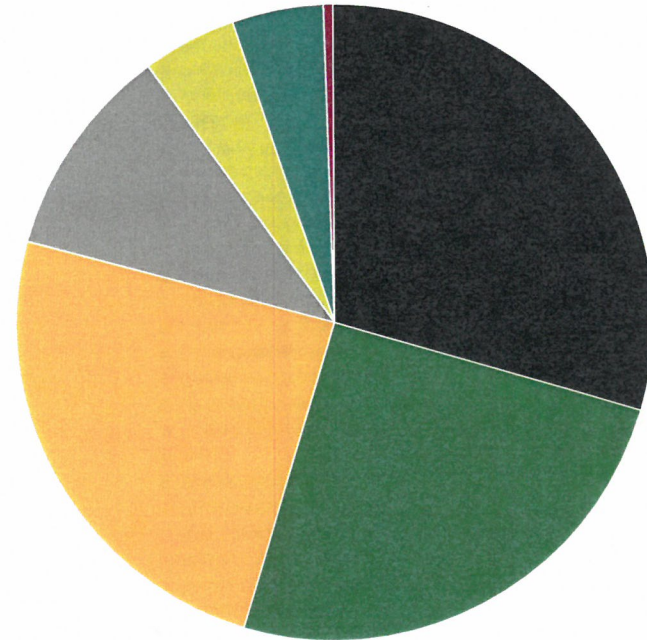
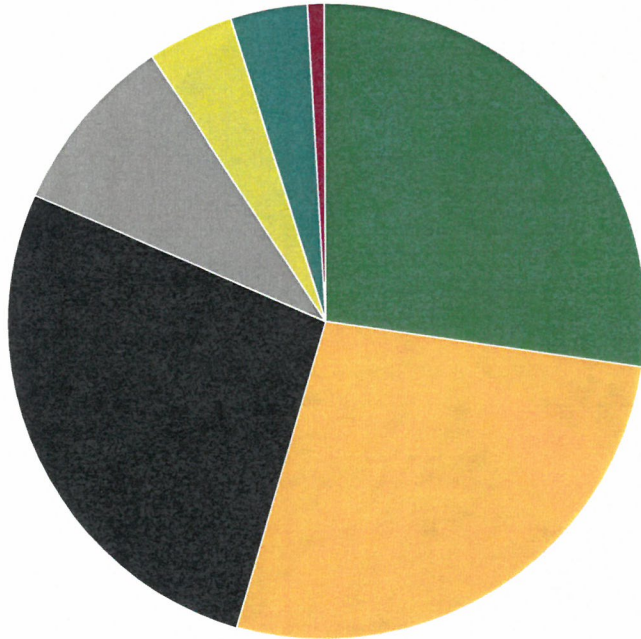


