

December 31, 2019

Quarterly Review

Agenda

# Agenda

- 1. Executive Summary
- 2. AIF Absolute Return Strategies Portfolio
  - Absolute Return Strategies Summary
  - Absolute Return Strategies Full Report
- 3. AIF Connecticut Horizon Fund (CHF) Portfolio
- 4. AIF Opportunistic Portfolio
- AIF Real Assets Portfolio
- 6. Appendices
  - AIF Opportunistic and Real Assets Portfolios Supporting Analysis and Notes
  - Corporate Update
  - Disclaimer, Glossary, and Notes

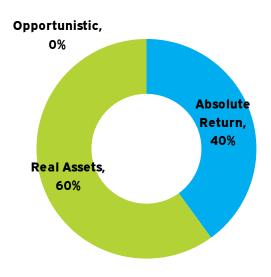
# **Executive Summary**



**Executive Summary** 

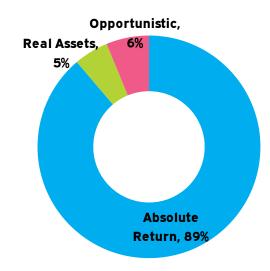
# AIF Portfolio Exposures<sup>1</sup>

**Target AIF Allocations** 



7.0% of total plan assets

#### **Current AIF Allocations**



7.9% of total plan assets

• The AIF value increased by \$71.5 million during the quarter due to the appreciation of the Absolute Return, Real Assets, and Opportunistic portfolios. In addition, AIF received \$3.4 million in distributions from the Real Assets program, and \$2.4 million from the Opportunistic program.

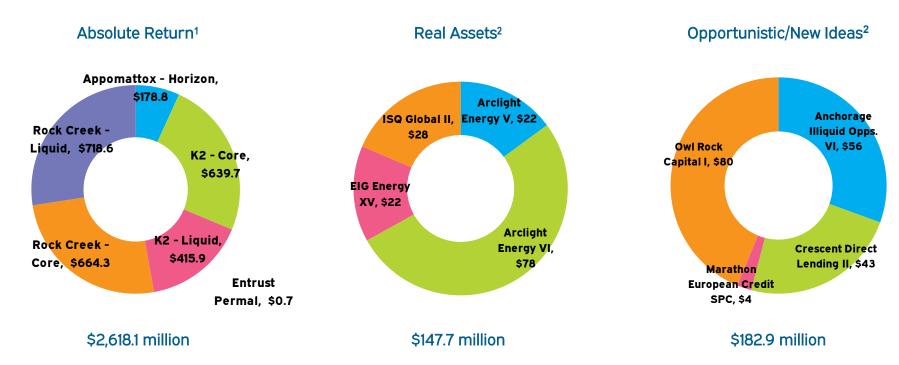
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<sup>&</sup>lt;sup>1</sup> As of December 31, 2019, except for Opportunistic and Real Assets, which are based on fair market values as of September 30, 2019.



**Executive Summary** 

# **AIF Asset Class Exposures**



- AIF Absolute Return increased by \$56.6 million during the quarter
- AIF Real Assets increased by \$0.2 million during the quarter
- AIF Opportunistic/New Ideas increased by \$14.7 million during the quarter

<sup>&</sup>lt;sup>1</sup> As of December 31, 2019

<sup>&</sup>lt;sup>2</sup> As of September 30, 2019

**AIF Portfolio Compliance** 

# AIF Investment Guideline Compliance as of December 31, 2019

# **Actual Allocation versus Policy Target**

	Current Allocation Market Value	Current Allocation Market Value Plus Unfunded	Lower Target	Policy Target	Upper Target	Yes/No
CRPTF	7.9	8.7	2	7	12	Yes
Absolute Return Strategies	88.9	81.0	5	40	50	No*
Real Assets	5.0	11.7	5	60	75	Yes
Opportunistic Investments	6.1	7.3	0	0	20	Yes

<sup>\*</sup>Notes: The CRPTF allocations shown above represent the AIF allocation within the total CRPTF portfolio, and the various strategy allocations and target ranges are percentages of only the AIF portfolio.

# Portfolio Status - Compliance and Guidelines for CRPTF

Investment Category Target Allocation*	40% Absolute Return Strategies (+10%,-35%); 60% Real Assets (+15%, -55%); 0% Opportunistic (+20%)	No*
Liquidity Parameters (A)	Exposure to investments with lock-up provisions greater than one year but less than five years will be limited to 10% of the target allocation to AIF	Yes
Liquidity Parameters (B)	No liquid investment strategies are permitted in vehicles or structures that require a commitment of capital of more than 10 years	Yes
Manager Diversification	No more than 20% of the AIF's policy target allocation should be invested in any one investment vehicle	Yes
Target Volatility	The AIF target volatility (standard deviation of monthly returns), should be between equity volatility and fixed income volatility over a market cycle	No
Target Correlation	The correlation of the AIF portfolio to standard equity benchmarks is targeted to be less than 0.50 over a market cycle	No

<sup>\*</sup>Notes: The CRPTF allocations shown above represent the AIF allocation within the total CRPTF portfolio, and the various strategy allocations and target ranges are percentages of only the AIF portfolio.

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# **AIF Absolute Return Strategies Portfolio**



**Absolute Return Strategies Portfolio Summary** 

# **AIF Absolute Return Strategies Summary Report**

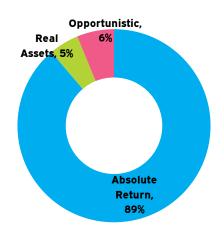
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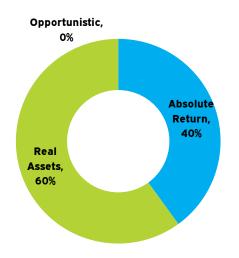
#### **Absolute Return Strategies Portfolio Summary**

# Exposures Summary As of December 31, 2019

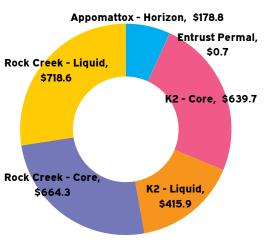
#### **Current AIF Allocations**



Target AIF Allocations



Absolute Return



Absolute Return Allocation: 89.0%

Absolute Return Target: 40.0%

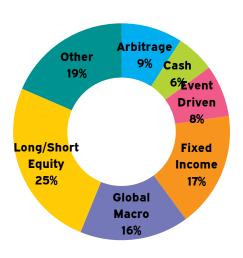
NAV: \$2,618.1 million

- Absolute Return still remains significantly over the target AIF Allocation of 40% (+10%, -25%) due to the recent shift in the strategic asset allocation, which shifted Absolute Return's target from 60% of AIF to 40% of AIF.
- The Absolute Return Portfolio increased by \$56.6 million over the quarter. Rock Creek increased by \$34.4 million, K2 increased by \$21.4 million, and Appomattox increased \$2.3 million. This was offset by a \$500,000 distribution by Entrust, and an approximately \$100,000 decrease in market value.

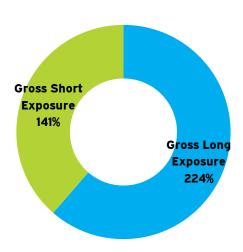


# Absolute Return Strategies Portfolio – Strategy & Exposure Summary

**Strategy Allocation** 



# **Exposure Summary**



- The Absolute Return Portfolio's strategy allocation was unchanged over the quarter, with the exception of a 5% increase in cash. Underlying partners have begun raising cash in order to satisfy redemptions for the upcoming trimming of the Absolute Return Portfolio.
- Net exposure for the Absolute Return Portfolio remained largely unchanged over the quarter moving down 1% from 84% to 83% net exposure. However gross exposure (long plus short), which is a can be an approximation for risk taking has increased from 350% to 365% over the quarter.



# Absolute Return Strategies Portfolio – Performance & Risk Summary

Performance Summary	Market Value (\$)	% of Portfolio	QTD	YTD	1 Yr	3 Yr	5 Yr	Inception
Absolute Return Strategies Portfolio	2,618,071,146	100.0	2.2	7.6	7.6	4.1	2.9	3.7
HFRI FOF: Diversified Index			2.7	8.0	8.0	3.7	2.3	2.6
91 Day T-Bills +3%			1.1	5.1	5.1	4.7	4.1	3.6
91 Day T-Bills +4%			1.4	6.1	6.1	5.7	5.1	4.6
Rock Creek	1,382,960,156	52.8	2.5	9.0	9.0	5.4	3.2	4.1
K2	1,055,622,018	40.3	2.1	6.4	6.4	3.8	2.8	3.7
Appomattox	178,795,918	6.8	1.3	4.3	4.3	1.0	1.2	0.7
EnTrust Global	693,054	0.0	-5.1	-29.1	-29.1	-8.3	-4.5	-0.8

	Standard	Sharpe	Max Drawdown	Max Drawdown				
Trailing 3-Year Risk Summary	Deviation (%)	Ratio	(%)	Length	Beta	Correlation	Kurtosis	Skew
Absolute Return Strategies Portfolio	2.4	0.99	-2.7	5	-	-	1.8	-0.8
HFRI Fund of Funds Diversified	3.5	0.57	-5.5	16	0.62	0.89	1.5	-0.5
Russell 3000	12.2	1.06	-14.3	6	0.18	0.93	2.2	-1.1
MSCI EAFE	10.8	0.73	-17.9	22	0.20	0.90	0.6	-0.8
MSCI Emerging Markets	14.2	0.70	-22.2	23	0.14	0.82	-0.1	-0.3
Bloomberg Barclays Global Agg	3.5	0.74	-5.3	23	0.05	0.07	-1.1	0.0

	Standard	Sharpe	Max Drawdown	Max Drawdown				
Trailing 5-Year Risk Summary	Deviation (%)	Ratio	(%)	Length	Beta	Correlation	Kurtosis	Skew
Absolute Return Strategies Portfolio	3.1	0.59	-8.2	20	-	-	0.6	-0.9
HFRI Fund of Funds Diversified	3.5	0.37	-6.5	26	0.79	0.88	0.7	-0.5
Russell 3000	12.1	0.84	-14.3	11	0.21	0.82	1.0	-0.6
MSCI EAFE	12.1	0.38	-17.9	22	0.21	0.81	-0.1	-0.3
MSCI Emerging Markets	15.7	0.29	-27.9	24	0.12	0.61	0.1	0.2
Bloomberg Barclays Global Agg	4.4	0.28	-3.3	12	-0.10	-0.15	0.9	-0.4

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# **AIF Absolute Return Strategies Full Report**



