty Partners IX, L.P.	2021	\$180.00	\$169.73	\$10.27	\$0.00	\$0.00	\$6.66	\$6.66	-\$3.61	0.00	0.65	-62.19%
Centerbridge Partners Real Estate Fund II	2022	\$200.00	\$169.12	\$30.88	\$0.00	\$0.00	\$26.22	\$26.22	-\$4.66	0.00	0.85	-15.08%
Investor India Realty Fund II, LLC	2008	\$50.00	\$0.00	\$50.00	\$0.00	\$25.22	\$0.51	\$25.73	-\$24.27	0.50	0.51	-10.43%
IPI Partners II, L.P.	2020	\$100.00	\$40.90	\$60.78	\$0.07	\$1.67	\$57.86	\$59.53	-\$1.32	0.03	0.98	-2.71%
IPI Partners III-A, L.P.	2022	\$125.00	\$102.32	\$22.68	\$0.25	\$0.00	\$20.81	\$20.81	-\$2.12	0.00	0.91	-9.23%
Lone Star Real Estate Fund II (U.S.), L.P.	2011	\$67.28	\$0.83	\$75.11	\$0.00	\$111.37	\$0.19	\$111.56	\$36.45	1.48	1.49	25.27%
MacFarlane Urban Real Estate Fund II, L.P.	2007	\$100.00	\$0.00	\$102.20	\$0.00	\$27.72	\$0.00	\$27.72	-\$74.49	0.27	0.27	-16.47%
Penzance DC Real Estate Fund II, L.P.	2021	\$50.00	\$50.00	\$2.33	\$0.06	\$5.38	\$3.48	\$8.86	\$6.47	2.26	3.72	197.11%
Rockpoint Real Estate Fund VI, L.P.	2020	\$150.00	\$35.80	\$119.16	\$0.26	\$16.67	\$126.77	\$143.45	\$24.03	0.14	1.20	15.60%
Rubicon First Ascent, L.P.	2021	\$42.50	\$34.45	\$8.05	\$0.01	\$0.00	\$3.92	\$3.92	-\$4.14	0.00	0.49	-48.25%
Starwood Distressed Opportunity Fund IX Global, L.P.	2013	\$50.00	\$3.50	\$46.50	\$0.00	\$80.12	\$4.15	\$84.27	\$37.77	1.72	1.81	18.93%
Starwood Global Opportunity Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$39.01	\$1.17	\$40.19	-\$9.81	0.78	0.80	-2.38%
Starwood Global Opportunity Fund VIII, L.P.	2009	\$50.00	\$4.64	\$52.98	\$0.00	\$79.88	\$3.30	\$83.17	\$30.20	1.51	1.57	12.07%
Starwood Global Opportunity Fund X, L.P.	2015	\$100.00	\$10.00	\$90.00	\$0.00	\$112.32	\$21.74	\$134.05	\$44.05	1.25	1.49	17.08%
Starwood Opportunity Fund XI Global, L.P.	2017	\$50.00	\$10.00	\$44.00	\$0.00	\$13.70	\$41.42	\$55.12	\$11.12	0.31	1.25	12.92%
Walton Street Real Estate Fund II, L.P.	1998	\$73.13	\$0.00	\$73.13	\$0.15	\$171.65	\$0.00	\$171.65	\$98.37	2.34	2.34	13.03%
Westport Senior Living Investment Fund, L.P.	1998	\$100.00	\$0.00	\$140.84	\$0.00	\$84.03	\$0.00	\$84.03	-\$56.81	0.60	0.60	-13.20%
WLR IV PPIP Co-Invest, L.P.	2009	\$100.00	\$0.00	\$127.38	\$0.00	\$165.70	\$0.55	\$166.25	\$38.87	1.30	1.31	14.28%
Total Opportunistic		\$2,332.86	\$786.53	\$1,682.10	\$31.56	\$1,735.26	\$433.83	\$2,169.09	\$455.43	1.01	1.27	5.65%
REIT												
State of Connecticut US REIT	2021	\$200.00	\$0.00	\$200.00	\$0.00	\$0.00	\$199.50	\$199.50	-\$0.50	0.00	1.00	-0.14%
Total REIT		\$200.00	\$0.00	\$200.00	\$0.00	\$0.00	\$199.50	\$199.50	-\$0.50	0.00	1.00	-0.14%



## **ANALYSIS BY INVESTMENT STRATEGY**

Investments		Commitm	nents	Contribu	tions & Distrib	utions		Valuations		Performance		
Investment Name	Vintage Year	Commitment	Unfunded Commitment	Paid In Capital	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	DPI	TVPI	IRR
Value Add												
BIG Real Estate Fund I, L.P.	2018	\$65.00	\$8.67	\$81.68	\$0.62	\$51.89	\$46.44	\$98.33	\$16.03	0.63	1.19	9.77%
BIG Real Estate Fund II, L.P.	2021	\$125.00	\$81.20	\$79.99	-\$0.26	\$38.24	\$42.66	\$80.91	\$1.17	0.48	1.01	3.04%
Blackstone Real Estate Special Situations Fund II, L.P.	2011	\$72.05	\$0.00	\$72.05	\$0.00	\$86.15	\$0.00	\$86.15	\$14.10	1.20	1.20	9.27%
CityView Real Estate Partners VII, L.P.	2022	\$27.85	\$16.68	\$11.16	\$0.00	\$0.00	\$10.10	\$10.10	-\$1.06	0.00	0.90	-29.16%
Colony Realty Partners II, L.P.	2006	\$50.00	\$0.00	\$51.00	\$0.00	\$13.19	\$0.00	\$13.19	-\$37.81	0.26	0.26	-13.75%
Covenant Apartment Fund IX, L.P.	2018	\$50.00	\$0.00	\$50.00	\$0.29	\$55.49	\$35.17	\$90.67	\$40.37	1.10	1.80	25.89%
Covenant Apartment Fund V (Institutional), L.P.	2007	\$25.00	\$0.00	\$25.00	\$0.23	\$30.28	\$0.00	\$30.28	\$5.05	1.20	1.20	2.90%
Covenant Apartment Fund VI (Institutional), L.P.	2008	\$25.00	\$0.00	\$25.16	\$0.00	\$39.52	\$0.00	\$39.52	\$14.36	1.57	1.57	13.50%
Covenant Apartment Fund VIII, L.P.	2015	\$30.00	\$0.00	\$30.00	-\$0.08	\$47.99	\$0.00	\$47.99	\$18.07	1.60	1.60	18.45%
Covenant Apartment Fund X (Institutional), L.P.	2021	\$100.00	\$9.00	\$91.00	\$1.39	\$22.93	\$104.07	\$127.01	\$34.61	0.25	1.37	34.01%
Crow Holdings Realty Partners VII, L.P.	2016	\$75.00	\$6.44	\$68.56	\$5.75	\$98.85	\$2.81	\$101.66	\$27.35	1.33	1.37	11.01%
Crow Holdings Realty Partners VIII, L.P.	2018	\$75.00	\$9.44	\$65.56	\$0.00	\$100.47	\$4.65	\$105.12	\$39.56	1.53	1.60	23.12%
Cypress Acquisition Partners Retail Fund, L.P.	2014	\$50.00	\$0.00	\$58.46	\$0.00	\$14.10	\$0.00	\$14.10	-\$44.36	0.24	0.24	
Gerding Edlen Green Cities II, L.P.	2014	\$30.00	\$1.98	\$29.53	\$0.98	\$30.32	\$9.25	\$39.57	\$9.06	0.99	1.30	6.65%
Gerding Edlen Green Cities III, L.P.	2017	\$50.00	\$1.77	\$49.11	\$1.39	\$16.24	\$32.74	\$48.98	-\$1.52	0.32	0.97	-0.66%
Gerding Edlen Green Cities IV, L.P.	2019	\$75.00	\$15.87	\$62.90	-\$1.40	\$4.10	\$57.99	\$62.09	\$0.58	0.07	1.01	0.61%
Landmark Real Estate Fund VII, L.P.*	2015	\$40.00	\$3.12	\$36.88	\$0.00	\$37.16	\$6.35	\$43.51	\$6.63	1.01	1.18	6.57%
Landmark Real Estate Partners IX, LP	2022	\$100.00	\$100.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00			
Landmark Real Estate Partners VIII, L.P.*	2017	\$65.00	\$31.75	\$45.61	-\$0.08	\$28.74	\$33.88	\$62.63	\$17.10	0.63	1.38	19.07%
Mesirow Financial Real Estate Value Fund IV, L.P.	2021	\$75.00	\$46.67	\$28.33	\$0.02	\$0.33	\$31.84	\$32.17	\$3.82	0.01	1.13	15.87%
New Boston Real Estate Individual and Institutional Investment Fund, L.P. IV	1998	\$15.00	\$0.00	\$15.00	\$0.00	\$17.34	\$0.00	\$17.34	\$2.34	1.16	1.16	3.10%
Rockwood Capital Real Estate Partners Fund V, L.P.	2004	\$40.00	\$0.00	\$40.76	\$3.98	\$57.01	\$0.00	\$57.01	\$12.27	1.27	1.27	9.36%
Rockwood Capital Real Estate Partners Fund VI, L.P.	2005	\$20.00	\$0.00	\$20.46	\$2.72	\$22.07	\$0.00	\$22.07	-\$1.11	0.95	0.95	-0.86%
Rockwood Capital Real Estate Partners Fund VII, L.P.	2006	\$50.00	\$0.00	\$50.00	\$7.82	\$32.25	\$0.00	\$32.25	-\$25.57	0.56	0.56	-6.92%
Torchlight Debt Opportunities Fund VII, L.P.	2020	\$100.00	\$50.00	\$55.06	\$0.00	\$5.06	\$53.73	\$58.79	\$3.73	0.09	1.07	6.39%
TruAmerica Workforce Housing Fund I-A, L.P.	2021	\$50.00	\$5.58	\$68.89	-\$0.22	\$28.73	\$34.88	\$63.61	-\$5.06	0.42	0.93	-8.74%
Urban Strategy America Fund, L.P.	2006	\$50.00	\$0.00	\$50.00	\$0.00	\$43.39	\$0.00	\$43.39	-\$6.61	0.87	0.87	-1.86%
Waterton Residential Property Venture XIV, L.P.	2020	\$100.00	\$47.33	\$52.81	\$0.00	\$0.14	\$58.96	\$59.10	\$6.29	0.00	1.12	12.61%
Total Value Add		\$1,629.89	\$435.49	\$1,314.98	\$23.14	\$921.99	\$565.53	\$1,487.53	\$149.40	0.69	1.11	3.24%
Total		\$6,697.77	\$1,555.35	\$5,804.40	\$69.95	\$4,221.30	\$3,742.87	\$7,964.17	\$2,089.81	0.72	1.36	6.40%



<sup>\*</sup> Denotes preliminary estimated December 31, 2022 net asset value used, provided by the Manager.



## **APPENDIX 2:** QUARTERLY **REAL ESTATE TRANSACTIONS**

Fourth Quarter 2022

Fund Name	Month Ended	Capital Call	Additional Fee	Recallable Distribution	Distribution	Net Cash Flow
American Core Realty Separate Account	12/31/2022		300,750		-1,550,000	-1,249,250
Total: American Core Realty Separate Account			300,750		-1,550,000	-1,249,250
Ares Real Estate Enhanced Income Fund, L.P.	12/31/2022	1,457,859		-1,457,859		0
Total: Ares Real Estate Enhanced Income Fund, L.P.		1,457,859		-1,457,859		0
Artemis Real Estate Partners Fund IV, L.P.	12/31/2022	3,798,482	23,468			3,821,950
Total: Artemis Real Estate Partners Fund IV, L.P.		3,798,482	23,468			3,821,950
	40/04/0000	- 400	000 400	44.040		- 0.10.1
Artemis Real Estate Partners Income & Growth Fund, L.P.	12/31/2022	5,429,750	928,130	-41,016	-969,073	5,347,791
Total: Artemis Real Estate Partners Income & Growth Fund, L.P.		5,429,750	928,130	-41,016	-969,073	5,347,791
D: 0 D 15 HD	40/04/0000				07.000.500	07.000.500
Barings Core Property Fund, L.P.	12/31/2022				-27,000,599	-27,000,599
Total: Barings Core Property Fund, L.P.					-27,000,599	-27,000,599
BIG Real Estate Fund I, L.P.	12/31/2022				-3,835,640	-3,835,640
Total: BIG Real Estate Fund I, L.P.	12/31/2022				-3,835,640	-3,835,640
Total. Dio Real Estate Fulla I, E.I .					-0,000,040	-0,000,040
BIG Real Estate Fund II, L.P.	12/31/2022	9,267,030	-239,337	-10,412,336	-959.856	-2,344,499
Total: BIG Real Estate Fund II, L.P.		9,267,030	-239,337	-10,412,336	-959,856	-2,344,499
Blackstone Property Partners Life Sciences, L.P.	12/31/2022	822,599			-148,997	673,602
Total: Blackstone Property Partners Life Sciences, L.P.		822,599			-148,997	673,602
Blackstone Real Estate Partners Europe III, L.P.	12/31/2022				-118,122	-118,122
Total: Blackstone Real Estate Partners Europe III, L.P.					-118,122	-118,122



Fund Name	Month Ended	Capital Call	Additional Fee	Recallable Distribution	Distribution	Net Cash Flow
Blackstone Real Estate Partners Europe V, L.P.	12/31/2022		121,188		-608,468	-487,280
Total: Blackstone Real Estate Partners Europe V, L.P.			121,188		-608,468	-487,280
Blackstone Real Estate Partners VI, L.P.	12/31/2022				-408,768	-408,768
Total: Blackstone Real Estate Partners VI, L.P.					-408,768	-408,768
Blackstone Real Estate Partners VIII, L.P.	12/31/2022	343,548	263,113		-1,095,963	-489,302
Total: Blackstone Real Estate Partners VIII, L.P.		343,548	263,113		-1,095,963	-489,302
	40/04/0000	4.540.004				4.540.004
Carlyle Realty Partners IX, L.P.	12/31/2022	4,548,224				4,548,224
Total: Carlyle Realty Partners IX, L.P.		4,548,224				4,548,224
CityView Real Estate Partners VII, L.P.	12/31/2022	9,267,975				9,267,975
Total: CityView Real Estate Partners VII, L.P.	12/31/2022	9,267,975				9,267,975
Total. Cityview Real Estate Farthers VII, E.F.		9,201,913				9,201,913
Covenant Apartment Fund IX, L.P.	12/31/2022				-4,788,320	-4,788,320
Total: Covenant Apartment Fund IX, L.P.	12/01/2022				-4,788,320	-4,788,320
<b></b>					3,7 00,020	3,7 00,000
Covenant Apartment Fund VIII, L.P.	12/31/2022				-299,751	-299,751
Total: Covenant Apartment Fund VIII, L.P.					-299,751	-299,751
Covenant Apartment Fund X (Institutional), L.P.	12/31/2022				-1,270,087	-1,270,087
Total: Covenant Apartment Fund X (Institutional), L.P.					-1,270,087	-1,270,087
Crow Holdings Realty Partners VII, L.P.	12/31/2022		29,843		-82,300	-52,457
Total: Crow Holdings Realty Partners VII, L.P.			29,843		-82,300	-52,457



Fund Name	Month Ended	Capital Call	Additional Fee	Recallable Distribution	Distribution	Net Cash Flow
Crow Holdings Realty Partners VIII, L.P.	12/31/2022				-6,063,755	-6,063,755
Total: Crow Holdings Realty Partners VIII, L.P.					-6,063,755	-6,063,755
Gerding Edlen Green Cities IV, L.P.	12/31/2022	114,734	-93,750			20,984
Total: Gerding Edlen Green Cities IV, L.P.		114,734	-93,750			20,984
	40/04/0000	4 000 =00		00		4 000 040
Hart Realty Advisors-Core Separate Account	12/31/2022	4,063,769		-2,777,750		1,286,019
Total: Hart Realty Advisors-Core Separate Account		4,063,769		-2,777,750		1,286,019
IDI Davisana II. I. D	40/24/2002	12 007 010				12 227 640
IPI Partners II, L.P.	12/31/2022	13,227,618				13,227,618
Total: IPI Partners II, L.P.		13,227,618				13,227,618
IPI Partners III-A, L.P.	12/31/2022	22,681,897	247,947			22,929,844
Total: IPI Partners III-A, L.P.		22,681,897	247,947			22,929,844
Landmark Real Estate Co-Investment Fund I, L.P.	12/31/2022	2,793,000				2,793,000
Total: Landmark Real Estate Co-Investment Fund I, L.P.		2,793,000				2,793,000
Landmark Real Estate Partners VIII, L.P.	12/31/2022	2,531,107			-363,625	2,167,482
Total: Landmark Real Estate Partners VIII, L.P.		2,531,107			-363,625	2,167,482
Lion Industrial Trust	12/31/2022		675,033		-1,894,683	-1,219,650
Total: Lion Industrial Trust			675,033		-1,894,683	-1,219,650
Large Oten Deal Entete Front II (II O.) L.D.	40/04/0000				470 007	470.007
Lone Star Real Estate Fund II (U.S.), L.P.	12/31/2022				-176,037	-176,037
Total: Lone Star Real Estate Fund II (U.S.), L.P.					-176,037	-176,037



Fund Name	Month Ended	Capital Call	Additional Fee	Recallable Distribution	Distribution	Net Cash Flow
Mesirow Financial Real Estate Value Fund IV, L.P.	12/31/2022	3,000,000			-148,750	2,851,250
Total: Mesirow Financial Real Estate Value Fund IV, L.P.		3,000,000			-148,750	2,851,250
Morgan Stanley Real Estate Co-Investment, L.P.	12/31/2022			-19,102,002		-19,102,002
Total: Morgan Stanley Real Estate Co-Investment, L.P.				-19,102,002		-19,102,002
0.10(15-1-10-7-110-11-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-1-5-1-5-1-5-1-5	40/04/0000				0.440.074	0.440.074
Oak Street Real Estate Capital Net Lease Property Fund, L.P.	12/31/2022				-2,118,671	-2,118,671
Total: Oak Street Real Estate Capital Net Lease Property Fund, L.P.					-2,118,671	-2,118,671
Prime Property Fund, LLC	12/31/2022				-3,450,254	-3,450,254
Total: Prime Property Fund, LLC					-3,450,254	-3,450,254
PRISA I, L.P.	12/31/2022				-1,815,490	-1,815,490
Total: PRISA I, L.P.					-1,815,490	-1,815,490
Rockpoint Real Estate Fund VI, L.P.	12/31/2022	6,708,417				6,708,417
Total: Rockpoint Real Estate Fund VI, L.P.		6,708,417				6,708,417
Change and Clahal Connection the Found V   D	40/24/0000				FF0 C00	EE0 C00
Starwood Global Opportunity Fund X, L.P.	12/31/2022				-558,629	-558,629
Total: Starwood Global Opportunity Fund X, L.P.					-558,629	-558,629
TruAmerica Workforce Housing Fund I-A, L.P.	12/31/2022	773,052			-927,775	-154,723
Total: TruAmerica Workforce Housing Fund I-A, L.P.	12/01/2022	773,052			-927,775	-154,723
		,			,· · · •	
Trumbull Property Fund, L.P.	12/31/2022				-1,799,764	-1,799,764
Total: Trumbull Property Fund, L.P.					-1,799,764	-1,799,764
					,, .	,



Fund Name	Month Ended	Capital Call	Additional Fee	Recallable Distribution	Distribution	Net Cash Flow
Trumbull Property Income Fund, L.P.	12/31/2022				-2,056,950	-2,056,950
Total: Trumbull Property Income Fund, L.P.					-2,056,950	-2,056,950
UBS Trumbull Property Growth & Income Fund, L.P.	12/31/2022				-25,811,705	-25,811,705
Total: UBS Trumbull Property Growth & Income Fund, L.P.					-25,811,705	-25,811,705
USAA Eagle Real Estate Feeder 1, L.P.	12/31/2022				-2,462,376	-2,462,376
Total: USAA Eagle Real Estate Feeder 1, L.P.					-2,462,376	-2,462,376
USAA Eagle Real Estate Feeder 1, L.P.	12/31/2022				-7,270,266	-7,270,266
Total: USAA Eagle Real Estate Feeder 1, L.P.					-7,270,266	-7,270,266
Waterton Residential Property Venture XIV, L.P.	12/31/2022	5,502,263				5,502,263
Total: Waterton Residential Property Venture XIV, L.P.		5,502,263				5,502,263
	10/04/0000				4.4-4.004	4 474 004
WLR IV PPIP Co-Invest, L.P.	12/31/2022				-1,151,921	-1,151,921
Total: WLR IV PPIP Co-Invest, L.P.					-1,151,921	-1,151,921
Own J.T. dal		00 004 004	0.050.005	22 700 004	404 000 505	20, 400, 050
Grand Total		96,331,324	2,256,385	-33,790,964	-101,206,595	-36,409,850







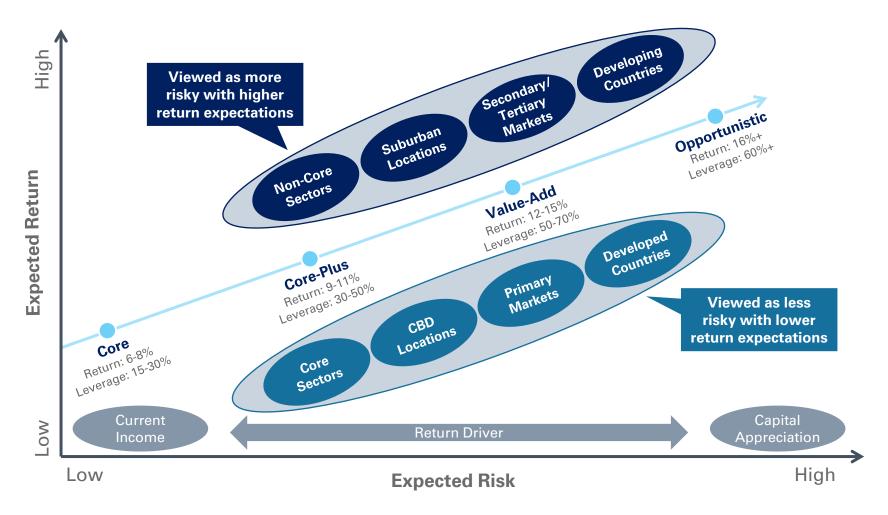
## SPECTRUM OF REAL ESTATE INVESTMENT STRATEGIES

	Real Estate Investment Style / Overview	Investment Strategy	Portfolio Role	Considerations
Core Strategies	Core / Core-Plus Return driver: income Primary vehicle: open-end funds Historical avg. returns: 7-8% / 8%-10% Leverage: 15-40% / 40%-50% Hold period: long-term	Stabilized income producing assets	<ul> <li>Current income</li> <li>Broad exposure to commercial real estate (asset class beta)</li> <li>Inflation protection</li> </ul>	<ul> <li>Vehicles are semi-liquid (entrance/exit queues)</li> <li>Limited alpha producing opportunities</li> </ul>
Core St	RE Securities Return driver: income Primary vehicle: REIT funds Historical avg. returns: 7-9% Leverage: 30-50% Hold period: long-term	Stabilized income producing assets	<ul> <li>Current income (dividends)</li> <li>Long-term exposure to commercial real estate (beta)</li> <li>Long-term inflation protection</li> </ul>	<ul><li>Volatility</li><li>Equity correlation</li></ul>
Strategies	Value-Add Return driver: income/appreciation Primary vehicle: varies Historical avg returns: 8-10% Leverage: 40-70% Hold period: 3-5 years	Properties requiring lease- up, repositioning, renovation or rehabilitation	<ul><li>Provides part current income and capital appreciation</li><li>Some inflation protection</li></ul>	<ul> <li>Vehicles are semi-liquid or illiquid</li> <li>Vintage year is important</li> <li>Higher leverage vs core</li> <li>Poor benchmarks</li> </ul>
Non-Core	Opportunistic Return driver: appreciation Primary vehicle: closed-end funds Historical avg. returns: 10-12% Leverage: 60%+ Hold period: varies	Distressed investments, recapitalizations, development, etc.	<ul> <li>Real estate alpha through capital appreciation with minimal current income</li> </ul>	<ul> <li>Vehicles are illiquid</li> <li>Vintage year is important</li> <li>High leverage</li> <li>Poor benchmarks</li> </ul>



## RELATIVE EXPECTED RISK RETURN PROFILE

### ILLUSTRATIVE RISK / RETURN PROFILE





Notes:

Debt-related strategies can span the illustrative risk / return spectrum depending on the specific strategy Manager-specific risk, operations and leverage can skew expected risk / return profile



## **DISCLAIMER**

Past performance is no guarantee of future results.

The opinions presented herein represent the good faith views of NEPC as of the date of this report and are subject to change at any time.

Information used to prepare this report was obtained directly from the investment managers or custodians, and market index data was provided by other external sources. While NEPC has exercised reasonable professional care in preparing this report, we cannot guarantee the accuracy of all source information contained within.

This report may contain confidential or proprietary information and may not be copied or redistributed to any party not legally entitled to receive it.