December 31, 2019 : \$2,423,256,628

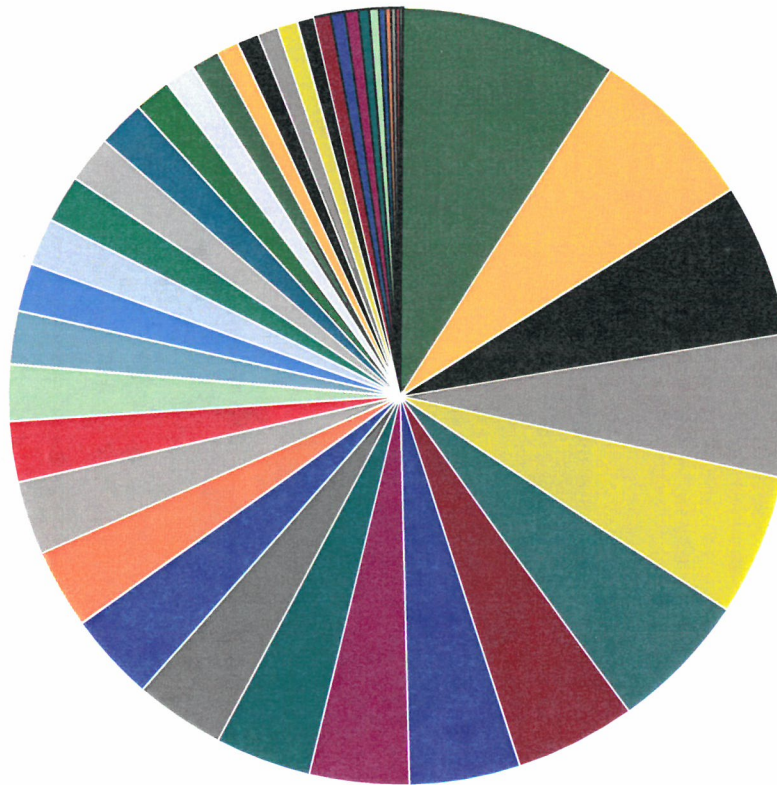
March 31, 2020 : \$2,043,268,219



	Market Value (\$)	Allocation (%)
Domestic Equity Composite	665,617,184	27.47
International Equity Composite	657,480,285	27.13
Fixed Income Composite	655,871,097	27.07
Total Real Estate Composite	222,962,241	9.20
Hedge Fund Composite	106,536,738	4.40
Private Equity Composite	94,722,724	3.91
In House Cash	20,066,359	0.83

	Market Value (\$)	Allocation (%)
Fixed Income Composite	605,263,864	29.62
Domestic Equity Composite	512,552,751	25.08
International Equity Composite	501,834,987	24.56
Total Real Estate Composite	220,438,736	10.79
Hedge Fund Composite	97,802,343	4.79
Private Equity Composite	95,272,724	4.66
In House Cash	10,102,815	0.49

