

City of Memphis Retirement System

Analysis of Investment Performance

Quarter Ending March 31, 2024

Rosemary E. Guillette
Vice President

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Financial Market Conditions

Quarter in Review: Global Equity Overview

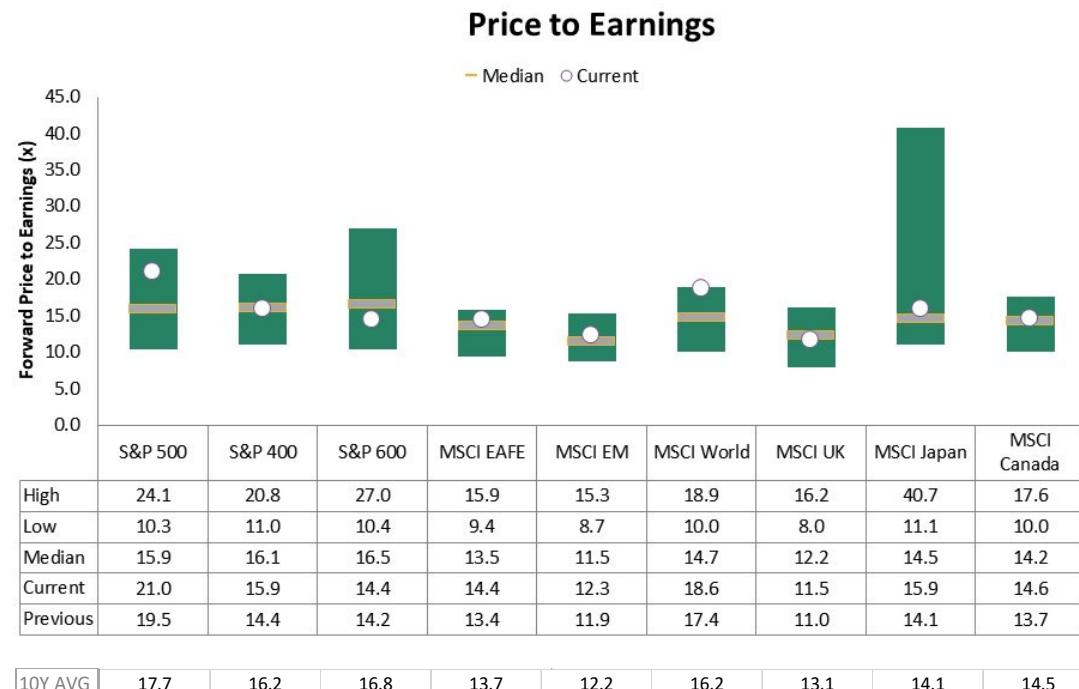
Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	10.56	10.56	29.88	11.49	15.05	12.96
MSCI Europe, Australasia and Far East (EAFE)*	5.78	5.78	15.32	4.78	7.33	4.80
MSCI Emerging Markets (EM)*	2.37	2.37	8.15	-5.05	2.22	2.95

All data in the table are percentages.

* Net dividends reinvested

Global Equity Performance and Valuations

- Global equity markets were positive returns in the first quarter of 2024, led by the U.S. (+10.6%) followed by International Developed (+5.8%) and Emerging Markets (+2.4%).
- U.S. large capitalization (“cap”) stocks continue to trade at higher valuations as the S&P 500’s [12 month] forward P/E ratio was 21.0 compared to 19.5 at the end of the fourth quarter 2023 and above its 10-year average of 17.7.
- International developed large cap stocks, per the MSCI EAFE Index, had a [12 month] forward P/E ratio of 14.4, up from 13.4 the previous quarter but still relatively close to its 10-year average of 13.7.
- Emerging market equities, per the MSCI Emerging Markets Index, in the first quarter were just a tick above its 10-year average valuation (12 month forward P/E ratio of 12.3 to 12.2) while also up from the previous quarter (11.9).



10Y AVG 17.7 16.2 16.8 13.7 12.2 16.2 13.1 14.1 14.5

Data range is from 3/31/00-3/31/24. P/E ratios are forward 12 months.

Quarter In Review: U.S. Equity

U.S. Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
S&P 500	10.56	10.56	29.88	11.49	15.05	12.96
Russell 1000	10.30	10.30	29.87	10.45	14.76	12.68
Russell 1000 Growth	11.41	11.41	39.00	12.50	18.52	15.98
Russell 1000 Value	8.99	8.99	20.27	8.11	10.32	9.01
Russell 2000	5.18	5.18	19.71	-0.10	8.10	7.58
Russell 2000 Growth	7.58	7.58	20.35	-2.68	7.38	7.89
Russell 2000 Value	2.90	2.90	18.75	2.22	8.17	6.87
Russell Midcap	8.60	8.60	22.35	6.07	11.10	9.95
Russell 3000	10.02	10.02	29.29	9.78	14.34	12.33

All data in the tables are percentages.

Performance

- The U.S. economy demonstrated continued strength, as the S&P 500 gained over 10% in the quarter ending March 31.
- To start 2024, large cap stocks (+10.3%) led the way while mid cap (+8.6%) and small cap (+5.2%) stocks also posted positive returns in the first quarter.
- Large cap growth at +11.4% continues its outperformance over large cap value at +9.0%. Similarly, growth also beat out value amongst small caps (+7.6% vs. +2.9%), a reversion from the previous quarter ending December 31, 2023.
- All sectors in the S&P 500 Index generated positive returns in the first quarter except for Real Estate (-0.6%), which has underperformed due to higher interest rates and negative valuations in many sectors. Materials, which tends to be closely linked to the economic cycle, led the index by posting +15.8% in the quarter ending March 31.

S&P 500 Sector Returns	QTD	1-Year
Communication Services	4.98	28.73
Consumer Discretionary	7.52	7.19
Consumer Staples	13.69	17.67
Energy	12.46	33.55
Financials	8.85	16.09
Healthcare	10.97	26.70
Industrials	12.69	46.01
Information Technology	8.95	17.57
Materials	15.82	49.76
Real Estate	-0.55	9.60
Utilities	4.57	0.42

Quarter in Review: International Equity

MSCI International Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World ex. U.S.	5.59	5.59	15.29	4.93	7.48	4.81
EAFE	5.78	5.78	15.32	4.78	7.33	4.80
EAFE Local Currency	9.96	9.96	18.82	9.43	9.36	7.66
Europe	5.23	5.23	14.11	6.19	7.96	4.44
Europe ex U.K.	5.86	5.86	15.09	5.72	8.91	4.97
U.K.	3.10	3.10	10.86	7.70	5.14	2.89
Japan	11.01	11.01	25.78	3.69	7.77	6.69
Pacific ex Japan	-1.73	-1.73	2.39	-0.52	2.96	3.42

All data in the tables are percentages and net dividends reinvested.

Performance

- International developed markets (+5.8%) finished positive but continued to trail the U.S. (+10.6%) during the first quarter of 2024.
- Japan (+11.0%) posted the strongest returns for the quarter with increased optimism over Japan's positive economic cycle, characterized by mild inflation and wage growth.
- Signs of improving business activity in Europe and continued optimism over demand for AI related technologies boosted positive returns (+5.2%) for the quarter. UK equities were also up for the quarter (+ 3.1%) as financials, industrials, energy, and other economically sensitive areas of the market outperformed.
- Industrials (+14.3%), Communication Services (+11.1%), and Energy (+8.6%) led the International market during the quarter. Real Estate (-5.0%), Consumer Discretionary (-3.1%), and IT (-1.1%) lagged the market as the only sectors to post negative returns.

MSCI EAFE Sector Returns	QTD	1-Year
Communication Services	11.06	15.48
Consumer Discretionary	-3.12	-5.92
Consumer Staples	2.22	14.55
Energy	8.55	25.82
Financials	4.74	8.61
Healthcare	7.85	23.06
Industrials	14.33	31.12
Information Technology	-1.09	10.23
Materials	4.06	6.60
Real Estate	-5.03	2.69
Utilities	1.49	13.05

Quarter in Review: Emerging Market Equity

MSCI EM Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Emerging Markets	2.37	2.37	8.15	-5.05	2.22	2.95
EM Local Currency	4.49	4.49	10.61	-2.36	4.38	5.73
Asia	3.35	3.35	6.27	-6.54	2.82	4.50
EMEA	1.04	1.04	10.50	-5.05	-1.18	-1.49
Latin America	-3.96	-3.96	22.64	10.46	3.68	1.67

All data in the tables are percentages and net dividends reinvested.

Performance

- Emerging Market equities (+2.4%) lagged U.S. (+10.6%) and International Developed equities (+5.8%) during the quarter.
- China continued to see diminishing returns as ongoing tension between China and the U.S. weighed on investor sentiment. Despite China's underperformance, Asia posted positive returns with Taiwan benefitting from investor enthusiasm over AI and the tech sector.
- Latin America posted negative returns for the quarter after a year of strong positive returns in 2023 as the delay in expectations from the Federal Reserve interest rate cuts negatively impacted interest rate sensitive markets, including Brazil.
- Industrials (+9.9%), Consumer Staples (+6.9%), and Real Estate (+3.5%) were the strongest sectors in Emerging Markets while multiple sectors including Utilities (-6.0%), IT (-4.6%), Financials (-4.5%), and Consumer Discretionary (-4.3%) posted negative returns.

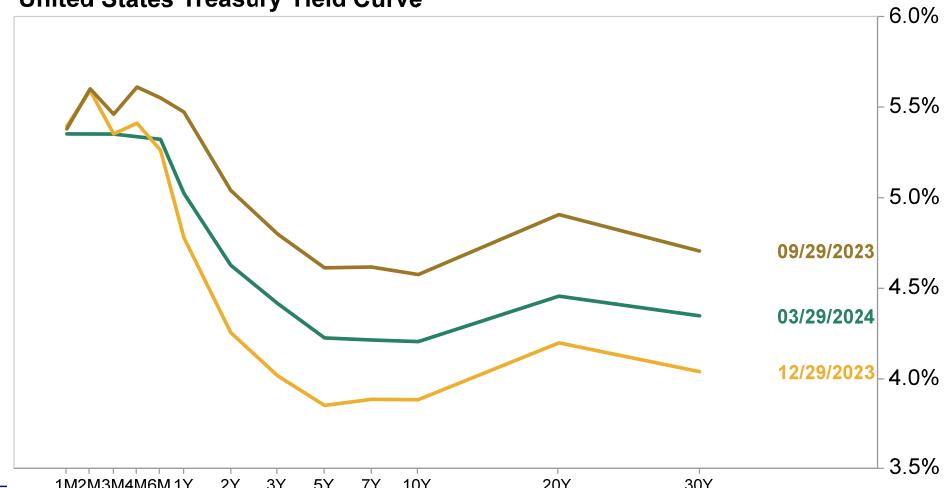
MSCI EM Sector Returns	QTD	1-Year
Communication Services	-0.45	-5.27
Consumer Discretionary	-4.26	-2.56
Consumer Staples	6.91	35.99
Energy	2.31	15.05
Financials	-4.54	-0.93
Healthcare	1.39	4.60
Industrials	9.86	26.73
Information Technology	-4.59	-5.38
Materials	0.77	-11.51
Real Estate	3.52	17.91
Utilities	-5.96	-11.26

Quarter In Review: Fixed Income Overview

Yield Curve

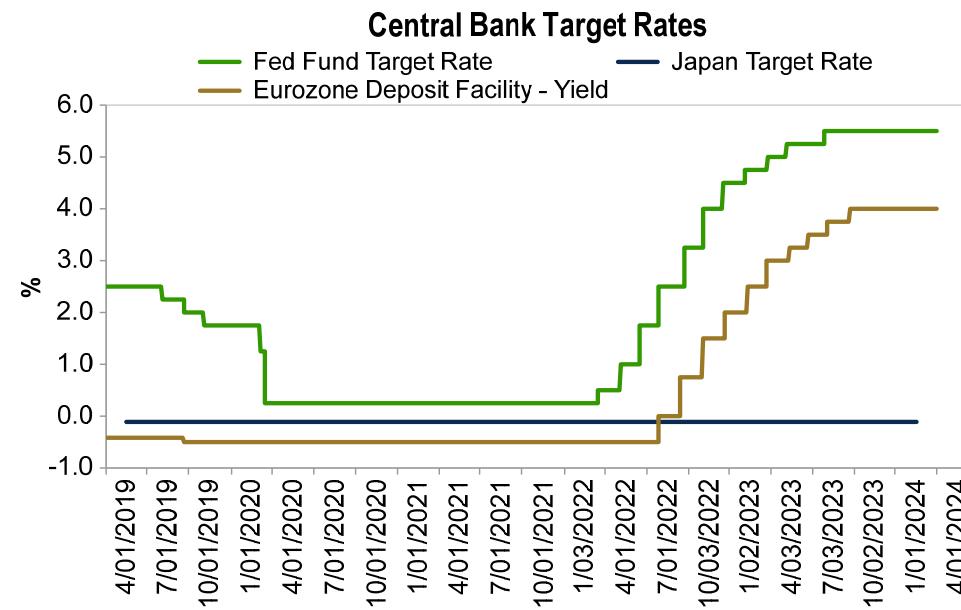
- The US Treasury Yield Curve saw a parallel shift in the intermediate to long part of the curve in Q1 2024 as yields rose while the 1- and 3-Month T-Bill yields remained mostly unchanged. The Federal Reserve appears willing to hold off on rate cuts until further positive indicators on inflation reduction progress are available.
- Short-term yields rose the least, with the 6-Month T-Bill increasing by 6 bps over the prior quarter.
- 2-, 3- and 5-year Treasury yields increased the most by 37 bps, 40 bps and 37 bps respectively, ending the quarter at 4.62%, 4.41% and 4.22%.

United States Treasury Yield Curve



Monetary Policies/Global Interest Rates

- Japan concluded its eight-year period of negative interest rates with central bank deposit rates rising to end the quarter at 0.10%. The European Central Bank's policy rate ended the quarter at 4.50% while the policy rate in the United Kingdom ended the quarter at 5.25%.
- The U.S. policy rate at 5.50% is above those of the Eurozone, the United Kingdom and Japan.



Interest Rates	Fed Funds Rate	EZ Deposit Facility Rate
Average	4.95	0.96
Max	20.00	4.00
Min	0.25	-0.50

Quarter In Review: U.S. Fixed Income

U.S. Fixed Income Indices*	QTD	YTD	1-Year	3-Year	5-Year	10-Year
U.S. Aggregate	-0.78	-0.78	1.70	-2.46	0.36	1.54
Government/Credit	-0.72	-0.72	1.74	-2.35	0.62	1.70
Government	-0.93	-0.93	0.13	-2.68	-0.04	1.05
Investment Grade Credit	-0.40	-0.40	4.43	-1.87	1.52	2.61
Investment Grade CMBS	1.00	1.00	4.56	-1.39	1.16	2.07
U.S. Corporate High Yield	1.47	1.47	11.15	2.19	4.21	4.44
FTSE** 3-Month T-Bill	1.37	1.37	5.52	2.70	2.07	1.39
Hueler Stable Value	0.55	1.87	1.87	1.96	2.13	1.97

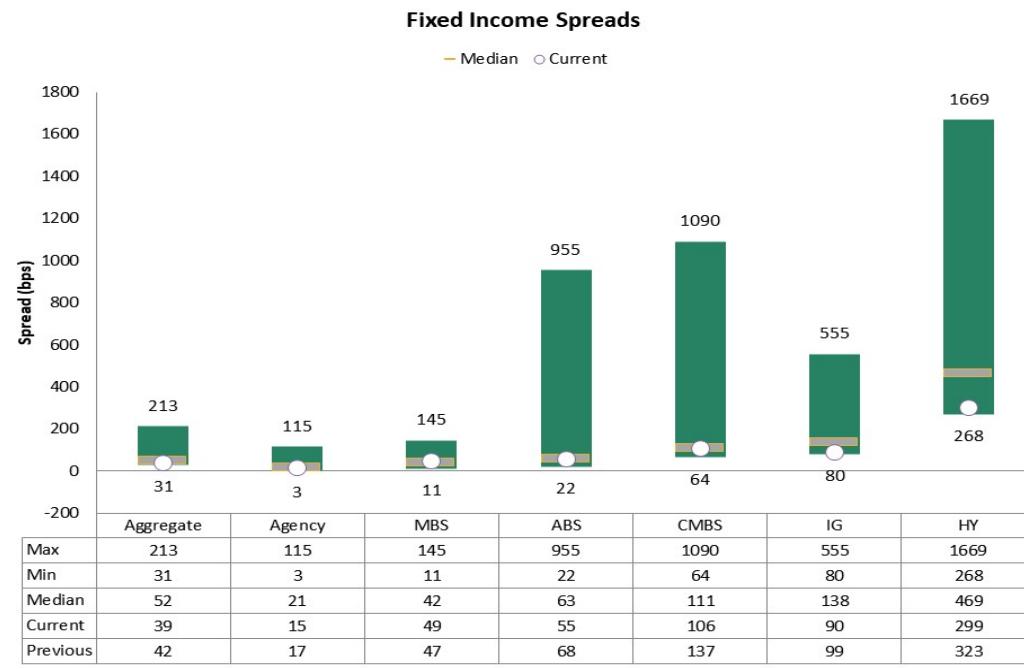
* Bloomberg Indices, unless otherwise noted.

** Formerly Citigroup. Citigroup's fixed income indices were purchased by London Stock Exchange Group (LSEG) and were rebranded to FTSE by July 31, 2018. FTSE Russell is a unit of LSEG's Information Services Division and a wholly owned subsidiary of LSEG.

All data in the table are percentages.

Performance and Spreads

- The U.S. Aggregate Index was negative during the first quarter. With the exception of CMBS, all U.S. Aggregate Index sectors generated negative returns for the quarter.
- U.S. Corporate High Yield had the strongest performance at +1.47% for the quarter. The government sector experienced the weakest performance in the quarter ended March 31 (-0.93%).
- For the quarter, MBS spreads slightly widened while the spreads on the US Aggregate Index, Agency, ABS, CMBS, IG Credit and High Yield narrowed. The largest change was in the High Yield sector with spreads narrowing by 24 basis points.



Quarter In Review: International Fixed Income

Global Fixed Income Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Global Aggregate	-2.08	-2.08	0.49	-4.73	-1.17	-0.07
Bloomberg Global Aggregate (Hgd)	0.01	0.01	4.14	-1.29	0.80	2.21
FTSE Non-U.S. WGBI*	-3.42	-3.42	-1.46	-8.39	-3.73	-1.91
FTSE Non-U.S. WGBI (Hgd)	0.20	0.20	4.66	-2.01	0.15	2.30
JPM EMBI Global Diversified**	2.04	2.04	11.28	-1.40	0.71	3.05
JPM GBI-EM Global Diversified***	-2.12	-2.12	4.91	-1.60	0.13	-0.32

All data in the table are percentages.

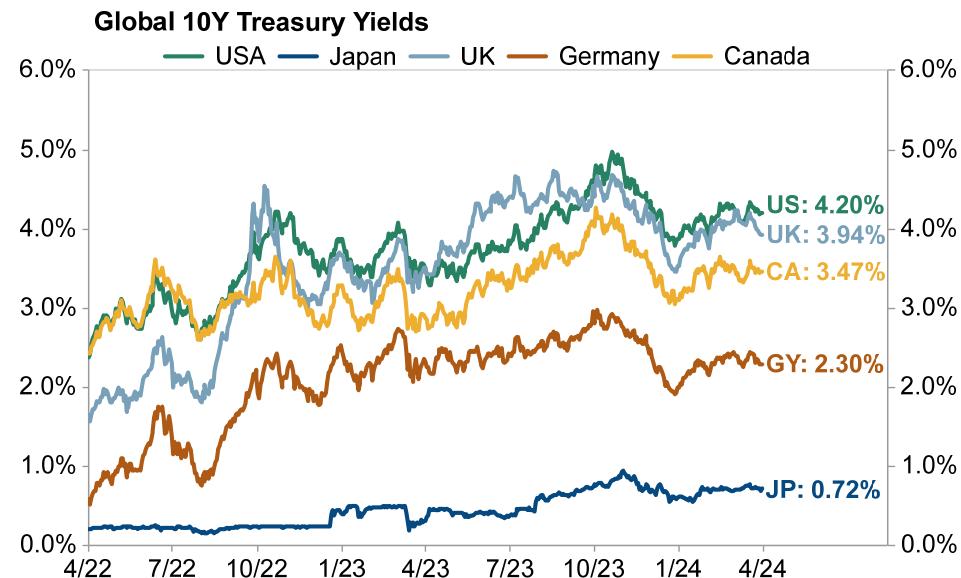
* Formerly Citigroup. The FTSE Non-U.S. World Government Bond Index (WGBI) measures the performance of fixed-rate, local currency, investment grade sovereign bonds excluding the U.S.

** The JP Morgan Emerging Market Bond Index (EMBI) Global Diversified index measures government bonds in hard currencies.

*** The JP Morgan Government Bond Index – Emerging Markets (GBI-EM) Global Diversified index measures government bonds in local currencies.

