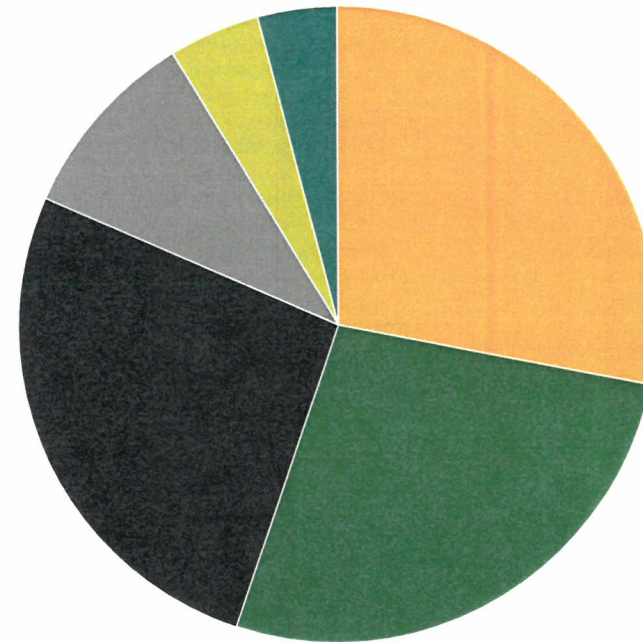
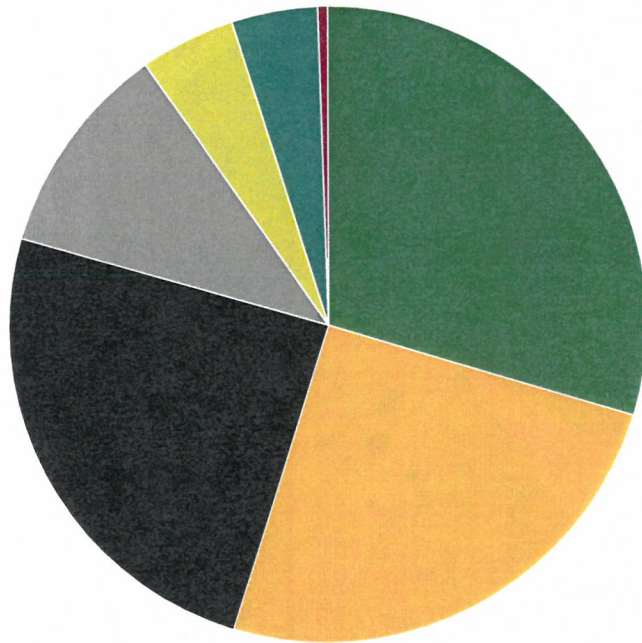