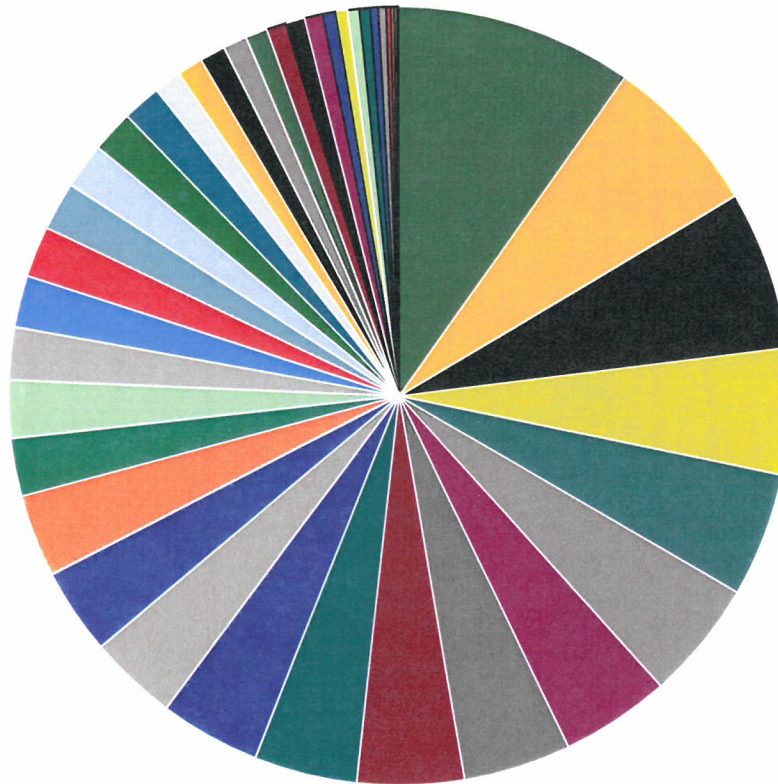
December 31, 2019 : \$2,423,256,628



	Market Value (\$)	Allocation (%)
Brandywine	217,551,403	8.98
Rhumbline S&P 500	169,023,528	6.98
Mackay Shields	153,069,316	6.32
Barrow, Hanley	144,939,480	5.98
1607 Capital Partners	142,409,110	5.88
Marathon Asset Mgmt	139,697,297	5.76
J.P. Morgan Global Emerging Markets Discovery Fund	120,381,820	4.97
Acadian EM Equity II	112,370,524	4.64
Prudential Core Conserv Bond	99,988,325	4.13
Smith Graham	95,598,667	3.95
PIMCO	89,663,385	3.70
Principal Global Investors	88,779,542	3.66
Winslow Capital Management	80,152,762	3.31
BlackRock US Core Property Fund	74,283,758	3.07
NTGI S&P 400	61,206,354	2.53
Rhumbline Russell 1000 Growth	56,964,407	2.35
Strategic Global Advisors	53,841,992	2.22
Aetos	48,283,737	1.99
Conestoga Capital Advisors	47,716,428	1.97
NB Crossroads Fund XXI	47,668,265	1.97
Grosvenor Institutional Partners, L.P.	47,513,143	1.96
Capital Prospects SMID	47,292,110	1.95
Pantheon Global Secondary Fund V	36,456,786	1.50
Nicholas Investment Partners	30,056,569	1.24
Capital Prospects Small Cap Value	28,265,546	1.17
Gerding Edlen Green Cities III, L.P.	21,947,836	0.91
TA Realty Core Property Fund	21,301,482	0.88
TA Realty Fund XI	20,509,800	0.85
In House Cash	20,066,359	0.83
Long Wharf RE Partners V, L.P.	16,824,125	0.69
RREEF REIT II	16,573,257	0.68
Vanguard REIT Index Inv	14,308,516	0.59
Mesirov Real Estate Value Fund III, L.P.	13,544,070	0.56
Preserver, L.P.	10,739,858	0.44
SSM Partners Growth Equity II L.P.	9,666,661	0.40
Comerstone (Barings) Real Estate Advisers Fund X	6,421,293	0.26
Long Wharf Real Estate Partners IV, L.P.	5,619,353	0.23
Dune Real Estate Fund IV	5,143,991	0.21
Gerding Edlen Green Cities IV, L.P.	3,689,369	0.15
Long Wharf RE Partners VI, L.P.	2,795,392	0.12
SSM Partners Growth Equity III, LP	931,012	0.04



March 31, 2020 : \$2,043,268,219



	Market Value (\$)	Allocation (%)
Brandywine	200,238,291	9.80
Rhumblin S&P 500	135,981,045	6.66
Mackay Shields	134,752,403	6.59
1607 Capital Partners	107,011,279	5.24
Marathon Asset Mgmt	105,651,237	5.17
Barrow, Hanley	101,176,824	4.95
Prudential Core Conserv Bond	92,497,169	4.53
PIMCO	90,730,990	4.44
J.P. Morgan Global Emerging Markets Discovery Fund	89,749,182	4.39
Smith Graham	87,045,011	4.26
Acadian EM Equity II	85,200,710	4.17
BlackRock US Core Property Fund	75,285,925	3.68
Principal Global Investors	72,943,202	3.57
Winslow Capital Management	70,154,082	3.43
NB Crossroads Fund XXI	49,168,265	2.41
Rhumblin Russell 1000 Growth	48,967,312	2.40
Grosvenor Institutional Partners, L.P.	44,765,784	2.19
Aetos	43,706,748	2.14
NTGI S&P 400	43,029,208	2.11
Strategic Global Advisors	41,279,377	2.02
Conestoga Capital Advisors	38,683,330	1.89
Pantheon Global Secondary Fund V	35,506,786	1.74
Capital Prospects SMID	32,633,174	1.60
Nicholas Investment Partners	23,402,152	1.15
Gerding Edlen Green Cities III, L.P.	21,947,836	1.07
TA Realty Core Property Fund	21,525,763	1.05
TA Realty Fund XI	20,350,532	1.00
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
Mesirov Real Estate Value Fund III, L.P.	15,058,979	0.74
Vanguard REIT Index Inv	10,859,811	0.53
In House Cash	10,102,815	0.49
SSM Partners Growth Equity II L.P.	9,666,661	0.47
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	6,416,353	0.31
Gerding Edlen Green Cities IV, L.P.	3,952,422	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	931,012	0.05

