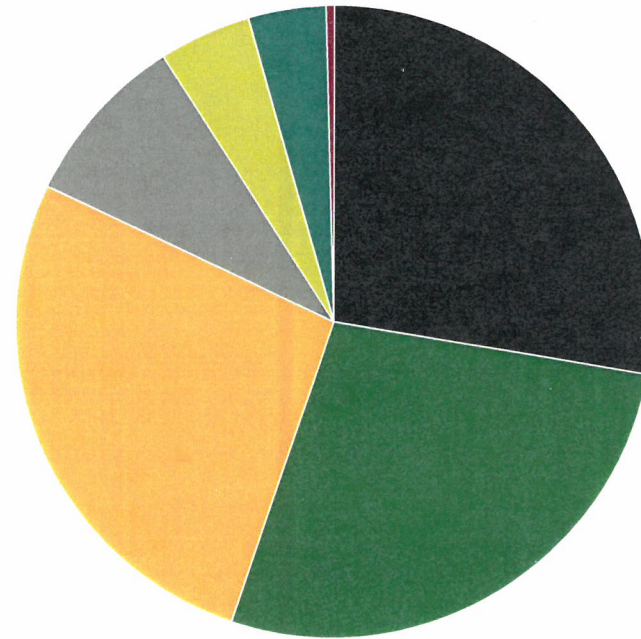
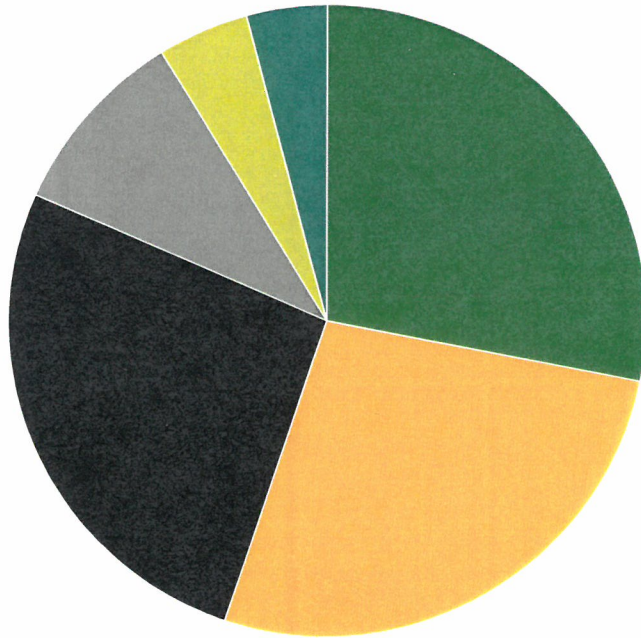