## **ALTERNATIVE INVESTMENT DISCLOSURES**

In addition, it is important that investors understand the following characteristics of non-traditional investment strategies including hedge funds, real estate and private equity:

- 1. Performance can be volatile and investors could lose all or a substantial portion of their investment
- 2. Leverage and other speculative practices may increase the risk of loss
- 3. Past performance may be revised due to the revaluation of investments
- 4. These investments can be illiquid, and investors may be subject to lock-ups or lengthy redemption terms
- 5. A secondary market may not be available for all funds, and any sales that occur may take place at a discount to value
- 6. These funds are not subject to the same regulatory requirements as registered investment vehicles
- 7. Managers may not be required to provide periodic pricing or valuation information to investors
- 8. These funds may have complex tax structures and delays in distributing important tax information
- 9. These funds often charge high fees
- 10. Investment agreements often give the manager authority to trade in securities, markets or currencies that are not within the manager's realm of expertise or contemplated investment strategy



## **Connecticut Retirement Plans and Trust Funds**



Quarterly Cash Flow Update May 10, 2023



## CRPTF Cash Flows & Investment Activity (1)

Plan Cash Flows:	Quarter Ending Sept. 30 2022	Quarter Ending Dec. 31 2022	Quarter Ending Mar. 30 2023	Quarter Ending Jun. 30 2023	Fiscal YTD <u>2023</u>
1. Beginning Market Value	\$41,198.3	\$42,219.0	\$45,530.8	-	\$41,198.3
2. Employee Contributions	171.1	238.3	218.0	-	627.4
3. State Contributions	848.8	855.1	857.3	-	2,561.2
4. Federal Contributions	168.5	138.1	83.0	<del></del>	389.6
5. Volatility Cap / Excess Reserve Transfer	2,846.0	1,261.3	-	_	4,107.3
6. Distributions / Benefit Payments	(1,309.7)	(1,299.7)	(1,314.7)	+	(3,924.1)
7. Investment Activity	(1,704.0)	2,118.7	1,866.3	-	2,281.0
8. Ending Market Value	\$42,219.0	\$45,530.8	\$47,240.7	-	\$47,240.7

<sup>(1)</sup> Teacher's, State Employee's, Municipal Employee's and State Employee's OPEB represent approximately 98 percent of CRPTF



## Teacher's Retirement Plan Cash Flows & Investment Activity

Plan Cash Flows:	Quarter Ending Sept. 30 2022	Quarter Ending Dec. 31 2022	Quarter Ending Mar. 30 2023	Quarter Ending Jun. 30 2023	Fiscal YTD 2023
1. Beginning Market Value	\$20,681.1	\$20,575.4	\$21,535.1	-	\$20,681.1
2. Employee Contributions	37.9	104.1	102.3	-	244.3
3. State Contributions	389.5	393.4	393.3	-	1,176.2
4. Federal Contributions	-	-	-	-	-
5. Volatility Cap / Excess Reserve Transfer	903.6	-	-	-	903.6
6. Distributions / Benefit Payments	(593.8)	(592.0)	(588.1)	-	(1,773.9)
7. Investment Activity	(842.9)	1,054.2	869.7	-	1,081.0
8. Ending Market Value	\$20,575.4	\$21,535.1	\$22,312.3	-	\$22,312.3



## State Employee's Retirement Plan Cash Flows & Investment Activity

Plan Cash Flows:	Quarter Ending Sept. 30 2022	Quarter Ending Dec. 31 2022	Quarter Ending Mar. 30 2023	Quarter Ending Jun. 30 2023	Fiscal YTD 2023
1. Beginning Market Value	\$15,448.4	\$16,742.1	\$18,807.8	-	\$15,448.4
2. Employee Contributions	59.5	54.0	48.0	_	161.5
3. State Contributions	439.0	438.7	426.5	_	1,304.2
4. Federal Contributions	168.5	138.1	83.0	<del></del>	389.6
5. Volatility Cap / Excess Reserve Transfer	1,942.4	1,261.3	-	-	3,203.7
6. Distributions / Benefit Payments	(655.0)	(646.8)	(665.0)	-	(1,966.8)
7. Investment Activity	(660.7)	820.4	797.0	-	956.7
8. Ending Market Value	\$16,742.1	\$18,807.8	\$19,497.3	-	\$19,497.3



# Municipal Employee's Retirement Plan Cash Flows & Investment Activity

Plan Cash Flows:	Quarter Ending Sept. 30 2022	Quarter Ending Dec. 31 2022	Quarter Ending Mar. 30 2023	Quarter Ending Jun. 30 2023	Fiscal YTD <u>2023</u>
1. Beginning Market Value	\$2,992.7	\$2,853.0	\$2,984.6	-	\$2,992.7
2. Employee Contributions	38.4	47.9	48.1	-	134.4
3. State Contributions	-	-	-	-	-
4. Federal Contributions	-	-	-	-	-
5. Volatility Cap / Excess Reserve Transfer	-	-	-	-	-
6. Distributions / Benefit Payments	(60.9)	(60.9)	(61.6)	-	(183.4)
7. Investment Activity	(117.2)	144.6	117.0	-	144.4
8. Ending Market Value	\$2,853.0	\$2,984.6	\$3,088.1	-	\$3,088.1



# State Employee's OPEB Retirement Plan Cash Flows & Investment Activity

Plan Cash Flows:	Quarter Ending Sept. 30 2022	Quarter Ending Dec. 31 2022	Quarter Ending Mar. 30 2023	Quarter Ending Jun. 30 2023	Fiscal YTD 2023
1. Beginning Market Value	\$2,076.1	\$2,048.5	\$2,203.3	-	\$2,076.1
2. Employee Contributions	30.4	26.2	23.3	_	80.0
3. State Contributions	25.2	29.1	33.8	-	88.0
4. Federal Contributions	-	-	-	-	-
5. Volatility Cap / Excess Reserve Transfer	-	-	-	-	-
6. Distributions / Benefit Payments	-	-	-	-	-
7. Investment Activity	(83.2)	99.5	82.6	-	98.9
8. Ending Market Value	\$2,048.5	\$2,203.3	\$2.343.0	-	\$2,048.5



### TEACHER'S RETIREMENT FUND

Section   Part   Part	OVRER'S O	_				-						Con	pound, an	nualized re	turns
Substitution   Property   Prope			Policy	Lower	Upper	Market		Three		Calendar	One		Five	Seven	Ten
Policy Renchmark		<b>Holdings</b>	Weights	Range	Range										<b>Year</b>
Dynamic Benchmark	Teacher's Retirement Fund					\$22,091.0	-1.72	0.36	3.09	2.20	-4.46	5.84	4.87	7.44	6.52
Signature   Sign	Policy Benchmark						-0.34	1.06	2.99	4.19	-3.63	6.25	5.45	7.94	6.72
MSCI All Country World IMI Index   27.1%   S5.988.5   -2.39   -1.73   7.24   4.29   -7.90   11.66   9.30   12.58     MSCI USA IMI Index   S2.897.7   -1.82   6.49   13.64   4.41   8.14   11.76   9.41   12.64     MSCI LEAR & Canada Index   S1.499.3   -1.73   5.64   11.20   5.67   -4.97   6.29   3.27   7.15     Emerging Markets Equity   6.8%   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   3.67   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   3.67   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   3.67   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   3.67   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   3.67   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   3.67   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   3.67   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   3.67   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   3.67   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   2.09   0.32   -2.07   -3.51   0.31   0.39   0.50     MSCI LEAR & Canada Index   S1.499.3   4.81   1.16   -0.17   2.40   -1.22   2.09   0.32   -2.07   -3.51   0.30   0.30   7.60     MSCI LEAR & Canada Index   S1.499.3   1.20   0.30   0.00	Dynamic Benchmark						-1.12	1.04	3.53	4.07	-4.17	5.94	5.05	7.69	6.44
Domestic Equity   27.1%   25.988.5   2.39   1.73   7.24   4.29   7.90   11.66   0.30   12.58	Global Equities	47.0%	37.0	23.0	52.0	\$10,385.6	-2.59	0.67	7.21	4.53	-7.47	N/A	N/A	N/A	N/A
MSCI USA IMI Index   13.1%	•					,		0.37	6.84		-7.94	N/A	N/A	N/A	N/A
MSCI USA IMI Index   13.1%	Domestic Fauity	27.1%				\$5,988.5	-2.39	-1.73	7.24	4.29	-7.90	11.66	9.30	12.58	11.86
## SCI EAFE + Canada Index    1.6	• •	271770				\$6,500.0									11.86
## SCI EAFE + Canada Index    1.6	Developed Markets Equity	13.1%				\$2.897.7	-1.82	6.49	13.64	6.46	-2.31	8.02	3.29	7.47	6.38
MSCI Emerging Markets IMI		101170				Ψ2,0> / ι /									6.08
MSCI Emerging Markets IMI	Emerging Markets Equity	6.8%				\$1,499.3	-4.81	1.16	-0.17	2.40	-12.27	3.67	0.30	7.60	2.27
2.17   -0.23   -3.25   0.12   -10.36   -4.00   0.39   0.55		0.070				\$1,1,5,10									1.71
2.17   -0.23   -3.25   0.12   -10.36   -4.00   0.39   0.55	Care Fixed Income	12 3%	13.0	8.0	18.0	\$2 711 1	-2 18	0.22	-2 09	0.32	-9 67	-3 51	0.37	0.79	0.97
50% JPM EMBI Global Div   50% JPM GBI EM G		12.0 / 0	10.0	0.0	10.0	Ψ2,711.1									1.05
50% JPM EMBI Global Div   50% JPM GBI EM G	Emorging Market Doht (3)	4.4%	0.0	0.0	0.0	\$977.1	-2.45	2.63	6.33	1.79	-6.15	-3.84	-1.96	2.17	0.19
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index	0 0		0.0	0.0	0.0	47									-0.07
Liquidity Fund U.S. 3-Month T-Bill  8.4% 10.0 5.0 15.0 15.0 15.0 15.0 15.0 15.0	Non-Core Fixed Income	5.8%	2.0	0.0	7.0	\$1,275.5	-1.03	2.23	6.53	2.78	-4.08	2.47	3.05	5.58	3.99
No.   No.	Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index					,	-1.27	1.85	6.07	2.48	-5.45	1.19	2.60	5.41	3.78
Real Estate   State   State	Liquidity Fund	0.4%	1.0	0.0	3.0	\$92.6	0.56	1.30	1.95	0.71	2.19	1.27	1.64	1.57	0.97
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^       N/A 0.31 4.87 0.00 20.96 11.38 9.26 8.87         Infrastructure and Natural Resources <sup>(1)</sup> 2.2%       7.0 2.0 12.0       \$494.1 N/A 1.42 5.42 1.21 9.87 N/A N/A 1.51 6.28 0.96 11.37 N/A N/A N/A N/A         Private Investment <sup>(1)</sup> 11.5%       15.0 10.0 20.0 82,532.3 N/A 3.93 -7.87 14.29 -8.55 15.06 12.71 15.01         Private Credit <sup>(1)</sup> 3.4%       10.0 5.0 15.0 \$760.0 N/A 0.83 0.16 -0.12 2.88 N/A N/A N/A	U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^         Infrastructure and Natural Resources <sup>(1)</sup> 2.2%       7.0       2.0       12.0       \$494.1       N/A       1.42       5.42       1.21       9.87       N/A       N/A       N/A         U.S. CPI + 400 basis points 1Q in Arrears^       11.5%       15.0       10.0       20.0       \$2,532.3       N/A       -0.60       -4.71       -0.06       0.76       19.93       18.24       15.70         Russell 3000 + 250 basis points 1Q in Arrears^       11.5%       10.0       5.0       15.0       8760.0       N/A       0.83       0.16       -0.12       2.88       N/A       N/A       N/A	Real Estate <sup>(1)</sup>	8.4%	10.0	5.0	15.0	\$1,845.3	N/A	-1.55	0.89	-1.26	7.99	8.88	8.02	7.85	9.14
U.S. CPI + 400 basis points IQ in Arrears^  Private Investment(1) Russell 3000 + 250 basis points IQ in Arrears^  11.5% 15.0 10.0 20.0 20.0 20.0 20.0 20.0 20.0 20			1000	2.0	10.0		N/A	0.31	4.87	0.00	20.96	11.38	9.26	8.87	9.91
U.S. CPI + 400 basis points IQ in Arrears^  Private Investment(1) Russell 3000 + 250 basis points IQ in Arrears^  11.5% 15.0 10.0 20.0 20.0 20.0 20.0 20.0 20.0 20	Infrastructure and Natural Resources <sup>(1)</sup>	2.2%	7.0	2.0	12.0	\$494.1	N/A	1.42	5.42	1.21	9.87	N/A	N/A	N/A	N/A
Russell 3000 + 250 basis points 1Q in Arrears^       N/A       3.93       -7.87       14.29       -8.55       15.06       12.71       15.01         Private Credit <sup>(1)</sup> 3.4%       10.0       5.0       15.0       \$760.0       N/A       0.83       0.16       -0.12       2.88       N/A       N/A       N/A			7.0	2.0	12.0										N/A
Russell 3000 + 250 basis points 1Q in Arrears^ N/A 3.93 -7.87 14.29 -8.55 15.06 12.71 15.01  Private Credit <sup>(1)</sup> 3.4% 10.0 5.0 15.0 \$760.0 N/A 0.83 0.16 -0.12 2.88 N/A N/A N/A	Drivete Investment <sup>(1)</sup>	11.5%	15.0	10.0	20.0	\$2,532.3	N/A	-0.60	-4.71	-0.06	0.76	19.93	18.24	15.70	15.29
		1110,0	13.0	10.0	20.0	\$2,002.0									13.72
	Privata Cradit <sup>(1)</sup>	3.4%	10.0	5.0	15.0	\$760.0	N/A	0.83	0.16	-0.12	2.88	N/A	N/A	N/A	N/A
		2,0	10.0	5.0	13.0	<i></i>									N/A
Absolute Return 4.6% 5.0 0.0 10.0 \$1,017.5 -0.42 -1.21 -0.73 -0.75 -2.14 0.10 1.60 2.54	Absolute Return	4.6%	5.0	0.0	10.0	\$1,017.5	-0.42	-1.21	-0.73	-0.75	-2.14	0.10	1.60	2.54	2.76
• '				*		3-,									1.48

<sup>(1)</sup> Actual performance, reported one quarter in arrears.
(2) A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



### STATE EMPLOYEES' RETIREMENT FUND

	_				_						Con	ipound, ani	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
State Employees' Retirement Fund	<u> </u>				\$19,150.3	-1.78	0.34	3.36	2.35	-4.26	5.94	4.96	7.50	6.57
Policy Benchmark						-0.34	1.06	2.99	4.19	-3.63	6.25	5.45	7.93	6.72
Dynamic Benchmark						-1.29	0.99	3.62	3.96	-4.01	6.04	5.12	7.78	6.54
Clobal Fautties	51 20/	37.0	23.0	52.0	¢0 902 ¢	2.52	0.26	6.00	1 11	7 72	N/A	N/A	NI/A	N7/A
Global Equities	51.2%	37.0	23.0	52.0	\$9,803.6	-2.53	0.36	6.90	4.44	-7.73	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
Domestic Equity	31.9%				\$6,108.6	-2.39	-1.64	7.34	4.23	-7.82	11.69	9.32	12.60	11.87
MSCI USA IMI Index					40,2000	-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
Developed Markets Equity	13.5%				\$2,585.8	-1.79	6.51	13.66	6.48	-2.29	8.02	3.29	<b>7.4</b> 7	6.38
MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
Emerging Markets Equity	5.8%				\$1,109.2	-4.81	1.17	-0.17	2.40	-12.26	3.68	0.30	7.60	2.27
MSCI Emerging Markets IMI	3.0 /0				\$1,109.2	-6.02	-0.21	-0.17 -1.17	1.16	-12.20 -14.56	2.01	-1.48	6.41	1.71
MSCI Emerging markets imi						0.02	0.21	1.17	1.10	14.50	2.01	1.70	0.71	1.71
Core Fixed Income	12.6%	13.0	8.0	18.0	\$2,413.6	-2.18	0.21	-2.10	0.32	-9.68	-3.51	0.37	0.79	0.97
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury					,	-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Emerging Market Debt (3)	3.8%	0.0	0.0	0.0	\$721.7	-2.45	2.63	6.33	1.79	-6.15	-3.84	-1.96	2.17	0.19
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						-2.69	2.20	4.24	0.94	-7.36	-4.70	-1.81	1.65	-0.07
Non-Core Fixed Income	4.9%	2.0	0.0	7.0	\$935.7	-1.03	2.23	6.53	2.78	-4.08	2.47	3.05	5.59	3.99
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index	4.9%	2.0	0.0	7.0	\$935.7	-1.03 -1.27	1.85	6.07	2.78 2.48	<b>-4.08</b> -5.45	2.47 1.19	2.60	5.41	3.99 3.78
Bioomberg Burciays O.S. High Heia 276 Issuer Cap maex						-1.2/	1.03	0.07	2.40	-3.43	1.19	2.00	5.41	3.70
Liquidity Fund	0.3%	1.0	0.0	3.0	\$52.9	0.86	1.87	2.67	1.34	2.91	1.10	1.53	1.50	0.92
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70
(1)														
Real Estate <sup>(1)</sup>	7.6%	10.0	5.0	15.0	\$1,447.2	N/A	-1.55	0.89	-1.26	7.99	8.88	8.02	7.85	9.14
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^						N/A	0.31	4.87	0.00	20.96	11.38	9.26	8.87	9.91
(1)	2 10/		• •	46.0	6402.0	NT/A	1.42	5 43	1 21	0.07	NI/A	NT/A	NI/A	NI/A
Infrastructure and Natural Resources <sup>(1)</sup>	2.1%	7.0	2.0	12.0	\$402.8	N/A	1.42	5.42	1.21	9.87	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 1Q in Arrears^						N/A	1.51	6.28	0.96	11.37	N/A	N/A	N/A	N/A
Private Investment <sup>(1)</sup>	10.2%	15.0	10.0	20.0	\$1,949.3	N/A	-0.60	-4.72	-0.06	0.76	19.92	18.23	15.70	15.29
Russell 3000 + 250 basis points 1Q in Arrears^	10.2/0	13.0	10.0	∠0.0	Ψ1,272.0	N/A	3.93	-7.87	14.29	-8.55	15.06	12.71	15.01	13.72
russen 5000 + 250 basis points 1Q in Arrears.						IV/A	5.95	-/.0/	14.29	-0.33	15.00	12./1	15.01	13./2
Private Credit <sup>(1)</sup>	3.1%	10.0	5.0	15.0	\$587.2	N/A	0.83	0.14	-0.13	2.86	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^		10.0	5.0	15.0		N/A	0.34	0.05	2.54	1.09	N/A	N/A	N/A	N/A
200 0000 points 12 will read														
Absolute Return	4.4%	5.0	0.0	10.0	\$836.4	-0.42	-1.21	-0.73	-0.75	-2.14	0.10	1.60	2.54	2.76
Dynamic weighted HFRX benchmark (2)						0.51	0.27	1.78	0.76	-0.05	1.40	2.67	2.10	1.48

 $<sup>^{\</sup>left( 1\right) }$  Actual performance, reported one quarter in arrears.

 $<sup>^{(2)}</sup>$  A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



### MUNICIPAL EMPLOYEES RETIREMENT FUND

VRER'S	_				-						Com	npound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<u>Year</u>	<b>Year</b>
Municipal Employees' Retirement Fund					\$3,040.1	-1.72	0.46	3.16	2.19	-4.50	5.85	5.03	7.23	6.17
Policy Benchmark						-0.34	1.06	2.99	4.19	-3.63	6.25	5.47	7.69	6.32
Dynamic Benchmark						-1.10	1.01	3.39	3.97	-4.45	5.88	5.12	7.44	6.00
Global Equities	45.5%	37.0	23.0	52.0	\$1,381.7	-2.63	0.84	7.37	4.56	-7.33	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
Domestic Equity	25.4%				\$772.9	-2.39	-1.73	7.24	4.28	-7.90	11.66	9.30	12.58	11.86
MSCI USA IMI Index					4	-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
<b>Developed Markets Equity</b>	13.0%				\$395.3	-1.80	6.54	13.69	6.48	-2.26	8.03	3.30	7.47	6.38
MSCI EAFE + Canada Index	10.070				467616	-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
Emerging Markets Equity	7.0%				\$213.5	-4.83	1.14	-0.20	2.37	-12.29	3.67	0.30	7.60	2.28
MSCI Emerging Markets IMI	7.0 70				\$215.5	- <b>6</b> .02	-0.21	-0.20 -1.17	1.16	-14.56	2.01	-1.48	6.41	1.71
C. E. H	12 40/	12.0	9.0	10.0	0277.5	2.10	0.24	2.07	0.22	0.65	2.50	0.20	0.00	0.07
Core Fixed Income 50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury	12.4%	13.0	8.0	18.0	\$377.5	<b>-2.18</b> -2.17	<b>0.24</b> -0.23	<b>-2.07</b> -3.25	<b>0.32</b> 0.12	<b>-9.65</b> -10.36	<b>-3.50</b> -4.00	<b>0.38</b> 0.39	<b>0.80</b> 0.55	<b>0.97</b> 1.05
Emerging Market Debt (3)	4.4%	0.0	0.0	0.0	\$133.8	-2.45	2.63	6.33	1.79	-6.15	-3.84	-1.96	2.17	0.19
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						-2.69	2.20	4.24	0.94	-7.36	-4.70	-1.81	1.65	-0.07
Non-Core Fixed Income	6.1%	2.0	0.0	7.0	\$185.0	-1.03	2.23	6.53	2.78	-4.08	2.47	3.05	5.58	4.00
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						-1.27	1.85	6.07	2.48	-5.45	1.19	2.60	5.41	3.78
Liquidity Fund	1.3%	1.0	0.0	3.0	\$39.7	0.39	1.10	1.81	0.78	2.01	0.79	1.35	1.37	0.84
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70
Real Estate <sup>(1)</sup>	8.6%	10.0	5.0	15.0	\$262.2	N/A	-1.56	0.89	-1.26	7.99	8.88	8.02	7.85	9.14
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^		10.0	3.0	13.0	4	N/A	0.31	4.87	0.00	20.96	11.38	9.26	8.87	9.91
(1)	2.2%		2.0	12.0	\$66.0	N/A	1.42	5.40	1.21	9.85	N/A	N/A	N/A	N/A
Infrastructure and Natural Resources (1)	2.2 /0	7.0	2.0	12.0	\$00.0									
U.S. $CPI + 400$ basis points $1Q$ in $Arrears^{(2)}$						N/A	1.51	6.28	0.96	11.37	N/A	N/A	N/A	N/A
Private Investment <sup>(1)</sup>	11.4%	15.0	10.0	20.0	\$347.9	N/A	-0.60	-4.72	-0.06	0.75	19.92	18.23	15.70	15.29
Russell 3000 + 250 basis points 1Q in Arrears^						N/A	3.93	-7.87	14.29	-8.55	15.06	12.71	15.01	13.72
Private Credit <sup>(1)</sup>	3.6%	10.0	5.0	15.0	\$110.3	N/A	0.91	0.20	-0.05	2.92	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^		10.0	5.0	15.0		N/A	0.34	0.05	2.54	1.09	N/A	N/A	N/A	N/A
Absolute Return	4.5%	5.0	0.0	10.0	<b>\$136.1</b>	-0.42	-1.21	-0.73	-0.75	-2.14	0.10	1.60	2.54	2.76
Dynamic weighted HFRX benchmark (3)	7.3/0	3.0	0.0	10.0	\$150.1	0.51	0.27	1.78	0.76	-0.05	1.40	2.67	2.10	1.48
Dynamic weighted III KA Denchmark					J	0.51	0.27	1.70	0.70	0.05	1.70	2.07	2.10	1.70

 $<sup>^{\</sup>left( 1\right) }$  Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class

#### OPEB FUND Net of All Fees and Expenses 2/28/2023

Percent   Perc	URER'S	_				_						Com	ipound, ani	nualized ret	turns
Policy Brachmark   Policy Brac	Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Policy Brockmanch   13.1%   37.0   23.0   52.0   5982.4   2.0%   3.2%   3.0%   3.2%		<b>Holdings</b>	Weights	Range	Range	Value (mil.)	Month								
Dynamic Renchmark	OPEB					\$2,280.7				2.04			5.30		N/A
Marci Agroup   Market Equity	•														
MSCI All Country World IMI Index	Dynamic Benchmark						-0.93	1.02	3.22	4.07	-4.27	6.00	5.55	7.22	N/A
MSCI All Country World IMI Index	Global Equities	43.1%	37.0	23.0	52.0	\$982.4	-2.62	0.80	7.34	4.54	-7.35	N/A	N/A	N/A	N/A
Developed Markets Equity   12.0%   1	•					***									
Developed Markets Equity   12.0%   1	Domestic Equity	24 20/				\$554.0	2 29	1 72	7.25	4 20	7 90	11.66	0.21	12.50	NI/A
## SCI EAFE + Canada Index    Core Fixed Income   11.6%   13.0   8.0   1	• •	24.3 /0				\$334.0									
## SCI EAFE + Canada Index    Core Fixed Income   11.6%   13.0   8.0   1															
Signature   Sign		12.0%				\$273.8									
MSCI Emerging Markers IMI	MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	N/A
MSCI Emerging Markers IMI	Emerging Markets Equity	6.8%				\$154.6	-4.81	1.16	-0.17	2.40	-12.26	3.68	0.30	7.61	N/A
2.17   -0.23   -3.25   0.12   -10.36   -4.00   0.39   0.55   N/A						420110									
2.17   -0.23   -3.25   0.12   -10.36   -4.00   0.39   0.55   N/A	G. F. H	11 (0/	12.0	0.0	10.0	00644	2.10	0.24	2.06	0.22	0.64	2.40	0.20	0.00	<b>3</b> 7/4
Emerging Market Debt <sup>(1)</sup> 50% JPM EMBI Global Div / 50% JPM GBI EM Global Div  4.2%  0.0  0.0  0.0  895.7  -2.45  2.63  6.33  1.79  -6.15  -3.84  -1.96  2.18  N/A  50% JPM EMBI Global Div / 50% JPM GBI EM Global Div  Non-Core Fixed Income Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index  5.7%  2.0  0.0  7.0  8129.3  -1.03  2.23  6.53  2.78  -4.08  2.47  3.05  5.58  N/A  Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index  1.0  0.8%  1.0  0.0  3.0  819.1  1.77  2.43  2.97  2.06  3.22  1.20  1.60  1.58  N/A  U.S. 3-Month T-Bill  Real Estate (1) Open End Diversified Core Equity (NFI-ODCE Index) IQ in Arrears^\  1.0  1.0  3.0%  7.0  2.0  1.0  5.0  1.0  2.0  867.6  N/A  N/A  1.51  6.28  0.96  11.37  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/		11.6%	13.0	8.0	18.0	\$264.4									
Solid   Private Investment   Solid   Private Credit   Private Credit   Solid   Private Credit   Solid   Private Credit   Pri	30% Burciays O.S. Aggregate Bona / 30% Intermediate Treasury						-2.17	-0.23	-3.23	0.12	-10.30	-4.00	0.39	0.55	IV/A
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div   50% JPM EMBI Global Div / 50% JPM EMBI Global Div / 50% JPM GBI EM Global Div   50% JPM EMBI Global Div / 50% JPM EMBI Global Div	Emerging Market Debt (3)	4.2%	0.0	0.0	0.0	\$95.7	-2.45	2.63	6.33	1.79	-6.15	-3.84	-1.96	2.18	N/A
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index				0.0	0.0		-2.69	2.20	4.24	0.94	-7.36	-4.70	-1.81	1.65	N/A
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index															
Liquidity Fund U.S. 3-Month T-Bill  Real Estate <sup>(1)</sup> Open End Diversified Core Equity (NFI-ODCE Index.) IQ in Arrears^  3.0% 1.0  1.0  1.0  2.0  1.0  3.0  1.0  3.0  1.0  3.0  1.0  3.0  3		5.7%	2.0	0.0	7.0	\$129.3									
V.S. 3-Month T-Bill   0.33   1.00   0.94   0.64   0.03   0.02   0.94   0.92   N/A	Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						-1.2/	1.85	6.07	2.48	-5.45	1.19	2.60	5.41	N/A
Real Estate   State	Liquidity Fund	0.8%	1.0	0.0	3.0	\$19.1	1.77	2.43	2.97	2.06	3.22	1.20	1.60	1.58	N/A
N/A   0.31   4.87   0.00   20.96   11.38   9.26   8.87   N/A	U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	N/A
N/A   0.31   4.87   0.00   20.96   11.38   9.26   8.87   N/A	P. IF. (4 (f)	0.79/	10.0	5.0	15.0	\$220.2	N/A	1 56	0.88	1 26	7 00	0 00	8.02	7 95	N/A
Infrastructure and Natural Resources <sup>(1)</sup> U.S. CPI + 400 basis points IQ in Arrears^  12.5% 15.0 10.0 2.0 12.0 867.6 N/A 1.42 5.39 1.21 9.84 N/A		9.1 /0	10.0	5.0	15.0	\$220.2									
U.S. CPI + 400 basis points IQ in Arrears^       N/A       1.51       6.28       0.96       11.37       N/A       N/A       N/A       N/A         Private Investment <sup>(1)</sup> Russell 3000 + 250 basis points IQ in Arrears^       12.5%       15.0       10.0       20.0       \$284.8       N/A       -0.60       -4.72       -0.06       0.75       19.92       18.24       15.70       N/A         Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points IQ in Arrears^       5.2%       10.0       5.0       15.0       \$117.6       N/A       0.85       0.15       -0.11       2.88       N/A       N/A       N/A         Absolute Return       4.4%       5.0       0.0       10.0       \$99.6       -0.42       -1.21       -0.73       -0.75       -2.14       0.10       1.60       2.54       N/A	Open Ena Diversifiea Core Equity (NF1-ODCE maex) 1Q in Arrears						IV/A	0.31	4.87	0.00	20.90	11.38	9.20	0.0/	N/A
U.S. CPI + 400 basis points IQ in Arrears^       N/A       1.51       6.28       0.96       11.37       N/A       N/A       N/A       N/A         Private Investment <sup>(1)</sup> Russell 3000 + 250 basis points IQ in Arrears^       12.5%       15.0       10.0       20.0       \$284.8       N/A       -0.60       -4.72       -0.06       0.75       19.92       18.24       15.70       N/A         Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points IQ in Arrears^       5.2%       10.0       5.0       15.0       \$117.6       N/A       0.85       0.15       -0.11       2.88       N/A       N/A       N/A         Absolute Return       4.4%       5.0       0.0       10.0       \$99.6       -0.42       -1.21       -0.73       -0.75       -2.14       0.10       1.60       2.54       N/A	Infrastructure and Natural Resources <sup>(1)</sup>	3.0%	7.0	2.0	12.0	\$67.6	N/A	1.42	5.39	1.21	9.84	N/A	N/A	N/A	N/A
Private Credit <sup>(1)</sup> 5.2%       10.0       5.0       15.0       \$117.6       N/A       3.93       -7.87       14.29       -8.55       15.06       12.71       15.01       N/A         Private Credit <sup>(1)</sup> 5.2%       10.0       5.0       15.0       \$117.6       N/A       0.85       0.15       -0.11       2.88       N/A							N/A	1.51	6.28	0.96	11.37	N/A	N/A	N/A	N/A
Private Credit <sup>(1)</sup> 5.2%       10.0       5.0       15.0       \$117.6       N/A       3.93       -7.87       14.29       -8.55       15.06       12.71       15.01       N/A         Private Credit <sup>(1)</sup> 5.2%       10.0       5.0       15.0       \$117.6       N/A       0.85       0.15       -0.11       2.88       N/A	D: ( ) (0)	12 50/	15.0	10.0	20.0	¢294 9	N/A	በ ፈበ	4 72	0.06	0.75	10.02	19 24	15 70	N/A
Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^  4.4%  5.0  10.0  5.0  15.0  \$117.6  N/A  0.85  0.15  -0.11  2.88  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N		12.570	15.0	10.0	20.0	\$404.0									
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^     N/A     0.34     0.05     2.54     1.09     N/A     N/A     N/A     N/A       Absolute Return     4.4%     5.0     0.0     10.0     \$99.6     -0.42     -1.21     -0.73     -0.75     -2.14     0.10     1.60     2.54     N/A	Kusseu 5000 + 250 basis points 1Q in Arrears^						IN/A	5.95	-/.8/	14.29	-8.33	15.00	12./1	15.01	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^     N/A     0.34     0.05     2.54     1.09     N/A     N/A     N/A     N/A       Absolute Return     4.4%     5.0     0.0     10.0     \$99.6     -0.42     -1.21     -0.73     -0.75     -2.14     0.10     1.60     2.54     N/A	Private Credit <sup>(1)</sup>	5.2%	10.0	5.0	15.0	\$117.6	N/A	0.85	0.15	-0.11	2.88	N/A	N/A	N/A	N/A
							N/A	0.34	0.05	2.54	1.09	N/A	N/A	N/A	N/A
	AL LA DA	4 407	<b>5</b> 0	0.0	10.0	000	0.15	4.44	0.72	0 ==	2.1.	0.10	1 60	25:	<b>3</b> 77.
Dynamic weighted HFRX benchmark '-' 0.51 0.27 1.78 0.70 -0.05 1.40 2.07 2.10 N/A		4.4%	5.0	0.0	10.0	\$99.6									
	Dynamic weighted HFRX benchmark (2)						0.51	0.27	1./8	0.70	-0.03	1.40	2.07	2.10	IV/A