Global Performance and Yields

- Yields declined in most developed markets during the quarter. Both the ECB and the Bank of England kept policy rates unchanged during the first quarter in an effort to move inflation closer to its 2% target.
- Global central banks kept interest rates at record highs due to fears of inflation resurgence.
- The U.S. dollar appreciated relative to the yen, British pound and Euro.
- Global returns were negative for the quarter ended March 31, with Non-U.S. sovereign bonds exhibiting the weakest performance.



Total Fund Composite

City of Memphis

Asset Allocation Comparison as of March 31, 2024

\$2,594,203							
Target Allocations		Current Managers & Allocations			Difference		Range
Equity							
Large Cap Equity	20.00%	\$518,841 (000)	Barrow, Hanley (large cap value) Rhumbline Russell 1000 Growth (large cap growth) Winslow (large cap growth) Rhumbline S&P 500 (large cap core)	6.57% 3.24% 3.33% 8.55%	\$170,533 \$83,982 \$86,499 \$221,693 (000)	1.69%	15%-25%
Mid/SMID Cap Equity	4.00%	\$103,768	Northern Trust (mid cap core) Attucks SMID Cap*	2.25% 2.55%	\$58,356 \$66,068	0.80%	0%-7%
Small Cap Equity	4.00%	\$103,768	Attucks Small Cap Value* Conestoga (small cap growth) Nicholas (small cap growth)	2.91% 1.06% 1.18%	\$75,395 \$27,518 \$30,505	1.14%	0%-7%
Domestic Equity	28.00%	\$726,377	Domestic Equity	31.63%	\$820,549	3.63%	18%-38%
Developed International	15.00%	\$389,130	1607 Capital Partners Principal Global Investors Marathon Asset Mgmt Strategic Global Advisors	4.52% 4.54% 4.48% 2.84%	\$117,247 \$117,835 \$116,323 \$73,772	1.39%	10%-20%
<i>Channing Int'l Developed Equity - \$15M pending* Frontier Global Int'l Equity - \$15M pending*</i>							
Emerging Markets	7.00%	\$181,594	Acadian JPMorgan	3.73% 3.31%	\$96,798 \$85,749	0.04%	5%-12%
International	22.00%	\$570,725	International	23.43%	\$607,723	1.43%	15%-30%
Equity Total	50.00%	\$1,297,102	Equity Total	55.06%	\$1,428,272	5.06%	
Fixed Income							
Core Fixed Income	13.00%	\$337,246	PIMCO Prudential Core Conserv Bond Barrow Hanley High Quality Core Garcia Hamilton Aggregate	3.75% 3.58% 1.26% 2.89%	\$97,295 \$92,946 \$32,613 \$74,896	-1.52%	8%-18%
Global Fixed Income	8.00%	\$207,536	Brandywine	7.52%	\$195,078	-0.48%	3%-13%
Global High Yield	5.00%	\$129,710	Mackay Shields	5.14%	\$133,251	0.14%	2%-10%
Fixed Income Total	26.00%	\$674,493	Fixed Income Total	24.13%	\$626,078	-1.87%	18%-34%

* Emerging Managers

Target Allocations		Current Managers & Allocations			Difference		Range
<u>Real Estate</u>							
Core/Value Add/REITs	10.00%	\$259,420	BlackRock US Core Property Fund RREEF REIT II Vanguard REIT Index TA Realty Core Property Fund	2.31% 0.65% 0.14% 1.10%	\$59,807 \$16,774 \$3,549 \$28,562		
			Cornerstone (Barings) Real Estate Fund X ¹ Dune Real Estate Partners Fund IV Green Cities III Green Cities IV Green Cities V Long Wharf Real Estate Partners IV Long Wharf Real Estate Partners Fund V Long Wharf Real Estate Partners Fund VI Long Wharf Real Estate Partners Fund VII Mesirow Financial Real Estate Value Fund III TA Realty Fund XI TA Realty Fund XIII	0.00% 1.04% 0.20% 0.50% 0.00% 0.01% 0.41% 0.53% 0.13% 1.00% 0.02% 0.22%	\$20 (Total Commitment \$10M, Total Drawn \$8.4M, Total Distributed \$11.6M) \$26,974 (Total Commitment \$30M, Total Drawn \$26.3M, Total Distributed \$1.5M) \$5,249 (Total Commitment \$20M, Total Drawn \$24.0M, Total Distributed \$10.7M) \$13,032 (Total Commitment \$20M, Total Drawn \$19.9, Total Distributed \$1.1M) \$11 (Total Commitment \$20M, Total Drawn \$0.3, Total Distributed \$0.0M) \$234 (Total Commitment \$20M, Total Drawn \$21.5M, Total Distributed \$29.6M) \$10,650 (Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$14.9M) \$13,783 (Total Commitment \$20M, Total Drawn \$21.0M, Total Distributed \$11.8M) \$3,390 (Total Commitment \$20M, Total Drawn \$3.9M, Total Distributed \$0.3M) \$25,822 (Total Commitment \$20M, Total Drawn \$22.5M, Total Distributed \$8.1M) \$561 (Total Commitment \$20M, Total Drawn \$20.0M, Total Distributed \$31.3M) \$5,713 (Total Commitment \$30M, Total Drawn \$7.5M, Total Distributed \$0.0M)		
<i>LaFayette Square Grocery Anchored Impact Fund - \$5M Commitment*</i>							
Real Estate Total	10.00%	\$259,420	Real Estate Total	8.25%	\$214,132	-1.75%	5%-15%
Private Equity							
Private Equity	5.00%	\$129,710	GSAM Black Equity Opportunities Fund* Neuberger Berman Crossroads XXI Neuberger Berman Crossroads XXIV Pantheon Global Secondary Fund V RPS Ventures II Siguler Guff Small Buyout Opportunities Fund V SSM Growth Equity Fund II* SSM Growth Equity Fund III*	0.04% 2.11% 0.29% 1.06% 0.07% 0.31% 0.29% 0.60%	\$1,069 (Total Commitment \$15M, Total Drawn \$1.3M, Total Distributed \$0.0M) \$54,706 (Total Commitment \$50M, Total Drawn \$36.5M, Total Distributed \$29.9M) \$7,425 (Total Commitment \$40M, Total Drawn \$7.2, Total Distributed \$0.0M) \$27,616 (Total Commitment \$50M, Total Drawn \$39.7M, Total Distributed \$34.3M) \$1,735 (Total Commitment \$15M, Total Drawn \$2.3M, Total Distributed \$0.0M) \$8,121 (Total Commitment \$20M, Total Drawn \$7.3M, Total Distributed \$0.2M) \$7,574 (Total Commitment \$10M, Total Drawn \$9.5, Total Distributed \$6.0M) \$15,436 (Total Commitment \$10M, Total Drawn \$14.7, Total Distributed \$5.3M)		
Private Equity Total	5.00%	\$129,710		4.77%	\$123,682	-0.23%	3%-7%
Private Credit							
	5.00%		Brightwood Capital Fund V Churchill Middle Market Senior Loan Fund III Neuberger Berman Private Debt Fund IV	0.16% 0.30% 0.93%	\$4,236 (Total Commitment \$10M, Total Drawn \$4.0, Total Distributed \$0.7M) \$7,856 (Total Commitment \$10M, Total Drawn \$13.0, Total Distributed \$6.7M) \$24,021 (Total Commitment \$30M, Total Drawn \$24.2, Total Distributed \$4.8M)		
Private Credit Total	5.00%	\$129,710		1.39%	\$36,113	-3.61%	3%-7%
Hedge Fund of Funds							
	4.00%		Aetos Grosvenor	2.02% 1.95%	\$52,286 \$50,501		
Hedge Fund of Funds Total	4.00%	\$103,768		3.96%	\$102,787	-0.04%	2%-6%
Internal Account	0.00%	\$0	Internal Account	2.43%	\$63,139		
Cash	0.00%	\$0	Cash	2.43%	\$63,139	2.43%	0%-5%
Total	100%	\$2,594,203	Total	100%	\$2,594,203		

¹ Cornerstone Real Estate Advisers now operates under the investment adviser name "Barings Real Estate Advisers," how the name Cornerstone. All new products open to new investors will operate under the name "Barings Real Estate Adviser."



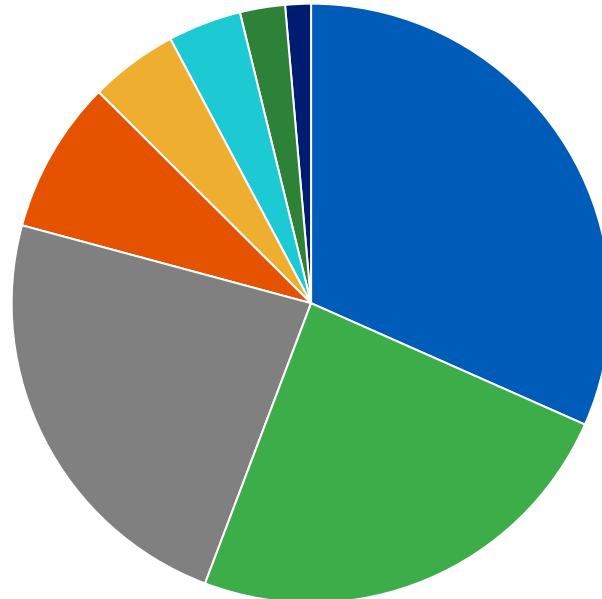
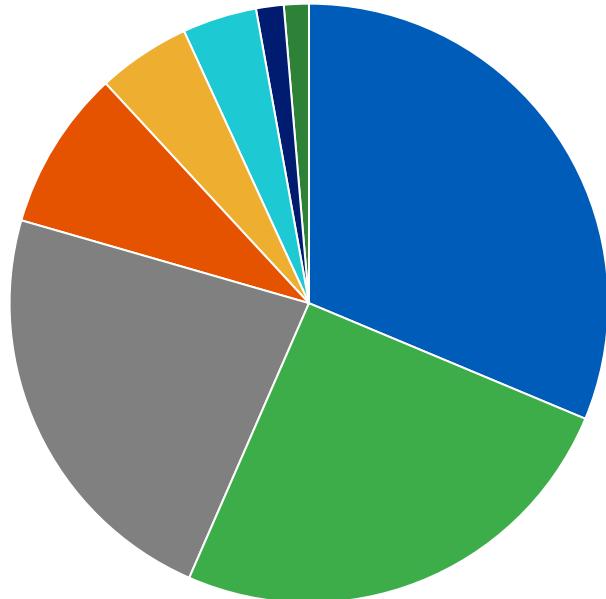
City of Memphis Retirement System

Asset Allocation Chart

As of March 31, 2024

December 31, 2023 : \$2,519,965,504.0

March 31, 2024 : \$2,594,203,193.1



	Market Value (\$)	Allocation (%)
Domestic Equity Composite	788,839,588	31.3
Fixed Income Composite	636,279,671	25.2
International Equity Composite	577,427,957	22.9
Total Real Estate Composite	217,893,149	8.6
Private Equity Composite	126,691,605	5.0
Hedge Fund Composite	101,215,255	4.0
Private Debt Composite	37,567,536	1.5
In House Cash	34,050,743	1.4

	Market Value (\$)	Allocation (%)
Domestic Equity Composite	820,548,930	31.6
Fixed Income Composite	626,078,404	24.1
International Equity Composite	607,723,459	23.4
Total Real Estate Composite	214,131,983	8.3
Private Equity Composite	123,681,818	4.8
Hedge Fund Composite	102,786,994	4.0
In House Cash	63,138,841	2.4
Private Debt Composite	36,112,765	1.4

City of Memphis

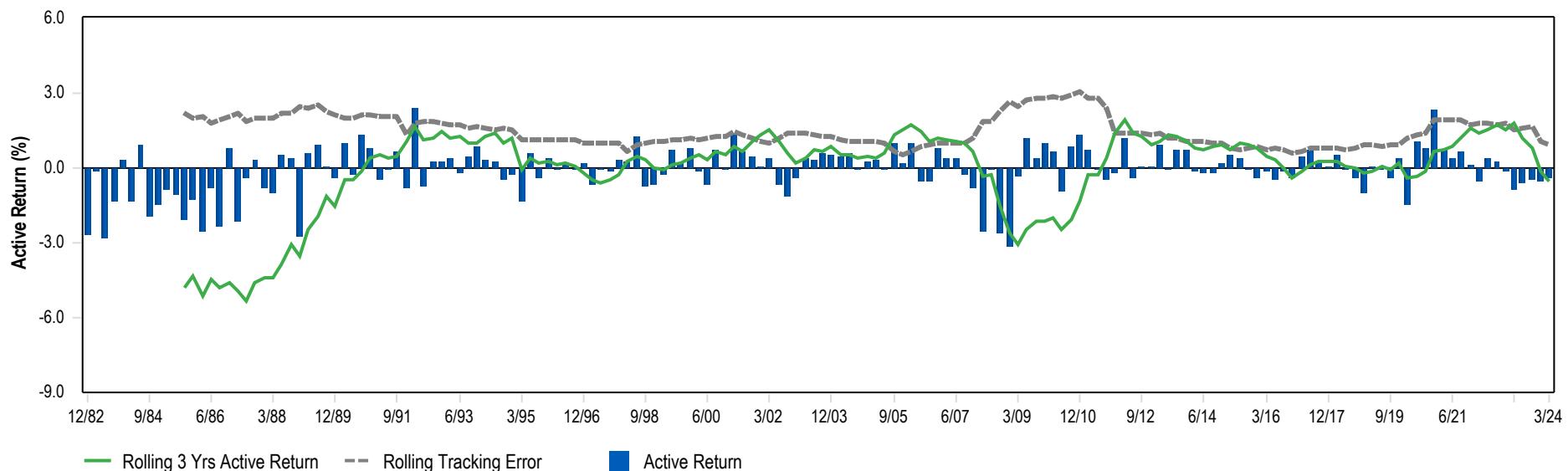
Total Fund Composite

As of March 31, 2024

Gain / Loss

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years
Total Fund Composite							
Beginning Market Value	2,519,965,504	2,519,965,504	2,438,963,274	2,676,810,466	2,305,675,782	2,209,611,988	2,210,842,533
Net Cash Flows	-28,878,367	-28,878,367	-120,159,922	-371,321,467	-641,162,760	-878,674,308	-1,219,276,263
Income	8,785,248	8,785,248	36,085,487	103,872,512	164,244,775	232,065,428	352,493,084
Gain/Loss	94,330,809	94,330,809	239,314,354	184,841,682	765,445,397	1,031,200,085	1,250,143,838
Ending Market Value	2,594,203,193	2,594,203,193	2,594,203,193	2,594,203,193	2,594,203,193	2,594,203,193	2,594,203,193

Rolling Return and Tracking Error



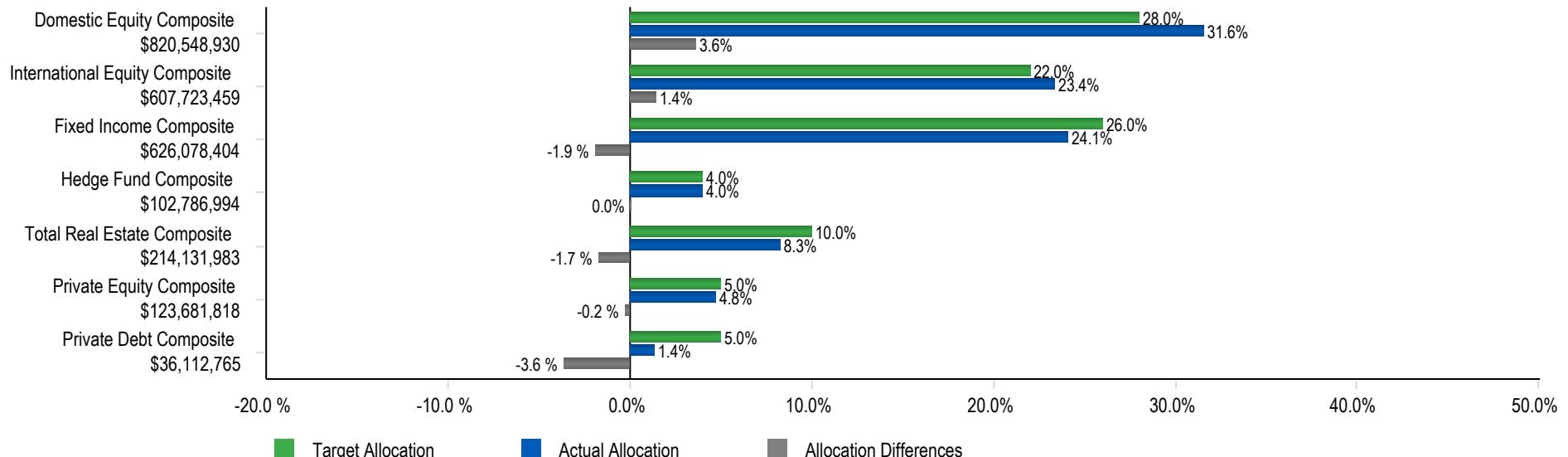
Performance

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Total Fund Composite	4.1	4.1	11.7	3.8	7.7	7.6	6.9
Policy Index	4.5	4.5	13.9	4.3	7.5	7.4	6.9
Difference	-0.4	-0.4	-2.2	-0.5	0.2	0.2	0.0

City of Memphis

Total Fund Composite

As of March 31, 2024



	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)
Total Fund Composite	2,594,203,193	100.00	100.00	0.00	-	-
Domestic Equity Composite	820,548,930	31.63	28.00	3.63	18.00	38.00
International Equity Composite	607,723,459	23.43	22.00	1.43	15.00	30.00
Fixed Income Composite	626,078,404	24.13	26.00	-1.87	18.00	34.00
Hedge Fund Composite	102,786,994	3.96	4.00	-0.04	2.00	6.00
Total Real Estate Composite	214,131,983	8.25	10.00	-1.75	5.00	15.00
Private Equity Composite	123,681,818	4.77	5.00	-0.23	3.00	7.00
Private Debt Composite	36,112,765	1.39	5.00	-3.61	3.00	7.00

City of Memphis

Comparative Performance

As of March 31, 2024

	<u>Performance (%)</u>								
	<u>1 Quarter</u>	<u>Year To Date</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>7 Years</u>	<u>10 Years</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Fund Composite	4.12	4.12	11.70	3.75	7.75	7.65	6.95	9.24	10/01/1982
Policy Index	4.53	4.53	13.94	4.29	7.48	7.44	6.86	9.60	
Policy Index2	4.56	4.56	13.72	3.95	7.24	7.18	6.68	9.55	
In House Cash	1.34	1.34	5.30	2.64	1.93	1.83	1.35	3.89	10/01/1982
90 Day U.S. Treasury Bill	1.29	1.29	5.24	2.58	2.02	1.90	1.37	3.67	
Domestic Equity Composite	10.40	10.40	30.69	9.85	14.70	13.77	11.80	12.18	10/01/1982
Russell 3000 Index	10.02	10.02	29.29	9.78	14.34	13.45	12.33	11.96	
Domestic Equity Index	9.46	9.46	27.03	8.03	13.10	12.35	11.50	N/A	
Fixed Income Composite	-1.54	-1.54	2.10	-1.84	1.52	2.14	2.46	6.73	10/01/1982
Fixed Income Index	-0.72	-0.72	3.19	-2.25	0.63	1.39	1.78	6.55	
International Equity Composite	5.28	5.28	14.25	1.30	7.13	7.03	5.94	5.48	01/01/1990
International Equity Index	4.72	4.72	13.07	1.69	5.81	5.84	4.32	5.16	
Hedge Fund Composite	4.02	4.02	10.56	5.01	6.26	5.36	N/A	5.81	04/01/2016
90-Day T-Bill+ 5%	2.53	2.53	10.50	7.71	7.12	7.00	6.44	6.79	
HFRI FOF: Conservative Index	2.48	2.48	7.11	3.97	5.02	4.31	3.54	4.44	
Core Private Real Estate Composite	-2.22	-2.22	-13.76	1.96	3.50	4.68	6.82	7.39	09/01/1999
NCREIF Property Index	-0.98	-0.98	-7.16	3.63	3.76	4.66	6.41	7.90	

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)									
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Fund Composite	11.74	-12.92	13.57	15.06	18.86	-5.39	18.36	6.76	0.24	5.49
Policy Index	14.44	-12.94	11.35	12.73	18.81	-4.51	16.69	8.04	-0.19	5.86
Policy Index2	14.09	-13.47	11.27	12.76	18.71	-5.04	16.63	7.97	-0.19	5.86
In House Cash	5.08	1.50	0.04	0.26	2.12	1.93	0.67	0.35	0.18	0.11
90 Day U.S. Treasury Bill	5.02	1.46	0.05	0.67	2.28	1.87	0.86	0.25	0.03	0.04
Domestic Equity Composite	24.76	-17.48	25.47	22.41	30.07	-5.88	22.62	10.04	-1.26	8.80
Russell 3000 Index	25.96	-19.21	25.66	20.89	31.02	-5.24	21.13	12.74	0.48	12.56
Domestic Equity Index	23.55	-18.82	23.52	20.08	29.94	-6.47	20.20	13.76	0.19	11.60
Fixed Income Composite	7.29	-11.71	-0.36	9.51	9.88	-0.98	6.94	5.14	-0.23	4.70
Fixed Income Index	7.25	-13.63	-1.25	7.78	9.24	-0.91	5.50	4.83	-0.86	4.89
International Equity Composite	17.14	-20.51	9.15	17.83	24.67	-15.52	33.29	3.30	-0.50	-1.08
International Equity Index	15.56	-16.14	6.88	11.18	20.94	-13.98	28.77	3.16	-4.06	-4.13
Hedge Fund Composite	8.10	-3.41	7.59	11.20	7.95	-1.55	6.72	N/A	N/A	N/A
90-Day T-Bill+ 5%	10.27	6.53	5.05	5.70	7.39	6.97	5.90	5.27	5.03	5.04
HFRI FOF: Conservative Index	5.48	0.08	7.62	6.47	6.30	-0.87	4.12	1.89	0.37	3.14
Core Private Real Estate Composite	-14.64	5.06	25.04	2.55	10.16	4.91	7.75	8.50	11.92	20.06
NCREIF Property Index	-7.94	5.51	17.70	1.60	6.42	6.72	6.96	7.97	13.33	11.82