June 30, 2020 : \$2,267,481,711

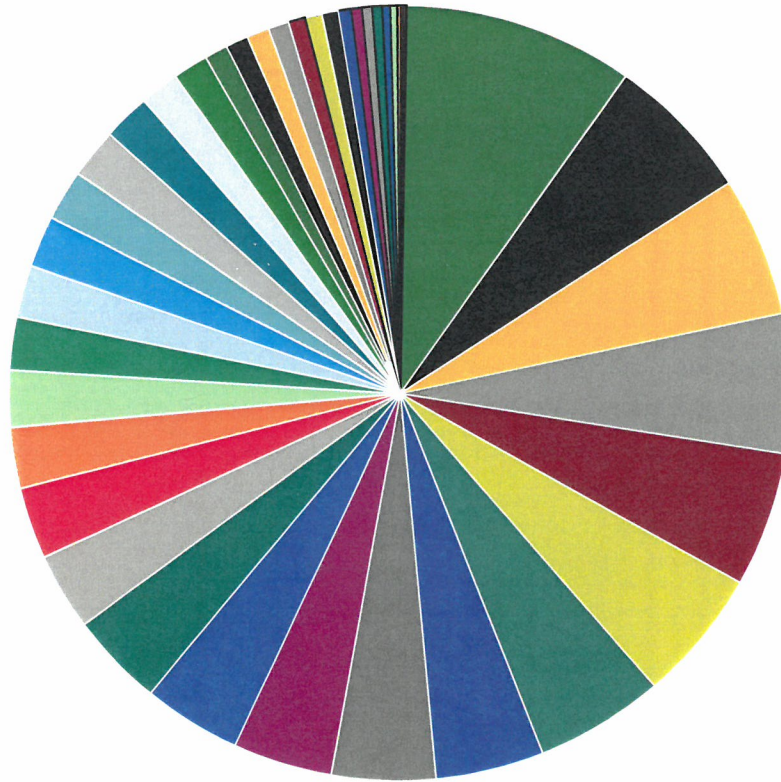
September 30, 2020 : \$2,354,873,014



	Market Value (\$)	Allocation (%)
Domestic Equity Composite	637,179,097	28.10
Fixed Income Composite	614,851,042	27.12
International Equity Composite	597,405,148	26.35
Total Real Estate Composite	218,826,282	9.65
Hedge Fund Composite	105,045,794	4.63
Private Equity Composite	94,068,709	4.15
In House Cash	105,640	0.00

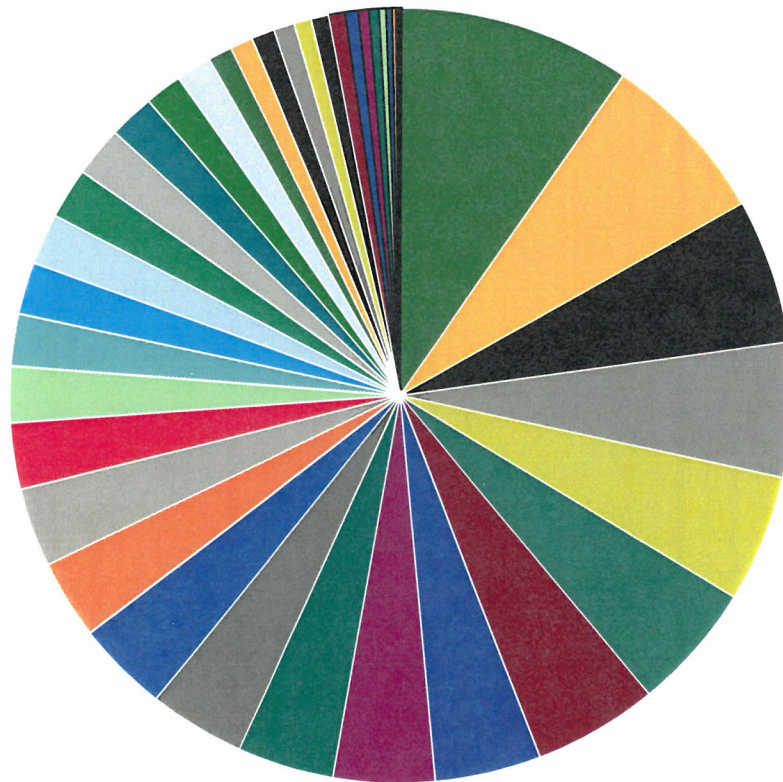
	Market Value (\$)	Allocation (%)
International Equity Composite	652,253,404	27.70
Domestic Equity Composite	648,265,547	27.53
Fixed Income Composite	633,403,772	26.90
Total Real Estate Composite	206,695,429	8.78
Hedge Fund Composite	110,429,856	4.69
Private Equity Composite	93,718,709	3.98
In House Cash	10,106,298	0.43