# Absolute Return Strategies Portfolio | As of December 31, 2019

	Performa	nce Summ	ary							
	Market Value	% of	1 Mo	QTD	YTD	1 Yr	3 Yrs	5 Yrs	Inception	Inception
	(\$)	Portfolio	(%)	(%)	(%)	(%)	(%)	(%)	(%)	Date
Absolute Return Strategies Portfolio	2,618,071,146	100.0	1.0	2.2	7.6	7.6	4.1	2.9	3.7	Feb-11
HFRI FOF: Diversified Index			1.5	2.7	8.1	8.1	3.8	2.3	2.6	Feb-11
91 Day T-Bills +3%			0.4	1.1	5.1	5.1	4.7	4.1	3.6	Feb-11
Rock Creek	1,382,960,156	52.8	1.1	2.5	9.0	9.0	5.4	3.2	4.1	Feb-11
91 Day T-Bills +3%			0.4	1.1	5.1	5.1	4.7	4.1	3.6	Feb-11
91 Day T-Bills +4%			0.5	1.4	6.1	6.1	5.7	5.1	4.6	Feb-11
Rock Creek - Core Portfolio	664,332,513	25.4	1.0	2.5	7.9	7.9	4.7	2.8	3.9	Feb-11
HFRI FOF: Conservative Index			1.0	1.7	6.4	6.4	3.2	2.3	2.5	Feb-11
Rock Creek - Liquid Portfolio	718,627,643	27.4	1.1	2.4	10.0	10.0			6.4	Jun-18
HFRI Fund of Funds Composite Index			1.7	3.1	8.4	8.4	3.9	2.4	1.8	Jun-18
K2	1,055,622,018	40.3	1.2	2.1	6.4	6.4	3.8	2.8	3.7	Apr-11
91 Day T-Bills +3%			0.4	1.1	5.1	5.1	4.7	4.1	3.6	Apr-11
91 Day T-Bills +4%			0.5	1.4	6.1	6.1	5.7	5.1	4.6	Apr-11
K2 - Core Portfolio	639,702,301	24.4	1.0	1.7	4.3	4.3	3.3	2.5	3.5	Apr-11
HFRI FOF: Conservative Index			1.0	1.7	6.4	6.4	3.2	2.3	2.5	Apr-11
K2 - Liquid Portfolio	415,919,717	15.9	1.4	2.7	9.8	9.8			4.4	Jul-18
HFRI FOF: Diversified Index			1.5	2.7	8.1	8.1	3.8	2.3	2.5	Jul-18
Appomattox	178,795,918	6.8	0.1	1.3	4.3	4.3	1.0	1.2	0.7	Sep-14
91 Day T-Bills +3%			0.4	1.1	5.1	5.1	4.7	4.1	4.0	Sep-14
Appomattox	173,036,144	6.6	0.2	1.3	4.2	4.2	1.4	1.4	0.9	Sep-14
HFRI FOF: Conservative Index			1.0	1.7	6.4	6.4	3.2	2.3	2.3	Sep-14
Appomattox (Restructuring)	5,759,774	0.2	-0.1	-0.3	-3.0	-3.0	-1.9	-0.6	-0.7	Oct-14
HFRI Fund of Funds Composite Index			1.7	3.1	8.4	8.4	3.9	2.4	2.4	Oct-14
EnTrust Permal	693,054	0.0	-2.8	-5.1	-29.1	-29.1	-8.3	-4.5	-0.8	Mar-11
91 Day T-Bills +3%			0.4	1.1	5.1	5.1	4.7	4.1	3.6	Mar-11
91 Day T-Bills +4%			0.5	1.4	6.1	6.1	5.7	5.1	4.6	Mar-11
Permal - Portfolio A	285,663	0.0	-2.4	-4.9	-24.2	-24.2	-7.0	-4.0	-0.4	Mar-11
HFRI Fund of Funds Composite Index			1.7	3.1	8.4	8.4	3.9	2.4	2.5	Mar-11
Permal - Portfolio B	407,391	0.0	-3.1	-7.1	-36.6	-36.6	-12.8	-6.7	-3.7	Apr-13
HFRI Fund of Funds Composite Index			1.7	3.1	8.4	8.4	3.9	2.4	3.1	Apr-13

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# Absolute Return Strategies Portfolio | As of December 31, 2019

	Market Value (\$)	% of Portfolio	1 Mo (%)	QTD (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	Inception (%)	Inception Date
Absolute Return Strategies Portfolio	2,618,070,786	100.0	1.0	2.2	7.6	7.6	4.1	2.9	3.7	Feb-11
HFRI FOF: Diversified Index			1.5	2.7	8.1	8.1	3.8	2.3	2.6	Feb-11
91 Day T-Bills +3%			0.4	1.1	5.1	5.1	4.7	4.1	3.6	Feb-11
CRPTF - Core + Liquid Portfolios Total	2,438,581,814	93.1	1.1	2.3	7.9	7.9	4.7	3.1	4.0	Feb-11
HFRI FOF: Diversified Index			1.5	2.7	8.1	8.1	3.8	2.3	2.6	Feb-11
91 Day T-Bills +3%			0.4	1.1	5.1	5.1	4.7	4.1	3.6	Feb-11
CRPTF - Core Portfolios Total	1,304,034,454	49.8	1.0	2.1	6.1	6.1	4.0	2.6	3.8	Feb-11
HFRI FOF: Conservative Index			1.0	1.7	6.4	6.4	3.2	2.3	2.5	Feb-11
91 Day T-Bills +3%			0.4	1.1	5.1	5.1	4.7	4.1	3.6	Feb-11
S&P 500			3.0	9.1	31.5	31.5	15.3	11.7	13.2	Feb-11
S&P/LSTA Leveraged Loan TR			1.6	1.7	8.6	8.6	4.3	4.4	4.3	Feb-11
CRPTF - Liquid Portfolios Total	1,134,547,360	43.3	1.3	2.5	10.0	10.0			5.6	Jun-18
HFRI FOF: Diversified Index			1.5	2.7	8.1	8.1	3.8	2.3	2.2	Jun-18
91 Day T-Bills +4%			0.5	1.4	6.1	6.1	5.7	5.1	6.2	Jun-18
S&P 500			3.0	9.1	31.5	31.5	15.3	11.7	14.1	Jun-18
S&P/LSTA Leveraged Loan TR			1.6	1.7	8.6	8.6	4.3	4.4	4.3	Jun-18
HFRI Fund Weighted Composite Index			1.9	3.6	10.4	10.4	4.5	3.6	2.5	Jun-18
MSCI ACWI			3.5	9.0	26.6	26.6	12.4	8.4	9.0	Jun-18
ICE BofAML US High Yield TR			2.1	2.6	14.4	14.4	6.3	6.1	7.5	Jun-18
CRPTF - Horizon Portfolios Total	178,795,918	6.8	0.1	1.3	4.3	4.3	1.0	1.2	0.7	Sep-14
HFRI FOF: Conservative Index			1.0	1.7	6.4	6.4	3.2	2.3	2.3	Sep-14
91 Day T-Bills +3%			0.4	1.1	5.1	5.1	4.7	4.1	4.0	Sep-14
S&P 500			3.0	9.1	31.5	31.5	15.3	11.7	11.6	Sep-14
S&P/LSTA Leveraged Loan TR			1.6	1.7	8.6	8.6	4.3	4.4	3.9	Sep-14

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# Absolute Return Strategies Portfolio | As of December 31, 2019

	Investment Expense Analysis	s		
	As Of December 31, 2019			
Name	Fee Schedule	Market Value	% of Portfolio	Estimated Fee Value
Rock Creek		\$1,382,960,156	52.8%	
Rock Creek - Core Portfolio	0.35% of Assets	\$664,332,513	25.4%	\$2,325,164
Rock Creek - Liquid Portfolio	0.35% of Assets	\$718,627,643	27.4%	\$2,515,197
К2		\$1,055,622,018	40.3%	
K2 - Core Portfolio	0.35% of Assets	\$639,702,301	24.4%	\$2,238,958
K2 - Liquid Portfolio	0.35% of Assets	\$415,919,717	15.9%	\$1,455,719
Appomattox		\$178,795,918	6.8%	
Appomattox	0.40% of Assets	\$173,036,144	6.6%	\$692,145
Appomattox (Restructuring)	0.40% of Assets	\$5,759,774	0.2%	\$23,039
EnTrust Permal		\$693,054	0.0%	
Permal - Portfolio A	0.50% of Assets	\$285,663	0.0%	\$1,428
Permal - Portfolio B	0.50% of Assets	\$407,391	0.0%	\$2,037
Total		\$2,618,071,146	100.0%	\$9,253,687

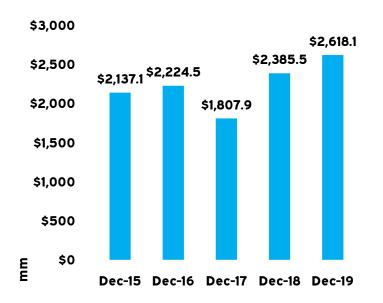
Permal portfolios A and B also charge performance based fees of 5% of the funds' returns above the USD LIBOR +2%.

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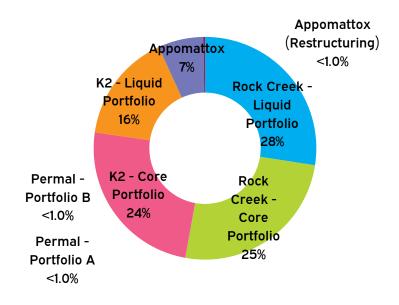


# Hedge Fund Program Report - Asset Summary | As of December 31, 2019

# **Historical Market Value**



# **Manager Allocation**





# Hedge Fund Program Report - Trailing 3-Year Risk Summary | As of December 31, 2019

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Absolute Return Strategies Portfolio	2.4	0.99	-2.7	5	-	-	1.9	-0.8
HFRI Fund of Funds Diversified	3.5	0.57	-5.5	16	0.62	0.91	1.4	-0.5
Russell 3000	12.2	1.06	-14.3	6	0.18	0.93	2.2	-1.1
MSCI EAFE	10.8	0.73	-17.9	22	0.20	0.90	0.6	-0.8
MSCI Emerging Markets	14.2	0.70	-22.2	23	0.14	0.82	-0.1	-0.3
Bloomberg Barclays Global Aggregate	3.5	0.74	-5.3	23	0.05	0.07	-1.1	0.0
Rock Creek - Core Portfolio	2.3	1.32	-2.7	4	-	-	1.9	-0.8
MSCI ACWI	11.2	0.96	-14.3	20	0.19	0.90	1.6	-0.9
HFRI FOF: Conservative Index	2.2	0.70	-3.2	6	0.98	0.90	1.6	-0.5
91 Day T-Bills +3%	0.2	18.12	0.0	0	-3.12	-0.22	-1.1	-0.4
Rock Creek – Liquid Portfolio <sup>1</sup>	3.6	1.31	-2.3	3	-	-	0.6	-0.6
MSCI ACWI	13.8	0.53	-14.3	20	0.25	0.97	0.4	-0.7
ICE BofAML US High Yield TR	5.2	1.13	-4.6	4	0.60	0.87	1.5	0.5
HFRI Fund of Funds Composite Index	4.2	0.04	-6.2	16	0.74	0.88	1.0	-0.5
91 Day T-Bills +4%	0.1	56.25	0.0	0	-5.32	-0.12	-0.4	-0.8

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<sup>&</sup>lt;sup>1</sup> Rock Creek – Liquid Portfolio and benchmark risk data are calculated from inception date of 6/30/2018.



# Hedge Fund Program Report - Trailing 3-Year Risk Summary | As of December 31, 2019

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
K2 - Core Portfolio	2.2	0.77	-2.3	5	-	-	0.8	-0.8
S&P 500	11.9	1.14	-13.5	6	0.15	0.84	2.1	-1.1
S&P/LSTA Leveraged Loan TR	2.8	0.98	-3.5	4	0.55	0.70	4.9	-0.6
HFRI FOF: Conservative Index	2.2	0.70	-3.2	6	0.85	0.84	1.6	-0.5
91 Day T-Bills +3%	0.2	18.12	0.0	0	-2.99	-0.23	-1.1	-0.4
K2 - Liquid Portfolio <sup>2</sup>	3.8	0.78	-3.3	4	-	-	0.8	-0.7
S&P 500	15.6	0.69	-13.5	6	0.23	0.93	0.6	-1.0
S&P/LSTA Leveraged Loan TR	3.9	0.66	-3.5	4	0.68	0.69	1.5	-0.5
HFRI FOF: Diversified Index	4.1	0.22	-5.5	16	0.89	0.94	0.7	-0.5
91 Day T-Bills +4%	0.1	54.68	0.0	0	-7.79	-0.17	-0.2	-1.O

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 $<sup>^2</sup>$  K2 – Liquid Portfolio and benchmark risk data are calculated from inception date of 7/31/2018.



# Hedge Fund Program Report - Trailing 5-Year Risk Summary | As of December 31, 2019

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Absolute Return Strategies Portfolio	3.1	0.59	-8.2	20	-	-	0.6	-0.9
HFRI Fund of Funds Diversified	3.5	0.37	-6.5	26	0.79	0.88	0.7	-0.5
Russell 3000	12.1	0.84	-14.3	11	0.21	0.82	1.0	-0.6
MSCI EAFE	12.1	0.38	-17.9	22	0.21	0.81	-O.1	-0.3
MSCI Emerging Markets	15.7	0.29	-27.9	24	0.12	0.61	0.1	0.2
Bloomberg Barclays Global Aggregate	4.4	0.28	-3.3	12	-0.10	-0.15	0.9	-0.4
Rock Creek - Core Portfolio	3.2	0.54	-9.0	22	-	-	0.9	-1.1
MSCI ACWI	11.7	0.63	-14.3	20	0.22	0.81	0.6	-0.4
HFRI FOF: Conservative Index	2.3	0.57	-4.5	19	1.29	0.91	0.6	-0.6
91 Day T-Bills +3%	0.2	12.34	0.0	0	1.54	0.12	-1.5	0.2
Rock Creek – Liquid Portfolio	-	-	-	-	-	-	-	-
MSCI ACWI	-	-	-	-	-	-	-	-
ICE BofAML US High Yield TR	-	-	-	-	-	-	-	-
HFRI Fund of Funds Composite Index	-	-	-	-	-	-	-	-
91 Day T-Bills +4%	-	-	-	-	-	-	-	-

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<sup>&</sup>lt;sup>1</sup> Rock Creek – Liquid Portfolio inception based risk statistics are located in the 3-year risk table.



