

City of Memphis Retirement System OPEB Report

Analysis of Investment Performance

Quarter Ending June 30, 2025

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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	10.94	6.20	15.16	19.71	16.64	13.65
MSCI Europe, Australasia and Far East (EAFE)*	11.78	19.45	17.73	15.97	11.16	6.51
MSCI Emerging Markets (EM)*	11.99	15.27	15.29	9.70	6.81	4.81

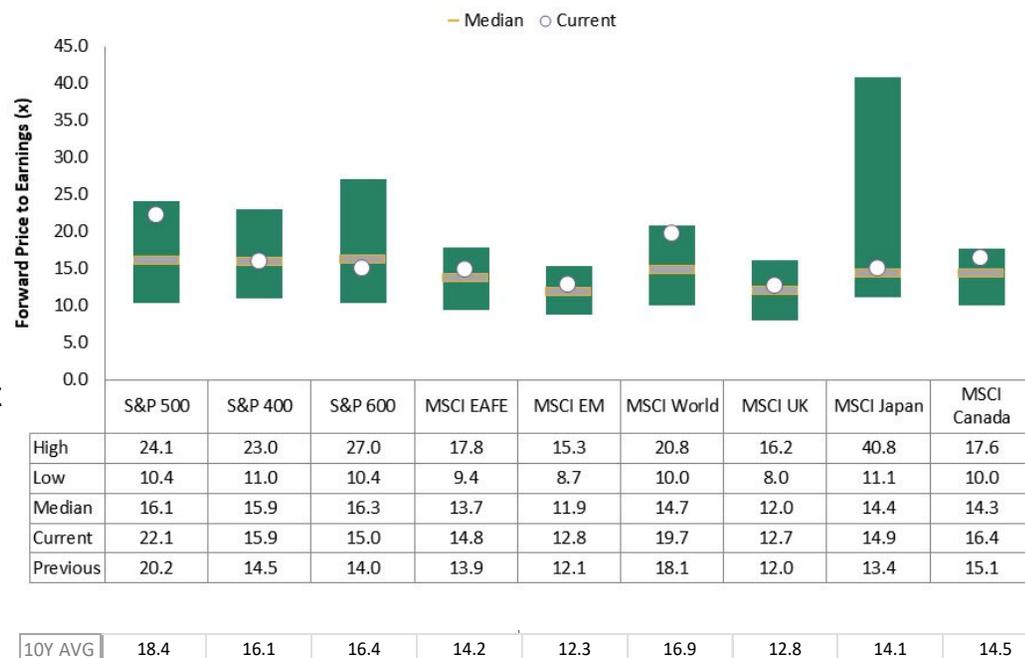
All data in the table are percentages.

* Net dividends reinvested

Global Equity Performance and Valuations

- Global equities were led by Emerging Markets (+12.0%) during the quarter, followed by International Developed (+11.8), then the U.S. (+10.9).
- U.S. large cap stocks continue to trade at elevated valuations with the S&P 500's [12-month] forward P/E ratio at 22.1 versus the 10-year average of 18.4. These valuations have also risen this quarter from the previous quarter's valuations at 20.2.
- MSCI EAFE International developed large cap stocks trade at a lower valuation than the U.S. The [12-month] forward P/E ratio was 14.8 compared to the 10-year average of 14.2.
- MSCI Emerging Market equity valuations were slightly higher than last quarter. The forward [12-month] P/E ratio was 12.8 compared to 12.1 as of first quarter of 2025. Current valuations are slightly higher than the 10-year average of 12.3.

Price to Earnings



Data range is from 3/31/00 – 06/30/25. 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	10.94	6.20	15.16	19.71	16.64	13.65
Russell 1000	11.11	6.12	15.66	19.59	16.30	13.35
Russell 1000 Growth	17.84	6.09	17.22	25.76	18.15	17.01
Russell 1000 Value	3.79	6.00	13.70	12.76	13.93	9.19
Russell 2000	8.50	-1.79	7.68	10.00	10.04	7.12
Russell 2000 Growth	11.97	-0.48	9.73	12.38	7.42	7.14
Russell 2000 Value	4.97	-3.16	5.54	7.45	12.47	6.72
Russell Midcap	8.53	4.84	15.21	14.33	13.11	9.89
Russell 3000	10.99	5.75	15.30	19.08	15.96	12.96

All data in the tables are percentages.

Performance

- Following a negative first quarter and volatile early April, U.S. markets (+10.9%) recovered amidst a rebound in investor sentiment for growth and easing tariff related concerns. *Magnificent Seven* stock returns have evolved YTD with three up, three down and one flat
- Large cap stocks (+11.1%) led the U.S. market with Nvidia, Microsoft, Broadcom, Meta Platforms & Amazon contributing to over half of its return. After leading in returns last quarter, mid cap stocks (+8.5%) performed in-line with small cap stocks (+8.5%).
- Growth outperformed value across the spectrum. The Russell 1000 Growth (+17.8%) posted the highest returns for the quarter versus the Russell 1000 Value (+3.8%) at the lowest. The Russell 2000 Growth (+12.0%) outperformed the Russell 2000 Value (+5.0%) by 700 bps.
- Information Technology (+23.7%) and Communication Services (+18.5%) were the highest sector returns. Energy (-8.6%) and Healthcare (-7.2%) were among the few sectors posting negative returns.

Source: FactSet

S&P 500 Sector Returns	QTD	1-Year
Communication Services	18.49	23.02
Consumer Discretionary	11.52	18.40
Consumer Staples	1.11	12.16
Energy	-8.56	-3.96
Financials	5.52	29.45
Healthcare	-7.18	-5.90
Industrials	12.94	22.89
Information Technology	23.71	15.10
Materials	3.13	1.86
Real Estate	-0.07	11.66
Utilities	4.26	23.40

Quarter in Review: International Equity

MSCI International Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World ex. U.S.	12.05	18.99	18.70	15.73	11.51	6.65
EAFE	11.78	19.45	17.73	15.97	11.16	6.51
EAFE Local Currency	4.80	7.83	8.04	13.47	11.64	7.04
Europe	11.38	23.05	18.38	17.21	12.38	6.78
Europe ex U.K.	12.16	24.18	17.90	17.85	11.87	7.28
U.K.	8.72	19.26	19.96	15.17	14.00	5.45
Japan	11.36	11.73	13.88	15.03	8.76	6.07
Pacific ex Japan	14.23	14.63	19.05	10.42	9.00	5.79

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

Performance

- International developed markets (+11.8%) accelerated their upward momentum from the first quarter.
- Europe (+11.4%) and Japan (+11.4%) were the largest index contributors. The European Central Bank (ECB) continued to cut rates in the second quarter with two reductions of 25 basis points each. Eurozone annual inflation decreased to 1.9% from 2.3% in February. Japanese growth stocks outperformed amid positive developments in trade negotiations with the U.S.
- The U.K. (+8.7%) posted the weakest returns for the international developed markets but were still positive for the quarter. Despite the Bank of England (BoE) cutting interest rates in May, inflation remains above the BoE's 2% target at 3.4%.
- MSCI EAFE Index sector returns were mostly positive for the quarter. Communication Services (+20.5%), IT (+19.0%), and Industrials (+17.8%) were the largest contributors. Energy (-1.6%) was the only sector to post negative returns.

MSCI EAFE Sector Returns	QTD	1-Year
Communication Services	20.49	41.91
Consumer Discretionary	5.48	5.08
Consumer Staples	7.73	12.74
Energy	-1.63	-2.02
Financials	13.67	41.23
Healthcare	2.89	-5.00
Industrials	17.77	28.93
Information Technology	18.96	4.78
Materials	7.98	0.44
Real Estate	16.79	20.13
Utilities	16.73	31.50

Quarter in Review: Emerging Market Equity

MSCI EM Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Emerging Markets	11.99	15.27	15.29	9.70	6.81	4.81
EM Local Currency	7.93	10.79	12.92	10.45	7.91	6.49
Asia	12.41	13.92	14.87	9.41	6.49	5.66
EMEA	7.56	16.25	19.54	9.96	5.88	1.55
Latin America	15.22	29.85	13.38	11.60	11.07	3.68

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

Performance

- Emerging Markets (+12.0%) led the global markets for the second quarter as international markets were helped by continued weakness in the US dollar.
- Korea posted strong positive returns (in US dollar terms) as political instability subsided following the election of Lee Jaemyung, the Democratic Party Candidate. Continued positive investor sentiment about artificial intelligence (AI) benefited Taiwan.
- India continued to underperform amid growth concerns and elevated valuations. Saudi Arabia was the only EM market to decline as geopolitical tensions continue in the Middle East.
- MSCI EM Index sectors were mostly positive for the quarter, with IT (+24.3%), Industrials (+21.8%) and Financials (+13.4%) as the strongest contributors. Consumer Discretionary (-2.7%) was the only sector to post a negative return.

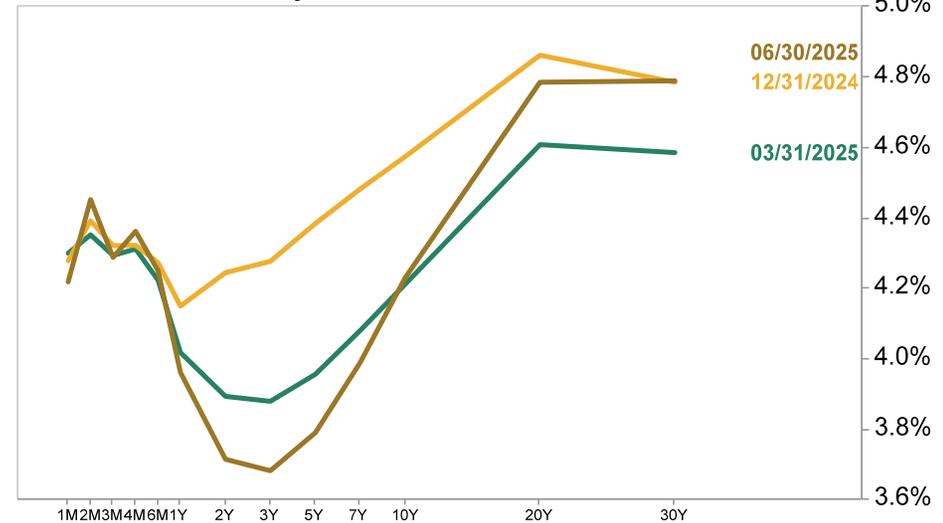
MSCI EM Sector Returns	QTD	1-Year
Communication Services	9.15	30.72
Consumer Discretionary	-2.72	17.55
Consumer Staples	5.65	3.08
Energy	6.32	-7.18
Financials	13.43	25.83
Healthcare	7.87	18.17
Industrials	21.79	16.44
Information Technology	24.25	11.62
Materials	7.41	0.84
Real Estate	6.21	14.98
Utilities	7.13	1.78

Quarter In Review: Fixed Income Overview

Yield Curve

- The Treasury yield curve steepened further in the second quarter of 2025, with short-term yields falling and long-term yields increased.
- The Fed kept interest rates steady, reflecting an elevated risk perspective for inflation resurgence and potentially higher unemployment.
- 2-, 3- and 5-year Treasury yields decreased the most by 18 bps, 20 bps and 16 bps respectively, ending the quarter at 3.71%, 3.68% and 3.79%. The 30-year yield rose by 21 bps to 4.79%.

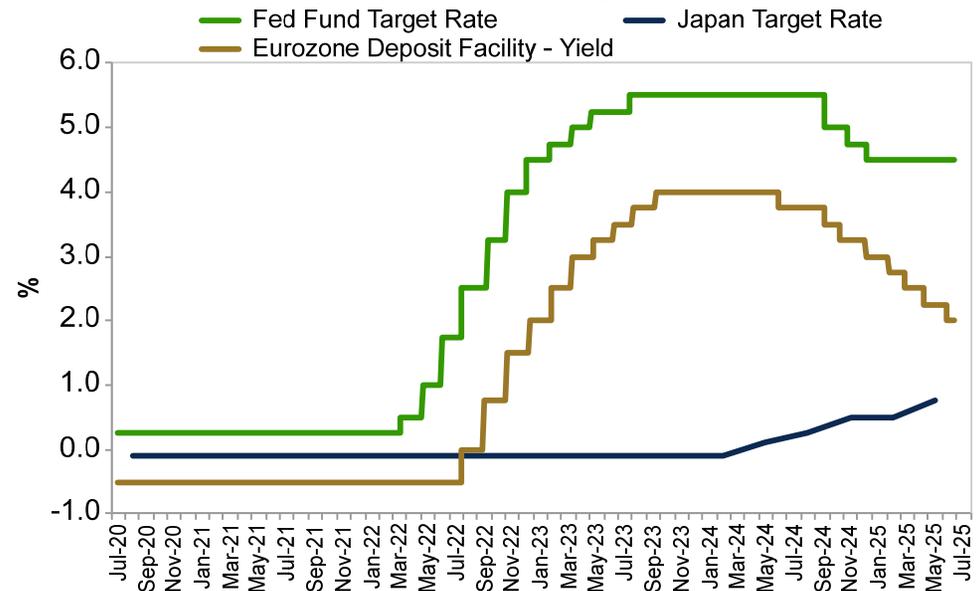
United States Treasury Yield Curve



Monetary Policies/Global Interest Rates

- The Bank of Japan kept its interest rate unchanged at 0.50% due to uncertainty over U.S. trade policy. The European Central Bank (ECB) cut its interest rate by 0.25% in both May and June, based on the progress made towards lowering the inflation rate. The ECB interest rate is currently set at 2.15%. The Bank of England decreased its policy rate by 25 bps in May of 2025 to 4.25%.
- The U.S. policy rate remains above those of the Eurozone, the United Kingdom and Japan.

Central Bank Target Rates



Interest Rates	Fed Funds Rate	EZ Deposit Facility Rate
Average	4.95	1.05
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	1.21	4.02	6.08	2.55	-0.73	1.76
Government/Credit	1.22	3.95	5.89	2.61	-0.83	1.92
Government	0.85	3.79	5.31	1.57	-1.53	1.22
Investment Grade Credit	1.82	4.17	6.91	4.34	0.14	2.94
Investment Grade CMBS	1.86	4.48	7.78	3.89	1.01	2.56
U.S. Corporate High Yield	3.53	4.57	10.29	9.93	5.97	5.38
FTSE** 3-Month T-Bill	1.09	2.21	4.88	4.75	2.88	2.01

* 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.