September 30, 2020 : \$2,354,873,014



	Market Value (\$)	Allocation (%)
Brandywine	226,017,714	9.60
Mackay Shields	143,354,401	6.09
Rhumbline S&P 500	137,019,088	5.82
1607 Capital Partners	136,887,413	5.81
J.P. Morgan Global Emerging Markets Discovery Fund	132,194,544	5.61
Marathon Asset Mgmt	129,410,063	5.50
Barrow, Hanley	126,008,128	5.35
Acadian EM Equity II	106,368,813	4.52
Winslow Capital Management	101,107,715	4.29
Prudential Core Conserv Bond	96,181,061	4.08
Principal Global Investors	95,968,815	4.08
Smith Graham	92,152,407	3.91
PIMCO	75,698,188	3.21
Rhumbline Russell 1000 Growth	70,832,184	3.01
BlackRock US Core Property Fund	60,099,955	2.55
NTGI S&P 400	55,927,111	2.37
Strategic Global Advisors	51,423,757	2.18
Grosvenor Institutional Partners, L.P.	51,418,625	2.18
Conestoga Capital Advisors	50,652,647	2.15
NB Crossroads Fund XXI	49,192,424	2.09
Aetos	48,625,131	2.06
Capital Prospects SMID	45,542,692	1.93
Nicholas Investment Partners	38,522,894	1.64
Pantheon Global Secondary Fund V	33,956,786	1.44
Capital Prospects Small Cap Value	22,653,089	0.96
TA Realty Core Property Fund	21,707,851	0.92
Gerding Edlen Green Cities III, L.P.	21,581,146	0.92
TA Realty Fund XI	20,021,889	0.85
Mesirow Real Estate Value Fund III, L.P.	16,459,224	0.70
RREEF REIT II	16,268,020	0.69
Long Wharf RE Partners V, L.P.	15,516,871	0.66
Vanguard REIT Index Inv	12,487,592	0.53
Preserver, L.P.	10,386,099	0.44
In House Cash	10,106,298	0.43
SSM Partners Growth Equity II L.P.	9,682,390	0.41
Dune Real Estate Fund IV	7,429,744	0.32
Comerstone (Barings) Real Estate Advisers Fund X	6,821,575	0.29
Gerding Edlen Green Cities IV, L.P.	3,679,402	0.16
Long Wharf RE Partners VI, L.P.	2,335,673	0.10
Long Wharf Real Estate Partners IV, L.P.	2,286,487	0.10
SSM Partners Growth Equity III, LP	887,109	0.04

June 30, 2020 : \$2,267,481,711



	Market Value (\$)	Allocation (%)
Brandywine	216,799,087	9.56
Rhumbline S&P 500	163,857,936	7.23
Mackay Shields	136,785,848	6.03
1607 Capital Partners	127,014,142	5.60
Marathon Asset Mgmt	120,091,060	5.30
Barrow, Hanley	119,906,679	5.29
J.P. Morgan Global Emerging Markets Discovery Fund	116,370,151	5.13
Acadian EM Equity II	99,387,682	4.38
Prudential Core Conserv Bond	95,526,884	4.21
Smith Graham	91,281,339	4.03
Winslow Capital Management	89,996,472	3.97
Principal Global Investors	86,507,352	3.82
BlackRock US Core Property Fund	74,747,255	3.30
PIMCO	74,457,884	3.28
Rhumbline Russell 1000 Growth	62,563,833	2.76
NTGI S&P 400	53,384,375	2.35
NB Crossroads Fund XXI	49,192,424	2.17
Conestoga Capital Advisors	49,166,576	2.17
Grosvenor Institutional Partners, L.P.	48,152,624	2.12
Strategic Global Advisors	48,034,761	2.12
Aetos	46,905,140	2.07
Capital Prospects SMID	42,562,726	1.88
Pantheon Global Secondary Fund V	34,306,786	1.51
Nicholas Investment Partners	33,301,203	1.47
Capital Prospects Small Cap Value	22,439,297	0.99
Gerding Edlen Green Cities III, L.P.	21,581,146	0.95
TA Realty Core Property Fund	21,528,167	0.95
TA Realty Fund XI	20,067,427	0.89
RREEF REIT II	16,363,530	0.72
Long Wharf RE Partners V, L.P.	16,236,328	0.72
Mesirow Real Estate Value Fund III, L.P.	15,504,661	0.68
Vanguard REIT Index Inv	12,319,342	0.54
Preserver, L.P.	9,988,029	0.44
SSM Partners Growth Equity II L.P.	9,682,390	0.43
Cornerstone (Barings) Real Estate Advisers Fund X	6,816,569	0.30
Dune Real Estate Fund IV	5,361,513	0.24
Gerding Edlen Green Cities IV, L.P.	3,772,097	0.17
Long Wharf Real Estate Partners IV, L.P.	2,276,101	0.10
Long Wharf RE Partners VI, L.P.	2,252,147	0.10
SSM Partners Growth Equity III, LP	887,109	0.04
In House Cash	105,640	0.00