 $<sup>^{\</sup>left( 1\right) }$  Actual performance, reported one quarter in arrears.

 $<sup>^{(2)}</sup>$  A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class





REN'S	-										Con	npound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
Probate Judges Employees' Retirement Fund					\$126.9	-1.71	0.42	3.03	2.16	-4.54	5.77	4.94	7.22	6.17
Policy Benchmark						-0.34	1.06	2.99	4.19	-3.63	6.25	5.46	7.77	6.40
Dynamic Benchmark						-1.06	1.03	3.36	4.03	-4.48	5.82	5.12	7.52	6.09
Global Equities	45.4%	37.0	23.0	52.0	\$57.6	-2.63	0.82	7.32	4.55	-7.36	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
Domestic Equity	25.9%				\$32.9	-2.38	-1.74	7.23	4.28	-7.91	11.65	9.30	12.58	11.86
MSCI USA IMI Index						-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
Developed Markets Equity	12.3%				\$15.6	-1.84	6.49	13.64	6.43	-2.30	8.02	3.29	7.47	6.38
MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
<b>Emerging Markets Equity</b>	7.1%				\$9.1	-4.81	1.17	-0.17	2.40	-12.26	3.68	0.30	7.60	2.28
MSCI Emerging Markets IMI						-6.02	-0.21	-1.17	1.16	-14.56	2.01	-1.48	6.41	1.71
Core Fixed Income	12.2%	13.0	8.0	18.0	\$15.4	-2.18	0.24	-2.07	0.32	-9.65	-3.50	0.38	0.80	0.97
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Emerging Market Debt (3)	4.4%	0.0	0.0	0.0	\$5.6	-2.45	2.63	6.33	1.79	-6.15	-3.84	-1.96	2.17	0.20
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						-2.69	2.20	4.24	0.94	-7.36	-4.70	-1.81	1.65	-0.07
Non-Core Fixed Income	6.0%	2.0	0.0	7.0	\$7.6	-1.03	2.23	6.53	2.78	-4.08	2.47	3.05	5.58	3.99
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						-1.27	1.85	6.07	2.48	-5.45	1.19	2.60	5.41	3.78
Liquidity Fund	1.1%	1.0	0.0	3.0	\$1.4	0.39	1.01	1.71	0.67	2.01	0.82	1.38	1.39	0.84
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70
Real Estate <sup>(1)</sup>	9.6%	10.0	5.0	15.0	\$12.2	N/A	-1.55	0.89	-1.26	8.00	8.88	8.02	7.85	9.14
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^		10.0	5.0	13.0		N/A	0.31	4.87	0.00	20.96	11.38	9.26	8.87	9.91
Infrastructure and Natural Resources <sup>(1)</sup>	2.2%	7.0	2.0	12.0	\$2.8	N/A	1.42	5.41	1.21	9.87	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 1Q in Arrears^		7.0	2.0	12.0		N/A	1.51	6.28	0.96	11.37	N/A	N/A	N/A	N/A
Private Investment <sup>(1)</sup>	11.8%	15.0	10.0	20.0	\$14.9	N/A	-0.60	-4.72	-0.06	0.76	19.92	18.23	15.70	15.29
Russell 3000 + 250 basis points 1Q in Arrears^	,,	13.0	10.0	20.0		N/A	3.93	-7.87	14.29	-8.55	15.06	12.71	15.01	13.72
Private Credit <sup>(1)</sup>	2.9%	10.0	5.0	15.0	\$3.6	N/A	0.82	0.11	-0.14	2.83	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^		10.0	5.0	15.0		N/A	0.34	0.05	2.54	1.09	N/A	N/A	N/A	N/A
Absolute Return	4.4%	5.0	0.0	10.0	\$5.6	-0.42	-1.21	-0.73	-0.75	-2.14	0.10	1.60	2.54	2.76
Dynamic weighted HFRX benchmark (2)						0.51	0.27	1.78	0.76	-0.05	1.40	2.67	2.10	1.48

 $<sup>^{\</sup>left( 1\right) }$  Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



### STATE JUDGES RETIREMENT FUND

	_				_						Con	pound, and	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	Month	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
State Judges Retirement Fund					\$285.0	-1.71	0.43	3.07	2.16	-4.54	5.81	5.01	7.23	6.19
Policy Benchmark						-0.34	1.06	2.99	4.19	-3.63	6.25	5.47	7.69	6.32
Dynamic Benchmark						-1.08	0.99	3.31	3.96	-4.46	5.87	5.19	7.50	6.07
Global Equities	45.1%	37.0	23.0	52.0	\$128.7	-2.63	0.84	7.33	4.56	-7.36	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
Domestic Equity	25.8%				\$73.5	-2.38	-1.73	7.24	4.29	-7.90	11.66	9.30	12.58	11.86
MSCI USA IMI Index	201070				<i>\$70.</i> 0	-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
Developed Markets Equity	12.3%				\$34.9	-1.84	6.50	13.65	6.43	-2.30	8.02	3.29	7.47	6.38
MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
Emerging Markets Equity	7.1%				\$20.3	-4.81	1.17	-0.16	2.40	-12.26	3.68	0.30	7.60	2,24
MSCI Emerging Markets IMI	7.17.0				Ψ20.0	-6.02	-0.21	-1.17	1.16	-14.56	2.01	-1.48	6.41	1.71
Core Fixed Income	12.2%	13.0	8.0	18.0	\$34.7	-2.18	0.25	-2.07	0.32	-9.65	-3.50	0.38	0.80	0.97
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury	12.2 /0	10.0	0.0	10.0	φ54.7	-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Emerging Market Debt (3)	4.5%	0.0	0.0	0.0	\$12.9	-2.45	2.63	6.33	1.79	-6.15	-3.84	-1.96	2.17	0.20
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div	1.5 / 0	0.0	0.0	0.0	ψ12. <sub>2</sub>	-2.69	2.20	4.24	0.94	-7.36	-4.70	-1.81	1.65	-0.07
Non-Core Fixed Income	6.0%	2.0	0.0	7.0	\$17.0	-1.03	2.23	6.53	2.78	-4.08	2.47	3.05	5.58	4.00
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index	0.070		0.0	7.0	Ψ17.0	-1.27	1.85	6.07	2.48	-5.45	1.19	2.60	5.41	3.78
Liquidity Fund	2.0%	1.0	0.0	3.0	\$5.6	0.35	0.99	1.62	0.68	1.83	0.74	1.31	1.34	0.81
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70
Real Estate <sup>(1)</sup>	9.6%	10.0	5.0	15.0	\$27.2	N/A	-1.55	0.89	-1.26	8.00	8.88	8.02	7.85	9.14
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^		10.0	5.0	13.0		N/A	0.31	4.87	0.00	20.96	11.38	9.26	8.87	9.91
Infrastructure and Natural Resources <sup>(1)</sup>	2.1%	7.0	2.0	12.0	\$5.9	N/A	1.42	5.41	1.21	9.86	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 1Q in Arrears^		7.0	2.0	12.0		N/A	1.51	6.28	0.96	11.37	N/A	N/A	N/A	N/A
Private Investment <sup>(1)</sup>	11.4%	15.0	10.0	20.0	\$32.6	N/A	-0.60	-4.72	-0.06	0.75	19.92	18.24	15.70	15.29
Russell 3000 + 250 basis points 1Q in Arrears^	11.470	15.0	10.0	20.0	Ψ52.0	N/A	3.93	-7.87	14.29	-8.55	15.06	12.71	15.01	13.72
P: (G w(l)	2.8%	10.0	7.0	15.0	\$7.9	N/A	0.82	0.11	-0.14	2.83	N/A	N/A	N/A	N/A
Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^	2.0 /0	10.0	5.0	15.0	⊕7• <del>3</del>	N/A N/A	0.34	0.11	2.54	1.09	N/A N/A	N/A N/A	N/A N/A	N/A N/A
	4.40/	5.0	0.0	10.0	6125	0.42	1.21	0.72	0.75	2.14	0.10	1.60	2.54	276
Absolute Return  Dynamic weighted HFRX benchmark (2)	4.4%	5.0	0.0	10.0	\$12.5	- <b>0.42</b> 0.51	<b>-1.21</b> 0.27	<b>-0.73</b> <i>1.78</i>	- <b>0.75</b> 0.76	<b>-2.14</b> -0.05	<b>0.10</b> 1.40	1.60 2.67	<b>2.54</b> 2.10	<b>2.76</b> 1.48
Dynamic weighted HFKA benchmark					J	0.51	0.27	1.70	0.70	-0.03	1.40	2.07	2.10	1.40

<sup>(1)</sup> Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



### STATE'S ATTORNEYS' RETIREMENT FUND

HERS	_				_						Com	pound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
State's Attorneys' Retirement Fund					\$2.6	-1.71	0.42	3.02	2.15	-4.54	5.78	4.64	7.40	5.87
Policy Benchmark						-0.34	1.06	2.99	4.19	-3.63	6.25	5.68	8.02	N/A
Dynamic Benchmark						-1.09	0.99	3.27	3.93	-4.46	5.84	5.22	7.68	N/A
Global Equities	45.0%	37.0	23.0	52.0	\$1.2	-2.63	0.84	7.32	4.56	-7.37	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index	,				4-1-	-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
Domestic Equity	25.6%				\$0.7	-2.38	-1.73	7.25	4.29	-7.90	11.66	9.31	12.59	11.87
MSCI USA IMI Index						-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
Developed Markets Equity	12.3%				\$0.3	-1.84	6.48	13.63	6.43	-2.32	8.01	3.29	7.47	N/A
MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	N/A
Emerging Markets Equity	7.1%				\$0.2	-4.81	1.17	-0.17	2.40	-12.26	3.68	0.29	7.60	N/A
MSCI Emerging Markets IMI						-6.02	-0.21	-1.17	1.16	-14.56	2.01	-1.48	6.41	N/A
Core Fixed Income	12.2%	13.0	8.0	18.0	\$0.3	-2.18	0.25	-2.07	0.32	-9.65	-3.50	0.38	0.80	1.01
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury	12.2 / 0	10.0	0.0	10.0	Ψ0.0	-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
, , , , , , , , , , , , , , , , , , , ,														
Emerging Market Debt (3)	4.5%	0.0	0.0	0.0	\$0.1	-2.45	2.63	6.33	1.79	-6.15	-3.84	-1.96	2.17	0.19
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						-2.69	2.20	4.24	0.94	-7.36	-4.70	-1.81	1.65	-0.07
Non Cons Fired Income	5.9%	2.0	0.0	7.0	\$0.2	1.02	2.22	6.53	2.70	4.00	2.47	2.05	5.50	2.00
Non-Core Fixed Income Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index	5.9%	2.0	0.0	7.0	\$0.2	<b>-1.03</b> -1.27	<b>2.23</b> 1.85	<b>6.53</b> 6.07	<b>2.78</b> 2.48	<b>-4.08</b> -5.45	<b>2.47</b> 1.19	<b>3.05</b> 2.60	<b>5.59</b> 5.41	<b>3.98</b> 3.78
Bioomberg Burelays O.S. High Held 2/0 Issuer Cup Haex						-1.2/	1.05	0.07	2.40	-3.43	1.17	2.00	5.41	3.70
Liquidity Fund	2.0%	1.0	0.0	3.0	\$0.1	0.35	0.97	1.59	0.64	1.79	0.73	1.27	1.31	0.78
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70
m	0.00/				60.2	NT/A	1.55	0.00	1.26	0.00	0.00	NI/A	NI/A	NI/A
Real Estate <sup>(1)</sup>	9.9%	10.0	5.0	15.0	\$0.3	N/A	-1.55	0.89	-1.26	8.00	8.88	N/A	N/A	N/A
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^						N/A	0.31	4.87	0.00	20.96	11.38	N/A	N/A	N/A
Infrastructure and Natural Resources <sup>(1)</sup>	2.1%	7.0	2.0	12.0	\$0.1	N/A	1.42	5.42	1.21	9.88	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 10 in Arrears^		7.0	2.0	12.0		N/A	1.51	6.28	0.96	11.37	N/A	N/A	N/A	N/A
Private Investment <sup>(1)</sup>	11.3%	15.0	10.0	20.0	\$0.3	N/A	-0.60	-4.72	-0.06	0.75	9.17	N/A	N/A	N/A
Russell 3000 + 250 basis points 1Q in Arrears^						N/A	3.93	-7.87	14.29	-8.55	11.38	N/A	N/A	N/A
(1)	2.50/				00.1	<b>N</b> T/A	0.02	0.11	0.14	2.02	37/4	37/4	<b>3</b> 7/4	<b>3</b> 7/4
Private Credit <sup>(1)</sup>	2.7%	10.0	5.0	15.0	\$0.1	N/A	0.82	0.11	-0.14	2.83	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^						N/A	0.34	0.05	2.54	1.09	N/A	N/A	N/A	N/A
Absolute Return	4.5%	5.0	0.0	10.0	\$0.1	-0.42	-1.21	-0.73	-0.75	-2.14	N/A	N/A	N/A	N/A
Dynamic weighted HFRX benchmark (2)				- 3.0	1	0.51	0.27	1.78	0.76	-0.05	N/A	N/A	N/A	N/A
= ,					<b>J</b>						**	**		

<sup>(1)</sup> Actual performance, reported one quarter in arrears.
(2) A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



### AGRICULTURAL COLLEGE FUND

	_				_						Com	pound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	Month	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
Agricultural College Fund	100.0%				\$0.6	-2.16	0.23	-1.96	0.33	-9.56	-3.46	0.43	0.84	1.00
Policy Benchmark						-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Dynamic Benchmark						-2.41	0.30	-1.05	0.74	-8.29	-3.26	0.85	0.88	N/A
Core Fixed Income 50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury	99.0%	100.0	100.0	100.0	\$0.5	<b>-2.18</b> -2.17	<b>0.22</b> -0.23	-2.10 -3.25	<b>0.32</b> 0.12	<b>-9.67</b> -10.36	-3.51 -4.00	<b>0.37</b> 0.39	<b>0.79</b> 0.55	<b>0.97</b> 1.05
Liquidity Fund <sup>(1)</sup> U.S. 3-Month T-Bill	1.0%				\$0.0	<b>0.35</b> 0.33	<b>0.91</b> 1.00	1.65 0.94	<b>0.64</b> 0.64	<b>1.80</b> 0.03	<b>0.69</b> 0.02	<b>0.92</b> 0.94	<b>0.79</b> 0.92	<b>-0.01</b> 0.70

<sup>(1)</sup> Operational cash balance and expense accruals



### ANDREW C. CLARK FUND

WAER'S O'					_						Com	pound, an	nualized re	turns
Funds Benchmark	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal <u>YTD</u>	Calendar <u>YTD</u>	One <u>Year</u>	Three Year	Five <u>Year</u>	Seven <u>Year</u>	Ten <u>Year</u>
Andrew C. Clark Fund					\$1.2	-2.11	0.93	1.43	1.95	-8.14	0.71	2.39	3.83	3.46
Policy Benchmark						-2.37	0.05	0.74	1.71	-8.48	0.25	2.41	3.61	3.47
Dynamic Benchmark						-2.39	0.67	1.49	2.04	-7.71	0.63	2.65	3.80	N/A
Global Equities	37.0%	37.0	23.0	52.0	\$0.4	-2.43	1.53	8.54	4.77	-6.45	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
Domestic Equity  MSCI USA IMI Index	22.4%				\$0.3	<b>-2.38</b> -2.37	<b>-1.44</b> -1.78	7. <b>52</b> 6.81	<b>4.29</b> 4.41	<b>-7.66</b> -8.14	11.75 11.76	<b>9.37</b> 9.41	<b>12.63</b> <i>12.64</i>	<b>11.88</b> <i>11.86</i>
MSCI USA IMI Index						-2.37	-1./0	0.01	4.41	-0.14	11.70	9.41	12.04	11.00
Developed Markets Equity	11.4%				\$0.1	-1.84	6.53	13.65	6.43	-2.29	8.02	3.30	7.47	6.38
MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
Emerging Markets Equity  MSCI Emerging Markets IMI	3.2%				\$0.0	<b>-4.81</b> -6.02	<b>1.12</b> -0.21	<b>-0.09</b> -1.17	<b>2.40</b> <i>1.16</i>	<b>-12.20</b> - <i>14.56</i>	<b>3.70</b> 2.01	<b>0.31</b> -1.48	<b>7.61</b> 6.41	<b>2.28</b> <i>1.71</i>
Core Fixed Income	56.4%	62.0	57.0	67.0	\$0.7	-2.18	0.18	-2.14	0.32	-9.71	-3.52	0.37	0.79	0.97
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury	- ***					-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Liquidity Fund	6.6%	1.0	0.0	3.0	\$0.1	0.35	0.91	1.21	0.64	1.45	0.54	2.48	2.48	1.56
U.S. 3-Month T-Bill		I				0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70



### SOLDIERS' SAILORS' & MARINES' FUND

CREATS											Com	pound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark Company of the Company of	Holdings	Weights	Range	Range	Value (mil.)	Month .	Months	YTD	YTD	<u>Year</u>	<u>Year</u>	Year	<u>Year</u>	<u>Year</u>
Soldiers' Sailors' & Marines Fund					\$78.4	-2.25	0.84	1.20	1.93	-8.30	0.64	2.35	3.79	3.43
Policy Benchmark						-2.37	0.05 0.57	0.74 1.23	1.71 2.06	-8.48	0.25 0.49	2.41	3.61 3.75	3.47 N/A
Dynamic Benchmark						-2.52	0.57	1.23	2.00	-8.11	0.49	2.56	3./3	IV/A
Global Equities	37.2%	37.0	23.0	52.0	\$29.2	-2.48	1.47	8.38	4.74	-6.60	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
Domestic Equity	21.6%				\$16.9	-2.38	-1.51	7.47	4.27	-7.71	11.74	9.36	12.62	11.89
MSCI USA IMI Index						-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
Developed Markets Equity	11.7%				\$9.2	-1.84	6.53	13.68	6.43	-2.27	8.03	3.30	7.48	6.38
$MSCI\ EAFE+Canada\ Index$						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
<b>Emerging Markets Equity</b>	3.9%				\$3.1	-4.81	1.12	-0.21	2.40	-12.30	3.66	0.29	7.59	2.27
MSCI Emerging Markets IMI						-6.02	-0.21	-1.17	1.16	-14.56	2.01	-1.48	6.41	1.71
Core Fixed Income	61.0%	62.0	57.0	67.0	\$47.8	-2.18	0.19	-2.13	0.32	-9.70	-3.52	0.37	0.79	0.96
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Liquidity Fund	1.8%	1.0	0.0	3.0	\$1.4	0.24	0.94	1.67	0.66	1.83	0.74	1.32	1.35	0.81
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70



### SCHOOL FUND

					_						Compound, annualized returns			
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	YTD	<b>YTD</b>	Year	Year	Year	<b>Year</b>	<b>Year</b>
School Fund	<u></u>				\$12.1	-2.19	0.85	1.16	1.90	-8.43	0.63	2.33	3.79	3.44
Policy Benchmark						-2.37	0.05	0.74	1.71	-8.48	0.25	2.41	3.61	3.47
Dynamic Benchmark						-2.46	0.59	1.06	2.02	-8.35	0.42	2.50	3.72	N/A
Global Equities	35.7%	37.0	23.0	52.0	\$4.3	-2.47	1.47	8.43	4.75	-6.56	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
<b>Domestic Equity</b>	20.8%				\$2.5	-2.39	-1.49	7.49	4.28	-7.69	11.75	9.36	12.63	11.89
MSCI USA IMI Index						-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
Developed Markets Equity	11.3%				\$1.4	-1.84	6.53	13.68	6.43	-2.27	8.03	3.30	7.48	6.38
MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
<b>Emerging Markets Equity</b>	3.6%				\$0.4	-4.81	1.12	-0.21	2.40	-12.30	3.66	0.29	7.59	2.27
MSCI Emerging Markets IMI						-6.02	-0.21	-1.17	1.16	-14.56	2.01	-1.48	6.41	1.71
Core Fixed Income	58.7%	62.0	57.0	67.0	\$7.1	-2.18	0.19	-2.12	0.33	-9.70	-3.52	0.37	0.79	0.96
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Liquidity Fund	5.6%	1.0	0.0	3.0	\$0.7	0.35	0.91	1.86	0.64	2.26	0.98	2.03	1.88	1.15
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70



### **IDA EATON COTTON FUND**

THER'S O					_						Compound, annualized returns			
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
IDA Eaton Cotton Fund					\$2.5	-2.27	0.84	1.31	1.90	-8.25	0.65	2.35	3.80	3.44
Policy Benchmark						-2.37	0.05	0.74	1.71	-8.48	0.25	2.41	3.61	3.47
Dynamic Benchmark						-2.54	0.50	1.37	2.02	-7.83	0.57	2.61	3.77	N/A
Global Equities	36.2%	37.0	23.0	52.0	\$0.9	-2.49	1.63	8.56	4.78	-6.42	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
Domestic Equity	19.7%				\$0.5	-2.38	-1.54	7.42	4.29	-7.75	11.72	9.35	12.62	11.88
MSCI USA IMI Index						-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
Developed Markets Equity	12.3%				\$0.3	-1.84	6.53	13.68	6.43	-2.27	8.03	3.30	7.47	6.38
MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
Emerging Markets Equity	4.2%				\$0.1	-4.81	1.12	-0.21	2.40	-12.30	3.66	0.29	7.59	2.27
MSCI Emerging Markets IMI						-6.02	-0.21	-1.17	1.16	-14.56	2.01	-1.48	6.41	1.71
Core Fixed Income	62.9%	62.0	57.0	67.0	\$1.6	-2.18	0.20	-2.12	0.32	-9.69	-3.52	0.37	0.79	0.97
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Liquidity Fund	0.9%	1.0	0.0	3.0	\$0.0	0.35	0.91	1.41	0.64	1.66	0.85	2.96	2.83	1.76
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70



### **HOPEMEAD FUND**

					_						Compound, annualized returns			
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	Holdings	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	Year	Year	<b>Year</b>	Year	<b>Year</b>
Hopemead Fund	<u>_</u>				\$4.4	-2.23	0.81	1.20	1.89	-8.22	0.65	2.34	3.78	3.42
Policy Benchmark						-2.37	0.05	0.74	1.71	-8.48	0.25	2.41	3.61	3.47
Dynamic Benchmark						-2.50	0.54	1.24	2.02	-8.02	0.50	2.55	3.73	N/A
Global Equities	36.2%	37.0	23.0	52.0	\$1.6	-2.47	1.49	8.41	4.76	-6.57	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
<b>Domestic Equity</b>	20.8%				\$0.9	-2.38	-1.52	7.46	4.29	-7.72	11.73	9.36	12.62	11.88
MSCI USA IMI Index						-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
Developed Markets Equity	11.6%				\$0.5	-1.84	6.53	13.68	6.43	-2.27	8.03	3.30	7.47	6.38
MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
Emerging Markets Equity	3.8%				\$0.2	-4.81	1.12	-0.21	2.40	-12.30	3.66	0.29	7.59	2.27
MSCI Emerging Markets IMI						-6.02	-0.21	-1.17	1.16	-14.56	2.01	-1.48	6.41	1.71
Core Fixed Income	61.5%	62.0	57.0	67.0	\$2.7	-2.18	0.20	-2.12	0.32	-9.69	-3.52	0.37	0.79	0.97
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Liquidity Fund	2.3%	1.0	0.0	3.0	\$0.1	0.35	0.96	1.65	0.68	1.90	0.76	1.31	1.34	0.81
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70