## City of Memphis

### Asset Allocation Comparison

Portfolio Value 3/31/20

\$2,043,268,219

<u>Target Allocations</u>			<u>Current Managers &amp; Allocations</u>			<u>Difference</u>	<u>Range</u>
<b>Equity</b>		(000)			(000)		
Large Cap Equity	17.00%	\$347,356	Barrow, Hanley (large cap value)	4.95%	\$101,177	0.44%	13%-21%
			Rhumbline Russell 1000 Growth (large cap growth)	2.40%	\$48,967		
			Winslow (large cap growth)	3.43%	\$70,154		
			Rhumbline S&P 500 (large cap core)	6.66%	\$135,981		
Mid/SMID Cap Equity	5.00%	\$102,163	Northern Trust (mid cap core)	2.11%	\$43,029	-1.30%	0%-7%
			Capital Prospects SMID Cap*	1.60%	\$32,633		
Small Cap Equity	5.00%	\$102,163	Capital Prospects Small Cap Value*	0.91%	\$18,526	-1.05%	0%-7%
			Conestoga (small cap growth)	1.89%	\$38,683		
			Nicholas (small cap growth)	1.15%	\$23,402		
<b>Domestic Equity</b>	<b>27.00%</b>	<b>\$551,682</b>	<b>Domestic Equity</b>	<b>25.08%</b>	<b>\$512,553</b>	<b>-1.92%</b>	<b>17%-37%</b>
Developed International	18.50%	\$378,005	1607 Capital Partners	5.24%	\$107,011	-2.50%	14%-23%
			Principal Global Investors	3.57%	\$72,943		
			Marathon Asset Mgmt	5.17%	\$105,651		
			Strategic Global Advisors	2.02%	\$41,279		
Emerging Markets	8.50%	\$173,678	Acadian	4.17%	\$85,201	0.06%	5%-12%
			JPMorgan	4.39%	\$89,749		
<b>International</b>	<b>27.00%</b>	<b>\$551,682</b>	<b>International</b>	<b>24.56%</b>	<b>\$501,835</b>	<b>-2.44%</b>	<b>17%-37%</b>
<b>Equity Total</b>	<b>54.00%</b>	<b>\$1,103,365</b>	<b>Equity Total</b>	<b>49.65%</b>	<b>\$1,014,388</b>	<b>-4.35%</b>	
<b>Fixed Income</b>							
Core Fixed Income	12.00%	\$245,192	PIMCO	4.44%	\$90,731	1.23%	7%-17%
			Prudential Core Conserv Bond	4.53%	\$92,497		
			Smith Graham	4.26%	\$87,045		
Global Fixed Income	10.00%	\$204,327	Brandywine	9.80%	\$200,238	-0.20%	3%-13%
Global High Yield	6.00%	\$122,596	Mackay Shields	6.59%	\$134,752	0.59%	3%-13%
<b>Fixed Income Total</b>	<b>28.00%</b>	<b>\$572,115</b>	<b>Fixed Income Total</b>	<b>29.62%</b>	<b>\$605,264</b>	<b>1.62%</b>	<b>20%-36%</b>