# Hedge Fund Program Report - Trailing 5-Year Risk Summary | As of December 31, 2019

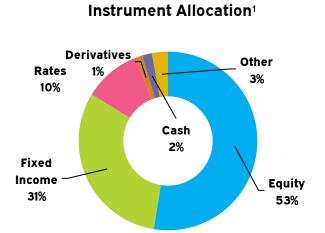
	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
K2 - Core Portfolio	3.0	0.49	-8.2	19	-	-	0.6	-0.8
S&P 500	11.9	0.90	-13.5	6	0.17	0.69	0.9	-0.5
S&P/LSTA Leveraged Loan TR	3.0	1.14	-5.0	11	0.70	0.70	2.2	0.0
HFRI FOF: Conservative Index	2.3	0.57	-4.5	19	1.15	0.88	0.6	-0.6
91 Day T-Bills +3%	0.2	12.34	0.0	0	0.36	0.03	-1.5	0.2
K2 - Liquid Portfolio²	-	-	-	-	-	-	-	-
S&P 500	-	-	-	-	-	-	-	-
S&P/LSTA Leveraged Loan TR	-	-	-	-	-	-	-	-
HFRI FOF: Diversified Index	-	-	-	-	-	-	-	-
91 Day T-Bills +4%	-	-	-	-	-	-	-	-

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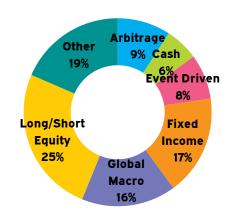
 $<sup>^{2}</sup>$  K2 – Liquid Portfolio inception based risk statistics are located in the 3-year risk table.



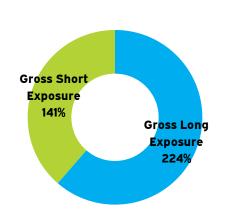
# Hedge Fund Program Report - Aggregate Summary | As of December 31, 2019



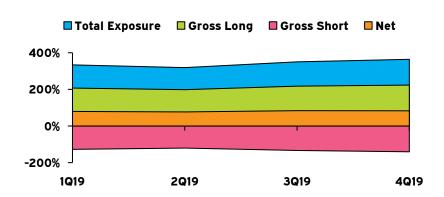
# **Strategy Allocation**



**Exposure Report** 



# **Exposure History**



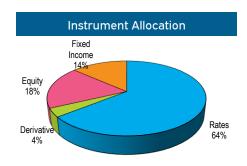
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<sup>&</sup>lt;sup>1</sup> 2% Cash allocation comes from Appomattox (Restructuring).



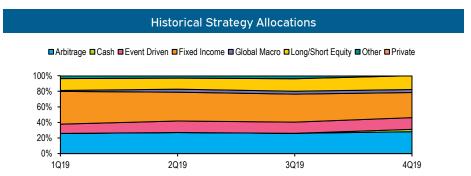
# Rock Creek - Core Portfolio | As of December 31, 2019

Account Information						
Mandate: Hedge Fund, Fund of Fund						
Market Value: \$664.31						
Portfolio Manager:	Team					
Location:	Washington, DC					
Inception Date:	2/1/2011					
Account Type:	Separately Managed					
# of Investments:	31					
Fee Schedule:	0.35% Management Fee					



Portfolio Performance Summary						
	4Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 2/2011 (%)	
Rock Creek - Core Portfolio	2.5	7.9	4.7	2.8	3.9	
HFRI FOF: Conservative Index	1.7	6.3	3.2	2.3	2.5	

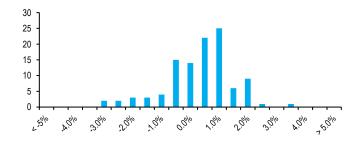
Risk Statistics								
Standard Deviation (%)	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation		
Rock Creek - Core Portfolio	3.2	0.54	-9.0	22	-	-		
MSCI ACWI	11.7	0.63	-14.3	20	0.22	0.81		
HFRI FOF: Conservative Index	2.3	0.57	-4.5	19	1.29	0.91		
91 Day T-Bills +3%	0.2	12.34	0.0	0	1.54	0.12		



Geographic Exposure Allocation (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019
North America	70	71	68	70
Developed Europe	13	12	12	13
Developed Asia	11	11	14	13
Emerging Markets	6	6	6	4

Exposure Report (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019
Total Gross Exposure	530	513	397	452
Gross Long Exposure	296	292	229	261
Gross Short Exposure	234	221	168	191
Net Exposure	62	71	62	70

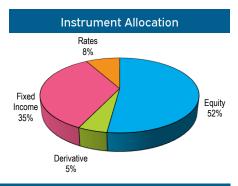
#### **Return Distribution**





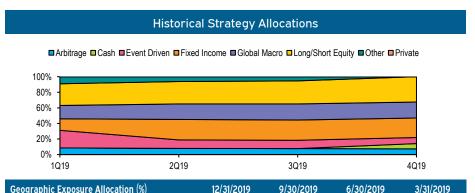
# Rock Creek - Liquid Portfolio | As of December 31, 2019

#### **Account Information** Hedge Fund, Fund of Funds Mandate: \$718.6 M Market Value: Team Portfolio Manager: Washington, DC Location: Inception Date: 6/1/2018 Account Type: Separately Managed # of Investments: Fee Schedule: 0.35% Management Fee



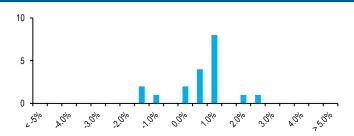
Portfolio Performance Summary					
	4Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 6/2018 (%)
Rock Creek - Liquid Portfolio	2.4	10.0	NA	NA	6.4
HFRI Fund of Funds Composite Index	3.0	8.3	3.9	2.4	1.7

Risk Statistics							
Standard Deviation (%)	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	
Rock Creek - Liquid Portfolio1	3.6	1.31	-2.3	3	-	-	
MSCI ACWI	13.8	0.53	-14.3	20	0.25	0.97	
ICE BofAML US High Yield TR	5.2	1.13	-4.6	4	0.60	0.87	
HFRI Fund of Funds Comp Index	4.2	0.04	-6.2	16	0.74	0.88	
91 Day T-Bills +4%	0.1	56.25	0.0	0	-5.32	-0.12	



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North America		87	86	86	89
Developed Europe		5	5	5	4
Emerging Markets		5	5	5	3
Developed Asia		3	4	4	4
Exposure Report (%)		12/31/2019	9/30/2019	6/30/2019	3/31/2019
Total Gross Exposure		193	194	187	184
Gross Long Exposure		156	158	153	147
Gross Short Exposure		37	36	34	37
Net Exposure		118	122	118	110
11Ct Exposure		110	اکد	110	110

**Return Distribution** 



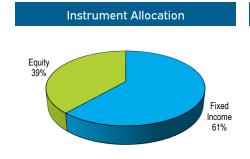
MEKETA INVESTMENT GROUP Page 23 of 93

<sup>1</sup> Rock Creek - Liquid Portfolio and benchmark risk data are calculated from inception date of 6/30/2018.



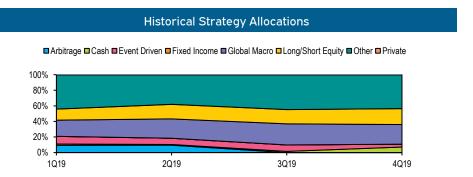
#### K2 - Core Portfolio | As of December 31, 2019

#### **Account Information** Hedge Fund, Fund of Funds Mandate: Market Value: \$639.7 M Team Portfolio Manager: Stamford, CT Location: Inception Date: 4/1/2011 Account Type: Separately Managed # of Investments: 22 Fee Schedule:



Portfolio Performance Summary					
	<b>4Q19</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 4/2011 (%)
K2 - Core Portfolio	1.7	4.3	3.3	2.5	3.5
HFRI FOF: Conservative Index	1.7	6.3	3.2	2.3	2.5

Standard Deviation (%)	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation
K2 - Core Portfolio	3.0	0.49	-8.2	19	-	-
S&P 500	11.9	0.90	-13.5	6	0.17	0.69
S&P/LSTA Leveraged Loan TR	3.0	1.14	-5.0	11	0.70	0.70
HFRI FOF: Conservative Index	2.3	0.57	-4.5	19	1.15	0.88
91 Day T-Bills +3%	0.2	12.34	0.0	0	0.36	0.03



Geographic Exposure Allocation (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019
North America	67	65	65	67
Developed Europe	14	14	13	13
Emerging Markets	13	15	16	2
Developed Asia	6	7	6	5
Exposure Report (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019
Exposure Report (%) Total Gross Exposure	<b>12/31/2019</b> 538	<b>9/30/2019</b> 493	<b>6/30/2019</b> 468	<b>3/31/2019</b> 509
, , , , , , , , , , , , , , , , , , , ,	· · · · · ·			
Total Gross Exposure	538	493	468	509





# K2 - Liquid Portfolio | As of December 31, 2019

65

15

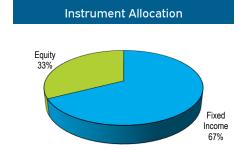
61

13

69

13

#### **Account Information** Hedge Fund, Fund of Funds Mandate: \$415.9 M Market Value: Team Portfolio Manager: Stamford, CT Location: Inception Date: 7/1/2018 Account Type: Separately Managed # of Investments: 13 Fee Schedule:



nistorical Strategy Allocations								
■Arbitrage ■Cash ■	■Event Driven ■Fixed	Income ■Global	Macro □Long/Short	Equity Other	Private			
100%			_					
80% -								
60% -								
40% -								
20% -								
1Q19	2Q19		3Q19		4Q19			
Geographic Exposure Allocati	ion (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019			

Historical Strategy Allocations

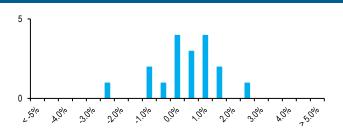
Portfolio Performance Summary					
	<b>4Q19</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 7/2018 (%)
K2 - Liquid Portfolio	2.7	9.8	NA	NA	4.4
HFRI FOF: Diversified Index	2.7	8.0	3.7	2.3	2.4

14	22	3
5	5	7
9/30/2019	6/30/2019	3/31/2019
238	265	203
161	168	144
77	97	59
85	72	85
	5 9/30/2019 238 161 77	5 5 5 19 9/30/2019 6/30/2019 238 265 161 168 77 97

**Return Distribution** 

65

		Risk Sta	itistics			
Standard Deviation (%)	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation
K2 - Liquid Portfolio <sup>1</sup>	3.8	0.78	-3.3	4	-	-
S&P 500	15.6	0.69	-13.5	6	0.23	0.93
S&P/LSTA Leveraged Loan TR	3.9	0.66	-3.5	4	0.68	0.69
HFRI FOF: Diversified Index	4.1	0.22	-5.5	16	0.89	0.94
91 Day T-Bills +4%	0.1	54.68	0.0	0	-7.79	-0.17



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North America

Developed Europe

<sup>&</sup>lt;sup>1</sup> K2 – Liquid Portfolio and benchmark risk data are calculated from inception date of 7/31/2018.