City of Memphis
Asset Allocation Comparison

Portfolio Value 9/30/20

\$2,354,873,014

Target Allocations

Current Managers & Allocations

Difference

Range

Equity		(000)			(000)		
Large Cap Equity	17.00%	\$400,328	Barrow, Hanley (large cap value)	5.35%	\$126,008	1.47%	13%-21%
			Rhumblin Russell 1000 Growth (large cap growth)	3.01%	\$70,832		
			Winslow (large cap growth)	4.29%	\$101,108		
			Rhumblin S&P 500 (large cap core)	5.82%	\$137,019		
Mid/SMID Cap Equity	5.00%	\$117,744	Northern Trust (mid cap core)	2.37%	\$55,927	-0.69%	0%-7%
			Capital Prospects SMID Cap*	1.93%	\$45,543		
Small Cap Equity	5.00%	\$117,744	Capital Prospects Small Cap Value*	0.96%	\$22,653	-0.25%	0%-7%
			Conestoga (small cap growth)	2.15%	\$50,653		
			Nicholas (small cap growth)	1.64%	\$38,523		
Domestic Equity	27.00%	\$635,816	Domestic Equity	27.53%	\$648,266	0.53%	17%-37%
Developed International	18.50%	\$435,652	1607 Capital Partners	5.81%	\$136,887	-0.93%	14%-23%
			Principal Global Investors	4.08%	\$95,969		
			Marathon Asset Mgmt	5.50%	\$129,410		
			Strategic Global Advisors	2.18%	\$51,424		
Emerging Markets	8.50%	\$200,164	Acadian	4.52%	\$106,369	1.63%	5%-12%
			JPMorgan	5.61%	\$132,195		
International	27.00%	\$635,816	International	27.70%	\$652,253	0.70%	17%-37%
Equity Total	54.00%	\$1,271,631	Equity Total	55.23%	\$1,300,519	1.23%	
Fixed Income							
Core Fixed Income	12.00%	\$282,585	PIMCO	3.21%	\$75,698	-0.79%	7%-17%
			Prudential Core Conserv Bond	4.08%	\$96,181		
			Smith Graham	3.91%	\$92,152		
Global Fixed Income	10.00%	\$235,487	Brandywine	9.60%	\$226,018	-0.40%	3%-13%
Global High Yield	6.00%	\$141,292	Mackay Shields	6.09%	\$143,354	0.09%	3%-13%
Fixed Income Total	28.00%	\$659,364	Fixed Income Total	26.90%	\$633,404	-1.10%	20%-36%