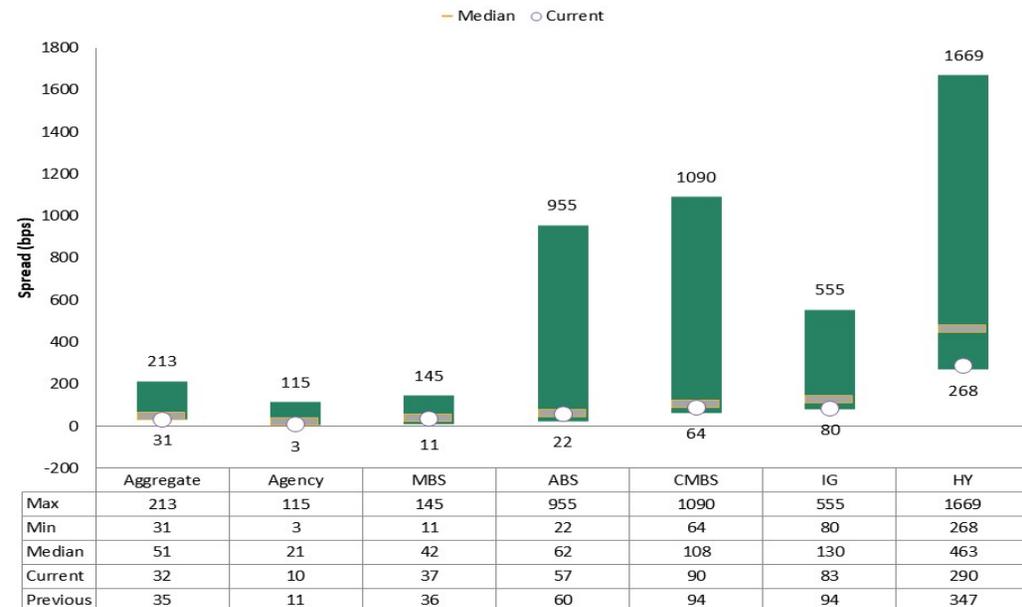
All data in the table are percentages.

Performance and Spreads

- The U.S. Aggregate Index was positive again during the second quarter. All Bloomberg US Indices, represented in the table above, generated positive returns for the second quarter of 2025. The return on the FTSE 3-Month T-Bill Index was also positive.
- The U.S. Corporate High Yield had the strongest performance at +3.53% for the quarter. The Government sector experienced the weakest performance at +0.85%.
- US Aggregate Index, Agency, ABS, CMBS, IG Credit and High Yield spreads narrowed while the spread on MBS slightly widened this quarter. The largest change was in the High Yield sector, as spreads narrowed by 57 basis points.

Source: FactSet

Fixed Income Spreads



Data range is from 9/30/00-06/30/25

Quarter In Review: International Fixed Income

Global Fixed Income Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Bloomberg Global Aggregate	4.52	7.27	8.91	2.75	-1.16	1.17
Bloomberg Global Aggregate (Hgd)	1.61	2.81	6.15	3.60	0.26	2.33
FTSE Non-U.S. WGBI*	7.37	9.87	10.87	1.83	-3.21	0.00
FTSE Non-U.S. WGBI (Hgd)	1.90	1.29	5.37	2.78	-0.40	2.17
JPM EMBI Global Diversified**	3.32	5.64	9.97	8.86	1.79	3.53
JPM GBI-EM Global Diversified***	7.62	12.26	13.81	8.47	1.88	2.11

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.

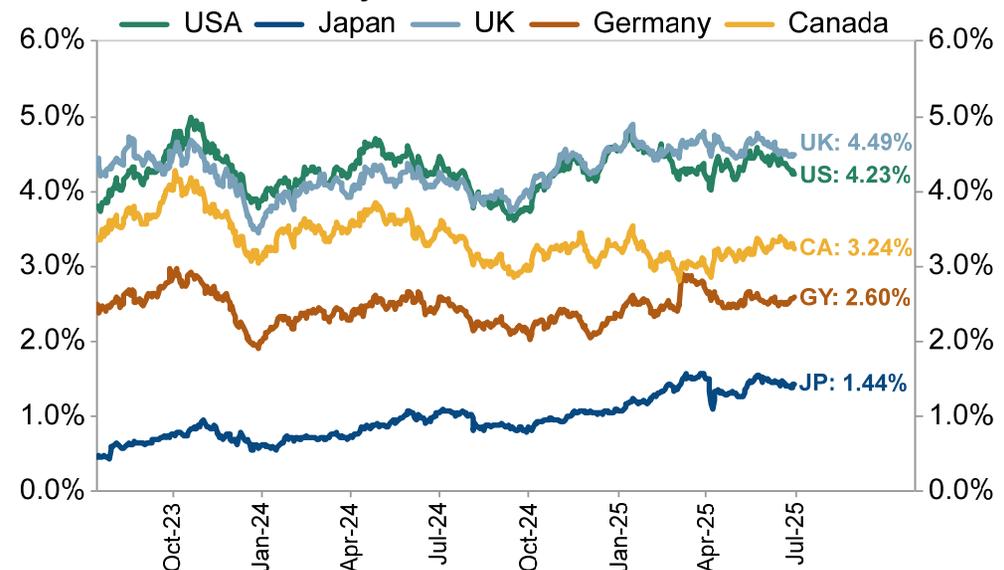
** The JP Morgan Emerging Market Bond Index (EMBI) Global Diversified index measures government bonds in hard currencies.

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

Global Performance and Yields

- Yields decreased in the UK, Germany and Japan, while they increased in Canada and the U.S. during the quarter. Except for Japan, Canada and the U.S., all major developed country central banks cut interest rates in the second quarter.
- The U.S. dollar depreciated relative to the yen, euro, and British pound. The US dollar is down 10.7% YTD and off to its worst start in over 50 years as measured by the US Dollar Index (DXY), which is a widely traded security that measures the dollar against a basket of other major currencies.
- Global government bond returns were positive for the quarter ended June 30. Emerging Markets bonds exhibited the strongest performance (+7.62%).

Global 10Y Treasury Yields



Total Fund Composite

City of Memphis OPEB Trust

Asset Allocation Comparison

Portfolio Value 6/30/25

\$5,294,986

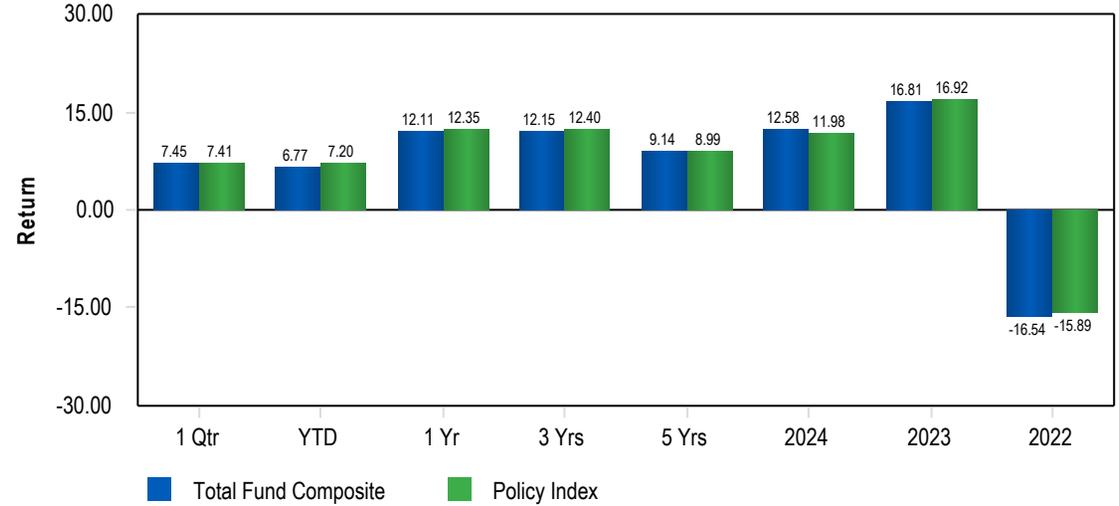
<u>Target Allocations</u>			<u>Current Managers & Allocations</u>			<u>Difference</u>	<u>Range</u>
Equity		(000)			(000)		
Domestic Equity	47.50%	\$2,515	Vanguard Total Stock Market Index	50.67%	\$2,683		40.0%-55.0%
International Equity	15.00%	\$794	Vanguard Developed Market Index	13.86%	\$734		10.0%-20.0%
Equity Total	62.50%	\$3,309	Equity Total	64.54%	\$3,417	2.04%	50.0%-65.0%¹
Fixed Income							
Fixed Income	37.50%	\$1,986	Vanguard Total Bond Market Index	35.46%	\$1,878		
Fixed Income Total	37.50%	\$1,986	Fixed Income Total	35.46%	\$1,878	-2.04%	30.0%-45.0%
Internal Account	0.00%	\$0	Fidelity Money Market Fund	0.00%	\$0		
Cash	0.00%	\$0	Cash	0.00%	\$0		0%-2%
Total	100%	\$5,295	Total	100%	\$5,295		

¹ Total Equity may not exceed 65%.

Asset Allocation by Segment

Segments	Market Value (\$)	Allocation (%)
Domestic Equity	2,683,104	50.7
Domestic Fixed Income	1,871,581	35.3
International Equity	734,108	13.9
Cash	6,193	0.1

Performance Bar Chart



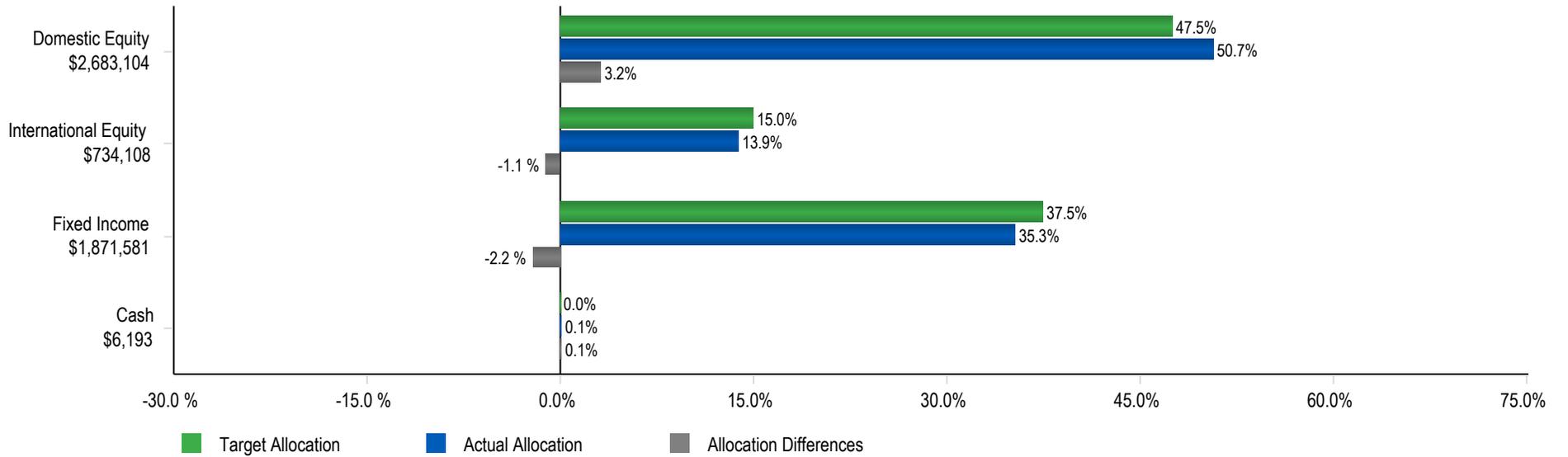
Gain / Loss

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Total Fund Composite					
Beginning Market Value	4,927,659	4,959,052	4,727,421	3,757,252	3,420,076
Net Cash Flows					
Income	18,100	35,660	68,283	184,690	332,894
Gain/Loss	349,227	300,275	499,282	1,353,044	1,542,016
Ending Market Value	5,294,986	5,294,986	5,294,986	5,294,986	5,294,986

City of Memphis OPEB

Total Fund Composite

As of June 30, 2025



	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)
Domestic Equity	2,683,104	50.7	47.5	3.2	40.0	55.0
International Equity	734,108	13.9	15.0	-1.1	10.0	20.0
Fixed Income	1,871,581	35.3	37.5	-2.2	30.0	45.0
Cash	6,193	0.1	0.0	0.1	0.0	2.0
Total Fund	5,294,986	100.0	100.0	0.0		

		Total Fund	
	(\$)		%
Total Fund Composite	5,294,986		100.0
Vanguard Total Stock Market	2,683,104		50.7
Vanguard Developed Markets Index	734,108		13.9
Vanguard Total Bond Market	1,877,606		35.5
Fidelity Money Market Fund	168		0.0

	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Total Fund Composite	7.5	6.8	12.1	12.1	9.1	8.4	7.9	8.0	07/01/2008
<i>Policy Index</i>	7.4	7.2	12.3	12.4	9.0	8.4	8.0	7.8	
All Public Plans-Total Fund Median	6.4	6.4	11.1	10.3	9.0	7.7	7.5	7.2	
Total Fund Composite Rank	16	37	18	10	45	26	32	10	
Vanguard Total Stock Market	10.7	5.3	14.7	18.9	15.8	13.4	12.9	11.6	07/01/2008
<i>Russell 3000 Index</i>	11.0	5.8	15.3	19.1	16.0	13.6	13.0	11.6	
IM U.S. Multi-Cap Equity (MF) Median	9.5	5.6	13.3	15.7	14.1	10.9	10.4	9.8	
Vanguard Total Stock Market Rank	43	54	36	30	28	19	18	18	
Vanguard Developed Markets Index	13.1	20.8	19.3	15.4	11.3	7.3	6.7	7.9	01/01/2012
<i>Developed Market Policy Index</i>	13.5	20.3	19.3	15.8	11.7	7.5	7.1	8.2	
IM International Equity (MF) Median	12.2	17.8	17.4	13.7	9.3	6.2	5.9	7.2	
Vanguard Developed Markets Index Rank	35	26	36	30	29	29	28	28	
Vanguard Total Bond Market	1.3	4.1	6.0	2.6	-0.7	1.8	1.8	2.9	07/01/2008
<i>Blmbg. U.S. Aggregate</i>	1.2	4.0	6.1	2.5	-0.7	1.8	1.8	2.9	
IM U.S. Broad Market Core Fixed Income (MF) Median	1.2	4.0	6.1	2.7	-0.5	1.8	1.8	3.1	
Vanguard Total Bond Market Rank	44	37	52	61	71	55	55	64	
Fidelity Money Market Fund	1.0	2.0	4.5	4.4	2.6	2.3	1.8	1.6	10/01/2014
<i>90 Day U.S. Treasury Bill</i>	1.0	2.1	4.7	4.6	2.8	2.5	2.0	1.8	
IM U.S. Taxable Money Market (MF) Median	1.0	2.0	4.5	4.4	2.6	2.3	1.7	1.6	
Fidelity Money Market Fund Rank	50	51	52	50	49	47	44	44	

City of Memphis OPEB

Comparative Performance

As of June 30, 2025

	Performance (%)									
	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Total Fund Composite	12.6	16.8	-16.5	13.8	14.9	21.0	-4.7	15.0	7.4	0.3
<i>Policy Index</i>	12.0	16.9	-15.9	12.8	14.6	21.2	-4.4	14.8	7.3	0.6
Vanguard Total Stock Market	23.7	26.0	-19.5	25.7	21.0	30.8	-5.2	21.2	12.7	0.4
<i>Russell 3000 Index</i>	23.8	26.0	-19.2	25.7	20.9	31.0	-5.2	21.1	12.7	0.5
Vanguard Developed Markets Index	3.0	17.7	-15.3	11.4	10.3	21.9	-14.6	26.3	2.4	-0.3
<i>Developed Market Policy Index</i>	3.7	18.3	-15.3	11.9	10.3	22.7	-14.5	26.7	2.7	0.0
Vanguard Total Bond Market	1.2	5.7	-13.2	-1.7	7.7	8.7	0.0	3.6	2.6	0.4
<i>Blmbg. U.S. Aggregate</i>	1.3	5.5	-13.0	-1.5	7.5	8.7	0.0	3.5	2.6	0.5
Fidelity Money Market Fund	5.0	4.9	1.4	0.0	0.3	1.9	1.6	0.6	0.1	0.0
<i>90 Day U.S. Treasury Bill</i>	5.3	5.0	1.5	0.0	0.7	2.3	1.9	0.9	0.3	0.0

