

City of Memphis Retirement System OPEB Report

Analysis of Investment Performance

Quarter Ending March 31, 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	-4.27	-4.27	8.25	9.06	18.59	12.50
MSCI Europe, Australasia and Far East (EAFE)*	6.86	6.86	4.88	6.05	11.77	5.40
MSCI Emerging Markets (EM)*	2.93	2.93	8.09	1.44	7.94	3.71

All data in the table are percentages.

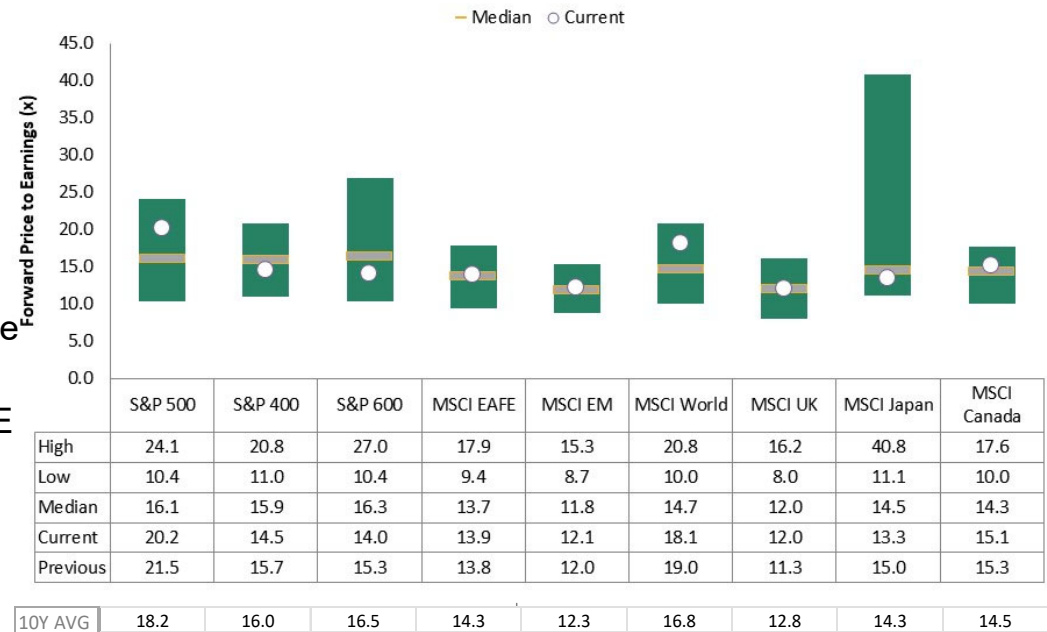
* Net dividends reinvested

Global Equity Performance and Valuations

- Global equities were led by International developed (+6.9%) during the quarter, followed by Emerging Markets (+2.9%). The U.S. (-4.3%) was the only market to post negative returns.
- U.S. large cap stocks continue to trade at high valuations as the S&P 500's [12 month] forward P/E ratio was 20.2 compared to the 10-year average of 18.2. Despite the high current valuations, they have come down this quarter from the previous quarter's valuations at 21.5.
- International developed large cap stocks, per the MSCI EAFE Index, continues to trade at lower valuations than the U.S.. The [12 month] forward P/E ratio was 13.9 compared to the 10-year average of 14.3.
- Emerging Markets equities valuations, per the MSCI EM Index, were slightly higher than last quarter. The forward [12 month] P/E ratio was 12.1 compared to 12.0 at the end of 2024. Current valuations are in line with the 10-year average at 12.3.

Source: FactSet

Price to Earnings



Data range is from 3/31/00 – 03/31/25. 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	-4.27	-4.27	8.25	9.06	18.59	12.50
Russell 1000	-4.49	-4.49	7.82	8.65	18.47	12.18
Russell 1000 Growth	-9.97	-9.97	7.76	10.10	20.09	15.12
Russell 1000 Value	2.14	2.14	7.18	6.64	16.15	8.79
Russell 2000	-9.48	-9.48	-4.01	0.52	13.27	6.30
Russell 2000 Growth	-11.12	-11.12	-4.86	0.78	10.78	6.14
Russell 2000 Value	-7.74	-7.74	-3.12	0.05	15.31	6.07
Russell Midcap	-3.40	-3.40	2.59	4.62	16.28	8.82
Russell 3000	-4.72	-4.72	7.22	8.22	18.18	11.80

Performance

All data in the tables are percentages.

- The U.S. market (-4.3%) was the only market to post negative returns for the first quarter of 2025. Fear of trade tariffs and public sector job cuts planned by DOGE, putting pressure on U.S. consumers, diminished investor sentiment.
- Mid cap stocks (-3.4%) led the U.S. market over large cap (-4.5%) and small cap (-9.5%) stocks. News that China's DeepSeek had developed an AI model at a fraction of the cost to market leaders put pressure on the "Magnificent Seven", impacting overall large cap stock performance.
- Value outperformed growth in both large caps and small caps. The Russell 1000 Value (+2.1%) posted the only positive returns for the quarter versus the Russell 1000 Growth (-10.0%). The Russell 2000 Growth (-11.1%) posted the lowest returns for the quarter versus the Russell 2000 Value (-7.7%).
- Despite the S&P 500 negative returns, sector returns were mostly positive for the quarter. Energy (+10.2%), Healthcare (6.5%), and Consumer Staples (5.2%) led the index. The weakest sectors for the quarter were Consumer Discretionary (-13.8%), IT (-12.7%), and Communication Services (-6.2%).

S&P 500 Sector Returns	QTD	1-Year
Communication Services	-6.21	13.56
Consumer Discretionary	-13.80	6.86
Consumer Staples	5.23	12.43
Energy	10.21	2.49
Financials	3.52	20.18
Healthcare	6.54	0.40
Industrials	-0.19	5.65
Information Technology	-12.65	5.89
Materials	2.81	-5.67
Real Estate	3.58	9.60
Utilities	4.94	23.87

Quarter in Review: International Equity

MSCI International Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
World ex. U.S.	6.20	6.20	5.30	5.70	12.16	5.50
EAFE	6.86	6.86	4.88	6.05	11.77	5.40
EAFE Local Currency	2.89	2.89	4.13	8.71	13.26	6.34
Europe	10.48	10.48	6.87	7.33	13.15	5.67
Europe ex U.K.	10.72	10.72	4.75	7.14	12.95	5.97
U.K.	9.70	9.70	14.42	7.95	13.80	4.88
Japan	0.34	0.34	-2.10	5.28	8.81	5.25
Pacific ex Japan	0.34	0.34	6.79	0.42	10.11	4.13

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

Performance

- International developed markets (6.9%) posted the highest returns for the quarter.
- Europe (+10.5) was the largest contributor to the index. The European Central Bank cut interest rates in January and March, easing annual inflation to 2.3% in February. German elections in February resulted in a new administration led by Friedrich Merz, increasing investor sentiment and optimism for a pro-growth agenda with fiscal policy changes including increased defense spending.
- Japan (0.3%) was the weakest international developed market, after having led the market in the previous quarter. Uncertainty surrounding tariff policies under the Trump administration and concerns for a U.S. recession impacted exporters and technology related stocks.
- MSCI EAFE Index sector returns were mostly positive for the quarter. Energy (+15.2%), Financials (+15.2%), and Utilities (+12.5%) were the largest contributors to index returns. Information Technology (-2.8%) and Consumer Discretionary (-0.7%) were the only sectors to post negative returns.

MSCI EAFE Sector Returns	QTD	1-Year
Communication Services	10.86	18.40
Consumer Discretionary	-0.70	-9.35
Consumer Staples	8.29	2.98
Energy	15.24	0.85
Financials	15.18	28.30
Healthcare	2.81	-3.31
Industrials	6.91	8.66
Information Technology	-2.75	-11.74
Materials	2.25	-9.98
Real Estate	1.30	-4.04
Utilities	12.46	13.51

Quarter in Review: Emerging Market Equity

MSCI EM Equity Indices	QTD	YTD	1-Year	3-Year	5-Year	10-Year
Emerging Markets	2.93	2.93	8.09	1.44	7.94	3.71
EM Local Currency	2.65	2.65	11.13	4.69	9.61	5.75
Asia	1.35	1.35	9.79	1.85	7.49	4.41
EMEA	8.07	8.07	12.92	0.83	8.03	1.00
Latin America	12.70	12.70	-13.61	-1.96	11.81	2.57

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

Performance

- Emerging Markets (+2.9%) posted positive returns for the quarter as U.S. policy uncertainty and a weaker dollar were supportive for EM performance.
- Germany's new administration and fiscal policy changes improved optimism for emerging European markets including Poland, Greece, Czech Republic, and Hungary. China contributed to overall emerging market performance after the release of DeepSeek's lower-cost, open-source AI model.
- India, Indonesia, Thailand, and Taiwan returned negative returns for the quarter with growth concerns impacting their markets.
- Consumer Discretionary (+13.1%), Communication Services (+12.7%), and Materials (+9.3%) led the market. Information Technology (-8.8%) was the only sector to post negative returns for the quarter, after having been the only sector to post positive returns in the previous quarter.

MSCI EM Sector Returns	QTD	1-Year
Communication Services	12.69	29.61
Consumer Discretionary	13.10	27.00
Consumer Staples	1.95	-5.33
Energy	2.49	-9.84
Financials	5.75	14.75
Healthcare	0.97	4.82
Industrials	0.22	-0.57
Information Technology	-8.83	-0.05
Materials	9.32	-7.85
Real Estate	0.87	11.29
Utilities	1.17	0.93

Quarter In Review: Fixed Income Overview

Yield Curve

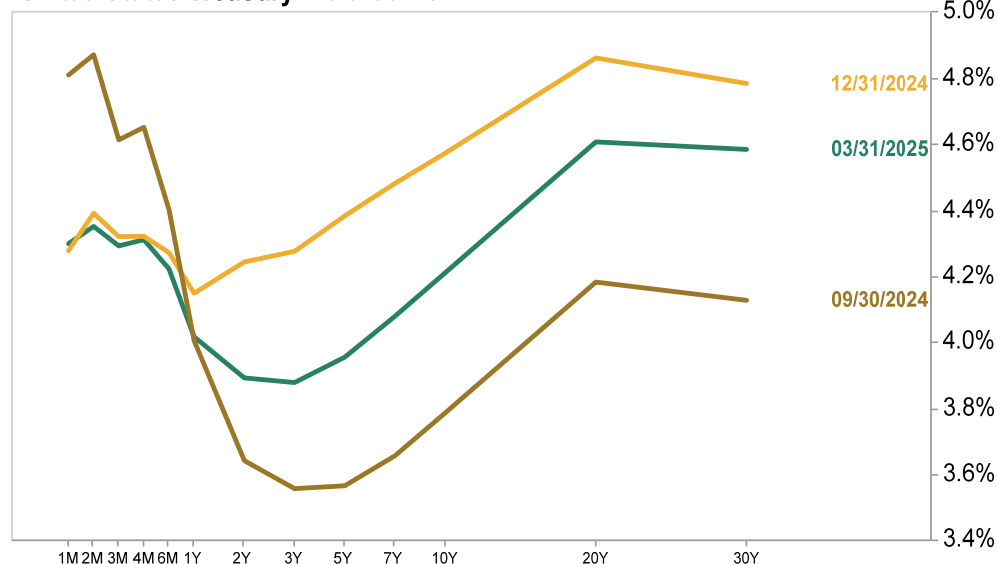
- The Treasury yield curve shifted downwards during the first quarter of 2025, with yields decreasing across all maturities, especially in the “belly” of the curve.
- The Fed kept interest rates on hold, indicating it wanted to see more evidence of continued inflation decline and to evaluate the potential impacts of new administration policies.
- 3-, 5- and 10-year Treasury yields decreased the most by 39 bps, 43 bps and 36 bps respectively, ending the quarter at 3.88%, 3.95% and 4.21%.

Monetary Policies/Global Interest Rates

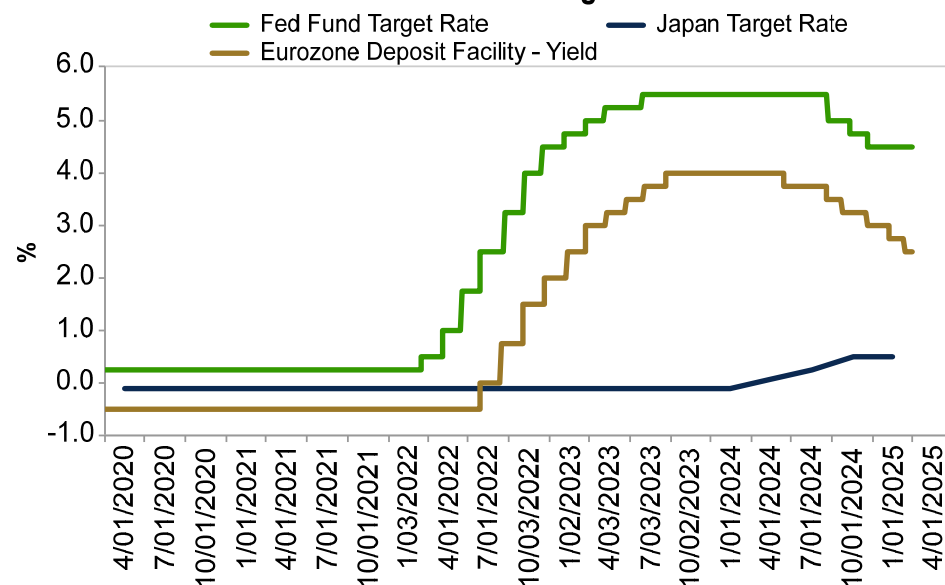
- The Bank of Japan increased its interest rate by 0.25% to 0.50%, the highest level since 2008. The European Central Bank (ECB) cut its interest rate by 0.25% both in January and March of 2025, based on the inflation outlook assessment. The ECB interest rate is currently set at 2.65%. The Bank of England decreased its policy rate by 25 bps in February of 2025 to 4.50%.
- The U.S. policy rate is above those of the Eurozone and Japan and is equal to the policy rate in the United Kingdom at 4.50%.