March 31, 2020 : \$2,036,641,716

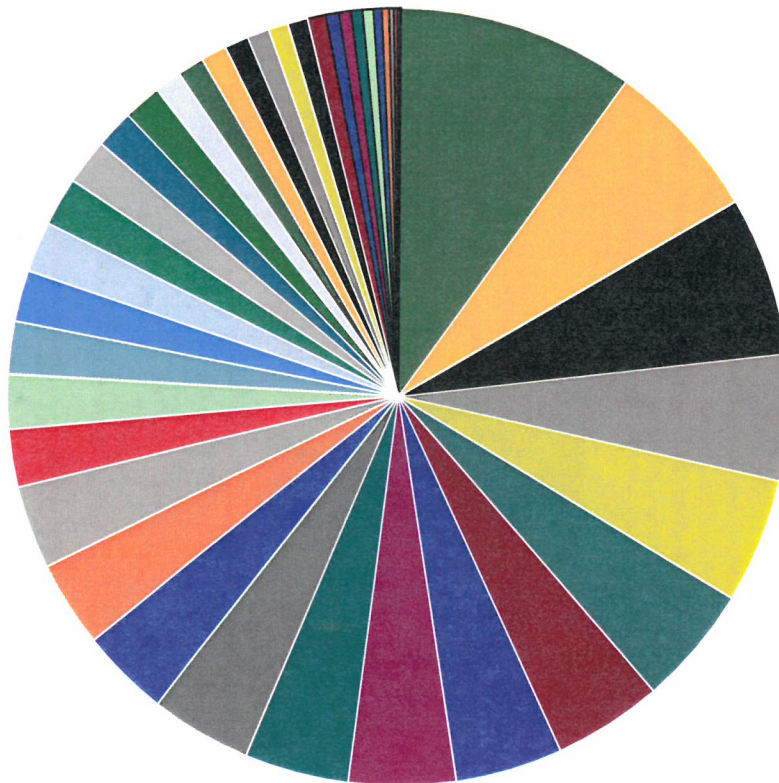
June 30, 2020 : \$2,264,967,115



	Market Value (\$)	Allocation (%)
Fixed Income Composite	605,263,864	29.72
Domestic Equity Composite	512,552,751	25.17
International Equity Composite	501,834,987	24.64
Total Real Estate Composite	220,363,992	10.82
Hedge Fund Composite	97,742,103	4.80
Private Equity Composite	88,781,205	4.36
In House Cash	10,102,815	0.50

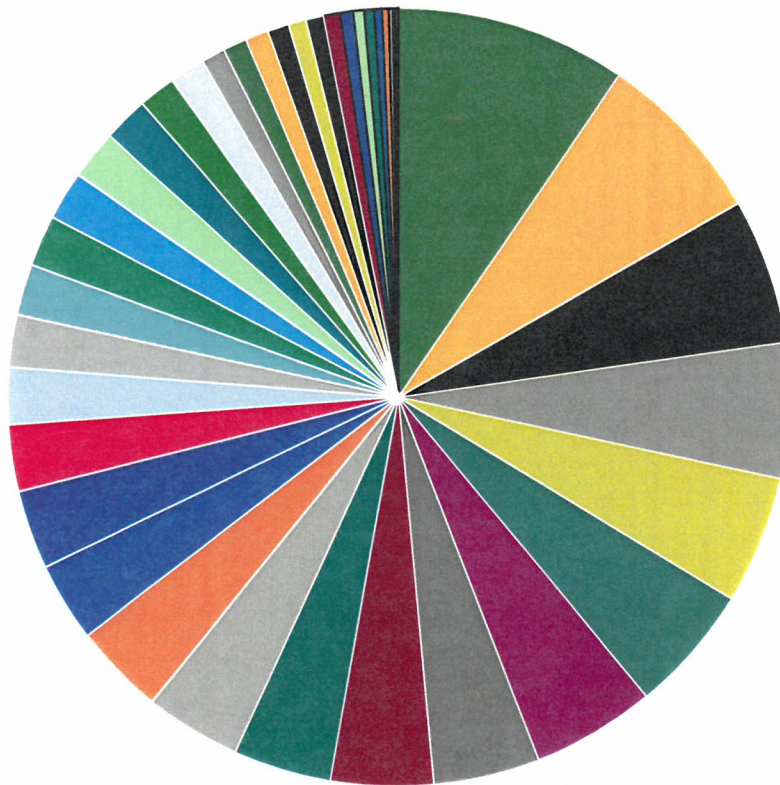
	Market Value (\$)	Allocation (%)
Domestic Equity Composite	637,179,097	28.13
Fixed Income Composite	614,851,042	27.15
International Equity Composite	597,405,148	26.38
Total Real Estate Composite	220,152,557	9.72
Hedge Fund Composite	104,428,479	4.61
Private Equity Composite	90,845,151	4.01
In House Cash	105,640	0.00