**Real Estate**

Core/Value Add/REITs	10.00%	\$204,327	BlackRock US Core Property Fund	3.68%	\$75,286		
			RREEF REIT II	0.81%	\$16,591		
			Vanguard REIT Index	0.53%	\$10,860		
			TA Realty Core Property Fund	1.05%	\$21,526		
			Long Wharf Real Estate Partners IV	0.14%	\$2,861	(Total Commitment \$20M, Total Drawn \$21.5M, Total Distributed \$28.6M)	
			Long Wharf Real Estate Partners Fund V	0.81%	\$16,564	(Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$7.9M)	
			Long Wharf Real Estate Partners Fund VI	0.11%	\$2,287	(Total Commitment \$20M, Total Drawn \$3.5M, Total Distributed \$1.0M)	
			Cornerstone (Barings) Real Estate Fund X <sup>1</sup>	0.33%	\$6,738	(Total Commitment \$10M, Total Drawn \$8.2M, Total Distributed \$3.9M)	
			Gerding Edlen Green Cities III	1.07%	\$21,948	(Total Commitment \$20M, Total Drawn \$23.5M, Total Distributed \$6.6M)	
			Gerding Edlen Green Cities IV	0.19%	\$3,952	(Total Commitment \$20M, Total Drawn \$4.2, Total Distributed \$0.1M)	
			TA Realty Fund XI	1.00%	\$20,351	(Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$4.6M)	
			Mesirow Financial Real Estate Value Fund III	0.74%	\$15,059	(Total Commitment \$20M, Total Drawn \$15.6M, Total Distributed \$1.5M)	
			Dune Real Estate Partners Fund IV	0.31%	\$6,416	(Total Commitment \$30M, Total Drawn \$7.0M, Total Distributed \$0.0M)	

<b>Real Estate Total</b>	<b>10.00%</b>	<b>\$204,327</b>	<b>Real Estate Total</b>	<b>10.79%</b>	<b>\$220,439</b>	<b>0.79%</b>	<b>5%-10%</b>
--------------------------	---------------	------------------	--------------------------	---------------	------------------	--------------	---------------

**Private Equity**

Secondary	2.00%		Pantheon Global Secondary Fund V	1.74%	\$35,507	(Total Commitment \$50M, Total Drawn \$35.2M, Total Distributed \$12.5M)	
Direct Private Equity			SSM Growth Equity Fund II*	0.47%	\$9,667	(Total Commitment \$10M, Total Drawn \$8.1, Total Distributed \$0.0M)	
			SSM Growth Equity Fund III*	0.05%	\$931	(Total Commitment \$10M, Total Drawn \$1.0, Total Distributed \$0.0M)	
Diversified FoF	2.00%		Neuberger Berman Crossroads XXI	2.41%	\$49,168	(Total Commitment \$50M, Total Drawn \$36.5M, Total Distributed \$0.0M)	

<b>Private Equity Total</b>	<b>4.00%</b>	<b>\$81,731</b>		<b>4.66%</b>	<b>\$95,273</b>	<b>0.66%</b>	<b>2%-6%</b>
-----------------------------	--------------	-----------------	--	--------------	-----------------	--------------	--------------

**Hedge Fund of Funds**

	4.00%		Aetos	2.14%	\$43,707		
			Grosvenor	2.19%	\$44,766		
			Preserver, LP*	0.46%	\$9,330		
<b>Hedge Fund of Funds Total</b>	<b>4.00%</b>	<b>\$81,731</b>		<b>4.79%</b>	<b>\$97,802</b>	<b>0.79%</b>	<b>2%-6%</b>

Internal Account	0.00%	\$0	Internal Account	0.49%	\$10,103		
------------------	-------	-----	------------------	-------	----------	--	--

<b>Cash</b>	<b>0.00%</b>	<b>\$0</b>	<b>Cash</b>	<b>0.49%</b>	<b>\$10,103</b>	<b>0.49%</b>	<b>0%-5%</b>
-------------	--------------	------------	-------------	--------------	-----------------	--------------	--------------