Interest Rates	Fed Funds Rate	EZ Deposit Facility Rate
Average	4.95	1.05
Max	20.00	4.00
Min	0.25	-0.50

United States Treasury Yield Curve



Central Bank Target Rates



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	2.78	2.78	4.88	0.52	-0.40	1.46
Government/Credit	2.70	2.70	4.66	0.45	-0.34	1.58
Government	2.91	2.91	4.53	0.01	-1.60	0.98
Investment Grade Credit	2.31	2.31	4.90	1.14	1.51	2.43
Investment Grade CMBS	2.57	2.57	6.59	2.25	1.39	2.26
U.S. Corporate High Yield	1.00	1.00	7.69	4.98	7.29	5.01
FTSE** 3-Month T-Bill	1.10	1.10	5.17	4.42	2.69	1.90

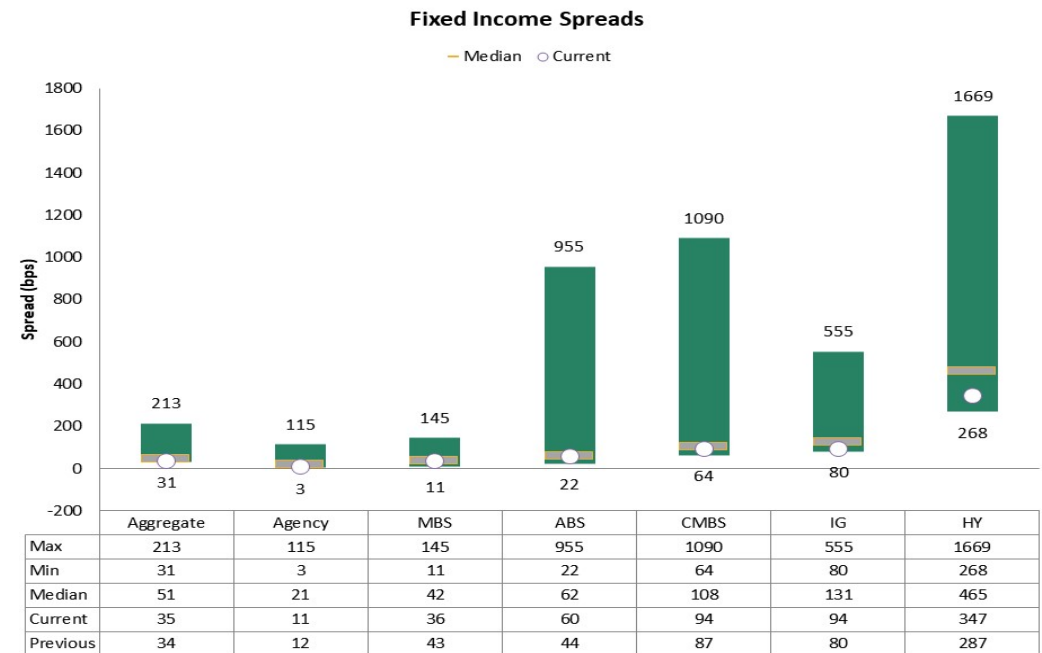
All data in the table are percentages.

* 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.

Performance and Spreads

- The U.S. Aggregate Index was positive during the first quarter. All Bloomberg US Indices generated positive returns for the first quarter of 2025. The return on the FTSE 3-Month T-Bill Index was also positive.
- The Government sector had the strongest performance at +2.91% for the quarter. The U.S. Corporate High Yield experienced the weakest performance in the quarter ended March 31 (+1.00%).
- For the quarter, Agency and MBS spreads slightly narrowed while the spread on the US Aggregate Index, ABS, CMBS, IG Credit and High Yield widened. The largest change was in the High Yield sector with spreads widening by 60 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	2.64	2.64	3.05	-1.63	-1.38	0.61
Bloomberg Global Aggregate (Hgd)	1.17	1.17	4.59	1.55	0.42	1.94
FTSE Non-U.S. WGBI*	2.33	2.33	0.32	-4.89	-4.01	-0.86
FTSE Non-U.S. WGBI (Hgd)	-0.59	-0.59	2.79	0.36	-0.50	1.64
JPM EMBI Global Diversified**	2.24	2.24	6.75	3.41	3.49	3.16
JPM GBI-EM Global Diversified***	4.31	4.31	4.03	2.71	2.30	1.27

All data in the table are percentages.

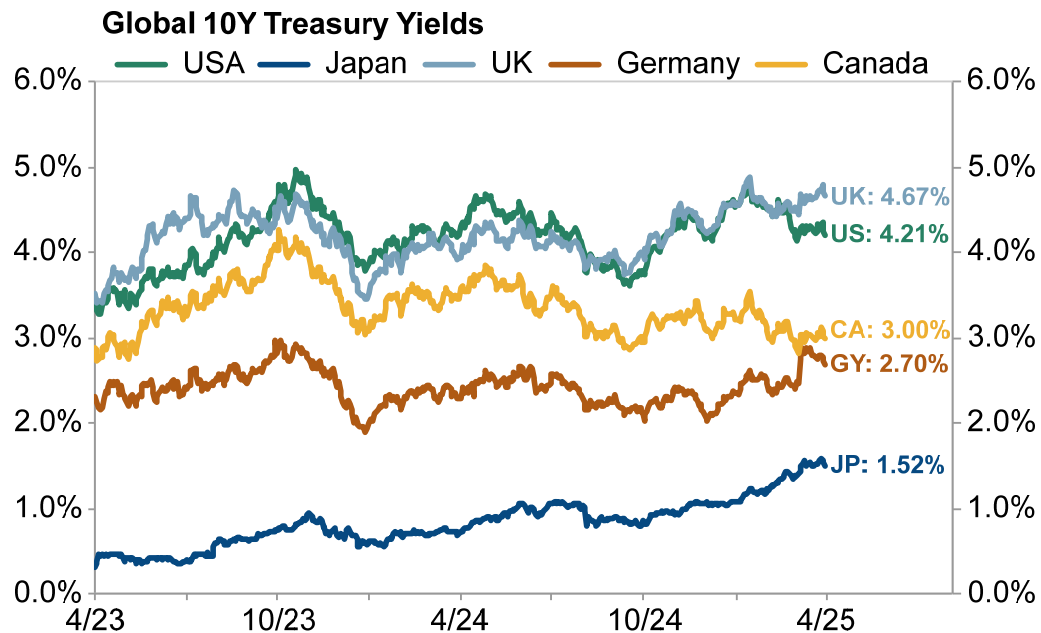
* Formerly Citigroup. The FTSE Non-U.S. World Government Bond Index (WGBI) measures the performance of fixed-rate, local currency, investment grade sovereign bonds excluding the U.S.

** 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

- During the quarter, yields increased in UK, Germany and Japan and decreased in Canada and the U.S. Except for Japan (increased) and the U.S. (unchanged), all developed countries central banks cut interest rates in the first quarter.
- The U.S. dollar depreciated relative to the yen, euro, and British pound.
- Global government bonds were positive for the quarter, except for the FTSE Non-US World Government Bond Index (Hedged). The emerging markets, local currency, government bonds exhibited the strongest performance (4.31%).



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Total Fund Composite

City of Memphis OPEB Trust

Asset Allocation Comparison

Portfolio Value 3/31/25

\$4,927,659

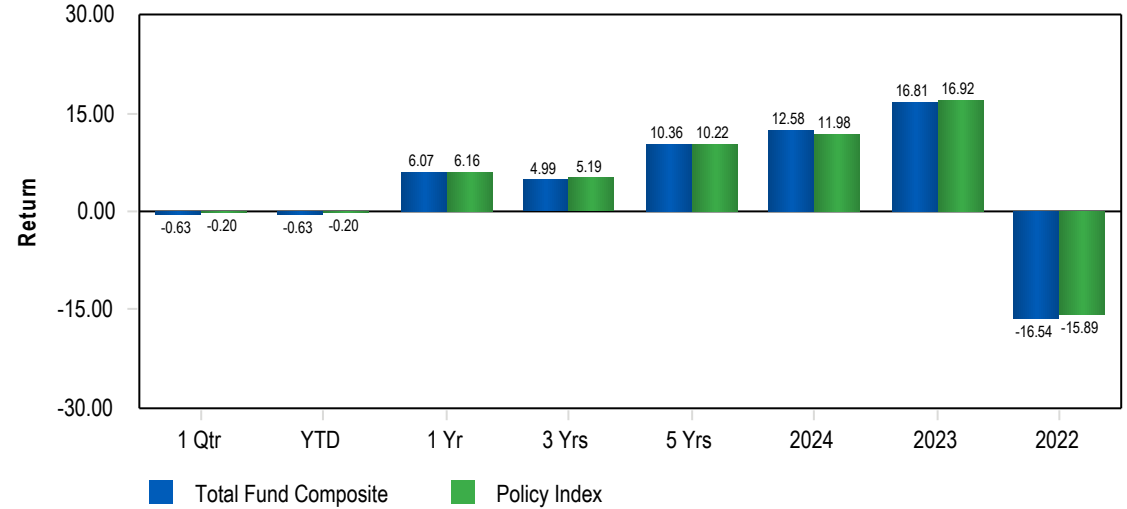
<u>Target Allocations</u>			<u>Current Managers & Allocations</u>			<u>Difference</u>	<u>Range</u>
Equity		(000)			(000)		
Domestic Equity	47.50%	\$2,341	Vanguard Total Stock Market Index	49.20%	\$2,425		40.0%-55.0%
International Equity	15.00%	\$739	Vanguard Developed Market Index	13.18%	\$649		10.0%-20.0%
Equity Total	62.50%	\$3,080	Equity Total	62.38%	\$3,074	-0.12%	50.0%-65.0%¹
Fixed Income							
Fixed Income	37.50%	\$1,848	Vanguard Total Bond Market Index	37.62%	\$1,854		
Fixed Income Total	37.50%	\$1,848	Fixed Income Total	37.62%	\$1,854	0.12%	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%	\$4,928	Total	100%	\$4,928		

¹ Total Equity may not exceed 65%.

Asset Allocation by Segment

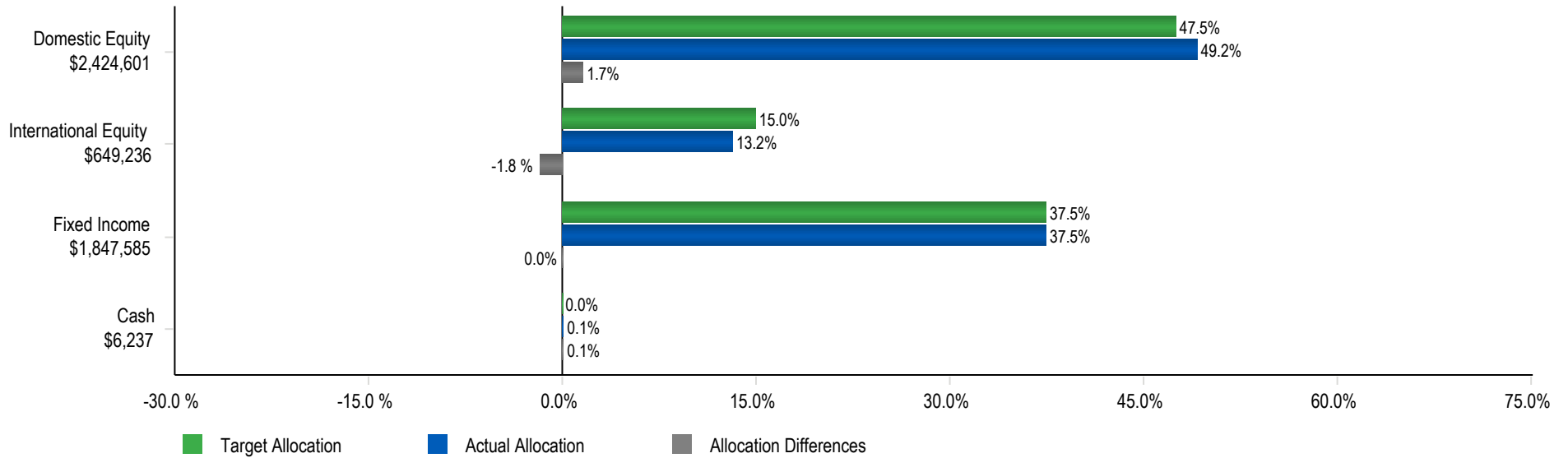
Segments	Market Value (\$)	Allocation (%)
Domestic Equity	2,424,601	49.2
Domestic Fixed Income	1,847,585	37.5
International Equity	649,236	13.2
Cash	6,237	0.1

Performance Bar Chart



Gain / Loss

	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Total Fund Composite					
Beginning Market Value	4,959,052	4,959,052	4,649,476	4,261,208	3,009,938
Net Cash Flows					
Income	17,560	17,560	64,441	188,437	393,627
Gain/Loss	-48,952	-48,952	213,741	478,013	1,524,093
Ending Market Value	4,927,659	4,927,659	4,927,659	4,927,659	4,927,659



	Asset Allocation (\$)	Asset Allocation (%)	Target Allocation (%)	Differences (%)	Minimum Allocation (%)	Maximum Allocation (%)
Domestic Equity	2,424,601	49.2	47.5	1.7	40.0	55.0
International Equity	649,236	13.2	15.0	-1.8	10.0	20.0
Fixed Income	1,847,585	37.5	37.5	0.0	30.0	45.0
Cash	6,237	0.1	0.0	0.1	0.0	2.0
Total Fund	4,927,659	100.0	100.0	0.0		

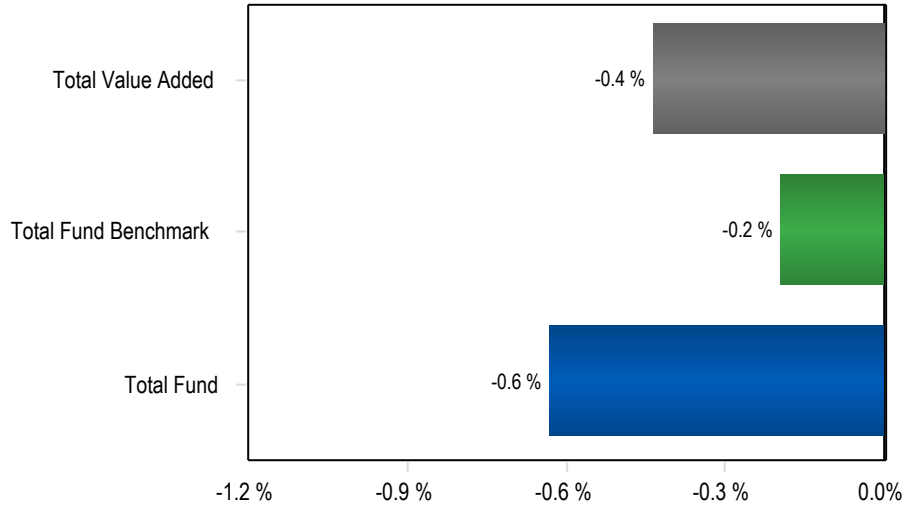
	(\$)	Total Fund	%
Total Fund Composite	4,927,659		100.0
Vanguard Total Stock Market	2,424,601		49.2
Vanguard Developed Markets Index	649,236		13.2
Vanguard Total Bond Market	1,853,655		37.6
Fidelity Money Market Fund	167		0.0