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Total Fund Composite	4.12	4.12	11.70	3.75	7.75	7.65	6.95	9.24	10/01/1982
Policy Index	4.53	4.53	13.94	4.29	7.48	7.44	6.86	9.60	
Policy Index2	4.56	4.56	13.72	3.95	7.24	7.18	6.68	9.55	
In House Cash	1.34	1.34	5.30	2.64	1.93	1.83	1.35	3.89	10/01/1982
90 Day U.S. Treasury Bill	1.29	1.29	5.24	2.58	2.02	1.90	1.37	3.67	
Domestic Equity Composite	10.40	10.40	30.69	9.85	14.70	13.77	11.80	12.18	10/01/1982
Russell 3000 Index	10.02	10.02	29.29	9.78	14.34	13.45	12.33	11.96	
Domestic Equity Index	9.46	9.46	27.03	8.03	13.10	12.35	11.50	N/A	
IM U.S. Equity (SA+CF) Median	8.98	8.98	24.07	8.27	12.56	11.73	10.61	12.95	
Domestic Equity Composite Rank	35	35	24	36	28	31	38	73	
Barrow, Hanley	10.82	10.82	28.21	10.60	12.78	11.56	10.68	12.88	10/01/1982
Russell 1000 Value Index	8.99	8.99	20.27	8.11	10.31	9.16	9.01	11.63	
IM U.S. Large Cap Value Equity (SA+CF) Median	9.60	9.60	23.42	10.36	12.47	11.15	10.22	N/A	
Barrow, Hanley Rank	31	31	22	46	47	41	34	N/A	
Winslow Capital Management	13.76	13.76	47.21	11.86	17.58	18.70	15.88	16.42	11/01/2011
Russell 1000 Growth Index	11.41	11.41	39.00	12.50	18.52	18.06	15.98	16.73	
IM U.S. Large Cap Growth Equity (SA+CF) Median	12.37	12.37	37.96	10.50	16.37	16.72	14.84	15.71	
Winslow Capital Management Rank	27	27	10	30	32	15	24	29	
Rhumbline Russell 1000 Growth	11.41	11.41	38.97	12.49	18.51	N/A	N/A	17.69	10/01/2017
Russell 1000 Growth Index	11.41	11.41	39.00	12.50	18.52	18.06	15.98	17.70	
IM U.S. Large Cap Growth Equity (SA+CF) Median	12.37	12.37	37.96	10.50	16.37	16.72	14.84	16.22	
Rhumbline Russell 1000 Growth Rank	62	62	49	20	17	N/A	N/A	22	
Rhumbline S&P 500	10.53	10.53	29.82	11.49	15.03	14.07	12.93	10.14	01/01/2004
S&P 500	10.56	10.56	29.88	11.49	15.05	14.09	12.96	10.11	
IM U.S. Large Cap Core Equity (SA+CF) Median	10.82	10.82	30.01	11.04	14.75	13.76	12.74	10.48	
Rhumbline S&P 500 Rank	55	55	55	39	41	43	44	79	

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	<u>1 Quarter</u>	<u>Year To Date</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>7 Years</u>	<u>10 Years</u>	<u>Since Inception</u>	<u>Inception Date</u>
	<u>Performance (%)</u>								
NTGI S&P 400	9.96	9.96	23.35	7.00	11.73	10.26	9.99	10.76	04/01/2011
S&P MidCap 400	9.95	9.95	23.33	6.96	11.71	10.26	9.99	10.76	
IM U.S. Mid Cap Core Equity (SA+CF) Median	9.95	9.95	23.32	7.07	11.77	10.89	10.10	11.16	
NTGI S&P 400 Rank	43	43	48	55	59	70	66	80	
Attucks SMID	9.31	9.31	21.14	3.28	10.90	11.85	N/A	13.53	02/01/2016
Russell 2500 Index	6.92	6.92	21.43	2.97	9.90	9.45	8.84	11.84	
IM U.S. SMID Cap Equity (SA+CF) Median	7.59	7.59	19.92	5.06	11.38	10.93	9.86	12.83	
Attucks SMID Rank	27	27	47	65	57	36	N/A	39	
Attucks Small Cap Value	5.14	5.14	28.85	10.67	13.67	N/A	N/A	13.67	04/01/2019
Russell 2000 Value Index	2.90	2.90	18.75	2.22	8.17	6.55	6.87	8.17	
IM U.S. Small Cap Value Equity (SA+CF) Median	5.18	5.18	21.02	6.40	11.18	8.92	8.76	11.18	
Attucks Small Cap Value Rank	53	53	11	16	18	N/A	N/A	18	
Nicholas Investment Partners	16.30	16.30	36.01	1.56	15.34	14.76	10.98	14.16	07/01/2012
Russell 2000 Growth Index	7.58	7.58	20.35	-2.68	7.38	8.40	7.89	10.53	
IM U.S. Small Cap Growth Equity (SA+CF) Median	7.26	7.26	18.14	-0.21	10.53	12.26	10.47	12.89	
Nicholas Investment Partners Rank	9	9	5	35	11	21	35	29	
Conestoga Capital Advisors	3.94	3.94	13.74	2.02	10.31	N/A	N/A	8.59	08/01/2018
Russell 2000 Growth Index	7.58	7.58	20.35	-2.68	7.38	8.40	7.89	5.56	
IM U.S. Small Cap Growth Equity (SA+CF) Median	7.26	7.26	18.14	-0.21	10.53	12.26	10.47	9.38	
Conestoga Capital Advisors Rank	87	87	75	31	55	N/A	N/A	65	

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
International Equity Composite	5.28	5.28	14.25	1.30	7.13	7.03	5.94	5.48	01/01/1990
<i>International Equity Index</i>	4.72	4.72	13.07	1.69	5.81	5.84	4.32	5.16	
IM International Equity (SA+CF) Median	5.08	5.08	14.06	3.52	7.68	7.10	5.69	7.54	
International Equity Composite Rank	48	48	48	70	60	54	43	91	
1607 Capital Partners	2.67	2.67	11.58	1.35	7.15	7.22	5.88	5.39	06/01/2008
<i>MSCI EAFE (Net)</i>	5.78	5.78	15.32	4.78	7.33	6.70	4.80	3.36	
IM International Large Cap Core Equity (SA+CF) Median	6.02	6.02	15.48	4.07	7.78	7.36	5.69	4.45	
1607 Capital Partners Rank	93	93	85	86	67	56	42	20	
Marathon Asset Mgmt	6.61	6.61	15.59	4.06	7.94	7.23	5.75	8.12	04/01/2004
<i>MSCI AC World ex USA (Net)</i>	4.69	4.69	13.26	1.94	5.97	5.88	4.25	5.68	
IM International Large Cap Core Equity (SA+CF) Median	6.02	6.02	15.48	4.07	7.78	7.36	5.69	6.83	
Marathon Asset Mgmt Rank	42	42	49	51	45	54	48	11	
Principal Global Investors	7.69	7.69	15.31	3.27	8.46	7.39	6.16	3.92	07/01/2007
<i>MSCI World ex U.S. Growth (Net)</i>	6.91	6.91	13.65	2.83	7.86	7.72	5.74	3.87	
IM International Large Cap Core Equity (SA+CF) Median	6.02	6.02	15.48	4.07	7.78	7.36	5.69	4.12	
Principal Global Investors Rank	22	22	53	64	35	49	31	64	
Strategic Global Advisors	7.40	7.40	19.31	6.10	8.55	7.70	6.55	9.13	07/01/2012
<i>MSCI World ex-U.S. (Net)</i>	5.59	5.59	15.29	4.93	7.48	6.78	4.81	7.01	
IM International Core Equity (SA+CF) Median	5.74	5.74	14.58	3.51	7.68	7.22	5.72	8.13	
Strategic Global Advisors Rank	24	24	21	18	30	36	24	22	
Acadian EM Equity II	5.82	5.82	20.45	1.82	6.59	5.84	5.02	3.45	05/01/2011
<i>MSCI EM (net)</i>	2.37	2.37	8.15	-5.05	2.22	3.72	2.95	1.35	
IM Emerging Markets Equity (SA+CF) Median	3.06	3.06	10.61	-2.82	4.20	5.10	4.54	2.94	
Acadian EM Equity II Rank	14	14	20	29	28	37	34	36	

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
J.P. Morgan Global Emerging Markets Discovery Fund	1.65	1.65	4.20	-8.15	3.32	5.91	N/A	7.28	12/01/2016
MSCI EM (net)	2.37	2.37	8.15	-5.05	2.22	3.72	2.95	5.12	
IM Emerging Markets Equity (SA+CF) Median	3.06	3.06	10.61	-2.82	4.20	5.10	4.54	6.57	
J.P. Morgan Global Emerging Markets Discovery Fund Rank	73	73	82	85	65	37	N/A	37	
Fixed Income Composite	-1.54	-1.54	2.10	-1.84	1.52	2.14	2.46	6.73	10/01/1982
Fixed Income Index	-0.72	-0.72	3.19	-2.25	0.63	1.39	1.78	6.55	
Mackay Shields	1.97	1.97	10.68	3.85	5.31	5.47	5.58	7.75	01/01/1999
Credit Suisse High Yield Index	1.73	1.73	11.19	2.46	4.10	4.25	4.29	6.39	
IM U.S. High Yield Bonds (SA+CF) Median	1.63	1.63	10.66	2.67	4.38	4.47	4.44	6.52	
Mackay Shields Rank	22	22	50	12	12	7	4	2	
PIMCO	-0.30	-0.30	2.95	-1.58	1.27	2.01	2.28	3.30	04/01/2009
Blmbg. U.S. Aggregate	-0.78	-0.78	1.70	-2.46	0.36	1.06	1.54	2.62	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.47	-0.47	2.25	-2.11	0.91	1.56	2.01	3.45	
PIMCO Rank	33	33	27	16	22	15	21	61	
Prudential Core Conserv Bond	-0.64	-0.64	2.24	-2.24	0.54	1.20	1.71	2.55	09/01/2009
Blmbg. U.S. Aggregate	-0.78	-0.78	1.70	-2.46	0.36	1.06	1.54	2.38	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.47	-0.47	2.25	-2.11	0.91	1.56	2.01	2.99	
Prudential Core Conserv Bond Rank	71	71	51	63	79	83	81	82	
Barrow Hanley High Quality Core	-0.45	-0.45	2.71	N/A	N/A	N/A	N/A	6.47	11/01/2022
Blmbg. U.S. Aggregate	-0.78	-0.78	1.70	-2.46	0.36	1.06	1.54	5.63	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.51	-0.51	2.03	-2.34	0.63	1.29	1.72	6.07	
Barrow Hanley High Quality Core Rank	43	43	21	N/A	N/A	N/A	N/A	24	
Garcia Hamilton Aggregate	-1.30	-1.30	-0.16	N/A	N/A	N/A	N/A	5.46	11/01/2022
Blmbg. U.S. Aggregate	-0.78	-0.78	1.70	-2.46	0.36	1.06	1.54	5.63	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.51	-0.51	2.03	-2.34	0.63	1.29	1.72	6.07	
Garcia Hamilton Aggregate Rank	98	98	97	N/A	N/A	N/A	N/A	79	

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Brandywine	-5.02	-5.02	-3.03	-5.00	-0.25	0.79	N/A	0.82	08/01/2015
<i>Blmbg. Global Aggregate</i>	-2.08	-2.08	0.49	-4.73	-1.17	0.07	-0.07	0.46	
<i>FTSE World Government Bond Index</i>	-2.42	-2.42	-0.84	-6.12	-2.21	-0.65	-0.82	-0.17	
IM Global Fixed Income (SA+CF) Median	0.61	0.61	6.51	-0.31	2.38	2.83	2.59	3.06	
Brandywine Rank	100	100	98	86	79	80	N/A	86	
Hedge Fund Composite	4.02	4.02	10.56	5.01	6.26	5.36	N/A	5.81	04/01/2016
90-Day T-Bill+ 5%	2.53	2.53	10.50	7.71	7.12	7.00	6.44	6.79	
<i>HFRI FOF: Conservative Index</i>	2.48	2.48	7.11	3.97	5.02	4.31	3.54	4.44	
Grosvenor Institutional Partners, L.P.	4.03	4.03	10.72	4.68	6.67	5.53	N/A	5.90	04/01/2016
90-Day T-Bill+ 5%	2.53	2.53	10.50	7.71	7.12	7.00	6.44	6.79	
<i>HFRI FOF: Conservative Index</i>	2.48	2.48	7.11	3.97	5.02	4.31	3.54	4.44	
Aetos	4.09	4.09	10.56	5.34	6.01	5.25	N/A	5.60	05/01/2016
90-Day T-Bill + 5%	2.53	2.53	10.50	7.71	7.12	7.00	6.44	6.80	
<i>HFRI FOF: Conservative Index</i>	2.48	2.48	7.11	3.97	5.02	4.31	3.54	4.43	
Total Real Estate Composite	-1.51	-1.51	-14.75	1.48	2.95	4.56	7.24	8.90	07/01/1996
<i>NCREIF Property Index</i>	-0.98	-0.98	-7.16	3.63	3.76	4.66	6.41	8.46	
Core Private Real Estate Composite	-2.22	-2.22	-13.76	1.96	3.50	4.68	6.82	7.39	09/01/1999
<i>NCREIF Property Index</i>	-0.98	-0.98	-7.16	3.63	3.76	4.66	6.41	7.90	
BlackRock US Core Property Fund	-3.37	-3.37	-17.79	0.22	2.19	3.87	6.35	3.45	10/01/2006
<i>NCREIF Property Index</i>	-0.98	-0.98	-7.16	3.63	3.76	4.66	6.41	6.18	
RREEF REIT II	0.21	0.21	-9.42	4.39	4.27	5.26	7.35	7.48	07/01/1999
<i>NCREIF Property Index</i>	-0.98	-0.98	-7.16	3.63	3.76	4.66	6.41	7.85	

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	<u>1 Quarter</u>	<u>Year To Date</u>	<u>1 Year</u>	<u>3 Years</u>	<u>Performance (%)</u>				
					<u>5 Years</u>	<u>7 Years</u>	<u>10 Years</u>	<u>Since Inception</u>	<u>Inception Date</u>
Vanguard REIT Index Inv	-2.37	-2.37	8.55	1.77	3.73	4.66	N/A	4.64	01/01/2017
<i>Vanguard REIT Spliced Index</i>	-1.15	-1.15	8.68	1.87	3.83	4.78	6.33	4.75	
IM Real Estate Sector (MF) Median	-1.05	-1.05	8.19	2.41	3.79	4.67	6.14	4.65	
Vanguard REIT Index Inv Rank	89	89	43	68	53	51	N/A	51	
TA Realty Core Property Fund	-1.14	-1.14	-9.25	7.92	7.90	N/A	N/A	7.90	04/01/2019
<i>NCREF ODCE Equal Weighted</i>	-2.37	-2.37	-11.29	3.43	3.70	4.90	6.98	3.70	

Gross of Fees.

City of Memphis Retirement System
Comparative Performance - IRR

As of March 31, 2024

	Market Value (\$)	%	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	Since Inception	Inception Date
Real Estate										
Private Real Estate Composite	105,439,038	4.1	-0.9	-0.9	-16.2	0.8	2.0	3.8	9.0	09/30/2009
Dune Real Estate Fund IV	26,973,870	1.0	0.0	0.0	-1.8	13.7			3.6	08/22/2019
Green Cities III, L.P.	5,248,949	0.2	0.0	0.0	-60.0	-31.8	-18.6	-11.6	-9.6	11/13/2015
Green Cities IV, L.P.	13,032,408	0.5	0.0	0.0	-31.1	-15.0			-14.2	06/27/2019
Green Cities V, L.P.	10,838	0.0	-93.6	-93.6	-100.0				-100.0	03/27/2023
Long Wharf RE Partners V, L.P.	10,650,108	0.4	-7.4	-7.4	-10.8	1.9	3.6	6.8	6.1	11/20/2015
Long Wharf RE Partners VI, L.P.	13,783,333	0.5	0.4	0.4	2.3	15.7			15.0	06/27/2019
Long Wharf RE Partners VII, L.P.	3,390,065	0.1	-1.0	-1.0	-8.8				-20.4	03/30/2023
Mesirow Real Estate Value Fund III, L.P.	25,821,992	1.0	-0.2	-0.2	-3.8	13.3	11.6		10.9	05/07/2018
TA Realty Fund XI	560,540	0.0	0.0	0.0	-13.0	11.5	12.0	11.2	10.6	05/25/2016
TA Realty Fund XIII	5,713,079	0.2	0.0	0.0					-23.8	11/17/2023
Private Equity										
Private Equity Composite	123,681,818	4.8	0.0	0.0	1.3	9.8	12.6	12.7	13.4	12/15/2015
Goldman Sachs Black Equity Opportunities LLC	1,069,450	0.0	0.0	0.0					-19.3	11/02/2023
Neuberger Berman Crossroads Fund XXI	54,706,064	2.1	0.0	0.0	1.8	11.8	16.9	16.7	16.0	04/27/2016
Neuberger Berman Crossroads Fund XXIV	7,425,298	0.3	0.0	0.0	11.2				5.1	07/11/2022
Pantheon Global Secondary Fund V	27,615,716	1.1	0.0	0.0	-7.2	3.7	7.5	8.5	11.2	12/22/2015
RPS Ventures II	1,734,965	0.1	0.0	0.0					-22.9	07/21/2023
Siguler Guff Small Buyout Opportunities Fund V	8,120,825	0.3	0.0	0.0	11.8				16.5	08/05/2022
SSM Partners Growth Equity II L.P.	7,573,621	0.3	0.0	0.0	7.1	9.9	6.8	7.7	8.1	12/15/2015
SSM Partners Growth Equity III, LP	15,435,878	0.6	0.0	0.0	11.7	18.9			16.2	12/02/2019
Private Debt										
Private Debt Composite	36,112,765	1.4	0.0	0.0	10.2				11.0	07/30/2021
Churchill Middle Market Senior Loan Fund III	7,855,678	0.3	0.0	0.0	11.9				9.1	10/07/2021
Brightwood Capital Fund V	4,235,607	0.2	0.0	0.0	7.6				9.7	07/30/2021
Neuberger Berman Private Debt Fund IV	24,021,480	0.9	0.0	0.0	10.2				12.2	10/21/2021

City of Memphis

Comparative Performance

As of March 31, 2024

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
In House Cash	5.08	1.50	0.04	0.26	2.12	1.93	0.67	0.35	0.18	0.11
90 Day U.S. Treasury Bill	5.02	1.46	0.05	0.67	2.28	1.87	0.86	0.25	0.03	0.04
Domestic Equity Composite	24.76	-17.48	25.47	22.41	30.07	-5.88	22.62	10.04	-1.26	8.80
Russell 3000 Index	25.96	-19.21	25.66	20.89	31.02	-5.24	21.13	12.74	0.48	12.56
Domestic Equity Index	23.55	-18.82	23.52	20.08	29.94	-6.47	20.20	13.76	0.19	11.60
IM U.S. Equity (SA+CF) Median	19.36	-16.41	26.10	16.54	28.60	-7.08	19.43	13.21	-0.49	9.99
Domestic Equity Composite Rank	32	55	54	35	41	43	32	68	56	58
Barrow, Hanley	12.82	-2.54	26.34	4.53	26.10	-5.94	16.37	14.95	-1.57	13.68
Russell 1000 Value Index	11.46	-7.54	25.16	2.80	26.54	-8.27	13.66	17.34	-3.83	13.45
IM U.S. Large Cap Value Equity (SA+CF) Median	14.36	-5.41	27.87	4.51	27.52	-8.38	17.17	14.79	-2.37	12.04
Barrow, Hanley Rank	59	27	66	50	62	28	64	48	44	28
Winslow Capital Management	44.11	-30.74	24.86	38.77	34.63	4.19	33.24	-1.53	7.17	11.14
Russell 1000 Growth Index	42.68	-29.14	27.60	38.49	36.39	-1.51	30.21	7.08	5.67	13.05
IM U.S. Large Cap Growth Equity (SA+CF) Median	39.70	-29.05	25.01	35.35	33.98	-0.54	28.47	4.63	5.43	11.87
Winslow Capital Management Rank	27	61	52	35	45	11	20	93	35	59
Rhumbline Russell 1000 Growth	42.61	-29.11	27.58	38.51	36.35	-1.51	N/A	N/A	N/A	N/A
Russell 1000 Growth Index	42.68	-29.14	27.60	38.49	36.39	-1.51	30.21	7.08	5.67	13.05
IM U.S. Large Cap Growth Equity (SA+CF) Median	39.70	-29.05	25.01	35.35	33.98	-0.54	28.47	4.63	5.43	11.87
Rhumbline Russell 1000 Growth Rank	34	51	32	35	27	58	N/A	N/A	N/A	N/A
Rhumbline S&P 500	26.25	-18.09	28.72	18.40	31.39	-4.41	21.78	11.94	1.38	13.58
S&P 500	26.29	-18.11	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69
IM U.S. Large Cap Core Equity (SA+CF) Median	24.68	-16.54	27.74	17.65	30.06	-5.07	22.10	10.52	1.47	13.42
Rhumbline S&P 500 Rank	39	65	37	45	35	41	56	32	55	48
NTGI S&P 400	16.44	-13.06	24.84	13.64	26.22	-11.10	16.22	20.74	-2.17	9.75
S&P MidCap 400	16.44	-13.06	24.76	13.66	26.20	-11.08	16.24	20.74	-2.18	9.77
IM U.S. Mid Cap Core Equity (SA+CF) Median	16.51	-13.09	24.80	13.76	27.08	-11.02	17.47	16.61	-1.33	10.09
NTGI S&P 400 Rank	62	39	49	62	71	60	76	22	69	63