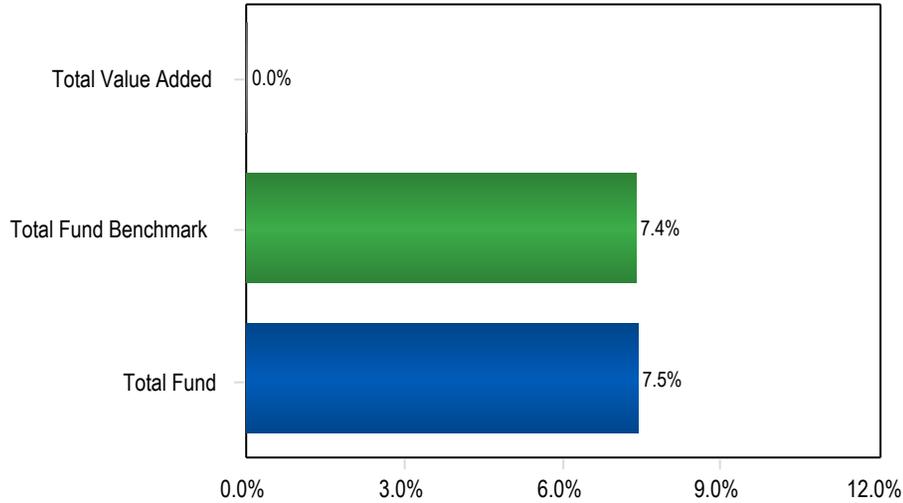
City of Memphis OPEB

Comparative Performance

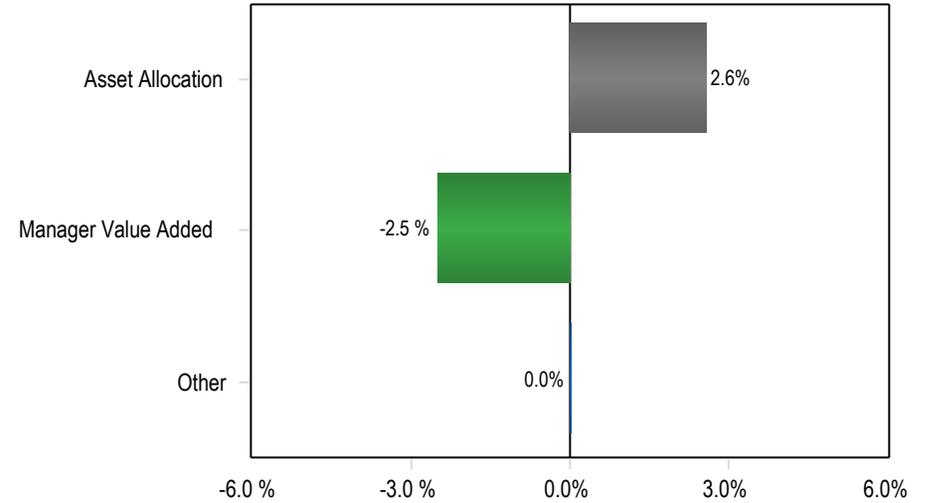
As of June 30, 2025

	Performance (%)									
	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Vanguard Total Stock Market	23.7	26.0	-19.5	25.7	21.0	30.8	-5.2	21.2	12.7	0.4
<i>Russell 3000 Index</i>	23.8	26.0	-19.2	25.7	20.9	31.0	-5.2	21.1	12.7	0.5
IM U.S. Multi-Cap Equity (MF) Median	17.9	20.5	-17.4	24.7	14.7	28.2	-7.1	20.5	10.0	-1.4
Vanguard Total Stock Market Rank	28	29	60	41	34	30	33	44	33	37
Vanguard Developed Markets Index	3.0	17.7	-15.3	11.4	10.3	21.9	-14.6	26.3	2.4	-0.3
<i>Developed Market Policy Index</i>	3.7	18.3	-15.3	11.9	10.3	22.7	-14.5	26.7	2.7	0.0
IM International Equity (MF) Median	4.9	15.2	-19.0	8.5	13.7	22.1	-16.0	28.6	1.8	-2.3
Vanguard Developed Markets Index Rank	69	30	31	32	60	51	36	64	47	36
Vanguard Total Bond Market	1.2	5.7	-13.2	-1.7	7.7	8.7	0.0	3.6	2.6	0.4
<i>Blmbg. U.S. Aggregate</i>	1.3	5.5	-13.0	-1.5	7.5	8.7	0.0	3.5	2.6	0.5
IM U.S. Broad Market Core Fixed Income (MF) Median	1.6	5.8	-13.7	-1.3	8.2	8.8	-0.6	3.6	2.9	0.0
Vanguard Total Bond Market Rank	75	54	27	65	65	53	20	52	64	32
Fidelity Money Market Fund	5.0	4.9	1.4	0.0	0.3	1.9	1.6	0.6	0.1	0.0
<i>90 Day U.S. Treasury Bill</i>	5.3	5.0	1.5	0.0	0.7	2.3	1.9	0.9	0.3	0.0
IM U.S. Taxable Money Market (MF) Median	5.0	4.9	1.4	0.0	0.3	1.9	1.5	0.5	0.1	0.0
Fidelity Money Market Fund Rank	51	52	57	57	56	46	47	45	43	54

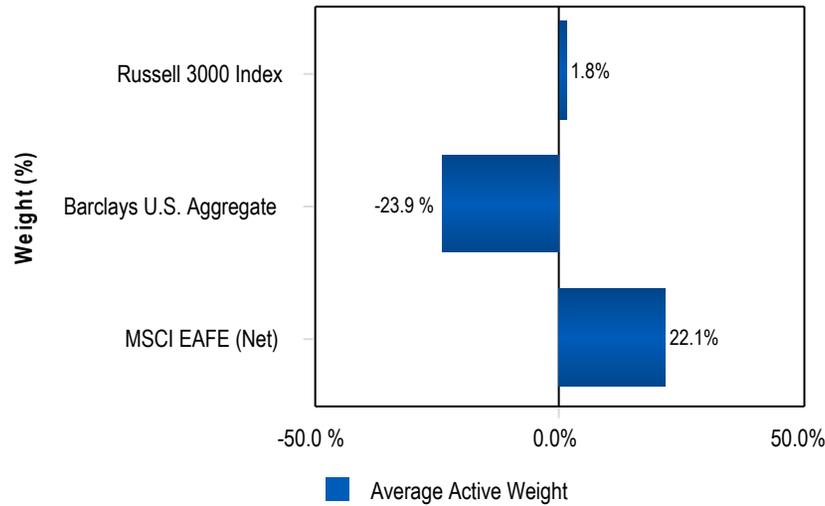
Total Fund Performance



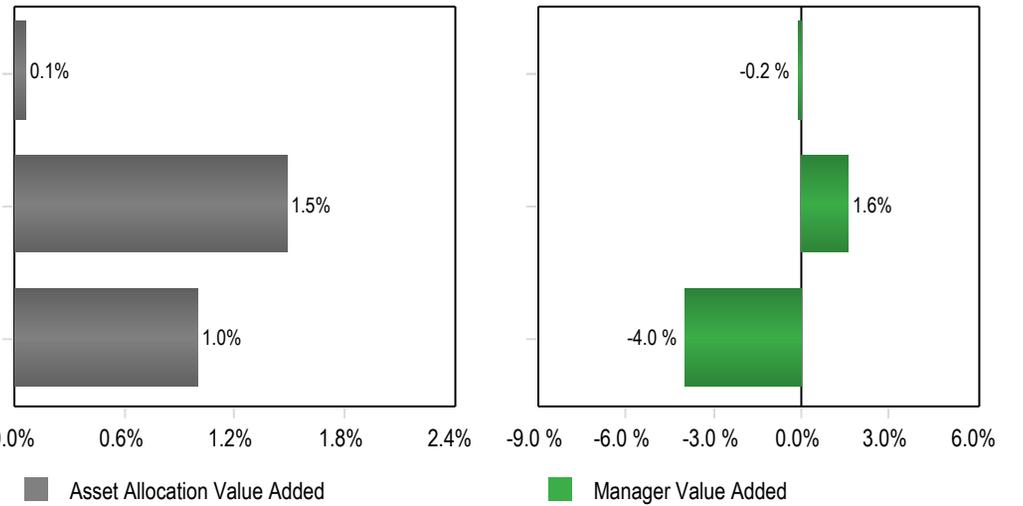
Total Value Added:0.0%

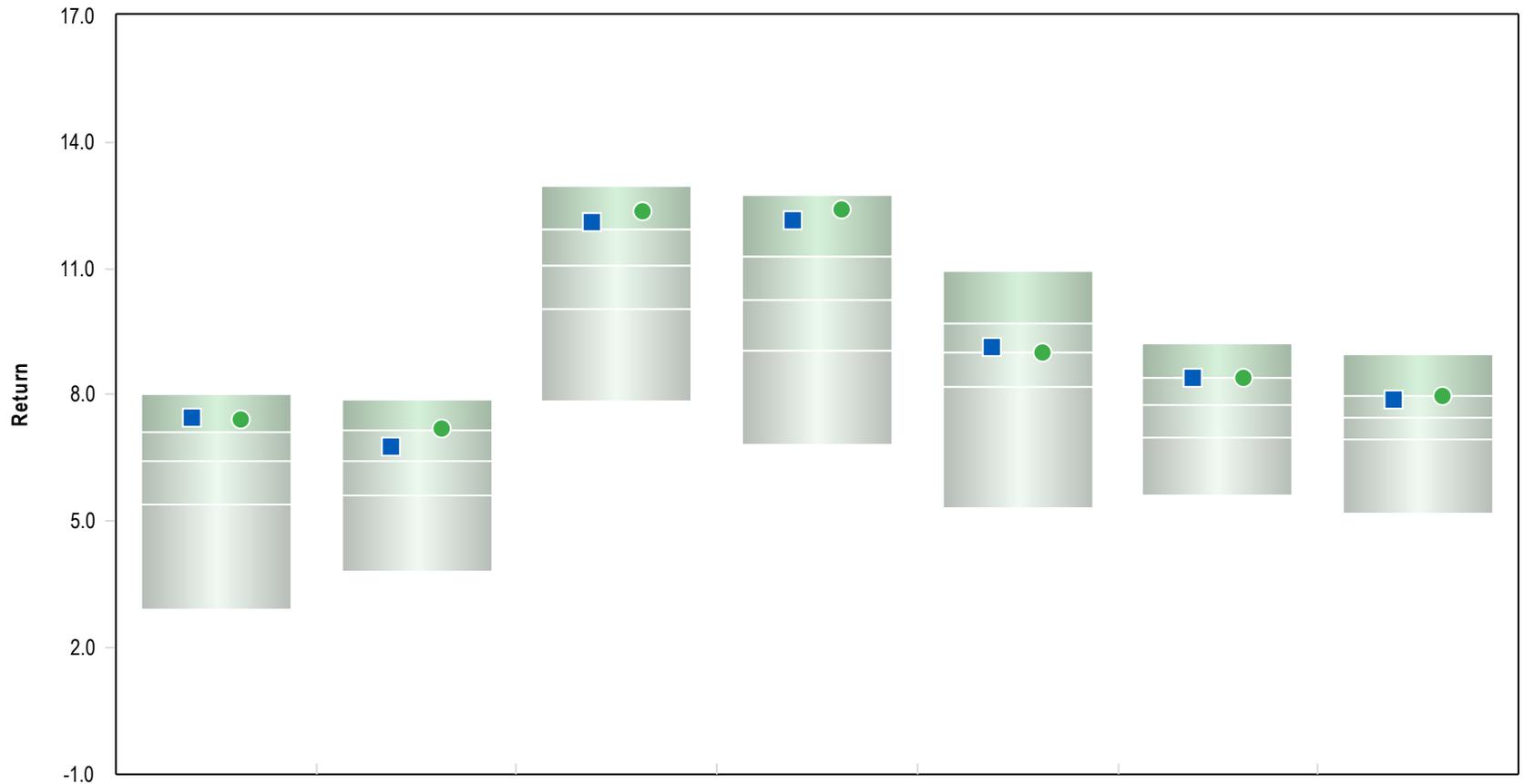


Total Asset Allocation:2.6%



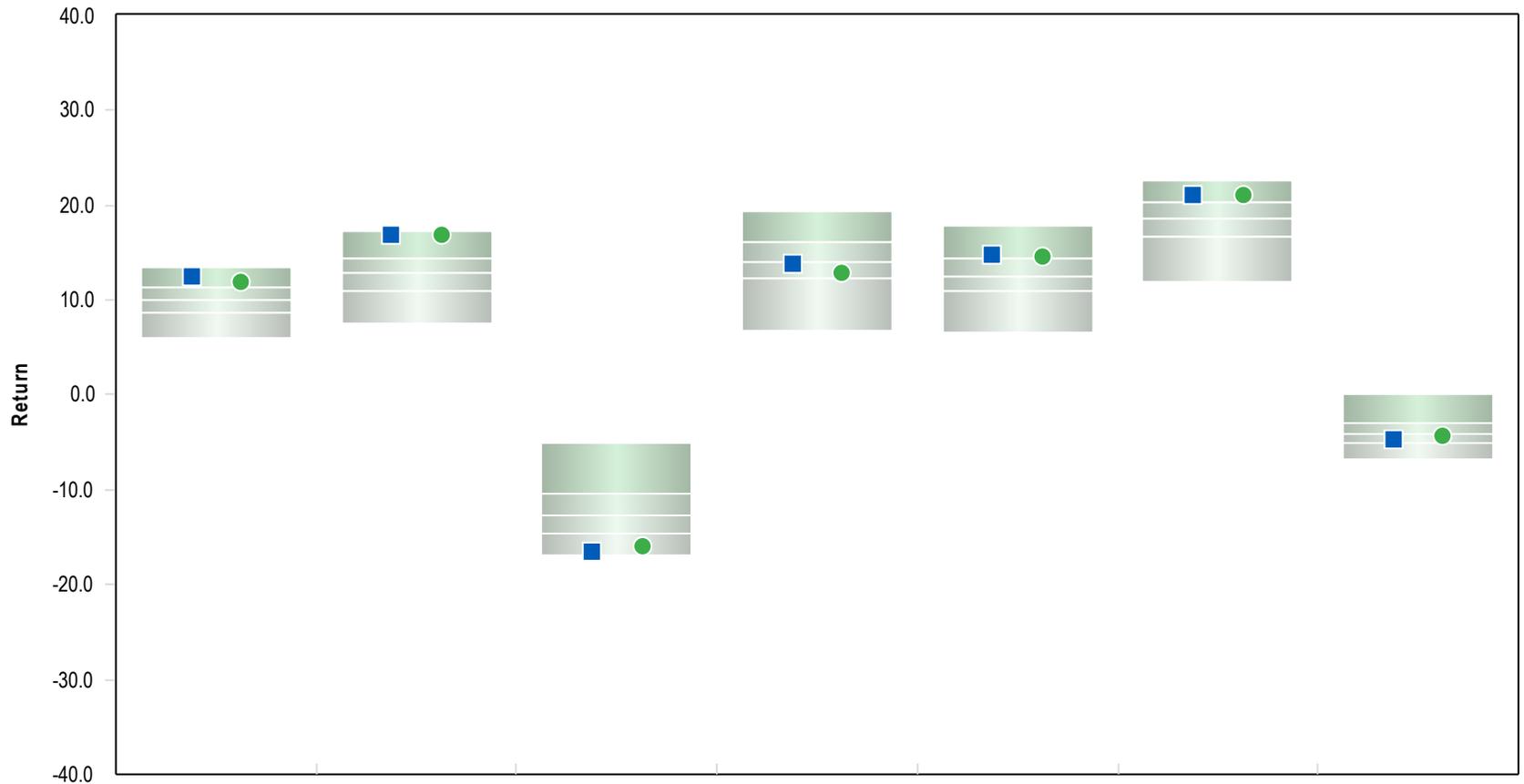
Total Manager Value Added:-2.5%





	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Fund Composite	7.5 (16)	6.8 (37)	12.1 (18)	12.1 (10)	9.1 (45)	8.4 (26)	7.9 (32)
● Policy Index	7.4 (17)	7.2 (23)	12.3 (13)	12.4 (8)	9.0 (51)	8.4 (25)	8.0 (27)
5th Percentile	8.0	7.9	13.0	12.8	10.9	9.2	8.9
1st Quartile	7.1	7.2	11.9	11.3	9.7	8.4	8.0
Median	6.4	6.4	11.1	10.3	9.0	7.7	7.5
3rd Quartile	5.4	5.6	10.0	9.1	8.2	7.0	6.9
95th Percentile	2.9	3.8	7.9	6.8	5.3	5.6	5.2