	Performance (%)								
	1 Quarter	Year To Date	1 Year	3 Years	5 Years	7 Years	10 Years	Since Inception	Inception Date
Total Fund Composite	-0.6	-0.6	6.1	5.0	10.4	7.5	7.1	7.7	07/01/2008
<i>Policy Index</i>	-0.2	-0.2	6.2	5.2	10.2	7.6	7.2	7.5	
All Public Plans-Total Fund Median	0.2	0.2	5.6	4.4	10.3	7.0	6.9	6.9	
Total Fund Composite Rank	79	79	34	29	49	27	37	9	
Vanguard Total Stock Market	-4.8	-4.8	7.1	8.1	18.1	12.4	11.7	11.1	07/01/2008
<i>Russell 3000 Index</i>	-4.7	-4.7	7.2	8.2	18.2	12.5	11.8	11.1	
IM U.S. Multi-Cap Equity (MF) Median	-4.2	-4.2	4.5	6.6	16.6	9.9	9.5	9.3	
Vanguard Total Stock Market Rank	56	56	25	27	29	16	16	16	
Vanguard Developed Markets Index	6.9	6.9	4.7	5.3	12.1	5.2	5.5	7.1	01/01/2012
<i>Developed Market Policy Index</i>	5.9	5.9	4.4	5.1	12.2	5.4	5.8	7.4	
IM International Equity (MF) Median	4.8	4.8	5.6	3.7	10.5	3.9	4.8	6.3	
Vanguard Developed Markets Index Rank	31	31	57	34	31	27	30	30	
Vanguard Total Bond Market	2.8	2.8	4.9	0.5	-0.4	1.6	1.4	2.8	07/01/2008
<i>Blmbg. U.S. Aggregate</i>	2.8	2.8	4.9	0.5	-0.4	1.6	1.5	2.9	
IM U.S. Broad Market Core Fixed Income (MF) Median	2.7	2.7	5.0	0.5	0.2	1.6	1.5	3.0	
Vanguard Total Bond Market Rank	31	31	59	42	82	54	55	64	
Fidelity Money Market Fund	1.0	1.0	4.7	4.1	2.4	2.2	1.7	1.6	10/01/2014
<i>90 Day U.S. Treasury Bill</i>	1.0	1.0	5.0	4.2	2.6	2.5	1.9	1.8	
IM U.S. Taxable Money Market (MF) Median	1.0	1.0	4.8	4.1	2.4	2.2	1.6	1.6	
Fidelity Money Market Fund Rank	51	51	52	51	51	48	45	44	

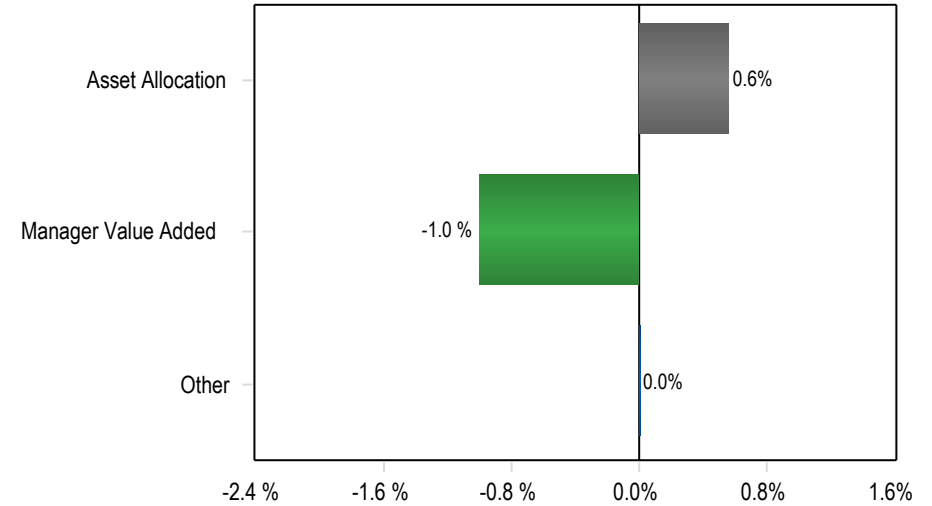
	Performance (%)									
	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Total Fund Composite	12.6	16.8	-16.5	13.8	14.9	21.0	-4.7	15.0	7.4	0.3
<i>Policy Index</i>	12.0	16.9	-15.9	12.8	14.6	21.2	-4.4	14.8	7.3	0.6
Vanguard Total Stock Market	23.7	26.0	-19.5	25.7	21.0	30.8	-5.2	21.2	12.7	0.4
<i>Russell 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

	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

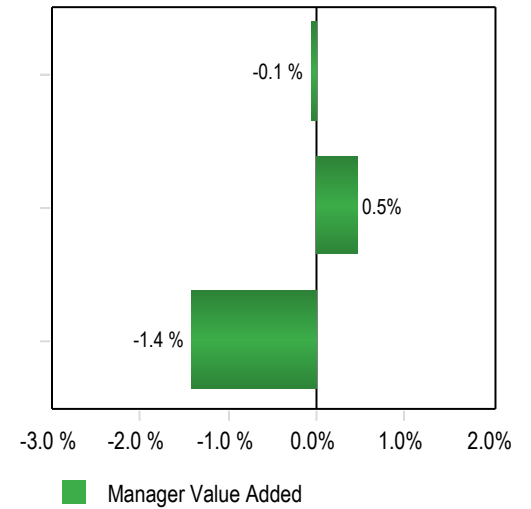
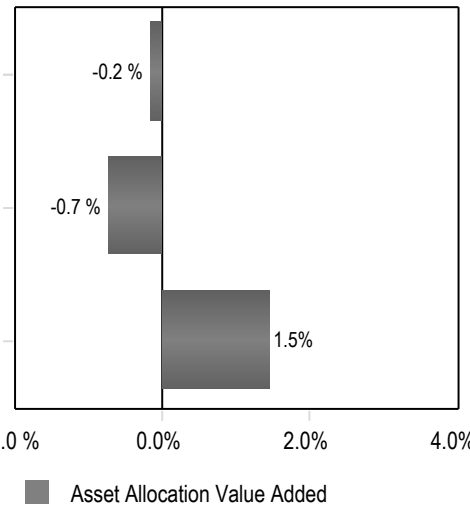
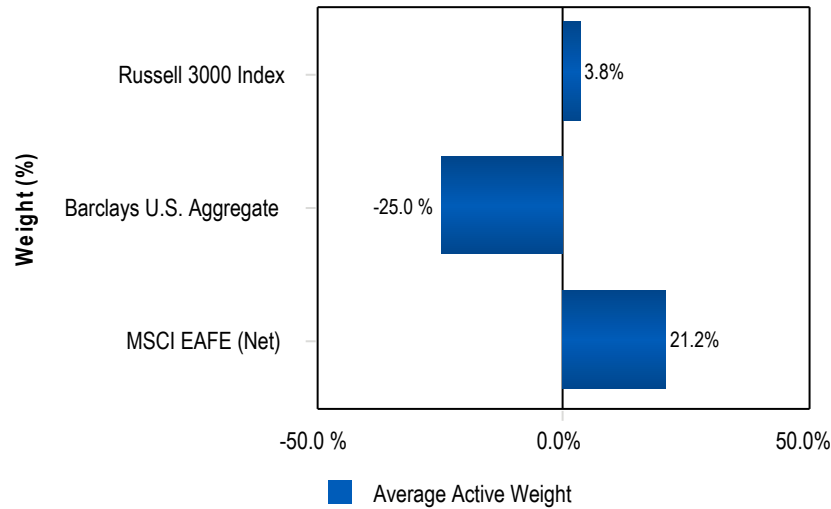
Total Fund Performance

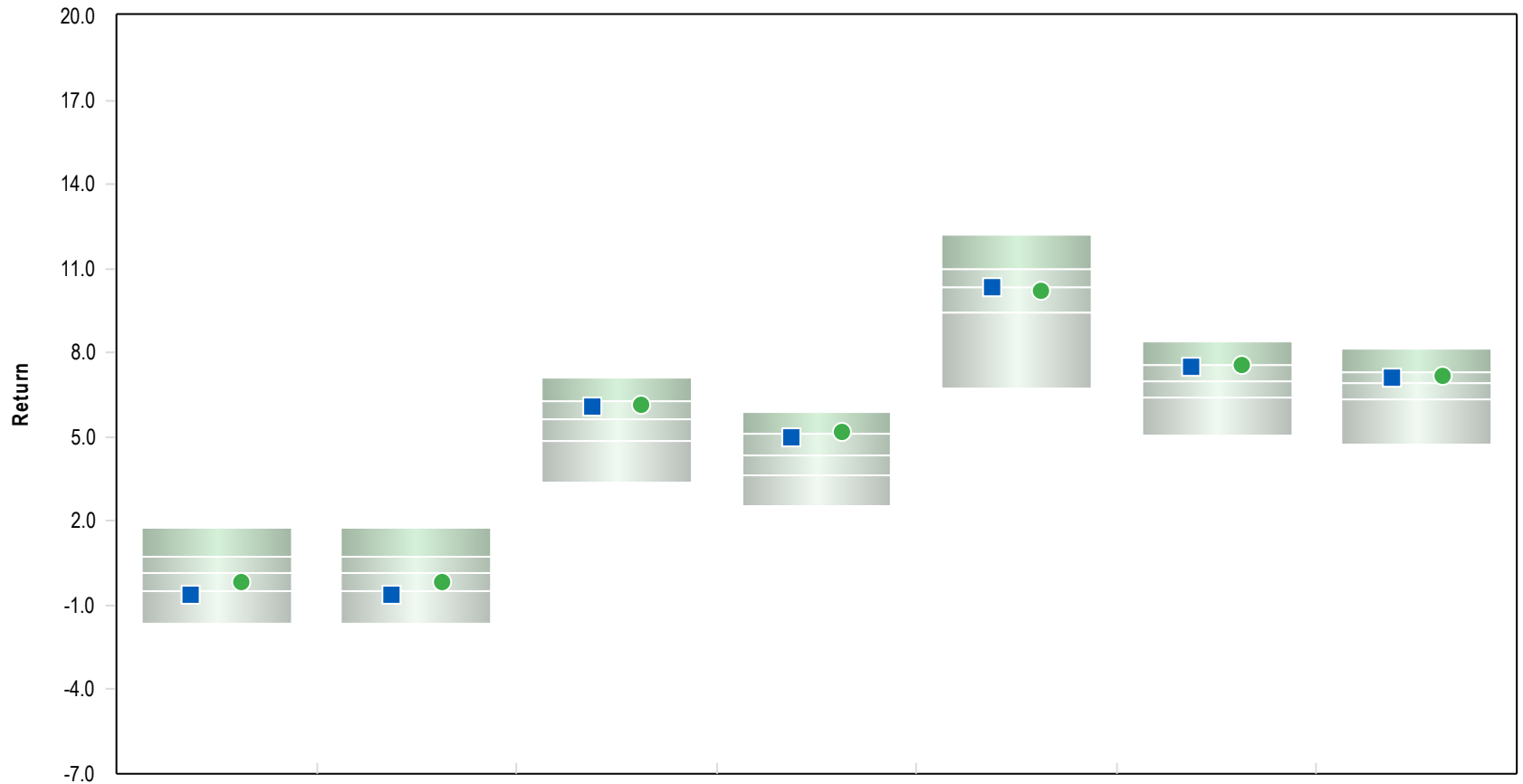


Total Value Added:-0.4 %



Total Asset Allocation:0.6% **Total Manager Value Added:-1.0 %**

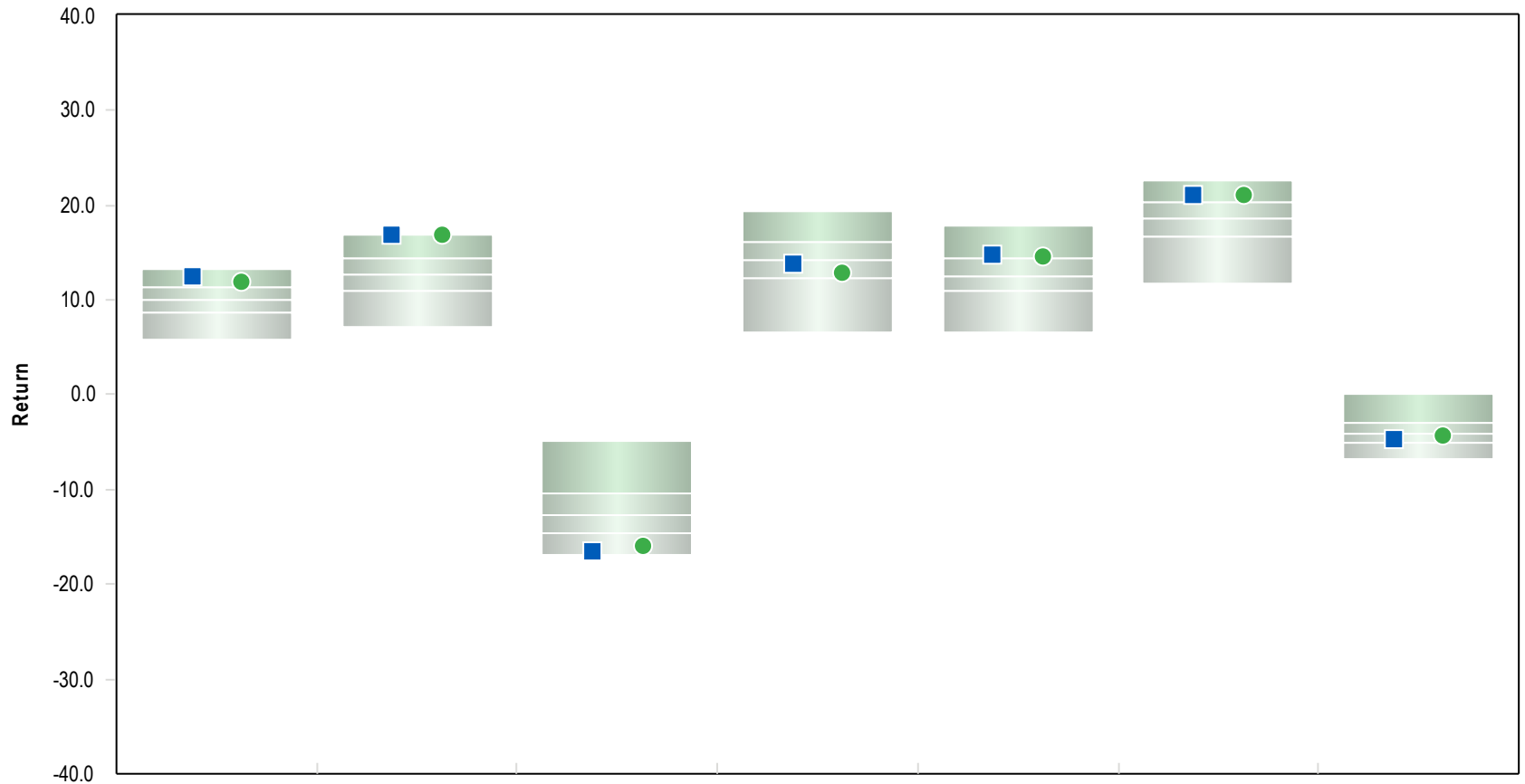




	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Total Fund Composite	-0.6 (79)	-0.6 (79)	6.1 (34)	5.0 (29)	10.4 (49)	7.5 (27)	7.1 (37)
● Policy Index	-0.2 (65)	-0.2 (65)	6.2 (31)	5.2 (22)	10.2 (53)	7.6 (27)	7.2 (36)