March 31, 2020 : \$2,036,641,716



	Market Value (\$)	Allocation (%)
Brandywine	200,238,291	9.83
Rhumbline S&P 500	135,981,045	6.68
Mackay Shields	134,752,403	6.62
1607 Capital Partners	107,011,279	5.25
Marathon Asset Mgmt	105,651,237	5.19
Barrow, Hanley	101,176,824	4.97
Prudential Core Conserv Bond	92,497,169	4.54
PIMCO	90,730,990	4.45
J.P. Morgan Global Emerging Markets Discovery Fund	89,749,182	4.41
Smith Graham	87,045,011	4.27
Acadian EM Equity II	85,200,710	4.18
BlackRock US Core Property Fund	75,285,925	3.70
Principal Global Investors	72,943,202	3.58
Winslow Capital Management	70,154,082	3.44
Rhumbline Russell 1000 Growth	48,967,312	2.40
NB Crossroads Fund XXI	46,285,075	2.27
Grosvenor Institutional Partners, L.P.	44,705,544	2.20
Aetos	43,706,748	2.15
NTGI S&P 400	43,029,208	2.11
Strategic Global Advisors	41,279,377	2.03
Conestoga Capital Advisors	38,683,330	1.90
Capital Prospects SMID	32,633,174	1.60
Pantheon Global Secondary Fund V	32,242,840	1.58
Nicholas Investment Partners	23,402,152	1.15
Gerding Edlen Green Cities III, L.P.	22,131,598	1.09
TA Realty Core Property Fund	21,625,763	1.06
TA Realty Fund XI	20,090,961	0.99
Capital Prospects Small Cap Value	18,525,625	0.91
RREEF REIT II	16,591,277	0.81
Long Wharf RE Partners V, L.P.	16,564,103	0.81
Mesirow Real Estate Value Fund III, L.P.	15,197,088	0.75
Vanguard REIT Index Inv	10,859,811	0.53
In House Cash	10,102,815	0.50
SSM Partners Growth Equity II L.P.	9,376,515	0.46
Preserver, L.P.	9,329,811	0.46
Comerstone (Barings) Real Estate Advisers Fund X	6,738,163	0.33
Dune Real Estate Fund IV	6,246,471	0.31
Gerding Edlen Green Cities IV, L.P.	3,885,259	0.19
Long Wharf Real Estate Partners IV, L.P.	2,860,728	0.14
Long Wharf RE Partners VI, L.P.	2,286,844	0.11
SSM Partners Growth Equity III, LP	876,775	0.04

June 30, 2020 : \$2,264,967,115



	Market Value (\$)	Allocation (%)
Brandywine	216,799,087	9.57
Rhumbline S&P 500	163,857,936	7.23
Mackay Shields	136,785,848	6.04
1607 Capital Partners	127,014,142	5.61
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	5.14
Acadian EM Equity II	99,387,682	4.39
Prudential Core Conserv Bond	95,526,884	4.22
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	3.29
Rhumbline Russell 1000 Growth	62,563,833	2.76
NTGI S&P 400	53,384,375	2.36
Conestoga Capital Advisors	49,166,576	2.17
Grosvenor Institutional Partners, L.P.	48,152,624	2.13
Strategic Global Advisors	48,034,761	2.12
Aetos	46,287,826	2.04
NB Crossroads Fund XXI	46,285,075	2.04
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.	22,198,901	0.98
TA Realty Core Property Fund	21,528,167	0.95
TA Realty Fund XI	20,046,599	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.	15,356,666	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.	9,376,515	0.41
Cornerstone (Barings) Real Estate Advisers Fund X	6,816,569	0.30
Dune Real Estate Fund IV	6,246,471	0.28
Gerding Edlen Green Cities IV, L.P.	3,764,482	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	876,775	0.04
In House Cash	105,640	0.00