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

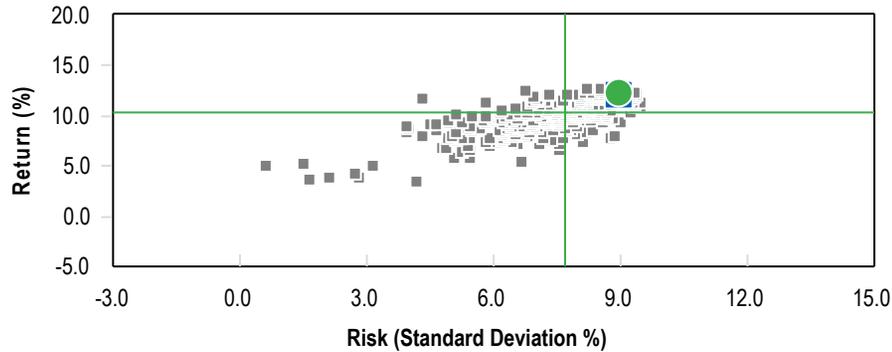


	2024	2023	2022	2021	2020	2019	2018
■ Total Fund Composite	12.6 (11)	16.8 (7)	-16.5 (93)	13.8 (56)	14.9 (22)	21.0 (17)	-4.7 (65)
● Policy Index	12.0 (17)	16.9 (7)	-15.9 (89)	12.8 (69)	14.6 (24)	21.2 (15)	-4.4 (56)

5th Percentile	13.4	17.3	-5.0	19.4	17.8	22.6	0.2
1st Quartile	11.4	14.5	-10.5	16.1	14.5	20.3	-2.9
Median	10.1	12.8	-12.7	14.1	12.5	18.7	-4.1
3rd Quartile	8.7	11.0	-14.7	12.3	11.0	16.8	-5.1
95th Percentile	6.0	7.6	-16.9	6.8	6.7	11.9	-6.8

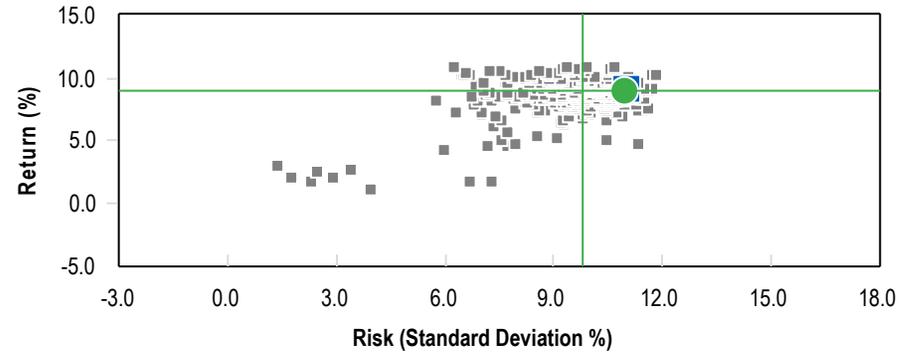
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Risk & Return Plan Sponsor — 3 Years



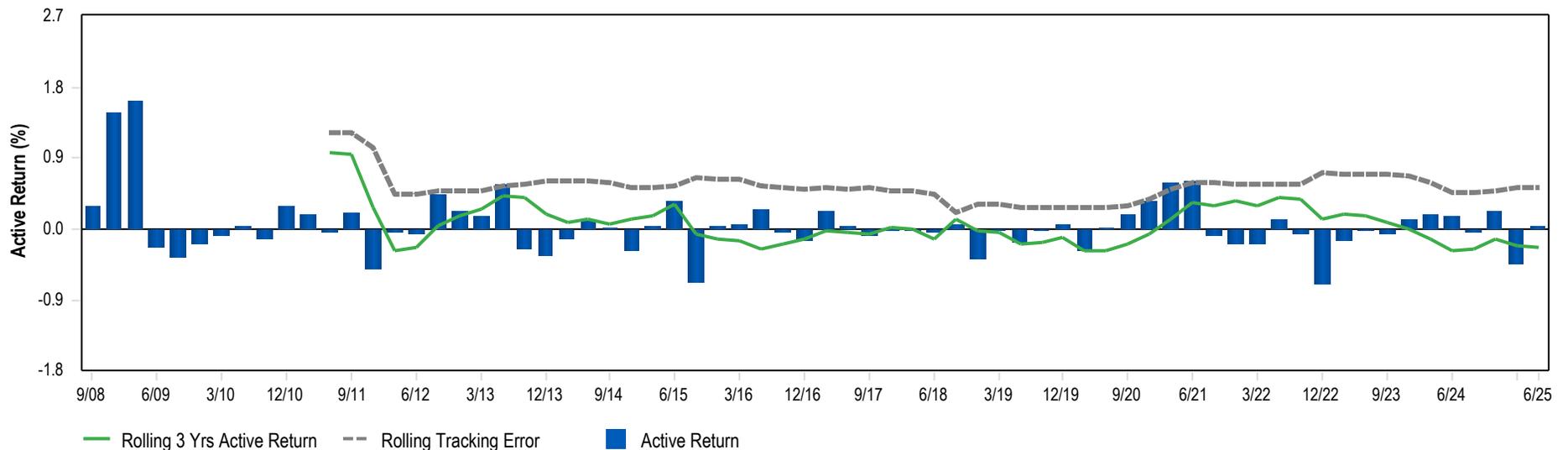
	Return	Standard Deviation
Total Fund Composite	12.1	9.0
Policy Index	12.4	9.0
Median	10.3	7.7

Risk & Return Plan Sponsor — 5 Years



	Return	Standard Deviation
Total Fund Composite	9.1	11.0
Policy Index	9.0	10.9
Median	9.0	9.8

Rolling Return and Tracking Error



Policy Index	Weight (%)
Jun-2003	
Russell 3000 Index	62.5
Blmbg. U.S. Aggregate	37.5
Jan-2012	
Russell 3000 Index	47.5
Blmbg. U.S. Aggregate	37.5
MSCI EAFE (Net)	15.0

Policy Index	Weight (%)
Jan-2012 MSCI EAFE Index	100.0
Jun-2013 FTSE Developed x North America Index	100.0
Jan-2016 FTSE Developed All-Cap ex US Transition Index	100.0
Jun-2016 FTSE Developed All Cap ex-U.S. Index	100.0

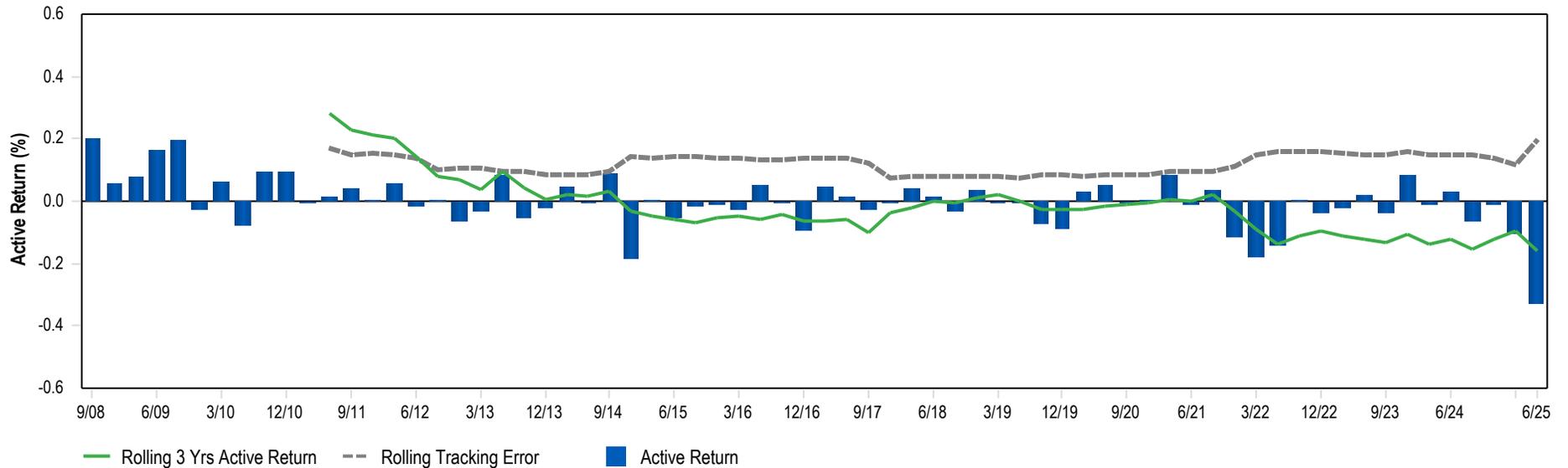
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	%Return
From 06/2008	2,910,974		-474,478	2,436,496	-16.3
2009	2,436,496	6,000,000	1,023,156	9,459,652	21.3
2010	9,459,652	1,000,000	1,445,483	11,905,135	13.6
2011	11,905,135		455,833	12,360,968	3.8
2012	12,360,968	-929,020	2,479,823	13,911,771	12.7
2013	13,911,771	1,188,894	1,634,497	16,735,162	17.8
2014	16,735,162	-9,032,562	1,030,125	8,732,726	7.1
2015	8,732,726	-6,540,086	233,076	2,425,715	0.3
2016	2,425,715		179,552	2,605,267	7.4
2017	2,605,267	1	391,729	2,996,996	15.0
2018	2,996,996		-141,433	2,855,563	-4.7
2019	2,855,563		600,131	3,455,694	21.0
2020	3,455,694		513,928	3,969,622	14.9
2021	3,969,622		552,241	4,521,862	13.8
2022	4,521,862		-747,857	3,774,005	-16.5
2023	3,774,005		634,563	4,408,569	16.8
2024	4,408,569		550,483	4,959,052	12.6
To 06/2025	4,959,052		335,934	5,294,986	6.8

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

Vanguard Total Stock Market Index Fund

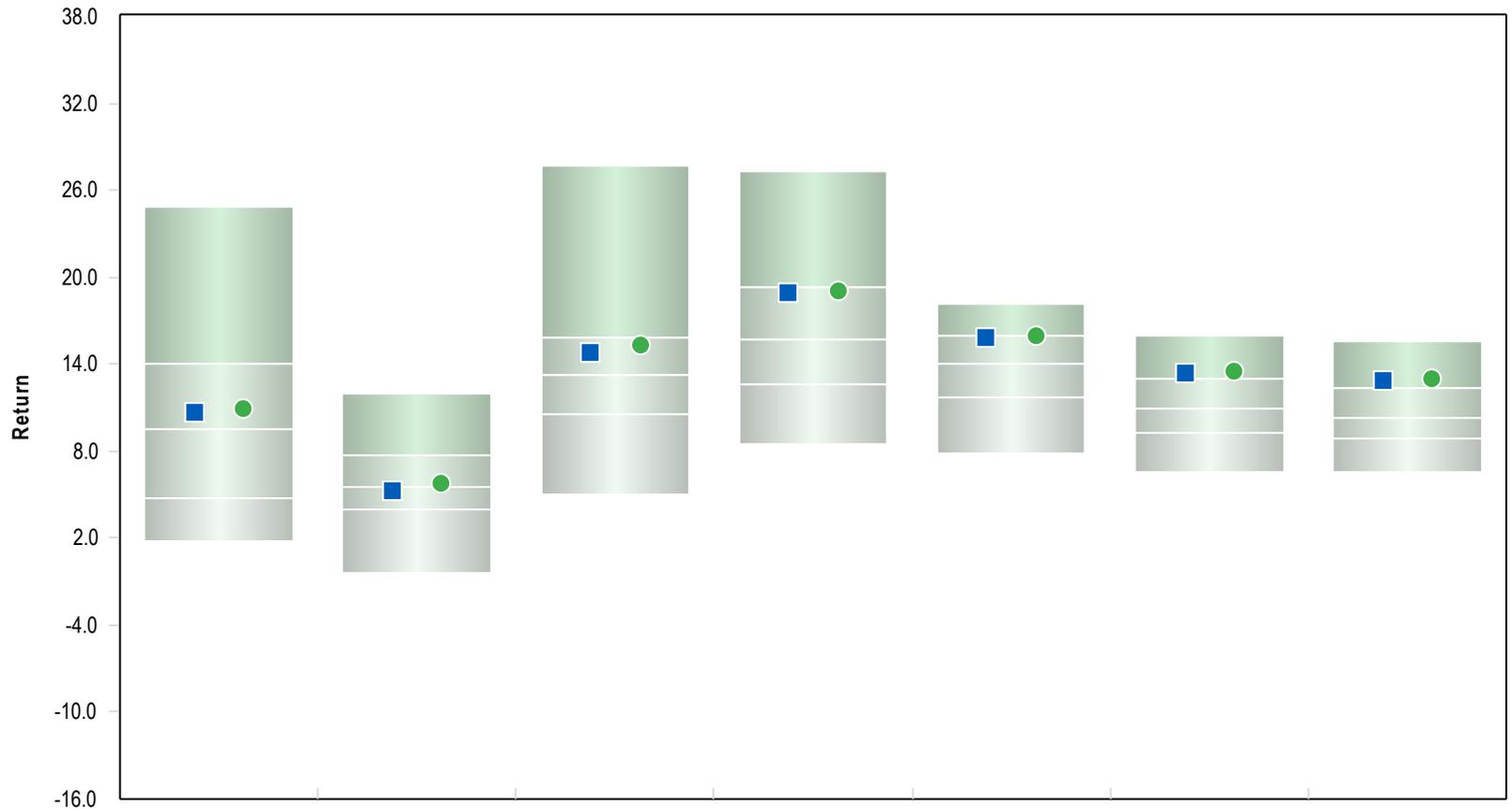
	Gain / Loss				
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Vanguard Total Stock Market					
Beginning Market Value	2,424,601	2,547,646	2,483,110	1,729,079	1,710,779
Net Cash Flows			-150,000	-200,000	-658,894
Income				7,248	65,060
Gain/Loss	258,503	135,458	349,994	1,146,776	1,566,159
Ending Market Value	2,683,104	2,683,104	2,683,104	2,683,104	2,683,104