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)									
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Attucks SMID	16.14	-20.88	23.82	21.47	27.70	-4.36	23.75	N/A	N/A	N/A
Russell 2500 Index	17.42	-18.37	18.18	19.99	27.77	-10.00	16.81	17.59	-2.90	7.07
IM U.S. SMID Cap Equity (SA+CF) Median	17.41	-16.86	23.31	17.56	28.90	-9.85	17.98	16.34	-1.42	6.70
Attucks SMID Rank	56	67	47	42	60	22	24	N/A	N/A	N/A
Attucks Small Cap Value	25.51	-8.69	38.00	3.48	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2000 Value Index	14.65	-14.48	28.27	4.63	22.39	-12.86	7.84	31.74	-7.47	4.22
IM U.S. Small Cap Value Equity (SA+CF) Median	17.24	-10.61	30.09	5.18	24.99	-14.08	11.56	27.12	-4.29	5.72
Attucks Small Cap Value Rank	11	33	17	57	N/A	N/A	N/A	N/A	N/A	N/A
Nicholas Investment Partners	21.32	-31.08	9.62	69.08	36.26	-10.37	27.38	3.01	-1.36	-0.13
Russell 2000 Growth Index	18.66	-26.36	2.83	34.63	28.48	-9.31	22.17	11.32	-1.38	5.60
IM U.S. Small Cap Growth Equity (SA+CF) Median	18.46	-27.32	12.12	42.40	29.18	-3.83	24.33	10.61	-0.71	3.91
Nicholas Investment Partners Rank	31	74	61	13	27	87	36	90	56	76
Conestoga Capital Advisors	23.11	-27.05	17.47	32.97	26.95	N/A	N/A	N/A	N/A	N/A
Russell 2000 Growth Index	18.66	-26.36	2.83	34.63	28.48	-9.31	22.17	11.32	-1.38	5.60
IM U.S. Small Cap Growth Equity (SA+CF) Median	18.46	-27.32	12.12	42.40	29.18	-3.83	24.33	10.61	-0.71	3.91
Conestoga Capital Advisors Rank	18	48	32	72	63	N/A	N/A	N/A	N/A	N/A
International Equity Composite	17.14	-20.51	9.15	17.83	24.67	-15.52	33.29	3.30	-0.50	-1.08
International Equity Index	15.56	-16.14	6.88	11.18	20.94	-13.98	28.77	3.16	-4.06	-4.13
IM International Equity (SA+CF) Median	17.69	-16.27	11.76	11.58	23.56	-14.58	28.71	2.41	1.19	-3.37
International Equity Composite Rank	54	73	66	31	44	60	28	44	61	30
1607 Capital Partners	15.28	-19.27	12.25	16.08	25.34	-14.21	32.93	2.69	-0.08	-1.55
MSCI EAFE (Net)	18.24	-14.45	11.26	7.82	22.01	-13.79	25.03	1.00	-0.81	-4.90
IM International Large Cap Core Equity (SA+CF) Median	18.09	-15.93	11.97	11.76	23.61	-14.32	27.86	1.71	0.50	-3.67
1607 Capital Partners Rank	84	78	47	30	37	50	11	40	56	22

Gross of Fees

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)									
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Marathon Asset Mgmt	16.55	-13.54	10.00	9.94	23.94	-13.22	24.34	-1.17	7.15	-3.95
MSCI AC World ex USA (Net)	15.62	-16.00	7.82	10.65	21.51	-14.20	27.19	4.50	-5.66	-3.87
IM International Large Cap Core Equity (SA+CF) Median	18.09	-15.93	11.97	11.76	23.61	-14.32	27.86	1.71	0.50	-3.67
Marathon Asset Mgmt Rank	68	25	68	59	48	35	81	82	6	55
Principal Global Investors	19.51	-24.40	12.61	22.60	26.96	-17.31	26.47	-0.37	4.95	-1.10
MSCI World ex U.S. Growth (Net)	17.45	-22.68	11.57	18.41	27.92	-13.14	27.61	-1.87	1.65	-3.26
IM International Large Cap Core Equity (SA+CF) Median	18.09	-15.93	11.97	11.76	23.61	-14.32	27.86	1.71	0.50	-3.67
Principal Global Investors Rank	35	97	42	11	28	87	60	75	12	18
Strategic Global Advisors	20.20	-16.24	17.09	8.22	22.95	-16.55	30.04	0.01	3.84	1.30
MSCI World ex-U.S. (Net)	17.94	-14.29	12.62	7.59	22.49	-14.09	24.21	2.75	-3.04	-4.32
IM International Core Equity (SA+CF) Median	17.08	-16.74	12.44	12.18	23.97	-15.01	29.41	1.77	1.32	-3.43
Strategic Global Advisors Rank	20	44	15	72	59	66	45	72	30	9
Acadian EM Equity II	22.79	-19.83	8.59	12.47	17.83	-18.46	38.83	13.85	-17.49	2.28
MSCI EM (net)	9.83	-20.09	-2.54	18.31	18.42	-14.57	37.28	11.19	-14.92	-2.19
IM Emerging Markets Equity (SA+CF) Median	12.87	-19.54	0.94	18.29	20.15	-15.20	36.95	10.07	-12.06	0.12
Acadian EM Equity II Rank	19	53	26	75	67	80	39	23	90	34
J.P. Morgan Global Emerging Markets Discovery Fund	8.43	-28.06	-3.29	34.80	30.36	-15.05	46.95	N/A	N/A	N/A
MSCI EM (net)	9.83	-20.09	-2.54	18.31	18.42	-14.57	37.28	11.19	-14.92	-2.19
IM Emerging Markets Equity (SA+CF) Median	12.87	-19.54	0.94	18.29	20.15	-15.20	36.95	10.07	-12.06	0.12
J.P. Morgan Global Emerging Markets Discovery Fund Rank	75	90	69	14	11	49	12	N/A	N/A	N/A
Fixed Income Composite	7.29	-11.71	-0.36	9.51	9.88	-0.98	6.94	5.14	-0.23	4.70
Fixed Income Index	7.25	-13.63	-1.25	7.78	9.24	-0.91	5.50	4.83	-0.86	4.89
Mackay Shields	12.82	-6.92	6.26	6.25	14.24	-0.61	7.77	17.63	-0.68	2.55
Credit Suisse High Yield Index	13.55	-10.55	5.50	5.48	14.00	-2.37	7.03	18.26	-4.93	1.86
IM U.S. High Yield Bonds (SA+CF) Median	12.62	-9.32	5.34	6.58	14.25	-1.64	7.49	14.07	-2.06	2.60
Mackay Shields Rank	46	24	28	58	51	32	38	13	27	51

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)									
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
PIMCO	6.57	-12.46	-0.41	8.78	9.11	0.82	5.49	3.58	0.17	4.46
Blmbg. U.S. Aggregate	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	5.99	-12.95	-1.24	8.36	9.17	0.06	3.99	3.07	0.81	6.13
PIMCO Rank	21	27	21	38	54	9	5	34	89	96
Prudential Core Conserv Bond	6.04	-13.02	-1.54	7.75	8.82	-0.09	3.69	2.86	0.83	6.19
Blmbg. U.S. Aggregate	5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	5.99	-12.95	-1.24	8.36	9.17	0.06	3.99	3.07	0.81	6.13
Prudential Core Conserv Bond Rank	50	55	66	70	68	72	69	61	49	45
Brandywine	5.69	-13.45	-3.50	11.98	8.14	-2.74	11.09	1.05	N/A	N/A
Blmbg. Global Aggregate	5.72	-16.25	-4.71	9.20	6.84	-1.19	7.39	2.09	-3.15	0.59
FTSE World Government Bond Index	5.18	-18.26	-6.97	10.11	5.90	-0.84	7.49	1.60	-3.57	-0.48
IM Global Fixed Income (SA+CF) Median	9.02	-12.17	0.52	8.49	9.77	-1.73	7.76	6.17	-2.33	2.71
Brandywine Rank	81	59	75	18	76	67	14	93	N/A	N/A
Hedge Fund Composite	8.10	-3.41	7.59	11.20	7.95	-1.55	6.72	N/A	N/A	N/A
90-Day T-Bill+ 5%	10.27	6.53	5.05	5.70	7.39	6.97	5.90	5.27	5.03	5.04
HFRI FOF: Conservative Index	5.48	0.08	7.62	6.47	6.30	-0.87	4.12	1.89	0.37	3.14
Grosvenor Institutional Partners, L.P.	8.11	-5.86	7.78	17.17	6.06	-1.49	6.14	N/A	N/A	N/A
90-Day T-Bill+ 5%	10.27	6.53	5.05	5.70	7.39	6.97	5.90	5.27	5.03	5.04
HFRI FOF: Conservative Index	5.48	0.08	7.62	6.47	6.30	-0.87	4.12	1.89	0.37	3.14
Aetos	8.27	-0.68	6.46	6.99	9.26	-1.61	7.30	N/A	N/A	N/A
90-Day T-Bill + 5%	10.27	6.53	5.05	5.70	7.39	6.97	5.90	5.27	5.03	5.04
HFRI FOF: Conservative Index	5.48	0.08	7.62	6.47	6.30	-0.87	4.12	1.89	0.37	3.14
Total Real Estate Composite	-15.81	2.66	24.73	2.36	9.80	8.23	6.97	9.06	15.74	20.84
NCREIF Property Index	-7.94	5.51	17.70	1.60	6.42	6.72	6.96	7.97	13.33	11.82
Core Private Real Estate Composite	-14.64	5.06	25.04	2.55	10.16	4.91	7.75	8.50	11.92	20.06
NCREIF Property Index	-7.94	5.51	17.70	1.60	6.42	6.72	6.96	7.97	13.33	11.82

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

					Performance (%)					
	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
BlackRock US Core Property Fund	-18.23	9.61	19.62	2.86	6.39	7.76	8.87	10.95	15.25	11.63
NCREIF Property Index	-7.94	5.51	17.70	1.60	6.42	6.72	6.96	7.97	13.33	11.82
RREEF REIT II	-14.44	8.60	24.92	1.32	6.28	7.99	7.44	9.14	16.70	13.00
NCREIF Property Index	-7.94	5.51	17.70	1.60	6.42	6.72	6.96	7.97	13.33	11.82
Vanguard REIT Index Inv	13.17	-26.19	40.47	-4.67	28.95	-5.93	4.86	N/A	N/A	N/A
Vanguard REIT Spliced Index	11.96	-26.12	40.56	-4.55	29.03	-5.86	5.07	8.60	2.52	30.38
IM Real Estate Sector (MF) Median	11.91	-26.17	41.32	-4.31	27.32	-5.71	5.32	6.34	2.91	29.47
Vanguard REIT Index Inv Rank	27	51	61	54	34	54	59	N/A	N/A	N/A
TA Realty Core Property Fund	-8.83	9.59	30.41	6.23	N/A	N/A	N/A	N/A	N/A	N/A
NCREIF ODCE Equal Weighted	-12.01	7.46	22.62	1.57	6.08	8.25	7.80	9.27	15.17	12.38

Gross of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	<u>Performance (%)</u>								
	<u>1 Quarter</u>	<u>Year To Date</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>7 Years</u>	<u>10 Years</u>	<u>Since Inception</u>	<u>Inception Date</u>
Total Fund Composite	4.03	4.03	11.29	3.37	7.33	7.22	6.52	7.23	07/01/1996
Policy Index	4.53	4.53	13.94	4.29	7.48	7.44	6.86	7.26	
Policy Index2	4.56	4.56	13.72	3.95	7.24	7.18	6.68	7.19	
In House Cash	1.34	1.34	5.30	2.64	1.93	1.83	1.35	3.89	10/01/1982
90 Day U.S. Treasury Bill	1.29	1.29	5.24	2.58	2.02	1.90	1.37	3.67	
Domestic Equity Composite	10.33	10.33	30.34	9.55	14.37	13.44	11.45	13.10	10/01/2009
Russell 3000 Index	10.02	10.02	29.29	9.78	14.34	13.45	12.33	13.59	
Domestic Equity Index	9.46	9.46	27.03	8.03	13.10	12.35	11.50	13.03	
Fixed Income Composite	-1.61	-1.61	1.79	-2.14	1.20	1.82	2.15	3.29	10/01/2009
Fixed Income Index	-0.72	-0.72	3.19	-2.25	0.63	1.39	1.78	2.76	
International Equity Composite	5.11	5.11	13.50	0.64	6.43	6.32	5.23	6.34	10/01/2009
International Equity Index	4.72	4.72	13.07	1.69	5.81	5.84	4.32	5.30	
Hedge Fund Composite	4.02	4.02	10.56	5.01	6.26	5.36	N/A	5.81	04/01/2016
90-Day T-Bill+ 5%	2.53	2.53	10.50	7.71	7.12	7.00	6.44	6.79	
HFRI FOF: Conservative Index	2.48	2.48	7.11	3.97	5.02	4.31	3.54	4.44	
Core Private Real Estate Composite	-2.22	-2.22	-13.76	1.96	3.50	4.68	6.82	7.39	09/01/1999
NCREIF Property Index	-0.98	-0.98	-7.16	3.63	3.76	4.66	6.41	7.90	

Net of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
In House Cash	1.34	1.34	5.30	2.64	1.93	1.83	1.35	3.89	10/01/1982
90 Day U.S. Treasury Bill	1.29	1.29	5.24	2.58	2.02	1.90	1.37	3.67	
Domestic Equity Composite	10.33	10.33	30.34	9.55	14.37	13.44	11.45	13.10	10/01/2009
Russell 3000 Index	10.02	10.02	29.29	9.78	14.34	13.45	12.33	13.59	
Domestic Equity Index	9.46	9.46	27.03	8.03	13.10	12.35	11.50	13.03	
IM U.S. Equity (SA+CF) Median	8.98	8.98	24.07	8.27	12.56	11.73	10.61	13.07	
Domestic Equity Composite Rank	36	36	25	39	32	34	40	50	
Barrow, Hanley	10.74	10.74	27.82	10.27	12.43	11.20	10.30	12.64	10/01/1982
Russell 1000 Value Index	8.99	8.99	20.27	8.11	10.31	9.16	9.01	11.63	
IM U.S. Large Cap Value Equity (SA+CF) Median	9.60	9.60	23.42	10.36	12.47	11.15	10.22	N/A	
Barrow, Hanley Rank	32	32	25	51	52	48	49	N/A	
Winslow Capital Management	13.59	13.59	46.36	11.21	16.89	18.01	15.22	15.77	11/01/2011
Russell 1000 Growth Index	11.41	11.41	39.00	12.50	18.52	18.06	15.98	16.73	
IM U.S. Large Cap Growth Equity (SA+CF) Median	12.37	12.37	37.96	10.50	16.37	16.72	14.84	15.71	
Winslow Capital Management Rank	30	30	13	40	41	26	37	48	
Rhumbline Russell 1000 Growth	11.40	11.40	38.94	12.47	18.49	N/A	N/A	17.59	09/01/2017
Russell 1000 Growth Index	11.41	11.41	39.00	12.50	18.52	18.06	15.98	17.69	
IM U.S. Large Cap Growth Equity (SA+CF) Median	12.37	12.37	37.96	10.50	16.37	16.72	14.84	16.29	
Rhumbline Russell 1000 Growth Rank	62	62	49	21	17	N/A	N/A	21	
Rhumbline S&P 500	10.53	10.53	29.79	11.46	15.01	14.04	12.90	10.11	01/01/2004
S&P 500	10.56	10.56	29.88	11.49	15.05	14.09	12.96	10.11	
IM U.S. Large Cap Core Equity (SA+CF) Median	10.82	10.82	30.01	11.04	14.75	13.76	12.74	10.48	
Rhumbline S&P 500 Rank	56	56	55	41	42	45	45	81	
NTGI S&P 400	9.95	9.95	23.29	6.95	11.68	10.21	9.94	10.71	04/01/2011
S&P MidCap 400	9.95	9.95	23.33	6.96	11.71	10.26	9.99	10.76	
IM U.S. Mid Cap Core Equity (SA+CF) Median	9.95	9.95	23.32	7.07	11.77	10.89	10.10	11.16	
NTGI S&P 400 Rank	51	51	54	67	67	75	75	86	

Net of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Attucks SMID	9.19	9.19	20.57	2.79	10.37	11.31	N/A	12.99	02/01/2016
Russell 2500 Index	6.92	6.92	21.43	2.97	9.90	9.45	8.84	11.84	
IM U.S. SMID Cap Equity (SA+CF) Median	7.59	7.59	19.92	5.06	11.38	10.93	9.86	12.83	
Attucks SMID Rank	28	28	49	71	67	45	N/A	50	
Attucks Small Cap Value	5.03	5.03	28.30	10.18	13.18	N/A	N/A	13.18	04/01/2019
Russell 2000 Value Index	2.90	2.90	18.75	2.22	8.17	6.55	6.87	8.17	
IM U.S. Small Cap Value Equity (SA+CF) Median	5.18	5.18	21.02	6.40	11.18	8.92	8.76	11.18	
Attucks Small Cap Value Rank	56	56	11	18	22	N/A	N/A	22	
Nicholas Investment Partners	16.01	16.01	34.65	0.63	14.25	13.66	9.90	13.43	06/01/2012
Russell 2000 Growth Index	7.58	7.58	20.35	-2.68	7.38	8.40	7.89	10.92	
IM U.S. Small Cap Growth Equity (SA+CF) Median	7.26	7.26	18.14	-0.21	10.53	12.26	10.47	13.18	
Nicholas Investment Partners Rank	10	10	6	43	17	35	61	43	
Conestoga Capital Advisors	3.73	3.73	12.80	1.14	9.42	N/A	N/A	7.72	08/01/2018
Russell 2000 Growth Index	7.58	7.58	20.35	-2.68	7.38	8.40	7.89	5.56	
IM U.S. Small Cap Growth Equity (SA+CF) Median	7.26	7.26	18.14	-0.21	10.53	12.26	10.47	9.38	
Conestoga Capital Advisors Rank	88	88	81	36	66	N/A	N/A	76	
International Equity Composite	5.11	5.11	13.50	0.64	6.43	6.32	5.23	6.34	10/01/2009
International Equity Index	4.72	4.72	13.07	1.69	5.81	5.84	4.32	5.30	
IM International Equity (SA+CF) Median	5.08	5.08	14.06	3.52	7.68	7.10	5.69	7.32	
International Equity Composite Rank	50	50	53	74	69	69	63	75	
1607 Capital Partners	2.49	2.49	10.82	0.51	6.32	6.42	5.10	4.64	06/01/2008
MSCI EAFE (Net)	5.78	5.78	15.32	4.78	7.33	6.70	4.80	3.36	
IM International Large Cap Core Equity (SA+CF) Median	6.02	6.02	15.48	4.07	7.78	7.36	5.69	4.45	
1607 Capital Partners Rank	95	95	90	90	82	80	72	41	

Net of Fees.