City of Memphis
Asset Allocation Comparison

Portfolio Value 6/30/20

\$2,264,967,115

<u>Target Allocations</u>		<u>Current Managers & Allocations</u>		<u>Difference</u>	<u>Range</u>		
Equity							
		(000)		(000)			
Large Cap Equity	17.00%	\$385,044	Barrow, Hanley (large cap value)	5.29%	\$119,907	2.26%	13%-21%
			Rhumblin Russell 1000 Growth (large cap growth)	2.76%	\$62,564		
			Winslow (large cap growth)	3.97%	\$89,996		
			Rhumblin S&P 500 (large cap core)	7.23%	\$163,858		
Mid/SMID Cap Equity	5.00%	\$113,248	Northern Trust (mid cap core)	2.36%	\$53,384	-0.76%	0%-7%
			Capital Prospects SMID Cap*	1.88%	\$42,563		
Small Cap Equity	5.00%	\$113,248	Capital Prospects Small Cap Value*	0.99%	\$22,439	-0.37%	0%-7%
			Conestoga (small cap growth)	2.17%	\$49,167		
			Nicholas (small cap growth)	1.47%	\$33,301		
Domestic Equity	27.00%	\$611,541	Domestic Equity	28.13%	\$637,179	1.13%	17%-37%
Developed International	18.50%	\$419,019	1607 Capital Partners	5.61%	\$127,014	-1.65%	14%-23%
			Principal Global Investors	3.82%	\$86,507		
			Marathon Asset Mgmt	5.30%	\$120,091		
			Strategic Global Advisors	2.12%	\$48,035		
Emerging Markets	8.50%	\$192,522	Acadian	4.39%	\$99,388	1.03%	5%-12%
			JPMorgan	5.14%	\$116,370		
International	27.00%	\$611,541	International	26.38%	\$597,405	-0.62%	17%-37%
Equity Total	54.00%	\$1,223,082	Equity Total	54.51%	\$1,234,584	0.51%	
Fixed Income							
Core Fixed Income	12.00%	\$271,796	PIMCO	3.29%	\$74,458	-0.46%	7%-17%
			Prudential Core Conserv Bond	4.22%	\$95,527		
			Smith Graham	4.03%	\$91,281		
Global Fixed Income	10.00%	\$226,497	Brandywine	9.57%	\$216,799	-0.43%	3%-13%
Global High Yield	6.00%	\$135,898	Mackay Shields	6.04%	\$136,786	0.04%	3%-13%
Fixed Income Total	28.00%	\$634,191	Fixed Income Total	27.15%	\$614,851	-0.85%	20%-36%

Real Estate

Core/Value Add/REITs	10.00%	\$226,497	BlackRock US Core Property Fund	3.30%	\$74,747		
			RREEF REIT II	0.72%	\$16,364		
			Vanguard REIT Index	0.54%	\$12,319		
			TA Realty Core Property Fund	0.95%	\$21,528		
			Long Wharf Real Estate Partners IV	0.10%	\$2,276	(Total Commitment \$20M, Total Drawn \$21.5M, Total Distributed \$28.6M)	
			Long Wharf Real Estate Partners Fund V	0.72%	\$16,236	(Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$7.9M)	
			Long Wharf Real Estate Partners Fund VI	0.10%	\$2,252	(Total Commitment \$20M, Total Drawn \$3.7M, Total Distributed \$1.0M)	
			Cornerstone (Barings) Real Estate Fund X ¹	0.30%	\$6,817	(Total Commitment \$10M, Total Drawn \$8.2M, Total Distributed \$3.9M)	
			Gerding Edlen Green Cities III	0.98%	\$22,199	(Total Commitment \$20M, Total Drawn \$23.6M, Total Distributed \$6.6M)	
			Gerding Edlen Green Cities IV	0.17%	\$3,764	(Total Commitment \$20M, Total Drawn \$4.3, Total Distributed \$0.3M)	
			TA Realty Fund XI	0.89%	\$20,047	(Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$4.7M)	
			Mesirov Financial Real Estate Value Fund III	0.68%	\$15,357	(Total Commitment \$20M, Total Drawn \$15.9M, Total Distributed \$1.7M)	
			Dune Real Estate Partners Fund IV	0.28%	\$6,246	(Total Commitment \$30M, Total Drawn \$7.0M, Total Distributed \$0.0M)	
Real Estate Total	10.00%	\$226,497	Real Estate Total	9.72%	\$220,153	-0.28%	5%-10%
Private Equity							
Secondary	2.00%		Pantheon Global Secondary Fund V	1.51%	\$34,307	(Total Commitment \$50M, Total Drawn \$35.5M, Total Distributed \$13.9M)	
Direct Private Equity			SSM Growth Equity Fund II*	0.41%	\$9,377	(Total Commitment \$10M, Total Drawn \$8.1, Total Distributed \$0.0M)	
			SSM Growth Equity Fund III*	0.04%	\$877	(Total Commitment \$10M, Total Drawn \$1.0, Total Distributed \$0.0M)	
Diversified FoF	2.00%		Neuberger Berman Crossroads XXI	2.04%	\$46,285	(Total Commitment \$50M, Total Drawn \$36.5M, Total Distributed \$0.0M)	
Private Equity Total	4.00%	\$90,599	Private Equity Total	4.01%	\$90,845	0.01%	2%-6%
Hedge Fund of Funds							
	4.00%		Aetos	2.04%	\$46,288		
			Grosvenor	2.13%	\$48,153		
			Preserver, LP*	0.44%	\$9,988		
Hedge Fund of Funds Total	4.00%	\$90,599	Hedge Fund of Funds Total	4.61%	\$104,428	0.61%	2%-6%
Internal Account	0.00%	\$0	Internal Account	0.00%	\$106		
Cash	0.00%	\$0	Cash	0.00%	\$106	0.00%	0%-5%
Total	100%	\$2,264,967	Total	100%	\$2,264,967		