5th Percentile	1.8	1.8	7.1	5.9	12.2	8.4	8.1
1st Quartile	0.7	0.7	6.3	5.1	11.0	7.6	7.3
Median	0.2	0.2	5.6	4.4	10.3	7.0	6.9
3rd Quartile	-0.5	-0.5	4.8	3.6	9.4	6.4	6.4
95th Percentile	-1.7	-1.7	3.4	2.5	6.7	5.0	4.7

Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

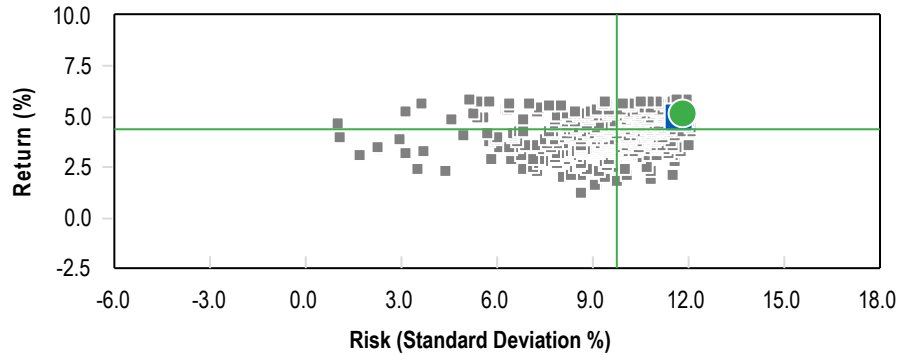


	2024	2023	2022	2021	2020	2019	2018
■ Total Fund Composite	12.6 (11)	16.8 (6)	-16.5 (93)	13.8 (57)	14.9 (22)	21.0 (17)	-4.7 (66)
● Policy Index	12.0 (17)	16.9 (6)	-15.9 (89)	12.8 (70)	14.6 (24)	21.2 (15)	-4.4 (57)

5th Percentile	13.3	17.0	-4.9	19.4	17.9	22.6	0.1
1st Quartile	11.4	14.4	-10.4	16.1	14.5	20.3	-2.9
Median	10.1	12.7	-12.6	14.2	12.5	18.7	-4.1
3rd Quartile	8.6	11.0	-14.5	12.4	11.0	16.8	-5.1
95th Percentile	5.8	7.3	-16.9	6.5	6.7	11.8	-6.8

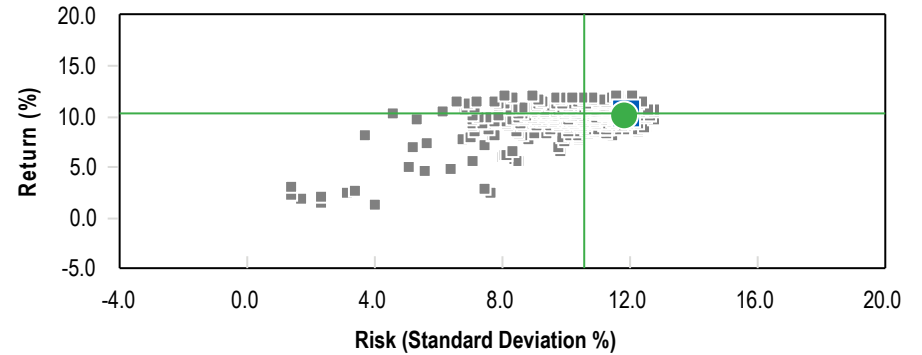
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.

Risk & Return Plan Sponsor — 3 Years



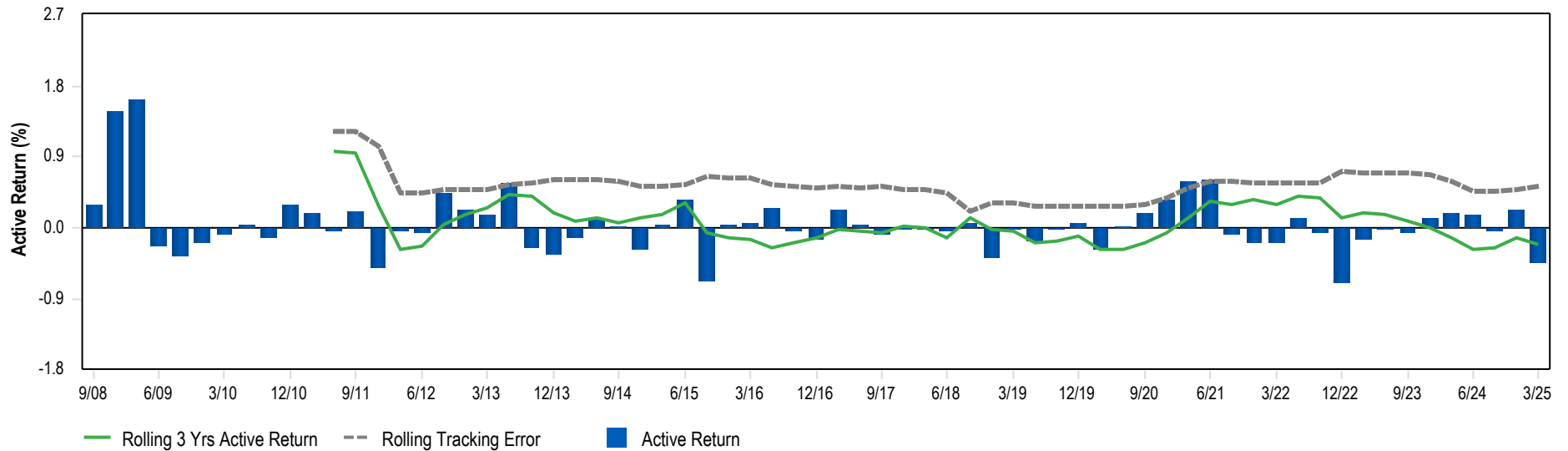
	Return	Standard Deviation
Total Fund Composite	5.0	11.7
Policy Index	5.2	11.8
Median	4.4	9.8

Risk & Return Plan Sponsor — 5 Years



	Return	Standard Deviation
Total Fund Composite	10.4	11.9
Policy Index	10.2	11.8
Median	10.3	10.6

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

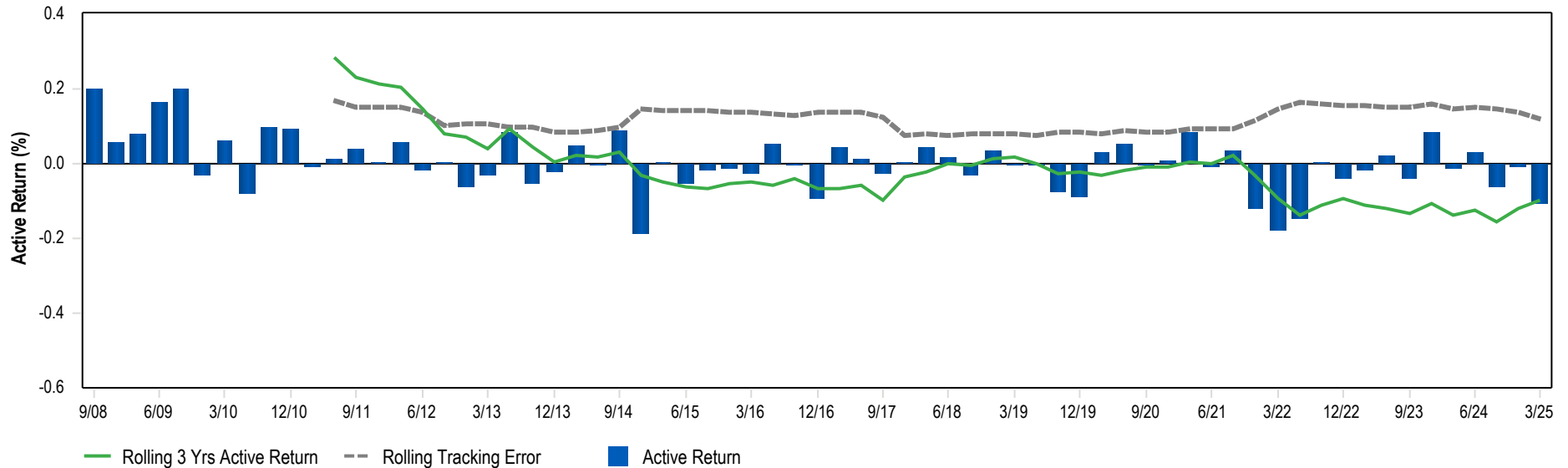
Periods Ending	Beginning Market Value (\$)	Net Cash Flow (\$)	Gain/Loss (\$)	Ending Market Value (\$)	%Return
From 06/2008	2,910,974		-474,478	2,436,496	-16.3
2009	2,436,496	6,000,000	1,023,156	9,459,652	21.3
2010	9,459,652	1,000,000	1,445,483	11,905,135	13.6
2011	11,905,135		455,833	12,360,968	3.8
2012	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 03/2025	4,959,052		-31,393	4,927,659	-0.6

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

Vanguard Total Stock Market Index Fund

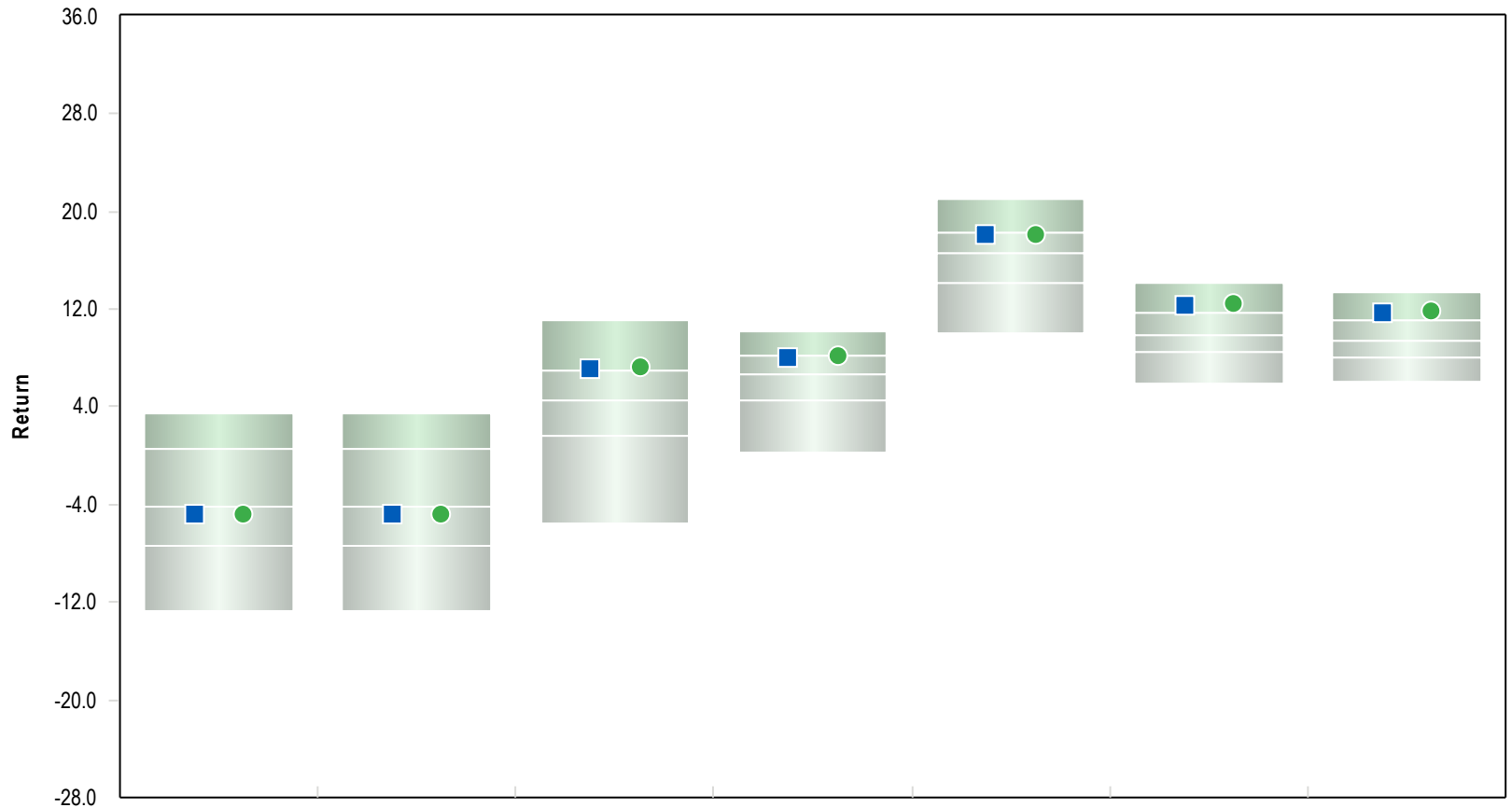
	Gain / Loss				
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Vanguard Total Stock Market					
Beginning Market Value	2,547,646	2,547,646	2,453,423	2,079,367	1,401,359
Net Cash Flows			-200,000	-200,000	-658,894
Income				14,044	96,155
Gain/Loss	-123,045	-123,045	171,178	531,190	1,585,981
Ending Market Value	2,424,601	2,424,601	2,424,601	2,424,601	2,424,601