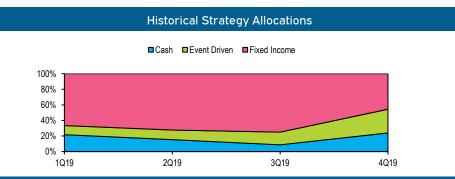


# Permal - Portfolio A | As of December 31, 2019

Account Information						
Mandate:	Hedge Fund, Fund of Funds					
Market Value: \$0.3 M						
Portfolio Manager:	Team					
Location:	New York, NY					
Inception Date:	3/31/2011					
Account Type:	Separately Managed					
# of Investments:	Not Provided					
Fee Schedule:						

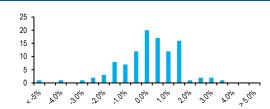


Portfolio Performance Summary					
	4Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 3/2011 (%)
Permal - Portfolio A	-4.9	-24.2	-7.0	-4.0	-0.4
HFRI Fund of Funds Composite Index	3.0	8.3	3.9	2.4	2.4



Geographic Exposure Allocation (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019
North America	65	31	37	44
Developed Europe	19	47	43	38
Developed Asia	15	5	4	4
Emerging Markets	0	17	16	13
Exposure Report (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019
Exposure Report (%) Total Gross Exposure	12/31/2019 42	<b>9/30/2019</b> 66	<b>6/30/2019</b> 67	3/31/2019 64
, , , , ,				
Total Gross Exposure	42	66	67	64
Total Gross Exposure Gross Long Exposure	42 42	66 66	67 67	64 64

**Return Distribution** 

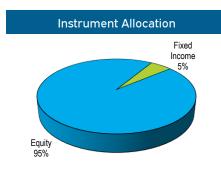


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# Permal - Portfolio B | As of December 31, 2019

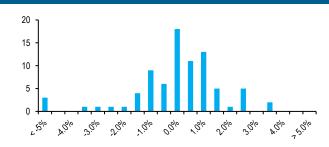
Account Information					
Mandate: Hedge Fund, Fund of Fund					
Market Value: \$0.4 N					
Portfolio Manager: Tear					
Location:	New York, NY				
Inception Date:	4/1/2013				
Account Type:	Separately Managed				
# of Investments:	Not Provided				
Fee Schedule:					



Portfolio Performance Summary						
	4Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 4/2013 (%)	
Permal - Portfolio B	-7.1	-36.6	-12.8	-6.7	-3.7	
HFRI Fund of Funds Composite Index	3.0	8.3	3.9	2.4	3.0	



Geographic Exposure Allocation (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019		
North America	100	100	100	100		
Emerging Markets	0	0	0	0		
Developed Europe	0	0	0	0		
Developed Asia	0	0	0	0		
Exposure Report (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019		
Total Gross Exposure	51	62	51	34		
Gross Long Exposure	51	62	51	34		
Gross Short Exposure	0	0	0	0		
Net Exposure	51	62	51	34		
Return Distribution						



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# Absolute Return Strategies Portfolio – Investment Guidelines Summary

# Prudence Crandall Core Portfolio

	Rock Creek	К2
Benchmark	HFRI Fund of Funds Conservative	HFRI Fund of Funds Conservative
Target Return	13-Week T-Bills +300	13-Week T-Bills +300
Target Volatility	< 5%	< 5%
Risk Management		
Target Beta	.25 (MSCI ACWI)	.20 (S&P 500 & S&P/LSTA Leveraged Loan Index)
Target Correlation	N/A	.50 (S&P 500)
Maximum Drawdown	Monthly: 3% Cycle (3-5 Years): 10%	Monthly: 2% Cycle (3-5 Years): 5%
Manager Concentration		
Minimum	10	10
Maximum	30	30
Strategy Concentration		
Minimum	N/A	N/A
Maximum	40%	50%
Liquidity		
Weekly		
Monthly		
Quarterly	50%	50%
Semi-Annual		
Annual	80%	80%
>Annual	90%	90%
Side Pockets (Max)	10%	10%

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# Absolute Return Strategies Portfolio – Investment Guidelines Summary

# Prudence Crandall Liquid Portfolio

	Rock Creek	K2
Benchmark	HFRI Fund of Funds Index	HFRI Fund of Funds Diversified
Target Return	13-Week T-Bills +400	13-Week T-Bills +400
Target Volatility	4-6%	< 6%
Risk Management		
Target Beta	.2030 (MSCI ACWI) .2535 (ML High Yield)	.30 (S&P 500 & S&P/LSTA Leveraged Loan Index)
Target Correlation	N/A	.80 (S&P 500)
Manager Concentration		
Minimum	5	5
Maximum	12	15
Strategy Concentration		
Minimum	N/A	N/A
Maximum	N/A	25%
Liquidity		
Daily	10-30%	
Weekly		
Monthly	40-70%	90%
Quarterly	10-30%	100%
Semi-Annual		
Annual		
>Annual		
Side Pockets		

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# **AIF Connecticut Horizon Fund (CHF) Portfolio**



# Connecticut Horizon Fund - Performance | As of December 31, 2019

	<b>4Q19</b> (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since Inception Date	Since Inception (%)
Connecticut Horizon Fund	1.3	4.3	1.0	1.5	9/1/2014	0.7
Appomattox	1.3	4.3	1.0	1.5	9/1/2014	0.7
HFRI FOF: Conservative Index	1.7	6.3	3.1	2.6	NA	2.3
91 Day T-Bills +3%	1.1	5.1	4.7	4.3	NA	4.0
Appomattox	1.3	4.2	1.4	1.6	9/1/2014	0.9
HFRI FOF: Conservative Index	1.7	6.3	3.1	2.6	NA	2.0
91 Day T-Bills +3%	1.1	5.1	4.7	4.3	NA	3.6
Appomattox (Restructuring)	-0.3	-3.0	-1.9	-0.5	10/1/2014	-0.7
HFRI FOF: Conservative Index	1.7	6.3	3.1	2.6	NA	2.3
91 Day T-Bills +3%	1.1	5.1	4.7	4.3	NA	4.0

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# Connecticut Horizon Fund - Trailing 3-Year Risk Summary | As of December 31, 2019

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Connecticut Horizon Fund	2.7	-0.26	-4.4	15	-	-	3.0	-1.1
Appomattox	3.2	-0.09	-5.5	23	-	-	2.9	-1.0
HFRI FOF: Conservative Index	2.2	0.70	-3.2	6	1.12	0.76	1.6	-0.5
91 Day T-Bills +3%	0.2	18.12	0.0	0	-4.17	-0.22	-1.1	-0.4
S&P 500	11.9	1.14	-13.5	6	0.21	0.77	2.1	-1.1
S&P/LSTA Leveraged Loan TR	2.3	0.67	-3.5	4	1.00	0.72	1.1	-0.2
Appomattox (Restructuring)	3.2	-1.13	-7.1	15	-	-	4.2	-1.3

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# Connecticut Horizon Fund - Trailing 5-Year Risk Summary | As of December 31, 2019

	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation	Kurtosis	Skew
Connecticut Horizon Fund	3.1	0.03	-5.7	18	-	-	0.9	-0.3
Appomattox	3.3	0.12	-5.5	21	-	-	1.1	-0.6
HFRI FOF: Conservative Index	2.3	0.57	-4.5	19	1.21	0.82	0.6	-0.6
91 Day T-Bills +3%	0.2	12.34	0.0	0	-1.15	-0.08	-1.5	0.2
S&P 500	11.9	0.90	-13.5	6	0.20	0.73	0.9	-0.5
S&P/LSTA Leveraged Loan TR	2.3	0.55	-5.0	11	1.13	0.79	0.5	-0.4
Appomattox (Restructuring)	3.6	-0.47	-7.2	15	-	-	1.7	-0.3

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Appomattox

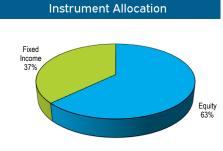
HFRI FOF: Conservative Index

#### State of Connecticut Retirement Plans and Trust Funds Alternative Investments Fund

# Appomattox | As of December 31, 2019

Account Information					
Mandate:	Hedge Fund, Fund of Funds				
Market Value: \$173 M					
Portfolio Manager:	Team				
Location:	New York, NY				
Inception Date:	9/1/2014				
Account Type:	Separately Managed				
# of Investments:	20				
Fee Schedule:	0.40% Mangement Fee				

**Portfol** 



20									
ingement Fee									
io Performance Summary									
	4Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 9/2014 (%)				
	1.3	4.2	1.4	1.4	0.9				

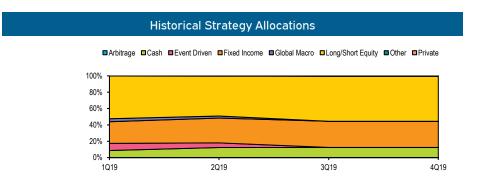
3.2

2.3

Risk Statistics						
Standard Deviation (%)	Standard Deviation (%)	Sharpe Ratio	Max Drawdown (%)	Max Drawdown Length	Beta	Correlation
Appomattox <sup>1</sup>	3.3	0.12	-5.5	21	-	-
HFRI FOF: Conservative Index	2.3	0.57	-4.5	19	1.21	0.82
91 Day T-Bills +3%	0.2	12.34	0.0	0	-1.15	-0.08
S&P 500	11.9	0.90	-13.5	6	0.20	0.73
S&P/LSTA Leveraged Loan TR	2.3	0.55	-5.0	11	1.13	0.79

1.7

6.3



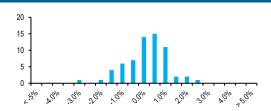
Geographic Exposure Anocation (70)	12/31/2019	9/30/2019	0/30/2019	3/31/2019
North America	81	81	83	78
Developed Europe	11	12	10	14
Developed Asia	6	6	5	8
Emerging Markets	2	1	2	-1
Exposure Report (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019
Total Gross Exposure	144	133	137	128
Gross Long Exposure	103	89	98	89
Gross Short Exposure	41	44	39	39

45

59

50

12/31/2010



**Return Distribution** 

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2.3

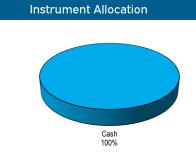
Net Exposure

<sup>&</sup>lt;sup>1</sup> Risk statistics are as of the inception date of 9/30/2014.



# Appomattox (Restructuring) | As of December 31, 2019

Account Information					
Mandate: Hedge Fund, Fund of Fun					
Market Value:	\$5.8 M				
Portfolio Manager:	Team				
Location:	New York, NY				
Inception Date:	10/1/2014				
Account Type:	Separately Managed				
# of Investments:	Not Provided				
Fee Schedule:	0.40% Management Fee				

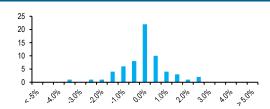


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■ Arbitrage	e <b>u</b> Cash	■Event Driven	■Fixed Income	■ Global Macro	■Long/Short Equity	Uther	■ Private
100%							
80% -							
60% -							
40% -							
20% -							
0%							

Portfolio Performance Summary						
	4Q19 (%)	1 YR (%)	3 YR (%)	5 YR (%)	Since 10/2014 (%)	
Appomattox (Restructuring)	-0.3	-3.0	-1.9	-0.6	-0.7	
HFRI Fund of Funds Composite Index	3.0	8.3	3.9	2.4	2.4	

Risk Statistics							
	Standard Deviation	Max Drawdown	Max Drawdown				
	(%)	(%)	Length	Kurtosis	Skew		
Appomattox (Restructuring)	3.6	-7.2	15	1.7	-0.3		

Geographic Exposure Allocation (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019			
North America	0	0	0	0			
Developed Asia	0	0	0	0			
Developed Europe	0	0	0	0			
Emerging Markets	0	0	0	100			
Exposure Report (%)	12/31/2019	9/30/2019	6/30/2019	3/31/2019			
Total Gross Exposure	0	0	0	100			
Gross Long Exposure	0	0	0	100			
Gross Short Exposure	0	0	0	0			
Net Exposure	0	0	0	100			
Deturn Distribution							



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# CHF – Investment Guidelines Summary

# Thomas Welles Fund Portfolio

	Appomattox
Benchmark	HFRI Fund of Funds Conservative
Target Return	13-Week T-Bills +300
Target Volatility	< 5%
Risk Management	
Target Beta	.35 (S&P 500 & S&P/LSTA Leveraged Loan Index)
Target Correlation	.80 (S&P 500)
Maximum Drawdown	Monthly: N/A Cycle (3-5 Years): N/A
Manager Concentration	
Minimum	7
Maximum	20
Strategy Concentration	
Minimum	N/A
Maximum	30%
Liquidity	
Weekly	
Monthly	
Quarterly	50%
Semi-Annual	
Annual	80%
>Annual	90%
Side Pockets (Max)	10%

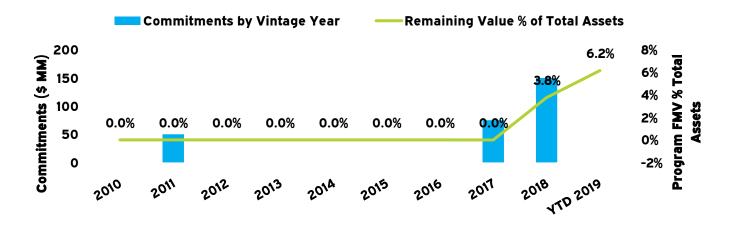
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# **AIF Opportunistic Portfolio**

Overview | As of September 30, 2019

#### Introduction

In June 2019, Meketa was hired as an alternative investment consultant for the Connecticut Retirement Plans and Trust Funds Alternative Investment Funds ("AIF") account. Prior to this engagement, members of the Investment Advisory Council ("IAC") approved the discontinuation of the Opportunistic Debt Program and, therefore, there is no target allocation currently in place as the Plan does not intend to make any new partnership commitments.