* Emerging Managers

<u>Real Estate</u>							
Core/Value Add/REITs	10.00%	\$235,487	BlackRock US Core Property Fund	2.55%	\$60,100		
			RREEF REIT II	0.69%	\$16,268		
			Vanguard REIT Index	0.53%	\$12,488		
			TA Realty Core Property Fund	0.92%	\$21,708		
			Long Wharf Real Estate Partners IV	0.10%	\$2,286	(Total Commitment \$20M, Total Drawn \$21.5M, Total Distributed \$28.6M)	
			Long Wharf Real Estate Partners Fund V	0.66%	\$15,517	(Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$8.8M)	
			Long Wharf Real Estate Partners Fund VI	0.10%	\$2,336	(Total Commitment \$20M, Total Drawn \$3.8M, Total Distributed \$1.0M)	
			Cornerstone (Barings) Real Estate Fund X ¹	0.29%	\$6,822	(Total Commitment \$10M, Total Drawn \$8.2M, Total Distributed \$3.9M)	
			Gerding Edlen Green Cities III	0.92%	\$21,581	(Total Commitment \$20M, Total Drawn \$23.6M, Total Distributed \$6.6M)	
			Gerding Edlen Green Cities IV	0.16%	\$3,679	(Total Commitment \$20M, Total Drawn \$4.3, Total Distributed \$0.5M)	
			TA Realty Fund XI	0.85%	\$20,022	(Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$4.7M)	
			Mcsirow Financial Real Estate Value Fund III	0.70%	\$16,459	(Total Commitment \$20M, Total Drawn \$17.0M, Total Distributed \$1.6M)	
			Dune Real Estate Partners Fund IV	0.32%	\$7,430	(Total Commitment \$30M, Total Drawn \$9.1M, Total Distributed \$0.0M)	
Real Estate Total	10.00%	\$235,487	Real Estate Total	8.78%	\$206,695	-1.22%	5%-10%
<u>Private Equity</u>							
Secondary	2.00%		Pantheon Global Secondary Fund V	1.44%	\$33,957	(Total Commitment \$50M, Total Drawn \$35.7M, Total Distributed \$14.6M)	
Direct Private Equity			SSM Growth Equity Fund II*	0.41%	\$9,682	(Total Commitment \$10M, Total Drawn \$8.1, Total Distributed \$0.0M)	
			SSM Growth Equity Fund III*	0.04%	\$887	(Total Commitment \$10M, Total Drawn \$1.0, Total Distributed \$0.0M)	
Diversified FoF	2.00%		Neuberger Berman Crossroads XXI	2.09%	\$49,192	(Total Commitment \$50M, Total Drawn \$36.5M, Total Distributed \$0.0M)	
Private Equity Total	4.00%	\$94,195	Private Equity Total	3.98%	\$93,719	-0.02%	2%-6%
<u>Hedge Fund of Funds</u>							
	4.00%		Aetos	2.06%	\$48,625		
			Grosvenor	2.18%	\$51,419		
			Preserver, LP*	0.44%	\$10,386		
Hedge Fund of Funds Total	4.00%	\$94,195	Hedge Fund of Funds Total	4.69%	\$110,430	0.69%	2%-6%
Internal Account	0.00%	\$0	Internal Account	0.43%	\$10,106		
Cash	0.00%	\$0	Cash	0.43%	\$10,106	0.43%	0%-5%
Total	100%	\$2,354,873	Total	100%	\$2,354,873		

¹ Cornerstone Real Estate Advisers now operates under the investment adviser name "Barings Real Estate Advisers," however; all predecessor funds retain the name Cornerstone. All new products open to new investors will operate under the name "Barings Real Estate Advisers" moving forward.