Rolling Return and Tracking Error



Performance

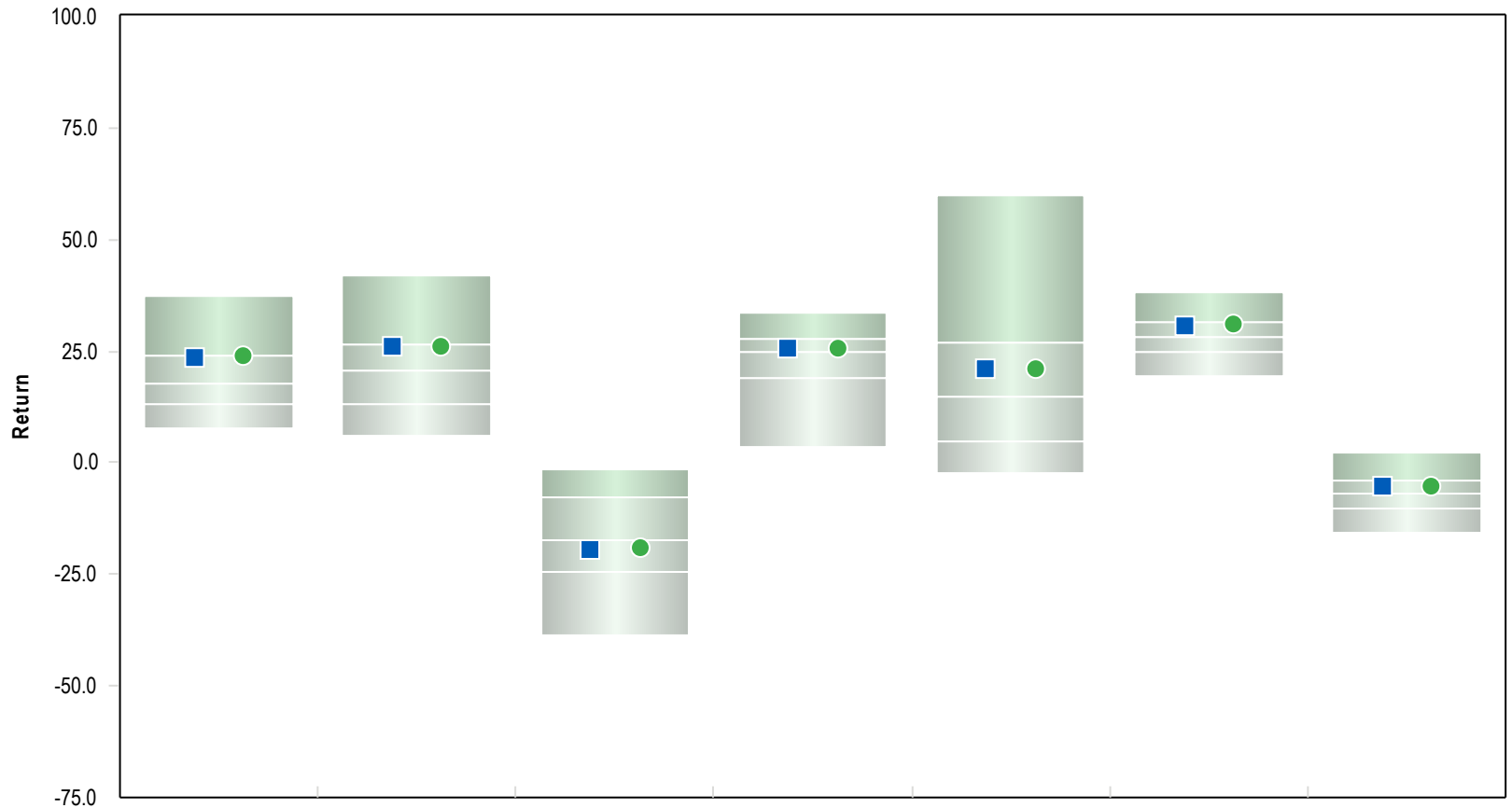
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Vanguard Total Stock Market	-4.8	-4.8	7.1	8.1	18.1	12.4	11.7
Russell 3000 Index	-4.7	-4.7	7.2	8.2	18.2	12.5	11.8
Difference	-0.1	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Vanguard Total Stock Market	-4.8 (56)	-4.8 (56)	7.1 (25)	8.1 (27)	18.1 (29)	12.4 (16)	11.7 (16)
● Russell 3000 Index	-4.7 (55)	-4.7 (55)	7.2 (22)	8.2 (25)	18.2 (27)	12.5 (14)	11.8 (15)

5th Percentile	3.4	3.4	11.0	10.2	21.0	14.2	13.4
1st Quartile	0.6	0.6	7.0	8.2	18.3	11.7	11.1
Median	-4.2	-4.2	4.5	6.6	16.6	9.9	9.5
3rd Quartile	-7.4	-7.4	1.6	4.5	14.2	8.5	8.1
95th Percentile	-12.8	-12.8	-5.5	0.2	10.0	5.8	6.0

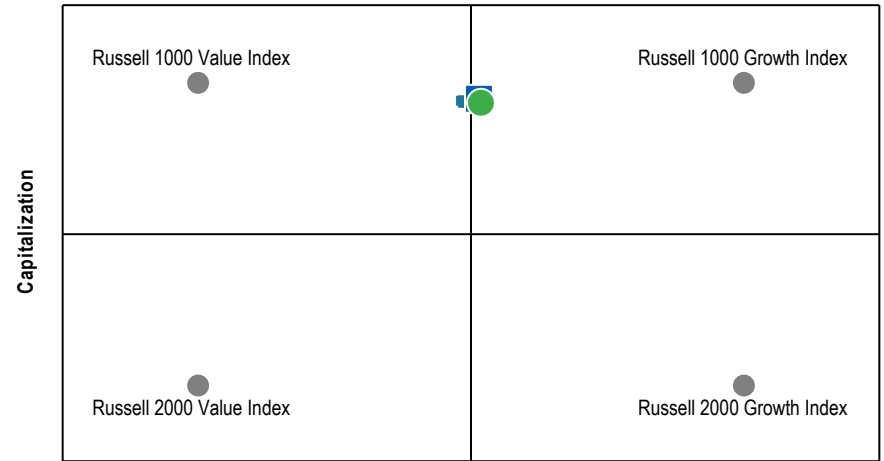
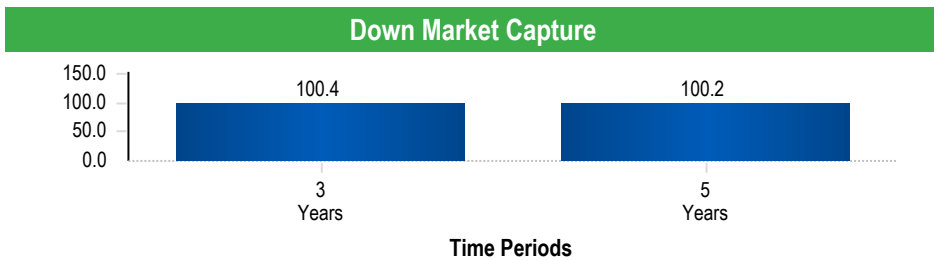
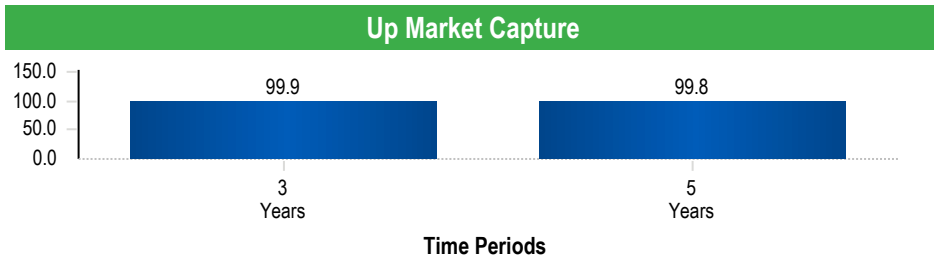
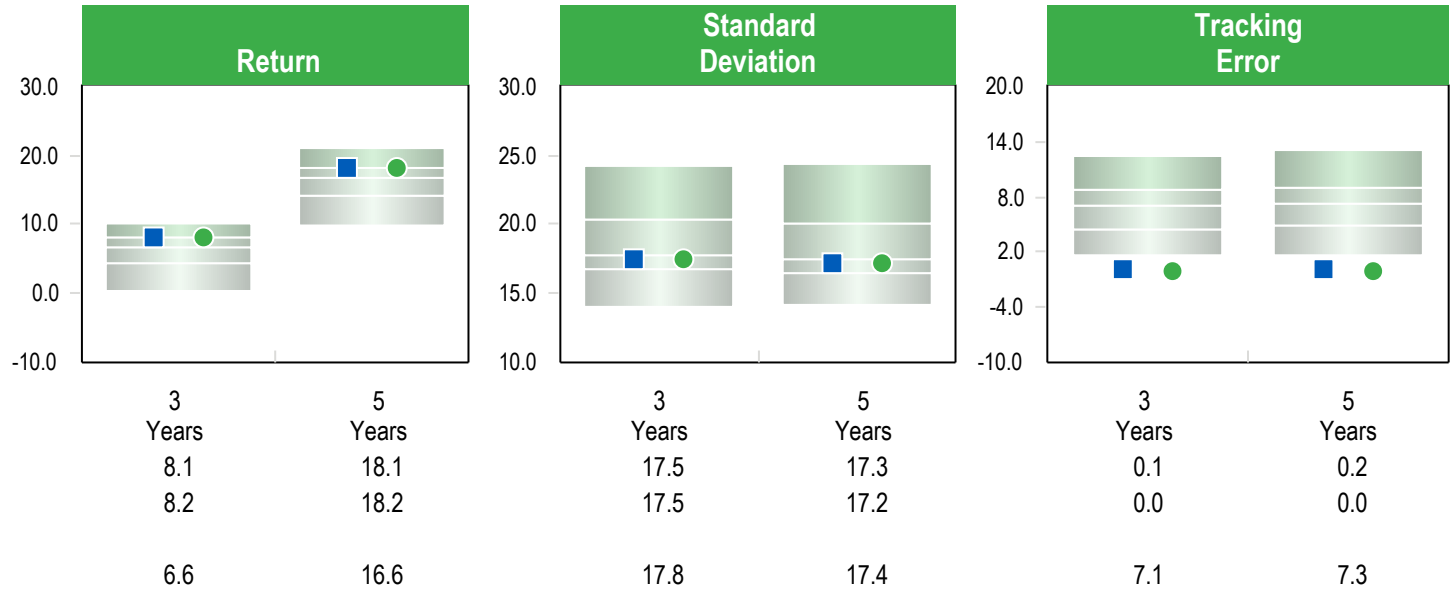
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	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	60.1	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.



Style History Mar-2025 Average Style Exposure

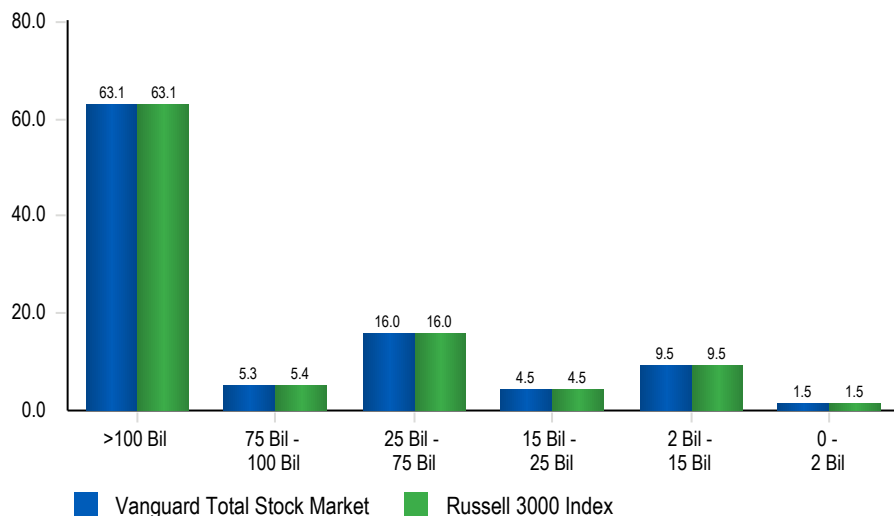
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Apple Inc	6.2	6.1	0.1	-11.2
Microsoft Corp	5.2	5.2	0.0	-10.8
NVIDIA Corporation	4.7	4.7	0.0	-19.3
Amazon.com Inc	3.4	3.3	0.1	-13.3
Meta Platforms Inc	2.4	2.3	0.1	-1.5
Berkshire Hathaway Inc	1.8	1.8	0.0	17.5
Google Inc [A]	1.7	1.7	0.0	-18.2
Broadcom Inc	1.5	1.4	0.1	-27.6
Alphabet Inc	1.4	1.4	0.0	-17.9
Tesla Inc	1.3	1.3	0.0	-35.8
% of Portfolio	29.6	29.2	0.4	

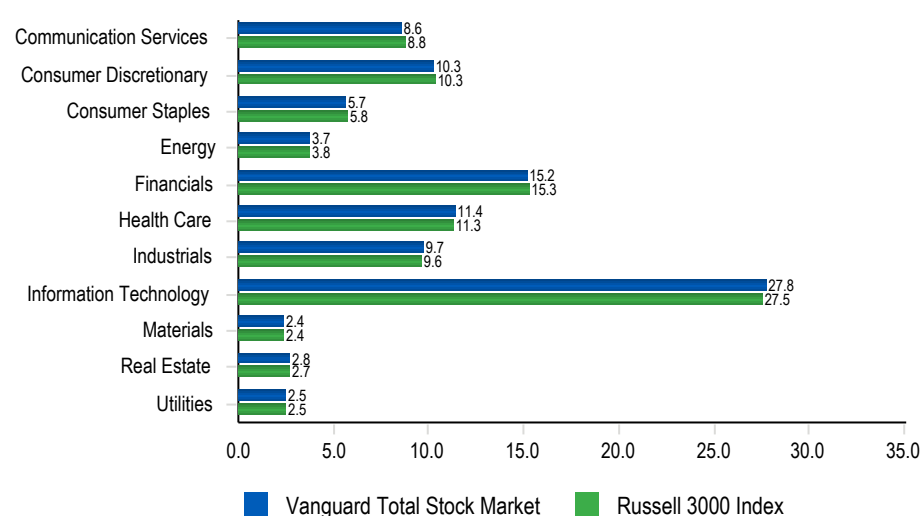
Portfolio Characteristics

	Portfolio	Benchmark
Wtd. Avg. Mkt. Cap (\$)	787,339,925,946	782,366,467,515
Median Mkt. Cap (\$)	1,127,839,835	1,983,352,950
Price/Earnings ratio	24.5	24.4
Price/Book ratio	4.5	4.5
5 Yr. EPS Growth Rate (%)	18.8	18.8
Current Yield (%)	1.4	1.4
Beta (5 Years, Monthly)	1.0	1.0
Number of Stocks	3,540	2,960

Distribution of Market Capitalization (%)



Sector Weights (%)