#### **Program Status**

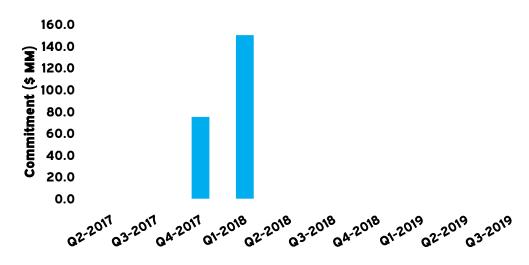
No. of Investments	4
Committed (\$ MM)	275.0
Contributed (\$ MM)	221.3
Distributed (\$ MM)	72.2
Remaining Value (\$ MM)	182.9

#### **Program Performance Since Inception**

DPI	0.33x
TVPI	1.15x
IRR	11.1%

#### Commitments

#### **Recent Quarterly Commitments**



#### **Commitments This Quarter**

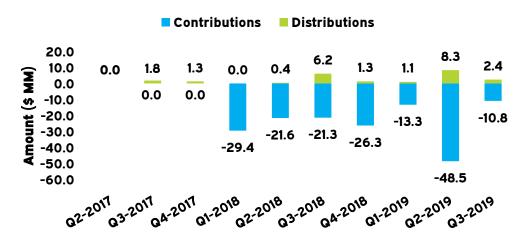
Fund	Strategy	Region	Amount (MM)

None to report.



#### Cash Flows

#### **Recent Quarterly Cash Flows**



## **Largest Contributions This Quarter**

## **Largest Distributions This Quarter**

Fund	Vintage	Strategy	Region	Amount (\$MM)	Fund	Vintaç
Crescent DL II	2017	Direct Lending	North America	5.60	Owl Rock I	2018
Anchorage VI	2018	Distressed	Global: All	5.25	Crescent DL II	2017

Fund	Vintage	Strategy	Region	Amount (\$MM)
Owl Rock I	2018	Direct Lending	North America	1.65
Crescent DL II	2017	Direct Lending	North America	0.73

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#### **Significant Events**

- Crescent Direct Lending Fund II called \$5.6 million during the quarter to fund six new investments as well as several follow-on investments.
- Anchorage Illiquid Opportunities VI called \$5.3 million during the quarter to fund follow-on capital in connection with several existing portfolio investments primarily within North America.
- Owl Rock Capital Corporation I distributed \$1.7 million during the quarter primarily in dividend income received in conjunction with various existing portfolio investments.

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#### By Strategy

						Remaining				
Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Distressed	2	125.0	100.3	24.7	59.2	59.8	84.5	0.59	1.19	9.8
Direct Lending	2	150.0	121.0	29.9	13.0	123.1	152.9	0.11	1.12	NM
Total	4	275.0	221.3	54.6	72.2	182.9	237.4	0.33	1.15	11.1

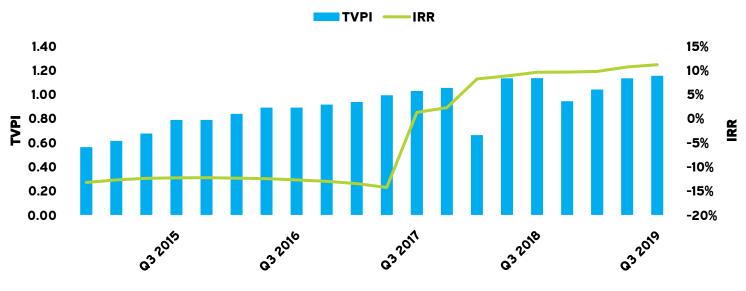
#### By Vintage

						Remaining				
Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
2011	1	50.0	50.0	0.0	59.2	4.0	4.0	1.18	1.26	9.0
2017	1	75.0	46.0	29.9	7.2	43.1	72.9	0.16	1.09	NM
2018	2	150.0	125.3	24.7	5.8	135.9	160.6	0.05	1.13	NM
Total	4	275.0	221.3	54.6	72.2	182.9	237.4	0.33	1.15	11.1

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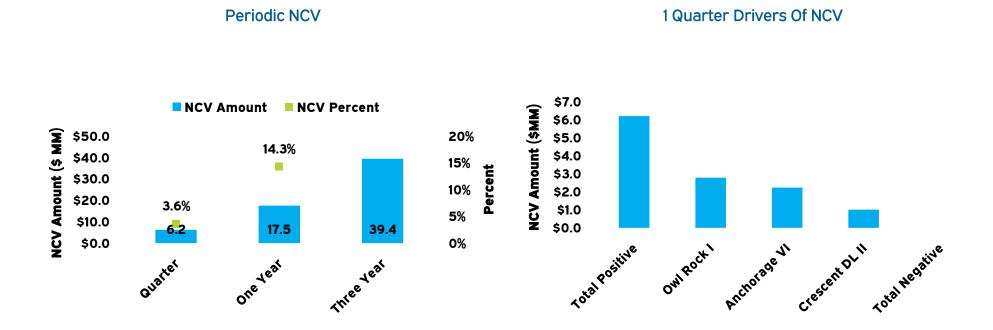
#### **Since Inception Performance Over Time**



#### Horizon IRRs

	1 Year (%)	3 Year (%)	5 Year (%)	10 Year (%)	Since Inception (%)
Aggregate Portfolio	14.5	47.7	35.6	11.1	11.1







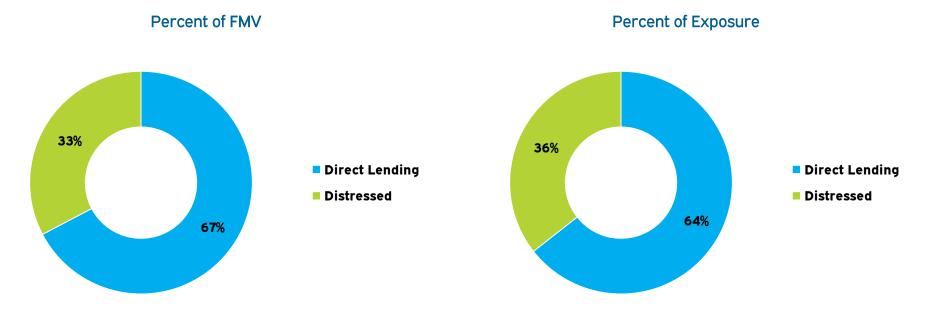
## Fund Performance: Sorted By Vintage And Strategy

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	TVPI (X)	IRR (%)
Marathon Euro Credit	2011	Distressed	50.0	50.0	0.0	59.2	4.0	1.26	9.0
Crescent DL II	2017	Direct Lending	75.0	46.0	29.9	7.2	43.1	1.09	NM
Anchorage VI	2018	Distressed	75.0	50.3	24.7	0.0	55.8	1.11	NM
Owl Rock I	2018	Direct Lending	75.0	75.0	0.0	5.8	80.0	1.14	NM
Total			275.0	221.3	54.6	72.2	182.9	1.15	11.1

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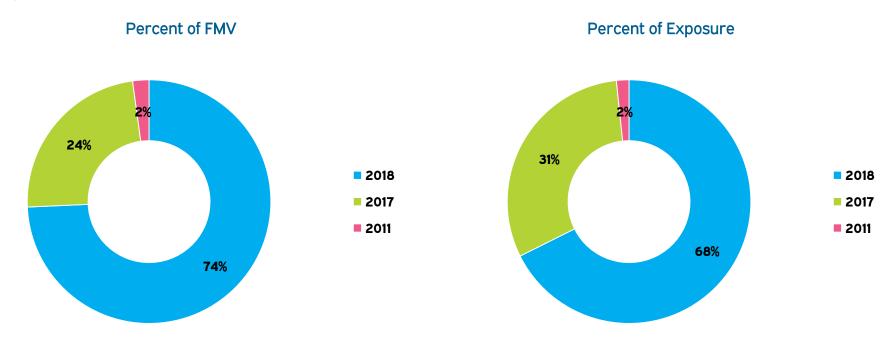


#### By Strategy



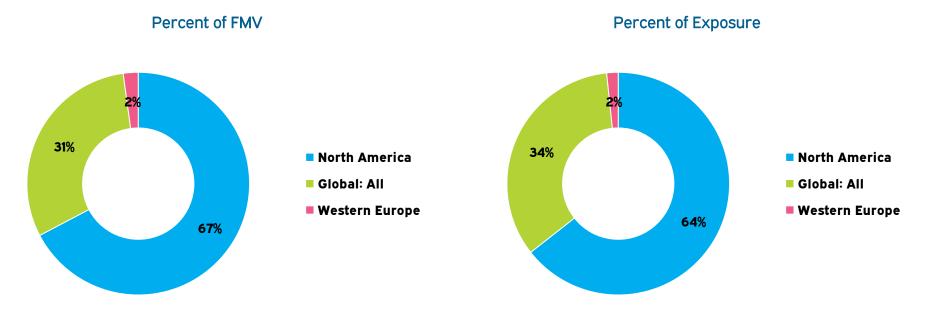


## By Vintage





## By Geographic Focus



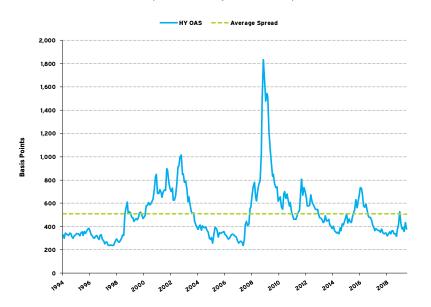


#### **Private Debt**

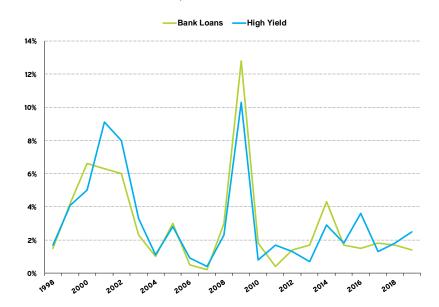
Credit markets remained benign in the third quarter. In the public markets, both spreads and default rates in high yield and bank loans were fairly stable. Private credit markets performed well with steady origination levels and modest default and impairment rates. Falling interest rates continued to provide a tailwind for all traditional credit asset classes as the 10-year Treasury fell as low as 1.5% for the first time in three years. High yield spreads finished the quarter at 373 basis points, approximately 135 basis points below the 25-year average.

Bank loan defaults finished the quarter at a consistent 1.3% while high yield increased slightly to 2.5%. Recovery rates were also largely unchanged. Bank loan investors and managers continue to actively discuss prospective first lien loan recoveries in the current market environment of fewer covenants and higher leverage levels.

#### U.S. Corporate High Yield Spread<sup>1</sup>



#### U.S. Corporate Default Rate<sup>2</sup>



<sup>&</sup>lt;sup>1</sup> Source: Barclays Capital

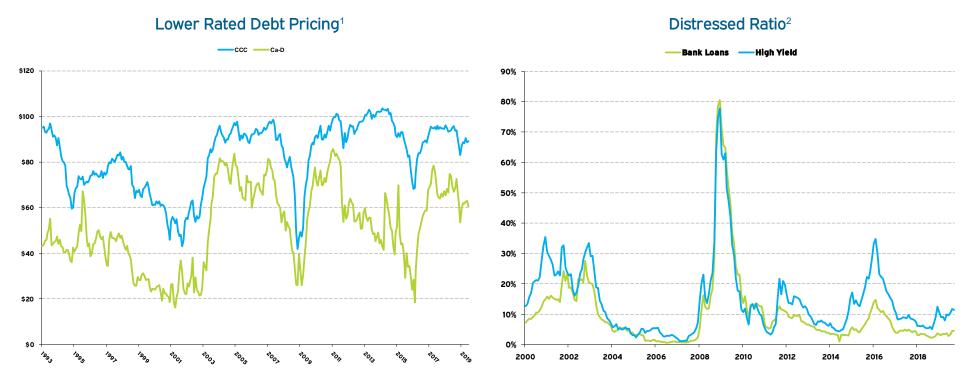
<sup>&</sup>lt;sup>2</sup> Source: JP Morgan



#### Distressed & Opportunistic Debt

Distressed opportunities modestly increased during the quarter but continue to remain low by historical standards. The largest default during the quarter was Weatherford, an energy company with more than \$6 billion in total debt. The other large defaults in the quarter, EP Energy and Sanchez, were also in the energy sector with another \$6.5 billion of combined total debt which was primarily comprised of high yield bonds.

The industries with the highest high yield and bank loan default rates in 2019 continue to be energy, metals and mining, diversified media and retail. Several distressed and opportunistic managers have targeted investments in these sectors as traditional lenders have reduced exposure.



<sup>&</sup>lt;sup>1</sup> Source: Barclays Capital

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<sup>&</sup>lt;sup>2</sup> Source: Bank Loans trading below \$80, Credit Suisse; High Yield trading at spread of more than 1,000bps, Deutsche Bank.