Rolling Return and Tracking Error



Performance

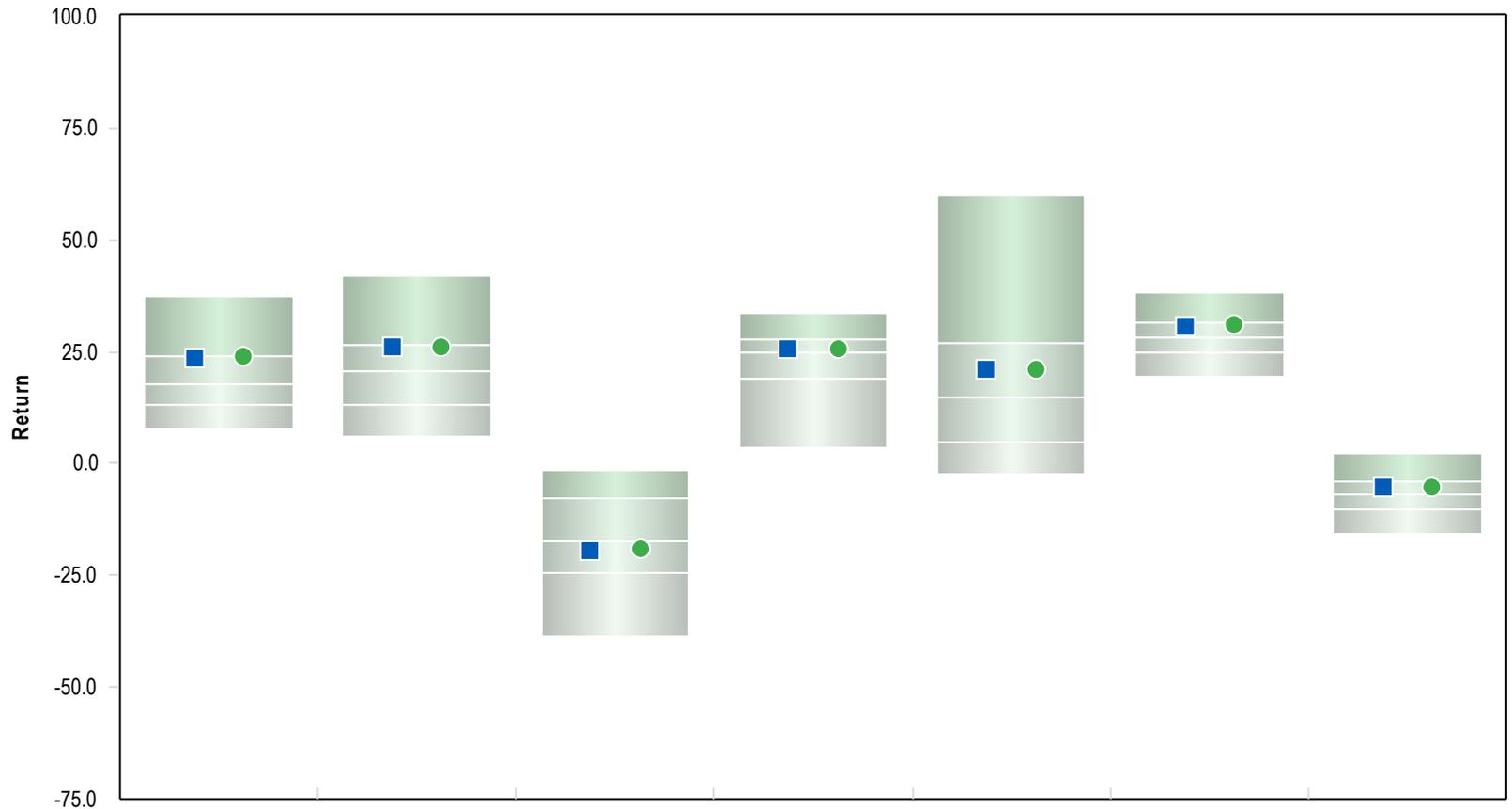
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Vanguard Total Stock Market	10.7	5.3	14.7	18.9	15.8	13.4	12.9
Russell 3000 Index	11.0	5.8	15.3	19.1	16.0	13.6	13.0
Difference	-0.3	-0.4	-0.5	-0.2	-0.2	-0.1	-0.1



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Vanguard Total Stock Market	10.7 (43)	5.3 (54)	14.7 (36)	18.9 (30)	15.8 (28)	13.4 (19)	12.9 (18)
● Russell 3000 Index	11.0 (40)	5.8 (47)	15.3 (30)	19.1 (28)	16.0 (25)	13.6 (17)	13.0 (17)

5th Percentile	24.8	12.0	27.7	27.3	18.2	15.9	15.5
1st Quartile	14.0	7.7	15.9	19.4	15.9	12.9	12.3
Median	9.5	5.6	13.3	15.7	14.1	10.9	10.4
3rd Quartile	4.8	4.0	10.5	12.7	11.7	9.2	8.9
95th Percentile	1.7	-0.4	5.0	8.5	7.8	6.5	6.5

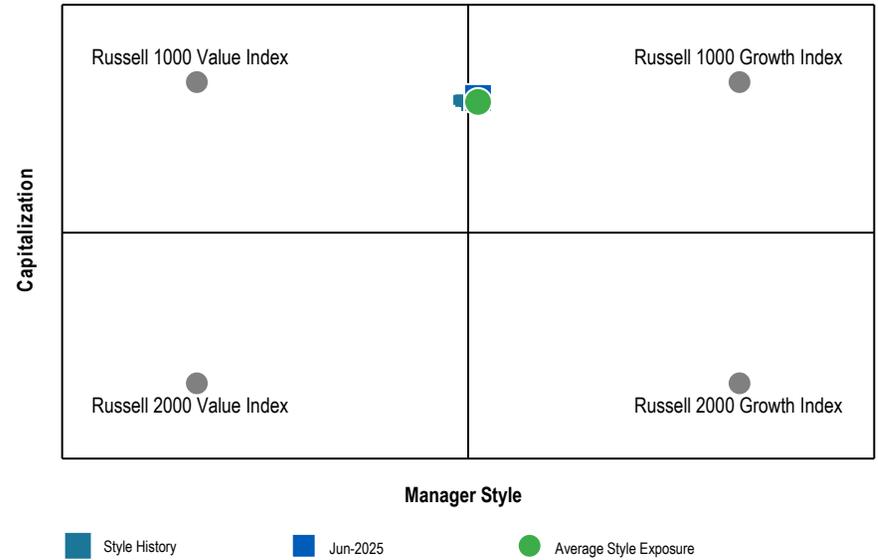
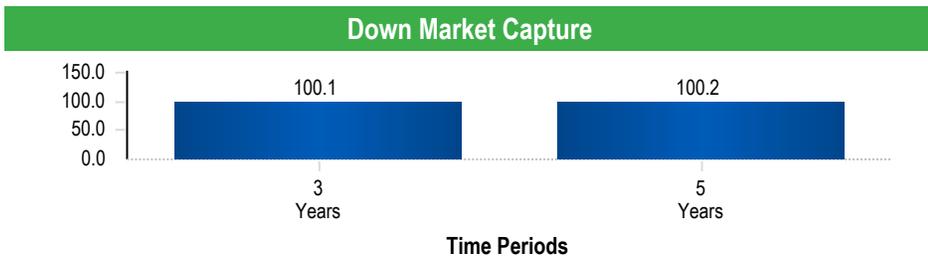
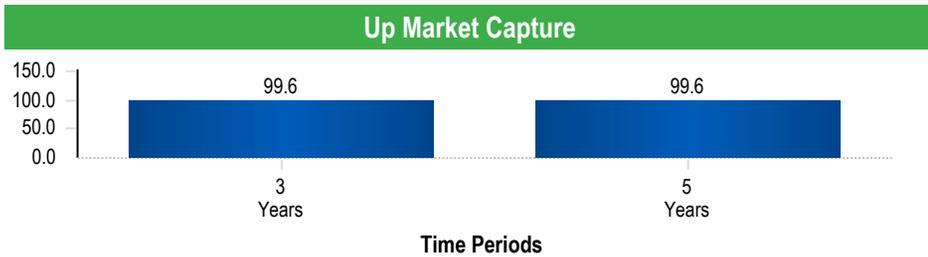
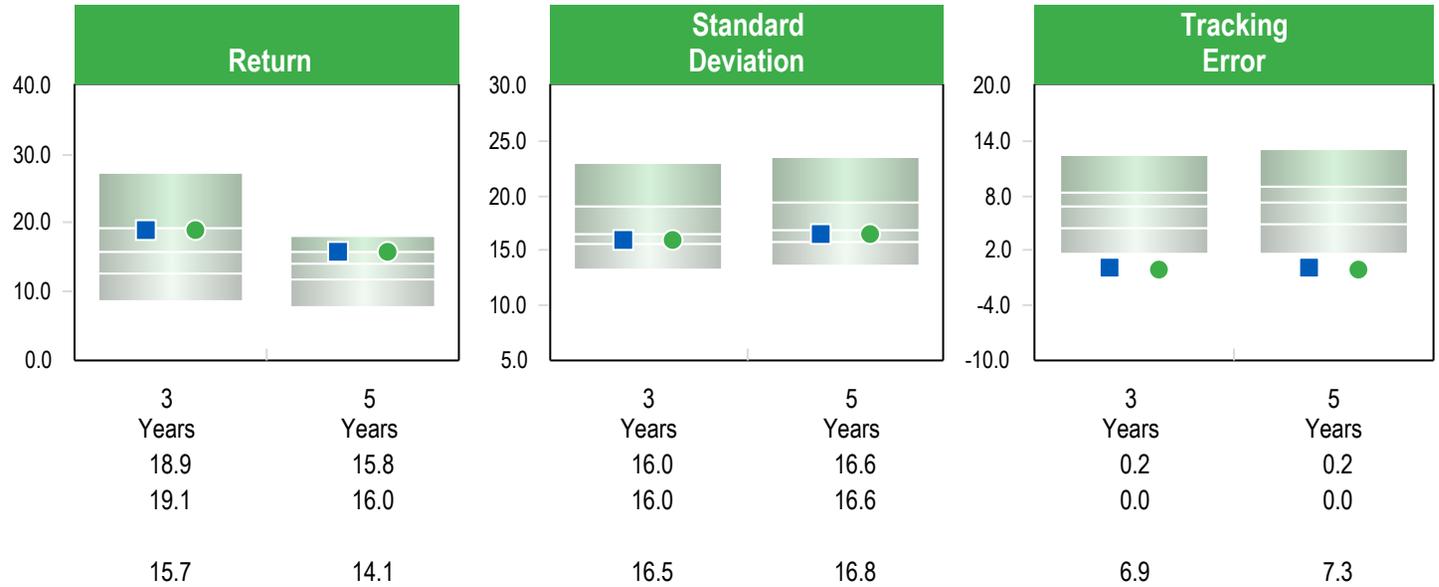
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	2024	2023	2022	2021	2020	2019	2018
■ Vanguard Total Stock Market	23.7 (28)	26.0 (29)	-19.5 (60)	25.7 (41)	21.0 (34)	30.8 (30)	-5.2 (33)
● Russell 3000 Index	23.8 (27)	26.0 (29)	-19.2 (58)	25.7 (41)	20.9 (34)	31.0 (29)	-5.2 (34)

5th Percentile	37.3	42.0	-1.3	33.5	60.0	38.2	2.3
1st Quartile	24.1	26.7	-7.9	27.8	26.8	31.6	-4.0
Median	17.9	20.5	-17.4	24.7	14.7	28.2	-7.1
3rd Quartile	13.0	13.1	-24.6	18.9	4.9	24.7	-10.1
95th Percentile	7.5	6.0	-38.7	3.3	-2.5	19.3	-15.9

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



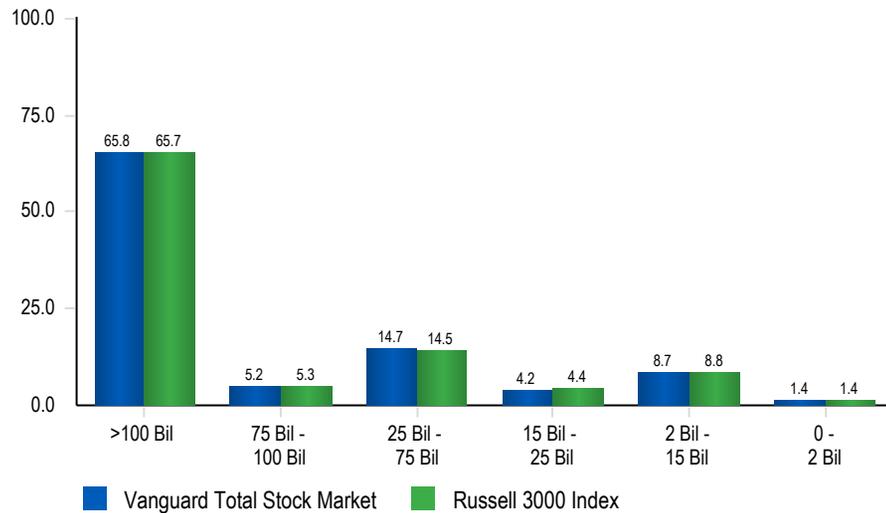
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Microsoft Corp	6.2	6.2	0.0	32.7
NVIDIA Corporation	6.2	6.2	0.0	45.8
Apple Inc	5.2	5.1	0.1	-7.5
Amazon.com Inc	3.5	3.5	0.0	15.3
Meta Platforms Inc	2.7	2.7	0.0	28.2
Broadcom Inc	2.2	2.1	0.1	65.0
Google Inc [A]	1.7	1.7	0.0	14.1
Tesla Inc	1.5	1.5	0.0	22.6
Berkshire Hathaway Inc	1.5	1.5	0.0	-8.8
Alphabet Inc	1.4	1.4	0.0	13.7
% of Portfolio	32.1	31.9	0.2	