### ARTS ENDOWMENT FUND

OUTER 5 OF	_				_						Compound, annualized returns			
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<u>YTD</u>	<b>YTD</b>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>
Arts Endowment Fund					\$20.6	-2.14	1.32	5.10	2.97	-5.87	5.66	4.25	5.63	4.71
Policy Benchmark						-2.13	0.61	4.15	3.07	-7.29	4.14	3.78	5.04	4.47
Dynamic Benchmark						-2.14	0.64	4.46	3.10	-6.58	4.91	4.13	N/A	N/A
Global Equities	56.1%	54.0	39.0	69.0	\$11.6	-2.72	1.41	7.68	4.57	-7.03	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
Domestic Equity	26.3%				\$5.4	-2.38	-1.73	7.21	4.29	-7.93	11.65	9.30	12.59	11.85
MSCI USA IMI Index						-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
<b>Developed Markets Equity</b>	18.2%				\$3.8	-1.84	6.53	13.67	6.43	-2.28	8.03	3.30	7.48	6.37
MSCI EAFE + Canada Index						-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	6.08
<b>Emerging Markets Equity</b>	11.6%				\$2.4	-4.81	1.12	-0.20	2.40	-12.29	3.67	0.29	7.60	2.27
MSCI Emerging Markets IMI						-6.02	-0.21	-1.17	1.16	-14.56	2.01	-1.48	6.41	1.71
Core Fixed Income	15.7%	33.0	28.0	38.0	\$3.2	-2.18	0.22	-2.09	0.32	-9.67	-3.51	0.37	0.79	0.97
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
Emerging Market Debt (2)	7.7%	0.0	0.0	0.0	\$1.6	-2.45	2.63	6.33	1.79	-6.15	-3.83	N/A	N/A	N/A
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						-2.69	2.20	4.24	0.94	-7.36	-4.70	N/A	N/A	N/A
Non-Core Fixed Income	9.2%	2.0	0.0	7.0	\$1.9	-1.03	2.23	6.52	2.78	-4.09	2.47	N/A	N/A	N/A
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						-1.27	1.85	6.07	2.48	-5.45	1.19	N/A	N/A	N/A
Private Credit <sup>(1)</sup>	9.7%	10.0	5.0	15.0	\$2.0	N/A	0.82	0.11	-0.14	2.83	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^						N/A	0.34	0.05	2.54	1.09	N/A	N/A	N/A	N/A
Liquidity Fund	1.5%	1.0	0.0	3.0	\$0.3	0.35	0.91	1.72	0.64	1.90	0.74	1.31	1.31	0.79
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70

 $<sup>\,^{(1)}</sup>$  Actual performance, reported one quarter in arrears,  $\,^{(2)}$  Legacy asset class



### POLICEMEN AND FIREMEN SURVIVORS' BENEFIT FUND

NER'S					_						Compound, annualized returns			
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	Month	Months	<u>YTD</u>	<b>YTD</b>	<u>Year</u>	<b>Year</b>	<b>Year</b>	<u>Year</u>	<b>Year</b>
Policemen and Firemen Survivors' Benefit Fund					\$45.4	-1.71	0.43	3.06	2.16	-4.51	5.80	4.95	7.28	6.40
Policy Benchmark						-0.34	1.06	2.99	4.19	-3.63	6.25	5.45	7.80	N/A
Dynamic Benchmark						-1.09	1.02	3.35	3.95	-4.42	5.85	5.11	7.57	N/A
Global Equities	45.1%	37.0	23.0	52.0	\$20.5	-2.63	0.84	7.37	4.56	-7.33	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						-2.78	0.37	6.84	4.38	-7.94	N/A	N/A	N/A	N/A
<b>Domestic Equity</b>	25.6%				\$11.6	-2.38	-1.73	7.24	4.29	-7.90	11.66	9.30	12.58	12.04
MSCI USA IMI Index						-2.37	-1.78	6.81	4.41	-8.14	11.76	9.41	12.64	11.86
Developed Markets Equity	12.4%				\$5.6	-1.84	6.48	13.63	6.43	-2.31	8.01	3.29	7.47	N/A
MSCI EAFE + Canada Index	121170				40.00	-2.33	5.16	11.20	5.67	-4.97	6.29	3.27	7.15	N/A
Emerging Markets Equity	7.2%				\$3.3	-4.81	1.15	-0.18	2.40	-12.27	3.68	0.30	7.60	N/A
MSCI Emerging Markets IMI	7.2 70				ψο.ο	-6.02	-0.21	-1.17	1.16	-14.56	2.01	-1.48	6.41	N/A
Core Fixed Income	12.3%	13.0	8.0	18.0	\$5.6	-2.18	0.25	-2.06	0.32	-9.64	-3.50	0.38	0.80	1.03
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury	12.5 /0	13.0	0.0	10.0	φ3.0	-2.17	-0.23	-3.25	0.12	-10.36	-4.00	0.39	0.55	1.05
7. (3)	4.5%	0.0	0.0	0.0	\$2.0	-2.45	2.63	6.33	1.79	-6.15	-3.84	-1.96	2.17	0.20
Emerging Market Debt <sup>(3)</sup> 50% JPM EMBI Global Div / 50% JPM GBI EM Global Div	4.3 /0	0.0	0.0	0.0	\$2.0	-2. <b>4</b> 3	2.20	4.24	0.94	-0.13 -7.36	-3.64 -4.70	-1.90 -1.81	1.65	-0.07
										,				
Non-Core Fixed Income	5.9%	2.0	0.0	7.0	\$2.7	-1.03	2.23	6.53	2.78	-4.08	2.47	3.05	5.58	3.97
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						-1.27	1.85	6.07	2.48	-5.45	1.19	2.60	5.41	3.78
Liquidity Fund	1.4%	1.0	0.0	3.0	\$0.6	0.35	1.03	1.68	0.78	1.93	0.77	1.33	1.35	0.81
U.S. 3-Month T-Bill						0.33	1.00	0.94	0.64	0.03	0.02	0.94	0.92	0.70
Real Estate <sup>(1)</sup>	9.9%	10.0	5.0	15.0	\$4.5	N/A	-1.55	0.89	-1.26	8.00	8.88	8.02	7.85	9.14
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^		10.0	2.0	13.0		N/A	0.31	4.87	0.00	20.96	11.38	9.26	8.87	9.91
Infrastructure and Natural Resources <sup>(1)</sup>	2.1%	7.0	2.0	12.0	\$1.0	N/A	1.42	5.43	1.21	9.89	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 1Q in Arrears^	2.1 /0	7.0	2.0	12.0	31.0	N/A	1.51	6.28	0.96	11.37	N/A	N/A	N/A	N/A
U.S. CF1 + 400 basis points 1Q in Arrears						IV/A	1.31	0.20	0.90	11.57	IV/A	IV/A	IV/A	IV/A
Private Investment <sup>(1)</sup>	11.4%	15.0	10.0	20.0	\$5.2	N/A	-0.60	-4.72	-0.06	0.75	19.92	18.24	15.70	N/A
Russell 3000 + 250 basis points 1Q in Arrears^						N/A	3.93	-7.87	14.29	-8.55	15.06	12.71	15.01	N/A
Private Credit <sup>(1)</sup>	3.0%	10.0	5.0	15.0	\$1.4	N/A	0.82	0.11	-0.14	2.83	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^		10.0	2.0	10.0		N/A	0.34	0.05	2.54	1.09	N/A	N/A	N/A	N/A
Absolute Return	4.4%	5.0	0.0	10.0	\$2.0	-0.42	-1.21	-0.73	-0.75	-2.14	0.10	1.60	2.54	N/A
Dynamic weighted HFRX benchmark (2)	7.77	3.0	0.0	10.0	Ψ2.0	0.51	0.27	1.78	0.76	-0.05	1.40	2.67	2.10	N/A
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<sup>(1)</sup> Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended dynamic benchmark comprised of the weightings of each of the investments unitized within the strategy

<sup>(3)</sup> Legacy asset class

# CONNECTOR

## TEACHER'S RETIREMENT FUND

When 5 of	_				•						Con	pound, anı	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	<u>Weights</u>	Range	Range	Value (mil.)	<u>Month</u>	<b>Months</b>	<u>YTD</u>	<u>YTD</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>
Teacher's Retirement Fund					\$22,308.3	1.73	3.97	4.87	3.97	-3.39	10.47	5.36	7.09	6.56
Policy Benchmark						-0.10	4.04	2.37	4.04	-5.41	8.34	5.52	7.06	6.50
Dynamic Benchmark						0.49	4.54	4.00	4.54	-4.83	8.72	5.34	6.98	6.25
Global Equities	47.8%	37.0	23.0	52.0	\$10,662.4	2.67	7.32	10.06	7.32	-6.47	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	27.6%				\$6,157.1	2.81	7.22	10.26	7.22	-8.15	18.33	10.35	11.97	11.75
MSCI USA IMI Index					,	2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
Developed Markets Equity	13.3%				\$2,973.2	2.61	9.23	16.60	9.23	-0.32	14.36	4.16	7.13	6.49
MSCI EAFE + Canada Index					, ,	2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	6.18
<b>Emerging Markets Equity</b>	6.9%				\$1,532.1	2.19	4.63	2.01	4.63	-9.93	10.10	1.02	6.06	2.64
MSCI Emerging Markets IMI					- ,	2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	2.13
Core Fixed Income	13.6%	13.0	8.0	18.0	\$3,043.6	2.35	2.68	0.21	2.68	-4.89	-2.29	0.72	1.03	1.19
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury	15.070	10.0	0.0	10.0	ψο,ο ιστο	2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Emerging Market Debt (3)	2.4%	0.0	0.0	0.0	<b>\$535.3</b>	1.31	3.13	7.72	3.13	-3.75	2.30	-1.79	1.55	0.39
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div		0.0	0.0	0.0	*****	2.54	3.51	6.90	3.51	-3.83	0.46	-1.45	1.15	0.25
Non-Core Fixed Income	5.6%	2.0	0.0	7.0	\$1,253.3	1.16	3.97	7.76	3.97	-2.64	7.09	3.36	5.17	3.98
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						1.06	3.57	7.19	3.57	-3.35	5.88	2.94	4.89	3.77
Liquidity Fund	0.7%	1.0	0.0	3.0	\$156.7	0.76	1.48	2.73	1.48	2.94	1.50	1.76	1.62	1.05
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74
Real Estate <sup>(1)</sup>	8.2%	10.0	5.0	15.0	\$1,831.6	N/A	-2.53	-0.40	-2.53	4.91	10.95	7.66	7.65	8.86
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^		1000	2.0	10.0		N/A	-5.17	-0.55	-5.17	6.55	8.97	7.72	7.57	9.11
Infrastructure and Natural Resources <sup>(1)</sup>	2.2%	7.0	2.0	12.0	\$493.2	N/A	3.08	7.37	3.08	11.65	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 1Q in Arrears^	_,_,	7.0	2.0	12.0	4	N/A	0.98	6.30	0.98	10.69	N/A	N/A	N/A	N/A
D.:	11.5%	15.0	10.0	20.0	\$2,556.1	N/A	0.88	-3.82	0.88	-0.42	27.61	17.90	15.85	15.29
Private Investment <sup>(1)</sup> Russell 3000 + 250 basis points 1Q in Arrears^	11.5/0	15.0	10.0	20.0	Ψ2,000.1	N/A	7.83	-13.08	7.83	-17.15	9.47	11.98	13.00	12.64
Private Credit <sup>(1)</sup>	3.4%	10.0	5.0	15.0	\$752.7	N/A	0.23	0.51	0.23	0.94	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^	2.170	10.0	5.0	13.0	Q. UZ.,	N/A	3.00	0.45	3.00	0.72	N/A	N/A	N/A	N/A
Absolute Return	4.6%	5.0	0.0	10.0	\$1,023.5	0.59	-0.17	-0.15	-0.17	-0.43	3.69	1.65	3.01	2.70
Dynamic weighted HFRX benchmark (2)						-1.06	-1.09	-0.16	-1.09	-1.83	0.57	2.25	1.81	1.29

<sup>(1)</sup> Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



## STATE EMPLOYEES' RETIREMENT FUND

REPLS	_				•						Com	npound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	<b>Weights</b>	<b>Range</b>	Range	Value (mil.)	Month	<b>Months</b>	<u>YTD</u>	<u>YTD</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>
State Employees' Retirement Fund					\$19,493.8	1.83	4.22	5.25	4.22	-3.08	10.64	5.46	7.18	6.62
Policy Benchmark						-0.10	4.04	2.37	4.04	-5.41	8.34	5.51	7.06	6.49
Dynamic Benchmark						0.69	4.64	4.30	4.64	-4.46	8.91	5.45	7.11	6.37
Global Equities	51.5%	37.0	23.0	52.0	\$10,041.3	2.69	7.25	9.78	7.25	-6.71	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	32.1%				\$6,254.7	2.82	7.17	10.36	7.17	-8.06	18.36	10.38	11.98	11.76
MSCI USA IMI Index	020170				40,20	2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
Developed Markets Equity	13.6%				\$2,653.3	2.61	9.26	16.62	9.26	-0.30	14.37	4.17	7.13	6.49
MSCI EAFE + Canada Index	13.0 /0				\$2,033.3	2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	6.18
Emerging Markets Equity  MSCI Emerging Markets IMI	5.8%				\$1,133.4	<b>2.19</b> 2.75	<b>4.64</b> 3.94	<b>2.01</b> 1.55	<b>4.64</b> 3.94	<b>-9.93</b> -10.74	<b>10.10</b> 9.18	<b>1.03</b> -0.58	<b>6.07</b> 5.01	<b>2.64</b> 2.13
3											7,122		2,702	
Core Fixed Income	13.2%	13.0	8.0	18.0	\$2,568.8	2.31	2.64	0.16	2.64	-4.94	-2.30	0.72	1.02	1.19
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Emerging Market Debt (3)	2.4%	0.0	0.0	0.0	\$457.8	1.20	3.01	7.60	3.01	-3.85	2.26	-1.82	1.54	0.38
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div		0.0	0.0	0.0		2.54	3.51	6.90	3.51	-3.83	0.46	-1.45	1.15	0.25
Non-Core Fixed Income	5.1%	2.0	0.0	7.0	\$997.2	1.15	3.96	7.75	3.96	-2.65	7.08	3.36	5.17	3.98
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						1.06	3.57	7.19	3.57	-3.35	5.88	2.94	4.89	3.77
Liquidity Fund	0.4%	1.0	0.0	3.0	\$81.5	0.14	1.49	2.81	1.49	3.03	1.12	1.52	1.45	0.94
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74
Real Estate <sup>(1)</sup>	7.5%	10.0	5.0	15.0	\$1,458.6	N/A	-2.53	-0.40	-2.53	4.91	10.95	7.66	7.65	8.86
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^	7.570	10.0	5.0	15.0	\$1,430.0	N/A	- <b>5</b> .17	-0.55	-5.17	6.55	8.97	7.72	7.57	9.11
Open Lina Diversifica Core Equity (W17-ODCL Index.) IQ in Affects						IV/A	-5.17	-0.55	-3.17	0.55	0.27	7.72	7.57	2.11
Infrastructure and Natural Resources <sup>(1)</sup>	2.2%	7.0	2.0	12.0	\$420.3	N/A	3.08	7.36	3.08	11.65	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 1Q in Arrears^						N/A	0.98	6.30	0.98	10.69	N/A	N/A	N/A	N/A
Private Investment <sup>(1)</sup>	10.1%	15.0	10.0	20.0	\$1,967.6	N/A	0.88	-3.82	0.88	-0.42	27.61	17.90	15.85	15.29
Russell 3000 + 250 basis points 1Q in Arrears^	10.1 / 0	13.0	10.0	20.0	ψ1,>07.0	N/A	7.83	-13.08	7.83	-17.15	9.47	11.98	13.00	12.64
Private Credit <sup>(1)</sup>	3.4%	10.0	5.0	15.0	\$659.3	N/A	0.22	0.48	0.22	0.91	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^						N/A	3.00	0.45	3.00	0.72	N/A	N/A	N/A	N/A
Absolute Return	4.3%	5.0	0.0	10.0	\$841.3	0.59	-0.17	-0.15	-0.17	-0.43	3.69	1.65	3.01	2.70
Dynamic weighted HFRX benchmark (2)						-1.06	-1.09	-0.16	-1.09	-1.83	0.57	2.25	1.81	1.29
		N.												

 $<sup>^{\</sup>left( 1\right) }$  Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



## MUNICIPAL EMPLOYEES RETIREMENT FUND

Domestic Equity   25.7%   25.7%   25.7%   2.0%	URER'S	_				•						Con	npound, an	nualized re	turns
Municipal Employees Retineme Fund   Policy Benchmark   Policy Benchm			-												
Policy Brichmark		<b>Holdings</b>	Weights	Range	Range										
Dynamic Benchmark						\$3,087.5									
Marco   Marc	· · · · · · · · · · · · · · · · · · ·														
Domestic Equity   25.7%   25.7%   25.7%   2.0%	Dynamic Benchmark						0.46	4.41	3.82	4.41	-5.16	8.64	5.35	6.76	5.86
Developed Markets Equity   Series   S	Global Equities	45.9%	37.0	23.0	52.0	\$1,418.4	2.66	7.34	10.22	7.34	-6.33	N/A	N/A	N/A	N/A
Developed Markets Equity   13.1%   1	MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Perceloped Markets Equity   13.1%	Domestic Equity	25.7%				\$794.6	2.81	7.22	10.26	7.22	-8.15	18.33	10.35	11.97	11.75
MSCI EAFE + Canada Index   1.22	MSCI USA IMI Index					·	2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
MSCI EAFE + Canada Index   1.22	Developed Markets Equity	13.1%				\$405.6	2.61	9.25	16.66	9.25	-0.27	14.38	4.18	7.14	6.50
MSCI Emerging Markets IMI		101170				\$1000									
MSCI Emerging Markets IMI	Emerging Markets Equity	7 1%				\$218.2	2 19	4.61	1 98	4.61	-9 95	10.09	1.02	6.06	2 65
2.50   2.62   -0.84   2.62   -5.49   -3.01   0.75   0.77   1.29		7.1 70				Ψ210.2									
2.50   2.62   -0.84   2.62   -5.49   -3.01   0.75   0.77   1.29	Cara Fixed Income	13 /0/	13.0	8.0	18.0	\$414.2	2 22	2.66	0.21	2.66	4 80	2 28	0.73	1.03	1 20
Some State   Som		13.4 /0	13.0	0.0	10.0	\$ <del>414.2</del>									
Solid First Education   Soli		2 20/	0.0	0.0	0.0	\$60.0	1 25	2 17	776	2 17	2 71	2 21	1.70	1 56	0.20
Non-Core Fixed Income Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index  2.5%  1.0  0.0  3.0  578.3  0.32  1.10  2.14  1.10  2.33  0.88  1.38  1.35  0.88  1.35  0.88  1.35  0.88  1.35  0.88  1.35  0.88  1.35  0.88  1.35  0.88  1.35  0.88  1.35  0.88  1.38  1.38  1.35  0.88  1.38  1.38  1.35  0.88  1.38  1.38  1.35  0.88  1.38  1.38  1.35  0.88  1.38  1.38  1.35  0.88  1.38  1.35  0.88  1.38  1.35  0.88  1.38  1.35  0.88  1.38  1.35  0.88  1.38  1.38  1.35  0.88  1.38  1.35  0.88  1.38  1.38  1.35  0.88  1.38  1.38  1.35  0.88  1.38  1.38  1.38  1.35  0.88  1.38  1.38  1.38  1.38  1.38  1.39  1.39  1.39  1.39  1.39  1.39  1.39  1.39  1.49  1.		2.3 /0	0.0	0.0	0.0	\$09.9									
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index   1.06   3.57   7.19   3.57   3.35   5.88   2.94   4.89   3.77															
Liquidity Fund U.S. 3-Month T-Bill  2.5% 1.0 0.0 3.0 578.3 0.32 1.10 2.14 1.10 2.33 0.88 1.38 1.35 0.88 U.S. 3-Month T-Bill  8.4% 10.0 5.0 15.0 5258.8 N/A -5.17 -0.55 -5.17 6.55 8.97 7.72 7.57 9.11  Infrastructure and Natural Resources(1) U.S. 2-W U.S. CPI + 400 basis points IQ in Arrears\(^{12}\) Russell 3000 + 250 basis points IQ in Arrears\(^{13}\) Russell 3000 + 250 basis points IQ in Arrears\(^{13}\) Russell 3000 + 250 basis points IQ in Arrears\(^{14}\) S&P/LSTA Leveraged Loan Index + 150 basis points IQ in Arrears\(^{14}\) 4.4% 5.0 0.0 1.0 0.0 3.0 578.3 0.32 1.10 2.14 1.10 2.33 0.88 1.38 1.35 0.88 1.38 1.35 0.88 1.35 0.88 1.35 0.88 1.35 0.88 1.35 0.88 0.74 0.75 0.75 0.75 0.75 0.75 0.75 0.75 0.75		5.7%	2.0	0.0	7.0	\$174.9									
V.S. 3-Month T-Bill	Bloomberg Barciays U.S. High Yield 2% Issuer Cap Index						1.06	3.3/	7.19	3.3/	-3.33	5.88	2.94	4.89	3.//
Real Estate   Sample   Real Estate   Sample	Liquidity Fund	2.5%	1.0	0.0	3.0	\$78.3	0.32	1.10	2.14	1.10	2.33	0.88	1.38	1.35	0.88
N/A   -5.17   -0.55   -5.17   6.55   8.97   7.72   7.57   9.11	U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74
N/A   -5.17   -0.55   -5.17   6.55   8.97   7.72   7.57   9.11	Real Estate <sup>(1)</sup>	8.4%	10.0	5.0	15.0	\$258.8	N/A	-2.53	-0.41	-2.53	4.91	10.94	7.66	7.65	8.86
U.S. CPI + 400 basis points IQ in Arrears^ (2)  Private Investment <sup>(1)</sup> Russell 3000 + 250 basis points IQ in Arrears^  11.4%  Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points IQ in Arrears^  14.4%  15.0  10.0  10.0  20.0  \$351.1  N/A  0.98  6.30  0.98  10.69  N/A  N/A  0.88  -3.82  0.88  -0.42  27.61  17.90  15.85  15.29  N/A  7.83  -17.15  9.47  11.98  13.00  12.64  Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points IQ in Arrears^  4.4%  5.0  0.0  10.0  \$136.9  0.59  -0.17  -0.15  -0.17  -0.43  3.69  1.65  3.01  2.70							N/A	-5.17	-0.55	-5.17	6.55	8.97	7.72	7.57	9.11
U.S. CPI + 400 basis points IQ in Arrears^ (2)  Private Investment (1) Russell 3000 + 250 basis points IQ in Arrears^ (2)  Private Credit (1) S&P / LSTA Leveraged Loan Index + 150 basis points IQ in Arrears^ (3)  Absolute Return  11.4% 15.0 10.0 20.0 10.0 20.0 11.4% 15.0 10.0 20.0 10.0 20.0 10.0 10.0 10.0 10	Infrastructure and Natural Passaurass (1)	2.2%	7.0	2.0	12.0	\$67.2	N/A	3.08	7 34	3.08	11 63	N/A	N/A	N/A	N/A
Private Investment <sup>(1)</sup> Russell 3000 + 250 basis points 1Q in Arrears^  11.4%  15.0  10.0  20.0  \$351.1  N/A  0.88  -3.82  0.88  -0.42  27.61  17.90  15.85  15.29  N/A  7.83  -17.15  9.47  11.98  13.00  12.64  Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^  10.0  5.0  10.0  5.0  10.0  5.0  10.0  5.0  10.0  5.0  10.0  5.0  10.0  5.0  10.0  5.0  10.0  5.0  10.0  5.0  5		2.270	7.0	2.0	12.0	\$67.2									
Russell 3000 + 250 basis points 1Q in Arrears^  Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^  4.4%  5.0  0.0  15.0	U.S. CF1 + 400 basis points 1Q in Arrears						11/11	0.70	0.00	0.70	10.07	1,712	1,711	1,712	1,,11
Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^  4.4%  5.0  10.0  5.0  15.0  \$117.7  N/A  0.30  0.55  0.30  0.98  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	Private Investment <sup>(1)</sup>	11.4%	15.0	10.0	20.0	\$351.1	N/A	0.88	-3.82	0.88	-0.42	27.61	17.90	15.85	15.29
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^       N/A       3.00       0.45       3.00       0.72       N/A       N/A       N/A       N/A         Absolute Return       4.4%       5.0       0.0       10.0       \$136.9       0.59       -0.17       -0.15       -0.43       3.69       1.65       3.01       2.70	Russell 3000 + 250 basis points 1Q in Arrears^						N/A	7.83	-13.08	7.83	-17.15	9.47	11.98	13.00	12.64
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^       N/A       3.00       0.45       3.00       0.72       N/A       N/A       N/A       N/A         Absolute Return       4.4%       5.0       0.0       10.0       \$136.9       0.59       -0.17       -0.15       -0.43       3.69       1.65       3.01       2.70	Private Credit <sup>(1)</sup>	3.8%	10.0	5.0	15.0	\$117.7	N/A	0.30	0.55	0.30	0.98	N/A	N/A	N/A	N/A
			13.0	2.0	10.0										
	Absolute Return	4.4%	5.0	0.0	10.0	\$136.9	0.59	-0.17	-0.15	-0.17	-0.43	3,69	1.65	3.01	2.70
	Dynamic weighted HFRX benchmark (3)	•••		0.0	10.0	4.000									

 $<sup>^{\</sup>left( 1\right) }$  Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