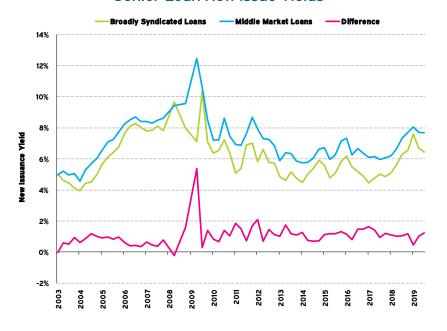


#### Private Senior & Subordinated Debt

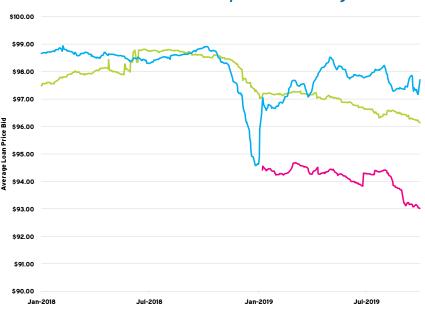
The spread between new issuance yields for direct lending loans and larger liquid loan yields widened during the quarter. This spread differential is likely driven by continued high demand for syndicated bank loans in the larger cap market by CLOs. Another dynamic that continues to develop is larger middle market lenders taking deals from the lower end of the syndicated market. In the third quarter, more than half the middle market LBO deals went to the direct lending market. Finally, covenant-lite issuance slightly decreased from 2018 levels.

Business Development Companies ("BDCs") continued to grow and leverage increased to more than 1.0x for the first time since the maximum leverage threshold was increased from 1.0x to 2.0x in 2018. While BDCs continued to grow, the non-accrual rate, a measurement of loans that have missed interest payments, has been slowly increasing.

#### Senior Loan New Issue Yields<sup>1</sup>



#### Senior Loan Secondary Market Pricing<sup>2</sup>



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<sup>&</sup>lt;sup>1</sup> Source: Rifinitiv LPC

<sup>&</sup>lt;sup>2</sup> Source: Refinitiv LPC





Endnotes | As of September 30, 2019

## Below are details on specific terminology and calculation methodologies used throughout this report:

Committed	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.
Contributed	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.
Distributed	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.
DPI	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. Program-level DPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
Exposure	Represents the sum of the investor's Unfunded and Remaining Value.
IRR	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 to by fund managers to Meketa. Program-level IRRs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
NCV	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.

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#### State of Connecticut Retirement Plans and Trust Funds AIF Opportunistic Portfolio

#### Endnotes | As of September 30, 2019

NM	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.
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. Program - level TVPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
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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#### State of Connecticut Retirement Plans and Trust Funds AIF Opportunistic Portfolio

#### Disclaimer | As of September 30, 2019

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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.

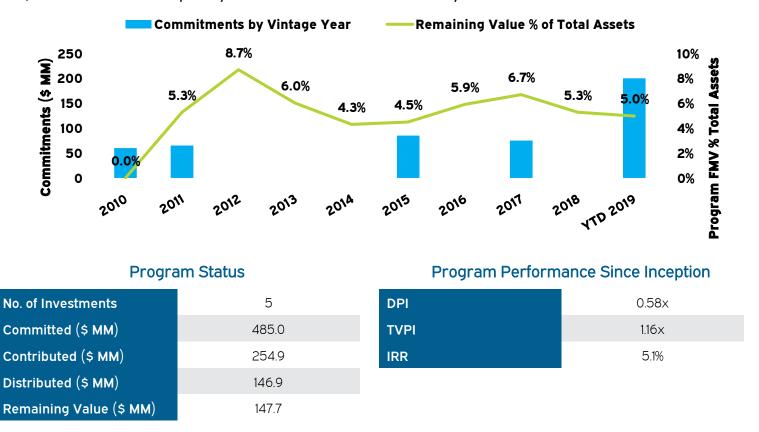
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## **AIF Real Assets Portfolio**

Overview | As of September 30, 2019

#### Introduction

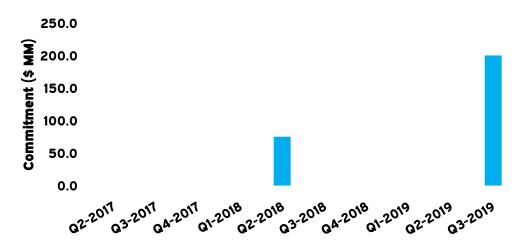
In January 2020, the Connecticut Retirement Plans and Trust Funds reviewed its policies and recommend to remove the Real Assets Program from the Alternative Investment Funds ("AIF") portfolio. The approved target allocation of 4.2% to the Real Assets Program, in addition to a maximum exposure limitation of 5.25% of total plan assets remains, in existence. The policy will be finalized in February 2020.





#### Commitments

#### **Recent Quarterly Commitments**



#### **Commitments This Quarter**

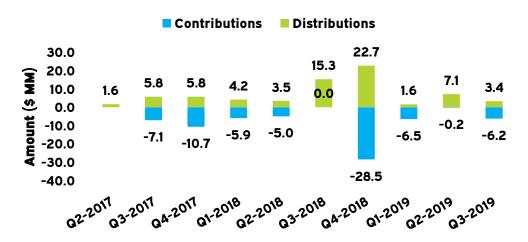
Fund	Strategy	Region	Amount (MM)	
GIP IV	Infrastructure	Global: Developed	200.00	

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#### Cash Flows

#### **Recent Quarterly Cash Flows**



## **Largest Contributions This Quarter**

## **Largest Distributions This Quarter**

Fund	Vintage	Strategy	Region	Amount (\$MM)	Fund	Vintage	Strategy	Region	Amount (\$MM)
ISQ Infra II	2017	Infrastructure	Global: Developed	6.10	EIG XV	2010	Natural Resources	Global: All	3.36
EIG XV	2010	Natural Resources	Global: All	0.12					





#### **Significant Events**

- ISQ Global Infrastructure Fund II called \$6.1 million during the quarter to fund several follow-on investments in addition to management fees and partnership expenses.
- EIG Energy Fund XV distributed \$3.4 million during the quarter primarily from proceeds received in conjunction with the realization of Greenko Mauritius, which generated a gross multiple of 1.8x invested capital.

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#### By Strategy

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
Infrastructure	4	425.0	191.8	236.2	96.4	125.9	362.1	0.50	1.16	6.1
Natural Resources	1	60.0	63.1	0.0	50.5	21.8	21.8	0.80	1.15	3.4
Total	5	485.0	254.9	236.2	146.9	147.7	383.9	0.58	1.16	5.1

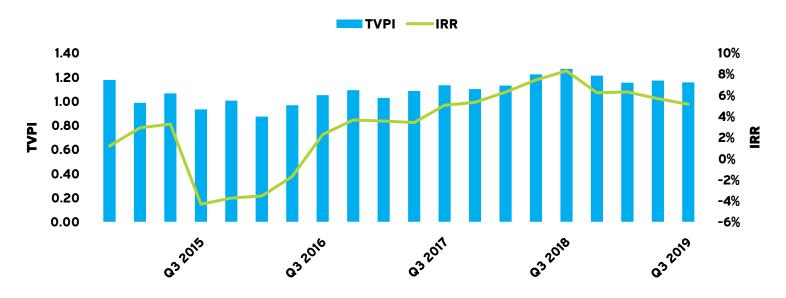
#### By Vintage

Group	Number	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	Exposure (\$ MM)	DPI (X)	TVPI (X)	IRR (%)
2010	1	60.0	63.1	0.0	50.5	21.8	21.8	0.80	1.15	3.4
2011	1	65.0	65.9	0.0	62.9	22.4	22.4	0.95	1.29	8.0
2015	1	85.0	86.1	0.0	31.2	78.1	78.1	0.36	1.27	9.1
2017	1	75.0	39.8	36.2	2.3	27.8	64.1	0.06	0.76	NM
2019	1	200.0	0.0	200.0	0.0	NM	197.6	0.00	NM	NM
Total	5	485.0	254.9	236.2	146.9	147.7	383.9	0.58	1.16	5.1

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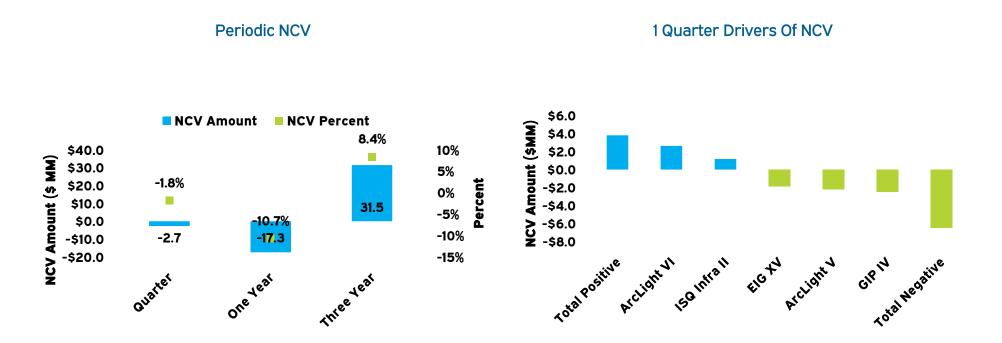
#### **Since Inception Performance Over Time**



#### Horizon IRRs

	1 Year	3 Year	5 Year	10 Year	Since Inception
	(%)	(%)	(%)	(%)	(%)
Aggregate Portfolio	-10.9	8.4	5.0	5.1	5.1





#### State of Connecticut Retirement Plans and Trust Funds AIF Real Assets Portfolio

#### Performance Analysis | As of September 30, 2019

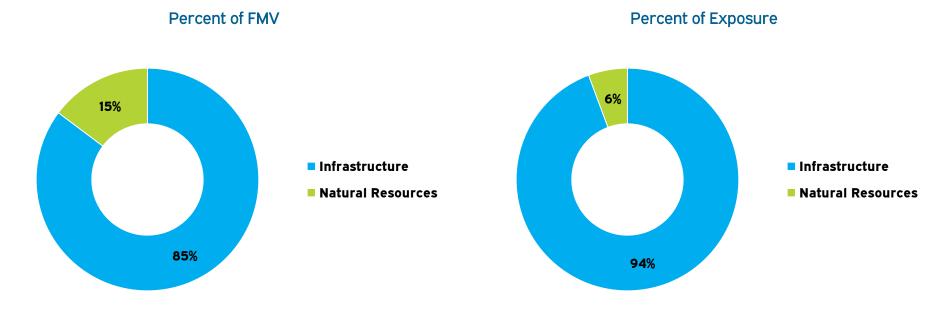
#### Fund Performance: Sorted By Vintage And Strategy

By Investment	Vintage	Strategy	Committed (\$ MM)	Contributed (\$ MM)	Unfunded (\$ MM)	Distributed (\$ MM)	Remaining Value (\$ MM)	TVPI (X)	IRR (%)
EIG XV	2010	Natural Resources	60.0	63.1	0.0	50.5	21.8	1.15	3.4
ArcLight V	2011	Infrastructure	65.0	65.9	0.0	62.9	22.4	1.29	8.0
ArcLight VI	2015	Infrastructure	85.0	86.1	0.0	31.2	78.1	1.27	9.1
ISQ Infra II	2017	Infrastructure	75.0	39.8	36.2	2.3	27.8	0.76	NM
GIP IV	2019	Infrastructure	200.0	0.0	200.0	0.0	NM	NM	NM
Total			485.0	254.9	236.2	146.9	147.7	1.16	5.1

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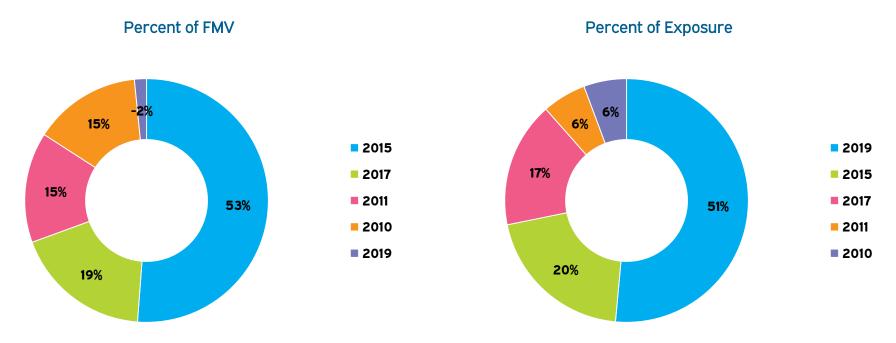


## By Strategy



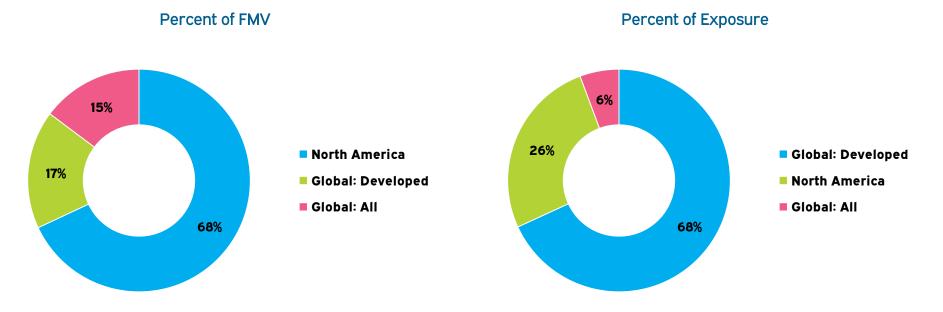


## By Vintage





## By Geographic Focus



# **Appendices**



#### State of Connecticut Retirement Plans and Trust Funds Private Markets Program

Endnotes | As of September 30, 2019

## Below are details on specific terminology and calculation methodologies used throughout this report:

Committed	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.
Contributed	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.
Distributed	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.
DPI	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. Program-level DPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
Exposure	Represents the sum of the investor's Unfunded and Remaining Value.
IRR	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 to by fund managers to Meketa. Program-level IRRs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
NCV	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.