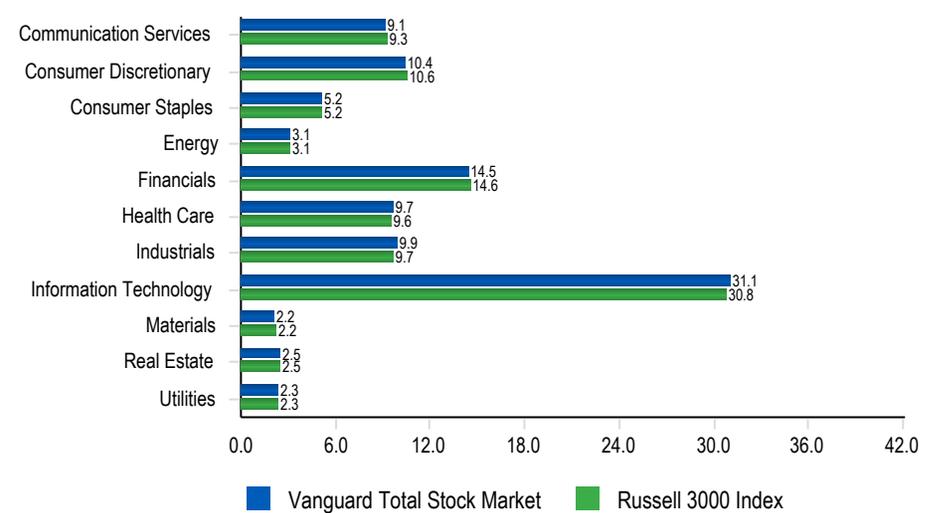
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	990,391,359,962	984,447,218,223
Median Mkt. Cap (\$)	1,268,207,640	2,043,156,960
Price/Earnings ratio	26.7	26.6
Price/Book ratio	4.9	4.9
5 Yr. EPS Growth Rate (%)	23.0	23.0
Current Yield (%)	1.3	1.3
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	3,485	3,004

Distribution of Market Capitalization (%)



Sector Weights (%)



Ten Best Performers

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
DeFi Development Corp	0.0	0.0	0.0	2,901.6
BioSig Technologies Inc	0.0	0.0	0.0	1,087.6
Asset Entities Inc	0.0	0.0	0.0	550.4
Aeva Technologies Inc	0.0	0.0	0.0	439.9
Gryphon Digital Mining Inc	0.0	0.0	0.0	418.4
Sezzle Inc	0.0	0.0	0.0	413.8
Vigil Neuroscience Inc	0.0	0.0	0.0	346.6
Servotronics Inc.	0.0	0.0	0.0	342.8
CoreWeave Inc	0.0	0.0	0.0	339.8
Inozyme Pharma Inc	0.0	0.0	0.0	339.6
% of Portfolio	0.0	0.0	0.0	

Ten Worst Performers

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Wolfspeed Inc	0.0	0.0	0.0	-87.0
X4 Pharmaceuticals Inc	0.0	0.0	0.0	-73.2
Sarepta Therapeutics Inc	0.0	0.0	0.0	-73.2
QVC Group Inc	0.0	0.0	0.0	-72.7
reAlpha Tech Corp	0.0	0.0	0.0	-72.0
INmune Bio Inc	0.0	0.0	0.0	-70.4
S&W Seed Co	0.0	0.0	0.0	-68.8
CaliberCos Inc	0.0	0.0	0.0	-68.1
CEL-SCI Corp	0.0	0.0	0.0	-66.9
Kalaris Therapeutics Inc	0.0	0.0	0.0	-66.7
% of Portfolio	0.0	0.0	0.0	

City of Memphis OPEB

Buy and Hold Sector Attribution

1 Quarter Ending June 30, 2025

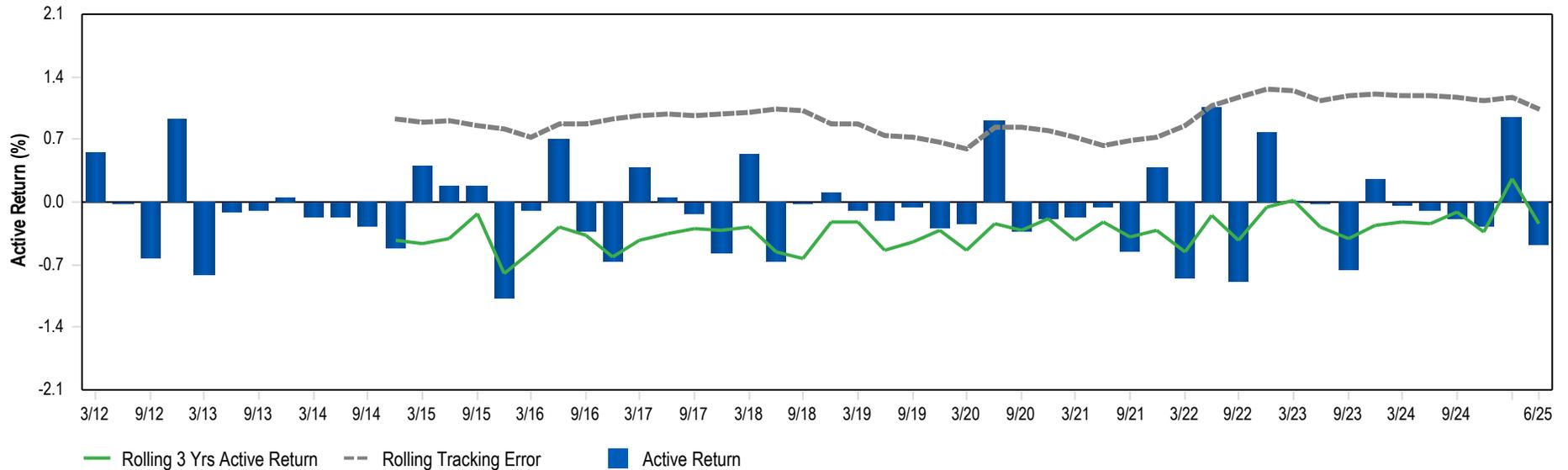
Buy and Hold Portfolio	10.9
Portfolio Trading	-0.3
Actual Return	10.7
Benchmark Return	11.0
Actual Active Return	-0.3
Stock Selection	0.0
Sector Selection	0.0
Interaction	0.0
Total Selection	0.0
Portfolio Trading	-0.3
Benchmark Trading	0.0
Active Trading Impact	-0.3
Buy and Hold Active Return	-0.3

	Allocation-04/01/2025		Performance-1 Quarter Ending June 30, 2025				Attribution		Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction		
Communication Services	8.6	8.8	18.9	19.0	0.0	0.0	0.0	0.0	
Consumer Discretionary	10.3	10.3	11.4	11.5	0.0	0.0	0.0	0.0	
Consumer Staples	5.7	5.8	1.2	1.2	0.0	0.0	0.0	0.0	
Energy	3.7	3.8	-7.4	-7.3	0.0	0.0	0.0	0.0	
Financials	15.2	15.3	6.4	6.5	0.0	0.0	0.0	0.0	
Health Care	11.4	11.3	-5.7	-5.7	0.0	0.0	0.0	0.0	
Industrials	9.7	9.6	13.4	13.5	0.0	0.0	0.0	0.0	
Information Technology	27.8	27.5	23.6	23.5	0.0	0.0	0.0	0.1	
Materials	2.4	2.4	4.1	4.1	0.0	0.0	0.0	0.0	
Real Estate	2.8	2.7	-0.6	-0.6	0.0	0.0	0.0	0.0	
Utilities	2.5	2.5	4.4	3.9	0.0	0.0	0.0	0.0	
Total	100.0	100.0	10.9	10.9	0.0	0.0	0.0	0.0	

Vanguard Total Developed Markets Index Fund

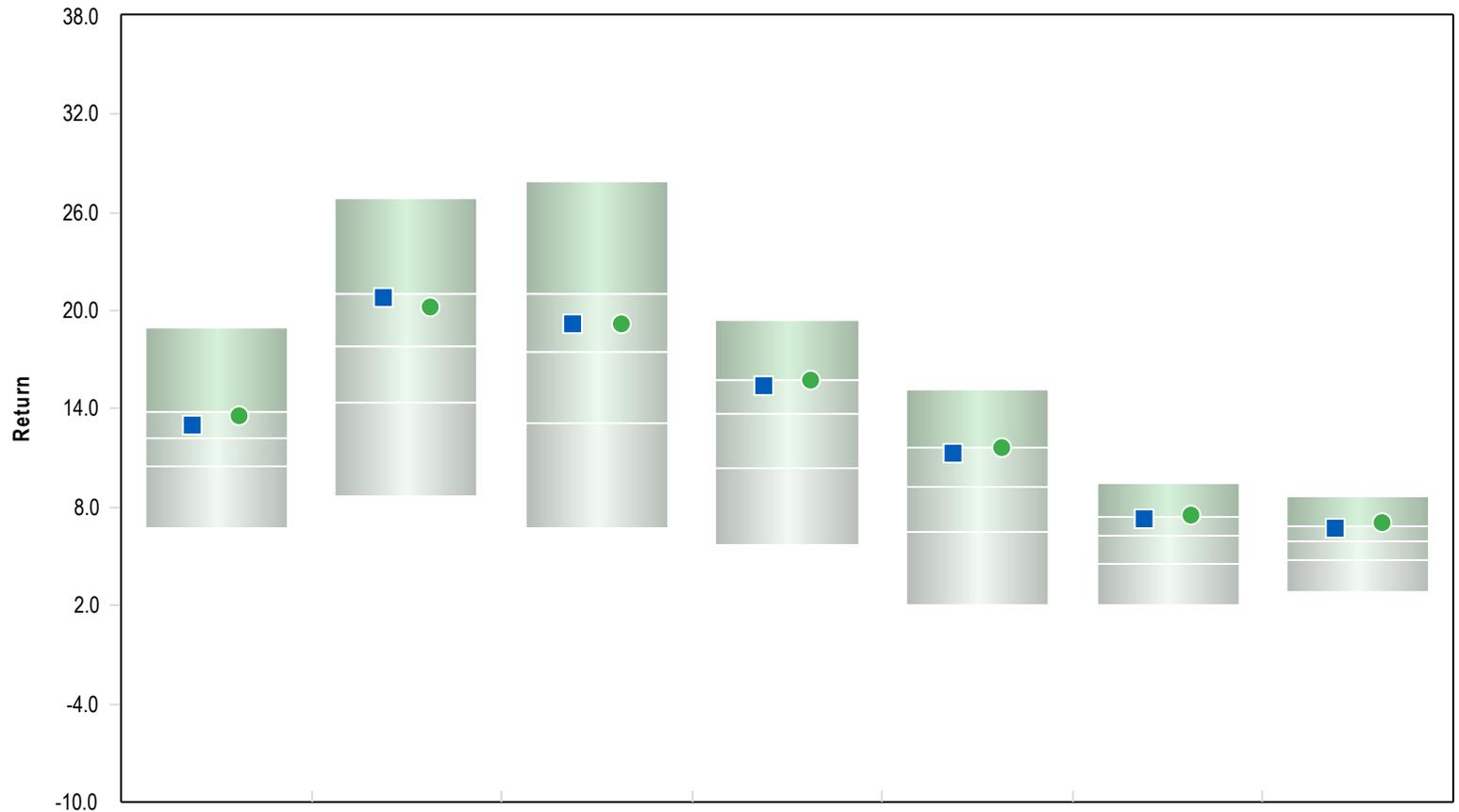
	Gain / Loss				
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Vanguard Developed Markets Index					
Beginning Market Value	649,236	607,498	615,585	477,681	429,731
Net Cash Flows					
Income				13,922	46,127
Gain/Loss	84,872	126,610	118,523	242,505	258,250
Ending Market Value	734,108	734,108	734,108	734,108	734,108

Rolling Return and Tracking Error



Performance

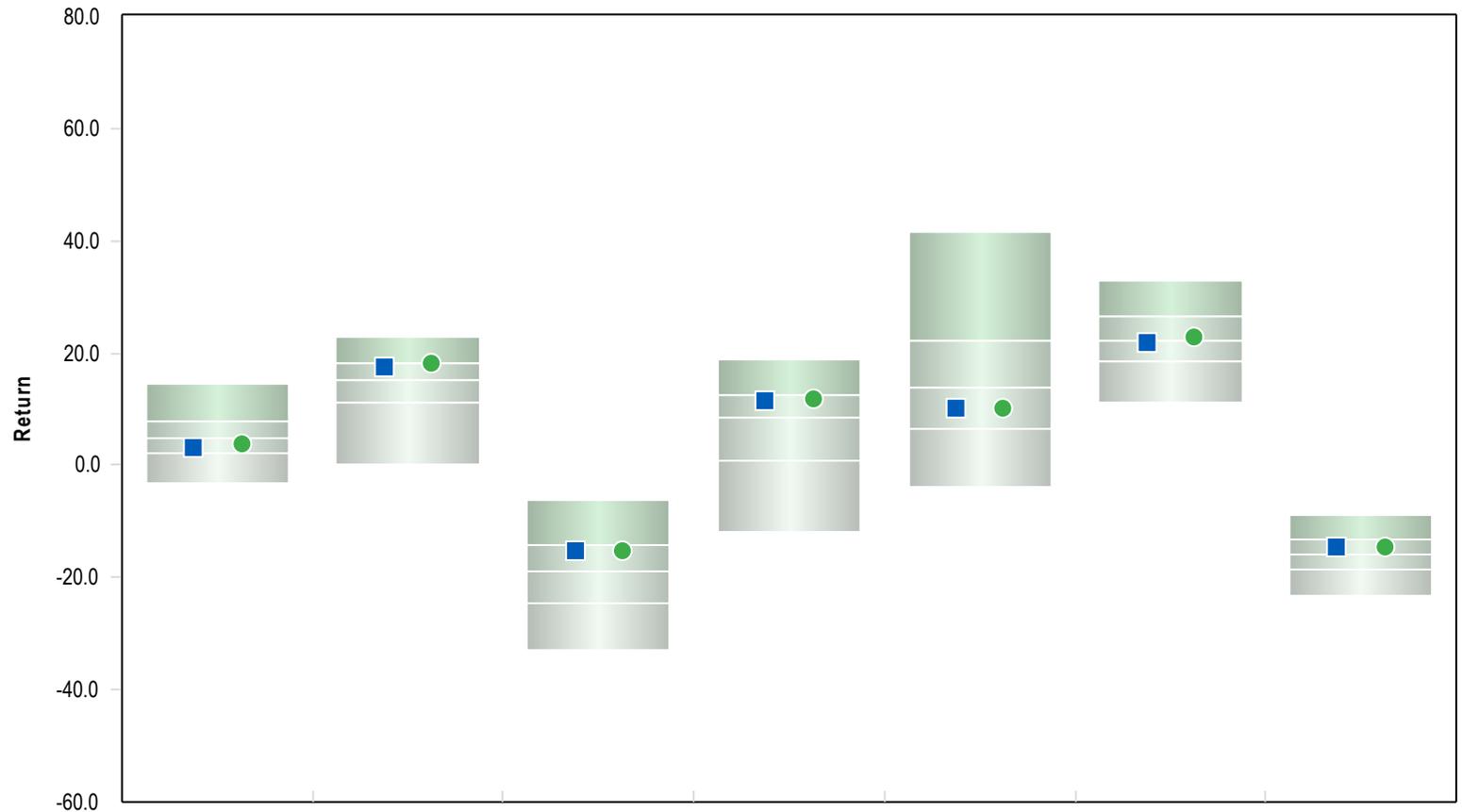
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Vanguard Developed Markets Index	13.1	20.8	19.3	15.4	11.3	7.3	6.7
Developed Market Policy Index	13.5	20.3	19.3	15.8	11.7	7.5	7.1
Difference	-0.5	0.6	0.0	-0.4	-0.4	-0.2	-0.3