#### OPEB FUND Net of All Fees and Expenses 3/31/2023

OVRER'S O	_										Com	pound, anr	nualized ret	urns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<u>Year</u>	<u>Year</u>	<b>Year</b>	<u>Year</u>	<b>Year</b>
OPEB					\$2,342.6	1.63	3.71	4.47	3.71	-3.59	10.53	5.71	6.77	6.14
Policy Benchmark						-0.10	4.04	2.37	4.04	-5.41	8.34	5.68	6.61	6.18
Dynamic Benchmark						0.26	4.30	3.45	4.30	-5.12	8.73	5.72	6.63	N/A
Global Equities	44.2%	37.0	23.0	52.0	\$1,034.3	2.65	7.31	10.18	7.31	-6.36	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	25.4%				\$595.4	2.80	7.21	10.25	7.21	-8.15	18.33	10.36	11.98	N/A
MSCI USA IMI Index					40700	2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	N/A
Developed Markets Equity	12.0%				\$280.9	2.61	9.21	16.60	9.21	-0.32	14.37	4.17	7.14	N/A
MSCI EAFE + Canada Index					•	2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	N/A
Emerging Markets Equity	6.8%				\$158.0	2.19	4.64	2.01	4.64	-9.93	10.11	1.03	6.07	N/A
MSCI Emerging Markets IMI						2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	N/A
Core Fixed Income	13.1%	13.0	8.0	18.0	\$307.6	2.37	2.71	0.27	2.71	-4.83	-2.27	0.74	1.04	N/A
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	N/A
Emerging Market Debt (3)	2.2%	0.0	0.0	0.0	\$51.5	1.33	3.14	7.74	3.14	-3.73	2.30	-1.79	1.56	N/A
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div		0.0	0.0	0.0		2.54	3.51	6.90	3.51	-3.83	0.46	-1.45	1.15	N/A
Non-Core Fixed Income	5.6%	2.0	0.0	7.0	\$130.8	1.15	3.97	7.75	3.97	-2.65	7.09	3.36	5.17	N/A
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						1.06	3.57	7.19	3.57	-3.35	5.88	2.94	4.89	N/A
Liquidity Fund	1.1%	1.0	0.0	3.0	\$26.6	-0.14	1.91	2.82	1.91	3.04	1.12	1.53	1.49	0.96
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74
Real Estate <sup>(1)</sup>	9.3%	10.0	5.0	15.0	\$217.4	N/A	-2.53	-0.41	-2.53	4.91	10.94	7.66	7.65	8.86
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^						N/A	-5.17	-0.55	-5.17	6.55	8.97	7.72	7.57	9.11
Infrastructure and Natural Resources <sup>(1)</sup>	2.9%	7.0	2.0	12.0	\$68.9	N/A	3.08	7.33	3.08	11.62	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 1Q in Arrears^		7.0	2.0	12.0	****	N/A	0.98	6.30	0.98	10.69	N/A	N/A	N/A	N/A
Private Investment <sup>(1)</sup>	12.3%	15.0	10.0	20.0	\$287.4	N/A	0.88	-3.82	0.88	-0.42	27.61	17.90	15.85	N/A
Russell 3000 + 250 basis points 1Q in Arrears^	12.0 , 0	13.0	10.0	20.0	<i>\$2071</i>	N/A	7.83	-13.08	7.83	-17.15	9.47	11.98	13.00	N/A
Private Credit <sup>(1)</sup>	5.0%	10.0	5.0	15.0	\$118.0	N/A	0.24	0.50	0.24	0.94	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^						N/A	3.00	0.45	3.00	0.72	N/A	N/A	N/A	N/A
Absolute Return	4.3%	5.0	0.0	10.0	\$100.2	0.59	-0.17	-0.15	-0.17	-0.43	3.69	1.65	3.01	N/A
Dynamic weighted HFRX benchmark (2)						-1.06	-1.09	-0.16	-1.09	-1.83	0.57	2.25	1.81	N/A

 $<sup>^{\</sup>left( 1\right) }$  Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class





MERS	_				_						Con	npound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	Month	Months	<b>YTD</b>	<u>YTD</u>	<u>Year</u>	<b>Year</b>	<b>Year</b>	<b>Year</b>	Year
Probate Judges Employees' Retirement Fund					\$128.5	1.66	3.86	4.74	3.86	-3.55	10.39	5.36	6.88	6.23
Policy Benchmark						-0.10	4.04	2.37	4.04	-5.41	8.34	5.48	6.91	6.18
Dynamic Benchmark						0.38	4.38	3.70	4.38	-5.28	8.55	5.34	6.81	5.94
Global Equities	46.0%	37.0	23.0	52.0	\$59.1	2.66	7.33	10.18	7.33	-6.36	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	26.3%				\$33.8	2.81	7.21	10.25	7.21	-8.15	18.32	10.35	11.97	11.75
MSCI USA IMI Index	20.0 / 0					2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
Developed Markets Equity	12.5%				\$16.0	2.61	9.21	16.61	9.21	-0.32	14.36	4.17	7.13	6.49
MSCI EAFE + Canada Index						2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	6.18
<b>Emerging Markets Equity</b>	7.2%				\$9.3	2.19	4.64	2.01	4.64	-9.93	10.10	1.02	6.07	2.65
MSCI Emerging Markets IMI						2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	2.13
Core Fixed Income	13.5%	13.0	8.0	18.0	\$17.3	2.35	2.68	0.22	2.68	-4.88	-2.28	0.73	1.03	1.20
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury	10.070					2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Emerging Market Debt (3)	2.5%	0.0	0.0	0.0	\$3.2	1.29	3.10	7.70	3.10	-3.77	2.29	-1.80	1.55	0.39
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div		0.0	0.0	0.0		2.54	3.51	6.90	3.51	-3.83	0.46	-1.45	1.15	0.25
Non-Core Fixed Income	5.6%	2.0	0.0	7.0	\$7.2	1.16	3.98	7.76	3.98	-2.64	7.09	3.36	5.17	3.98
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						1.06	3.57	7.19	3.57	-3.35	5.88	2.94	4.89	3.77
Liquidity Fund	1.6%	1.0	0.0	3.0	\$2.1	0.41	1.09	2.13	1.09	2.40	0.93	1.43	1.38	0.89
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74
Real Estate <sup>(1)</sup>	9.4%	10.0	5.0	15.0	\$12.0	N/A	-2.52	-0.40	-2.52	4.91	10.95	7.66	7.65	8.86
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^		10.0	5.0	13.0		N/A	-5.17	-0.55	-5.17	6.55	8.97	7.72	7.57	9.11
Infrastructure and Natural Resources <sup>(1)</sup>	2.2%	7.0	2.0	12.0	\$2.8	N/A	3.08	7.36	3.08	11.65	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 1Q in Arrears^		7.0	2.0	12.0		N/A	0.98	6.30	0.98	10.69	N/A	N/A	N/A	N/A
Private Investment <sup>(1)</sup>	11.7%	15.0	10.0	20.0	\$15.1	N/A	0.88	-3.82	0.88	-0.42	27.61	17.90	15.85	15.29
Russell 3000 + 250 basis points 1Q in Arrears^		15.0	10.0	20.0		N/A	7.83	-13.08	7.83	-17.15	9.47	11.98	13.00	12.64
Private Credit <sup>(1)</sup>	3.2%	10.0	5.0	15.0	\$4.1	N/A	0.20	0.45	0.20	0.88	N/A	N/A	N/A	N/A
S&P/LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^		10.0	2.0	15.0		N/A	3.00	0.45	3.00	0.72	N/A	N/A	N/A	N/A
Absolute Return	4.4%	5.0	0.0	10.0	\$5.6	0.59	-0.17	-0.15	-0.17	-0.43	3.69	1.65	3.01	2.70
Dynamic weighted HFRX benchmark (2)						-1.06	-1.09	-0.16	-1.09	-1.83	0.57	2.25	1.81	1.29

 $<sup>^{\</sup>left( 1\right) }$  Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



## STATE JUDGES RETIREMENT FUND

Policy Brichmark		_				_						Con	ipound, ani	nualized re	turns
State Judges Retirement Fund   Policy Benchmark   Pol	Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Policy Renchmark	Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
Dynamic Benchmark	State Judges Retirement Fund					\$289.5	1.65	3.85	4.75	3.85	-3.55	10.44	5.42	6.92	6.25
State   Stat															
Most of Equity   Section   Section	Dynamic Benchmark						0.40	4.33	3.68	4.33	-5.20	8.62	5.41	6.81	5.92
Developed Markets Equity   12.4%   1	Global Equities	45.6%	37.0	23.0	52.0	\$132.1	2.66	7.34	10.19	7.34	-6.36	N/A	N/A	N/A	N/A
Developed Markets Equity   12.4%   1	MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Developed Markets Equity   12.4%   1	Domestic Equity	26.1%				\$75.5	2.81	7.22	10.26	7.22	-8.15	18.33	10.36	11.97	11.75
MSCI EAFE + Canada Index   2.22   8.02   13.67   8.02   -3.38   12.55   4.10   6.74   6.18															
MSCI EAFE + Canada Index   2.22   8.02   13.67   8.02   -3.38   12.55   4.10   6.74   6.18	Developed Markets Equity	12.4%				\$35.8	2.61	9.21	16.61	9.21	-0.31	14.37	4.17	7.13	6.49
MSCI Emerging Markets IMI									13.67						
MSCI Emerging Markets IMI	Emerging Markets Equity	7.2%				\$20.7	2.19	4.64	2.02	4.64	-9.92	10.11	1.03	6.07	2.61
Emerging Market Debt <sup>(5)</sup> So% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury  2.5%  0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	0 0 <b>1 ·</b>					<b>\$201</b> 7									
Emerging Market Debt <sup>(5)</sup> So% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury  2.5%  0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	Core Fixed Income	13 3%	13.0	8.0	18.0	\$38.5	2 34	2 67	0.22	2 67	_4 88	-2 28	0.73	1.03	1 20
Solution   Solution		13.3 / 0	10.0	0.0	10.0	Ψ30.3									
Solution   Solution	Emorging Moulest Dobt (3)	2.5%	0.0	0.0	0.0	\$7.3	1.29	3.11	7.70	3.11	-3.76	2.29	-1.80	1.55	0.39
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index   1.06   3.57   7.19   3.57   3.35   5.88   2.94   4.89   3.77	8 8	21070	0.0	0.0	0.0	<i>\$7.</i> <b>12</b>									
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index   2.9%   1.0   0.0   3.0   8.2   -0.01   0.67   1.61   0.67   1.81   0.71   1.27   1.27   0.81   0.5   0.05   0.00   0.98   0.74   0.05   0.00   0.98   0.74   0.05   0.00   0.05   0.0	Non-Core Fixed Income	5.6%	2.0	0.0	7.0	\$16.2	1.16	3.98	7.76	3.98	-2.64	7.09	3.36	5.17	3.98
U.S. 3-Month T-Bill															
Real Estate   State   State	Liquidity Fund	2.9%	1.0	0.0	3.0	\$8.2	-0.01	0.67	1.61	0.67	1.81	0.71	1.27	1.27	0.81
N/A   -5.17   -0.55   -5.17   6.55   8.97   7.72   7.57   9.11	U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74
N/A   -5.17   -0.55   -5.17   6.55   8.97   7.72   7.57   9.11	Real Estate <sup>(1)</sup>	9.3%	10.0	5.0	15.0	\$26.9	N/A	-2.52	-0.40	-2.52	4.91	10.95	7.66	7.65	8.86
U.S. CPI + 400 basis points IQ in Arrears^  11.4%  15.0  10.0  20.0  \$32.9  N/A  0.98  0.98  10.69  N/A  0.98  10.69  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/			10.0	5.0	13.0		N/A	-5.17		-5.17	6.55	8.97	7.72	7.57	9.11
U.S. CPI + 400 basis points IQ in Arrears^  11.4%  15.0  10.0  20.0  \$32.9  N/A  0.98  0.98  10.69  N/A  0.98  10.69  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	Infrastructure and Natural Resources <sup>(1)</sup>	2.1%	7.0	2.0	12.0	\$6.0	N/A	3.08	7.36	3.08	11.64	N/A	N/A	N/A	N/A
Russell 3000 + 250 basis points 1Q in Arrears^       N/A       7.83       -13.08       7.83       -17.15       9.47       11.98       13.00       12.64         Private Credit(1) S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^       3.1%       10.0       5.0       15.0       \$8.9       N/A       0.20       0.45       0.20       0.88       N/A       N/A       N/A       N/A         Absolute Return       4.3%       5.0       0.0       10.0       \$12.5       0.59       -0.17       -0.15       -0.43       3.69       1.65       3.01       2.70			7.0	2.0	12.0										
Russell 3000 + 250 basis points 1Q in Arrears^       N/A       7.83       -13.08       7.83       -17.15       9.47       11.98       13.00       12.64         Private Credit(1) S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^       3.1%       10.0       5.0       15.0       \$8.9       N/A       0.20       0.45       0.20       0.88       N/A       N/A       N/A       N/A         Absolute Return       4.3%       5.0       0.0       10.0       \$12.5       0.59       -0.17       -0.15       -0.43       3.69       1.65       3.01       2.70	Drivete Investment <sup>(1)</sup>	11 4%	15.0	10.0	20.0	\$32.9	N/A	0.88	-3.82	0.88	-0.42	27 61	17 90	15.85	15 30
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^       N/A       3.00       0.45       3.00       0.72       N/A		11.170	13.0	10.0	20.0	Ψ02.9									
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^       N/A       3.00       0.45       3.00       0.72       N/A	Duivate Condid(1)	3.1%	10.0	5.0	15.0	\$8.9	N/A	0.20	0.45	0.20	0.88	N/A	N/A	N/A	N/A
		0.170	10.0	5.0	13.0	40.7									
	Absolute Return	4 3%	5.0	0.0	10.0	\$12.5	0.59	-0 17	-0 15	-0 17	-0 43	3 69	1 65	3.01	2.70
	Dynamic weighted HFRX benchmark (2)	7.0 / 0	3.0	0.0	10.0	ψ±2.0	-1.06	-1.09	-0.13 -0.16	-1.09	-0.43 -1.83	0.57	2.25	1.81	1.29

<sup>(1)</sup> Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



## STATE'S ATTORNEYS' RETIREMENT FUND

Panch   Panc		_				_						Com	pound, an	nualized re	turns
State Automorest Retirement Fund   Policy Benchmark   Policy Benchma												Three		Seven	Ten
Policy Renchannek		<b>Holdings</b>	Weights	Range	Range										
Dynamic Rouchmark						\$2.6									
State   Stat	•														
Demostic Equity   25.8%   25	Dynamic Benchmark						0.38	4.29	3.63	4.29	-5.21	8.58	5.49	6.96	N/A
Developed Markets Equity   12.4%   1	Global Equities	45.3%	37.0	23.0	52.0	\$1.2	2.66	7.34	10.17	7.34	-6.37	N/A	N/A	N/A	N/A
Developed Markets Equity   12.4%   13.0%   1	MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Developed Markets Equity   12.4%   13.0%   1	Domestic Equity	25.8%				\$0.7	2.81	7.22	10.26	7.22	-8.14	18.33	10.36	11.98	11.75
MSCI EAFE + Canada Index															
MSCI EAFE + Canada Index	Developed Markets Equity	12.4%				\$0.3	2.61	9.21	16.59	9.21	-0.33	14.36	4.17	7.13	N/A
MSCI Emerging Markets IMI															
MSCI Emerging Markets IMI	Emerging Markets Equity	7.1%				\$0.2	2.19	4.64	2.01	4.64	-9.93	10.10	1.02	6.06	N/A
Emerging Market Debt <sup>(5)</sup> 50% JPM EMBI Global Div / 50% JPM GBI EM Global Div  5.7% 2.50 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0						\$ 0.2									
Emerging Market Debt <sup>(5)</sup> 50% JPM EMBI Global Div / 50% JPM GBI EM Global Div  5.7% 2.50 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	Care Fixed Income	13 4%	13.0	8.0	18.0	\$0.4	2 35	2 68	0.23	2 68	-4 87	-2 28	0.73	1 03	1 23
Solid   Soli		13.470	10.0	0.0	10.0	ψ0.4									
Solid   Soli	E	2 5%		0.0	0.0	\$0.1	1 27	3.09	7 68	3.09	-3 78	2 29	-1.81	1 55	0.39
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index   1.06   3.57   7.19   3.57   3.35   5.88   2.94   4.89   3.77		2.370	0.0	0.0	0.0	φυ.1									
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index   1.06   3.57   7.19   3.57   3.35   5.88   2.94   4.89   3.77	N. C. F. H	<b>5 50</b> /	2.0	0.0	7.0	00.1	1.17	2.05		2.05	261	<b>7</b> 00	2.25	- 1-	2.06
Liquidity Fund U.S. 3-Month T-Bill  2.7% 1.0 0.0 3.0 So.1 0.30 0.95 1.90 0.95 2.08 0.80 1.29 1.29 0.81 0.43 1.07 1.16 -0.05 1.00 0.98 0.74  Real Estate <sup>(1)</sup> Open End Diversified Core Equity (NFI-ODCE Index) IQ in Arrears^\  10.0 10.0 15.0 15.0 15.0 15.0 10.0 10.		5.7%	2.0	0.0	7.0	\$0.1									
U.S. 3-Month T-Bill															
Real Estate   State   State	• •	2.7%	1.0	0.0	3.0	\$0.1									
N/A   -5.17   -0.55   -5.17   6.55   8.97   N/A   N/A   N/A	U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74
N/A   -5.17   -0.55   -5.17   6.55   8.97   N/A   N/A   N/A	Real Estate <sup>(1)</sup>	9.5%	10.0	5.0	15.0	\$0.3	N/A	-2.52	-0.40	-2.52	4.91	10.95	N/A	N/A	N/A
U.S. CPI + 400 basis points IQ in Arrears^  11.2%  15.0  10.0  20.0  \$0.3  N/A  0.98  6.30  0.98  10.69  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/							N/A	-5.17	-0.55	-5.17	6.55	8.97	N/A	N/A	N/A
U.S. CPI + 400 basis points IQ in Arrears^  11.2%  15.0  10.0  20.0  \$0.3  N/A  0.98  6.30  0.98  10.69  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N/	Infrastructure and Natural Resources <sup>(1)</sup>	2.1%	7.0	2.0	12.0	\$0.1	N/A	3.08	7.37	3.08	11.65	N/A	N/A	N/A	N/A
Russell 3000 + 250 basis points 1Q in Arrears^       N/A       7.83       -13.08       7.83       -17.15       9.47       N/A       N/A       N/A         Private Credit(1) S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^       3.2%       10.0       5.0       15.0       \$0.1       N/A       0.20       0.44       0.20       0.88       N/A       N/A       N/A       N/A         Absolute Return       4.4%       5.0       0.0       10.0       \$0.1       0.59       -0.17       -0.15       -0.17       -0.43       N/A       N/A       N/A       N/A		20170	/.0	2.0	12.0	<b>4011</b>									
Russell 3000 + 250 basis points 1Q in Arrears^       N/A       7.83       -13.08       7.83       -17.15       9.47       N/A       N/A       N/A         Private Credit(1) S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^       3.2%       10.0       5.0       15.0       \$0.1       N/A       0.20       0.44       0.20       0.88       N/A       N/A       N/A       N/A         Absolute Return       4.4%       5.0       0.0       10.0       \$0.1       0.59       -0.17       -0.15       -0.17       -0.43       N/A       N/A       N/A       N/A	<b></b>	11 20/	4.50	100	20.0	60.2	NI/A	0.00	2 92	0.00	0.42	27.61	NI/A	NI/A	NI/A
Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^  10.0  5.0  15.0  \$0.1  N/A  0.20  0.44  0.20  0.88  N/A  N/A  N/A  N/A  N/A  N/A  N/A  N		11,470	15.0	10.0	20.0	30.3									
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^       N/A       3.00       0.45       3.00       0.72       N/A								,,,,,,	12.00	,,,,,,	17.12	····	177.1		
Absolute Return 4.4% 5.0 0.0 10.0 \$0.1 0.59 -0.17 -0.15 -0.17 -0.43 N/A N/A N/A N/A		3.2%	10.0	5.0	15.0	\$0.1	N/A	0.20	0.44	0.20	0.88	N/A	N/A	N/A	N/A
	S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^						N/A	3.00	0.45	3.00	0.72	N/A	N/A	N/A	N/A
Dynamic weighted HFRX benchmark (2) -1.06 -1.09 -0.16 -1.09 -1.83 N/A N/A N/A N/A	Absolute Return	4.4%	5.0	0.0	10.0	\$0.1	0.59	-0.17	-0.15	-0.17	-0.43	N/A	N/A	N/A	N/A
	Dynamic weighted HFRX benchmark (2)						-1.06	-1.09	-0.16	-1.09	-1.83	N/A	N/A	N/A	N/A

<sup>(1)</sup> Actual performance, reported one quarter in arrears.
(2) A blended dynamic benchmark comprised of the weightings of each of the investments utilized within the strategy

<sup>(3)</sup> Legacy asset class



#### AGRICULTURAL COLLEGE FUND

					_						Com	pound, and	nualized ret	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
Agricultural College Fund	100.0%				\$0.6	2.26	2.59	0.25	2.59	-4.87	-2.26	0.76	1.07	1.22
Policy Benchmark						2.50	2.62	-0.84	2.62	-5.49	-3.02	0.75	0.77	1.29
Dynamic Benchmark						2.20	2.95	1.12	2.95	-3.61	-2.37	1.16	1.06	N/A
Core Fixed Income	99.0%	100.0	100.0	100.0	\$0.6	2.28	2.61	0.14	2.61	-4.96	-2.31	0.71	1.02	1.19
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Liquidity Fund (1)	1.0%				\$0.0	0.36	1.00	2.02	1.00	2.16	0.79	0.96	0.77	0.03
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74
					I									

<sup>(1)</sup> Operational cash balance and expense accruals



#### ANDREW C. CLARK FUND

WHEN'S O'					_						Com	pound, an	nualized re	turns
Funds Benchmark	Percent Holdings	Policy Weights	Lower Range	Upper Range	Market Value (mil.)	Month	Three Months	Fiscal <u>YTD</u>	Calendar <u>YTD</u>	One <u>Year</u>	Three Year	Five <u>Year</u>	Seven <u>Year</u>	Ten <u>Year</u>
Andrew C. Clark Fund	1101411150	,, e.g.110	<u> </u>	1411111	\$1.2	2.31	4.30	3.84	4.30	-4.66	3.21	2.90	3.79	3.61
Policy Benchmark						2.46	4.21	3.22	4.21	-4.89	2.67	2.93	3.57	3.65
Dynamic Benchmark						2.19	4.28	3.71	4.28	-4.29	2.91	3.13	3.72	N/A
<b>Global Equities</b>	33.9%	37.0	23.0	52.0	\$0.4	2.74	7.88	12.82	7.88	-4.98	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	22.5%				\$0.3	2.81	7.22	10.54	7.22	-7.91	18.43	10.42	12.02	11.77
MSCI USA IMI Index						2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
Developed Markets Equity	11.4%				\$0.1	2.61	9.21	16.62	9.21	-0.31	14.37	4.17	7.13	6.49
MSCI EAFE + Canada Index						2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	6.18
Emerging Markets Equity	3.2%				\$0.0	2.19	4.64	2.09	4.64	-9.86	10.13	1.04	6.08	2.65
MSCI Emerging Markets IMI						2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	2.13
Core Fixed Income	56.4%	62.0	57.0	67.0	\$0.7	2.28	2.61	0.09	2.61	-5.00	-2.32	0.70	1.02	1.19
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Liquidity Fund	6.5%	1.0	0.0	3.0	\$0.1	0.34	0.98	1.55	0.98	1.79	0.62	2.51	2.46	1.60
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74



#### SOLDIERS' SAILORS' & MARINES' FUND

WREA'S O					_						Con	npound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	Month	<b>Months</b>	<u>YTD</u>	<u>YTD</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>	<u>Year</u>
Soldiers' Sailors' & Marines Fund					\$80.3	2.39	4.37	3.62	4.37	-4.80	3.15	2.87	3.77	3.60
Policy Benchmark						2.46	4.21	3.22	4.21	-4.89	2.67	2.93	3.57	3.65
Dynamic Benchmark						2.27	4.38	3.53	4.38	-4.68	2.78	3.07	3.68	N/A
Global Equities	37.3%	37.0	23.0	52.0	\$29.9	2.68	7.55	11.29	7.55	-5.71	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	21.6%				\$17.4	2.81	7.21	10.49	7.21	-7.95	18.41	10.41	12.01	11.77
MSCI USA IMI Index						2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
<b>Developed Markets Equity</b>	11.7%				\$9.4	2.61	9.21	16.64	9.21	-0.29	14.38	4.18	7.14	6.50
MSCI EAFE + Canada Index						2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	6.18
Emerging Markets Equity	3.9%				\$3.1	2.19	4.64	1.97	4.64	-9.97	10.09	1.01	6.06	2.64
MSCI Emerging Markets IMI						2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	2.13
Core Fixed Income	60.9%	62.0	57.0	67.0	\$48.9	2.28	2.61	0.11	2.61	-4.99	-2.32	0.70	1.01	1.18
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Liquidity Fund	1.8%	1.0	0.0	3.0	\$1.5	0.33	0.99	2.01	0.99	2.16	0.82	1.35	1.33	0.85
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74



#### SCHOOL FUND

					_						Con	npound, an	mualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	Month	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	Year	Year	Year	Year	Year
School Fund					\$12.3	2.31	4.26	3.50	4.26	-5.00	3.11	2.83	3.76	3.60
Policy Benchmark						2.46	4.21	3.22	4.21	-4.89	2.67	2.93	3.57	3.65
Dynamic Benchmark						2.20	4.27	3.29	4.27	-5.00	2.69	2.99	3.63	N/A
Global Equities	35.8%	37.0	23.0	52.0	\$4.4	2.69	7.56	11.34	7.56	-5.68	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	20.9%				\$2.6	2.81	7.22	10.52	7.22	-7.93	18.42	10.41	12.01	11.78
MSCI USA IMI Index						2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
Developed Markets Equity	11.4%				\$1.4	2.61	9.21	16.64	9.21	-0.29	14.38	4.18	7.14	6.50
MSCI EAFE + Canada Index						2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	6.18
Emerging Markets Equity	3.6%				\$0.4	2.19	4.64	1.97	4.64	-9.97	10.09	1.02	6.06	2.64
MSCI Emerging Markets IMI						2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	2.13
Core Fixed Income	58.7%	62.0	57.0	67.0	\$7.2	2.28	2.61	0.11	2.61	-4.99	-2.32	0.70	1.01	1.18
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Liquidity Fund	5.5%	1.0	0.0	3.0	\$0.7	0.25	0.89	2.11	0.89	2.48	1.01	2.02	1.92	1.18
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74



#### **IDA EATON COTTON FUND**

WREA'S O					_						Con	pound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
IDA Eaton Cotton Fund					\$2.6	2.40	4.34	3.74	4.34	-4.68	3.18	2.88	3.78	3.61
Policy Benchmark						2.46	4.21	3.22	4.21	-4.89	2.67	2.93	3.57	3.65
Dynamic Benchmark						2.29	4.35	3.69	4.35	-4.32	2.88	3.11	3.71	N/A
Global Equities	36.3%	37.0	23.0	52.0	\$0.9	2.67	7.58	11.46	7.58	-5.53	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	19.8%				\$0.5	2.81	7.22	10.44	7.22	-7.99	18.39	10.40	12.00	11.77
MSCI USA IMI Index						2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
Developed Markets Equity	12.3%				\$0.3	2.61	9.21	16.64	9.21	-0.29	14.38	4.18	7.14	6.49
MSCI EAFE + Canada Index						2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	6.18
Emerging Markets Equity	4.2%				\$0.1	2.19	4.64	1.97	4.64	-9.97	10.09	1.01	6.06	2.64
MSCI Emerging Markets IMI						2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	2.13
Core Fixed Income	62.8%	62.0	57.0	67.0	\$1.6	2.28	2.61	0.11	2.61	-4.98	-2.32	0.71	1.02	1.19
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Liquidity Fund	0.9%	1.0	0.0	3.0	\$0.0	0.17	0.81	1.58	0.81	1.80	0.88	2.96	2.78	1.78
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74