City of Memphis

Comparative Performance

As of September 30, 2020

	Performance (%)									
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total Fund Composite	18.86	-5.39	18.36	6.76	0.24	5.49	17.71	13.75	0.72	14.05
Policy Index	18.76	-4.45	16.72	8.00	-0.19	5.86	15.19	12.79	0.77	12.11
In House Cash	2.12	1.93	0.67	0.35	0.18	0.11	0.11	0.20	0.54	0.36
90 Day U.S. Treasury Bill	2.28	1.87	0.86	0.25	0.03	0.04	0.05	0.08	0.08	0.13
Domestic Equity Composite	30.07	-5.88	22.62	10.04	-1.26	8.80	35.55	16.30	0.65	18.23
Russell 3000 Index	31.02	-5.24	21.13	12.74	0.48	12.56	33.55	16.42	1.03	16.93
Domestic Equity Index	29.94	-6.47	20.20	13.76	0.19	11.60	34.04	16.47	0.73	17.34
Fixed Income Composite	9.88	-0.98	6.94	5.14	-0.23	4.70	0.13	8.15	6.69	8.81
Fixed Income Index	9.24	-0.91	5.50	4.83	-0.86	4.89	0.39	6.87	6.39	6.54
International Equity Composite	24.67	-15.52	33.29	3.30	-0.50	-1.08	20.79	20.28	-12.77	13.91
International Equity Index	20.95	-13.99	28.77	3.16	-4.06	-4.13	16.58	17.70	-13.18	11.60
Hedge Fund Composite	7.95	-1.55	6.72	N/A	N/A	N/A	N/A	N/A	N/A	N/A
90-Day T-Bill+ 5%	7.39	6.97	5.90	5.27	5.03	5.04	5.05	5.08	5.09	5.14
HFRI FOF: Conservative Index	6.30	-0.87	4.12	1.89	0.37	3.14	7.70	4.22	-3.55	5.07
Core Private Real Estate Composite	10.16	4.91	7.75	8.50	11.92	20.06	7.12	14.60	13.01	22.87
NCREIF Property Index	6.42	6.72	6.96	7.97	13.33	11.82	10.98	10.54	14.26	13.11

Gross of Fees.