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Comparative Performance

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	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Marathon Asset Mgmt	6.44	6.44	14.86	3.40	7.26	6.54	5.07	7.40	04/01/2004
MSCI AC World ex USA (Net)	4.69	4.69	13.26	1.94	5.97	5.88	4.25	5.68	
IM International Large Cap Core Equity (SA+CF) Median	6.02	6.02	15.48	4.07	7.78	7.36	5.69	6.83	
Marathon Asset Mgmt Rank	43	43	56	63	64	77	72	28	
Principal Global Investors	7.55	7.55	14.72	2.85	7.95	6.85	5.60	3.35	07/01/2007
MSCI World ex U.S. Growth (Net)	6.91	6.91	13.65	2.83	7.86	7.72	5.74	3.87	
IM International Large Cap Core Equity (SA+CF) Median	6.02	6.02	15.48	4.07	7.78	7.36	5.69	4.12	
Principal Global Investors Rank	24	24	56	72	45	66	54	90	
Strategic Global Advisors	7.21	7.21	18.45	5.31	7.74	6.92	5.77	8.45	06/01/2012
MSCI World ex-U.S. (Net)	5.59	5.59	15.29	4.93	7.48	6.78	4.81	7.53	
IM International Core Equity (SA+CF) Median	5.74	5.74	14.58	3.51	7.68	7.22	5.72	8.60	
Strategic Global Advisors Rank	25	25	27	30	49	59	49	59	
Acadian EM Equity II	5.64	5.64	19.62	1.11	5.84	5.10	4.29	2.84	05/01/2011
MSCI EM (net)	2.37	2.37	8.15	-5.05	2.22	3.72	2.95	1.35	
IM Emerging Markets Equity (SA+CF) Median	3.06	3.06	10.61	-2.82	4.20	5.10	4.54	2.94	
Acadian EM Equity II Rank	16	16	21	33	34	50	57	57	
J.P. Morgan Global Emerging Markets Discovery Fund	1.45	1.45	3.38	-8.86	2.52	5.08	N/A	6.45	12/01/2016
MSCI EM (net)	2.37	2.37	8.15	-5.05	2.22	3.72	2.95	5.12	
IM Emerging Markets Equity (SA+CF) Median	3.06	3.06	10.61	-2.82	4.20	5.10	4.54	6.57	
J.P. Morgan Global Emerging Markets Discovery Fund Rank	75	75	85	88	75	52	N/A	54	
Fixed Income Composite	-1.61	-1.61	1.79	-2.14	1.20	1.82	2.15	3.29	10/01/2009
Fixed Income Index	-0.72	-0.72	3.19	-2.25	0.63	1.39	1.78	2.76	
IM U.S. Fixed Income (SA+CF) Median	0.20	0.20	3.74	-0.40	1.79	2.13	2.30	3.09	
Fixed Income Composite Rank	96	96	86	82	74	67	58	46	

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	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Mackay Shields	1.84	1.84	10.28	3.39	4.87	5.03	5.13	7.29	01/01/1999
Credit Suisse High Yield Index	1.73	1.73	11.19	2.46	4.10	4.25	4.29	6.39	
IM U.S. High Yield Bonds (SA+CF) Median	1.63	1.63	10.66	2.67	4.38	4.47	4.44	6.52	
Mackay Shields Rank	30	30	61	18	26	22	12	8	
PIMCO	-0.39	-0.39	2.55	-1.93	0.90	1.65	1.92	2.97	04/01/2009
Blmbg. U.S. Aggregate	-0.78	-0.78	1.70	-2.46	0.36	1.06	1.54	2.62	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.47	-0.47	2.25	-2.11	0.91	1.56	2.01	3.45	
PIMCO Rank	41	41	36	37	53	42	61	78	
Prudential Core Conserv Bond	-0.64	-0.64	2.24	-2.28	0.45	1.10	1.61	2.45	09/01/2009
Blmbg. U.S. Aggregate	-0.78	-0.78	1.70	-2.46	0.36	1.06	1.54	2.38	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.47	-0.47	2.25	-2.11	0.91	1.56	2.01	2.99	
Prudential Core Conserv Bond Rank	71	71	51	66	84	89	88	87	
Barrow Hanley High Quality Core	-0.51	-0.51	2.45	N/A	N/A	N/A	N/A	6.19	11/01/2022
Blmbg. U.S. Aggregate	-0.78	-0.78	1.70	-2.46	0.36	1.06	1.54	5.63	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.51	-0.51	2.03	-2.34	0.63	1.29	1.72	6.07	
Barrow Hanley High Quality Core Rank	51	51	28	N/A	N/A	N/A	N/A	38	
Garcia Hamilton Aggregate	-1.30	-1.30	-0.30	N/A	N/A	N/A	N/A	5.32	11/01/2022
Blmbg. U.S. Aggregate	-0.78	-0.78	1.70	-2.46	0.36	1.06	1.54	5.63	
IM U.S. Broad Market Core Fixed Income (SA+CF) Median	-0.51	-0.51	2.03	-2.34	0.63	1.29	1.72	6.07	
Garcia Hamilton Aggregate Rank	98	98	98	N/A	N/A	N/A	N/A	82	
Brandywine	-5.11	-5.11	-3.38	-5.35	-0.62	0.41	N/A	0.45	08/01/2015
Blmbg. Global Aggregate	-2.08	-2.08	0.49	-4.73	-1.17	0.07	-0.07	0.46	
FTSE World Government Bond Index	-2.42	-2.42	-0.84	-6.12	-2.21	-0.65	-0.82	-0.17	
IM Global Fixed Income (SA+CF) Median	0.61	0.61	6.51	-0.31	2.38	2.83	2.59	3.06	
Brandywine Rank	100	100	99	89	85	87	N/A	92	

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	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Hedge Fund Composite	4.02	4.02	10.56	5.01	6.26	5.36	N/A	5.81	04/01/2016
90-Day T-Bill+ 5%	2.53	2.53	10.50	7.71	7.12	7.00	6.44	6.79	
HFRI FOF: Conservative Index	2.48	2.48	7.11	3.97	5.02	4.31	3.54	4.44	
Grosvenor Institutional Partners, L.P.	4.03	4.03	10.72	4.68	6.67	5.53	N/A	5.90	04/01/2016
90-Day T-Bill+ 5%	2.53	2.53	10.50	7.71	7.12	7.00	6.44	6.79	
HFRI FOF: Conservative Index	2.48	2.48	7.11	3.97	5.02	4.31	3.54	4.44	
Aetos	4.09	4.09	10.56	5.34	6.01	5.25	N/A	5.60	05/01/2016
90-Day T-Bill + 5%	2.53	2.53	10.50	7.71	7.12	7.00	6.44	6.80	
HFRI FOF: Conservative Index	2.48	2.48	7.11	3.97	5.02	4.31	3.54	4.43	
Total Real Estate Composite	-1.64	-1.64	-15.16	0.95	2.38	3.94	6.55	8.85	10/01/2009
NCREIF Property Index	-0.98	-0.98	-7.16	3.63	3.76	4.66	6.41	7.79	
BlackRock US Core Property Fund	-3.56	-3.56	-18.45	-0.58	1.39	3.12	5.58	2.67	10/01/2006
NCREIF Property Index	-0.98	-0.98	-7.16	3.63	3.76	4.66	6.41	6.18	
RREEF REIT II	-0.02	-0.02	-10.27	3.42	3.30	4.28	6.35	6.61	07/01/1999
NCREIF Property Index	-0.98	-0.98	-7.16	3.63	3.76	4.66	6.41	7.85	
Vanguard REIT Index Inv	-2.37	-2.37	8.55	1.77	3.73	4.66	N/A	4.64	01/01/2017
Vanguard REIT Spliced Index	-1.15	-1.15	8.68	1.87	3.83	4.78	6.33	4.75	
IM Real Estate Sector (MF) Median	-1.05	-1.05	8.19	2.41	3.79	4.67	6.14	4.65	
Vanguard REIT Index Inv Rank	89	89	43	68	53	51	N/A	51	
TA Realty Core Property Fund	-1.14	-1.14	-9.25	7.92	7.90	N/A	N/A	7.90	04/01/2019
NCREIF ODCE Equal Weighted	-2.37	-2.37	-11.29	3.43	3.70	4.90	6.98	3.70	

Net of Fees.

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Comparative Performance

As of March 31, 2024

	<u>Performance (%)</u>									
	<u>2023</u>	<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
Total Fund Composite	11.33	-13.24	13.13	14.58	18.36	-5.79	17.86	6.33	-0.17	5.09
Policy Index	14.44	-12.94	11.35	12.73	18.81	-4.51	16.69	8.04	-0.19	5.86
Policy Index2	14.09	-13.47	11.27	12.76	18.71	-5.04	16.63	7.97	-0.19	5.86
In House Cash	5.08	1.50	0.04	0.26	2.12	1.93	0.67	0.35	0.18	0.11
90 Day U.S. Treasury Bill	5.02	1.46	0.05	0.67	2.28	1.87	0.86	0.25	0.03	0.04
Domestic Equity Composite	24.42	-17.70	25.11	22.02	29.67	-6.17	22.22	9.62	-1.61	8.44
Russell 3000 Index	25.96	-19.21	25.66	20.89	31.02	-5.24	21.13	12.74	0.48	12.56
Domestic Equity Index	23.55	-18.82	23.52	20.08	29.94	-6.47	20.20	13.76	0.19	11.60
Fixed Income Composite	6.96	-11.98	-0.70	9.17	9.51	-1.28	6.58	4.83	-0.53	4.42
Fixed Income Index	7.25	-13.63	-1.25	7.78	9.24	-0.91	5.50	4.83	-0.86	4.89
International Equity Composite	16.36	-21.01	8.44	17.01	23.83	-16.10	32.40	2.64	-1.18	-1.73
International Equity Index	15.56	-16.14	6.88	11.18	20.94	-13.98	28.77	3.16	-4.06	-4.13
Hedge Fund Composite	8.10	-3.41	7.59	11.20	7.95	-1.55	6.72	N/A	N/A	N/A
90-Day T-Bill+ 5%	10.27	6.53	5.05	5.70	7.39	6.97	5.90	5.27	5.03	5.04
HFRI FOF: Conservative Index	5.48	0.08	7.62	6.47	6.30	-0.87	4.12	1.89	0.37	3.14
Total Real Estate Composite	-16.22	2.12	24.06	1.81	9.01	7.46	6.29	8.20	14.65	20.16
NCREIF Property Index	-7.94	5.51	17.70	1.60	6.42	6.72	6.96	7.97	13.33	11.82

Net of Fees.

City of Memphis

Comparative Performance

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	Market Value (\$000)	Performance (%)									
		2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
In House Cash	63,139	5.08	1.50	0.04	0.26	2.12	1.93	0.67	0.35	0.18	0.11
90 Day U.S. Treasury Bill		5.02	1.46	0.05	0.67	2.28	1.87	0.86	0.25	0.03	0.04
Domestic Equity Composite	820,549	24.42	-17.70	25.11	22.02	29.67	-6.17	22.22	9.62	-1.61	8.44
Russell 3000 Index		25.96	-19.21	25.66	20.89	31.02	-5.24	21.13	12.74	0.48	12.56
Domestic Equity Index		23.55	-18.82	23.52	20.08	29.94	-6.47	20.20	13.76	0.19	11.60
IM U.S. Equity (SA+CF) Median		19.36	-16.41	26.10	16.54	28.60	-7.08	19.43	13.21	-0.49	9.99
Domestic Equity Composite Rank		33	56	56	35	44	45	34	70	59	61
Barrow, Hanley	170,533	12.48	-2.83	25.97	4.19	25.67	-6.30	15.92	14.50	-1.92	13.29
Russell 1000 Value Index		11.46	-7.54	25.16	2.80	26.54	-8.27	13.66	17.34	-3.83	13.45
IM U.S. Large Cap Value Equity (SA+CF) Median		14.36	-5.41	27.87	4.51	27.52	-8.38	17.17	14.79	-2.37	12.04
Barrow, Hanley Rank		61	30	68	53	66	31	69	54	45	33
Winslow Capital Management	86,499	43.28	-31.14	24.15	37.97	33.81	3.57	32.46	-2.13	6.55	10.67
Russell 1000 Growth Index		42.68	-29.14	27.60	38.49	36.39	-1.51	30.21	7.08	5.67	13.05
IM U.S. Large Cap Growth Equity (SA+CF) Median		39.70	-29.05	25.01	35.35	33.98	-0.54	28.47	4.63	5.43	11.87
Winslow Capital Management Rank		32	65	58	38	52	13	26	95	41	63
Rhumbline Russell 1000 Growth	83,982	42.61	-29.11	27.58	38.51	36.35	-1.51	N/A	N/A	N/A	N/A
Russell 1000 Growth Index		42.68	-29.14	27.60	38.49	36.39	-1.51	30.21	7.08	5.67	13.05
IM U.S. Large Cap Growth Equity (SA+CF) Median		39.70	-29.05	25.01	35.35	33.98	-0.54	28.47	4.63	5.43	11.87
Rhumbline Russell 1000 Growth Rank		34	51	32	35	27	58	N/A	N/A	N/A	N/A
Rhumbline S&P 500	221,693	26.22	-18.11	28.69	18.37	31.36	-4.43	21.75	11.89	1.35	13.55
S&P 500		26.29	-18.11	28.71	18.40	31.49	-4.38	21.83	11.96	1.38	13.69
IM U.S. Large Cap Core Equity (SA+CF) Median		24.68	-16.54	27.74	17.65	30.06	-5.07	22.10	10.52	1.47	13.42
Rhumbline S&P 500 Rank		39	67	37	46	35	42	57	33	55	48
NTGI S&P 400	58,356	16.39	-13.10	24.79	13.59	26.16	-11.14	16.17	20.68	-2.22	9.70
S&P MidCap 400		16.44	-13.06	24.76	13.66	26.20	-11.08	16.24	20.74	-2.18	9.77
IM U.S. Mid Cap Core Equity (SA+CF) Median		16.51	-13.09	24.80	13.76	27.08	-11.02	17.47	16.61	-1.33	10.09
NTGI S&P 400 Rank		65	51	56	66	73	62	79	26	74	66

Net of Fees.

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	Market Value (\$000)	Performance (%)									
		2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Attucks SMID	66,068	15.60	-21.26	23.27	20.87	27.08	-4.83	23.15	N/A	N/A	N/A
Russell 2500 Index		17.42	-18.37	18.18	19.99	27.77	-10.00	16.81	17.59	-2.90	7.07
IM U.S. SMID Cap Equity (SA+CF) Median		17.41	-16.86	23.31	17.56	28.90	-9.85	17.98	16.34	-1.42	6.70
Attucks SMID Rank		61	68	51	43	65	24	25	N/A	N/A	N/A
Attucks Small Cap Value	75,395	24.97	-9.09	37.37	2.98	N/A	N/A	N/A	N/A	N/A	N/A
Russell 2000 Value Index		14.65	-14.48	28.27	4.63	22.39	-12.86	7.84	31.74	-7.47	4.22
IM U.S. Small Cap Value Equity (SA+CF) Median		17.24	-10.61	30.09	5.18	24.99	-14.08	11.56	27.12	-4.29	5.72
Attucks Small Cap Value Rank		12	38	20	61	N/A	N/A	N/A	N/A	N/A	N/A
Nicholas Investment Partners	30,505	20.11	-31.60	8.52	67.40	34.93	-11.26	26.11	1.98	-2.34	-1.12
Russell 2000 Growth Index		18.66	-26.36	2.83	34.63	28.48	-9.31	22.17	11.32	-1.38	5.60
IM U.S. Small Cap Growth Equity (SA+CF) Median		18.46	-27.32	12.12	42.40	29.18	-3.83	24.33	10.61	-0.71	3.91
Nicholas Investment Partners Rank		36	77	65	16	31	89	42	92	65	82
Conestoga Capital Advisors	27,518	22.11	-27.66	16.41	32.04	26.02	N/A	N/A	N/A	N/A	N/A
Russell 2000 Growth Index		18.66	-26.36	2.83	34.63	28.48	-9.31	22.17	11.32	-1.38	5.60
IM U.S. Small Cap Growth Equity (SA+CF) Median		18.46	-27.32	12.12	42.40	29.18	-3.83	24.33	10.61	-0.71	3.91
Conestoga Capital Advisors Rank		24	54	37	73	69	N/A	N/A	N/A	N/A	N/A
International Equity Composite	607,723	16.36	-21.01	8.44	17.01	23.83	-16.10	32.40	2.64	-1.18	-1.73
International Equity Index		15.56	-16.14	6.88	11.18	20.94	-13.98	28.77	3.16	-4.06	-4.13
IM International Equity (SA+CF) Median		17.69	-16.27	11.76	11.58	23.56	-14.58	28.71	2.41	1.19	-3.37
International Equity Composite Rank		61	75	71	33	49	65	31	49	66	35
1607 Capital Partners	117,247	14.50	-20.18	11.46	15.28	24.50	-14.82	32.05	1.97	-0.82	-2.22
MSCI EAFE (Net)		18.24	-14.45	11.26	7.82	22.01	-13.79	25.03	1.00	-0.81	-4.90
IM International Large Cap Core Equity (SA+CF) Median		18.09	-15.93	11.97	11.76	23.61	-14.32	27.86	1.71	0.50	-3.67
1607 Capital Partners Rank		89	85	55	32	44	60	15	47	62	30

Net of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Market Value (\$000)	Performance (%)									
		2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Marathon Asset Mgmt	116,323	15.81	-14.09	9.29	9.30	23.13	-13.78	23.53	-1.82	6.45	-4.59
MSCI AC World ex USA (Net)		15.62	-16.00	7.82	10.65	21.51	-14.20	27.19	4.50	-5.66	-3.87
IM International Large Cap Core Equity (SA+CF) Median		18.09	-15.93	11.97	11.76	23.61	-14.32	27.86	1.71	0.50	-3.67
Marathon Asset Mgmt Rank		75	32	71	64	54	42	89	86	9	62
Principal Global Investors	117,835	18.89	-24.52	11.97	21.89	26.23	-17.79	25.75	-0.95	4.34	-1.67
MSCI World ex U.S. Growth (Net)		17.45	-22.68	11.57	18.41	27.92	-13.14	27.61	-1.87	1.65	-3.26
IM International Large Cap Core Equity (SA+CF) Median		18.09	-15.93	11.97	11.76	23.61	-14.32	27.86	1.71	0.50	-3.67
Principal Global Investors Rank		41	97	50	12	32	90	68	79	13	23
Strategic Global Advisors	73,772	19.33	-16.85	16.18	7.36	22.09	-17.09	29.13	-0.74	3.08	0.54
MSCI World ex-U.S. (Net)		17.94	-14.29	12.62	7.59	22.49	-14.09	24.21	2.75	-3.04	-4.32
IM International Core Equity (SA+CF) Median		17.08	-16.74	12.44	12.18	23.97	-15.01	29.41	1.77	1.32	-3.43
Strategic Global Advisors Rank		31	51	20	76	66	72	52	77	37	13
Acadian EM Equity II	96,798	21.93	-20.42	7.84	11.67	17.03	-19.04	37.87	13.08	-18.07	1.60
MSCI EM (net)		9.83	-20.09	-2.54	18.31	18.42	-14.57	37.28	11.19	-14.92	-2.19
IM Emerging Markets Equity (SA+CF) Median		12.87	-19.54	0.94	18.29	20.15	-15.20	36.95	10.07	-12.06	0.12
Acadian EM Equity II Rank		21	57	27	77	70	84	43	30	92	38
J.P. Morgan Global Emerging Markets Discovery Fund	85,749	7.56	-28.67	-3.87	33.64	29.38	-15.74	45.78	N/A	N/A	N/A
MSCI EM (net)		9.83	-20.09	-2.54	18.31	18.42	-14.57	37.28	11.19	-14.92	-2.19
IM Emerging Markets Equity (SA+CF) Median		12.87	-19.54	0.94	18.29	20.15	-15.20	36.95	10.07	-12.06	0.12
J.P. Morgan Global Emerging Markets Discovery Fund Rank		79	91	72	16	14	57	13	N/A	N/A	N/A
Fixed Income Composite	626,078	6.96	-11.98	-0.70	9.17	9.51	-1.28	6.58	4.83	-0.53	4.42
Fixed Income Index		7.25	-13.63	-1.25	7.78	9.24	-0.91	5.50	4.83	-0.86	4.89
IM U.S. Fixed Income (SA+CF) Median		6.33	-9.19	0.01	6.92	8.73	0.46	4.16	3.60	0.75	4.43
Fixed Income Composite Rank		41	65	69	27	39	77	27	40	74	51

Net of Fees.