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#### State of Connecticut Retirement Plans and Trust Funds Private Markets Program

#### Endnotes | As of September 30, 2019

NM	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.
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. Programlevel TVPIs are net of both fund fees and expenses and fees paid to Meketa attributable to the Program.
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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#### State of Connecticut Retirement Plans and Trust Funds Private Markets Program

#### Disclaimer | As of September 30, 2019

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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.

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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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# AIF Opportunistic and Real Assets Portfolios Supporting Analysis and Notes

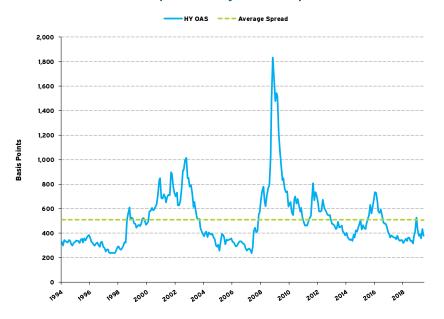


#### **Private Debt**

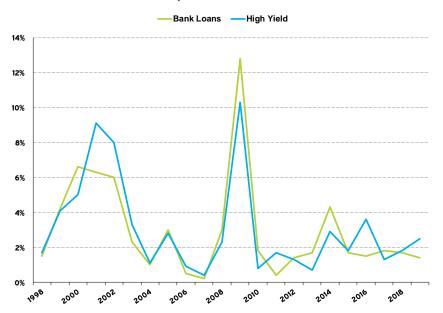
Credit markets remained benign in the third quarter. In the public markets, both spreads and default rates in high yield and bank loans were fairly stable. Private credit markets performed well with steady origination levels and modest default and impairment rates. Falling interest rates continued to provide a tailwind for all traditional credit asset classes as the 10-year Treasury fell as low as 1.5% for the first time in three years. High yield spreads finished the quarter at 373 basis points, approximately 135 basis points below the 25-year average.

Bank loan defaults finished the quarter at a consistent 1.3% while high yield increased slightly to 2.5%. Recovery rates were also largely unchanged. Bank loan investors and managers continue to actively discuss prospective first lien loan recoveries in the current market environment of fewer covenants and higher leverage levels.

#### U.S. Corporate High Yield Spread<sup>1</sup>



#### U.S. Corporate Default Rate<sup>2</sup>



<sup>&</sup>lt;sup>1</sup> Source: Barclays Capital

<sup>&</sup>lt;sup>2</sup> Source: JP Morgan



# Distressed & Opportunistic Debt

Distressed opportunities modestly increased during the quarter but continue to remain low by historical standards. The largest default during the quarter was Weatherford, an energy company with more than \$6 billion in total debt. The other large defaults in the quarter, EP Energy and Sanchez, were also in the energy sector with another \$6.5 billion of combined total debt which was primarily comprised of high yield bonds.

The industries with the highest high yield and bank loan default rates in 2019 continue to be energy, metals and mining, diversified media and retail. Several distressed and opportunistic managers have targeted investments in these sectors as traditional lenders have reduced exposure.



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<sup>&</sup>lt;sup>1</sup> Source: Barclays Capital

<sup>&</sup>lt;sup>2</sup> Source: Bank Loans trading below \$80, Credit Suisse; High Yield trading at spread of more than 1,000bps, Deutsche Bank.

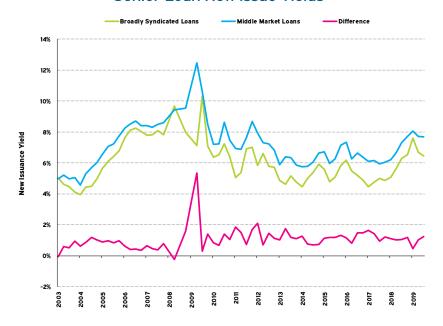


#### Private Senior & Subordinated Debt

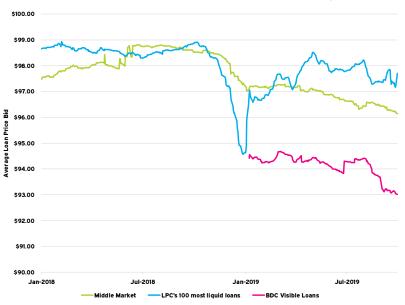
The spread between new issuance yields for direct lending loans and larger liquid loan yields widened during the quarter. This spread differential is likely driven by continued high demand for syndicated bank loans in the larger cap market by CLOs. Another dynamic that continues to develop is larger middle market lenders taking deals from the lower end of the syndicated market. In the third quarter, more than half the middle market LBO deals went to the direct lending market. Finally, covenant-lite issuance slightly decreased from 2018 levels.

Business Development Companies ("BDCs") continued to grow and leverage increased to more than 1.0x for the first time since the maximum leverage threshold was increased from 1.0x to 2.0x in 2018. While BDCs continued to grow, the non-accrual rate, a measurement of loans that have missed interest payments, has been slowly increasing.

#### Senior Loan New Issue Yields1



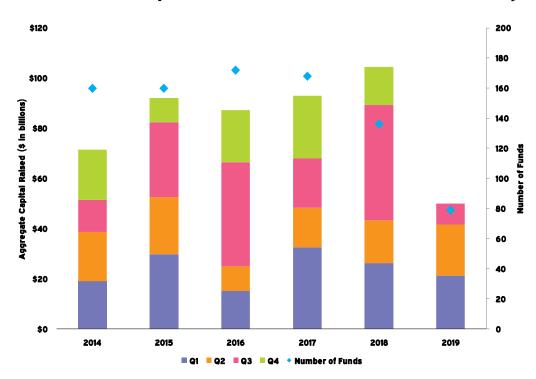
#### Senior Loan Secondary Market Pricing<sup>2</sup>



<sup>&</sup>lt;sup>1</sup> Source: Rifinitiv LPC

<sup>&</sup>lt;sup>2</sup> Source: Refinitiv LPC

# Global Quarterly Unlisted Natural Resource Fundraising<sup>1</sup>



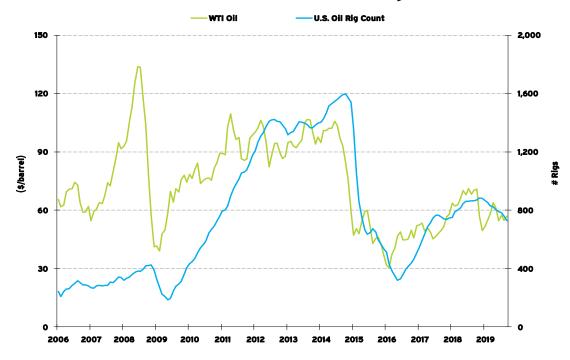
Capital raised in the third quarter of 2019 was substantially lower than in prior quarters, representing a decline of approximately 61% relative to the amount raised in the third quarter of 2018. The number of vehicles raised also fell during the third quarter with just 18 funds reaching final close. This quarter, the average fund size raised was \$500 million, below the 2018 average of \$800 million. As of September 30, 2019, Preqin reported a total of 313 unlisted natural resources funds with a combined fundraising target of approximately \$219 billion.

The majority of natural resources managers fundraising during the third quarter were focused on North America, accounting for nearly 63% of aggregate targeted capitalization in the market.

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<sup>&</sup>lt;sup>1</sup> Source: Pregin Private Capital Fundraising Update, Q3 2019.

# Extracted Resources Oil Price vs. Active U.S. Rigs<sup>1</sup>



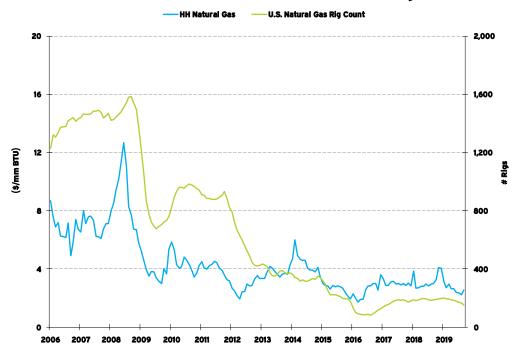
West Texas Intermediate ("WTI") oil prices increased by 4% to \$57 per barrel during the third quarter. In September, drone and missile attacks damaged Saudi Aramco's Abqaiq facility, the world's largest crude oil processing and stabilization plant, and the Khurais oil field in eastern Saudi Arabia. The attack highlighted geopolitical risks associated with the industry, potential global supply disruptions, and uncertainty of Saudi Aramco's plans of a future IPO. During the third quarter, the U.S. produced over 12.2 million barrels of oil equivalent per day. The oil rig count in the U.S. fell by 64 bringing the total to 726. U.S. gasoline prices for regular blend decreased by 5% to \$2.81 from the previous quarter, representing a 6% decrease from one year prior.

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<sup>&</sup>lt;sup>1</sup> Source: EIA and Baker Hughes.



Extracted Resources
Natural Gas Price vs. Active U.S. Rigs<sup>1</sup>



Henry Hub natural gas spot prices ended the quarter at approximately \$2.56/MM BTU, representing a 7% decrease from the prior quarter. Significant pricing differentials continue to exist between Henry Hub, the national benchmark for U.S. natural gas, and other markets; however, differential should moderate as midstream infrastructure continues to be developed. Despite a reduction in rig count during the quarter the U.S. natural gas production continues to be robust as a result of operational improvements and increased associated gas production from oil wells. Storage has absorbed a large portion of the recent production growth with natural gas inventories forecasted to expand in the coming years. During the third quarter, the natural gas rig count fell by 27 to 152 while daily production averages reached more than 101 billion cubic feet.

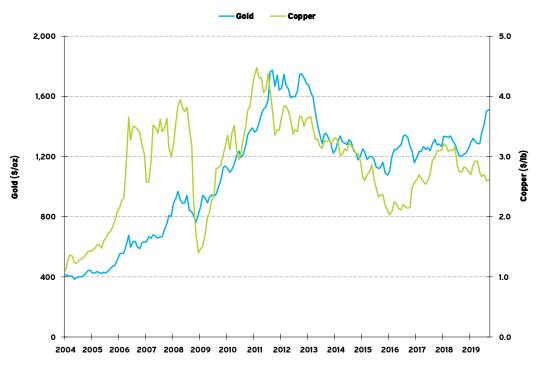
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<sup>&</sup>lt;sup>1</sup> Source: EIA and Baker Hughes.



#### **Extracted Resources**

#### Metals Prices<sup>1</sup>



Geopolitical tensions continued into the third quarter headlined by the ongoing U.S. – China global trade war as well as economic uncertainty resulting from falling bond yields. Trade concerns continue to create uncertainty on global growth projections and the demand for certain base and industrial metals. Copper prices fell by approximately 2% to \$2.61 per ounce during the quarter. Safe-haven assets, such as gold, tend to fare better during turbulent periods. The price of gold rose to \$1,511 per ounce during the quarter. Relative to one year prior, copper and gold prices changed by -5% and +26%, respectively.