#### **HOPEMEAD FUND**

					_						Com	pound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<b>Year</b>	<b>Year</b>	<u>Year</u>	<b>Year</b>	<u>Year</u>
Hopemead Fund					\$4.5	2.38	4.32	3.61	4.32	-4.74	3.18	2.86	3.75	3.58
Policy Benchmark						2.46	4.21	3.22	4.21	-4.89	2.67	2.93	3.57	3.65
Dynamic Benchmark						2.26	4.33	3.54	4.33	-4.60	2.81	3.05	3.66	N/A
Global Equities	36.3%	37.0	23.0	52.0	\$1.6	2.68	7.57	11.32	7.57	-5.69	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	20.8%				\$0.9	2.81	7.22	10.48	7.22	-7.96	18.41	10.41	12.01	11.76
MSCI USA IMI Index						2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
Developed Markets Equity	11.6%				\$0.5	2.61	9.21	16.64	9.21	-0.29	14.38	4.18	7.14	6.49
MSCI EAFE + Canada Index						2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	6.18
Emerging Markets Equity	3.8%				\$0.2	2.19	4.64	1.97	4.64	-9.97	10.09	1.01	6.06	2.64
MSCI Emerging Markets IMI						2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	2.13
Core Fixed Income	61.5%	62.0	57.0	67.0	\$2.8	2.28	2.61	0.12	2.61	-4.98	-2.32	0.71	1.02	1.19
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Liquidity Fund	2.2%	1.0	0.0	3.0	\$0.1	0.21	0.89	1.86	0.89	2.08	0.80	1.31	1.30	0.84
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74



## ARTS ENDOWMENT FUND

OUTER 5 OF	_				_						Con	npound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	<b>Month</b>	<b>Months</b>	<b>YTD</b>	<b>YTD</b>	<u>Year</u>	<b>Year</b>	<b>Year</b>	<b>Year</b>	<b>Year</b>
Arts Endowment Fund					\$21.0	2.03	5.07	7.23	5.07	-4.49	10.47	4.88	5.55	4.84
Policy Benchmark						2.15	5.28	6.37	5.28	-5.51	8.91	4.41	4.96	4.62
Dynamic Benchmark						2.08	5.24	6.62	5.24	-4.84	9.63	4.78	N/A	N/A
Global Equities	56.5%	54.0	39.0	69.0	\$11.9	2.62	7.31	10.49	7.31	-6.08	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
Domestic Equity	26.5%				\$5.6	2.81	7.22	10.23	7.22	-8.18	18.32	10.35	11.97	11.75
MSCI USA IMI Index						2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
<b>Developed Markets Equity</b>	18.3%				\$3.8	2.61	9.21	16.64	9.21	-0.29	14.38	4.17	7.15	6.50
MSCI EAFE + Canada Index						2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	6.18
<b>Emerging Markets Equity</b>	11.7%				\$2.5	2.19	4.64	1.98	4.64	-9.96	10.10	1.01	6.07	2.65
MSCI Emerging Markets IMI						2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	2.13
Core Fixed Income	16.2%	33.0	28.0	38.0	\$3.4	2.30	2.63	0.16	2.63	-4.94	-2.30	0.71	1.02	1.19
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury						2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Emerging Market Debt (2)	2.4%	0.0	0.0	0.0	\$0.5	1.29	3.10	7.70	3.10	-3.77	2.29	N/A	N/A	N/A
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div						2.54	3.51	6.90	3.51	-3.83	0.46	N/A	N/A	N/A
Non-Core Fixed Income	9.2%	2.0	0.0	7.0	\$1.9	1.15	3.97	7.74	3.97	-2.65	7.08	N/A	N/A	N/A
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						1.06	3.57	7.19	3.57	-3.35	5.88	N/A	N/A	N/A
Private Credit <sup>(1)</sup>	9.6%	10.0	5.0	15.0	\$2.0	N/A	0.21	0.46	0.21	0.89	N/A	N/A	N/A	N/A
S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^						N/A	3.00	0.45	3.00	0.72	N/A	N/A	N/A	N/A
Liquidity Fund	6.2%	1.0	0.0	3.0	\$1.3	0.26	0.90	1.99	0.90	2.15	0.80	1.33	1.28	0.82
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74

 $<sup>\,^{(1)}</sup>$  Actual performance, reported one quarter in arrears,  $\,^{(2)}$  Legacy asset class



## POLICEMEN AND FIREMEN SURVIVORS' BENEFIT FUND

MER'S	_				-						Con	npound, an	nualized re	turns
Funds	Percent	Policy	Lower	Upper	Market		Three	Fiscal	Calendar	One	Three	Five	Seven	Ten
Benchmark	<b>Holdings</b>	Weights	Range	Range	Value (mil.)	Month	Months	<u>YTD</u>	<u>YTD</u>	<u>Year</u>	<u>Year</u>	<b>Year</b>	<b>Year</b>	<u>Year</u>
Policemen and Firemen Survivors' Benefit Fund					\$46.1	1.64	3.84	4.75	3.84	-3.53	10.42	5.37	6.96	6.40
Policy Benchmark						-0.10	4.04	2.37	4.04	-5.41	8.34	5.49	6.94	N/A
Dynamic Benchmark						0.38	4.31	3.70	4.31	-5.18	8.59	5.35	6.85	N/A
Global Equities	45.6%	37.0	23.0	52.0	\$21.0	2.66	7.34	10.22	7.34	-6.33	N/A	N/A	N/A	N/A
MSCI All Country World IMI Index						2.46	6.95	9.47	6.95	-7.68	N/A	N/A	N/A	N/A
<b>Domestic Equity</b>	25.9%				\$11.9	2.81	7.22	10.26	7.22	-8.15	18.33	10.36	11.97	11.92
MSCI USA IMI Index						2.68	7.21	9.68	7.21	-8.64	18.45	10.44	11.98	11.73
<b>Developed Markets Equity</b>	12.5%				\$5.8	2.61	9.21	16.59	9.21	-0.33	14.36	4.17	7.13	N/A
MSCI EAFE + Canada Index						2.22	8.02	13.67	8.02	-3.38	12.55	4.10	6.74	N/A
Emerging Markets Equity	7.2%				\$3.3	2.19	4.64	2.00	4.64	-9.94	10.10	1.02	6.07	N/A
MSCI Emerging Markets IMI					40.0	2.75	3.94	1.55	3.94	-10.74	9.18	-0.58	5.01	N/A
Core Fixed Income	13.3%	13.0	8.0	18.0	\$6.1	2.33	2.67	0.22	2.67	-4.88	-2.28	0.73	1.03	1.25
50% Barclays U.S. Aggregate Bond / 50% Intermediate Treasury	10.070	10.0	0.0	10.0	Ψ0.1	2.50	2.62	-0.84	2.62	-5.49	-3.01	0.75	0.77	1.29
Emerging Market Debt (3)	2.5%	0.0	0.0	0.0	\$1.1	1.29	3.10	7.70	3.10	-3.77	2.29	-1.80	1.55	0.40
50% JPM EMBI Global Div / 50% JPM GBI EM Global Div	_,,,	0.0	0.0	0.0		2.54	3.51	6.90	3.51	-3.83	0.46	-1.45	1.15	0.25
Non-Core Fixed Income	5.7%	2.0	0.0	7.0	\$2.6	1.16	3.97	7.76	3.97	-2.64	7.09	3.36	5.17	3.96
Bloomberg Barclays U.S. High Yield 2% Issuer Cap Index						1.06	3.57	7.19	3.57	-3.35	5.88	2.94	4.89	3.77
Liquidity Fund	2.4%	1.0	0.0	3.0	\$1.1	0.23	1.01	1.91	1.01	2.14	0.82	1.34	1.32	0.84
U.S. 3-Month T-Bill						0.43	1.07	1.37	1.07	1.16	-0.05	1.00	0.98	0.74
Real Estate <sup>(1)</sup>	9.6%	10.0	5.0	15.0	\$4.4	N/A	-2.52	-0.40	-2.52	4.91	10.95	7.66	7.65	8.86
Open End Diversified Core Equity (NFI-ODCE Index) 1Q in Arrears^		10.0	3.0	13.0		N/A	-5.17	-0.55	-5.17	6.55	8.97	7.72	7.57	9.11
Infrastructure and Natural Resources <sup>(1)</sup>	2.1%	7.0	2.0	12.0	\$1.0	N/A	3.08	7.38	3.08	11.67	N/A	N/A	N/A	N/A
U.S. CPI + 400 basis points 1Q in Arrears^		7.0	2.0	12.0		N/A	0.98	6.30	0.98	10.69	N/A	N/A	N/A	N/A
P: ( I ( (I)	11.3%	15.0	10.0	20.0	\$5.2	N/A	0.88	-3.82	0.88	-0.42	27.61	17.90	15.85	N/A
Private Investment <sup>(1)</sup> Russell 3000 + 250 basis points 1Q in Arrears^	11.5 /0	15.0	10.0	20.0	ψυ.2	N/A	7.83	-13.08	7.83	-17.15	9.47	11.98	13.00	N/A
Discound	3.2%	10.0	5.0	15.0	\$1.5	N/A	0.21	0.45	0.21	0.89	N/A	N/A	N/A	N/A
Private Credit <sup>(1)</sup> S&P / LSTA Leveraged Loan Index + 150 basis points 1Q in Arrears^	3.2 /0	10.0	5.0	15.0	\$1.5	N/A N/A	3.00	0.45	3.00	0.72	N/A N/A	N/A N/A	N/A N/A	N/A N/A
	4 20/	5.0	0.0	10.0	62.0	0.70	0.17	0.15	0.17	0.42	2.60	1.75	2.01	NI/A
Absolute Return	4.3%	5.0	0.0	10.0	\$2.0	0.59	-0.17	-0.15	<b>-0.17</b>	-0.43	3.69	1.65	3.01	N/A
Dynamic weighted HFRX benchmark (2)					J	-1.06	-1.09	-0.16	-1.09	-1.83	0.57	2.25	1.81	N/A

<sup>(1)</sup> Actual performance, reported one quarter in arrears.

<sup>(2)</sup> A blended dynamic benchmark comprised of the weightings of each of the investments unitized within the strategy

<sup>(3)</sup> Legacy asset class



# State of Connecticut Retirement Plans and Trust Funds

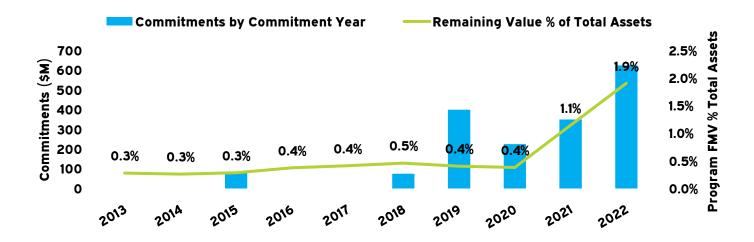
Fourth Quarter 2022

Real Assets Program

Overview | As of December 31, 2022

## Introduction

Beginning in 2011, CRPTF has made 16 real assets fund commitments totaling over \$1.8 billion in capital. In early 2020, CRPTF approved a target allocation of 4.2% to the Real Assets Program. In September 2022, CRPTF approved an increase to a 7.0% target allocation of total plan assets.



## **Program Status**

No. of Investments	16
Committed (\$M)	1,885.0
Contributed (\$M)	1,003.8
Distributed (\$M)	249.6
Remaining Value (\$M)	884.3

Performance Since Inception

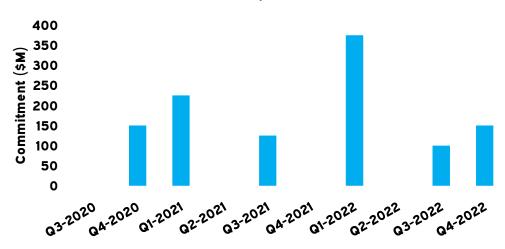
	Program
DPI	0.25x
TVPI	1.13x
IRR	6.6%



Recent Activity | As of December 31, 2022

## Commitments





## **Commitments This Quarter**

Fund	Strategy	Region	Amount (\$M)
Paine Schwartz VI	Natural Resources	Global: All	150.0

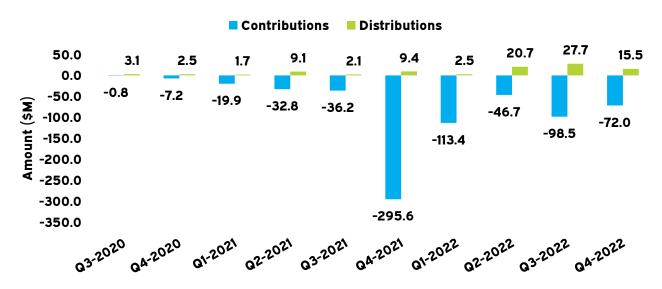
MEKETA INVESTMENT GROUP Page 3 of 45



Recent Activity | As of December 31, 2022

## Cash Flows

## **Recent Quarterly Cash Flows**



## **Largest Contributions This Quarter**

## **Largest Distributions This Quarter**

Amount (\$M)

11.3 3.4 0.5

Fund	Vintage	Strategy	Region	Amount (\$M)	Fund	Vintage	Strategy	Region
GIP IV	2020	Infrastructure	Global: Developed	25.4	ISQ IS II	2017	Infrastructure	Global: Developed
Tiger IS III	2020	Infrastructure	Global: All	17.3	Paine Schwartz VI	2022	Natural Resources	Global: All
Paine Schwartz VI	2022	Natural Resources	Global: All	12.6	Climate Adaptive IS	2021	Infrastructure	North America

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Recent Activity | As of December 31, 2022

## **Significant Events**

- In October 2022, Global Infrastructure Partners ("GIP") Fund IV and GIP Emerging Markets closed on the acquisition of a combined 100% interest in Atlas, the second largest renewables platform in Latin America with a portfolio of highly contracted assets across Brazil, Chile, Mexico, and Uruguay. GIP IV's share represents \$1.5 billion of the total joint equity commitment of \$1.8 billion. The fund also closed on the acquisition of VTG, a European railcar lessor, in December 2022, further contributing to the significant capital calls during the fourth quarter.
- During the fourth quarter, Tiger Infrastructure Partners Fund III closed on two new investments, including a \$262.5 million commitment to International Aerospace Coatings, one of the world's largest aviation services providers, and a £75 million commitment in Rural Broadband Solutions Holdings Limited, a broadband service provider focused on deploying fiber in rural areas in the United Kingdom. The fund also drew down additional capital in the quarter to fund previously made investments in Forsa, Qwello, and Summit Carbon.
- During the fourth quarter, BlackRock Global Renewable Power Infrastructure Fund III closed on three new investments, including: Project Jade, a portfolio of battery storage assets in the U.K.; solarZero, a leading provider of solar, battery storage and energy services in New Zealand; and a joint venture with Daimler Truck North America and NextEra Energy Sources to invest in a truck charging network in the U.S., representing the final commitment of Fund III. The fund also wrote-off its Hayabusa investment of \$75 million in Q4 2022 as a result of a decrease in potential returns in the Japanese offshore wind market and the strong bias towards Japanese "national champions" in the PPA tender auction processes.
- In October 2022, Paine Schwartz Partners Food Chain Fund VI closed on its strategic investment in Costa Group, Australia's leading grower, packer, and marketer of fresh fruit and vegetables, representing nearly a 15% interest in the company's publicly traded shares.
- In December 2022, ISQ Global Infrastructure Fund II realized its investment in Venture Global LNG, a premier low-cost exporter of liquefied natural gas ("LNG") in North America, for \$1.3 billion. During ISQ's hold period, the company used the capital to construct its first liquefication facility, as well as begin construction on another site. Venture Global represents the fund's first full realization.

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## Performance Analysis | As of December 31, 2022

## By Strategy

Group	Number	Committed (\$M)	Contributed (\$M)	Unfunded (\$M)	Distributed (\$M)	Remaining Value (\$M)	Exposure (\$M)	DPI (X)	TVPI (X)	IRR (%)
Infrastructure	13	1,600.0	870.3	766.0	183.2	807.2	1,573.2	0.21	1.14	7.7
Natural Resources	3	285.0	133.5	158.4	66.4	77.0	235.5	0.50	1.07	2.6
Total	16	1,885.0	1,003.8	924.4	249.6	884.3	1,808.7	0.25	1.13	6.6

## By Vintage

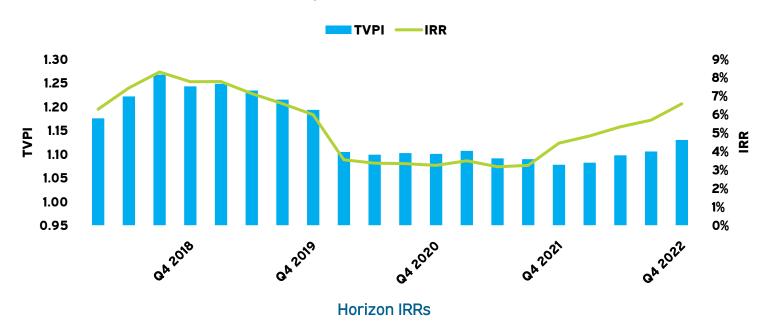
Group	Number	Committed (\$M)	Contributed (\$M)	Unfunded (\$M)	Distributed (\$M)	Remaining Value (\$M)	Exposure (\$M)	DPI (X)	TVPI (X)	IRR (%)
Open-end Fund	1	300.0	200.3	100.0	1.1	222.8	322.8	0.01	1.12	NM
2010	1	60.0	63.1	0.0	61.3	7.9	7.9	0.97	1.10	2.1
2011	1	65.0	65.9	0.0	86.9	0.0	0.0	1.32	1.32	7.3
2015	1	85.0	86.1	0.0	60.4	47.5	47.5	0.70	1.25	4.9
2017	1	75.0	78.7	12.8	27.7	79.8	92.5	0.35	1.37	14.2
2018	1	75.0	57.8	17.7	1.8	60.9	78.6	0.03	1.08	6.5
2020	4	525.0	288.8	251.4	4.0	300.8	552.3	0.01	1.06	6.6
2021	4	400.0	128.5	273.9	3.2	129.7	403.6	0.02	1.03	NM
2022	2	300.0	34.6	268.7	3.4	34.8	303.5	0.10	1.10	NM
Total	16	1,885.0	1,003.8	924.4	249.6	884.3	1,808.7	0.25	1.13	6.6

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Performance Analysis | As of December 31, 2022

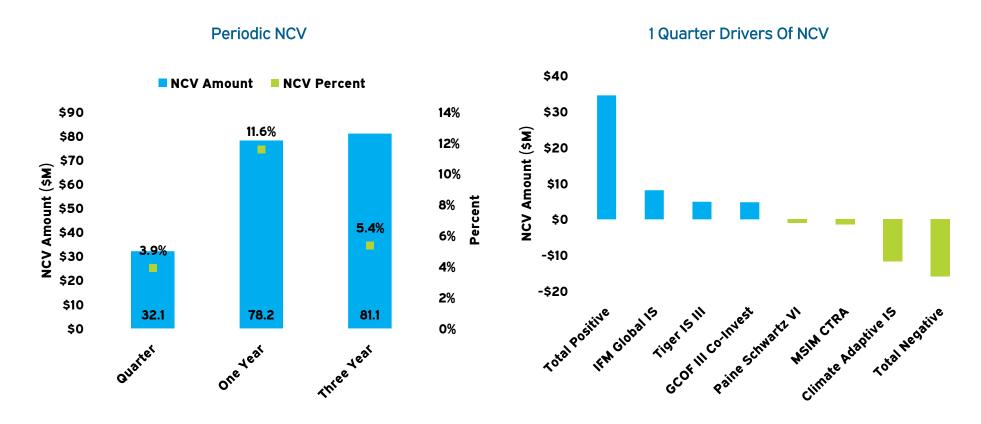
## **Since Inception Performance Over Time**



	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	11.5	7.2	7.3	5.8	6.6
Public Market Equivalent	-6.9	3.4	3.7	4.5	4.7



Performance Analysis | As of December 31, 2022





Fund Diversification | As of December 31, 2022

## Fund Performance: Sorted By Vintage And Strategy

By Investment	Vintage	Strategy	Committed (\$M)	Contributed (\$M)	Unfunded (\$M)	Distributed (\$M)	Remaining Value (\$M)	TVPI (X)	Peer TVPI <sup>1</sup> (X)	IRR (%)	Peer IRR¹ (%)
IFM Global IS	Open-end	Infrastructure	300.0	200.3	100.0	1.1	222.8	1.12	NM	NM	NM
EIG Energy XV	2010	Natural Resources	60.0	63.1	0.0	61.3	7.9	1.10	1.07	2.1	2.0
ArcLight V	2011	Infrastructure	65.0	65.9	0.0	86.9	0.0	1.32	NM	7.3	NM
ArcLight VI	2015	Infrastructure	85.0	86.1	0.0	60.4	47.5	1.25	1.37	4.9	7.7
ISQ IS II	2017	Infrastructure	75.0	78.7	12.8	27.7	79.8	1.37	1.19	14.2	7.7
Homestead III	2018	Natural Resources	75.0	57.8	17.7	1.8	60.9	1.08	1.29	6.5	13.2
BlackRock GRPIF III	2020	Infrastructure	100.0	41.5	61.0	2.7	42.8	1.10	NM	11.7	NM
GIP IV	2020	Infrastructure	200.0	154.9	56.0	0.3	161.5	1.05	NM	4.8	NM
Stonepeak IS IV	2020	Infrastructure	125.0	45.7	79.4	0.3	48.9	1.08	NM	8.2	NM
Tiger IS III	2020	Infrastructure	100.0	46.9	55.1	0.6	47.7	1.03	NM	7.9	NM
Climate Adaptive IS	2021	Infrastructure	125.0	40.3	87.0	3.1	45.2	1.20	NM	NM	NM
GCOF III Co-Invest	2021	Infrastructure	50.0	29.6	20.4	0.0	29.5	1.00	NM	NM	NM
Grain Comm III	2021	Infrastructure	75.0	42.4	32.6	0.1	37.8	0.89	NM	NM	NM
ISQ IS III	2021	Infrastructure	150.0	16.2	133.8	0.0	17.2	1.06	NM	NM	NM
MSIM CTRA	2022	Infrastructure	150.0	22.1	127.9	0.0	26.6	1.21	NM	NM	NM
Paine Schwartz VI	2022	Natural Resources	150.0	12.6	140.7	3.4	8.2	0.92	NM	NM	NM
Total			1,885.0	1,003.8	924.4	249.6	884.3	1.13	NM	6.6	NM

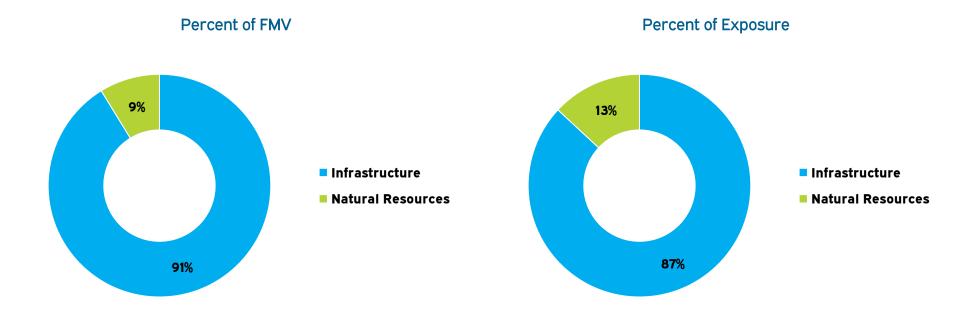
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<sup>&</sup>lt;sup>1</sup> Preliminary Cambridge data as of 4/22/2023.



Fund Diversification | As of December 31, 2022

## By Strategy

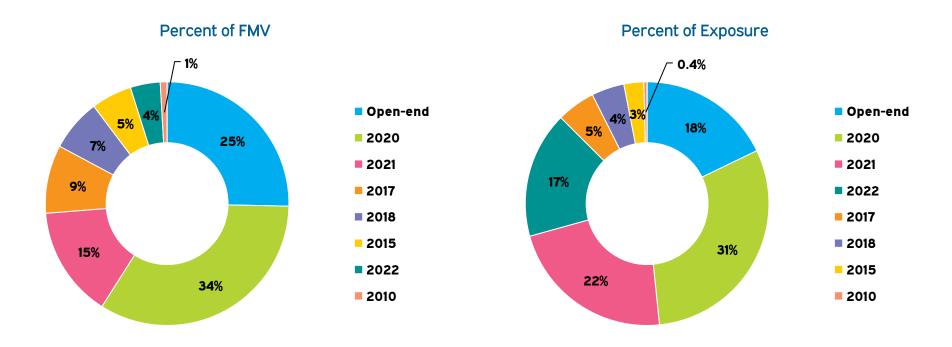


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Fund Diversification | As of December 31, 2022

## By Vintage Year

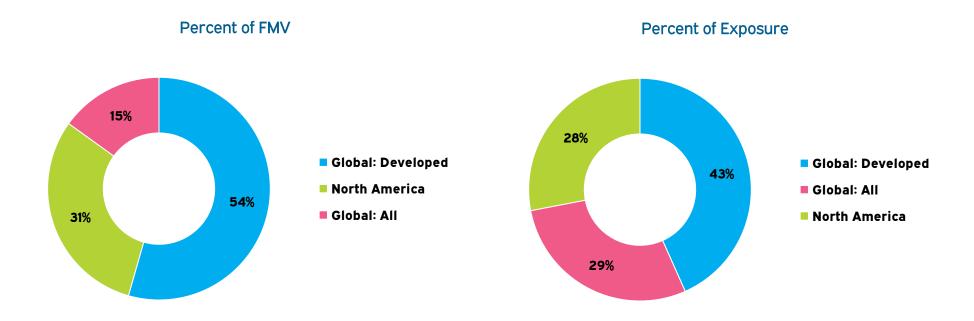


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Fund Diversification | As of December 31, 2022

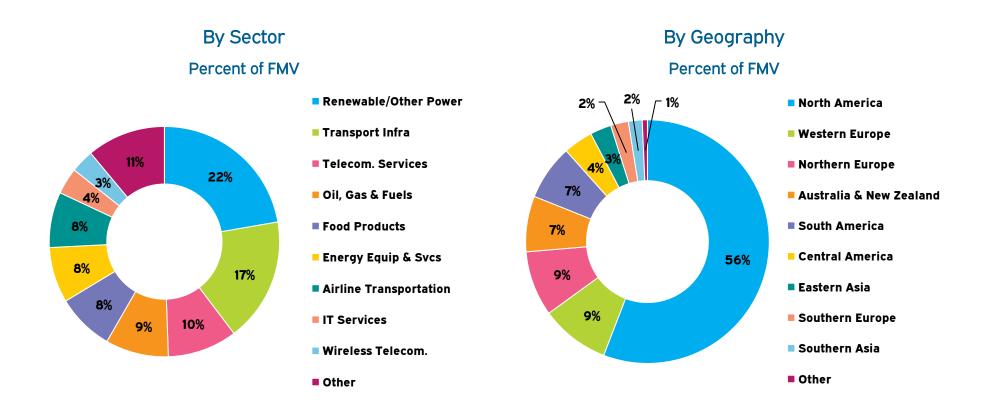
## By Geographic Focus



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Asset Diversification | As of December 31, 2022



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50

0

85.0

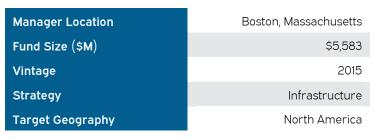
## CT Consolidation of Investment Funds Real Assets Program

Fund Summaries | As of December 31, 2022

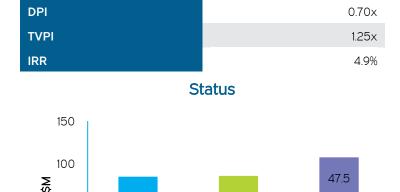
## Arclight Energy Partners Fund VI, L.P.