Ten Best Performers

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Dominari Holdings Inc	0.0	0.0	0.0	323.5
CervoMed Inc	0.0	0.0	0.0	291.0
The Oncology Institute Inc	0.0	0.0	0.0	268.9
Rapid Micro Biosystems Inc	0.0	0.0	0.0	193.3
Chimerix Inc	0.0	0.0	0.0	144.5
FuboTV Inc	0.0	0.0	0.0	131.7
Neuronetics Inc	0.0	0.0	0.0	128.6
agilon health inc	0.0	0.0	0.0	127.9
Corcept Therapeutics Inc	0.0	0.0	0.0	126.7
Gold Resource Corp	0.0	0.0	0.0	121.5
% of Portfolio	0.0	0.0	0.0	

Ten Worst Performers

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
Neumora Therapeutics Inc	0.0	0.0	0.0	-90.6
Ocean Biomedical Inc	0.0	0.0	0.0	-90.2
Pliant Therapeutics Inc	0.0	0.0	0.0	-89.7
Leap Therapeutics Inc	0.0	0.0	0.0	-89.4
Sunnova Energy International Inc	0.0	0.0	0.0	-89.2
ModivCare Inc	0.0	0.0	0.0	-88.9
Solo Brands Inc	0.0	0.0	0.0	-85.3
Bionano Genomics Inc	0.0	0.0	0.0	-83.9
DIH Holding US Inc	0.0	0.0	0.0	-83.2
LanzaTech Global Inc	0.0	0.0	0.0	-82.3
% of Portfolio	0.0	0.0	0.0	

Buy and Hold Portfolio	-4.8
Portfolio Trading	-0.1
Actual Return	-4.8
Benchmark Return	-4.7
Actual Active Return	-0.1
Stock Selection	0.0
Sector Selection	0.0
Interaction	0.0
Total Selection	-0.1
Portfolio Trading	-0.1
Benchmark Trading	0.0
Active Trading Impact	0.0
Buy and Hold Active Return	-0.1

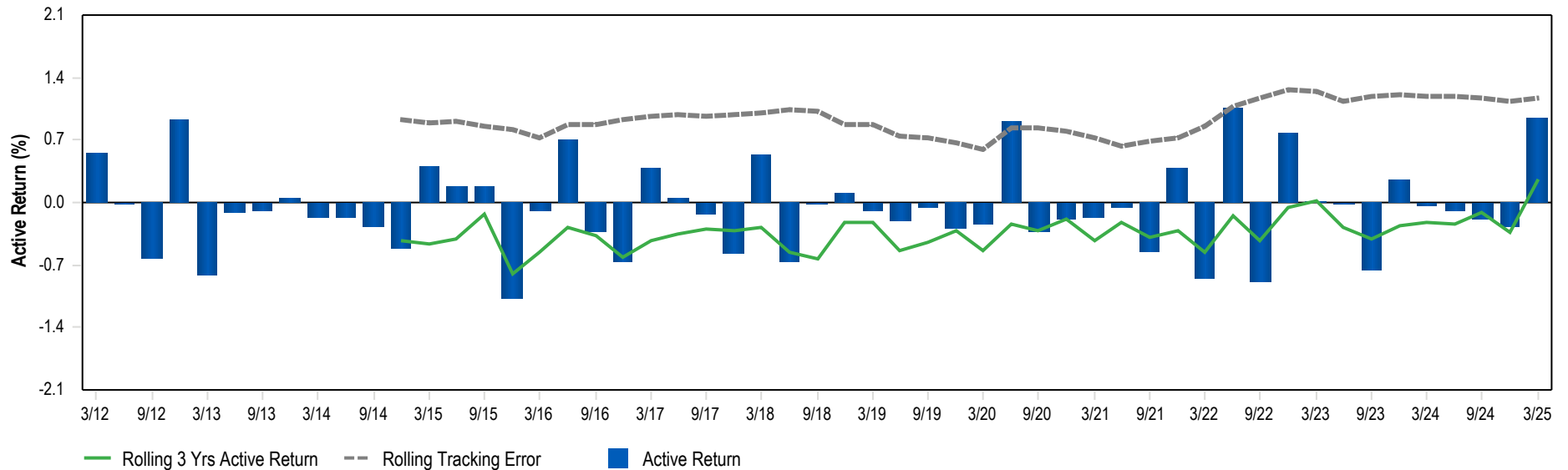
	Allocation-01/01/2025		Performance-1 Quarter Ending March 31, 2025				Attribution		Total
	Portfolio	Benchmark	Portfolio	Benchmark	Stock	Sector	Interaction		
Communication Services	8.7	8.9	-6.8	-6.2	0.0	0.0	0.0	0.0	
Consumer Discretionary	11.3	11.4	-13.3	-13.3	0.0	0.0	0.0	0.0	
Consumer Staples	5.2	5.3	4.6	4.8	0.0	0.0	0.0	0.0	
Energy	3.3	3.4	8.2	8.0	0.0	0.0	0.0	0.0	
Financials	14.2	14.2	2.1	1.9	0.0	0.0	0.0	0.0	
Health Care	10.4	10.4	4.6	4.6	0.0	0.0	0.0	0.0	
Industrials	9.5	9.4	-2.5	-2.6	0.0	0.0	0.0	0.0	
Information Technology	30.4	29.9	-13.0	-13.0	0.0	0.0	0.0	0.0	
Materials	2.1	2.3	1.2	1.1	0.0	0.0	0.0	0.0	
Real Estate	2.6	2.6	2.6	2.6	0.0	0.0	0.0	0.0	
Utilities	2.3	2.3	5.2	5.3	0.0	0.0	0.0	0.0	
Total	100.0	100.0	-4.8	-4.7	0.0	0.0	0.0	-0.1	

Vanguard Total Developed Markets Index Fund

Gain / Loss

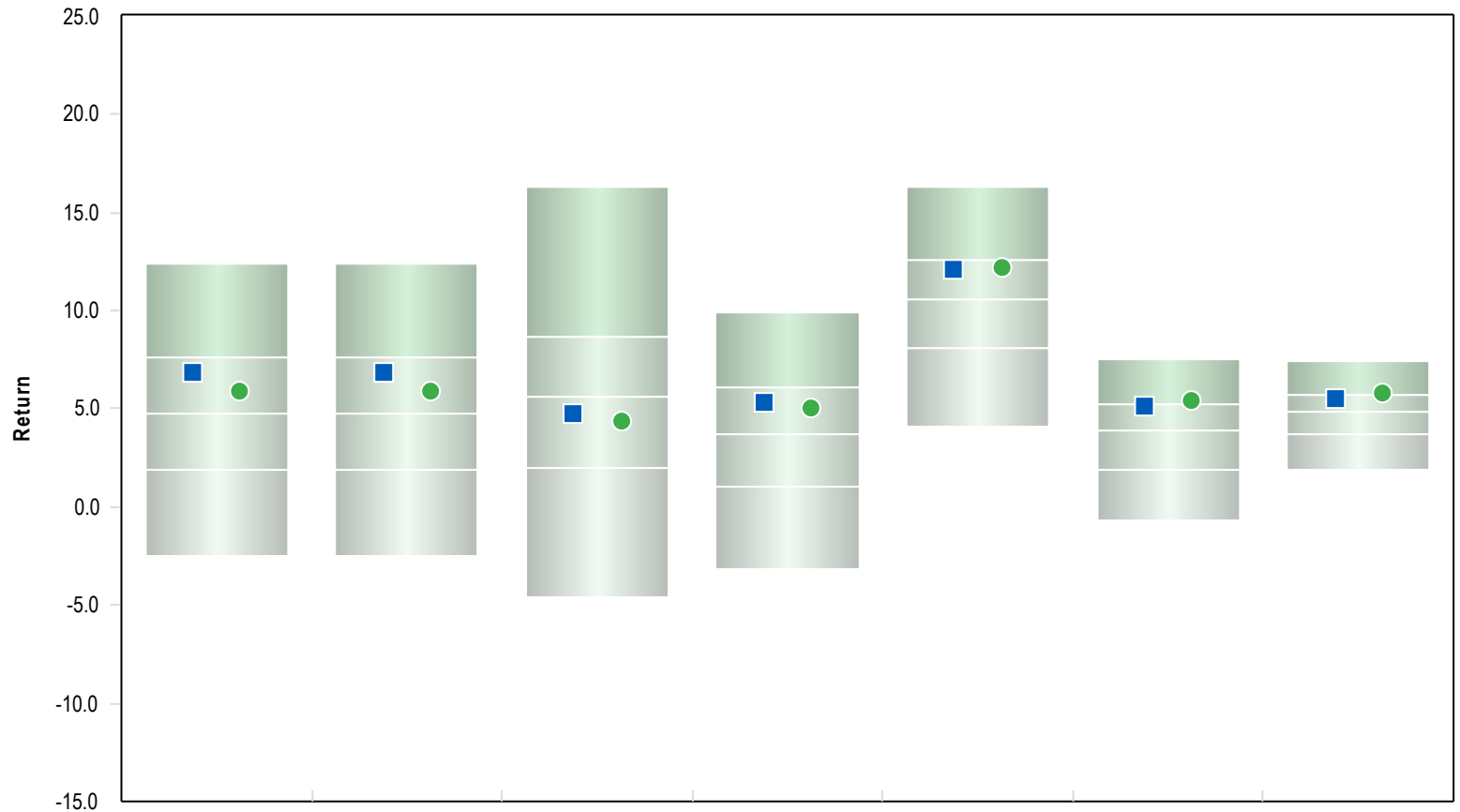
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Vanguard Developed Markets Index					
Beginning Market Value	607,498	607,498	619,899	555,858	366,002
Net Cash Flows					
Income				20,036	57,394
Gain/Loss	41,738	41,738	29,337	73,343	225,840
Ending Market Value	649,236	649,236	649,236	649,236	649,236

Rolling Return and Tracking Error



Performance

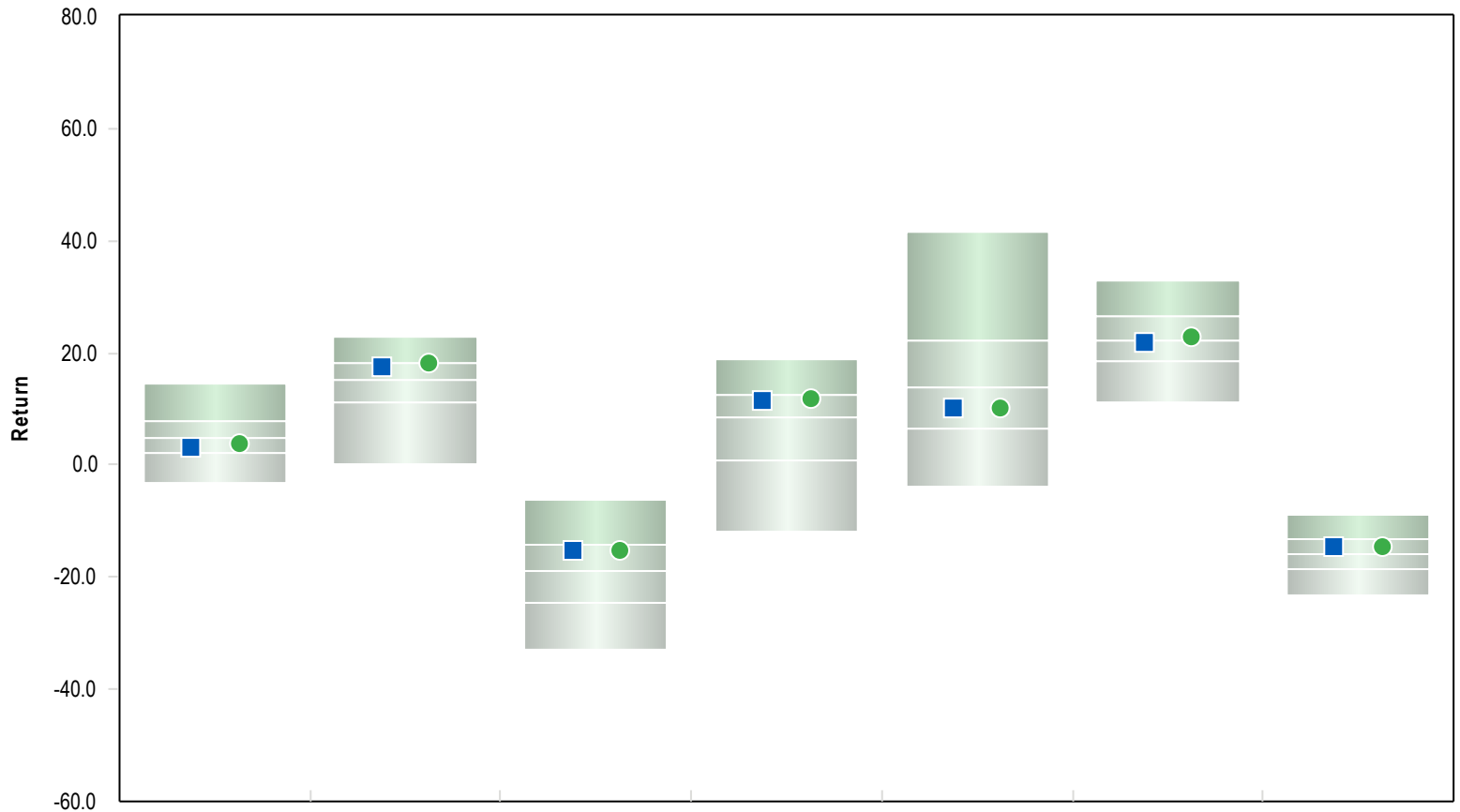
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Vanguard Developed Markets Index	6.9	6.9	4.7	5.3	12.1	5.2	5.5
Developed Market Policy Index	5.9	5.9	4.4	5.1	12.2	5.4	5.8
Difference	1.0	1.0	0.3	0.2	-0.1	-0.3	-0.3



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Vanguard Developed Markets Index	6.9 (31)	6.9 (31)	4.7 (57)	5.3 (34)	12.1 (31)	5.2 (27)	5.5 (30)
● Developed Market Policy Index	5.9 (40)	5.9 (40)	4.4 (61)	5.1 (37)	12.2 (30)	5.4 (22)	5.8 (23)

5th Percentile	12.4	12.4	16.3	9.9	16.3	7.5	7.5
1st Quartile	7.6	7.6	8.6	6.1	12.6	5.2	5.7
Median	4.8	4.8	5.6	3.7	10.5	3.9	4.8
3rd Quartile	1.9	1.9	2.0	1.1	8.1	1.9	3.7
95th Percentile	-2.5	-2.5	-4.6	-3.2	4.1	-0.7	1.9