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

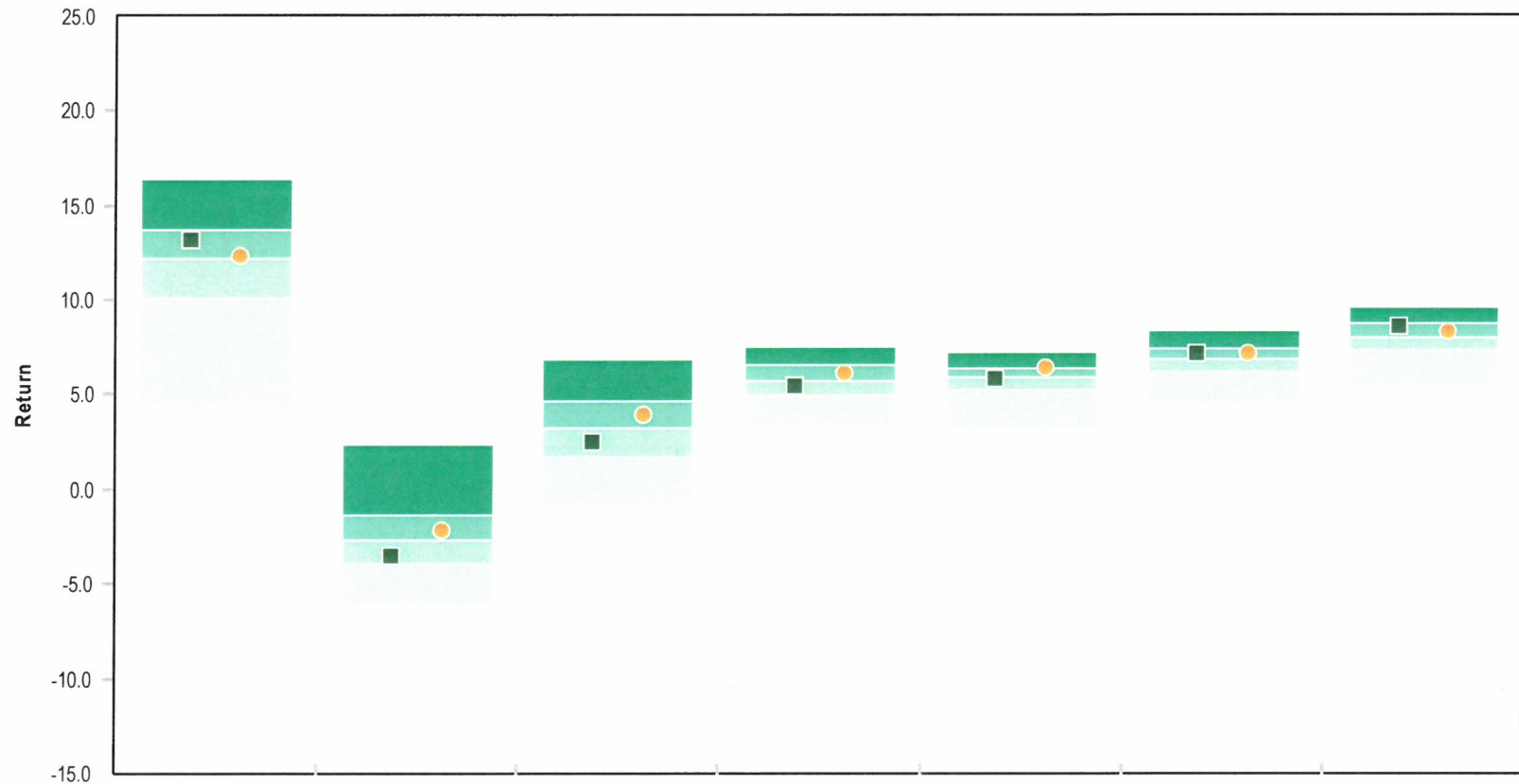
As of June 30, 2020

	Performance (%)									
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Total Fund Composite	18.87	-5.39	18.36	6.76	0.24	5.49	17.71	13.75	0.72	14.05
<i>Policy Index</i>	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
<i>90 Day U.S. Treasury Bill</i>	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
<i>Russell 3000 Index</i>	31.02	-5.24	21.13	12.74	0.48	12.56	33.55	16.42	1.03	16.93
<i>Domestic Equity Index</i>	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
<i>Fixed Income Index</i>	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
<i>International Equity Index</i>	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
<i>90-Day T-Bill+ 5%</i>	7.39	6.97	5.90	5.27	5.03	5.04	5.05	5.08	5.09	5.14
<i>HFRI FOF: Conservative Index</i>	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
<i>NCREIF Property Index</i>	6.42	6.72	6.96	7.97	13.33	11.82	10.98	10.54	14.26	13.11

Gross of Fees.

	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Total Fund Composite	13.20	-3.59	2.46	5.41	5.85	7.10	8.58	9.28	10/01/1982
<i>Policy Index</i>	12.32	-2.25	3.93	6.12	6.38	7.19	8.25	9.75	
In House Cash	0.04	0.28	1.21	1.58	1.09	0.81	0.66	4.06	10/01/1982
<i>90 Day U.S. Treasury Bill</i>	0.02	0.60	1.63	1.77	1.17	0.85	0.62	3.82	
Domestic Equity Composite	24.31	-4.27	4.31	9.27	8.54	10.54	13.07	11.67	10/01/1982