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Vanguard Developed Markets Index	13.1 (35)	20.8 (26)	19.3 (36)	15.4 (30)	11.3 (29)	7.3 (29)	6.7 (28)
● Developed Market Policy Index	13.5 (29)	20.3 (31)	19.3 (36)	15.8 (26)	11.7 (25)	7.5 (24)	7.1 (21)

5th Percentile	19.0	26.9	27.9	19.4	15.2	9.5	8.6
1st Quartile	13.8	21.0	21.0	15.8	11.6	7.4	6.8
Median	12.2	17.8	17.4	13.7	9.3	6.2	5.9
3rd Quartile	10.5	14.4	13.1	10.4	6.4	4.5	4.8
95th Percentile	6.8	8.7	6.8	5.7	2.0	2.1	2.8

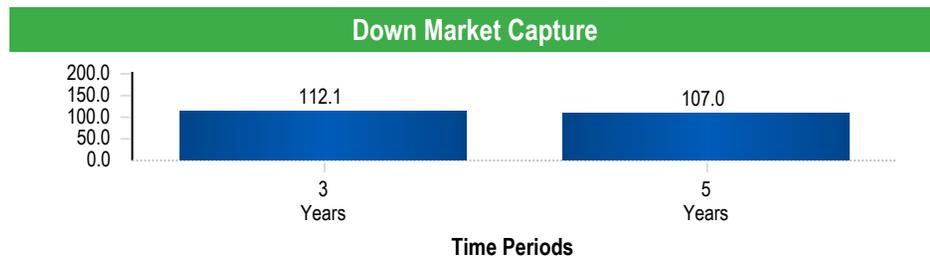
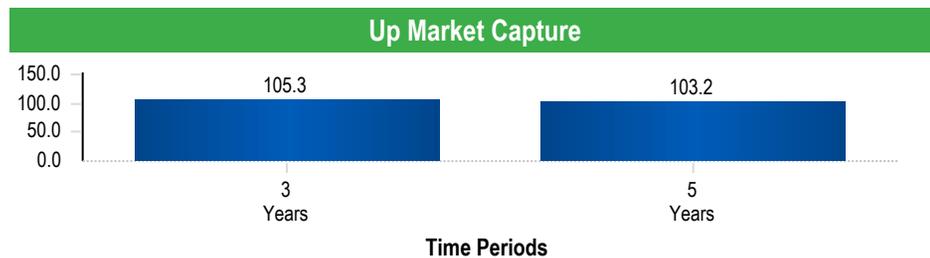
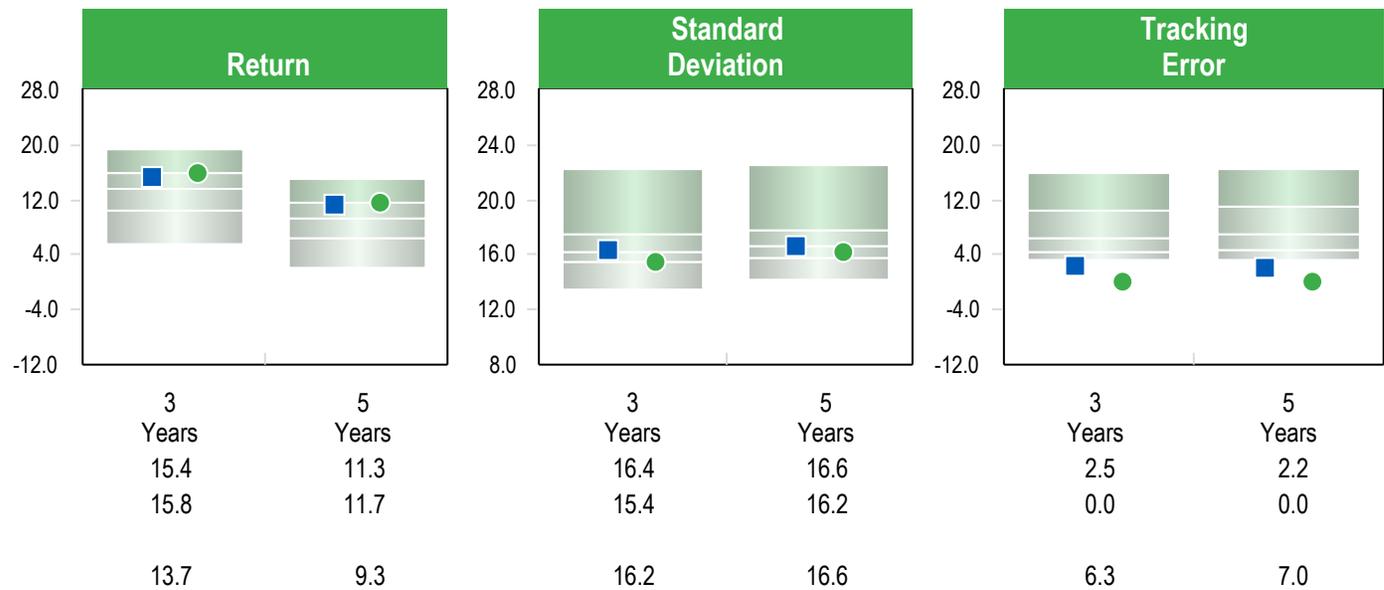
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	2024	2023	2022	2021	2020	2019	2018
■ Vanguard Developed Markets Index	3.0 (69)	17.7 (30)	-15.3 (31)	11.4 (32)	10.3 (60)	21.9 (51)	-14.6 (36)
● Developed Market Policy Index	3.7 (63)	18.3 (25)	-15.3 (31)	11.9 (29)	10.3 (60)	22.7 (46)	-14.5 (35)

5th Percentile	14.4	22.8	-6.1	18.7	41.5	32.8	-8.8
1st Quartile	7.7	18.2	-14.3	12.4	22.3	26.5	-13.4
Median	4.9	15.2	-19.0	8.5	13.7	22.1	-16.0
3rd Quartile	2.1	11.1	-24.7	0.8	6.6	18.4	-18.6
95th Percentile	-3.3	0.1	-33.0	-11.9	-3.8	11.2	-23.3

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

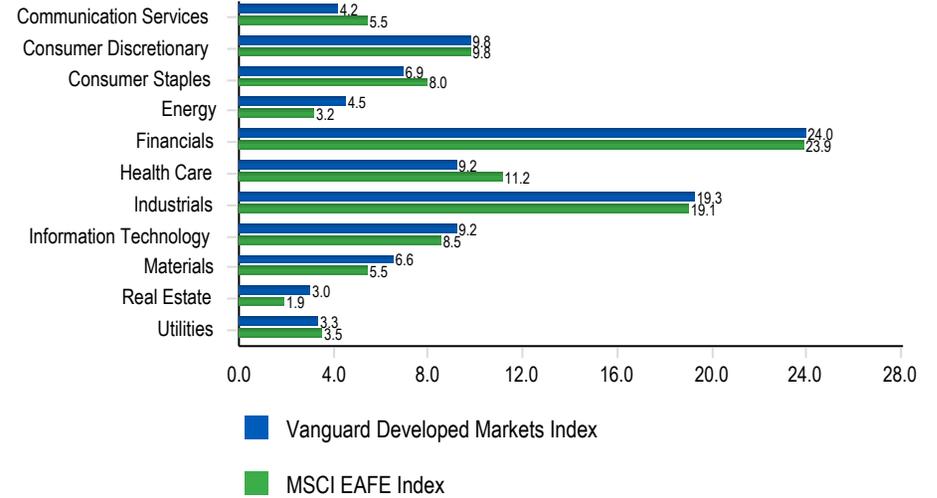


Style History Jun-2025 Average Style Exposure

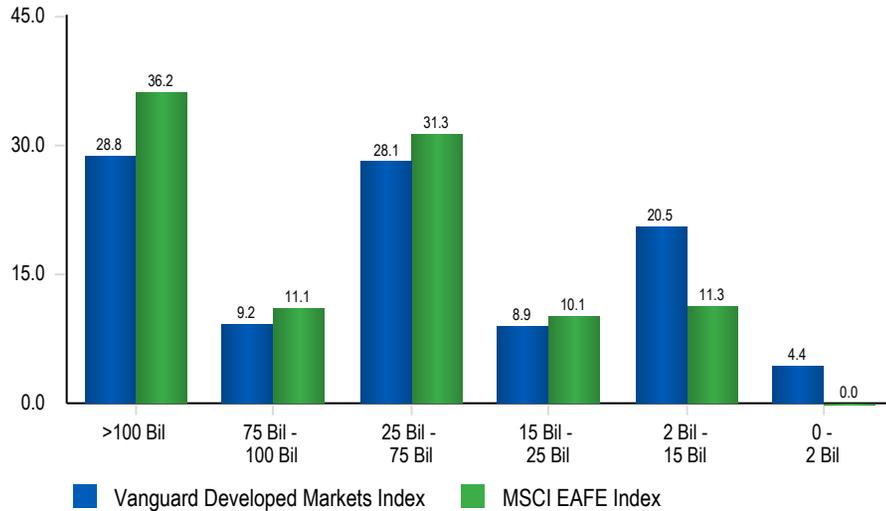
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
ASML Holding NV	1.3	1.7	-0.4	21.1
SAP SE	1.3	1.7	-0.4	12.0
Nestle SA, Cham Und Vevey	1.0	1.4	-0.4	-2.6
Roche Holding AG	0.9	0.1	0.8	-0.7
Novartis AG	0.9	1.2	-0.3	9.1
Novo Nordisk A/S	0.9	1.2	-0.3	0.8
HSBC Holdings PLC	0.9	1.1	-0.2	7.1
Shell Plc	0.9	1.1	-0.2	-2.7
Astrazeneca PLC	0.8	1.1	-0.3	-6.2
Commonwealth Bank of Australia	0.8	1.1	-0.3	28.7
% of Portfolio	9.7	11.7	-2.0	

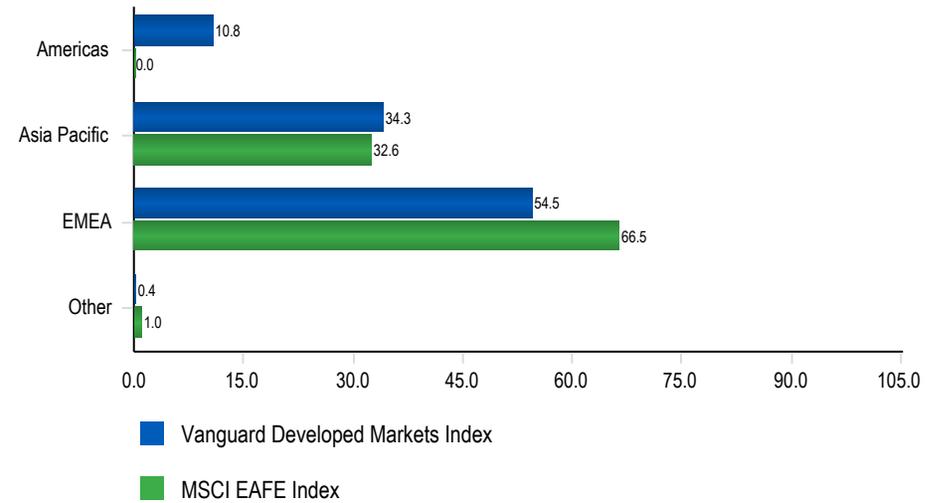
Sector Weights (%)



Distribution of Market Capitalization (%)