<b>Total</b>	<b>100%</b>	<b>\$2,043,268</b>	<b>Total</b>	<b>100%</b>	<b>\$2,043,268</b>		
--------------	-------------	--------------------	--------------	-------------	--------------------	--	--

<sup>1</sup> 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 March 31, 2020

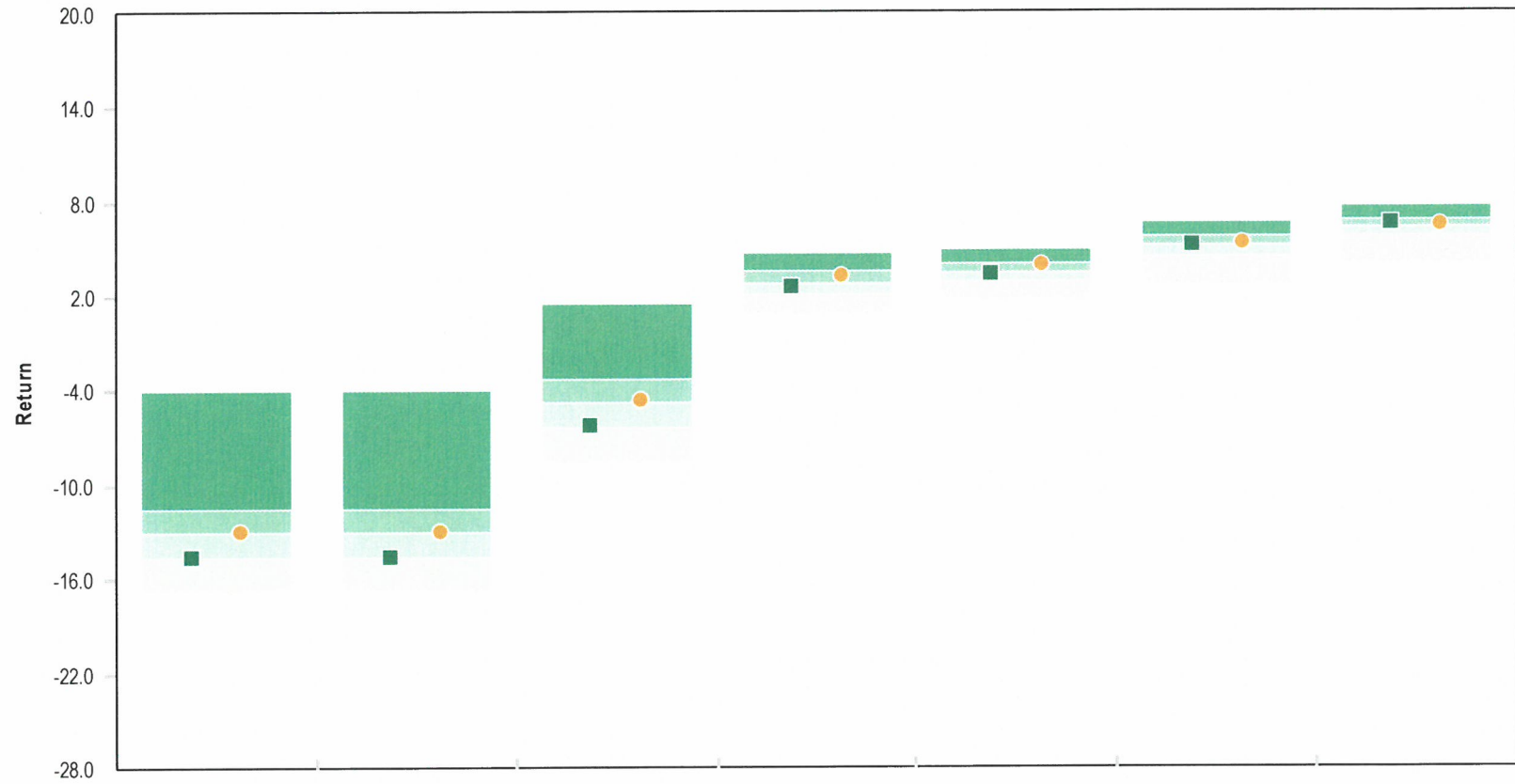
	Performance (%)									
	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
<b>Total Fund Composite</b>	18.86	-5.39	18.36	6.76	0.24	5.49	17.71	13.75	0.72	14.05
<i>Policy Index</i>	18.76	-4.45	16.72	8.00	-0.19	5.86	15.19	12.79	0.77	12.11
<b>In House Cash</b>	2.12	1.93	0.67	0.35	0.18	0.11	0.11	0.20	0.54	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
<b>Domestic Equity Composite</b>	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
<b>Fixed Income Composite</b>	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
<b>International Equity Composite</b>	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
<b>Hedge Fund Composite</b>	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
<b>Core Private Real Estate Composite</b>	10.10	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	-14.56	-14.56	-6.27	2.63	3.39	5.23	6.64	9.00	10/01/1982
<i>Policy Index</i>	-12.98	-12.98	-4.59	3.24	3.93	5.39	6.47	9.48	
In House Cash	0.24	0.24	1.74	1.62	1.09	0.81	0.67	4.09	10/01/1982
<i>90 Day U.S. Treasury Bill</i>	0.58	0.58	2.25	1.83	1.17	0.85	0.62	3.85	
Domestic Equity Composite	-23.00	-23.00	-12.44	2.87	4.00	7.53	9.25	11.11	10/01/1982