Arclight Energy Partners Fund VI will make midstream, power, and production infrastructure investments across North American and Europe (up to 20%). The Fund will seek to generate attractive returns through current income and long-term capital appreciation.

#### General



#### Performance



## ■ Commitment ■ Invested ■ Unfunded ■ Realized ■ Unrealized

86.1

60.4

## Fund Diversification (by Unrealized Value)



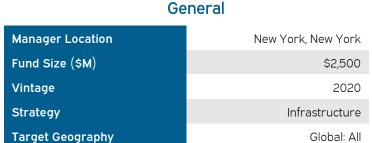
Asset	Industry	Invested (\$M)	Realized (\$M)	Unrealized (\$M)	TVPI (X)
Limetree Bay Holdings	Oil, Gas & Consumable Fuels	1,112.0	268.5	0	0.24
Pike Core Infrastructure	Energy Equipment & Services	1,007.5	75.5	919.3	0.99
Midcoast Energy	Oil, Gas & Consumable Fuels	406.3	1,293.4	2.7	3.19
Bruin Resources	Energy Equipment & Services	368.3	3.6	0	0.01
Eastern Generation	Independent Power & Renewa	330.2	432.4	131.5	1.71
Lightstone Generation	Electric Utilities	329.2	422.9	362.4	2.39
Leeward Renewable Energy	Independent Power & Renewa	306.2	446.5	0	1.46
Blue Ridge Asphalt II	Transportation Infrastructure	282.7	9.8	117.3	0.45
Enstor	Oil, Gas & Consumable Fuels	256.1	637.6	0	2.49
Other (9)		897.9	531.1	1,539.4	2.31
Total		5,296.6	4,121.5	3,072.6	1.36



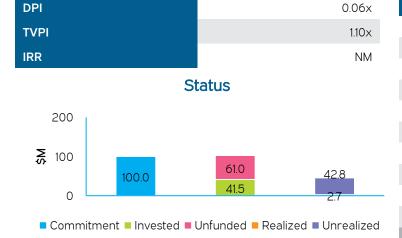
Fund Summaries | As of December 31, 2022

## BlackRock Global Renewable Power Infrastructure Fund III, L.P.

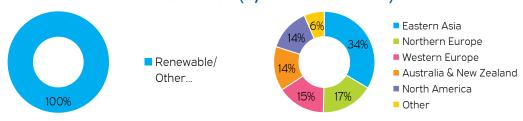
The Fund will invest solar and wind assets in OECD countries (up to 10% outside OECD). BlackRock expects a roughly even allocation between solar and wind assets, and will focus on late-stage development and construction-ready assets with a 50% to 70% target to greenfield investments. The Fund is targeting returns of 12% to 13% gross IRR and a yield of 5% to 7%.



# Performance



## Fund Diversification (by Unrealized Value)



## Portfolio Holdings

Asset	Industry	Invested (\$M)	Realized <sup>1</sup> (\$M)	Unrealized (\$M)	TVPI (X)
Neptune	Independent Power & Renewable Ele	341.0	0	446.0	1.31
Sisu	Independent Power & Renewable Ele	307.0	0	306.0	1.00
Wattle	Independent Power & Renewable Ele	188.0	0	196.0	1.04
Phoenix Blackrock	Independent Power & Renewable Ele	161.0	0	200.0	1.24
Lotus	Independent Power & Renewable Ele	141.0	0	166.0	1.18
Chadwick	Independent Power & Renewable Ele	134.0	0	147.0	1.10
Fastlane	Independent Power & Renewable Ele	133.0	0	157.0	1.18
Bond	Independent Power & Renewable Ele	116.0	0	164.0	1.41
Royale	Independent Power & Renewable Ele	112.0	0	164.0	1.46
Other (9)		403.0	0	362.0	0.90
Total		2,036.0	0	2,308.0	1.13

<sup>&</sup>lt;sup>1</sup> The manager provided incomplete underlying holdings detail which does not include realized proceeds. Therefore, TVPI performance metrics may not be meaningful.

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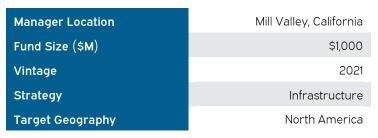


Fund Summaries | As of December 31, 2022

## Climate Adaptive Infrastructure Fund I

The Fund seeks to invest in low-carbon infrastructure assets within the energy, water, and transportation sectors. The portfolio is expected to be seven to ten platform investments ranging in equity investments of \$75 million to \$200 million. The Fund expects to invest at least 80% of committed capital in North America.

#### General



#### Performance





## Fund Diversification (by Unrealized Value)



Asset	Industry	Invested (\$M)	Realized (\$M)	Unrealized (\$M)	TVPI (X)
Intersect Power 2.0	Independent Power & Renewable Ele	135.9	0	135.9	1.00
Sentinel Energy	Independent Power & Renewable Ele	122.2	0	122.9	1.01
Intersect Power	Independent Power & Renewable Ele	45.0	0	136.4	3.03
Intersect Notes	Independent Power & Renewable Ele	40.0	46.2	0	1.16
Rye Hydro	Independent Power & Renewable Ele	9.3	0	10.2	1.10
Total		352.4	46.2	405.4	1.28

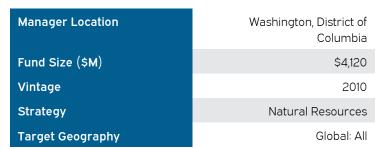


Fund Summaries | As of December 31, 2022

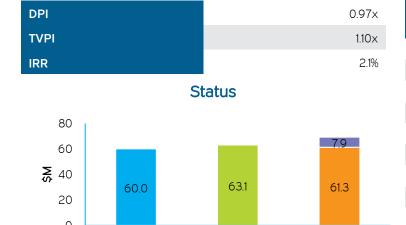
## EIG Energy XV, L.P.

EIG XV will execute hybrid debt and structured equity investments in four energy subsectors: upstream oil and gas (40-50%); midstream (20-25%); power and renewables (20-25%); and energy infrastructure (10-15%). The Fund will primarily target OECD countries for senior ranking investments with limited exposure to common equity.

#### General

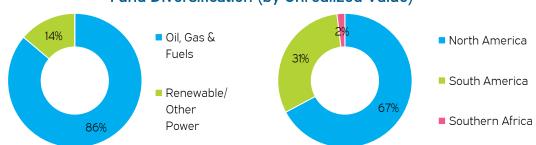


#### Performance



■ Commitment ■ Invested ■ Unfunded ■ Realized ■ Unrealized

## Fund Diversification (by Unrealized Value)



		Invested	Realized	Unrealized	TVPI
Asset	Industry	(\$M)	(\$M)	(\$M)	(x)
Jamestown Resources, L	Oil, Gas & Consumable Fuels	599.2	419.9	7.4	0.71
CHK Utica, LLC	Oil, Gas & Consumable Fuels	500.0	785.8	0	1.57
Plains Offshore Op	Oil, Gas & Consumable Fuels	358.1	562.6	0	1.57
Bolivia-Brazil Pipeline	Oil, Gas & Consumable Fuels	308.5	644.0	17.0	2.14
BlackBrush Texstar LP	Oil, Gas & Consumable Fuels	295.2	188.9	0	0.64
Cheniere CCH Holdco II	Oil, Gas & Consumable Fuels	218.5	389.2	0	1.78
Maverick Natural Rsrcs	Oil, Gas & Consumable Fuels	189.0	65.8	346.2	2.18
SeteBrasil Participacoes	Oil, Gas & Consumable Fuels	160.6	51.9	83.0	0.84
South Africa Solar Inv	Independent Power & Renewab	158.0	252.4	10.0	1.66
Other (12)		1,061.8	1,071.5	62.8	1.07
Total		3,849.0	4,432.1	526.3	1.29



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## CT Consolidation of Investment Funds Real Assets Program

Fund Summaries | As of December 31, 2022

## GCOF III CO-INVEST (TC), L.P.

The Fund invests alongide Grain Communications Opportunity Fund III, which invests across the fastest growing U.S. communications infrastructure subsectors, including cell towers, fiber, and spectrum.

#### General

Manager Location	Washington, District of Columbia
Fund Size (\$M)	\$50
Vintage	2021
Strategy	Infrastructure
Target Geography	North America

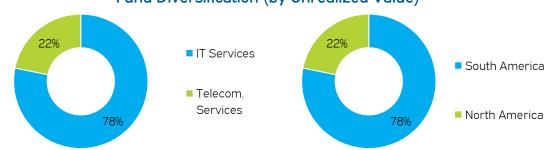
## Performance



## Status



## Fund Diversification (by Unrealized Value)



	to to the	Invested	Realized	Unrealized	TVPI
Asset	Industry	(\$M)	(\$M)	(\$M)	(x)
Alares	IT Services	14.1	0	14.6	1.04
Y-COM	Diversified Telecommunication 5	14.8	0	14.9	1.01
Total		29.0	0	29.5	1.02



Fund Summaries | As of December 31, 2022

## Global Infrastructure Partners IV, L.P.

The Fund employs a value-added strategy that focuses on two primary industrial sector, energy and transportation, and their related sub-sectors, predominantly in North America, Europe, and Australasia. The Manager has increasingly transacted at the larger end of the market, and expects the Fund's equity checks will be in the range of \$1.0 billion to \$2.5 billion resulting in 10 to 15 investments.

#### General

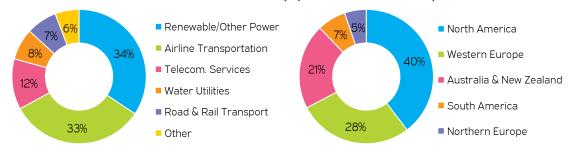


# Performance





## Fund Diversification (by Unrealized Value)



## **Portfolio Holdings**

Asset	Industry	Invested (\$M)	Realized (\$M)	Unrealized (\$M)	TVPI (X)
Sydney Airport	Airlines	3,247.7	62.1	3,503.7	1.10
Skyborn Renewables	Independent Power & Renewable	2,512.6	3.3	2,230.0	0.89
CyrusOne Holdco	Diversified Telecommunication S	1,986.0	0	2,136.0	1.08
Eolian	Independent Power & Renewable	1,526.9	6.5	2,351.8	1.54
Signature Aviation	Airlines	1,525.3	0	2,225.0	1.46
VTG AG	Road & Rail	1,296.6	0	1,296.6	1.00
Atlas Renewable Energy	Independent Power & Renewable	1,209.7	.1	1,209.7	1.00
Suez	Water Utilities	1,197.5	0	1,325.6	1.11
Peel Ports	Transportation Infrastructure	799.0	31.4	915.0	1.18
Other (3)		221.5	0	322.8	1.46
Total		15,522.8	103.4	17,516.2	1.14

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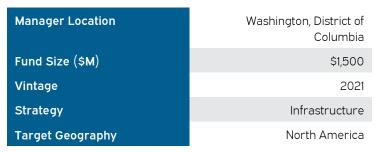


Fund Summaries | As of December 31, 2022

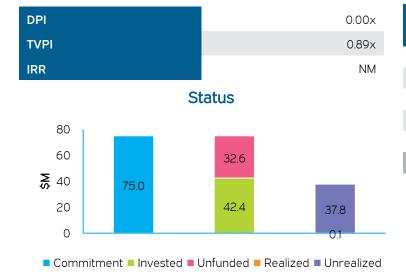
## Grain Communications Opportunity Fund III, L.P.

The Fund invests across the fastest growing U.S. communications infrastructure subsectors, including cell towers, fiber, and spectrum. The Fund seeks to identify opportunities that have the following characteristics: recurring revenue; mission-critical services; low correlation to market cycles; and high barriers to entry. GCOF III is expected to make 8-12 portfolio investments ranging from \$100 million to \$300 million in individual size.

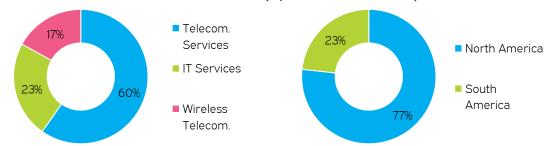
#### General



## Performance



## Fund Diversification (by Unrealized Value)



## **Portfolio Holdings**

		Invested	Realized	Unrealized	TVPI
Asset	Industry	(\$M)	(\$M)	(\$M)	(x)
NewLevel III	Diversified Telecommunication 5	376.3	0	375.9	1.00
Alares	IT Services	314.1	0	272.6	0.87
Y-COM	Diversified Telecommunication 5	240.9	0	240.9	1.00
Network Wireless Solution	Wireless Telecommunication Se	168.0	3.0	198.9	1.20
LightRiver	Diversified Telecommunication 5	82.7	0	82.7	1.00
Total		1,182.0	3.0	1,171.0	0.99

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**Target Geography** 

DPI

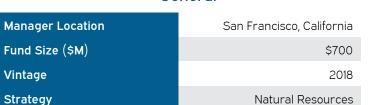
## CT Consolidation of Investment Funds Real Assets Program

Fund Summaries | As of December 31, 2022

## Homestead Capital USA Farmland Fund III, L.P.

General

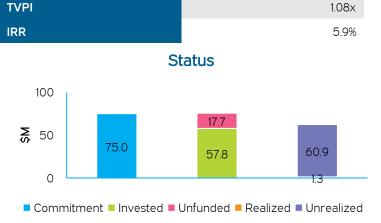
The Fund will invest in US farmland properties and improving the land through capital improvements and implementation of operational improvements and efficiencies. The Fund will generally invest between \$5 million and \$25 million to acquire farmland. The Fund will seek to create a portfolio diversified across geography, tenant lease type, and underlying crop.



North America

0.03x

#### Performance



## Fund Diversification (by Unrealized Value)



## **Portfolio Holdings**

Asset	Industry	Invested (\$M)	Realized (\$M) <sup>1</sup>	Unrealized (\$M)	TVPI (X)
Yellow Madera III	Food Products	68.9	0	74.3	1.08
Green Ontario III	Food Products	43.5	0	52.0	1.19
Maroon Shaw III	Food Products	27.4	0	29.8	1.09
Blue Murdock III	Food Products	27.2	0	42.1	1.55
White Brewster III	Food Products	19.3	0	18.4	0.95
Yellow Napa III	Food Products	16.6	0	16.8	1.02
Black Lamar III	Food Products	16.5	0	18.2	1.11
Yellow Ranchos III	Food Products	15.2	0	16.4	1.08
Maroon Crenshaw III	Food Products	14.9	0	22.7	1.52
Other (32)		169.2	0	193.7	1.14
Total		418.8	0	484.5	1.16

<sup>&</sup>lt;sup>1</sup> The manager provided incomplete underlying holdings detail which does not include realized proceeds. Therefore, TVPI performance metrics may not be meaningful.

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DPI

# CT Consolidation of Investment Funds Real Assets Program

Fund Summaries | As of December 31, 2022

# IFM Global Infrastructure (U.S.), L.P.

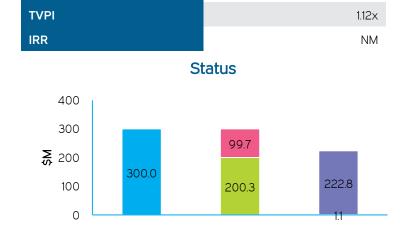
The Fund invests in mature, operational, core infrastructure assets located in countries with investment-grade ratings. The Partnership will primarily make investments in the United States, the United Kingdom, and Europe. The Partnership targets essential assets with defensive characteristics across all major sector categories. Equity commitments per asset may range from \$20 million to \$200 million or more.

#### General



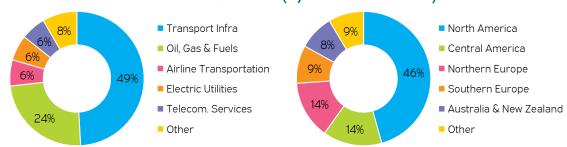
#### Performance

0.01x



■ Commitment ■ Invested ■ Unfunded ■ Realized ■ Unrealized

## Fund Diversification (by Unrealized Value)



Asset	Industry	Invested (\$M)	Realized (\$M)	Unrealized (\$M)	TVPI (X)
Aleatica	Transportation Infrastructu	5,679.4	1,537.5	7,116.1	1.52
Buckeye Partners	Oil, Gas & Consumable Fuel:	4,763.6	-206.4	7,747.1	1.58
Indiana Toll Road	Transportation Infrastructui	4,216.4	3,369.5	7,543.5	2.59
Sydney Airport	Airlines	3,142.4	7.1	3,172.2	1.01
Naturgy Energy Group	Electric Utilities	2,509.7	46.7	2,691.8	1.09
Switch, Inc.	Diversified Telecommunicat	2,158.3	0	2,158.3	1.00
Manchester Airports Gr	Transportation Infrastructui	1,648.2	553.2	3,302.0	2.34
Freeport Train 2	Oil, Gas & Consumable Fuel:	1,300.0	808.6	2,542.7	2.58
VTTI	Oil, Gas & Consumable Fuel:	1,222.4	197.9	1,285.1	1.21
Other (22)		9,753.9	2,467.0	12,924.6	1.58
Total		36,394.3	8,781.1	50,483.4	1.63



Fund Summaries | As of December 31, 2022

# ISQ Global Infrastructure Fund II (USTE), L.P.

The Fund will employ a value-added strategy for middle market investments in energy, utilities, and transportation infrastructure assets in North America, Europe, and selected emerging markets. The team will largely target brownfield opportunities; however, the fund can invest in up to 25% of commitments in greenfield projects that accept construction risk. The Fund expects to an average of \$150 to \$250 million per investment.

#### General

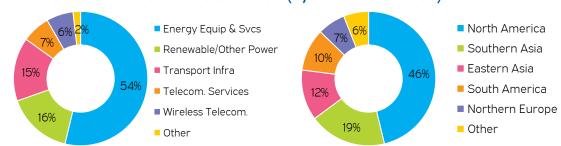


#### Performance





## Fund Diversification (by Unrealized Value)



Asset	Industry	Invested (\$M)	Realized (\$M)	Unrealized (\$M)	TVPI (X)
TIP	Energy Equipment & Services	716.9	145.1	1,500.5	2.30
Atlantic Power	Independent Power and Renewa	712.9	388.0	381.5	1.08
EagleClaw	Energy Equipment & Services	689.3	12.2	794.1	1.17
Domidep	Energy Equipment & Services	670.3	0	952.3	1.42
Cube Highways II	Transportation Infrastructure	620.8	1.2	1,077.9	1.74
Inkia	Energy Equipment & Services	567.1	343.5	777.9	1.98
Venture Global LNG	Oil, Gas & Consumable Fuels	557.0	1,254.8	0	2.25
HGC Global Communica	Diversified Telecommunication 5	395.7	47.2	560.2	1.53
Rubis Terminal	Energy Equipment & Services	314.4	57.0	414.9	1.50
Other (22)		1,258.7	166.0	1,800.4	1.56
Total		6,503.0	2,415.0	8,259.7	1.64



Fund Summaries | As of December 31, 2022

# ISQ Global Infrastructure Fund III (USTE), L.P.

The Fund will employ a value-added strategy for middle market investments in energy, utilities, and transportation infrastructure assets in North America, Europe, and selected emerging markets. The team will largely target brownfield opportunities; however, the fund can invest in up to 25% of commitments in greenfield projects that accept construction risk.

#### General



#### Performance





## Fund Diversification (by Unrealized Value)



Asset	Industry	Invested (\$M)	Realized (\$M)	Unrealized (\$M)	TVPI (X)
EXA	Diversified Telecommunicat	804.0	0	935.0	1.16
VLS	Transportation Infrastructui	652.9	0	687.2	1.05
KIO Networks	Software	371.2	0	453.2	1.22
Aggreko	Multi-Utilities	329.0	0	649.1	1.97
Stake Center	Multi-Utilities	202.0	0	202.0	1.00
BDx II	Diversified Telecommunicat	125.1	0	141.5	1.13
HTEC	Energy Equipment & Servic	124.3	0	155.1	1.25
AG&P City Gas	Oil, Gas & Consumable Fuel:	117.2	0	159.9	1.36
Cube Cold Europe	Multi-Utilities	97.3	0	109.9	1.13
Other (7)		215.2	0	234.6	1.09
Total		3,038.0	0	3,727.4	1.23



Fund Summaries | As of December 31, 2022

# Morgan Stanley CT Real Assets Co-Investment Fund, L.P.

MSIM manages a co-investment multi-manager portfolio of real asset opportunities across private real estate, infrastructure, and natural resources segments globally. Within infrastructure and natural resources, MSIM focuses on assets with long useful lives that are essential to society and the economy, including energy businesses, utilities, transportation assets, social infrastructure, and select infrastructure service companies.

#### General

Manager Location	New York, New York
Fund Size (\$M)	\$375
Vintage	2022
Strategy	Infrastructure
Target Geography	Global: All

# Fund Diversification (by Unrealized Value)

Q4 2022 audited financial data is not yet available, therefore no underlying holdings information is provided.

#### Performance



## **Portfolio Holdings**

		Invested	Realized	Unrealized	TVPI
Asset	Industry	(\$M)	(\$M)	(\$M)	(x)
Total		0	0	0	NM

# Status





Fund Summaries | As of December 31, 2022

# Paine Schwartz Partners Food Chain Fund VI, L.P.

Paine Schwartz VI will make investments across the global food and agribusiness sectors and target inputs and input distribution, production, and processing; targeting gross returns of 2.5x to 3.0x and 20% to 25% IRR.

#### General



#### Performance



**Status** 



## Fund Diversification (by Unrealized Value)



Asset	Industry	Invested (\$M)	Realized (\$M)	Unrealized (\$M)	TVPI (X)
Costa Group	Food Products	120.0	0	133.0	1.11
Monterey Mushrooms	Food Products	83.0	0	83.0	1.00
HGS BioScience	Food Products	48.0	0	48.0	1.00
Total		251.0	0	264.0	1.05

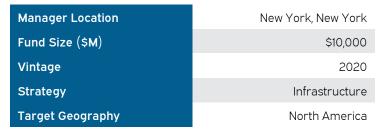


Fund Summaries | As of December 31, 2022

# Stonepeak Infrastructure Fund IV

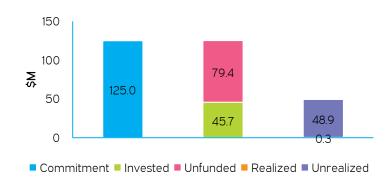
Stonepeak Infrastructure Fund IV will invest in mid-market brownfield and greenfield infrastructure in North America and views selected assets in transportation, power and utilities, midstream, communications, and water sectors as offering the best growth opportunities. Fund IV is expected to complete 8-12 investments with equity checks ranging between \$250 million up to \$1.5 billion per deal.

#### General



#### Performance





# Fund Diversification (by Unrealized Value)



Asset	Industry	Invested (\$M)	Realized (\$M)	Unrealized (\$M)	TVPI (X)
Stonepeak Marine	Transportation Infrastructui	846.1	0	959.5	1.13
Delta Fiber	Diversified Telecommunicat	691.8	0	721.1	1.04
Astound	Communications Equipmen	677.2	0	683.7	1.01
Rinchem	Semiconductors & Semicon	589.1	0	589.1	1.00
Cirion	Diversified Telecommunicat	496.8	0	531.3	1.07
Inspired	Diversified Consumer Servi	479.1	0	530.3	1.11
Akumin	Health Care Providers & Se	345.0	0	360.0	1.04
WTG	Oil, Gas & Consumable Fuel:	313.6	0	787.8	2.51
Stonepeak IS Logistics	Transportation Infrastructui	175.0	0	196.0	1.12
Other (4)		155.2	32.9	256.2	1.86
Total		4,768.9	32.9	5,615.0	1.18



Fund Summaries | As of December 31, 2022

# Tiger Infrastructure Partners Fund III, L.P.

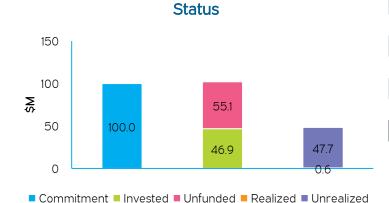
Tiger Infrastructure Partners Fund II will provide growth capital to middle-market infrastructure platformans in North America (75%) and Europe (25%). The Fund will make control investments in the telecommunications, energy, and transportation sectors.

#### General

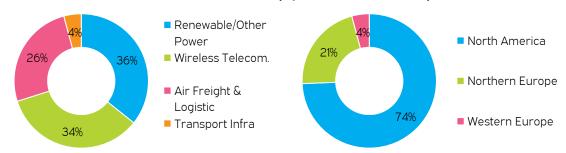


#### Performance





## Fund Diversification (by Unrealized Value)

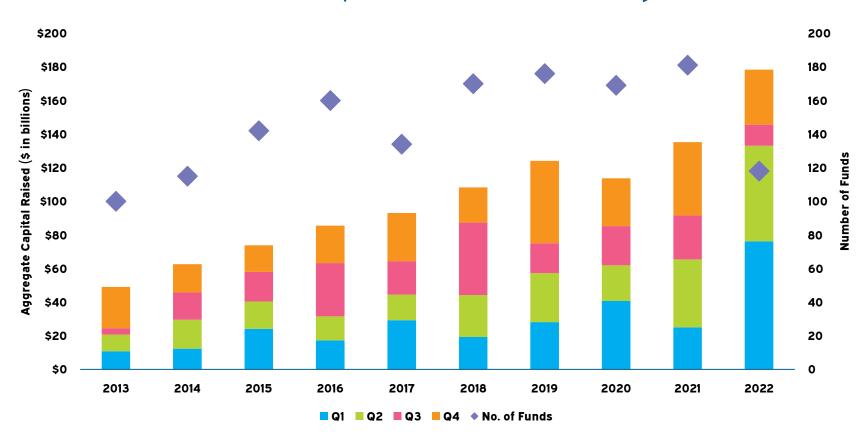


		Invested	Realized	Unrealized	TVPI
Asset	Industry	(\$M)	(\$M)	(\$M)	(x)
11:11 Systems	Wireless Telecommunicatio	155.4	1.4	201.3	1.30
International Aerospace	Air Freight & Logistics	151.5	0	151.5	1.00
SCS Capital LLC	Independent Power and Rei	83.9	0	97.1	1.16
Forsa Energy	Independent Power and Rei	75.3	0	121.9	1.62
Qwello GmbH	Transportation Infrastructui	21.6	0	25.7	1.19
Rural Broadband	Wireless Telecommunicatio	9.0	0	9.6	1.07
NorthLink Aviation	Air Freight & Logistics	6.1	0	6.1	1.00
Total		502.8	1.4	613.2	1.22



Market & Industry Analysis | As of December 31, 2022

# Global Quarterly Unlisted Infrastructure Fundraising<sup>1</sup>

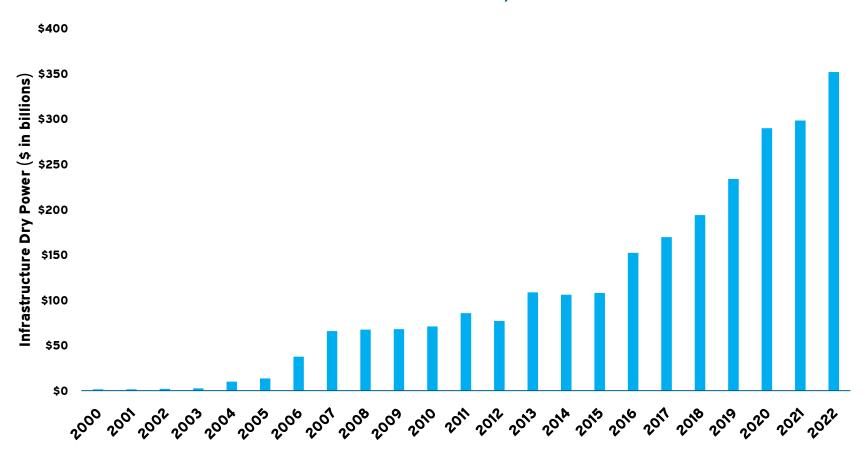


In 2022, infrastructure has raised 30% more capital than 2021 raising nearly \$180 billion across 118 funds. This capital was raised by a significantly smaller number of partnerships averaging \$1.5 billion per fund. This was an increase over the 2021 average of \$0.7 billion per fund.