City of Memphis

Comparative Performance

As of March 31, 2024

	Market Value (\$000)	Performance (%)									
		2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Mackay Shields	133,251	12.40	-7.36	5.77	5.87	13.72	-0.96	7.27	17.20	-1.13	2.09
Credit Suisse High Yield Index		13.55	-10.55	5.50	5.48	14.00	-2.37	7.03	18.26	-4.93	1.86
IM U.S. High Yield Bonds (SA+CF) Median		12.62	-9.32	5.34	6.58	14.25	-1.64	7.49	14.07	-2.06	2.60
Mackay Shields Rank		56	25	39	66	55	35	55	17	34	61
PIMCO	97,295	6.15	-12.74	-0.80	8.36	8.73	0.49	5.14	3.24	-0.15	4.15
Blmbg. U.S. Aggregate		5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97
IM U.S. Broad Market Core Fixed Income (SA+CF) Median		5.99	-12.95	-1.24	8.36	9.17	0.06	3.99	3.07	0.81	6.13
PIMCO Rank		43	38	33	50	77	17	7	45	97	98
Prudential Core Conserv Bond	92,946	6.04	-13.06	-1.65	7.59	8.66	-0.21	3.56	2.75	0.73	6.09
Blmbg. U.S. Aggregate		5.53	-13.01	-1.55	7.51	8.72	0.01	3.54	2.65	0.55	5.97
IM U.S. Broad Market Core Fixed Income (SA+CF) Median		5.99	-12.95	-1.24	8.36	9.17	0.06	3.99	3.07	0.81	6.13
Prudential Core Conserv Bond Rank		50	61	83	81	82	81	81	66	59	55
Brandywine	195,078	5.29	-13.77	-3.86	11.57	7.74	-3.10	10.67	0.67	N/A	N/A
Blmbg. Global Aggregate		5.72	-16.25	-4.71	9.20	6.84	-1.19	7.39	2.09	-3.15	0.59
FTSE World Government Bond Index		5.18	-18.26	-6.97	10.11	5.90	-0.84	7.49	1.60	-3.57	-0.48
IM Global Fixed Income (SA+CF) Median		9.02	-12.17	0.52	8.49	9.77	-1.73	7.76	6.17	-2.33	2.71
Brandywine Rank		85	61	78	23	81	71	16	94	N/A	N/A
Hedge Fund Composite	102,787	8.10	-3.41	7.59	11.20	7.95	-1.55	6.72	N/A	N/A	N/A
90-Day T-Bill+ 5%		10.27	6.53	5.05	5.70	7.39	6.97	5.90	5.27	5.03	5.04
HFRI FOF: Conservative Index		5.48	0.08	7.62	6.47	6.30	-0.87	4.12	1.89	0.37	3.14
Grosvenor Institutional Partners, L.P.	52,286	8.11	-5.86	7.78	17.17	6.06	-1.49	6.14	N/A	N/A	N/A
90-Day T-Bill+ 5%		10.27	6.53	5.05	5.70	7.39	6.97	5.90	5.27	5.03	5.04
HFRI FOF: Conservative Index		5.48	0.08	7.62	6.47	6.30	-0.87	4.12	1.89	0.37	3.14
Aetos	50,501	8.27	-0.68	6.46	6.99	9.26	-1.61	7.30	N/A	N/A	N/A
90-Day T-Bill + 5%		10.27	6.53	5.05	5.70	7.39	6.97	5.90	5.27	5.03	5.04
HFRI FOF: Conservative Index		5.48	0.08	7.62	6.47	6.30	-0.87	4.12	1.89	0.37	3.14

Net of Fees.

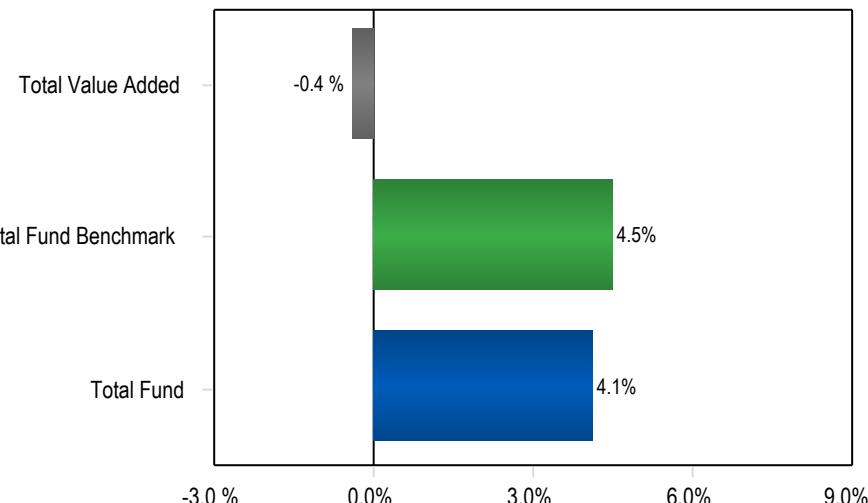
City of Memphis

Comparative Performance

As of March 31, 2024

	Market Value (\$000)	Performance (%)									
		2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Real Estate Composite	214,132	-16.22	2.12	24.06	1.81	9.01	7.46	6.29	8.20	14.65	20.16
NCREIF Property Index		-7.94	5.51	17.70	1.60	6.42	6.72	6.96	7.97	13.33	11.82
BlackRock US Core Property Fund	59,807	-18.88	8.74	18.65	2.08	5.58	7.20	8.29	10.10	14.38	10.71
NCREIF Property Index		-7.94	5.51	17.70	1.60	6.42	6.72	6.96	7.97	13.33	11.82
RREEF REIT II	16,774	-15.25	7.59	23.79	0.37	5.29	6.98	6.43	8.12	15.63	11.95
NCREIF Property Index		-7.94	5.51	17.70	1.60	6.42	6.72	6.96	7.97	13.33	11.82
Vanguard REIT Index Inv	3,549	13.17	-26.19	40.47	-4.67	28.95	-5.93	4.86	N/A	N/A	N/A
Vanguard REIT Spliced Index		11.96	-26.12	40.56	-4.55	29.03	-5.86	5.07	8.60	2.52	30.38
IM Real Estate Sector (MF) Median		11.91	-26.17	41.32	-4.31	27.32	-5.71	5.32	6.34	2.91	29.47
Vanguard REIT Index Inv Rank		27	51	61	54	34	54	59	N/A	N/A	N/A
TA Realty Core Property Fund	28,562	-8.83	8.84	29.56	5.50	N/A	N/A	N/A	N/A	N/A	N/A
NCREIF ODCE Equal Weighted		-12.01	7.46	22.62	1.57	6.08	8.25	7.80	9.27	15.17	12.38

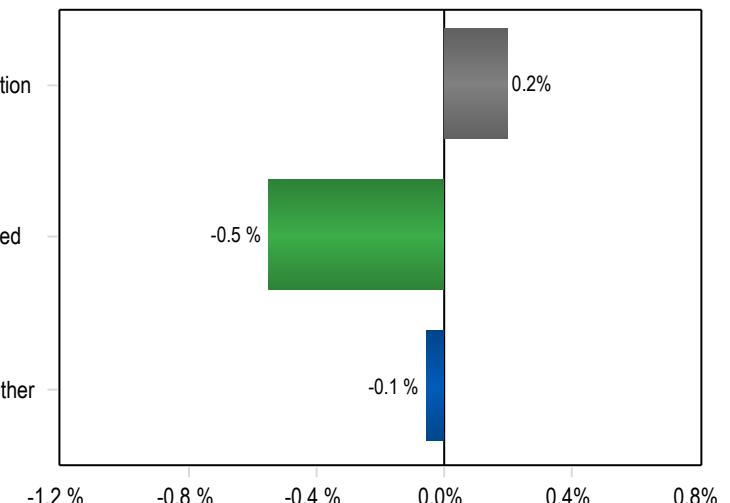
Net of Fees.

Total Fund Performance**Total Value Added:-0.4 %**

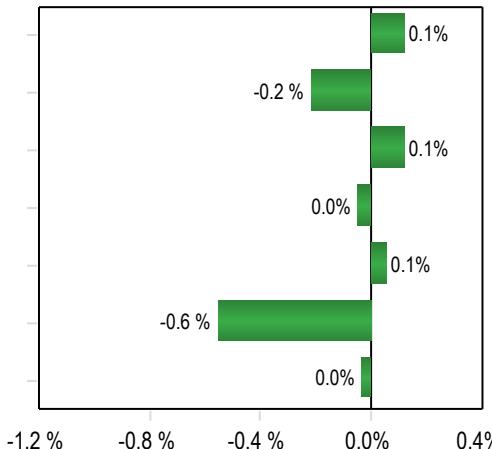
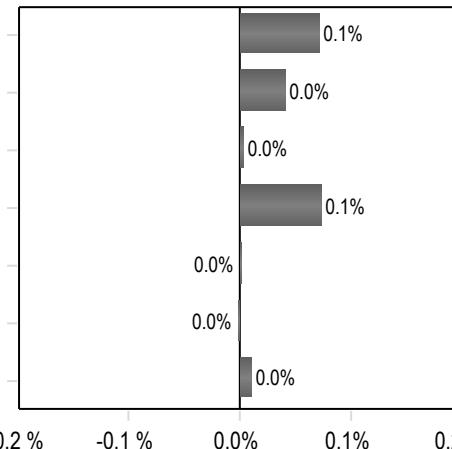
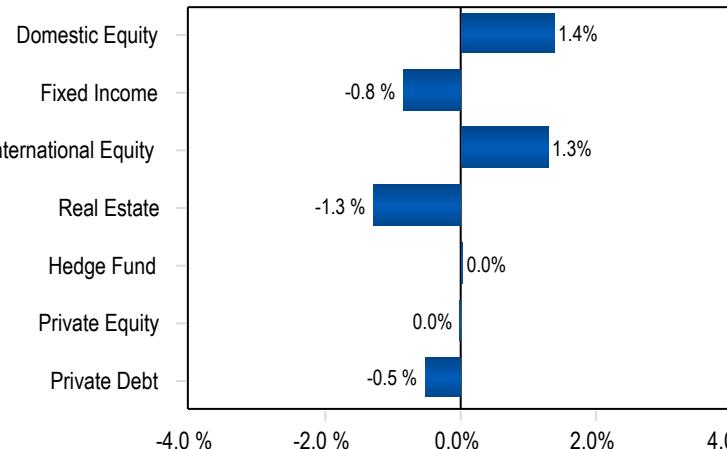
Asset Allocation

Manager Value Added

Other

**Total Asset Allocation:0.2%****Total Manager Value Added:-0.5 %**

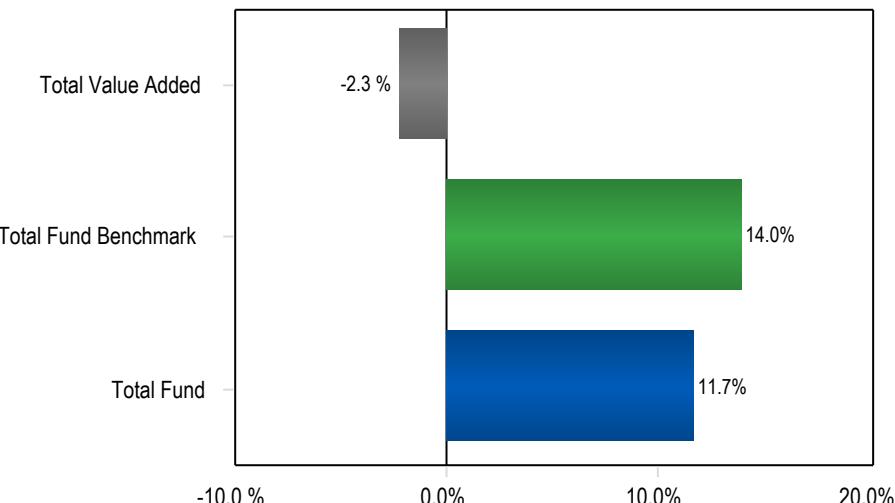
Weight (%)



■ Average Active Weight

■ Asset Allocation Value Added

■ Manager Value Added

Total Fund Performance**Total Value Added:-2.3 %**

Asset Allocation

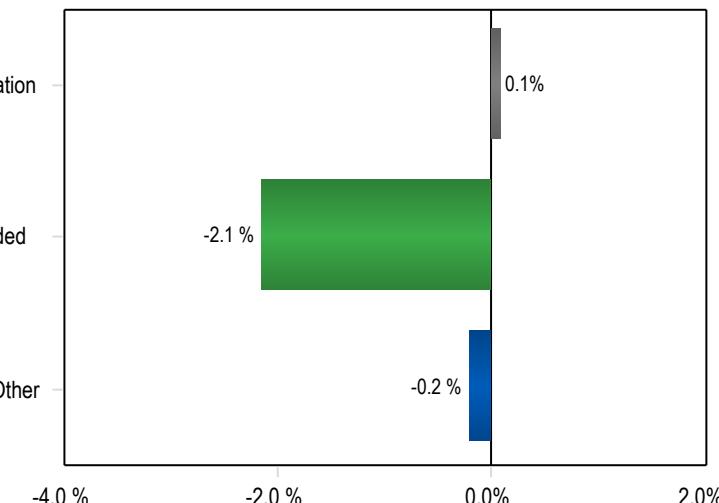
Manager Value Added

Other

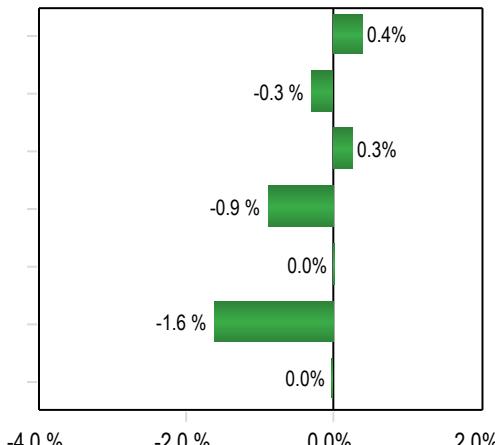
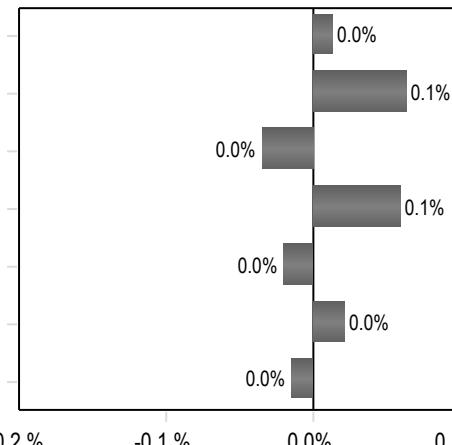
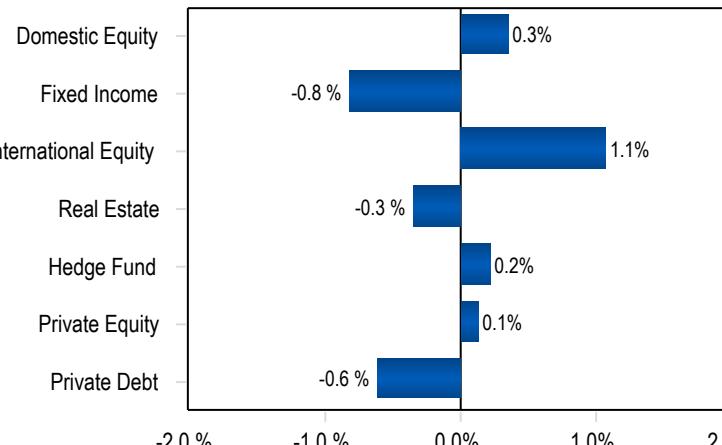
0.1%

-2.1 %

-0.2 %

**Total Asset Allocation:0.1%****Total Manager Value Added:-2.1 %**

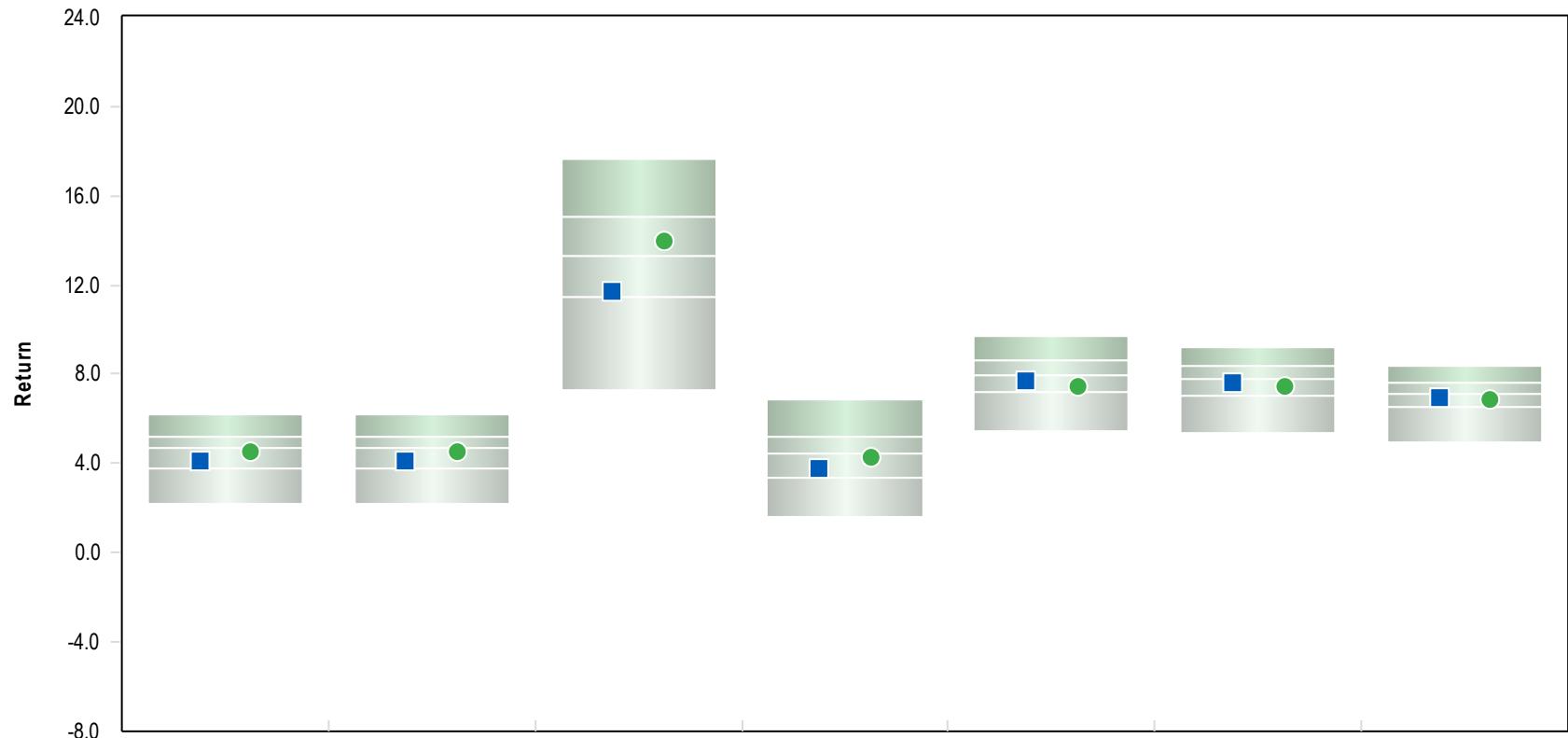
Weight (%)



■ Average Active Weight

■ Asset Allocation Value Added

■ Manager Value Added



■ Total Fund Composite

● Policy Index

1 Qtr

YTD

1 Yr

3 Yrs

5 Yrs

7 Yrs

10 Yrs

4.12 (64)

4.12 (64)

11.70 (73)

3.75 (67)

7.75 (60)

7.65 (57)

6.95 (57)

4.53 (53)

4.53 (53)

13.94 (40)

4.29 (53)

7.48 (68)

7.44 (63)

6.86 (61)

5th Percentile

6.20

6.20

17.68

6.91

9.68

9.24

8.35

1st Quartile

5.24

5.24

15.08

5.22

8.67

8.36

7.61

Median

4.68

4.68

13.30

4.43

7.98

7.78

7.12

3rd Quartile

3.79

3.79

11.51

3.34

7.18

7.07

6.50

95th Percentile

2.17

2.17

7.33

1.60

5.42

5.38

4.91

Population

392

392

322

297

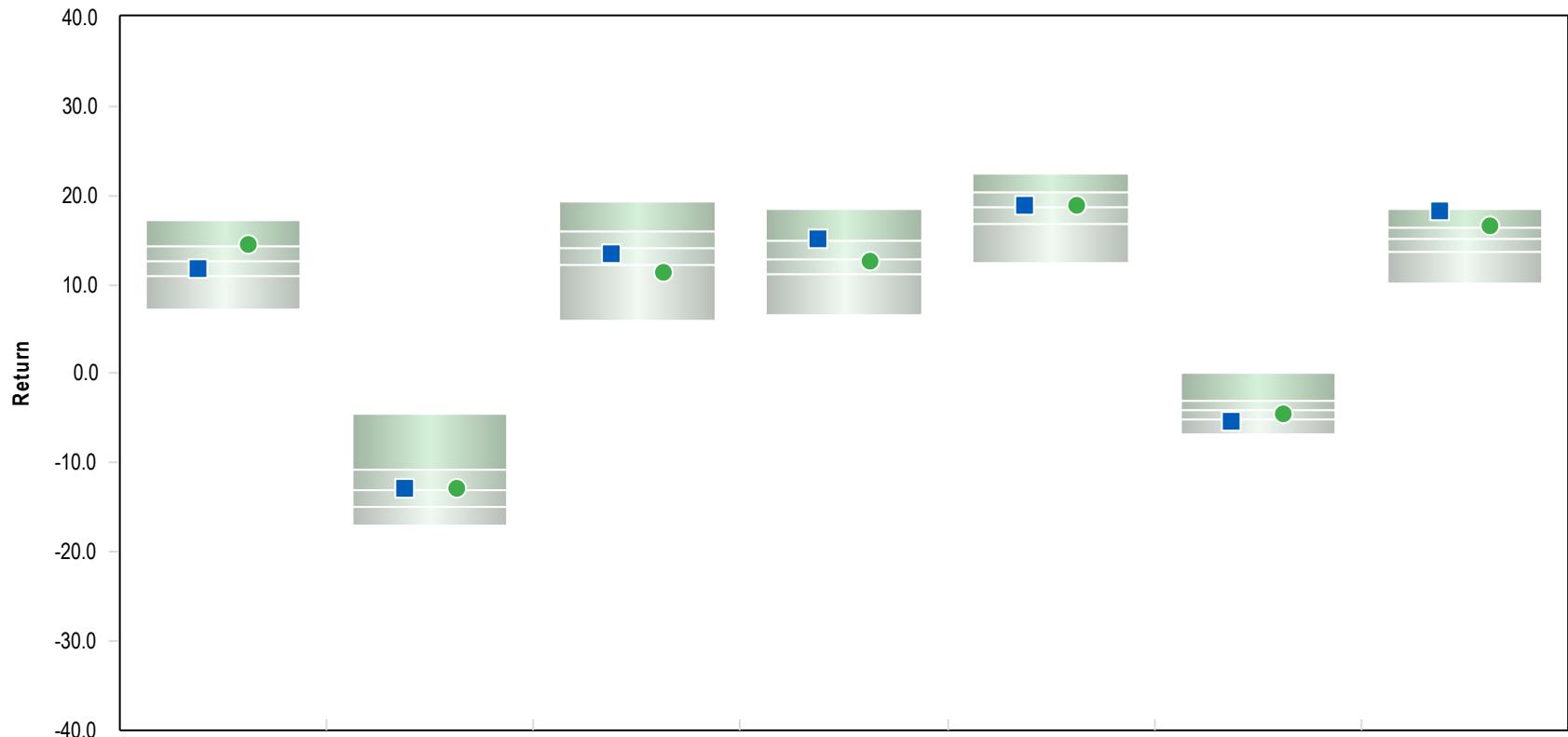
286

274

252

Parentheses contain percentile rankings.