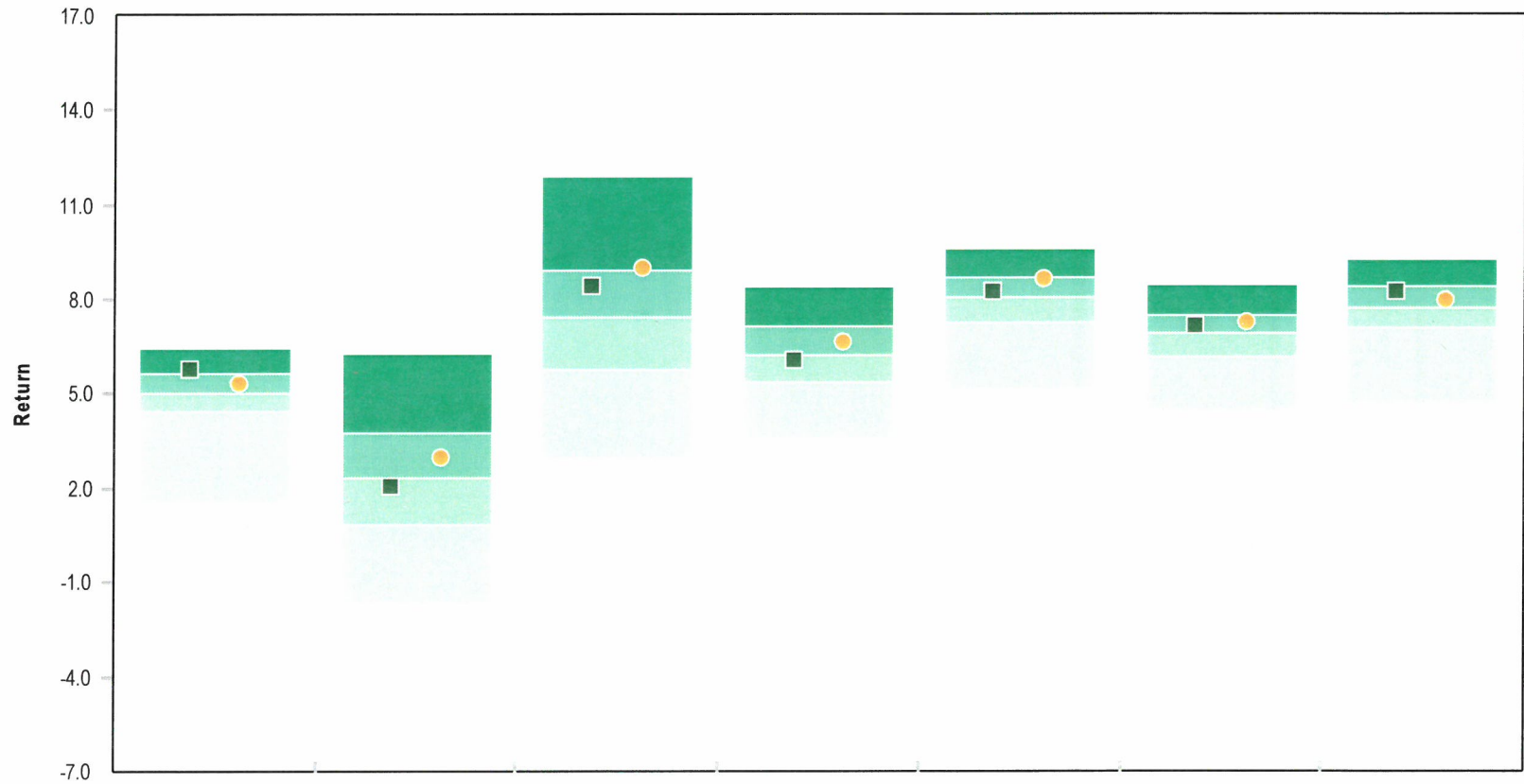
City of Memphis

Comparative Performance

As of September 30, 2020

	Performance (%)								Inception Date
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	
Total Fund Composite	5.78	2.07	8.39	6.05	8.22	7.14	8.22	9.38	10/01/1982
<i>Policy Index</i>	5.33	2.96	8.96	6.66	8.64	7.25	7.92	9.84	
In House Cash	0.00	0.28	0.67	1.52	1.07	0.81	0.65	4.04	10/01/1982
<i>90 Day U.S. Treasury Bill</i>	0.04	0.64	1.10	1.69	1.18	0.85	0.62	3.80	
Domestic Equity Composite	8.23	3.60	12.56	10.48	12.37	10.60	12.61	11.83	10/01/1982
<i>Russell 3000 Index</i>	9.21	5.41	15.00	11.65	13.69	12.11	13.48	11.71	
<i>Domestic Equity Index</i>	8.07	1.92	11.15	9.51	12.38	11.03	12.78	N/A	
Fixed Income Composite	2.97	4.85	6.85	4.60	4.95	4.39	4.43	7.46	10/01/1982
<i>Fixed Income Index</i>	2.28	4.86	5.73	4.54	4.43	4.00	3.93	7.37	
International Equity Composite	9.22	-0.71	9.79	3.43	8.52	5.96	6.91	5.30	01/01/1990
<i>International Equity Index</i>	6.31	-5.18	3.65	1.25	6.34	3.40	4.41	4.94	
Hedge Fund Composite	5.13	3.05	6.08	3.65	N/A	N/A	N/A	4.93	04/01/2016
<i>90-Day T-Bill+ 5%</i>	1.27	4.39	6.16	6.78	6.24	5.89	5.65	6.36	
<i>HFRI FOF: Conservative Index</i>	2.49	0.41	2.04	2.29	2.34	2.56	2.58	3.08	
Core Private Real Estate Composite	0.73	-0.01	1.68	5.71	7.20	9.05	10.37	8.07	09/01/1999
<i>NCREIF Property Index</i>	0.74	0.45	2.00	5.11	6.28	7.98	9.37	8.50	

Gross of Fees.



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Fund Composite	5.78 (21)	2.07 (56)	8.39 (34)	6.05 (56)	8.22 (42)	7.14 (40)	8.22 (31)
● Policy Index	5.33 (39)	2.96 (39)	8.96 (25)	6.66 (40)	8.64 (27)	7.25 (37)	7.92 (43)
5th Percentile	6.48	6.31	11.88	8.43	9.64	8.46	9.27
1st Quartile	5.64	3.78	8.91	7.13	8.68	7.50	8.39
Median	5.04	2.31	7.46	6.25	8.07	6.92	7.72
3rd Quartile	4.45	0.84	5.76	5.35	7.28	6.20	7.07
95th Percentile	1.56	-1.65	2.94	3.62	5.14	4.45	4.70

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.