Market & Industry Analysis | As of December 31, 2022

# Global Infrastructure Dry Powder<sup>1</sup>



Infrastructure dry powder remains at an all-time high, with an increase year-over-year since 2015. The early days of the asset class are evident in the sub-\$50 billion levels until 2007, after which levels stayed between \$50 billion and \$100 billion until they reached \$150 billion in 2016. After that, the level began to climb to the over \$350 billion today.

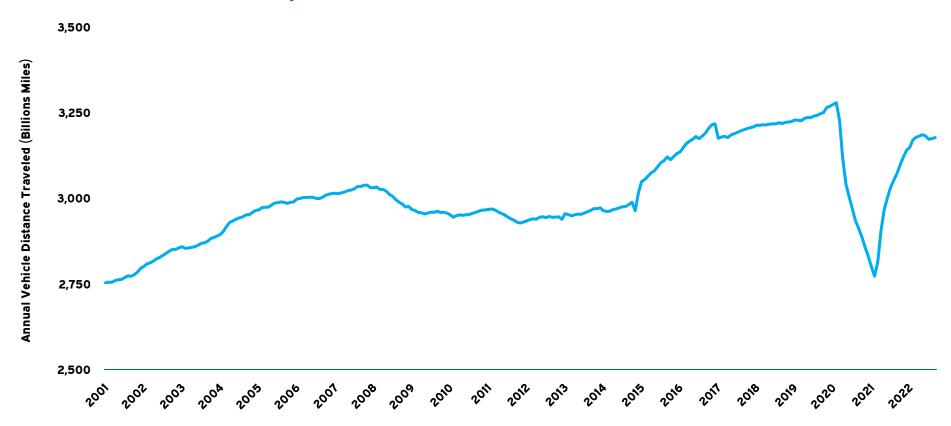
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<sup>&</sup>lt;sup>1</sup> Source: Preqin Dry Powder downloaded January 2023.



Market & Industry Analysis | As of December 31, 2022

# Trailing 12-month Annual Vehicle Miles on All US Roads<sup>1</sup>



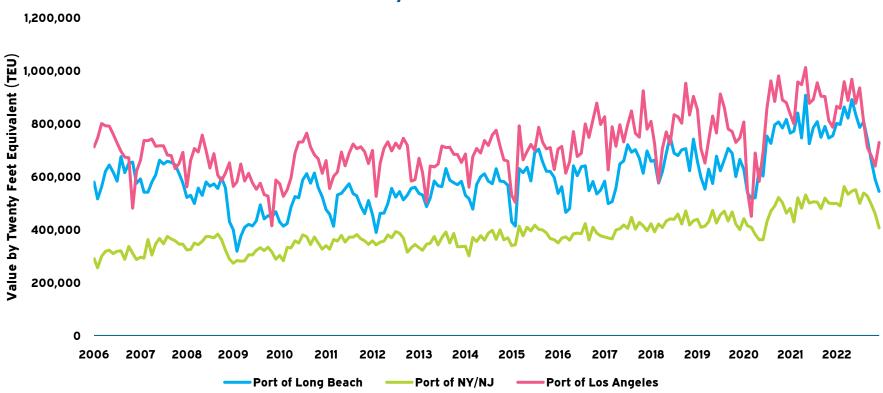
The fourth quarter continued post-pandemic travel recovery with a total of approximately 791 billion miles. This represented a slight decrease of 1.0% over the same period in 2021. The trailing 12-month travel mileage is effectively back to where it was pre-COVID, indicating a welcome and positive return to movement as COVID-19 restrictions loosened and people continue going back to offices, etc. The third quarter continued to show an increase in the US price of a gallon of gas, which steadily increased to an average price of \$4.06 per gallon. This compares to \$3.09 per gallon average in 2021.

Source: US Department of Transportation, Federal Highway Administration: Office of Highway Policy Information.



Market & Industry Analysis | As of December 31, 2022

# **US Port Activity - Container Trade in TEUs**<sup>1</sup>



The chart presents the top three US ports by container volume, as measured by twenty-foot equivalent units (TEU). Activity at the three ports provides a high-level representation of the volume at US ports more broadly.

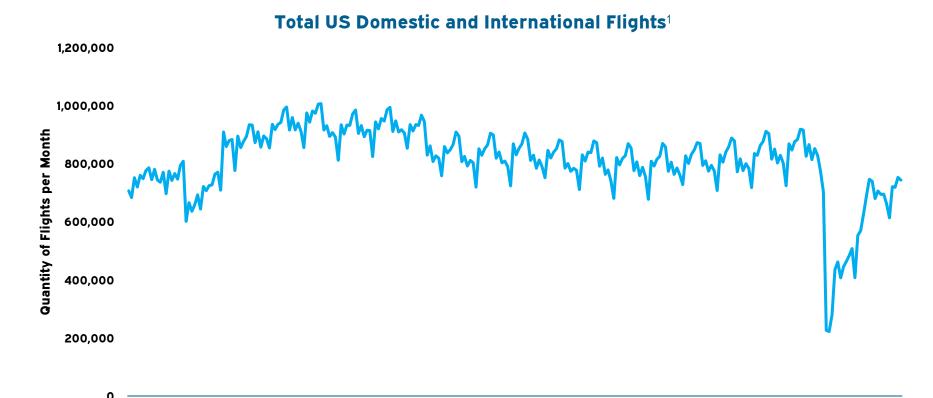
During the fourth quarter, volumes at the three ports decreased by 1.1 million units relative to the same period in 2021. On a year-over-year basis, the combined port volumes decreased by 0.9 million TEUs, or -3.3%, over the prior 12-month period. The Port of Long Beach recorded a decrease of 2.7% (0.3 million TEUs), the Port of NY/NJ reported an increase of 2.7% (0.2 million TEU), and the Port of Los Angeles recorded a decrease of 3.3% (0.9 million TEUs) over the prior 12 months.

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<sup>&</sup>lt;sup>1</sup> Source: www.polb.com, www.panynj.gov, and www.portoflosangeles.org.



Market & Industry Analysis | As of December 31, 2022



The chart above presents all US domestic and international flights, excluding foreign point-to-point flights by month. Historically, air traffic is cyclical with peaks in the summer months and troughs in the winter months.

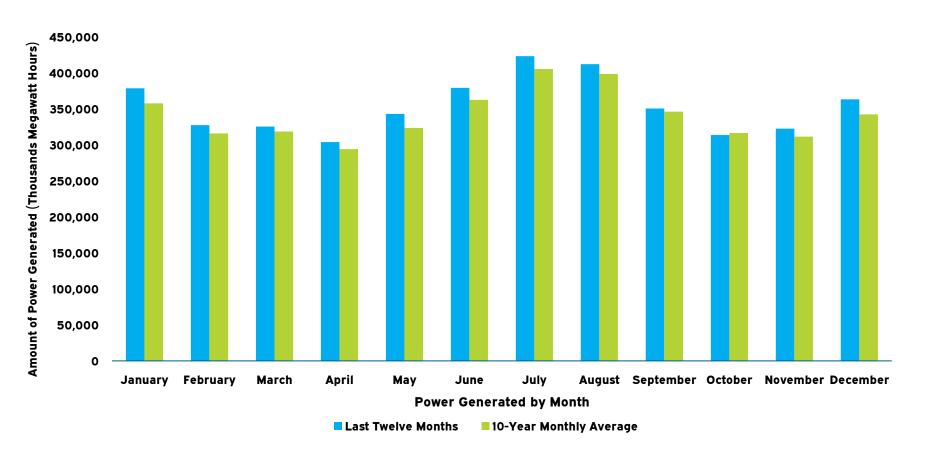
There were 0.1 million more flights during the fourth quarter of 2022 over same period in 2021, representing a 3% increase. In addition to the number of flights, the total number of passengers travelling on US and international airlines increased by 32% for the 12 months ended December 2022 over the prior 12 months.

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<sup>&</sup>lt;sup>1</sup> Source: Bureau of Transportation Statistics: Flights, All US, and Foreign Carriers.

Market & Industry Analysis | As of December 31, 2022

## Total US Power Generation<sup>1</sup>



The graph above presents the total net generation for the past 12 months compared to the 10-year average for each month. Net energy generation in the US increased by 3% during the fourth quarter, compared to the same period in 2021.

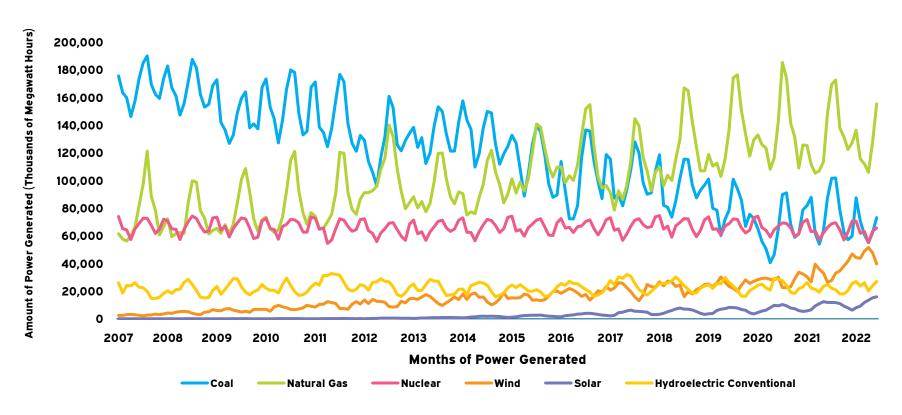
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<sup>&</sup>lt;sup>1</sup> Source: US Energy Information Administration: Electric Power Monthly, December 2022.



Market & Industry Analysis | As of December 31, 2022

# **US Power Generation by Source**<sup>1</sup>



In the fourth quarter 2022, total US power generated increased by 3% over the same period in 2021 with the largest increase from the renewable sources and natural gas. Wind and utility-scale solar continue to make up a small portion of total net energy generation in the US, accounting for only 12% and 5% of energy generation, respectively. Natural gas, coal, and nuclear accounted for 40%, 20%, and 18%, respectively. However, the growth of wind and solar as sources of energy generation continues to increase at a faster rate than coal and natural gas, especially over the last several years.

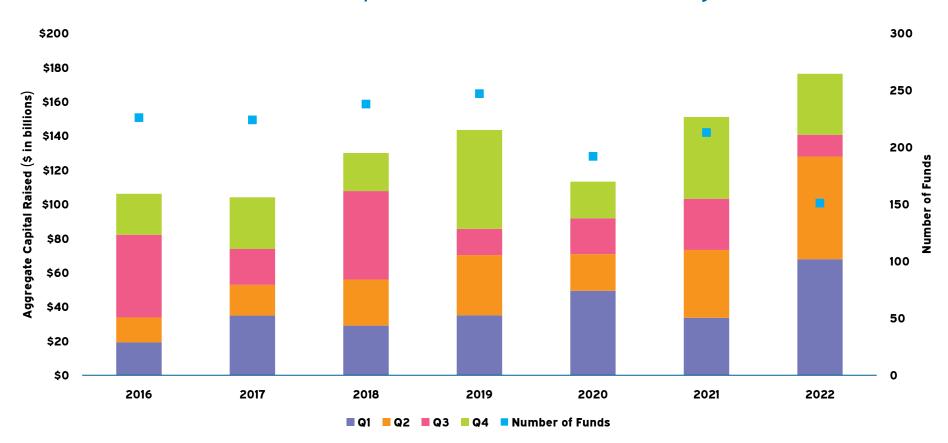
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<sup>&</sup>lt;sup>1</sup> Source: US Energy Information Administration: Electric Power Monthly, December 2022.



Market & Industry Analysis | As of December 31, 2022

# Global Quarterly Unlisted Natural Resources Fundraising<sup>1</sup>



During the fourth quarter, \$36 billion was raised across 37 funds with the average fund size totaling approximately \$1.0 billion of commitments. Fourth quarter activity was a rebound from a slow third quarter, but fundraising was still well below the pace set in the first half of 2022. With the strong fourth quarter, 2022 ended with nearly \$180 billion in commitments raised. The total came from a smaller number of funds, as the average fund size raised in 2022 was \$1.2 billion versus \$0.7 billion in 2021.

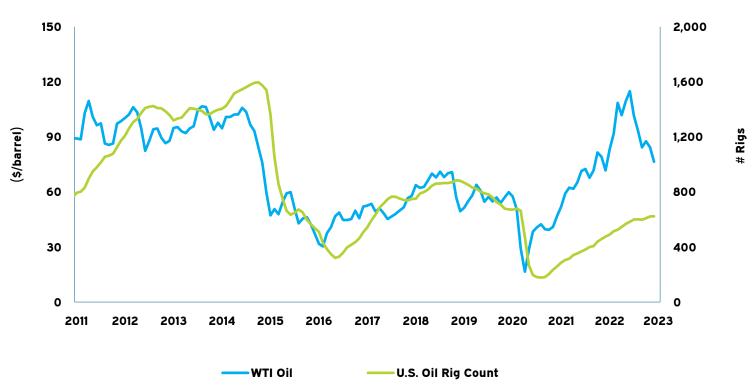
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<sup>&</sup>lt;sup>1</sup> Source: Pregin Private Capital Fundraising Update, 4Q 2022.



Market & Industry Analysis | As of December 31, 2022

# Oil Price vs. Active US Rigs<sup>1</sup>



Inflationary pressures during 2022 helped send oil and gasoline prices above \$100 and \$5, respectively, during the summer. In response to high energy prices, the Biden Administration began releasing inventories of oil from the Strategic Petroleum Reserve ("SPR"). The SPR releases, along with global recessionary concerns, helped drive oil and gasoline prices lower during the fourth quarter. However, the SPR is at its lowest levels since the mid 1980s. WTI oil prices were down 9% during the quarter at \$76 per barrel but were up 7% relative to one year prior. The number of rigs increased by 148 from one year prior to a total of 623. The U.S. produced approximately 12.1 million boepd in December 2022. While gasoline prices for regular blend in the U.S. dropped 13% to an average of \$3.49 per gallon, they are still up 3% from one year prior.

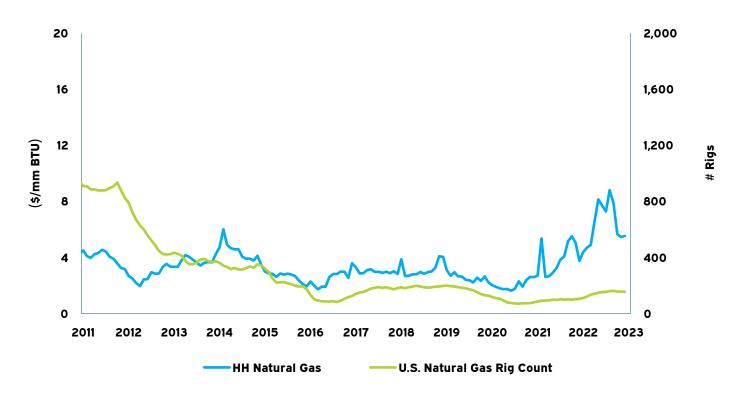
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<sup>&</sup>lt;sup>1</sup> Source: EIA and Baker Hughes.



Market & Industry Analysis | As of December 31, 2022

# Natural Gas Price vs. Active US Rigs<sup>1</sup>



Winter weather in Europe and the U.S. was warmer than expected, and natural gas demand to heat homes was down. Natural gas held in storage has been building, and an energy crisis in Europe has so far been averted. LNG export terminal projects continue to be developed in the U.S., and import terminals continue to be constructed in Europe. Henry Hub gas prices ended the quarter at \$5.53/mm BTU, a quarterly decrease of 30% and an annual increase of 47%. The U.S. natural gas rig count decrease by seven to 155 during the quarter. The U.S. produced a record 113.1 billion cubic feet of natural gas per day in October 2022.

<sup>1</sup> Source: EIA and Baker Hughes.



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#### Metals Prices<sup>1</sup>



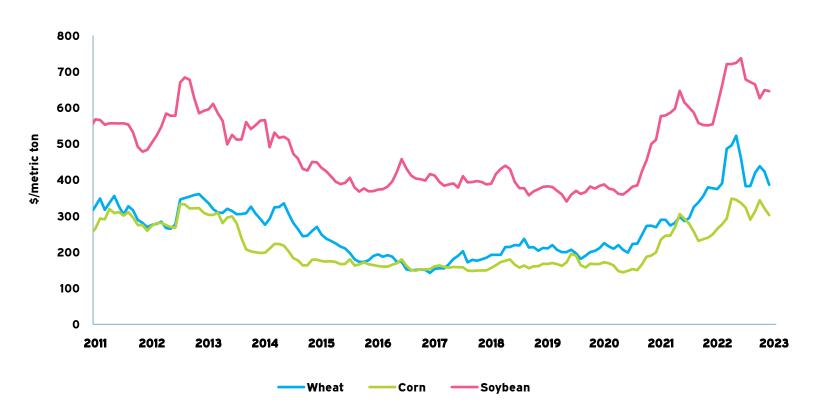
Metal prices remained highly volatile during the year. Copper prices increased 8% during the quarter, while gold was up 7%. Relative to one year prior, gold was flat, and copper was down 12%. Governments are seeking to increase the number of electric vehicles on the road through tax credit incentives and mandates to help reduce global transportation emissions. The increase in EV demand will necessitate increased mining activities and its associated processing into battery chemical inputs.

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Wheat, Corn, and Soybean<sup>1</sup>

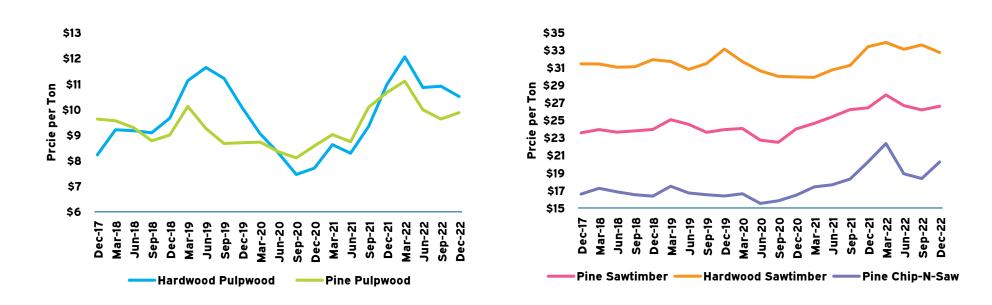


During the 2022 year, adverse weather conditions contributed to challenging crop harvests in the U.S., particularly along the West Coast. However, general inflationary pressures contributed to overall price increases. During the quarter, wheat, corn, and soybean prices were down 8%, 3%, and 3%, respectively. Relative to one year prior, they were up 3%, 22%, and 17%, respectively. The NCREIF Farmland index increased by 3.0% during the quarter driven by income returns of 1.0% and appreciation of 2.0%.



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#### U.S. South Timber Prices<sup>1</sup>



U.S. South average timber prices for pine sawtimber, pulpwood, and pine chip-n-saw) were up during the fourth quarter, while hardwoods (pulpwood and sawtimber) were down. Pulpwood continued to experience more volatility than sawtimber since 2017 and saw 2022 decreases of 4% in hardwood pulpwood and 7% in pine pulpwood. Pine Chip-N-Saw had the largest increase during the quarter at 10%. The NCREIF Timberland index increased by 5.0% during the quarter driven by income returns of 1.0% and appreciation of 4.0%.

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<sup>&</sup>lt;sup>1</sup> Source: Bloomberg and TimberMart South



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Below are details on specific terminology and calculation methodologies used throughout this report:

The original commitment amount made to a given fund. Some funds may be denominated in non-USD currencies, and
such commitment amounts represent the sum of fund contributions translated to USD at their daily conversion rates plus the unfunded balance translated at the rate as of the date of this report.
The amount of capital called by a fund manager against the commitment amount. Contributions may be used for new or follow-on investments, fees, and expenses, as outlined in each fund's limited partnership agreement. Some capital distributions from funds may reduce contributed capital balances. Some funds may be denominated in non-USD currencies, and such aggregate contributions represent the sum of each fund contribution translated to USD at its daily conversion rate.
The amount of capital returned from a fund manager for returns of invested capital, profits, interest, and other investment related income. Some distributions may be subject to re-investment, as outlined in each fund's limited partnership agreement. Some funds may be denominated in non-USD currencies, and such aggregate distributions represent the sum of each fund distribution translated to USD at its daily conversion rate.
Acronym for "Distributed-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculation equals Distributed divided by Contributed. DPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa.
Represents the sum of the investor's Unfunded and Remaining Value.
Acronym for "Internal Rate of Return", which is a performance measurement for Private Market investments. IRRs are calculated by Meketa based on daily cash flows and Remaining Values as of the date of this report. IRRs for funds and groupings of funds are net of all fund fees and expenses as reported by fund managers to Meketa.
Acronym for "Net Change in Value", which is a performance measurement for Private Market investments. The performance calculation equals the appreciation or depreciation over a time period neutralized for the impact of cash flows that occurred during the time period.
Acronym for "Not Meaningful", which indicates that a performance calculation is based on data over too short a timeframe to yet be meaningful or not yet possible due to inadequate data. Meketa begins reporting IRR calculations for investments once they have reached more than two years since first capital call. NM is also used within this report in uncommon cases where the manager has reported a negative Remaining Value for an investment.
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#### Endnotes | As of September 30, 2022

#### Peer Universe

The performance for a set of comparable private market funds. The peer returns used in this report are provided by Thomson ONE, based on data from Cambridge Associates as of the date of this report. Fund-level peer performance represents the median return for a set of funds of the same vintage and the program's set of corresponding strategies across all regions globally. Data sets that include less than five funds display performance as "NM". Meketa utilizes the following Thomson ONE strategies for peer universes:

Infrastructure: Infrastructure

Natural Resources: Private Equity Energy, Upstream Energy & Royalties, and Timber

Private Debt: Subordinated Capital, Credit Opportunities, Senior Debt, and Control-Oriented Distressed

Private Equity (including Private Debt): Venture Capital, Growth Equity, Buyout, Subordinated Capital, Credit

Opportunities, Senior Debt, and Control-Oriented Distressed

Private Equity (excluding Private Debt): Venture Capital, Growth Equity, and Buyout

Real Assets (excluding Real Estate): Infrastructure, Private Equity Energy, Upstream Energy & Royalties, and Timber Real Assets (including Real Estate): Infrastructure, Private Equity Energy, Upstream Energy & Royalties, Timber, and

Real Estate

Real Estate: Real Estate

#### Public Market Equivalent ("PME")

A calculation methodology that seeks to compare the performance of a portfolio of private market investments with public market indices. The figures presented in this report are based on the PME+ framework, which represents a net IRR value based on the actual timing and size of the private market program's daily cash flows and the daily appreciation or depreciation of an equivalent public market index. Meketa utilizes the following indices for private market program PME+ calculations:

Infrastructure: Dow Jones Brookfield Global Infrastructure Index

Natural Resources: S&P Global Natural Resources Index

Private Debt: Barclays Capital U.S. Corporate High Yield Bond Index

Private Equity: MSCI ACWI Investable Market Index

Real Assets (excluding Real Estate): Equal blend of Dow Jones Brookfield Global Infrastructure Index and S&P Global

Natural Resources Index

Real Assets (including Real Estate): Equal blend of Dow Jones Brookfield Global Infrastructure Index, S&P Global

Natural Resources Index, and Dow Jones U.S. Select Real Estate Securities Index

Real Estate: Dow Jones U.S. Select Real Estate Securities Index



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Remaining Value	The investor's value as reported by a fund manager on the investor's capital account statement. All investor values in this report are as of the date of this report, unless otherwise noted. Some funds may be denominated in non-USD currencies, and such remaining values represent the fund's local currency value translated to USD at the rate as of the date of this report.
TVPI	Acronym for "Total Value-to-Paid-In", which is a performance measurement for Private Market investments. The performance calculations represents Distributed plus Remaining Value, then divided by Contributed. TVPIs for funds and groupings of funds are net of all fund fees and expenses as reported to by fund managers to Meketa.
Unfunded	The remaining balance of capital that a fund manager has yet to call against a commitment amount. Meketa updates unfunded balances for funds to reflect all information provided by fund managers provided in their cash flow notices. Some funds may be denominated in non-USD currencies, and such unfunded balances represent the fund's local currency unfunded balance translated to USD at the rate as of the date of this report.

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Meketa Investment Group has prepared this report on the basis of sources believed to be reliable. The data are based on matters as they are known as of the date of preparation of the report, and not as of any future date, and will not be updated or otherwise revised to reflect information that subsequently becomes available.

If we manage your assets on a discretionary basis, please contact us if there are any changes in your financial situation or investment objectives, or if you want to impose any reasonable restrictions on our management of your account or reasonably modify existing restrictions.

In general, the valuation numbers presented in this report are prepared by the custodian bank for listed securities, and by the fund manager or appropriate General Partner in the case of unlisted securities. The data used in the market comparison sections of this report are sourced from various databases. These data are continuously updated and are subject to change.

This report does not contain all the information necessary to fully evaluate the potential risks of any of the investments described herein. Because of inherent uncertainties involved in the valuations of investments that are not publicly traded, any estimated fair values shown in this report may differ significantly from the values that would have been used had a ready market for the underlying securities existed, and the differences could be material.

This document may contain certain forward-looking statements, forecasts, estimates, projections, and opinions ("Forward Statements"). No representation is made or will be made that any Forward Statements will be achieved or will prove to be correct. A number of factors, in addition to any risk factors stated in this material, could cause actual future results to vary materially from the Forward Statements. No representation is given that the assumptions disclosed in this document upon which Forward Statements may be based are reasonable. There can be no assurance that the investment strategy or objective of any fund or investment will be achieved, or that the client will receive a return of the amount invested.

In some cases Meketa Investment Group assists the client in handling capital calls or asset transfers among investment managers. In these cases we do not make any representations as to the managers' use of the funds, but do confirm that the capital called or transferred is within the amounts authorized by the client.

Because there is no readily accessible market for private markets assets (companies and partnerships), the values placed on private markets assets are calculated by General Partners using conservative and industry standard pricing procedures. Annually, an independent auditor reviews the pricing procedures employed by the General Partner of each partnership.

The values of companies and partnerships are audited at year-end, and are not audited at other quarter-end periods. While financial information may be audited, there is some discretion as to the method employed to price private companies and, therefore, private markets partnerships. At all times, Meketa Investment Group expects General Partners to utilize conservative and industry standard pricing procedures, and requires the General Partners to disclose those procedures in their reports. However, because of the inherent uncertainty of valuation, these estimated values may differ from the values that would be used if a ready market for the investments existed, and the differences could be significant.

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