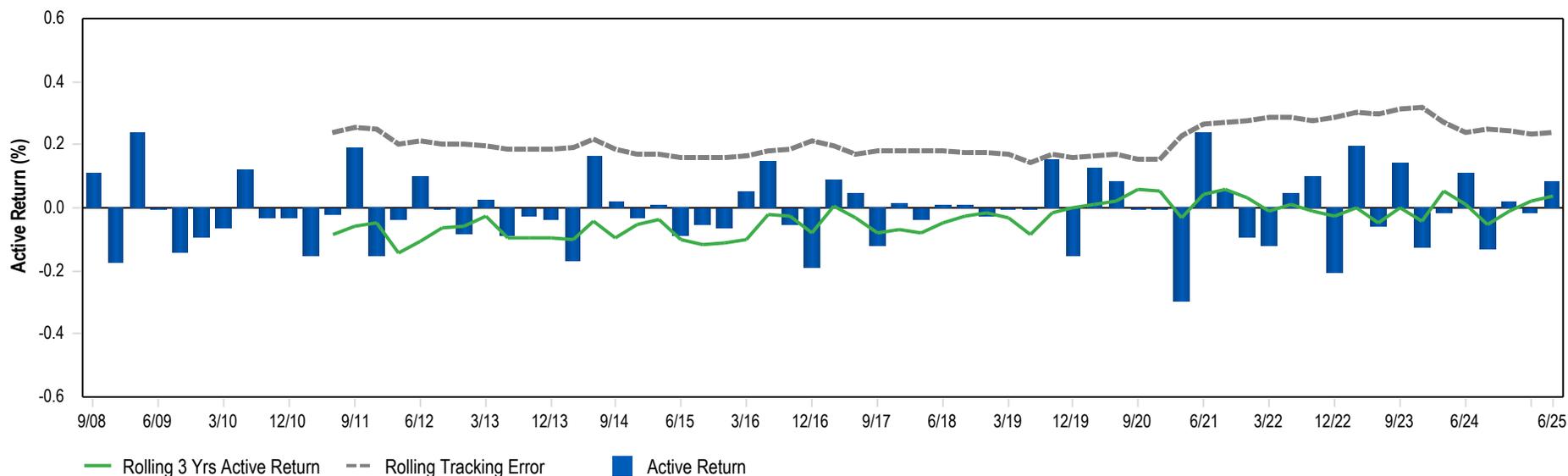
Region



Vanguard Total Bond Market Index Fund

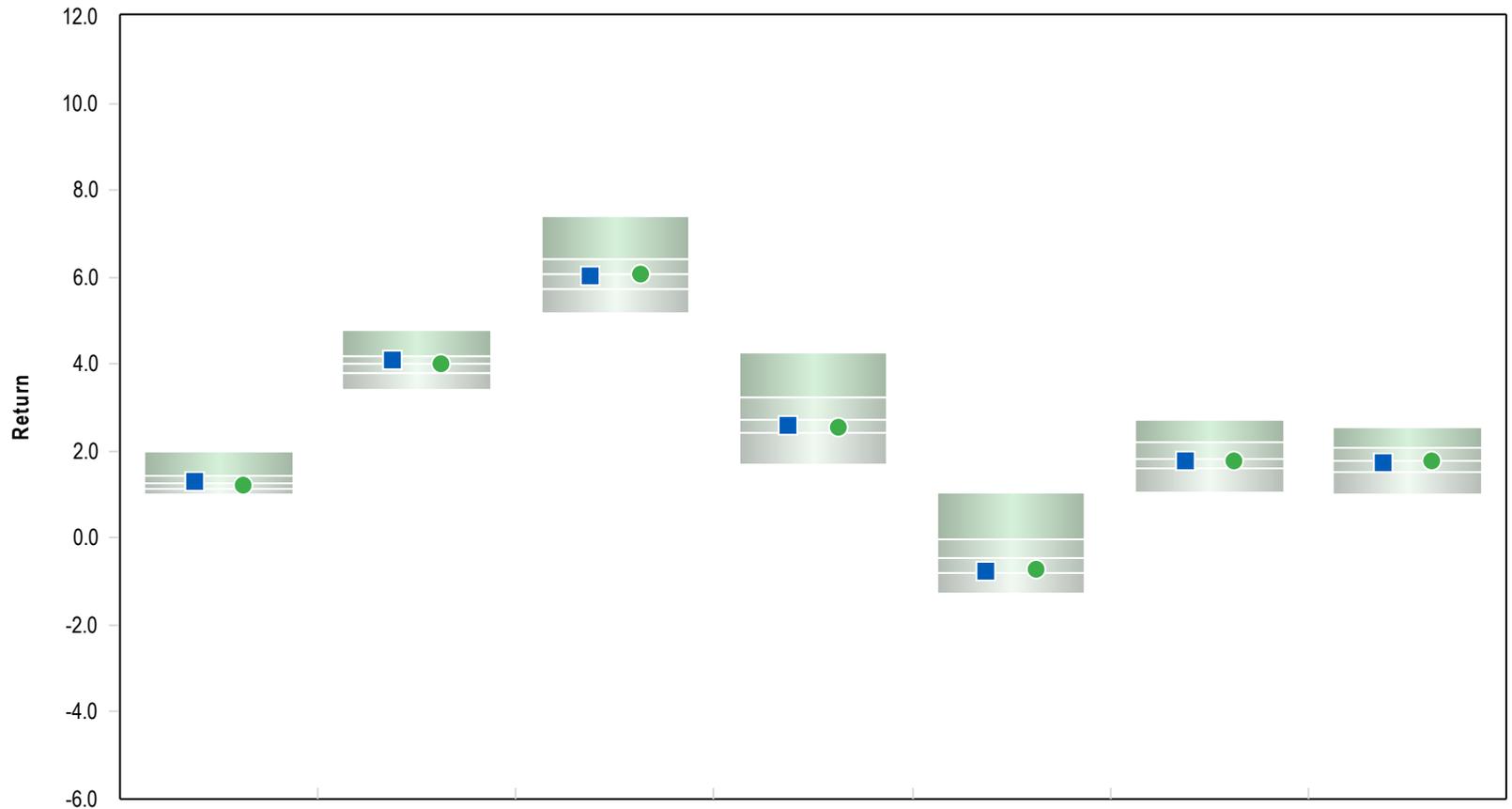
	Gain / Loss				
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Vanguard Total Bond Market					
Beginning Market Value	1,853,655	1,803,742	1,628,565	1,550,344	1,278,953
Net Cash Flows			150,000	200,000	659,360
Income	18,099	35,596	68,218	163,446	221,632
Gain/Loss	5,852	38,267	30,822	-36,184	-282,339
Ending Market Value	1,877,606	1,877,606	1,877,606	1,877,606	1,877,606

Rolling Return and Tracking Error



Performance

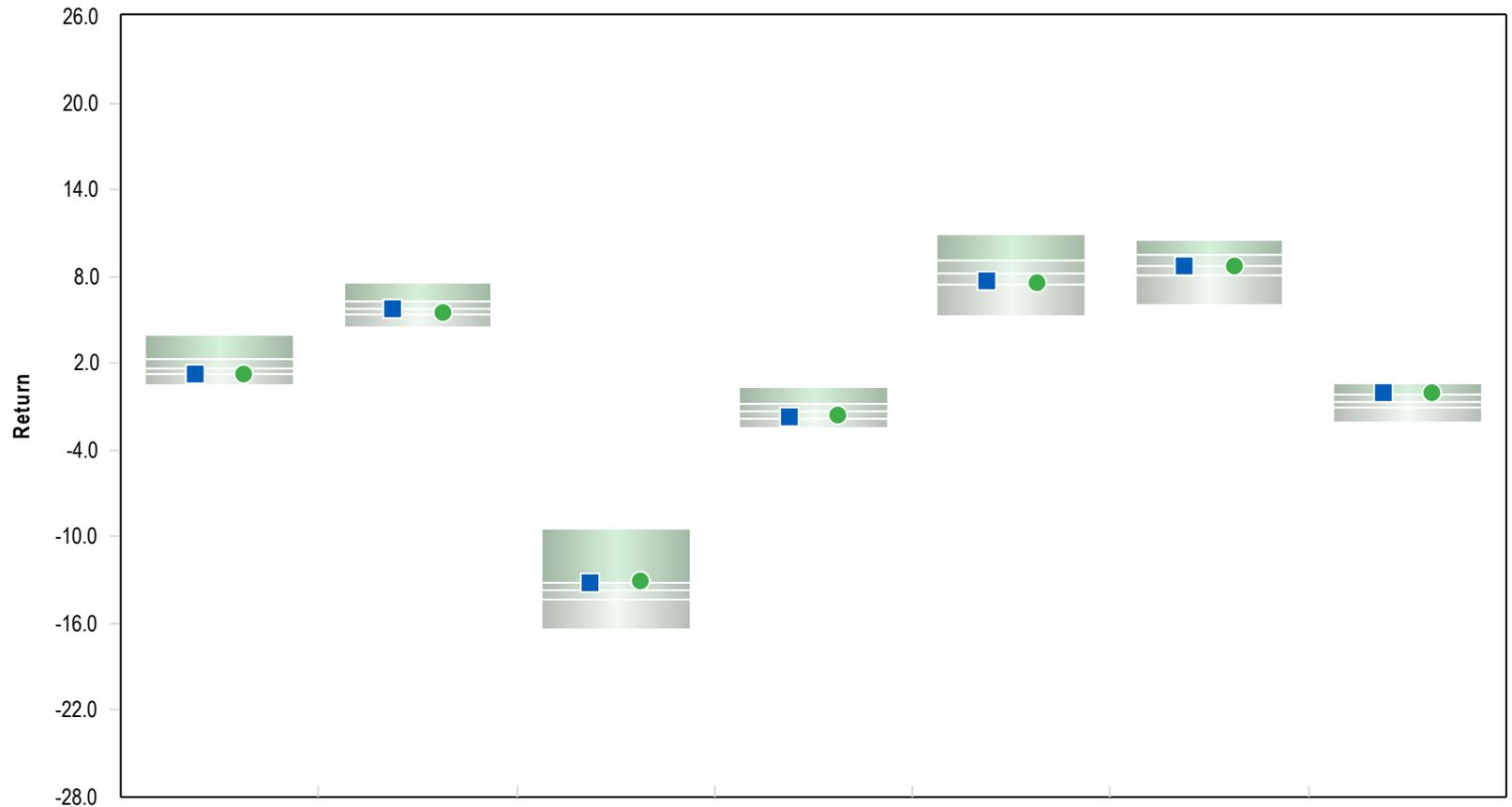
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Vanguard Total Bond Market	1.3	4.1	6.0	2.6	-0.7	1.8	1.8
Blmbg. U.S. Aggregate	1.2	4.0	6.1	2.5	-0.7	1.8	1.8
Difference	0.1	0.1	0.0	0.0	0.0	0.0	0.0



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Vanguard Total Bond Market	1.3 (44)	4.1 (37)	6.0 (52)	2.6 (61)	-0.7 (71)	1.8 (55)	1.8 (55)
● Blmbg. U.S. Aggregate	1.2 (61)	4.0 (45)	6.1 (47)	2.5 (63)	-0.7 (68)	1.8 (56)	1.8 (55)

5th Percentile	2.0	4.8	7.4	4.3	1.0	2.7	2.5
1st Quartile	1.4	4.2	6.4	3.2	0.0	2.2	2.1
Median	1.2	4.0	6.1	2.7	-0.5	1.8	1.8
3rd Quartile	1.1	3.8	5.7	2.4	-0.8	1.6	1.5
95th Percentile	1.0	3.4	5.2	1.7	-1.3	1.1	1.0

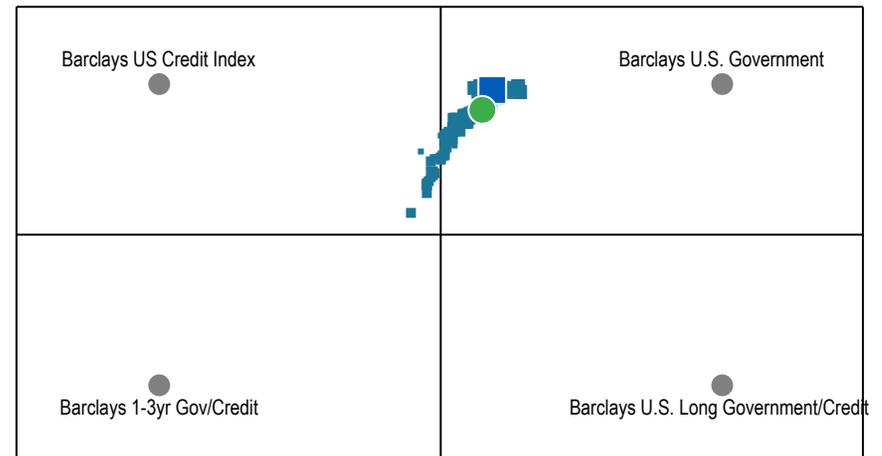
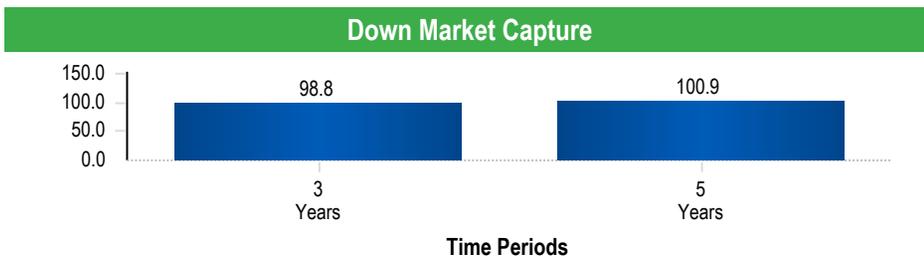
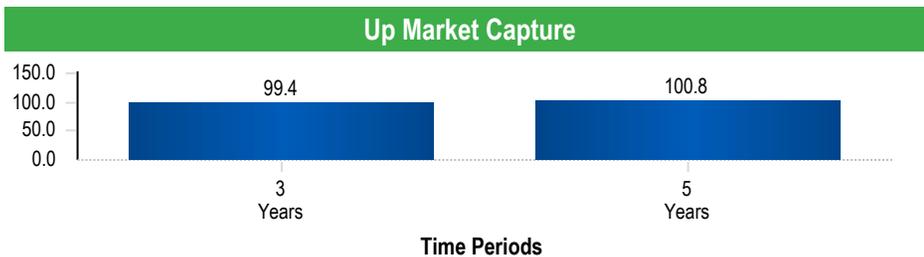
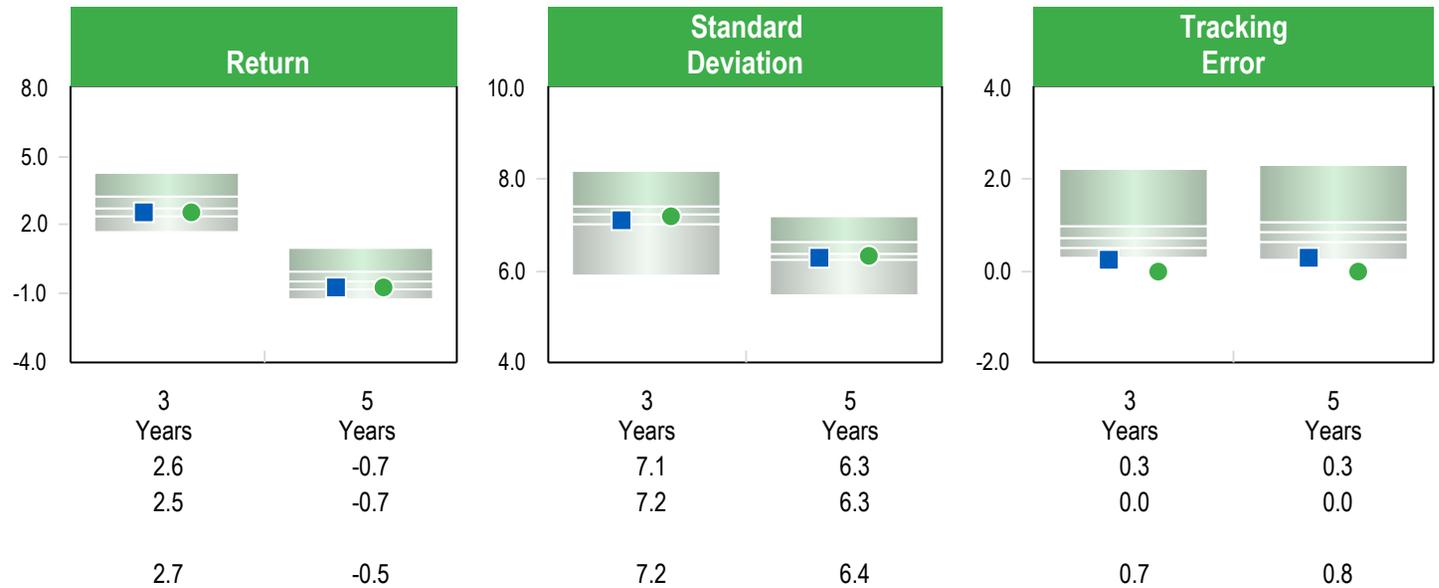
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	2024	2023	2022	2021	2020	2019	2018
■ Vanguard Total Bond Market	1.2 (75)	5.7 (54)	-13.2 (27)	-1.7 (65)	7.7 (65)	8.7 (53)	0.0 (20)
● Blmbg. U.S. Aggregate	1.3 (74)	5.5 (65)	-13.0 (22)	-1.5 (60)	7.5 (73)	8.7 (53)	0.0 (18)

5th Percentile	4.0	7.5	-9.5	0.3	11.0	10.6	0.6
1st Quartile	2.3	6.3	-13.1	-0.8	9.1	9.5	-0.1
Median	1.6	5.8	-13.7	-1.3	8.2	8.8	-0.6
3rd Quartile	1.2	5.3	-14.3	-1.8	7.5	8.1	-1.1
95th Percentile	0.5	4.4	-16.4	-2.5	5.2	6.0	-2.1

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



■ Style History
 ■ Jun-2025
 ● Average Style Exposure

Appendix

**City of Memphis OPEB
Manager Roster
June 30, 2025**

Manager	Date	Assets Under Management	Assignment	Benchmark	Stated Style	Fee Structure	Annual Dollar Fee	Average Fee
Vanguard Total Stock Market Index	6/30/2025	\$2,683,104	Equity Only	Russell 3000 Index	All Cap Equity	4 bps on all assets	\$1,073	0.04%
Vanguard Developed Market Index	6/30/2025	\$734,108	Equity Only	FTSE Developed x North America	International Equity	16 bps on all assets	\$1,175	0.16%
Vanguard Total Bond Market Index	6/30/2025	\$1,877,606	Fixed Income	Barclays U.S. Aggregate	Core Fixed Income	3.5 bps on all assets	\$657	0.035%
Fidelity Money Market	6/30/2025	\$168	Cash	90 Day U.S. Treasury Bill	Cash	33 bps on all assets	\$1	0.33%
OPEB Total		\$5,294,986					\$2,906	0.05%