Calculation based on monthly periodicity.



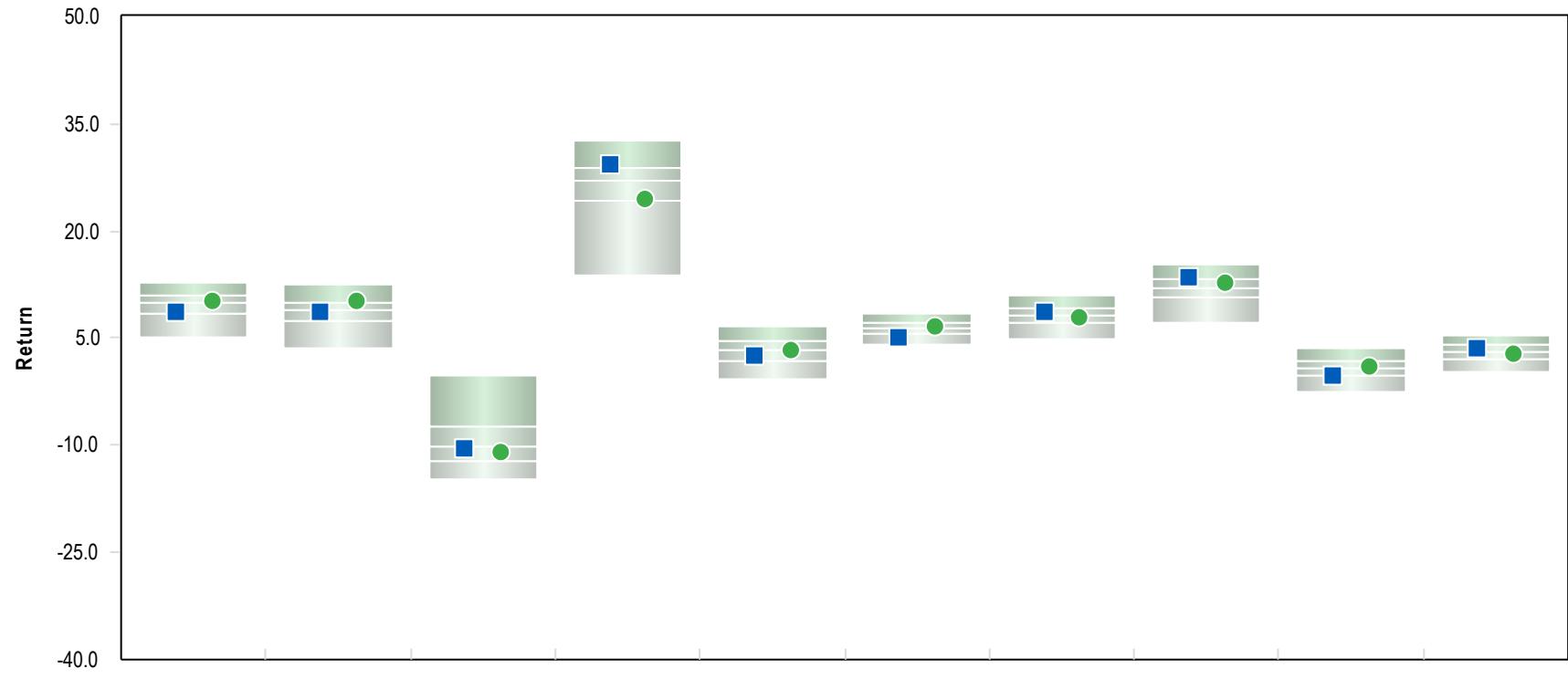
	2023	2022	2021	2020	2019	2018	2017
■ Total Fund Composite	11.74 (64)	-12.92 (50)	13.57 (57)	15.06 (23)	18.86 (48)	-5.39 (80)	18.36 (6)
● Policy Index	14.44 (24)	-12.94 (50)	11.35 (83)	12.73 (51)	18.81 (49)	-4.51 (58)	16.69 (20)
5th Percentile	17.25	-4.56	19.35	18.42	22.45	0.00	18.38
1st Quartile	14.34	-10.85	16.00	14.87	20.40	-2.96	16.44
Median	12.69	-12.96	14.04	12.76	18.74	-4.16	15.10
3rd Quartile	10.99	-14.87	12.21	11.07	16.81	-5.17	13.77
95th Percentile	7.22	-16.95	5.97	6.56	12.45	-6.87	10.05
Population	516	558	645	706	731	606	618

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

City of Memphis

All Public Plans-Total Fund

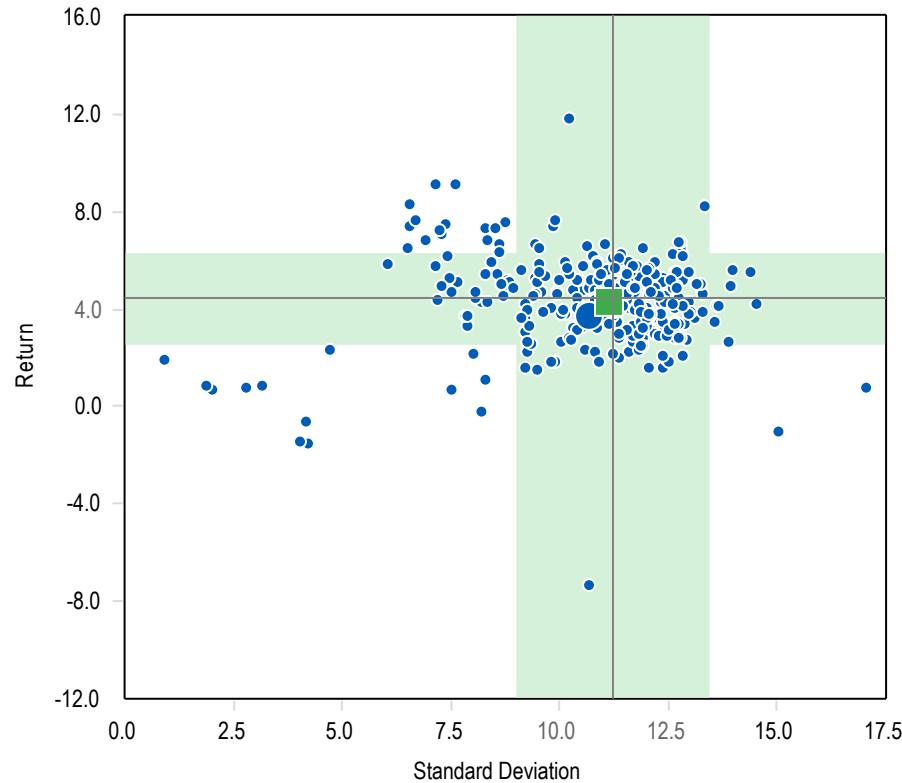
As of March 31, 2024



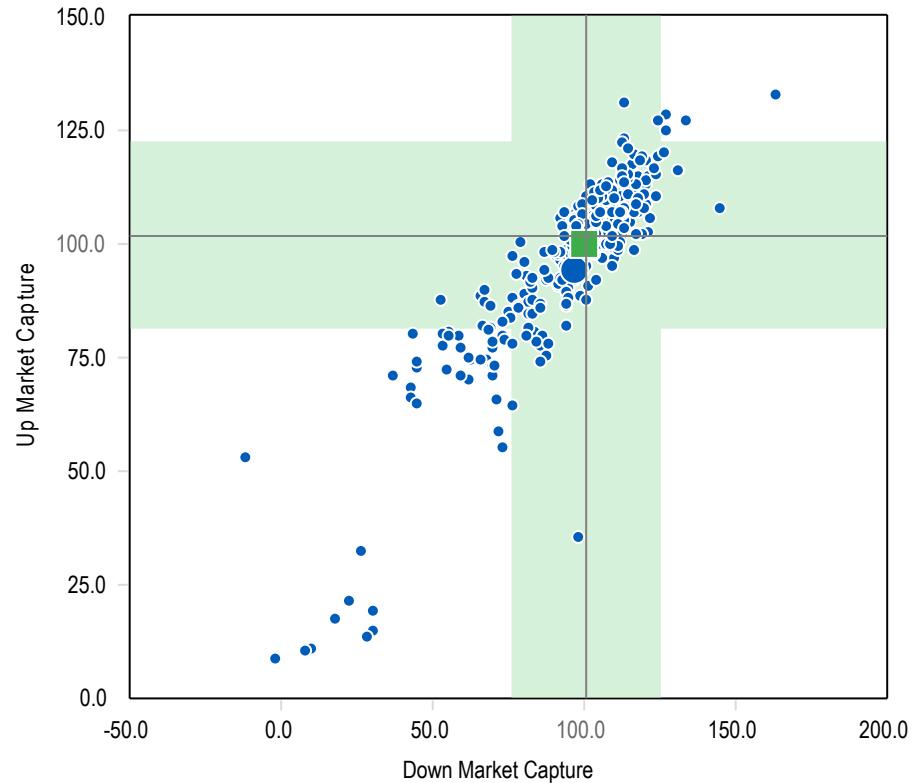
	Jul-2022 FYTD	To Jun-2023	To Jun-2022	To Jun-2021	To Jun-2020	To Jun-2019	To Jun-2018	To Jun-2017	To Jun-2016	To Jun-2015
■ Total Fund Composite	8.69 (73)	8.77 (55)	-10.31 (53)	29.46 (21)	2.48 (62)	5.10 (85)	8.78 (36)	13.55 (22)	-0.10 (71)	3.72 (35)
● Policy Index	10.20 (40)	10.15 (23)	-10.93 (60)	24.40 (75)	3.33 (49)	6.55 (45)	7.91 (59)	12.89 (33)	1.02 (44)	2.78 (64)
5th Percentile	12.69	12.43	-0.27	32.74	6.68	8.55	10.91	15.26	3.70	5.46
1st Quartile	11.04	10.03	-7.39	28.93	4.63	7.23	9.29	13.34	1.85	4.05
Median	9.85	8.87	-10.11	26.98	3.27	6.42	8.27	12.00	0.78	3.21
3rd Quartile	8.53	7.36	-12.25	24.27	1.75	5.66	7.29	10.65	-0.30	2.18
95th Percentile	5.14	3.61	-14.86	13.81	-0.76	4.12	4.97	7.21	-2.45	0.34
Population	334	521	568	675	725	544	393	417	425	373

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

3 Years Annualized Return vs. Annualized Standard Deviation



3 Years Upside Capture Ratio vs. Downside Capture Ratio

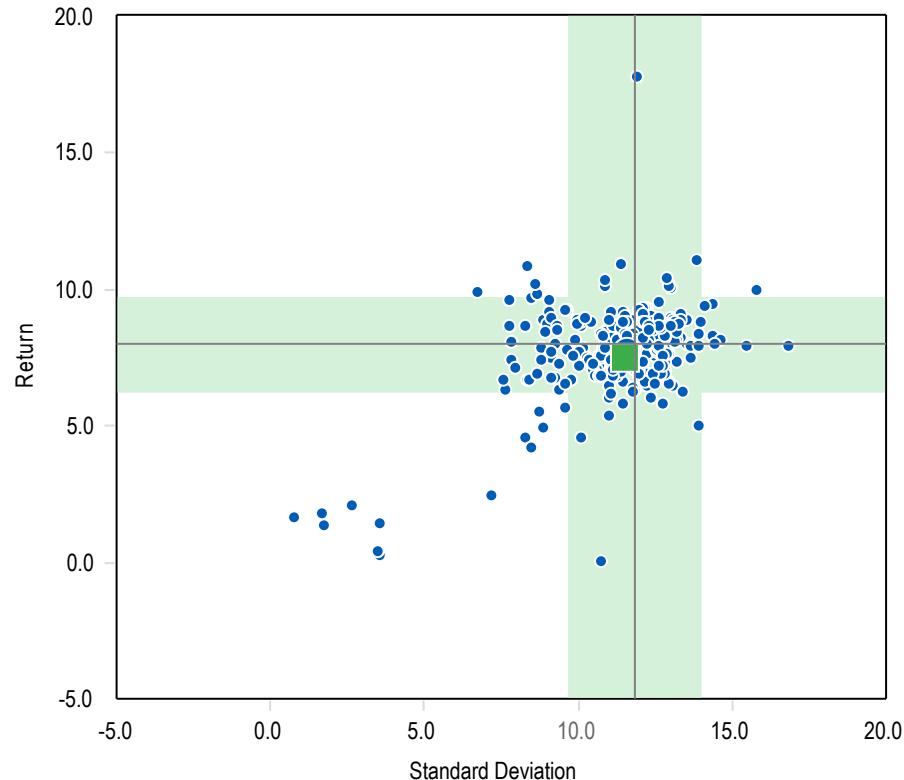


	Return	Standard Deviation
Total Fund Composite	3.8	10.7
Policy Index	4.3	11.1
Median	4.4	11.2
Population	297	297

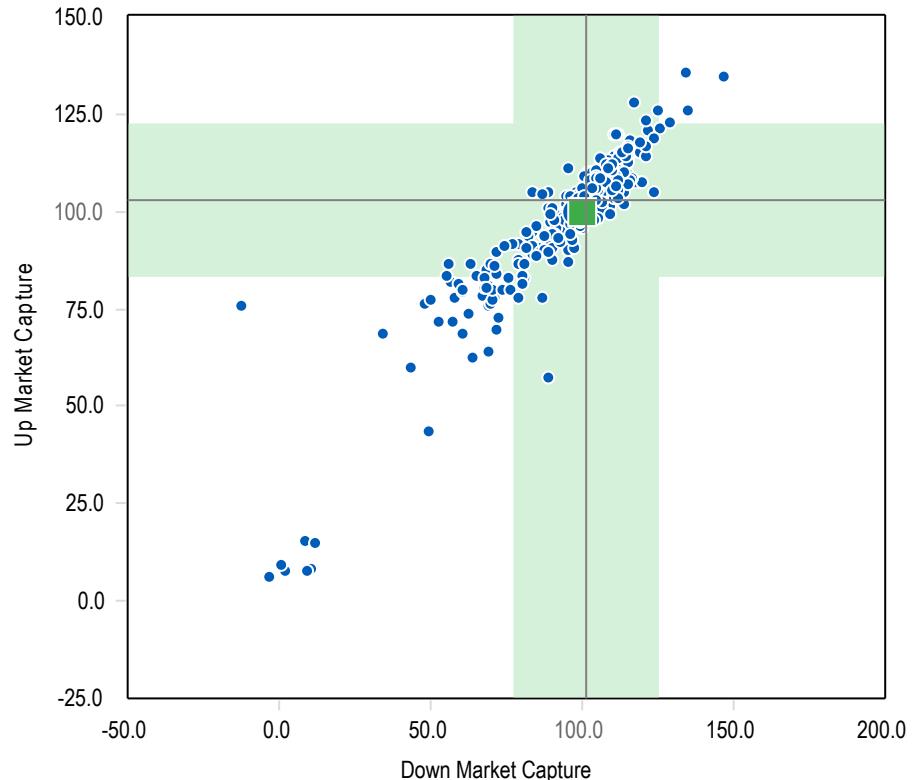
	Up Market Capture	Down Market Capture
Total Fund Composite	94.5	96.6
Policy Index	100.0	100.0
Median	101.9	100.4
Population	297	297

The shaded area is one sigma range from the median.

5 Years Annualized Return vs. Annualized Standard Deviation



5 Years Upside Capture Ratio vs. Downside Capture Ratio



	Return	Standard Deviation
Total Fund Composite	7.7	11.6
Policy Index	7.5	11.5
Median	8.0	11.8
Population	286	286

	Up Market Capture	Down Market Capture
Total Fund Composite	99.9	97.8
Policy Index	100.0	100.0
Median	102.8	101.3
Population	286	286

The shaded area is one sigma range from the median.

City of Memphis Policy Index

As of March 31, 2024

Policy Index	Weight (%)	Policy Index	Weight (%)
Jan-1979		Apr-2011	
Russell 3000 Index	45.0	S&P 500	26.0
Bloomberg U.S. Aggregate	40.0	Russell Midcap Index	4.0
MSCI EAFE (Net)	10.0	Russell 2000 Index	4.0
Wilshire REOC	5.0	MSCI EAFE (Net)	17.0
Apr-1997		MSCI Emerging Markets Index	5.0
Russell 3000 Index	40.0	Bloomberg U.S. Aggregate	29.0
Bloomberg U.S. Aggregate	40.0	Credit Suisse High Yield	10.0
MSCI EAFE (Net)	15.0	NCREIF ODCE Equal Weighted	5.0
Wilshire REOC	5.0	Sep-2016	
Oct-1999		Russell 3000 Index	27.0
Russell 3000 Index	40.0	MSCI EAFE (Net)	18.5
Bloomberg U.S. Aggregate	40.0	MSCI EM (net)	8.5
MSCI AC World ex USA	15.0	Bloomberg U.S. Aggregate	12.0
Wilshire REOC	5.0	NCREIF Property Index	10.0
Jul-2001		Bloomberg Global Aggregate	10.0
Russell 3000 Index	40.0	S&P 500 + 3%	4.0
Bloomberg U.S. Aggregate	40.0	T Bills + 5%	4.0
MSCI AC World ex USA	15.0	Credit Suisse High Yield Index	6.0
NCREIF Property Index	5.0	Dec-2021	
Apr-2007		Russell 3000 Index	32.0
Russell 3000 Index	35.0	MSCI EAFE (Net)	15.0
Bloomberg U.S. Aggregate	40.0	MSCI EM (net)	7.0
MSCI AC World ex USA	20.0	Bloomberg U.S. Aggregate	13.0
NCREIF Property Index	5.0	NCREIF Property Index	10.0
		Bloomberg Global Aggregate	8.0
		S&P 500 + 3%	4.0
		T Bills + 5%	4.0
		Credit Suisse High Yield Index	5.0
		Morningstar LSTA US Leveraged Loan	2.0

Policy Index	Weight (%)
Jan-2023	
Russell 3000 Index	31.0
MSCI EAFE (Net)	15.0
MSCI EM (net)	7.0
Bloomberg U.S. Aggregate	13.0
NCREIF Property Index	10.0
Bloomberg Global Aggregate	8.0
S&P 500 + 3%	5.0
T Bills + 5%	4.0
Credit Suisse High Yield Index	5.0
Morningstar LSTA US Leveraged Loan	2.0