<i>Russell 3000 Index</i>	-20.90	-20.90	-9.13	4.00	5.77	8.96	10.15	11.02	
<i>Domestic Equity Index</i>	-23.06	-23.06	-12.58	2.20	4.60	8.06	9.54	N/A	
Fixed Income Composite	-4.64	-4.64	1.04	2.81	2.66	2.81	4.07	7.29	10/01/1982
<i>Fixed Income Index</i>	-2.03	-2.03	3.28	3.32	2.68	2.84	3.84	7.27	
International Equity Composite	-23.65	-23.65	-14.53	-0.86	1.14	3.12	4.39	4.48	01/01/1990
<i>International Equity Index</i>	-23.04	-23.04	-15.36	-1.70	-0.44	1.39	2.49	4.30	
Hedge Fund Composite	-8.20	-8.20	-4.27	0.60	N/A	N/A	N/A	2.56	04/01/2016
<i>90-Day T-Bill+ 5%</i>	1.81	1.81	7.37	6.92	6.23	5.89	5.65	6.51	
<i>HFRI FOF: Conservative Index</i>	-7.07	-7.07	-4.22	0.25	0.46	1.72	1.86	1.49	
Core Private Real Estate Composite	-1.70	-1.70	3.78	6.36	7.41	9.10	11.27	8.18	09/01/1999
<i>NCREIF Property Index</i>	0.71	0.71	5.28	6.41	7.65	8.86	10.17	8.73	

Gross of Fees.





	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Fund Composite	-14.56 (76)	-14.56 (76)	-6.27 (74)	2.63 (59)	3.39 (59)	5.23 (50)	6.64 (39)
● Policy Index	-12.98 (49)	-12.98 (49)	-4.59 (48)	3.24 (37)	3.93 (33)	5.39 (43)	6.47 (45)
5th Percentile	-3.99	-3.99	1.58	4.75	5.01	6.67	7.73
1st Quartile	-11.53	-11.53	-3.24	3.66	4.10	5.78	6.85
Median	-13.01	-13.01	-4.70	2.85	3.55	5.20	6.35
3rd Quartile	-14.56	-14.56	-6.38	2.16	2.99	4.51	5.78
95th Percentile	-16.68	-16.68	-8.58	0.91	1.73	2.65	4.11

Parentheses contain percentile rankings.  
Calculation based on quarterly periodicity.