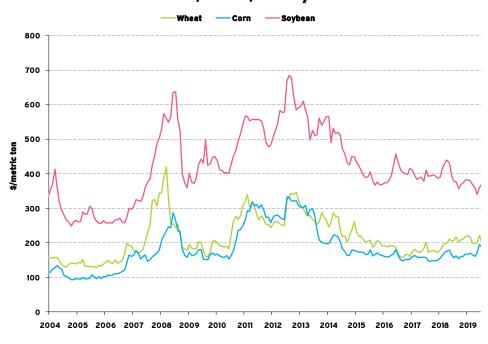
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<sup>&</sup>lt;sup>1</sup> Source: World Bank



#### **Harvested Resources**

## Wheat, Corn, & Soybean<sup>1</sup>



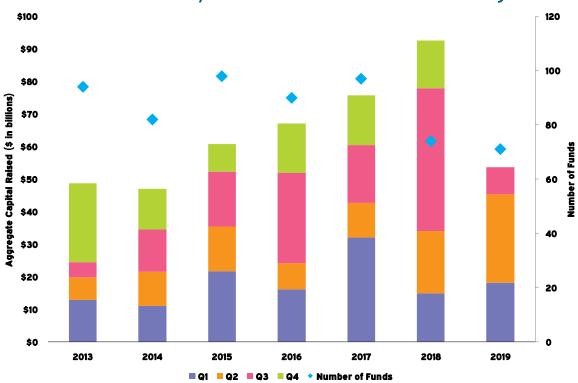
Agriculture continues to be adversely impacted by global trade wars, which have led to decreased export demand for the U.S. Record levels of rainfall and flooding across the Midwest and South U.S. regions significantly reduced grain plantings, specifically corn and wheat, during the third quarter. A trade agreement between the U.S. and Japan, and progress on a Phase I trade deal with China has the potential to significantly increase demand for U.S. agricultural products. During the quarter, wheat and corn prices fell by 9% and 19%, respectively, while soybean prices increased by 2%.

During the quarter, the NCREIF Farmland index experienced a 1% increase that was driven mainly by income gains of 1.0%. The NCREIF Timberland index increased by 0.2% primarily as a result of income gains of 0.7%.

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<sup>&</sup>lt;sup>1</sup> Source: World Bank

# Global Quarterly Unlisted Infrastructure Fundraising<sup>1</sup>



Capital raised in the third quarter of 2019 fell well below the amount raised in the second quarter of 2019. In the third quarter, the average fund size didn't exceed \$0.5 billion, falling below the 2018 average of \$1.3 billion. As of September 30, 2019, a total of 241 unlisted infrastructure funds were in market, according to Preqin, with a combined fundraising target of approximately \$200 billion.

The majority of infrastructure capital was focused on the developed market in North America, accounting for nearly 31% of the capital raised so far in 2019.

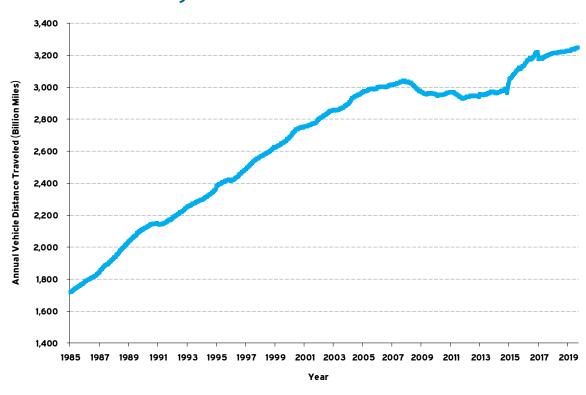
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<sup>&</sup>lt;sup>1</sup> Source: Pregin Private Capital Fundraising Update, Q3 2019.

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Market & Industry Analysis | As of September 30, 2019

## Moving 12-month Total on All U.S. Roads<sup>1</sup>



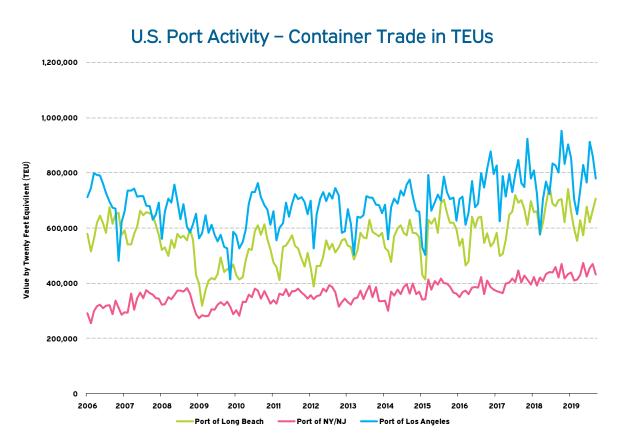
During the third quarter of 2019, travel on U.S. roads totaled approximately 850 billion miles. This represented an increase of 1.8% over the same period in 2018. Year-to-date, Federal Highway Administration data showed vehicle miles traveled increased by 21.2 billion miles, up 0.88% over 3Q 2018.

Up to this point in 2019, the average U.S. price of a gallon of gas went up to a monthly average of \$2.69 per gallon, with a peak of \$2.95. This compared to \$2.82 and \$2.99 seen in 2018. According to INRIX, Boston, Washington, D.C., and Chicago rank as the top three cities in the U.S. in which drivers spend the most hours in traffic.

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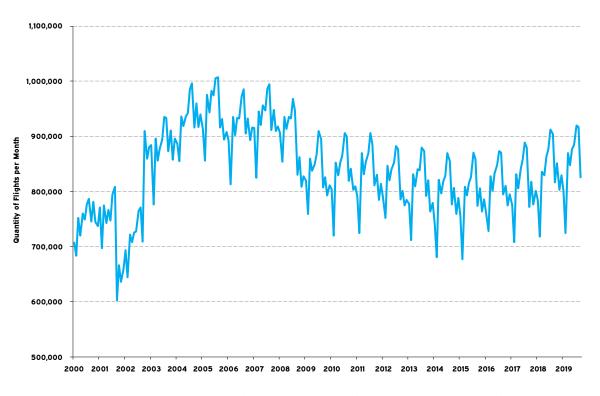
<sup>&</sup>lt;sup>1</sup> Source: US Department of Transportation, Federal Highway Administration: Office of Highway Policy Information.





The chart represents the top three U.S. 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 of imports received into the U.S. more broadly.

During the third quarter of 2019, volumes at the three ports increased by 54,000 units relative to the same period in 2018. On a year-over-year basis, the combined port volumes increased by 500,434 TEU, or 2.2%, over the prior 12 month period. All three ports saw an increase in year-over-year activity. The Port of Long Beach recorded a decrease of 3.1% (253,678 TEU), the Port of NY/NJ reported an increase of 3.9% (196,996 TEU) and the Port of Los Angeles recorded an increase of 6.0% (557,116 TEU) from the prior 12 months.



Total U.S. Domestic and International Flights<sup>1</sup>

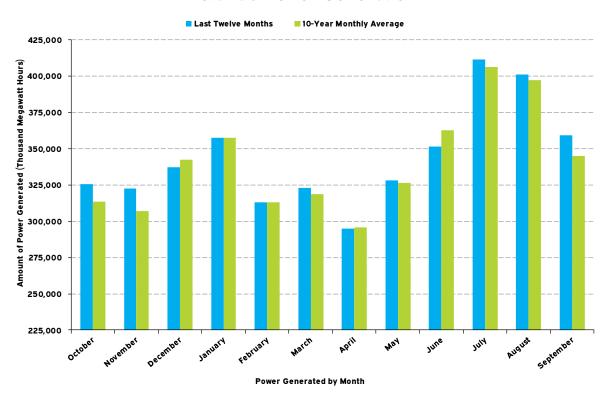
The chart above represents all U.S. domestic and international flights, excluding foreign point-to-point flights by month. Air traffic is cyclical with peaks in the summer months and declines in the winter months.

There were nearly 30,000 more flights during the third quarter of 2019, representing a 1.1% increase compared to the same period in 2018. Air traffic activity also increased by 2.2% for the 12 months ending September 30, 2019 over the previous period. In addition to the number of flights during the third quarter increasing year-over-year, the total number of passengers travelling on U.S. and international airlines increased by 3.9% from 2018 to 2019, which indicates higher capacity factors among airlines compared to the prior period.

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Source: Bureau of Transportation Statistics: Flights, All US, and Foreign Carriers.

#### Total US Power Generation<sup>1</sup>

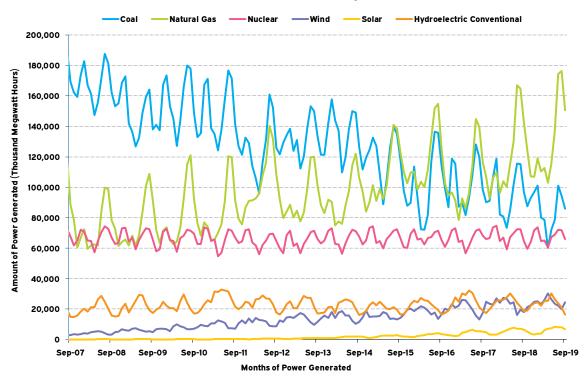


The graph above represents the total net generation for the past 12 months compared to the 10-year average for each month. Over the past year, power generation exceeded the 10-year average in 9 out of the 12 months. Net energy generation in the U.S. decreased by 0.6% during the third quarter, compared to the same period in 2018. For the 12 months ended September 30, 2019, net energy generation decreased by 0.9% over the previous 12 months.

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<sup>&</sup>lt;sup>1</sup> Source: US Energy Information Administration: Electric Power Monthly, September 2019.

# US Power Generation by Source<sup>1</sup>



When comparing individual generation sources in the U.S., natural gas, nuclear, wind, and solar increased 5.6%, 0.3%, 23.7%, and 11.3% respectively in the third quarter of 2019 as compared to the same period in the previous year. Generation from coal and hydroelectric conventional dropped by 14.2% and 5.0% respectively, during the same period. Wind and utility scale solar continue to make up a small portion of total net energy generation in the U.S., accounting for only 5.6% and 1.9% of energy generation in the third quarter, while coal, natural gas, and nuclear accounted for 24.0%, 42.8%, and 17.9%, 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 couple of years.

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<sup>&</sup>lt;sup>1</sup> Source: US Energy Information Administration: Electric Power Monthly, September 2019.



# Meketa Investment Group Corporate Update

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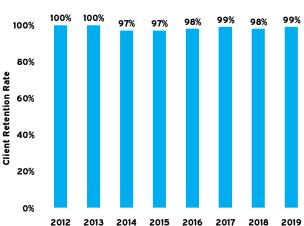
- Staff of 199, including 132 investment professionals and 40 CFA Charterholders
- 214 clients, with over 300 funds throughout the United States
- Significant investment in staff and resources
- Offices in Boston, Chicago, Miami, New York, Portland (OR), San Diego, and London
- We advise on \$1.4 trillion in client assets
  - Over \$100 billion in assets committed to alternative investments
    - Private Equity
- Infrastructure
- Natural Resources

- Real Estate
- Hedge Funds
- Commodities

#### Client to Consultant Ratio<sup>1</sup>



# Client Retention Rate<sup>2</sup>



Meketa Investment Group is proud to work for over 5 million American families everyday.

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<sup>&</sup>lt;sup>1</sup> On March 15, 2019, 31 employees joined the firm as part of the merger of Meketa Investment Group and Pension Consulting Alliance.

<sup>&</sup>lt;sup>2</sup> Client Retention Rate is one minus the number of clients lost divided by the number of clients at prior year-end.



# Asset Classes Followed Intensively by Meketa Investment Group

Domestic
<b>Equities</b>

- Passive
- Enhanced Index
- Large Cap
- Midcap
- Small Cap
- Microcap
- 130/30

# International Equities

- Large Cap
   Developed
- Small Cap
   Developed
- Emerging Markets
- Frontier Markets

# Private Equity

- Buyouts
- Venture Capital
- Private Debt
- Special Situations
- Secondaries
- Fund of Funds

## Real Assets

- Public REITs
- Core Real Estate
- Value Added Real Estate
- Opportunistic Real Estate
- Infrastructure
- Timber
- Natural Resources
- Commodities

# Fixed Income

- Short-Term
- Core
- Core Plus
- TIPS
- High Yield
- Bank Loans
- Distressed
- Global
- Emerging Markets

## Hedge Funds

- Long/Short Equity
- Event Driven
- Relative Value
- Fixed Income
   Arbitrage
- Multi Strategy
- Market Neutral
- Global Macro
- Fund of Funds
- Portable Alpha

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# Disclaimer, Glossary, and Notes

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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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#### Disclaimer, Glossary, and Notes



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.

SI: Since Inception

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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