**City of Memphis
Policy Index2**

As of March 31, 2024

Policy Index	Weight (%)	Policy Index	Weight (%)
Jan-1979		Apr-2011	
Russell 3000 Index	45.0	S&P 500	26.0
Bloomberg U.S. Aggregate	40.0	Russell Midcap Index	4.0
MSCI EAFE (Net)	10.0	Russell 2000 Index	4.0
Wilshire REOC	5.0	MSCI EAFE (Net)	17.0
Apr-1997		MSCI Emerging Markets Index	5.0
Russell 3000 Index	40.0	Bloomberg U.S. Aggregate	29.0
Bloomberg U.S. Aggregate	40.0	Credit Suisse High Yield	10.0
MSCI EAFE (Net)	15.0	NCREIF ODCE Equal Weighted	5.0
Wilshire REOC	5.0	Sep-2016	
Oct-1999		Russell 3000 Index	27.0
Russell 3000 Index	40.0	MSCI EAFE (Net)	18.5
Bloomberg U.S. Aggregate	40.0	MSCI EM (net)	8.5
MSCI AC World ex USA	15.0	Bloomberg U.S. Aggregate	12.0
Wilshire REOC	5.0	NCREIF Property Index	10.0
Jul-2001		Bloomberg Global Aggregate	10.0
Russell 3000 Index	40.0	S&P 500	4.0
Bloomberg U.S. Aggregate	40.0	HFRI Fund of Funds Composite Index	4.0
MSCI AC World ex USA	15.0	Credit Suisse High Yield Index	6.0
NCREIF Property Index	5.0	Dec-2021	
Apr-2007		Russell 3000 Index	32.0
Russell 3000 Index	35.0	MSCI EAFE (Net)	15.0
Bloomberg U.S. Aggregate	40.0	MSCI EM (net)	7.0
MSCI AC World ex USA	20.0	Bloomberg U.S. Aggregate	13.0
NCREIF Property Index	5.0	NCREIF Property Index	10.0
		Bloomberg Global Aggregate	8.0
		S&P 500	4.0
		HFRI Fund of Funds Composite Index	4.0
		Credit Suisse High Yield Index	5.0
		Morningstar LSTA US Leveraged Loan	2.0

**City of Memphis
Policy Index²**

As of March 31, 2024

Policy Index	Weight (%)
Jan-2023	
Russell 3000 Index	31.0
MSCI EAFE (Net)	15.0
MSCI EM (net)	7.0
Bloomberg U.S. Aggregate	13.0
NCREIF Property Index	10.0
Bloomberg Global Aggregate	8.0
S&P 500	5.0
HFRI Fund of Funds Composite Index	4.0
Credit Suisse High Yield Index	5.0
Morningstar LSTA US Leveraged Loan	2.0

Policy Index	Weight (%)
Jan-1970	
MSCI AC World ex USA	100.0
Apr-2011	
MSCI EAFE (Net)	77.0
MSCI Emerging Markets Index	23.0
Sep-2016	
MSCI EAFE (Net)	69.0
MSCI EM (net)	31.0
Dec-2021	
MSCI EAFE (Net)	68.0
MSCI EM (net)	32.0

City of Memphis

Fixed Income Index

As of March 31, 2024

Policy Index	Weight (%)	Policy Index	Weight (%)
Jan-1976		Jan-2021	
Blmbg. U.S. Aggregate	100.0	Blmbg. U.S. Aggregate	43.0
Apr-2011		Credit Suisse High Yield Index	21.0
Blmbg. U.S. Aggregate	74.0	Blmbg. Global Aggregate	36.0
Credit Suisse High Yield	26.0		
Sep-2016			
Blmbg. U.S. Aggregate	43.0		
Credit Suisse High Yield	21.0		
Blmbg. Global Aggregate	36.0		
Jan-2017			
Blmbg. U.S. Aggregate	47.0		
Credit Suisse High Yield	22.0		
Blmbg. Global Aggregate	31.0		
Jan-2018			
Blmbg. U.S. Aggregate	43.0		
Credit Suisse High Yield	22.5		
Blmbg. Global Aggregate	34.5		
Jan-2019			
Blmbg. U.S. Aggregate	43.5		
Credit Suisse High Yield	22.0		
Blmbg. Global Aggregate	34.5		
Jan-2020			
Blmbg. U.S. Aggregate	44.0		
Credit Suisse High Yield Index	23.0		
Blmbg. Global Aggregate	33.0		

City of Memphis

Schedule of Investable Assets

Since Inception Ending March 31, 2024

Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	%Return
From 06/1996	1,291,734,891	-14,742,714	101,140,788	1,378,132,965	7.9
1997	1,378,132,965	-34,096,344	234,250,900	1,578,287,521	17.2
1998	1,578,287,521	-42,268,539	240,063,429	1,776,082,411	15.4
1999	1,776,082,411	-47,808,437	240,291,082	1,968,565,056	13.2
2000	1,968,565,056	-64,387,008	7,639,956	1,911,818,004	0.4
2001	1,911,818,004	-77,481,199	-14,124,868	1,820,211,937	-0.7
2002	1,820,211,937	-81,528,582	-150,191,752	1,588,491,603	-8.4
2003	1,588,491,603	-75,424,638	350,796,286	1,863,863,251	22.6
2004	1,863,863,251	-79,808,593	216,220,232	2,000,274,890	11.9
2005	2,000,274,890	-90,832,853	173,260,464	2,082,702,500	8.5
2006	2,082,702,500	-86,039,647	266,362,298	2,263,025,152	13.6
2007	2,263,025,152	-96,032,638	180,996,824	2,347,989,338	8.3
2008	2,347,989,338	-105,220,477	-662,432,769	1,580,336,092	-28.9
2009	1,580,336,092	-102,169,783	337,471,803	1,815,638,112	22.2
2010	1,815,638,112	-107,265,723	244,019,890	1,952,392,279	14.0
2011	1,952,392,279	-113,653,688	14,703,206	1,853,441,798	0.7
2012	1,853,441,798	-64,856,098	206,277,288	1,994,862,988	13.7
2013	1,994,862,988	-135,949,680	344,705,536	2,203,618,845	17.7
2014	2,203,618,845	-133,361,482	120,224,286	2,190,481,650	5.5
2015	2,190,481,650	-122,787,070	9,420,065	2,077,114,644	0.2
2016	2,077,114,644	-90,342,269	135,585,599	2,122,357,975	6.8
2017	2,122,357,975	-117,949,337	385,214,135	2,389,622,772	18.4
2018	2,389,622,772	-134,023,080	-122,005,142	2,133,594,551	-5.4
2019	2,133,594,551	-109,150,662	398,812,740	2,423,256,628	18.9
2020	2,423,256,628	-136,045,892	343,923,054	2,631,133,790	15.1
2021	2,631,133,790	-96,972,374	343,958,578	2,878,119,994	13.6
2022	2,878,119,994	-155,042,272	-349,373,506	2,373,704,216	-12.9
2023	2,373,704,216	-124,144,634	270,405,923	2,519,965,504	11.7
To 03/2024	2,519,965,504	-28,878,367	103,116,057	2,594,203,193	4.1

Gain/Loss includes income received and change in accrued income for the period.

Appendix

City of Memphis Retirement System

Comparative Performance

As of March 31, 2024

	1 Quarter	Year To Date	1 Year	3 Years	5 Years	Since Inception	Inception Date
Barrow, Hanley	10.8	10.8	28.2	10.6	12.8	12.9	10/01/1982
Russell 1000 Value + 75 bps	9.2	9.2	21.2	8.9	11.1	12.5	10/01/1982
1607 Capital Partners	2.7	2.7	11.6	1.4	7.1	6.0	07/01/2008
MSCI EAFE Net + 400 bps	6.8	6.8	19.9	9.0	11.6	8.1	07/01/2008
Marathon Asset Mgmt	6.6	6.6	15.6	4.1	7.9	8.1	04/01/2004
MSCI ACWI ex. US + 200 bps	5.3	5.3	16.1	4.5	8.6	8.3	04/01/2004
Principal Global Investors	7.7	7.7	15.3	3.3	8.5	3.9	07/01/2007
MSCI EAFE Net + 240 bps	6.4	6.4	18.1	7.3	9.9	5.5	07/01/2007
PIMCO	-0.3	-0.3	3.0	-1.6	1.3	3.3	04/01/2009
BC Aggregate + 75 bps	-0.6	-0.6	2.5	-1.7	1.1	3.4	04/01/2009

Returns for periods greater than one year are annualized.

Returns are expressed as percentages.

**City of Memphis
Manager Roster
As of March 31, 2024**

Manager	Date	Assets Under Management	Assignment	Benchmark	Stated Style	Fee Structure	Estimated Annual Fee (\$)	Estimated Annual Fee (bps)	Universe Median Fee (bps)
Barrow Hanley	3/31/2024	\$170,533,491	Equity Only	Russell 1000 Value	Large Cap Value	75 bps on first \$10.0M, 50 bps on next \$15.0M, 25 bps on next \$175M, 20 bps on next \$600M, 15 bps over \$800M	\$513,834	0.30%	0.54%
Rhumble Russell 1000 Growth Index	3/31/2024	\$83,981,593	Equity Only	Russell 1000 Growth	Large Cap Growth	3 bps on first \$100.0M, 2 bps on next \$200.0M (Assets of Rhumble S&P 500 combined with Rhumble Russell 1000 Growth Index for pricing)	\$19,544	0.02%	0.55%
Winslow Capital	3/31/2024	\$86,498,915	Equity Only	Russell 1000 Growth	Large Cap Growth	60 bps for the first \$50M, 55 bps next \$50M, and 50 bps next \$150M	\$500,744	0.58%	0.55%
Rhumble S&P 500 Index	3/31/2024	\$221,692,781	Equity Only	S&P 500	Large Cap Core	3 bps on first \$100.0M, 2 bps on next \$200.0M (Assets of Rhumble S&P 500 combined with Rhumble Russell 1000 Growth Index for pricing)	\$51,388	0.02%	N/A
Northern Trust	3/31/2024	\$58,356,201	Equity Only	S&P 400	Mid Cap Core	5 bps on first \$50.0M, 4 bps thereafter	\$28,342	0.05%	N/A
Capital Prospects SMID	3/31/2024	\$66,067,986	Equity Only	Russell 2500 Index	SMID Cap	75 bps on all assets	\$495,510	0.75%	0.85%
Capital Prospects SCV	3/31/2024	\$75,394,750	Equity Only	Russell 2000 Value	Small Cap Value	100 bps on first \$5.0M, 85 bps on next \$5.0M, 60 bps on the balance	\$565,461	0.75%	0.90%
Nicholas Investment Partners	3/31/2024	\$30,505,362	Equity Only	Russell 2000 Growth	Small Cap Growth	100 bps on all assets	\$305,054	1.00%	0.91%
Conestoga Small Cap Growth	3/31/2024	\$27,517,851	Equity Only	Russell 2000 Growth	Small Cap Growth	90 bps on first \$10.0M, 80 bps on next \$15.0M, 65 bps thereafter	\$226,366	0.82%	0.91%
1607 Capital Partners	3/31/2024	\$117,246,833	Int'l Equity	MSCI EAFE	Int'l Equity	70 bps on all assets	\$820,728	0.70%	0.60%
Principal Global Investors	3/31/2024	\$117,834,731	Int'l Equity	MSCI World ex US Growth	Int'l Equity	60 bps on first \$50.0M, 55 bps on next \$50.0M, 50 bps over \$100.0M	\$673,091	0.57%	0.66%
Marathon Asset Management	3/31/2024	\$116,323,006	Int'l Equity	MSCI ACWI ex US	Int'l Equity	95 bps on the first \$25.0M, 75 bps on next \$25.0M, and 52.5 bps thereafter	\$773,196	0.66%	0.60%
Strategic Global Advisors	3/31/2024	\$73,772,025	Int'l Equity	MSCI ACWI ex US	Int'l All Cap	100 bps on first \$5.0M, 70 bps on next \$50.0M, 65 bps on the next \$50.0M, and 50 bps on the remaining balance	\$531,404	0.72%	0.66%
Acadian	3/31/2024	\$96,797,697	Emerging Markets	MSCI EM	Emerging Markets	75 basis points on the first \$50 million and 65 basis points thereafter	\$679,185	0.70%	0.85%
JPMorgan	3/31/2024	\$85,749,167	Emerging Markets	MSCI EM	Emerging Markets	80 bps on first \$100.0M, 75 bps on balance	\$685,993	0.80%	0.85%

**City of Memphis
Manager Roster
As of March 31, 2024**

Manager	Date	Assets Under Management	Assignment	Benchmark	Stated Style	Fee Structure	Estimated Annual Fee (\$)	Estimated Annual Fee (bps)	Universe Median Fee (bps)
PIMCO	3/31/2024	\$97,294,770	Fixed Income	Barclays US Aggregate	Fixed Income	50 bps on first \$25.0M, 37.5 bps on next \$25.0M, 25 bps over \$50.0M; Separate Account min \$75M	\$336,987	0.35%	0.25%
Garcia Hamilton	3/31/2024	\$74,895,994	Fixed Income	Barclays US Aggregate	Fixed Income	20 bps on first \$50.0M, 16 bps on next \$50.0M, 14 bps thereafter	\$139,834	0.19%	0.25%
Barrow Hanley	3/31/2024	\$32,613,304	Fixed Income	Barclays US Aggregate	Fixed Income	30 bps on first \$50M	\$97,840	0.30%	0.25%
Prudential	3/31/2024	\$92,945,659	Fixed Income	Barclays US Aggregate	Fixed Income	12 bps on first \$100.0M, 7 bps on next \$100.0M, 5 bps thereafter	\$115,062	0.12%	0.25%
Brandywine	3/31/2024	\$195,078,176	Global FI	Barclays Global Aggregate	Global Fixed Income	37 bps on the first \$220.0M; 35 bps thereafter	\$726,774	0.37%	0.35%
Mackay Shields	3/31/2024	\$133,250,501	High Yield FI	Credit Suisse HY	High Yield Fixed Income	50 bps on first \$100.0M, 40 bps over \$100.0M	\$633,002	0.48%	0.48%
BlackRock US Core Property	3/31/2024	\$59,806,997	Real Estate	NCREIF Property Index	Real Estate	66 bps on net capital contributions, 14 bps on reinvested amounts	\$475,415	0.79%	0.75% - 1.50%
RREEF II	3/31/2024	\$16,774,022	Real Estate	NCREIF Property Index	Real Estate	50-55 bps on net asset value + performance fee	\$158,080	0.94%	0.75% - 1.50%
Vanguard REIT Index	3/31/2024	\$3,549,453	Real Estate	Wilshire US REIT	Real Estate	10 bps on all assets	\$3,549	0.10%	N/A
TA Realty Core Property Fund	3/31/2024	\$28,562,472	Real Estate	NCREIF Property Index	Real Estate	70 bps on all assets	\$199,937	0.70%	0.75% - 1.50%
Cornerstone (Barings) Real Estate Fund X	3/31/2024	\$19,802	Real Estate	NCREIF Property Index	Real Estate	1.5% of equity investment	-	0.97%	1.00% - 1.50%
Dune Real Estate Fund IV	12/31/2023	\$26,973,870	Real Estate	NCREIF Property Index	Real Estate	1.5% on committed capital until end of investment period, 1.5% on called capital thereafter	\$450,000	1.50%	1.00 - 1.50%

**City of Memphis
Manager Roster
As of March 31, 2024**

Manager	Date	Assets Under Management	Assignment	Benchmark	Stated Style	Fee Structure	Estimated Annual Fee (\$)	Estimated Annual Fee (bps)	Universe Median Fee (bps)
Green Cities III	12/31/2023	\$5,248,949	Real Estate	NCREIF Property Index	Real Estate	1.5% on committed capital until end of investment period, 1.5% of unreturned capital contributions	\$114,568	0.57%	1.00% - 1.50%
Green Cities IV	12/31/2023	\$13,032,408	Real Estate	NCREIF Property Index	Real Estate	1.5% on committed capital until end of investment period, 1.5% of unreturned capital contributions	\$300,000	1.50%	1.00% - 1.50%
Green Cities V	12/31/2023	\$10,838	Real Estate	NCREIF Property Index	Real Estate	1.5% on committed capital until end of investment period, 1.5% of unreturned capital contributions	\$300,000	1.50%	1.00% - 1.50%
Long Wharf RE Partners IV	3/31/2024	\$234,054	Real Estate	NCREIF Property Index	Real Estate	1.0% of unfunded capital commitments and 1.5% of funded capital commitments during investment period; thereafter 1.5% of contributed capital less capital attributed to investments that have been sold	N/A	N/A	1.00% - 1.50%
Long Wharf RE Partners V	3/31/2024	\$10,650,108	Real Estate	NCREIF Property Index	Real Estate	1.5% of committed capital during investment period; 1.5% of invested capital after investment period	\$137,656	0.69%	1.00% - 1.50%
Long Wharf RE Partners VI	3/31/2024	\$13,783,333	Real Estate	NCREIF Property Index	Real Estate	1.5% of committed capital during investment period; 1.5% of invested capital after investment period	\$195,068	0.98%	1.00% - 1.50%
Long Wharf RE Partners VII	3/31/2024	\$3,390,065	Real Estate	NCREIF Property Index	Real Estate	1.5% of committed capital during investment period; 1.5% of invested capital after investment period	\$300,000	1.50%	1.00% - 1.50%
Mesirow Real Estate Value Fund III	12/31/2023	\$25,821,992	Real Estate	NCREIF Property Index	Real Estate	Commitments < \$25M: 1.5% on invested capital subject to a minimum of 1.1% on committed capital during investment period	\$220,000	1.10%	1.00% - 1.50%
TA Realty Associates Fund XI	12/31/2023	\$560,540	Real Estate	NCREIF Property Index	Real Estate	Years 1-3 on committed capital. Year 1: 0.50%, Year 2: 0.85%, Year 3: 1.15%. Thereafter, based on invested equity. Year 4: 1.20%, Year 5: 1.25%, Year 6: 1.20%, Year 7: 1.00%, and 0.60% thereafter.	\$6,726	1.20%	1.00% - 1.50%
TA Realty Associates Fund XIII	12/31/2023	\$5,713,079	Real Estate	NCREIF Property Index	Real Estate	Years 1-3 on committed capital. Year 1: 0.50%, Year 2: 0.85%, Year 3: 1.15%. Thereafter, based on invested equity: Year 4: 1.20%, Year 5: 1.25%, Year 6: 1.20%, Year 7: 1.00%, and 0.60% thereafter.	\$252,748	0.84%	1.00% - 1.50%
GSAM Black Equity Opportunities Fund	12/31/2023	\$1,069,450	Private Equity	S&P + 3%	Fund of Funds	45 bps average over 12 year life of fund	\$73,500	0.49%	1.00% - 1.50%
NB Crossroads Fund XXI	12/31/2023	\$54,706,064	Private Equity	S&P + 3%	Fund of Funds	Based on committed capital: Year 1: 20bps, Years 2-4: 40bps, Years 5-8: 40 bps, Years 9-10: 5 bps, Years 11-12: 0 bps	\$200,000	0.40%	1.00% - 2.00%
NB Crossroads Fund XXIV	12/31/2023	\$7,425,298	Private Equity	S&P + 3%	Fund of Funds	Based on committed capital: Average Fee Schedule on Commitments \$50M - \$100M	\$200,000	0.40%	1.00% - 2.00%
Pantheon Global Secondary Fund V	12/31/2023	\$27,615,716	Private Equity	S&P + 3%	Secondaries	1% on committed capital during investment period; 90% annual reduction of prior year	\$148,836	0.30%	1.00% - 2.00%
RPS Ventures II	12/31/2023	\$1,734,965	Private Equity	S&P + 3%	Venture Capital	Year 1-5: 2% on committed; Year 6-10: 0.25% annual step down	\$300,000	2.00%	1.00% - 2.00%
SSM Growth Equity Fund II	12/31/2023	\$7,573,621	Private Equity	S&P + 3%	Growth Equity	2.0% on committed capital during investment period	\$200,000	2.00%	1.00% - 2.00%
SSM Growth Equity Fund III	12/31/2023	\$15,435,878	Private Equity	S&P + 3%	Growth Equity	2.0% on committed capital during investment period	\$200,000	2.00%	1.00% - 2.00%
Siguler Guff Small Buyout Opportunities V	12/31/2023	\$8,120,825	Private Equity	S&P + 3%	Fund of Funds	Reduced Fee Schedule: 82 bps on first \$10M of commitment; 69.7 bps on remaining \$10M of commitment.	\$151,700	0.76%	1.00% - 2.00%
Brightwood Capital Fund V	12/31/2023	\$4,235,607	Private Debt	Barclays US Aggregate	Direct Lending	1.5% on equity capital	\$63,534	1.50%	1.00% - 2.00%
Churchill Middle Market Senior Loan Fund III	12/31/2023	\$7,855,678	Private Debt	Barclays US Aggregate	Direct Lending	0.50% on invested capital	\$39,278	0.50%	1.00% - 2.00%
Neuberger Berman Private Debt Fund IV	12/31/2023	\$24,021,480	Private Debt	Barclays US Aggregate	Direct Lending	0.50% on invested capital through June 2022	\$120,107	0.50%	1.00% - 2.00%
Aetos	3/31/2024	\$52,286,479	Hedge Fund	90 Day T Bills + 5%	Hedge Fund of Funds	75 bps plus a 5% performance fee	\$634,322	0.63%	1.00%-2.00%
Grosvenor	3/31/2024	\$50,500,515	Hedge Fund	90 Day T Bills + 5%	Hedge Fund of Funds	115 bps on the first \$25M, 100 bps on next \$25M, 80 bps on next \$50M, 60 bps thereafter	\$542,505	1.07%	1.00%-2.00%
TOTAL		\$2,531,064,352					\$14,906,868	0.59%	

* Estimated Fee reflects actual Q4 2022 fees multiplied by 4 to estimate annual fee. Figure includes base management fee plus/minus performance fee if achieved.
Total Market Value does not include Cash account.