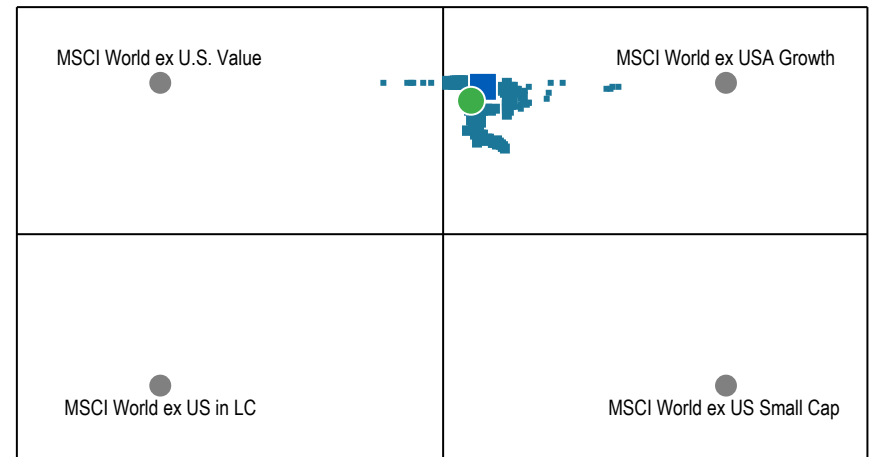
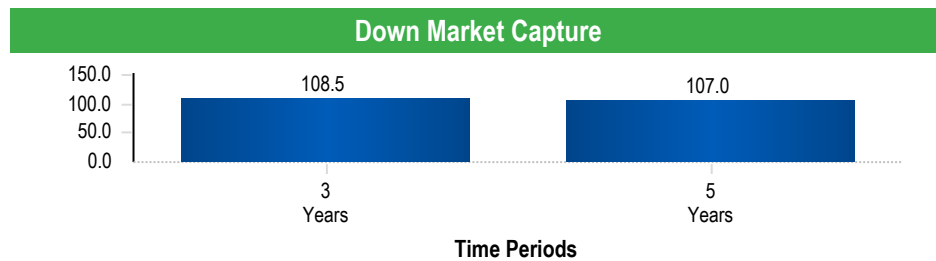
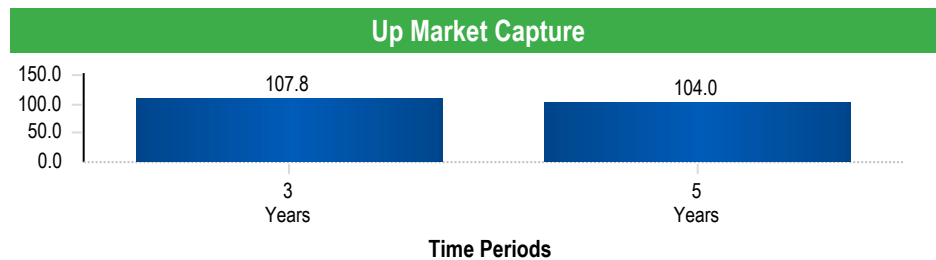
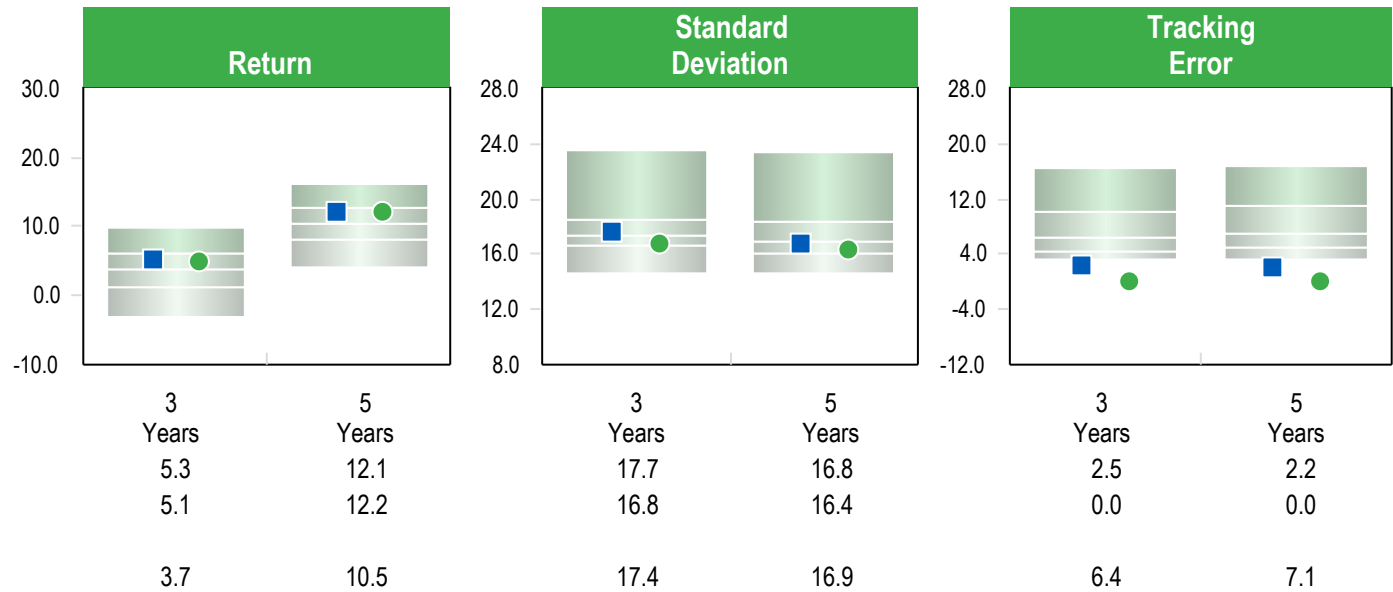
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	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.

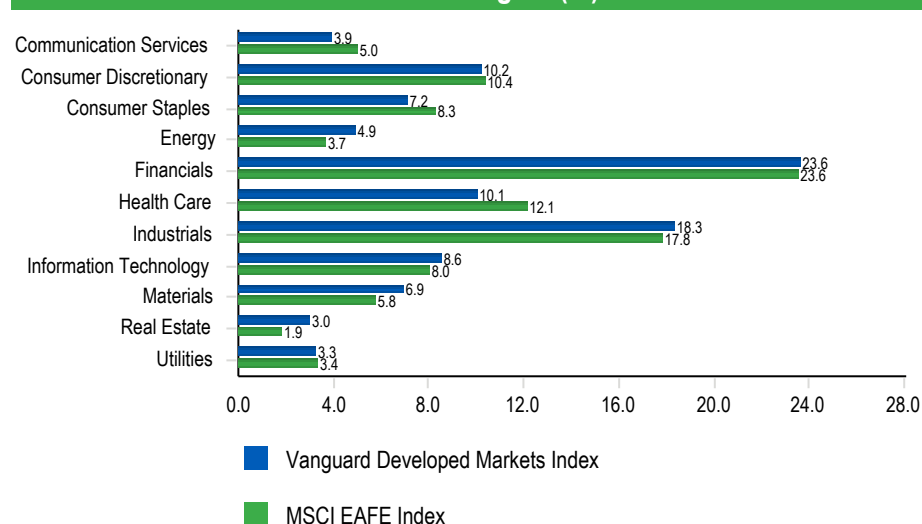


■ Style History
 ■ Mar-2025
 ● Average Style Exposure

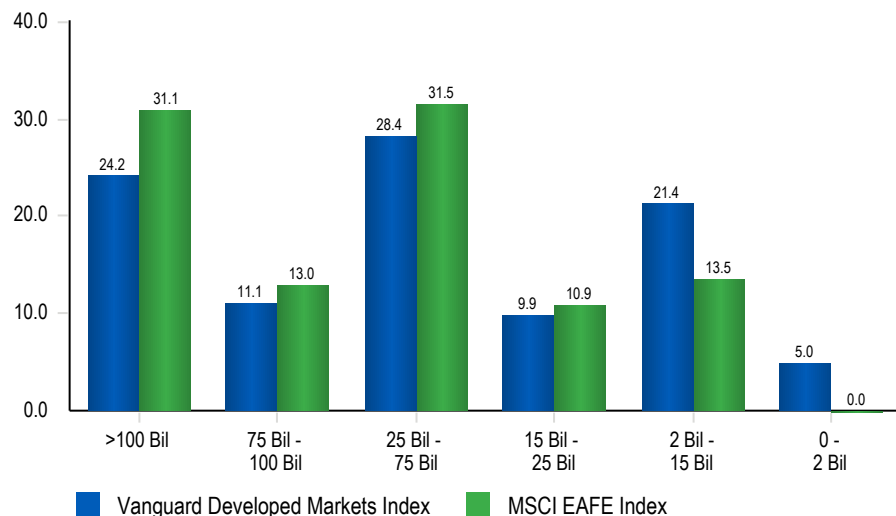
Top Ten Equity Holdings

	Portfolio Weight (%)	Benchmark Weight (%)	Active Weight (%)	Quarterly Return (%)
SAP SE	1.3	1.6	-0.3	11.8
Nestle SA, Cham Und Vevey	1.1	1.6	-0.5	24.4
ASML Holding NV	1.1	1.5	-0.4	-5.1
Roche Holding AG	1.0	0.1	0.9	16.7
Shell Plc	1.0	1.3	-0.3	24.7
Astrazeneca PLC	1.0	1.3	-0.3	13.4
Novo Nordisk A/S	1.0	1.3	-0.3	-19.7
Novartis AG	1.0	1.3	-0.3	14.4
Toyota Motor Corp	0.9	1.0	-0.1	-8.4
HSBC Holdings PLC	0.9	1.2	-0.3	26.9
% of Portfolio	10.3	12.2	-1.9	

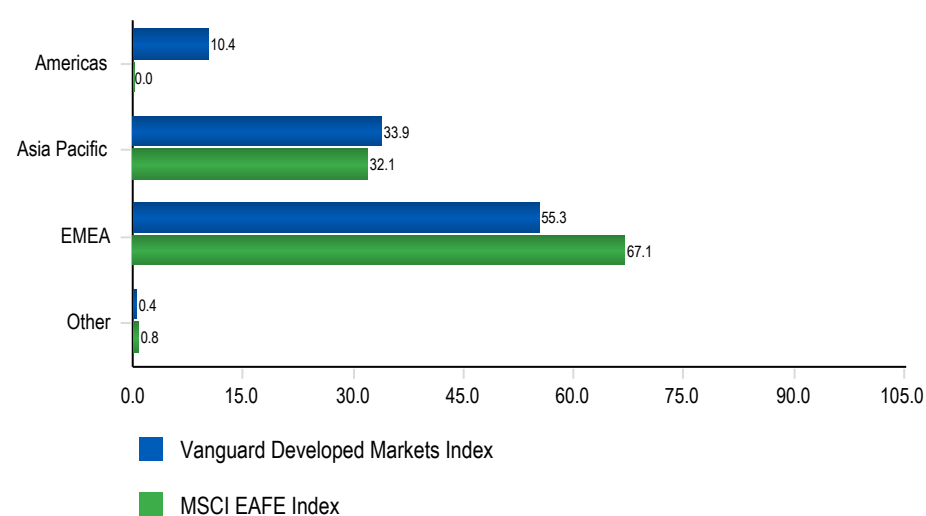
Sector Weights (%)



Distribution of Market Capitalization (%)