<i>Russell 3000 Index</i>	22.03	-3.48	6.53	10.04	10.03	11.68	13.72	11.53	
<i>Domestic Equity Index</i>	22.56	-5.70	3.27	8.33	8.91	10.84	13.12	N/A	
Fixed Income Composite	6.78	1.82	4.78	4.21	4.21	4.12	4.47	7.43	10/01/1982
<i>Fixed Income Index</i>	4.65	2.53	4.89	4.23	3.86	3.82	3.95	7.35	
International Equity Composite	19.08	-9.08	-1.25	2.51	4.26	6.11	7.53	5.04	01/01/1990
<i>International Equity Index</i>	15.90	-10.80	-4.51	1.21	2.41	3.94	5.39	4.77	
Hedge Fund Composite	6.84	-1.98	0.75	2.46	N/A	N/A	N/A	4.00	04/01/2016
<i>90-Day T-Bill+ 5%</i>	1.25	3.08	6.71	6.86	6.23	5.89	5.65	6.43	
<i>HFRI FOF: Conservative Index</i>	4.91	-2.64	-1.11	1.69	1.34	2.28	2.49	2.52	
Core Private Real Estate Composite	0.69	-0.74	3.20	6.13	7.88	9.00	11.42	8.13	09/01/1999
<i>NCREIF Property Index</i>	-0.99	-0.29	2.69	5.44	6.77	8.26	9.70	8.57	

Gross of Fees.



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Fund Composite	13.20 (31)	-3.59 (70)	2.46 (63)	5.41 (61)	5.85 (53)	7.10 (40)	8.58 (32)
● Policy Index	12.32 (47)	-2.25 (43)	3.93 (39)	6.12 (38)	6.38 (27)	7.19 (36)	8.25 (42)
5th Percentile	16.45	2.34	6.89	7.52	7.26	8.41	9.62
1st Quartile	13.70	-1.32	4.62	6.53	6.41	7.46	8.76
Median	12.18	-2.71	3.27	5.70	5.90	6.86	8.03
3rd Quartile	10.13	-3.89	1.72	4.94	5.27	6.15	7.36
95th Percentile	4.37	-6.10	-0.78	3.33	3.19	4.51	5.40

Parentheses contain percentile rankings.
Calculation based on quarterly periodicity.