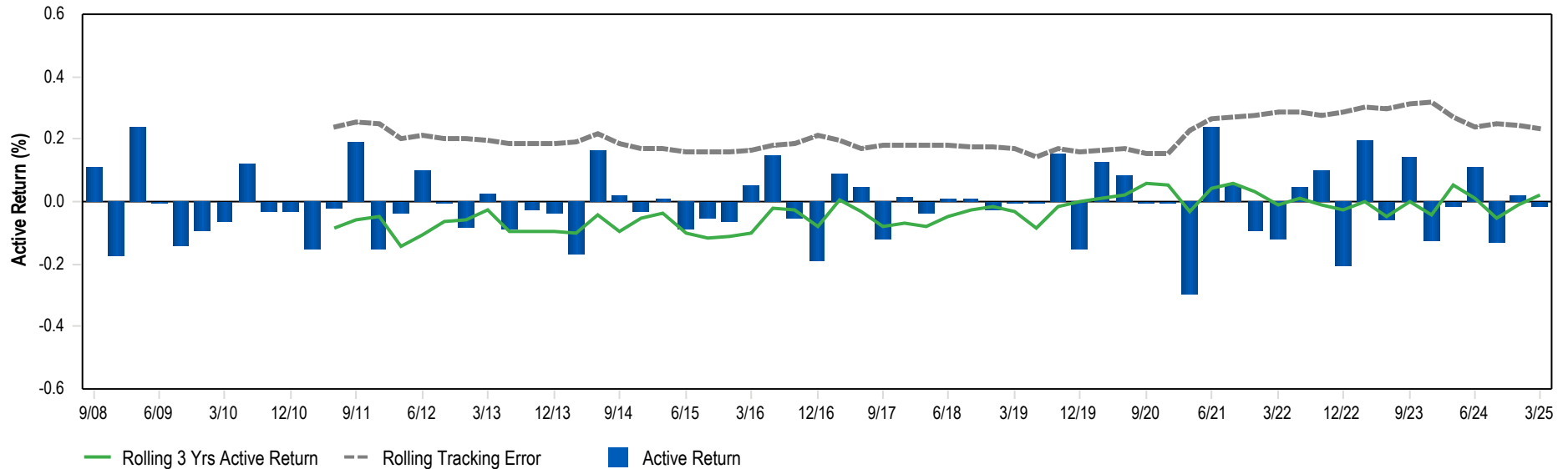
Region



Vanguard Total Bond Market Index Fund

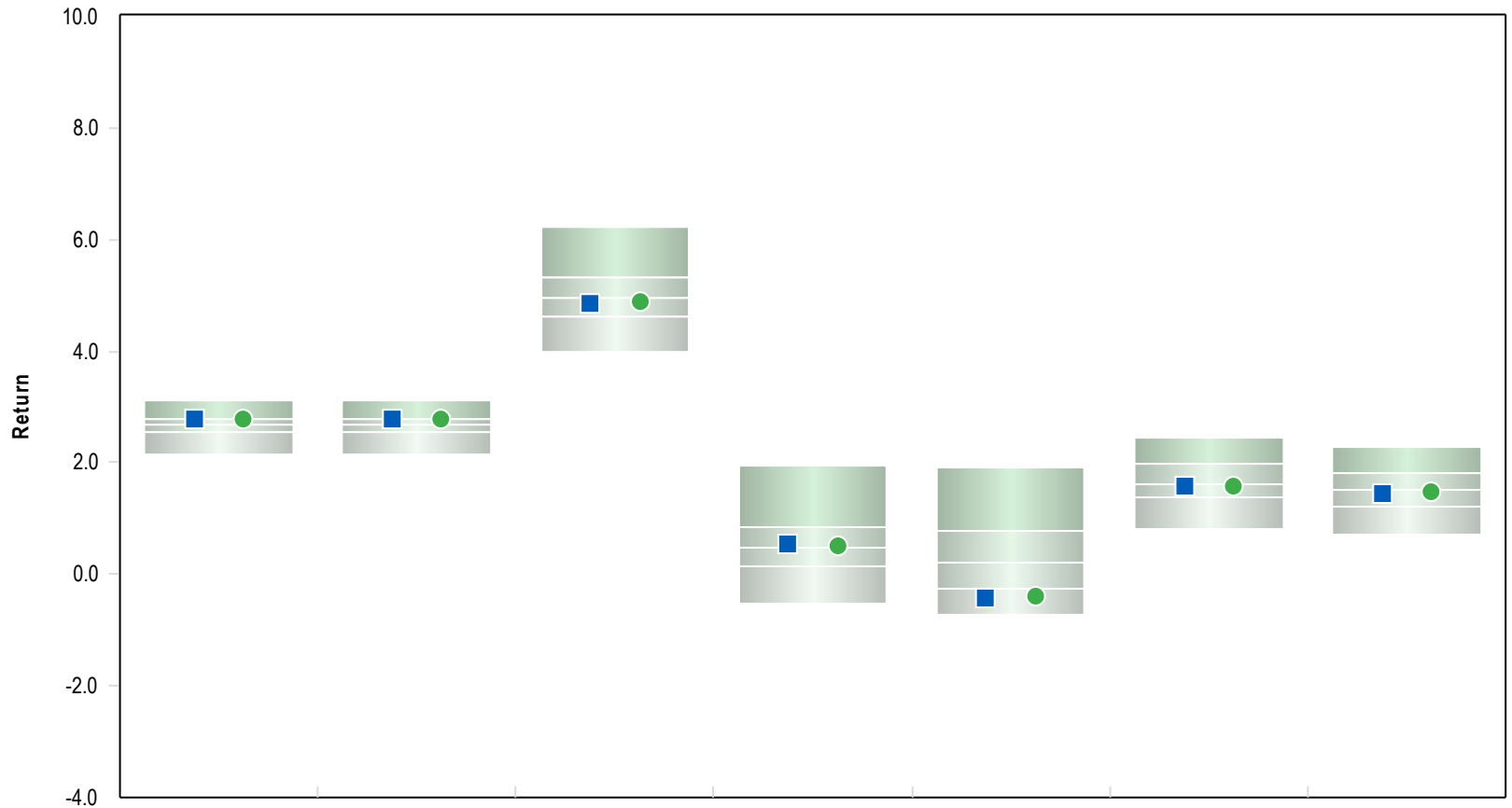
	Gain / Loss				
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs
Vanguard Total Bond Market					
Beginning Market Value	1,803,742	1,803,742	1,575,995	1,625,836	1,241,963
Net Cash Flows			200,000	200,000	659,360
Income	17,498	17,498	64,379	154,285	239,997
Gain/Loss	32,415	32,415	13,281	-126,466	-287,665
Ending Market Value	1,853,655	1,853,655	1,853,655	1,853,655	1,853,655

Rolling Return and Tracking Error



Performance

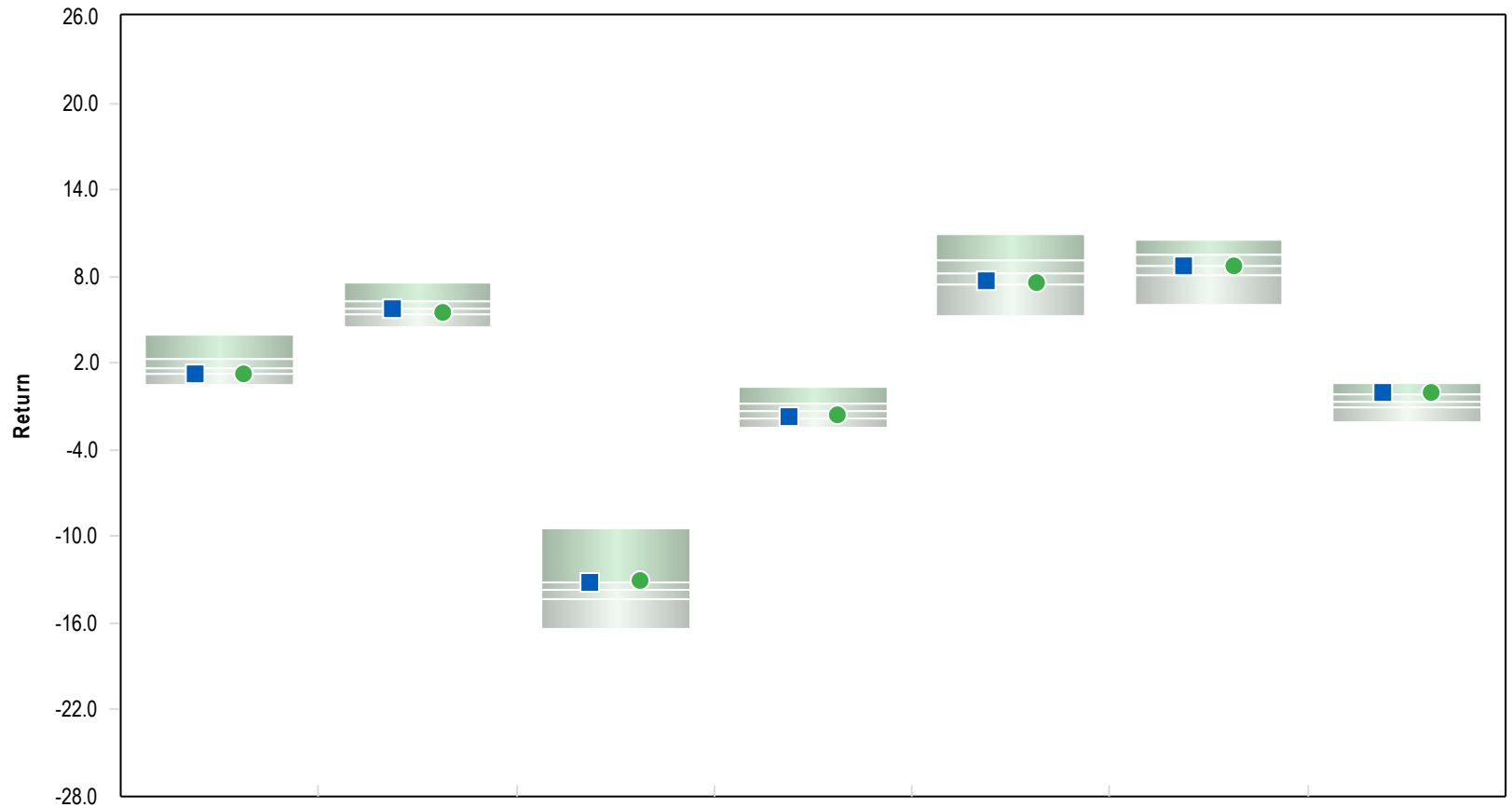
	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
Vanguard Total Bond Market	2.8	2.8	4.9	0.5	-0.4	1.6	1.4
Blmbg. U.S. Aggregate	2.8	2.8	4.9	0.5	-0.4	1.6	1.5
Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0



	1 Qtr	YTD	1 Yr	3 Yrs	5 Yrs	7 Yrs	10 Yrs
■ Vanguard Total Bond Market	2.8 (31)	2.8 (31)	4.9 (60)	0.5 (42)	-0.4 (82)	1.6 (54)	1.4 (55)
● Blmbg. U.S. Aggregate	2.8 (28)	2.8 (28)	4.9 (59)	0.5 (46)	-0.4 (81)	1.6 (55)	1.5 (53)

5th Percentile	3.1	3.1	6.2	2.0	1.9	2.5	2.3
1st Quartile	2.8	2.8	5.3	0.8	0.8	2.0	1.8
Median	2.7	2.7	5.0	0.5	0.2	1.6	1.5
3rd Quartile	2.5	2.5	4.6	0.2	-0.3	1.4	1.2
95th Percentile	2.2	2.2	4.0	-0.5	-0.7	0.8	0.7

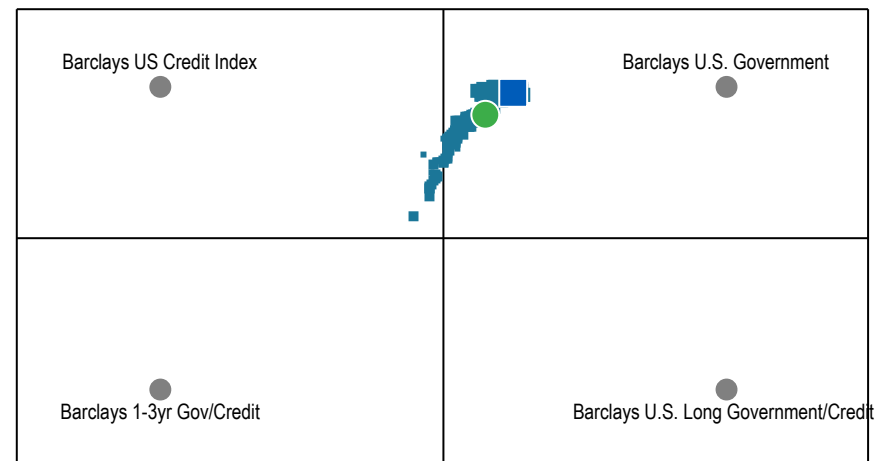
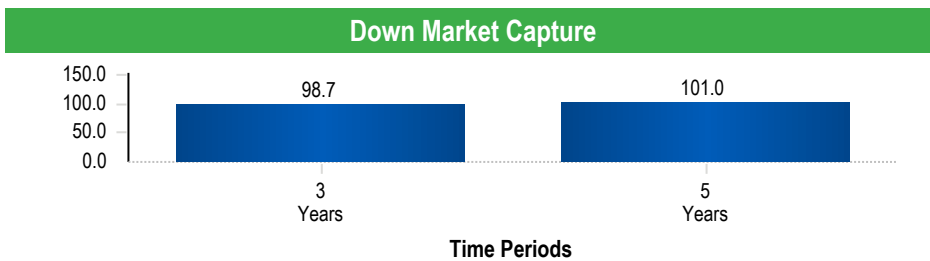
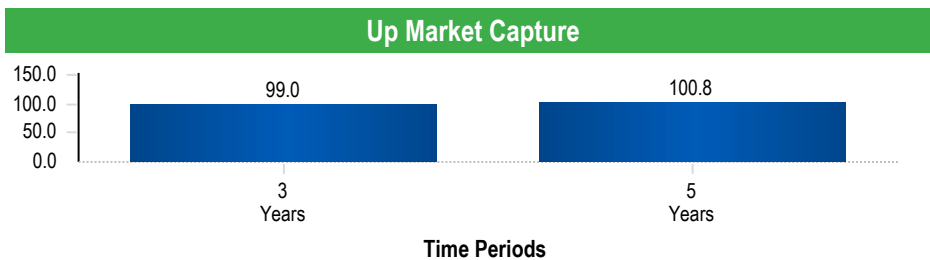
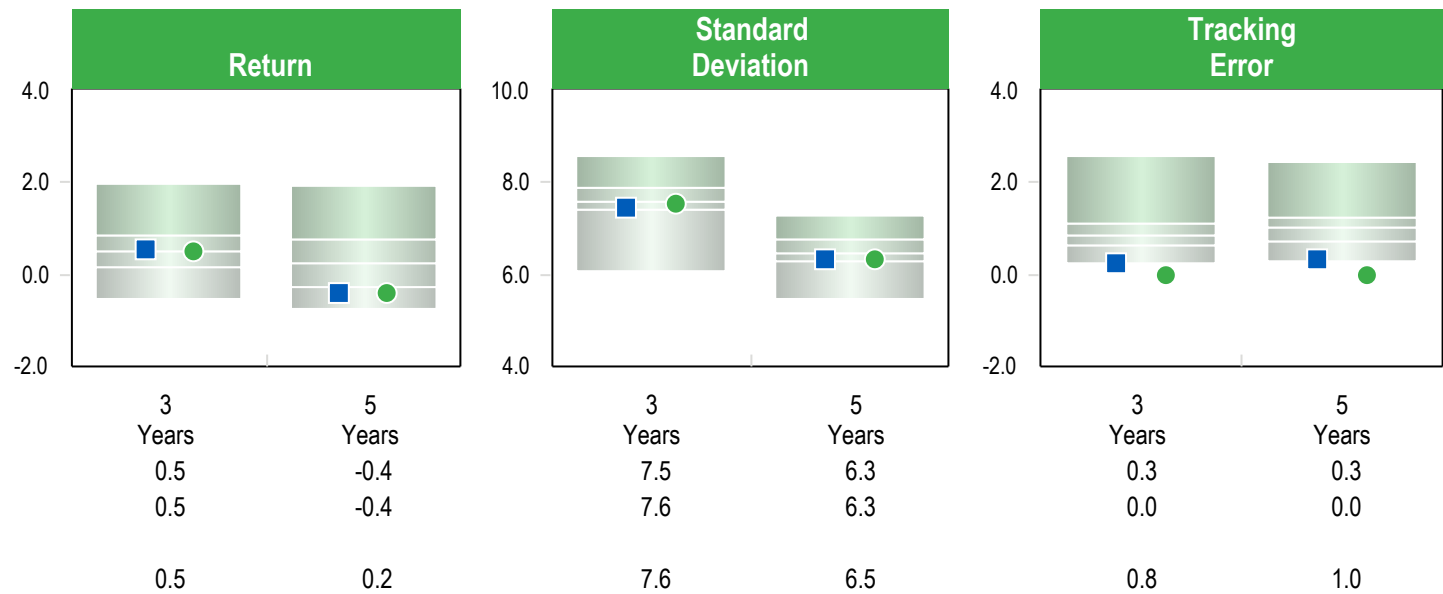
Parentheses contain percentile rankings.
Calculation based on monthly periodicity.



	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 (teal square), Mar-2025 (blue square), Average Style Exposure (green circle)

Appendix

**City of Memphis OPEB
Manager Roster
March 31, 2025**

Manager	Date	Assets Under Management	Assignment	Benchmark	Stated Style	Fee Structure	Annual Dollar Fee	Average Fee
Vanguard Total Stock Market Index	3/31/2025	\$2,424,601	Equity Only	Russell 3000 Index	All Cap Equity	4 bps on all assets	\$970	0.04%
Vanguard Developed Market Index	3/31/2025	\$649,236	Equity Only	FTSE Developed x North America	International Equity	16 bps on all assets	\$1,039	0.16%
Vanguard Total Bond Market Index	3/31/2025	\$1,853,655	Fixed Income	Barclays U.S. Aggregate	Core Fixed Income	3.5 bps on all assets	\$649	0.035%
Fidelity Money Market	3/31/2025	\$167	Cash	90 Day U.S. Treasury Bill	Cash	33 bps on all assets	\$1	0.33%
OPEB Total		\$4,927,659					\$2,658	0.05%